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VOLUME 4
CONTENTS

Session 63 : Biodiversity and Conservation

Session 64 :Plant Resources and Development

Session 65 : Environmental Studies

Session 66 : Forest - Human Interface

Session 67 : Land Resources and Land Use

Session 68 : Water Scenario

Session 69 : Agricultural Technology : New Horizons

Session 70 : Agricultural Technology Transfer

Session 71 : Fisheries Development

Session 72 : Applied Sciences and Social Implications

Session 13 : Agriculture : Crop Studies

Session 22 : Decentralisation of Government and Development

Session 29 : Tribal Society and Economy

Session 30 : Fisher Folk : Marginalisation and Mobilisation

63 · BIODIVERSITY AND CONSERVATION

63 / 01

THE BIODIVERSITY PROBLEM IN THE KERALA CONTEXT

P.K.K.Nair

Kerala, being situated in the equatorial tropics is endowed with a unique flora, fauna and ecosystem with rich natural genetic resources. The state is an ideal nature's laboratory for field study and experiments, being blessed with natural diversity physically, geographically and biologically. It is the home of several natural crops like mango, jack fruit, cardamom and pepper. It has the distinction of falling within the zone of origin and diversification of the rice crop. This evidenced by the occurrence of three wild species of rice *Oryaza granulata*, *O. rufipogon* and *O. malampuzhaensis* all with several genotypes. In addition, there is also the medicinal rice which is perhaps unique to Kerala alone. The state is therefore a rice genepool of biodiversity of crops and other economic plants, the sustainable utilization of which warrants the formulation of strategies and policies.

There is a global awakening on the importance of the tropics not only for the wild resources of crop plants but also medicinal herbs on account of the fact that the value of active constituents are ecosystem specific. The need for the protection of biodiversity is therefore highly warranted which involves the total interaction of the political system, science-technology system and the socio- economic system, together providing a model for environment policy formulation. In fact, the state with its natural heritage of resources, culture and traditions together with special advantage of high literacy has the potential to emerge as a model and leader in India in particular and the developing countries in general.

It is redeeming that the state has already attracted wide attention by having been named as the "Land of Grace" because of the lowest child mortality in the world. The biodiversity problem being at the root of the environment subject it warrants special attention in preparing an 'Agenda 21' for Kerala alone as M.S.Swaminathan has suggested.

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63 / 02

SYNERGISTIC EFFECTS OF IAA AND GA_3 ON CAMBIUM AND CORK-CAMBIUM IN INDIAN TEAK (*TECTONA GRANDIS* L.F)

K. Unnikrishnan and (Late) P.K. Venugopal

The origin and development of Indian Teak were investigated for the first time in control (distilled water treated) and hormone (TAA, GA_3 and IAA-plus GA_3) treated 2-year old *T.grandis*. Three concentrations for each, IAA, GA and IAA-

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plus GA were applied by foliar spray treatment. The control treatments were assigned the code 'C', and IAA 100,200 and 300 ppms T1, T2, and T3, respectively; GA identical concentrations T4, T5 and T6, respectively; and IAA + GA - 1:2, 1:1 and 2:1, T7, T8 and T9, respectively.

It was observed that control and hormone treated *T. grandis* registered vigorous cambial activity between June and December, the period of heavy to moderate rain-fall. From January to May the cambial activity was comparatively much less. Eventhough the hormones were applied only at a particular juncture during growth phase, the prolonged and varied effects of hormones, depending on the concentration and chemical nature, exhibited prolonged effects; which could be observed during the 12-month and 18-month periods.

i. There appeared to be a fundamental genetic programming, not interfered by hormones as a whole, by which the fusiform initials became shorter and narrower in the acropetal direction in *T. grandis*. All variations due to hormone treatments took place within this overall genetic programming.

ii. The IAA treatments (T_1 to T_3) brought about significant increase in length of fusiform initials during 12-month period, but during 18-month period the breadth increased in T_1 in upper zone only. The concentrations of applied IAA, the time-lag between hormonal application and the locus of its effect are different and show independent functions with respect to breadth changes of fusiform initials.

iii. GA applications (T_4 to T_6) also registered significant length increase of fusiform initials during 12- and 18-month periods. Breadth increase was significant in T5 plants during 18-month period only.

iv. The IAA + GA (T_7 to T9) combinations promoted highly significant length and breadth increase of fusiform initials when compared with those of control plants during 12-and 18-month periods.

vi. The basipetal trends diverged with one another in most of the treatments except in T1, T7 and T9 in which the trend was that of control.

Ray initials

i. In control and hormone treated *T. grandis*, the ray initials were heterogeneous, and uniseriate and multiseriate. The investigation pointed out that the basic trend of ray initials of untreated *T. grandis* is for decrease in height and increase in width in basipetal direction.

ii. The evidence points out that the structural and dimensional characteristics of ray initials are influenced by hormonal treatments. Effects of IAA + GA are highly significant and of GA significant. In the case of IAA no change or negative trend could be observed, when compared to that of control plants.

Xylem differentiation

a. Total xylem width: The application IAA or GA exclusive of each other, and of IAA + GA combinations in which the proportion of GA is higher, the xylem width in the apical zone during 12 month period tends to be less than that of, or, equal to that of control plants. During 18-month period, the synergistic effect of IAA + GA produced greater xylem width than that of control, as seen in T8 and T9. During 12-month period, the middle zone exhibited that low concentration of IAA, high concentration of GA and high proportion of GA in IAA + GA combination, induced lesser xylem width than that of control. In contrast the rest of the hormone treatments promoted xylem width in significant or highly significant proportion, when compared with that of control. The time-lag between hormonal application and effect, and availability of water in the environment are possibly the deciding factors, besides the concentration and combination of the hormones with respect to xylem width.

During the 18-month period the untreated and the hormone treated *T. grandis* exhibited the presence of late, early and transition woods in the basal zone; though the constituent units of each differed in their length, diameter and wall thickness of each of the xylem components better than the exclusive treatments of IAA or GA.

Phloem

Width of active phloem : The total width of active phloem in control and hormone treated plants of *T. grandis* varied. When IAA or GA (T_1 to T_6) were applied the total phloem width was less than that of control. On the other hand, the IAA + GA applications in which IAA had greater proportion than GA (T_9 plant), the active phloem width was significantly higher than that of control in upper and basal zones in 12- and 18-month periods. But in the rest of the IAA + GA treatments in which both the hormones were either equal in proportion (T_8) or GA more (T_7) in the combination,

the phloem width tended to follow the pattern of exclusive application of IaA or GA. The importance of synergistic effects of IAA and GA when the former has greater proportion is pointed out here.

Origin of the phellogen

In control and treated plants three kinds of origin of phellogen were observed: (i) Sub-epidermal origin, (iii) Origin from the inner most layer of cortex and (iii) Origin from inner most layers of later formed cortical cells constituted jointly by cortical zone derivatives of medullary rays (the cortical extensions of phloem dialation) and the derivatives of the original primary cortex. They were considered, respectively, as primary, secondary and tertiary phellogen. The first two were not renewed frequently and the third continued all through the girth increase of the stem.

Dimensional change in phellogen cells

The length and the breadth of phellogen of the T_4 plants alone exhibited adverse effects when compared with those of control. These features point to the occurrence of greater cell division activity in phellogen of the treated plants except in the T_4.

Total periderm width

In comparison with the control plants, the increase in periderm width in the T_3 (300 ppm IAA), the T_7 (100 ppm IAA + 300 ppm GA), the T_8 (200 ppm IAA + 200 ppm GA) and the T_9 (300 ppm IAA + 100 ppm GA) treatments were highly significant; and the same in the T_2 (200 ppm IAA), the T_4 (100 ppm GA), the T_5 (200 ppm GA) and the T_6 (200 ppm GA) were significant. In the case of the T_1 (100 ppm IAA) the periderm width registered decrease over that of control. The synergistic effects of IAA + GA in this regard was far more impressive than that of IAA or GA.

Phellem width

In the T_1 and the T_4 the width of phellem was less than that of control. In the T3 the increase in phellem width over that of control was highly significant. In the T_2, the T_5, the T_6, the T_7, the T_8 and the T_9 the increase in phellem width over that of control was significant.

Phelloderm width

The T_1 treatment adversely affected the phelloderm width when compared with that of control. In contrast, all other treatments registered significant increase in phelloderm width over that of control. Pm\Pd ratio (Phellem to phelloderm width ratio) was 2:1 for the control plants and for the T_1 and the T_7 it was the same. In the T_2, the T_4, the T_5 and the T_6, pm/pd ratio was less than that of control. In contrast the T_3, the T_8 and the T_9 maintained higher ratio than that of control.

Dimensional changes in phelloderm cells

The phelloderm cells of the T_4 plants alone registered significant length increase over that of control. The length of phelloderm cells in the rest of the treatments and its breadth in all the treatments revealed adverse effects as compared with those of control. This points out that the cell division is more responsible than the cell enlargement in such treatments which registered increases in phelloderm width.

Dimensional changes in phellem cells

Significant length increase in phellem cells over that of control was registered in the T_3, the T_4, the T_5, the T_6 and the T_8 with respect to the breadth increase, only the T_8 value had significance over that of control. The rest of the treatments revealed opposite effects with respect to the length and the breadth of phellem cells. Here again, the increase in phellem width in certain treated plants is linked with greater cell division activity rather than cell enlargement.

Lenticels

The control and the treated plants alike demonstrated the presence of comparable lenticells.

From the above data it was concluded that (i) the applied hormones influenced differentially depending upon the concentration, hormone and hormonal combination used, but within the overall frame-work of genetical programming of the cyto-differentiation sequence of cambial and cork-cambial activities through the merger and the mediation of the endogenous hormones; (ii) the effects of IAA, whether promotory or inhibitory, with respect to cambium and phellogen activity depended upon the specific concentration; (iii) the synergism of IAA + GA has greater control over secondary growth activity than the independent mediation of IAA or GA and; (iv) the cyto

- differentiation sequence and the underlying biochemical pathways responsible for divergent actions of IAA, GA and IAA + GA are areas deserving deeper and wider investigation.

63
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03

INSECT BIODIVERSITY IN THE KERALA FORESTS - AN OVERVIEW

George Mathew*

Forest is the main centre of insect diversity on account of the variety of microhabitats and plant species. So far, about 751,000 species of insects have been recorded from all habitats in the world, of which a major share are from the forests.

Much of the studies on forest insects have been made in the temperate region and the tropical forests are only poorly explored. Although the tropical forests cover only 7% of the geographical area of the world, they are known to contain a greater proportion of insect fauna as indicated by the recent studies in the rainforests of Panama, Peru and Brazil, using canopy fogging methods. Based on the above studies it has now been estimated that there could be as many as 30 million species of forest insects.

Pioneering studies on the Indian insect fauna were made as early as 1880 by the personnel attached to the East India Company. They brought out excellent treatises on the insect life present in this country under the *Fauna of British India* series. However, these studies did not fully cover the various geographical regions of the country. To cite an example, the volume on the pyramid moths, which contained descriptions of 1136 species, just 10 have been listed from Kerala, while 378 species were from Sri Lanka and 128 species from Nilgiris. The common features exhibited in the geo-climatology of Kerala, on the one hand, and Nilgiris and Sri Lanka, on the other, would lead one to conclude hat it is not the lack of insects but the inadequate surveys made in this region that is responsible for the scanty faunal records from Kerala. A survey carried out by the present author had verified the above assumption as he was able to list over 150 species, in addition to those listed earlier by other investigators.

With the establishment of the Imperial Agricultural Research Institute (Pusa), the Forest Research Institute (Dehra Dun) and the Zoological Survey of India (Calcutta) during the early part of 1900's, detailed studies were undertaken on the insect fauna of India. The publications from these institutions contained a detailed account of the insect life in the various ecosystems. The contributions of several workers like M. Lefroy, E.P. Stebbing, C.F.C.. Beeson, T.V.Ramakrishna Ayyer, T.B.Fletcher, M.S.Mani, M.G.Ramdas Menon, R.N.Mathur, M.L.Roonwal and T.N.Ananthakrishnan are worth mentioning. Faunistic studies suffered a setback since 1970's following the stress given for applied biological research.

So far, about 67,000 species of insects have been recorded from various ecosystems in India. Out of this, about 16,000 species have been specifically recorded from the forests. However, this estimate may not hold true considering the fact that many species found in other ecosystems may also occur in the forests. Also, India has over 62.2 million ha under forests which range from the snow-clad boreal forests of the Himalayas to the wet evergreen forests in the Western Ghats and no comprehensive study has so far been made to enumerate the insects found in the various forest types.

Although Kerala is a small state having a geographical area of 38,870 sq.km, it has over 11,222 sq.km under forests which range from moist deciduous to wet evergreen forest types. Because of the typical climatic and edaphic conditions, the forest flora and fauna of Kerala are very characteristic. With the current awareness on biological conservation, several programmes are underway to study and conserve natural ecosystems. Detailed studies on selected insect groups from some forests have already been undertaken. However, it may be pointed out here that there has not

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been much progress in our efforts to understand the biological diversity of forests, which is partly due to the unavailability of sufficiently trained taxonomists and partly due to the diversion of funds for other activities in the disguise of studies pertaining to biodiversity. As it stands, our knowledge of the forest insects is a far cry from the reality. This, in fact, points to the need for strengthening taxonomic research in the country.

63
04

BIO DIVERSITY OF INSECTS ASSOCIATED WITH THREE IMPORTANT WEEDS OF KERALA

Joseph Louis Olakkengil[1]

A study has been initiated to know the biodiversity of the insect enemies and their mode of intensity of attack associated with three important weeds
1. *Boerhaavia Diffusa Linn* (Nyctaginacee)
2. *Chromolaena odorata* Linn (Compositae) and
3. *Clerodendron Infortunatum* Linn (Verbenaceae) occurring in Kerala. Such fundamental information will be useful not only for initiating any biological control programme but also to preserve the biodiversity of the insect fauna associated with these weeds. This paper is in continuation of my earlier work (Joseph Louis Olakkengil, 1993, a study on the insects associated with some terrestrial weeds of Central Kerala, *J.Ecobio*. 5(1) - 035-044) initiated in this direction.

Plant No.1 - *Boerhaavia Diffusa* Linn (Nyctaginaceae)

This is a many branched creeper. Growth is luxurious in moist situations. This weed flowers throughout the year. It is commonly called the "spreading hog weed". The sticky seed of this plant spreads easily throughout the region. This weed poses serious problems in pasture lands where it curtails growth of fodder grass, which is distributed throughout Kerala expect in sea coasts. The insects attacking this weed are listed below in the order of their intensity.

1. *Hippotion Boerhaviae* F. (Sphingidae : Lepidoptera)

The caterpillars are voracious feeders of foliage. Full grown caterpillars are about 100mm long, dark brownish green in colour. Moths have exceptionally long proboscis (60 to 100mm). Wings are pale grey and wing expanse is 55 to 70mm.

Studies shows that maximum damage was noted in the months of August and September. Moderate damage was observed in October and November. The damage was significantly lower in December, February, June and July. In January, March April and May the damage of the plant by this caterpillar was negligible.

2. *Aphis Spiraecola* Patch (Aphididae : Hemiptera)

These are found sucking sap on tender shoots. In severe attack the tips of the shoots dry up and wither away. These are pale green in colour, and have length from 0.93 to 1.38mm and width from 0.42 to 0.68mm. Both apterous and slate forms were present and it had been found to breed throughout the year. There were four instars and each instar normally last in about one to two days at normal temperature. Adult life span about 7 to 12 days and the life cycle ends in 14 to 20 days. Parthenogenetic viviparous females gave birth to 8 to 22 young ones under laboratory conditions.

From the data it has been noticed that maximum damage was observed in July, moderate damage was observed in June, August and September. The damage was significantly lower in October, November and May. In December, January, February, March and April the damage due to aphid population was negligible.

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3. *Nezara Viridula* Linn (Pentatomidae : Hemiptera)

The green stink bug is distributed in all districts of Kerala. The adult measures about 13 to 18mm long and 8 to 10mm width. Adults and nymphs suck up sap from the plant parts. The feeding punctures cause local necrosis resulting in brown spotting and deformation. There are four to five generations in a year Nymphal stage lasts for about a month.

Graphical studies indicate that maximum damage was observed in the months of September, October and January. Moderate damage was observed in November, February and August. The damage was significantly lower in December. In March, April, May, June and July the damage of the plant by these bugs was found negligible.

From the above studies it has been noted that the most promising insect in controlling this weed is *Hippotion Boerhaviae F.* Eventhough the aphids persist throughout the year, these insects cause a maximum damage during the monsoon months, when luxuriant growth of the weed was observed.

Plant No.2 *Chromolaena Odorata* Linn (Compositae)

In Kerala, *C.odorata* is one of the major weed species, which is originally a native of South America. It is an obnoxious weed, herbaceous and succulent when young, but woody at maturity. It can be found in places like roadside, plantations, uncultivated areas, etc. Its capacity for rapid spreading through seeds and power of regeneration is remarkable. For the control of the weed, biological method seems to be more desirable as compared to chemical and other methods which are more expensive and laborious.

Many insect pests were noticed on this plant. Among them, the most damaging are the aphids. Some of the important aphid species noticed are *Aphis fabae* Scopoli and *Aphis spiraecola* Patch.

1. *Aphis fabae* Scopoli (Aphididae : Hemiptera)

Adults were dark green in colour. Both alate and apterous forms were present but alate forms were negligible. There were four larval instars and each instar period lasted about two to three days. The total life span lasted 16 to 20 days under acclimatised conditions. Nymphs and adults suck sap from tender shoots and leaves causing sever crinkling of the leaves. As a result the plants got stunted and the leaves had a crinkled appearance.

Severe attack of these aphids was noticed from May to October, but the attack was particularly nil during the rest of the year.

2. *Aphis Spiraecola* Patch (Aphididae : Hemiptera)

A significantly higher damage was recorded during July as compared to all other months. Significant difference was not found between June, August and September. In all other months the damage was practically nil.

The other insects noticed are [1] *Coptosoma Sp.* (Plataspididae : Hemiptera) - Adults suck sap from tender parts of the plant. [2] *Tettigella Ceylonica* Melich. (Cicadellidae : Hemiptera) - Adults suck sap from tender shoots. [3] *Leptocorisa acuta* Thumb (Coreidae : Hemiptera) - The adults as well as the nymphs suck sap from the tender parts of the plant and are found in large number in certain areas [4] *Riptortus Pedestris* Fb (Coreidae : Hemiptera) - The adults suck sap from tender shoots/and it was recorded only in a few numbers. [5] *Dysdercus Koenigil* Fb (Pyrrhocoridae : Hemiptera) - The adults suck sap from the tender shoots and the population count was very low. [6] *Coccosterphus Minutus* Fabricius (Membracidae : Hemiptera) - These insects were present throughout the growth phase of the plant and these suck sap from the tender shoots. [7] *Apion Sp.* (Apionidae : Coleopterra) - These are usually seen on the lower leaf surfaces. As a result of feeding, small irregular holes are seen on leaf surface. These feed on the flowers during the flowerring season. [8] *Mylabris sp.* (Meloidae : Coleptera) - These feed on the weed flowers occasionally. [9] *Pericallia ricini* Fb. (Arctidae : Lepidopterar) The young larvae feed on the surface tissue of young leaves and in the later instars they feed both by scrapping and by devouring the whole tissue. [10] *Diacrisia Obliqua* Wlk. (Arctidae : Lepidoptera) - The larvae mine into the leaves and eat through the mesophyll leaving the two epidermal layers intact. It pupates in the larval mine and puarium is long, oval and pale red in colour. [11] *Haplothrips Gowdevi* Franklin (Phlaeothripidae : Thysanoptera) - Both nymphs and adults feed by lacerating the tissues of the inflorescence.

Plant No.3 *Clerodendran Infortunatum* Linn (Verbenaceae)

This is found in all districts surveyed, especially in shady locations like plantations, forests etc.

The following insects were noticed on this plant. Of this the most promising insect which helps to keep the weed in control was *Haplosoma Unicolor* III.

1. *Haplosoma Unicolor* III. (Chrysomelidae; Coleoptera)

The active adults are orange red in colour. It causes severe damage to the plant by eating away small holes on the leaves. The intensity of damage was noticed during March, April and May. During rainy season very low attack was noticed. Rest of the months show moderate attack.

2. *Apion Sp.* (Apionidae : Coleoptera)

The adult is a minute, dull black weevil measuring 2.5mm to 2.7mm long with a conspicuous, curved shout, Elytra has deep furrows and is covered with hairs. Abdomen is globular and the body is longer than the rostrum and head. As a result of feeding, small irregular hoes were noticed on leaf surface. Medium damage was noticed throughout the year except in rainy season.

63
05

THE IMPACT OF BIOPOLLUTANTS FROM EXOTIC SPECIES ON HUMAN HEALTH

R. Satheesh

India, today is one of the first ten industrialised countries of the world and our agricultural production has also increased many fold. This tremendous developmental pace has led to large scale misuse of our natural resources imposing huge costs in the form of pollution, flood damage, siltation, shortage of fuel and fodder and even raw materials for industries. The fragile ecosystem of the hill areas which is richly endowed with forests and water resources, harbouring the richest and diverse biological wealth, paid heavily for the developmental strategies during the last few decades. The natural evergreen forests have been clear-felled for agricultural and other developmental activities. A number of horticultural and commercially important plantations of exotic species have been established under various programmes, like plantation crops development (tea, coffee, rubber, cashew, cardamum etc.), afforestation and social forestry programmes, etc., and also under tree plantation for industrial purposes (various species of Acacia like *Acacia auriculifom, A. mangium, A. nilotica, A. decurrens, A. dealbata*, etc. and *Alnus, Casuarina, Cupressus, Eucalyptus, Gravillea*, etc.). The large scale introduction of exotic plants has not only eroded the natural ecosystems but also contributed a lot in increasing the quantum of biopollutants, mainly pollen in the atmosphere, affecting human health.

The pollen grains and other biopollutants enter the human system through different exposed sites such as skin, nose mouth and eyes and get allergic reactions in hypersensitive persons. The mode and mechanism of impact on the body system are influenced by several factors such as genetic, environmental and acquired. The concentration of biopollutants in the atmosphere are varying with the source, dispersal mechanisms, distance of source- both horizontal and verticaland climate.

The large scale plantations of exotic taxa which are mostly wind pollinated in nature are contributing in increasing the pollen biopollution than indigenous taxa. The present paper will discuss the various aspects in detail and the measures to be taken to reduce the risk.

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63
06

ORNITHOLOGICAL IMPORTANCE OF KERALA

C.J.Zacharias

Kerala harbouring about 400 spaecies of birds which approximately 25% of the Indian avigauna is the richest ornithological aea in Inida. Forests, Wetlands and coastal mudflats of the state constitute ideal habitats for birds.

The International Council for Bird Preservation has identified the South Western Ghats as an area of high avian endemism. All the edmmic birds of the Western Ghats occur within the territorial limits of Kerala. While most of them are restricteed to forest habitats, a few are found in high altitude grasslands.

Besides the endemics, the avifauna of Kerala is also characterised by the occurence of disjuncts, found also in the North-Easten India, but not in the intervening Indo-Gangetic Plain and Deccan Plateau.

In addition, more than 100 species of birds of the state are migrants from the Himalayas and beyond, including the Palaearctic.

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63
07

"REACHING THE UNREACHED"

M.P.Nayar

In 1993 December two events of momentous significance for developing countries took place. Operationalization of the Global Biodiversity convention and signing of the GATT agreement. The first cheered the developing nations as they thought they became "gene rich". The second cornered them to accept competition with developed nations, to escape "isolation".

The GATT Agreement called for the protection of plant varieties either by patents by an effective *sui generis* system or a combination of both. The 1991 UPOV convention (International Union for the Protection of new Varieties of Plants) lays down strict guidelines to protect breeders rights. Multinational seed firms like Cargills are poised for the great opening. Steinbecks' "Grapes of Wrath" is likely to be reenacted now in developing countries and in India.

The Biodiversity Convention 1993 gives sovereign rights to nations over their biological resources. One of the cornerstones (Article) of the convention is the fair and equitable sharing of benefits arising out of the utilization of genetic resources. Articles 15 mentions that appropriate legislative administrative or policy measures for access of genetic resources and article 16 indicates access to and transfer of technology by participating countries on mutually agreed terms. The contracting parties must take patent and Intellectual Property Rights supportive of the convention. Although it is provided that the contracting parties share the patent rights through biotechnological research and share royalties flowing from them, what is happening is quite different. For example, Madagascar Periwinkle from which Vincristine and Vinblastine were isolated did not at all enhance the income of the poor peasants of Madagascar. Again, the Florida based company W.R.Grace holds the patent for pesticide azardirachtin from

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our neem tree which we in India use in various ways for its ecofriendly antiseptic properties. W.R. Grace can technically turn round and stop our using the tree as the company is holding patent rights of Azardirachtin.

In the sixties, FAO launched the scheme of International Bureau of Plant Genetic Resources. All the genetic material held by FAO are considered as the common heritage of mankind. But over the years FAO modified the interpretation indicating that "breading material should become available at the discretion of their developers during the period of development". In an atmosphere of changing positions what would happen to the genetic resources held in trust for the world community by FAO? It is attractive to undermine and use the world's genetic resources held in trust, by technologically advanced countries for their own patenting. In this connection a close look at the USAID projects for Gene Bank development in India and mutual exchange of plant genetic resources is necessary for any protocol deficiencies. Do aid programmes have unseen strings attached?

It is estimated that some 40 percent of the world's drug has come from will sources. In India, about 7000 species of plants are being used by tribal communities as medicine, food and fibre. Although traditional knowledge systems or folklore medicines are said to be not patentable, once they are analysed it comes under Intellectual property Rights of the company which analyses them.

In a fast developing scenario of world commerce, the main issue is not who owns the gene, but who possesses the know-how to make the gene useful. Holding genes of the so-called "gene rich countries" has no relevance. A major thrust in India should be the acquisition of advanced technology which has the cutting edge. In India the major plant breeders are our agricultural research institutes and agricultural Universities. A rapid system of patenting of existing knowhow on varieties is to be introduced and the royalties are to be passed on to the community as the institutes are funded by the people.

It is necessary and high time that we must have a national legislation on our genetic resources, incorporative the rights of the community, local health traditions, private rights and state rights and joint intellectual property rights of the community.

There should be a Patent Trade Mark agency for our genetic resources, both flora and fauna, and "genetically modified organisms" (rDNA modified organism).

It is necessary to develop National Regulatory agencies independent of breeders and biotechnologists, who undertake extensive environmental assessment of the genetically modified organisms before releasing.

The enforcement of MOU's of material transfer agreements of genetic resources from our gene banks both *in situ* and *exsitu* should be mandatory.

A separate autonomous commission on genetic resources and biotechnology with enough fundings the pattern of space commission or Atomic Energy Commission be established to look after the needs of the biological revolution that is in the offing. The proposed commission on Genetic Resources and Biotechnology should act as a catalyst for development of indigenous patentable plant products and scope for talents.

The drug industry in India thrives on process patents. As product patents are accepted as per GATT, the drug industry in India would opt for the easier processing of 'off-patent' drugs and value additions. Equity and fair price of 'off-patent' drugs is to be monitored and assessed by appropriate agencies.

Globalising the Indian agriculture with corporate sector involving in a big way would help our export earnings. This requires close monitoring so that the benefits of export earnings be passed on to the 'unreached'. There is a tendency in corporate sector to pass on patentable plant seeds of high returns to our farmers who, in turn, would indirectly cause the extinction of our native low productivity plant material. A careful watch on this syndrome is required. It is seen that when agricultural products are exported, market forces make the products dearer in India resulting in food price increase and shortages. The 'unreached' remains permanently unreachable if remedial measures are not taken in time.

63
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08

STATUS AND CONSERVATION OF WILDLIFE IN KERALA

P.S.Easa

The Western Ghats have been one of the richest wildlife areas in the country. The ever increasing pressure on forest land for raising plantations, encroachments, agriculture purpose and development programmes combined with over exploitation have reduced the chances for survival of the most of the species. Kerala part of the Western Ghats is highly fragmented and discontinuous leading to formation of islands of varying sizes. These islands have become the only refuges for a number of species ranging from elephants to smallest ones. Further, fragmentation and isolation have lead to man-wildlife conflict more often detrimental to wildlife. This has also led to local extinction of few wildlife animals.

Conservation of biodiversity calls for conservation of diverse habitats. Our knowledge on the species diversity is limited to the larger mammals and a fewer number of fishes. Efforts are yet to be made to assess the species diversity and their status in different habitats.

The paper presents the status and distribution of large mammals in the Kerala part of the Western Ghats and discusses the problems of conservation. The paper also brings out the major lacunae in the field of wildlife research.

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63
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09

TRIBAL KNOWLEDGE SYSTEM AND SUSTAINABLE UTILIZATION OF NATURAL RESOURCES OF KERALA

K. Radhakrishnan, A.G. Pandurangan and P. Pushpangadan

The varied uses of the earth's rich natural resources came to be known to the modern man from the less sophisticated communities, particularly the tribals who live in and around the forest areas. This precious knowledge was handed down from generation to generation orally and it was perfected through trial and error or by empirical reasoning. It may be mentioned here that among our life saving wonder drugs in modern medicine against malaria, leukaemia, hypertension, etc., many have ethnopharmacological history. Acculturation, urbanization and deforestation resulted in the gradual decline of these vital knowledge systems which are now almost on the verge of extinction. Urgent concerted efforts have to be initiated to document them before they are lost for ever. In this paper we highlight some such vital information gathered from the tribals, while conducting ethnobiological survey in the tribal inhabited Western Ghat forests of Kerala. The sustainable use of plants, animal products and minerals for food, medicine and other material requirements forms the focal theme.

Western Ghats, a chain of mountains extending from the Tapti valley to Kanyakumari, the southern most tip of the Indian peninsula, is about 1600 kms long in the North-South direction and pass through the states of Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala. The region lies between 8°20'-8°40' North latitude and 73°-77° East longitude and is almost a narrow strip of land with an average altitude ranging from 300-1500 m, excluding the isolated peaks. The geographical position and the influence of both the monsoons favour varied types of vegetations like wet evergreen, semi-evergreen, *sholas*, moist deciduous, dry deciduous, scrub jungles and grasslands. The region

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harbours an estimated 4000 species of flowering plants (Sastry & Sharma 1991). Most of them are economically important, viz., timber yielding, edibles, medicinal and of ornamental value. The fauna population is also rich and diverse. The dependence of the forest dwelling people, the tribals, on the flora and fauna and their interrelation makes Western Ghats a dynamic biodiversity centre. About 550 kms of these fertile ghat section fall within Kerala state.

Tribal knowledge system

According to 1991 census, there are 35 tribal communities in Kerala State with a population of 3,20,967 forming 1.10% of the total population of the state. A majority of them inhabit in and around the forest areas of the Ghats and depend upon natural resources for shelter, food, medicine and other requirements. Ethnobiological surveys conducted among them revealed that their precious knowledge system were fast disappearing as a result of urbanisation, deforestation and diversion of tribal manpower for non- farming purposes. The younger generation is anxiously trying to discard their traditional life styles and customs due to their changing socio-economic conditions. Now it has been realised that these knowledge systems have sound scientific basis. There is a great world wide demand for reviving these systems, especially when the Western countries are turning towards natural products with less side effects for curing ailments. Ethnopharmacological studies conducted on certain plant species based on the clues got from tribal medicine are yielding promising results.

Forest products

The plant species used for making tribal houses, to be precise, the "huts" are *Bambusa arundinaceae Wild.*, *Gmelina arborea* Roxb., *Ochlandra travancorica* Gam., *Panicum maximum* Jacq., *Saccharum spontaneum* L., and *Terminalia paniculata* Roth., etc.

Plant species used for food purpose include *Arenga wightii* Griff. *Artocarpus hirsuta* Lam., *Artocarpus integrifolia* L., *Baccaurea courtallensis* Muell. Arg., various species of Dioscoreas, *Emblica officinalis* Gaertn, *Entada pursaetha* DC., *Flacourtia montana* Grah., *Garcinia gummi-gutta* (L.) Robs., *Heckeria subpeltata* Kunth., *Phoenix humilis* Royle var. 6pedunculata Becc., *Sterculia guttata* Roxb. and Syzygium cumini (L.) Skeels. Apart from these wild edibles they cultivate *Ananas comosus, Cajanus cajan* (L.) Millsp., *Eleusine coracana* ((L.) Gaertn., *Ipomoea batatas* (L.) Lam., *Paspalum* sp., and *Manihot utilissima* Pohl.

For medicinal purposes they use *Ageratum conyzoides* L., *Aristolochia indica* L., *Aristolochia tagala* Cham., *Coscinium fenestratum* Colebr., *Costus speciosus* Sm., *Drynaria quercifolia*, J.Smith., *Entada pursaetha* DC., *Eulophia culleni* (W.) Bl., *Janakia arayalpatra* Joseph et Chand., *Mussaenda frondosa* L., *Naravelia zeylanica* DC., *Thottea siliquosa* (Lam.) Ding Hou Blumea and *Utleria salicifolia* Bedd. Animal products used as medicine includes tusk of elephants, wild boar and fats of python and gaur. Bitumen is a kind of mineral used for medicinal purpose.

Fishing and hunting are also entertained by them to supplement their diet apart from plant sources. Plants used for fish stupefaction are *Acacia sinuata* (Lour.) Merr., *Croton tiglium* L., *Hydnocarpus wightiana* Bl. and *Hydrocotyle javanica* Thunb.

As minor forest produces (MFP) they collect *Acacia sinuate* (Lour.) Merr. (Fruit), *Canarium strictum* Roxb (Resin), *Cinnamomum zeylanicum* Bl.. (Stem bark), Emblica *officinalis* Gaertn (Fruit) *Myristica malabarica* Lamk. (Aril), *Vateria indica* L. (Resin), *Zingiber zerumbet* Rosc. (Rhizome), medicinal plants, bee wax and honey. The tribals are encouraged to sell through co-operative societies to avoid exploitation by middle men.

From the survey conducted, it is understood that the tribals are utilizing the natural resources in a more sustainable manner. For example the '*Planthis*' or tribal physicians use only the necessary quantity of plant parts for treating ailments instead of collecting the whole plant. Another point observed was that they were reluctant to reveal the secrets of their traditional knowledge system to many persons as they fear that it will lead to the destruction of resource base. The tribals by their natural instinct have learnt the importance of sustainable utilization and conservation. Let us conclude by stating the words of Richard Evans Schultes, the great ethnobiologist, who worked among the tribals of Amazon jungles, "Amongst primitive Indians, said I am the student they are the professors".

64
01

GENETIC RESOURCES OF SPICES IN KERALA AND THEIR CONSERVATION

P.N. Ravindran, K.V. Peter*

In India spices were commonly used from ancient times and ancient literature has abundant references on the use of saffron, turmeric and sesame. Spices were major articles of trade between India and the Middle East in the ancient and medieval times. These spices found their way to the Western Europe through the Arab traders. Black pepper, cinnamon, cardamom, ginger and turmeric are the spices that were regularly exported from this region from ancient times, a tradition which the region still retains.

Kerala as the centre of diversity

Kerala region of the Malabar coast has the unique distinction of contributing both the king and queen of spices - black pepper and cardamom - to the world. Traditionally the region south of the Palghat gap of Western Ghats is known as cardamom hills and the region north as Nilgiris. Wild pepper and cardamom are abundant in the evergreen forests of these hills, especially at its medium elevation (about 700-1200m). In recent years due to the depletion of forest lands, the destruction of forest under growth and the subsequent change in the agro-ecological make up, there is a sharp decline in the population of the wild relatives of these spices.

Traditionally Kerala is a major producer and exporter of ginger and turmeric though they have not originated here. Cochin ginger and Alleppey turmeric occupy the highest quality in the spices. Apart from these major spices, Western ghats is also the home of other spices and their relatives. Table 1 gives the floristic richness of Western ghats and adjoining Malabar coast in terms of spices and spices related taxa.

Table - 1

Species richness in the Western Ghats and adjoining areas for spices.

Black pepper	14
Zingiber	7
Curcuma	17
Elletaria	1+1(?)
Amomum	6
Alpinia	8
Kaempferia	2
Cinnamomum	15
Myristica	4

The variability for cultivated spices - black pepper, ginger, cardamom and turmeric are also rich in Kerala. This is especially so in the case of black pepper, in which over 75 cultivaors are found.

Conservation of germplasm

Genetic resources of spices such as black pepper are facing threat of extinction, the causes of which are many - the spread of improved high yielding cultivars replacing the old, traditional ones, diseases such as the phytophthora foot rot etc. In ginger, due to the devastating diseases - rhizome rot and bacterial wilt, the very cultivation of the crop is seriously threatened. Periodical drought and diseases such as *Azhukal* and *Katte* led to the decline of cardamom cultivation.

The establishment of National Research Centre for Species (NRCS) was a

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turning point in the conservation of genetic resources of spices. For the last one and a half decade NRCS has taken up programmes for the survey, collection and conservation of genetic resources of spices, and subsequently excellent assemblages of germplasm of all the major spices like black pepper, cardamom, ginger, turmeric, nutmeg, cloves, cinnamon, allspice, vanilla have been accomplished

The strategies for conservation of germplasm of any crop are: *In situ* conservation and *Ex situ* conservation. NRCS is the major *Ex situ* conservation centre for spices in India. NRCS is having the largest black pepper germplasm in the world. The germplasm collection in ginger, turmeric and cardamom are also among he largest in the world, A multistage conservation strategy is an insurance against the possible loss due to diseases.

In vitro gene bank

Recently a *in vitro* gene bank has started functioning at NRCS. The objective of this gene bank is to establish medium and longterm conservation strategies. For medium term conservation, slow growth media were developed for pepper, cardamom, ginger, turmeric and related taxa. It is our aim to deposit in this *in vitro* bank all the currently available germplasm by the end of 1995. Meanwhile strategies for longterm conservation through cryopreservation have to be evolved and efforts in this direction have been initiated at NRCS.

Future needs

For collection of the existing variety in various spices crops, intensive as well as extensive collection expeditions are to be taken up in the entire Western Ghats and the adjoining areas. Such a survey requires large man power and infrastructure facilities. There is need to upgrade the existing facilities and capabilities of NRCS for the safe conservation and study of these collection. The establishment of a National Spices Biotechnology Centre and an *in vitro* gene bank at NRCS will go a long way in preserving the genetic resources of spices for the posterity.

64
02

CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES OF KERALA: R&D INITIATIVES AT TROPICAL BOTANIC GARDEN AND RESEARCH INSTITUTE

P.Puspangadan and T.S. Nayar

Of the 1600 km length of the Western Ghats, nearly 450 kms fall within the boundary of Kerala. This constitutes about 56 percent of the total geographical area of the state. Forests in Kerala come mainly under three different types, viz., wet evergreen, moist deciduous and dry deciduous. Sholas, savannas and grass lands constitute other physiognomic types.

Richness of Kerala flora

The vegetational luxury and the commendable wealth of plant diversity in Kerala are mainly due to the diverse range in altitude and the resultant variation in rainfall, temperature and humidity. When explored exhaustively, it is estimated that the state may have not less than 3,500 angiosperm species of which trees and woody climbers may constitute about 750 species. Though very rich ferns, fern allies, bryophytes and other lower groups of plants remain still as the least surveyed and researched group. There are three national parks and 11 wild life sanctuaries in Kerala with areas ranging from 20 sq. km. to 200 sq. km. that are expected to serve the function of biodiversity conservation. But due to a lack of holistic approach of ecosystem concepts, island theory concepts of minimum area requirements and biodiversity conservation concepts of species, some of the wild life sanctuaries are small, others fragmented grass lands, marshes and degraded forests. Agastymala, Silent Valley and New Amarambalam Reserve and Periyar area are considered as hot spot areas in the state from the view point of genetic

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erosion.

More than 60 new species of angiosperms have been published from the state since 1960 and most of them are endemic. There are 8 genera endemic to the state. There are many species which have become rare, endangered or threatened due to habitat destruction or elimination of species related ecological niche. Wild plants like *Syzygium cuminii, Artocarpus hirsutus, Emblica officinalies* and many others that produce edible fruits and genera such as *Amomum, Canavalia, Cinnamomum, Coffea* and *Dioscorea* that have many wild relatives in the forests of Kerala serve as gene pools for desirable characters. More than 500 plant species with proven medicinal attributes have been recorded from the state. Ethnobotanical investigations conducted in Kerala have revealed that there are more than 1,000 species in the forests hitherto unknown or less known that can be further researched upon for medicine, food, fodder and fibre. Kerala is very rich in exploitable plant genetic resources. It should be remembered that plant, which are of little use today may turn out to be highly useful tomorrow.

Constraints of conservation

Like any other parts of India or tropical countries, unprecedented destruction of forest areas has been the cause for the alarming depletion of biological diversity in Kerala. Development of strategies for conservation and sustainable use of plant resources are essential not only for the well being of the present generation but also for the entire posterity. But this field has never been the subject of deep research in the state. Conservation of these resources should get prime importance because without paper conservation, sustainable use does not hold any meaning.

Conservation in the wild is the most desirable policy. As far as the forest genetic resources are concerned there are choices for both *in-situ* and *ex-situ* conservation. But it is difficult, and perhaps impossible, to conserve the entre forests *in-situ*. Preserving large tracts of forest lands with ideally suited conditions for natural reproduction and survival of plant species is an expensive and unmanageable proposition. It is in this context that botanic gardens assume a special role as the centres of *ex-situ* conservation for plant genetic resources.

Tropical Botanic Garden and Research Institute

Tropical Botanic Garden and Research Institute was established in 1979 by the Government of Kerala as an autonomous research centre with the main objectives of conserving the tropical plant genetic resources and developing strategies for sustainable use of these resources with special reference to Kerala.

The Garden has 121 hectares of forest land at the foot hills of the Southern Western Ghats in the high lands of Thiruvananthapuram district. The forest has deciduous, reverine and evergreen forests, apart from marshy spots, water logged blocks, grass lads and wet lands with aquatics and sedges. The location is thus ideal for the biological function of different types of species that require essential microclimatiic conditions. A survey of the forest land of the Garden showed that it represented 7.5% of the total tree species found in Kerala.

R&D initiatives at TBGRI

Efforts on scientific conservation and research on sustainable use of plant genetic resources of the western Ghats, especially the region south of Palakkad gap, initiated by TBGRI are progressing in the following areas.

1. Evaluation of the flora for the uniqueness of its biota, rarity, diversity and fragility.
2. *Ex-situ* conservation including facilities for seed bank and cryopreservation.
3. Establishment of a gene bank for medicinal and aromatic plants.
4. Reproductive biology and population biology of rare and endemic species.
5. Ethnomedicinal, ethnopharmacological and phytochemical investigation of medicinal and aromatic plants.
6. Formulation of crude drugs from medicinal plants.
7. Micropropagatiion of rare, threatened, medicinal and horticultural plant species and their introduction and reintroduction to *ex-situ* and *in-situ* conservation areas.
8. Key stone species and plant animal interactions.
9. Assessment of value of biodiversity.
10. Evaluation of wild edible fruit

crops.
11. Survey and development of strategies for sustainable use of edible mushrooms.
12. Plant-microorganism associations.
13. Eco-education.
14. Popularization of medicinal and horticultural plants cultivation.

Regular plant collection trips to different parts of the Southern Western Ghats and nearby areas have helped systematic introduction of many plant species to the Garden. It has a well organized arboretum with 600 species, bambusetum with 35 species, palmatum with 65 species, a section of wild flowers of horticultural importance with 80 species and an orchidarium with 350 wild species. Introduction of plant species from the forests and establishment of their population for genetic diversity applying different propagation techniques in the forest area of the Garden are the processes in continuum at the Botanic Garden.

64
03

RATTANS - A POTENTIAL PLANTATION CROP FOR KERALA FORESTS

C. Renuka[1]

Rattans (canes), one of the important forest produces after timber, form an integral part of rural and tribal populace of many tropical countries. They are of great social significance as a source of livelihood for the tribal people residing near forest areas. Yet rattans have been neglected by forestry programmes as they are preoccupied with timber trade. Within the last two decades there has been an upsurge of research activities that has led to an appreciation of the importance of rattan and a growing awareness that rattan cultivation has real potential.

Rattans are climbing palms belonging to the family of Arecaceae (Palmae). Out of the 51 spp. reported from India, Kerala represents about 13 spp. In South India, rattans are distributed predominantly in the Western Ghats.

Present Status

Kerala is well known for the rattan furniture and craftsmanship and the rattan processing industry is one of the important traditional forest based industries in Kerala. All the raw material required for the industry is coming from the natural forests. At present the resource is seriously threatened by loss of habitat and by over exploitation which has seriously affected the livelihood of rattan gatherers and workers. Shortage of Rattans has resulted in serious underutilisation of production capacity of Rattan industry. A considerable quantity of the rattans required for the industries is now brought from North Eastern states and Andaman and Nicobar Islands. This situation can be overcome only by raising large scale plantations.

From being a neglected minor forest produce, research and development over the last two decades has laid the basis for large scale rattan cultivation.

In this paper the results obtained from the experimental plots of rattans on growth and survival rate are discussed.

Results

In the species trials conducted, most of the species showed more than 80% survival rate. As for height, as a rule, the rattan plants will remain in the rosette stage (without stem formation) for the first 4 years after planting. From then onwards the height will increase faster.

The growth analysis of *Calamus thwaitisii* planted in 1984 shows that the rate of growth in height is very slow in the first 3 years (i.e., the plant remained in the rosette stage). For the next two years an average increase of 1.2 m. was recorded and then onwards the average height increment per year was 2 m. Within 9 years about 10 suckers and 3 stems of extractable height were produced from each plant. About 15m of mature cane is available from each plant. Hence from a 1 ha plot about 7500 m. of mature cane

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can be extracted within 10 years of planting.

Compared to *C. thwaitesii*, the growth rate of *C. hookerianus* and *C. pseudotenuis* was lower. Their height increase was about 1 m/year after the initial rosette stage. Both these species produced 5 suckers and 4 mature extractable stem within 9 years.

Introduction of exotic species

The growth measurement of exotic species shows that the Chinese species are well adapted to the environmental conditions in Kerala. Compared to the Chinese species, the survival rate of Malaysian species is very low.

Rattans and their potential

Rattan as a plantation crop has several advantages over other economically important perennials. Rattan is easy to grow and has a wide altitudinal range. Since there is no need to clear the forest for rattan plantations, the forest cover will be conserved. Many species of rattan are clump forming making it an excellent plant which can regenerate by itself after harvesting and continually generate income. Rattan industry is highly labour intensive and the quantum of capital required to generate employment in the industry is very low.

64
04

SUSTAINABLE DEVELOPMENT AND ECONOMIC UTILIZATION OF WILD ORCHID RESOURCES OF KERALA

A.Gangaprasad, S.William Decruse, J.C.Jose, S.Seeni and V.Sarojini Menon

Kerala's unique plant wealth has been inventorized partially but seldom utilized in keeping with the economic well-being of the people. A good example is the wild ornamental plants that are available in diverse form and beauty in the Western Ghats region of the state. Although there is an unprecedented care for exotic orchids and other floriculturals, the potentials of the native orchid and other foliage and flower plants for immediate commercial utilization and also to produce new and novel hybrids through hybridization with known ornamental have not been investigated. It is particularly so with rich and diverse orchid, flora, represented by 161 genera and 1140 species in India. Statistical data indicate that out of the 630 species of epiphytic orchids, 187 are endemic species and of the endemics about half the number are very rare and endangered. A dozen species are known from single collection only, evidently pointing to the fact that they are on the verge of extinction. The advent of civilization, our own material requirements and developmental projects of various kinds have depleted many of the pristine orchid habitats. Since orchids with their microclimatic requirements are abundant in primary forests of diverse woody taxa, they are the most affected by deforestation activities. In the newly formed plantations of timber species felling is often done before the orchids are reestablished.

Thanks to British rule in India, Indian forests were botanically explored and the ornamental value of orchids was brought to light. Unfortunately as it often happens in colonial rule, showy orchids were shipped and extensively used to develop high quality hybrids elsewhere. Botanical history in India is replete with instances of plant collectors visiting a single locality in Agasthyamalai year after year to collect the only slipper orchid of the Peninsular India, *Paphiopedilum druryi*. The Himalayan orchids were even more showy than their Peninsular counterpart and hence were the first to be exploited. Examples include blue vanda (*Vanda coerulea*) and redvanda (*Renanthera inschootiana*).

The Western Ghats region is one of the wettest and richest orchid habitats in the world. An estimated 267 species, 3 subspecies and 2 varieties in 72 genera are reported from the Western Ghats. Among them 130 species, 2 subspecies, and 2 varieties are endemic to India, of

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these 72 species, 2 subspecies and 2 varieties are endemic to the Western Ghats.

Forests of the Western Ghats of Kerala harbour more than 216 species of orchids in 70 genera. Among these, 15 are known for ornamental value and used for breeding. *Paphiopedilu druryi* with its golden yellow colour and the black median bands of the petals have served as a parent to produce 40 registered hybrids. The value of other equally important orchids from this region such as *Vanda spathulata, Vanda tessellata, Aerides maculosa* for breeding and improvement cannot be overestimated. Yet another dazzling beauty *Ipsea malabarica*, the Indian daffodil orchid was until now considered extinct but has been rediscovered after a lapse of 130 years from the Silent Valley. It is unfortunate that despite the presence of rare resources, conscious efforts are seldom made to conserve them and sustainably utilize them for economic production. In fact, orchid breeding itself is seldom practiced in India and thus far no new hybrid has been released to the market from the Western Ghats region.

Medicinal applications of Indian orchids are equally important but not known to many. Chinese medicine, for example, makes use of more than 80 different orchids. Literature indicates that at least a dozen species of the Western Ghats region are used in tribal and traditional medicine in Southern India for curative as well as preventive purpose.

Suggested methods of their conservation, popularization and sustained utilization include

a. Organization of germplasm collection with all available variations and nursery cultivation with the participation of local communities.
b. Adoption of biotechnological tools (embryo culture, tissue culture), for seedling flask and mericlone flask projects as followed in developed countries.
c. Breeding and improvement using native species and exotic hybrids.
d. Reestablishment of selected taxa in defined forest segments (orchidaria)
e. Sale including export of flask material and improved hybrids to realise economic benefits.

What has been achieved so far? Earlier workers have surveyed the orchid flora of the region (Abraham and Vatsala 1981) and listed out the rare species (Kumar C.S. 1986). As part of the research project on "Conservation through micropropagation of rare and exquisite orchids of the Western Ghats" sponsored by the Ministry of Environment and Forests, Government of India, we have collected a few living plants of selected rare species from different forest segments without disturbing the natural population and organized a germ plasm collection (the Vavilov Centre) on the Institute's campus at Palode. In the next step modern tools of biotechnology (seed culture, tissue culture) were employed to mass propagate selected exquisite taxa.

Seed Culture : An approximate 2-10 months old green capsules of different species collected from mature plants in fiesta were used for seed culture. The capsules were surface sterilized and seeds are inoculated into different liquid nutrient basal media or in combination with various growth additives.

When the protocorms developed from the seed, produced young shoots, they were transferred to solid nutrient medium. Every fourth month the seedlings were transferred to fresh media. When the protocorms developed into seedlings with two or more roots and vigorous shoots usually after 6-12 months, the seedlings were deflasked and washed thoroughly in running tap water and planted in the community pots. Seed propagation protocols were established for most and could be used for commercializing the orchids without endangering the remaining population in the wild.

Meristem Culture : Apical buds, leaf bases, nodes and pseudobulbs were used as explants for meristem culture. The surface decontaminated explants were transferred to sterile petridishes, cut into convenient size and inoculated into different nutrient media (Mitra, *et al.*, and WPM) containing different concentrations of growth hormones. Nutrient media required for culture initiation were standardized and data on frequency of culturing, protocorm-like body formation, direct shoot regeneration and differential responses of seedlings and mature plant sources were recorded. After four months of culture, the explants with the shoots/protocorm like bodies were subcultured in fresh media for shoot multiplication, while in most cultures, shoots and roots were simultaneously formed, in a few others a separate root induction phase was inevitable.

Both seedlings and mericlones are now raised in community pots and are also successfully reintroduced into selected forest habitats at Ponmudi/Silent Valley.

The time is ripe to draw a plan of action for commercial utilization of these orchids and realise economic returns.

64
05

SUSTAINABLE MANAGEMENT OF NON-WOOD FOREST PRODUCTS IN KERALA : GUIDELINES FOR POLICY FORMULATION

P.K.Muraleedharan, Anjana Shankar and B.Jayasankar

Forests are one of the important renewable natural resources in Kerala, providing multifarious benefits - both tangible and intangible - to the society. The tangible benefits from forests comprise both timber and non-timber forest products (NWFPs). In Kerala, about 500 plant species are categorised as providing NWFPs of which only 120 products are commercially exploited. Broadly, the NWFPs can be classified as bamboo and reeds, rattan, medicinal plants, oil seeds, grasses, fruits, resins, barks, leaves and animal products.

Forest management in Kerala has been mainly geared to the objective of timber production and not much attention has been paid for the development of NWFPs. Probably, this may be due to the fact that the Forest Department treats NWFPs as minor forest products, as they fetch low income. In fact, they play an important role in rural development in the state, generating massive employment at the extraction, processing and utilisation stages. For instances, about 300,000 workers belonging to the socially and economically backward sections in the society are engaged in reed based traditional industries. Further, majority of the NWFPs are having multiple uses and are used for a variety of purposes such as preparation of medicine, tanning, etc.

The forest management policies regarding NWFPs framed by the Forest Department mainly confine to preparation of guidelines for extraction and fixation of seinorage rate. The Forest Department sublets the right of extraction of NWFPs to the agencies such as Harijan-Girijan Federation, Bamboo-Corporation, Girijan Co-operative Societies and pulp and paper mills. In the context of high demand for the products and inadequate supervision by the authorities, the guidelines prescribed by the department are seldom observed by the extraction agencies, resulting in over exploitation and loss of bio-diversity. In Kerala about 90 per cent of NWFPs are found in moist forests which represent a fragile eco-system that are less able to recover from their severe or repeated exploitation. This paper provides an overview of management and utilisation of NWFPs and proposes a guideline for sustainable management of NWFPs consistent with maintenance of bio-diversity.

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64
06

PLANT RESOURCES OF KERALA : PROBLEMS AND POTENTIAL

V.V.Sivarajan

Consequent to the recently concluded Earth Summit, the Biodiversity Convention, the GATT Agreement and the Clamour for Intellectual Property Rights especially in the technologically advanced west, Biodiversity has become a catchword in international affairs. At last, we have realised that the diverse kinds of plants and animals that co-exist with us here are an integral part of our life-supporting system and that it has a great role to play in economic development and in determining the future quality of human life on this planet. Naturally, there is increasing awareness, the world over, about the need for their conservation and exploitation on a sustainable basis.

India, with a bout 45,000 species of plants and 77,000 species of animals, is one of the 12 megacentres of biodiversity (biodiversity hot spots) in the world. The tremendous diversity in life forms is concentrated in two major areas, the Himalayas and the Western Ghats. Kerala, covering the southernmost extremity of the Western Ghats, is very rich in flora and fauna but unfortunately, this is an area which have not yet been studied well enough. At a time, when our forests and natural habitats are being very rapidly destroyed and diverted for other purposes, such studies, have become most urgent.

This paper is an endeavour to take a bird's-eye-view of our floristic wealth, their future potential in endeavours like agricultural and horticultural crop improvement, drug development and so on, the urgent need for an inventory of plants of this state for the benefit of posterity an the need for conservation of our forests at least at the existing levels.

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65 ENVIRONMENTAL STUDIES

65
01

STATE OF ENVIRONMENT IN KERALA

M.K. Prasad*

Kerala lying between 8°17'30" to 12°47'40" north latitudes and 74° 24'47" east longitude is one of the small states of the Indian Union. It has an area of about 38,870 sq. km. The state territory can be broadly divided into three physiographic subdivisions, namely the highland , the midland and the lowland. The highland is mostly forested in its upper reaches, while in the lower ranges the forest are interspersed with mountains. The western fringes of the state are lowlands and the coastal zone containing a string of estuaries. Kerala receives an annual rainfall of about 300cms per year, rain fall being distributed in the south western and north western monsoons. The population of Kerala is 290.98 lakhs and the density is 749 per sq. km. The urban to rural ratio is 26:74.

The major resources of the state are land, water, minerals, livestock, fisheries, etc..

Land resources

Out of the total land area about 57% is under agricultural crops. This provides employment and livelihood to more than 40% of the labour force and supplies raw materials for most of the traditional industries. Agricultural land is a shrinking resource due to competing demands for its use. Soil conservation, landuse planning and agricultural engineering did not receive due attention in the past. The present situation shows that 32% of the total geographical area goes without being taken care of. Next major land category is forest land. According to official estimates, about 24 to 27 percent is under forests. However, functional forests occupy only 10-12 percent. The forests of the state belong to the category of tropical forests and form the western extremity of the Indo-Malayan formation. On account of the variation in precipitation, temperature, altitude, etc.. Kerala forests represent extreme biotic diversity. But due to increasing stress of forest land for non forestry purposes national forestry have been shrinking in area. Flash floods, drought, soil erosion and depletion species diversity are some of the consequences of deforestation.

Water resources

The main water bodies in Kerala are represented by 44 rivers which originate in the Wester Ghats. 41 of them drain into the Arabian sea. A total run off of all the rivers is estimated at 78041 million cubic meters. The quantity considered to be utilizable is computed at 42772 million cubic meters.

There are a number of backwaters or estuaries in the lowland belt. There are 10 major irrigation projects, irrigating a net area of 92,820 ha of paddy. Some more are in the process of completion. Water is also required by hydropower, industry, municipal needs and for keeping ecological balance of coastal regions.

Kerala has a ground water potential of about 8000 million cubic meters per year. But the utilisable quantity is only 50 per cent of this.

Mineral resources

The important mineral resources of the state are: Ilmenite and Monazite, Clays, Iron ores, Glass sands, Bauxite, Lime stone, Lime shell, Graphite,

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precious and semi precious stones. However, the mineral resources are as a whole just moderate and the only commercially exploitable deposits are heavy minerals, placer deposits and clay.

Livestock

About 12 percent of Kerala's agricultural income is contributed by the Animal Husbandry sector. Kerala has a livestock population consisting of 35 lakhs cattle, 4 lakhs buffaloes, 16 lakhs goats, 2 lakhs pigs, 170 lakhs poultry and 9 lakhs duck.

Fisheries

The fishable area in the state consists of the continental shelf within 200 meters depth range spread over 39 lakh hectares and the inland water area over 3.6 lakh hectares. Resource potential in the continental shelf is estimated at 8 lakh tonnes per fisherman of which 50 percent lies in the inshore region. The presence of fishermen on the sea is very high with 1043 fishermen per 100 sq. km. of area compared to 269 for the nation as a whole.

Environmental problems

The major environmental issues in Kerala can broadly be consolidated into three: (i) those related to forest destruction, (2) those related to changes in landuse pattern and associated drainage and development problems and (3) those related to pollution - industrial, agricultural and life style.

Deforestation

More than 50 percent of the land comprises of hilly tracts subjected to heavy rainfall. Removal of forest cover caused soil erosion, droughts, flash floods, changes in micro-climate and consequent vegetational change. Over the years sustained yield principle was discarded and replaced by an aggressive man-made forestry programme to meet requirements of wood based industries and state revenue. Coupled with illicit felling of timber and related employment and pressure on land due to high population density have together led to a suicidal situation. All the major reservoirs are getting silted up. Summer flows in the streams are declining. Bio-diversity is fast depleting.

Landuse

Recent trends in changing landuse are not encouraging. More land is put to non-agricultural use; more land is becoming barren and uncultivable waste, reduction in the area under permanent pasture and evident destruction of tree crops. Kerala has severe soil erosion problems in more than 50 percent of its cultivable area. It results in heavy nutrient loss. Consequent to structural degradation of absorptive surface there is less and less infiltration. Conversion of paddy fields into garden lands, construction of roads across paddy fields, increase in the surface road area and consequent increase in stormwater, etc., have caused drainage problems in the coastal and lower midland areas.

Pollution

The exploitation of resources and their use in industrial processes, and also all types of developmental activities are sources of various byproducts and effects which often becomes unusable and undesirable. These results in pollution of air, water and land.

The waters of the Chaliar, Chalakudy, Periar, Pampa and Kallada rivers and certain areas of the Vembanad and Ashtamudi backwaters are subjected to intense pollution by industrial effluents. Untreated sewage and run off from cultivated fields also contribute to water pollution.

The pollution of air in Kerala is caused mainly by chemical industries and the automobiles. Pesticide and insecticide pollution is the contributions of agricultural practices. Its extent is ever increasing.

Even today 75 percent of the households in Kerala do not have sanitary latrines. Naturally, nightsoil becomes a pollutant in human habitations. Sewage and garbage disposal is not in the programme of any township.

Environmental awareness

Environmental consciousness among the people of Kerala is much higher compared to other states in India. Any developmental activity is now closely watched by people to find out whether it is going to affect the environs. This state of affairs is the result of the awareness created among people by the most fiercely contested environmental

dispute in the country, namely the Save Silent Valley campaign, which quickly symbolised the quest for a new paradigm: development without destruction.

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02

AGRO-FORESTRY PROGRAMME IN KERALA - AN EMPIRICAL ANALYSIS

A.Anilkumar[1]

In Kerala, agro-forestry programme is part of the social forestry programme of Kerala Forest Department. The social forestry programme includes mainly the plantations raised in community lands, waste lands, marginal lands, road sides, canal sides, railway sides, and also the plantations raised on degraded forests near habitations. Except the agro-forestry component, social forestry still remains mainly a government programme. The planting of woodlot or strips in or around village is being done at government expense and patronage. The plans are prepared by governmental agencies. Protection and fencing are also their concern. Under the agro-forestry programme, agro-forestry seedlings were distributed to farmers through government and other agencies, which were planted by farmers and others in and around their field. Though farmers are involved in agro-forestry programme, their extent of involvement, attitude and motivational pattern for participation was not clear. Empirical studies on the above mentioned aspects in the socio-economic context in Kerala are limited. The present study was, therefore, designed with the following objectives.

1. To access the nature and extent of involvement of farmers for agro-forestry programme in Kerala,
2. To study the attitude of farmers towards forestry programme,
3. To study the motivational pattern of farmers for participation in agro-forestry programme, and
4. To identify the constraints perceived by the farmers and agro-forestry personnel in the implementation of agro-forestry programme.

The investigation was carried out in two districts, namely, Thrissur and Wyanad of Kerala, the most benefited districts (where maximum number of seedlings were distributed) and the least benefited district (distributed minimum number of seedlings), respectively, under the agro-forestry programme. In Thrissur district the forest range in which the maximum number of seedlings were distributed was selected. Then the Panchayat in this range where the maximum number of seedlings were distributed was selected. In Wyanad district, the range in which the least number of seedlings distributed was selected. Thus two Panchayats were selected. A total of 100 respondents were selected, fifty from each of the selected Panchayats.

Nine independent variables of farmers, namely, age, education, farm size, income, family size, utilization of information sources, cosmopolitenism, attitude towards agro-forestry programme, motivational pattern for participating in agro-forestry programme were selected to study their relationship with dependent variable, the extent of involvement of farmers in the agro-forestry programme. The attitude of farmers and motivational pattern of farmers participating in the agro-forestry programme were also studied. Test of significance, simple correlation, percentage analysis, etc., 2 were the statistical techniques employed in this study.

Findings

Independent variables of the farmers, namely, education, utilization of information sources, cosmopolitenism and their attitude towards the agro-forestry programme were positively and significantly correlated with their extent of involvement in agro-forestry programme.

On an average, the extent of involvement of farmers in the agro-forestry programme was low in Kerala. But when the farmers are classified into three groups, namely, high, medium and low, with respect to the extent of involvement, a majority of farmers of Kerala had only medium level of involvement (67 percent). 19 percent of the farmers had a low level of

[1] RARS, Pilicode - 671 353

involvement and 14 percent had high level of involvement.

There is significant difference between farmers of Thrissur and Wyanad districts with respect to the extent of involvement. In general, study on the attitude of farmers showed that, on an average, the farmers had a strongly favourable attitude towards the agro-forestry programme.

Among the different motives, economic motive was the highest and strongest behind the participation in the agro-forestry programme. Affiliation motives and self esteem motive stand second and third, respectively.

The most important constraint perceived by the farmers was the lack of irrigation facilities followed by the non-availability of desired plant species and smaller size of land holding which makes planting difficult.

The most important constraint perceived by agro-forestry personnel was the inadequacy of staff. The next most important constraints were the counter-propaganda by certain organisations against this programme and the inadequacy of publicity and extension work.

Some implications and recommendation

The most encouraging finding of the study was that the farmers had strong positive attitude towards the programme, though their extent of involvement was comparatively less. This helps the extension and other agencies to analyse the possible reasons for the low involvement of farmers and try to eliminate them.

The present study shows that the most important motive for participation of the farmers was economic motive. This information may help extension agencies and agro-forestry personnel to formulate new projects and programmes which will provide monetary benefits and incentives to farmers, which may lead to higher involvement of farmers in agro-forestry programmes.

The study revealed that the important constraints perceived by farmers were lack of irrigation facility, non-availability of desired plant species and smaller size of land holding. The agro-forestry personnel may consider these problems, and supply the desired species of seedlings at the right time, which can eliminate farmers' problems to a certain extent.

The important constraint perceived by the agro-forestry personnel were the inadequacy of staff, counter-propaganda of certain agencies and inadequacy of publicity and extension work. The top level officials of the Social Forestry Department may take these problems into consideration and take necessary steps to solve these problems.

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03

COIR INDUSTRY AND KAYALS IN KERALA

N.C.Anilkumar and P.K.Abdul Azis

Introduction

Wedged between the land and sea, estuaries form a unique ecosystem serving as the centre stage of a variety of human activities. Estuary is defined as a semi enclosed coastal body of water within which sea water is measurably diluted with fresh water derived from land drainage. From very ancient times they have been the main centres of man's development because of the fertile waters, sheltered anchorages and navigational access they provide for a broad hinterland. Estuaries are highly complex systems with several interacting and variable factors, riverine, terrestial and marine. Thus estuary is a dynamic area with varying physical, topographical and meteorological conditions.

India is one among the very few fortunate nations with vast amount of natural resources in the form of extensive coastlines, river systems, estuaries, lakes and reservoirs. Due to the tropical climate prevailing, these water bodies are extensively productive and they harbour a large spectrum of fish genetic resources. The area of estuarine

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waters of India is estimated as nearly 26 lakh hectares. Both the east and west coast are interspersed with several estuaries and backwaters of varying lengths. Each one is different from others in characteristics depending mainly on the river flow, tidal ingression and basin topography. On the west coast, there is an extensive estuarine system familiarly known as the backwaters of Kerala. They form a series of interconnected lakes opening into the sea at several points. The estuaries represent highly productive ecosystems. The numerous creeks and salt marshes in estuaries are excellent nursery grounds and feeding grounds of commercially important fishes and shrimps. The estuaries in India have a potential yielding of 75 thousand metric tones of fish annually. The Bombay duck, the Indian shad, Mullets, Milk fish and paenaeid prawns form the bulk of estuarine fisheries in India.

Uniqueness of Kerala estuaries

Lying between Latitude 8° 18' and 12° 48'N and longitude 74° 52'E and 77° 2'E the state of Kerala is bordered on the west by Lakshadweep sea. An outstanding feature of the Kerala coast is the presence of large number of perennial/temporary estuaries popularly called as the *kayals*
roughly parallel to the Arabian sea. It has an area of about 2,40,000 hectares. It, represents 68% of the inland water resources of the state. Thus the *kayal* system is significant as the largest and the most important inland water resources of the state. The kayals of Kerala, sprawling the entire coastal length can play a crucial role in the socio-economic development of the state especially for the development of aquaculture, navigation, tourism, etc. The lucrative fishing industry and coir industry of the state are heavily dependant on Kayals.

Coir industry in Kerala

Kerala State is well known as the land of coconut palms and extensive *kayal* systems. The plentiful availability of coconut husk and the vast stretch of shallow *kayals* have given birth to the most important, intensive labour oriented coir industry. A majority of the 400 crores of coconuts produced in Kerala is harvested from the shores of these backwaters. Coir industry provides employment to half a million people. India produces about 1.55 lakh tones of coir goods and Kerala's contribution stands at 80 per cent. Thus the coir industry is the most important cottage industry in Kerala. Coconut husk is the raw material covering the fruit, constituting both the exocarp and the mesocarp. Retting is the basic process involved in the processing of raw husk for the manufacture of golden fibre 'Coir'. The process involved is to arrange the husk in coir nets into bundles and put them in backwaters weighed down by putting slime scooped from the bottom of the retting yards. This arrangement is locally known as *mallis*.

Retting - A cause for pollution

Retting is brought about by the pectinolytic activity of micro organisms, especially bacteria, fungi and yeast, by degrading the fibre binding material of the husks and liberating large quantities of organics and chemicals into the environment. The ret liquor becomes slowly turbid with the formation of a scum. This is followed by a rise in temperature, turbidity, depletion of oxygen and evolution of foul smelling gas. The practise of retting has converted a major section of *kayals* into virtual cess pools of foul smelling, stagnant waters. Earlier studies have reported the drastic changes in water quality due to retting. The adverse effects of pollution has already been reflected in depletion of resources.

Area shrinkages of kayals

The *kayal* area in the state is fast shrinking due to anthropogenic disturbances. A 20% diminution in the surface area was reported. A study of the Anchutheng - Kadinamkulam Kayal reveals a 14% diminution in the area during 1916-1991. The study also reveals that during 1968-1991, the reclamation activity was very high compared to earlier period.

The anthropogenic disturbances that lead to reclamation activity has often the coconut husk retting appercuser. The shallow area in the Kayal is first converted in to *'Mali'* for soaking coconut husk. Sufficiently strong dykes and ridges would be made in the first phase and the coconut seedlings planted on the earthern embankments. The area would be gradually filled up by dumping dredged out sediments from the estuary floor, by coconut husk wastes and by laterite soils brought from distant areas. The strategy is continuing by the people for annexing estuarine lands.

Conclusion

Proper management measures for the coexistence between *kayals* and coir industry are essential for the development of Kerala state. Since there is no alternative for the practice of retting, effort should be taken to make the process ecologically friendly. The retting activity in the interior bays of the *kayals* may be discouraged. In these places specially constructed retting tanks may be helpful to delink retting from *kayals*. The citizens should be apprised of the interdependence of the *kayal* and human existence and the authorities should take strong legal actions against reclamation of *kayal*.

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04

IMPACT OF 'AFRICAN PAYAL' INVASIONS ON THE ECOLOGY AND ECONOMY OF KERALA

P.V.Madhusoodanan

'African Payal' (Salvinia molesta Mitchell) is a gregarious, free floating fresh water fern introduced in Kerala some forty years ago which became a pernicious aquatic weed all over the low land and in the Kakki reservoir (900 m alt.). It was formerly identified as *S. auriculata* Aubl. until Dr. Mitchell identified it as a new taxon in 1971. Only one species of Salvinia occurs in Kerala; two other species occur in N.India. *S. molesia* was reported as a weed firstly from Sri Lanka (1942), but became notorious as the 'Worlds Worst Weed' when the newly built Kariba Lake (Zimbabwe, Africa) was infested in 1959, hence the name 'African Payal'. It is a native of South America, where it is not a weed being controlled by natural pests. *S. molesta* is a sterile pentaploid hybrid and hence the propagation is entirely by vegetative fragmentation. It exhibits two conspicuous growth stages: (i) Primary-small, with ovate flat leaves and without sporocarps, and (ii) Secondary-five times larger, leaves conduplicately folded and bears sporocarps. These growth forms are often misunderstood as different species. The secondary growth stage is formed when there is crowding and in stagnant waters form thick (up to 1 m) mats. When the secondary plants are put in open water, only primary growth form is produced. African Payal prefers, placid, nutrient rich waters like stagnant ponds, canals, paddy fields, etc. Sporangia and spores are produced in sporocarps; spores are few and are aborted. The axillary bud is found to be having great potential for regeneration.

Ecological impacts

In Kerala, 'African Payal' has affected agriculture, water transport, inland fisheries, electricity generation and public health. A survey conducted during 1975-80 has shown that about 7000 km^2 area in Kerala (18% of the total area; 65% of the lowland area) is under the infestation of 'African Payal'. It has become a serious problem for paddy cultivation in the southern districts, especially in the Kuttanad area. The topography and climate of Kerala are highly congenial for luxuriant growth of aquatic weeds. The lowland area is criss-crossed with many canals facilitating easy spread of this weed. The tropical humid climate with plenty of rainfall (over 300 cm p.a.) with occasional floods in the lowlands during the monsoon season promotes the propagation of all floating weeds. The pH of soil/water is slightly acidic, highly suited for aquatic weeds. In paddy fields, *Salvinia* smothers the seedlings and depletes the nutrients causing extra expenditure and labour for the farmers. It chokes the irrigation canals hindering water flow. So far it has appeared in only one reservoir seriously (Kakki reservoir of the Sabarigiri Project); it appeared in Idukki reservoir also, but did not proliferate. It has affected the local fish fauna by forming a thick carpet on the water surface inhibiting breathing. The delicious fish species like *Channa striata* (*'Bral'*) has disappeared from the weed infested areas. It has also affected the populations of *'Karimeen'* (*Etroplus suratensis*) since part of its life cycle

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is completed in fresh waters. The infestation has also affected shrimp farming. *Salvinia* is a very tough competitor which has replaced even the gregarious aquatic weed like *Eichhornia crassipes* (water hyacinth), another New World species which reached here some fifty years earlier and has much wider distribution. The native aquatic flora suffered greatly by the asphyxiation of the 'African Payal', and in many places, they were eliminated. The thick mats hinder light penetration leading to the destruction of submerged vegetation and associated fauna. The thick floating mats of *Salvinia* act as suitable substratum for the growth of many marshy species which form floating colonies ('sudd'). The sudd formation in shallow ponds and lakes augment the plant succession (hydrarch) leading to the eutrophication and consequent transformation of aquatic ecosystems into terrestrial habitats. Excess decay of the weed causes oxygen depletion subsequent to rapid population increase of the detritivorous organisms. The excess oxygen demand rapidly leads to anaerobic conditions and consequent decrease in pH. The Thanneermokkom barrage constructed across the Vembanad lake with good intentions has become a staring example of ecological boomerang by creating a highly favourable environment conducive for the explosive growth of aquatic weeds. The large scale application of chemical fertilizers which leached into the lake water from nearby paddy fields augmented the weed growth.

Impact on economy

The impact of 'African Payal' infestation on the economy of Kerala is multidimensional. The major effects are i) on paddy cultivation and associated irrigation programmes, ii) water transport, which is the only means of transportation in many parts of Kuttanad, iii) pollution and resultant health hazards, and iv) the cost of management/control of the weed. The infestation has affected the daily life of about five million people of Kerala. Attempts were made on the management of this weed by manual, mechanical, chemical and biological control methods. The variety of habitats occupied by the weed from paddy fields to open lake waters render a universal mechanical device almost impossible. The high water content and less mineral content of the weed make it a poor mulch. Trials were conducted to utilize the weed as a fish feed and as a supplement in cattle, pig and poultry feeds but it has been found that it is neither nutritive nor palatable. The Kakki Campbell variety of ducks are found to feed on this weed directly but the amount consumed by them is very little. The fresh water snail *Pila globosa* feeds on this weed but only when there are no other plants available. The utilization of *Salvinia* in the biogas digesters is found economically not feasible since it incurs much labour. Trials for utilizing this weed in paper industry and as packing materials were unsuccessful. Chemical control of aquatic weeds is difficult since a large quantity of weedicides is required which causes serious pollution affecting desirable flora and fauna. The biological control method is found to be the most effective without any side effects if a specific natural pest is available. The natural pest of *Salvinia* was imported from South America (*Cyrtobagous saliniae*), reared in the Kerala Agricultural University and released. This weevil has now established in Kerala, by the sincere efforts of Prof.P.J.Joy (Entomology Division, Kerala Agric. Univ.) and is effectively controlling the *Salvinia* populations and today, African Payal is not a serious aquatic weed in Kerala.

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05

ECOBIOLOGY OF FOULING AND ITS SIGNIFICANCE WITH SPECIAL REFERENCE TO COCHIN HARBOUR WATERS

B.Meenakumari and N.Balakrishnan Nair

Marine biofouling is economically a serious problem to all man made structures and devices submerged in the sea and also to coastal industrial installations and power plants. Fouling leads to decrease in ship's speed, increases weight and hydrodynamic drag of navigational buoys and floating platforms, interferes with the performance of underwater acoustic devices, clogs sea water piping systems, affects the heat exchanger performance in the OTEC systems and promotes corrosion of metals.

The biofouling complex is formed by a variety of organisms, bacteria being the first forming the primary film followed by diatoms and then the periphytic community. Monitoring the rate of fouling under different environmental conditions, methods are to be evolved to predict biofouling which is useful for the efficient design and operation of engineering systems as well as maintenance of ships hull and that of fishing vessels.

Fouling in Cochin Harbour

Cochin harbour waters is a typical example of a seasonal fluctuation in salinity from near fresh water to marine conditions consequent on the seasonal monsoons, and this is the deciding factor in the biology of the fouling community at this area. The fluctuation of salinity consequent on monsoon leads to an ecological succession of foulers considerably modified by the prevailing hydrographic conditions in the occurrence, fluctuation and abundance of micro and macro fouling community. A true biotic succession, though not well pronounced is noticed which is confined to the early stages of the development of fouling biota and fades out as the community progresses and reaches a climax. Besides bacteria, 3 species of fungi, 13 species of diatoms and 67 species belonging to thee groups coelenterata, annelida, bryozoa, crustacea and mollusca were identified from the fouling complex by schematic panel exposure studies. The index of dominance of the major foulers for different periods revealed that barnacles are the most predominant group both in number and surface coverage.

Prevention of fouling

Presently fouling is controlled by antifouling coatings containing toxic pigments of metals which get slowly released from the paint matrix to the surface which prevents the settlement of the larvae of marine fouling organisms. However this is not an environment friendly method as this slow release of metal pollutes marine environment. So attempts are to be made to offset the formation of fouling, by using substances which will not pollute the medium. Studies in this line are yet to get momentum in India and considerable work still remains to be done.

Scope

Bioactive substances extracted from different animals, which show antifouling properties can be possibly employed and the analogs of these bioactive substances in antifouling compositions offer considerable scope in the development of environment friendly antifouling techniques.

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06

A STUDY ON LAND USE AND LAND COVER CHANGE IN THE UPLANDS OF KALLADA CATCHMENT

Muralikrishna.M

Kerala, a densely populated state, has exceeded the threshold of pressure of population on land. Topographically hilly terrain constitutes more than 50% of the geographical area, which is ecologically fragile. Growing population coupled with over use and misuse of midland and coastal arable lands depletes the soil fertility. This inturn forced growing numbers to seek arability in the hilly tracts, in recent times. So, this terrain already saturated with plantations, introduced by the British, now could not sustain any more. The results are evident in the present day geomorphological, hydrological and macroclimatic changes. Unless viable solutions are sought out through scientific management and planning, the sustenance of population in general and agriculture in particular will be jeopardised.

The present study

The present study aims at mapping out the extent of changes in both natural and anthropogenic space over the last decade (1984-93) in the specific location of the uplands of Kallada watershed. Land use of a region is a dynamic thing and this needs constant monitoring for better management. Remote sensing application is of immense use in monitoring land use land cover change of a region because of its synoptic coverage and repititivity.

The Kallada river, 121 km long is a west flowing river that originates from the Kulathupuzha range in the (110 meters above msl)southern portion of Western Ghats. The river with a catchment area of 1717 sq km flows through Kunnathur, Pattanapuram and Kottarakara taluk of Kollam district. The river has an annual yield of 2770 million cu.m and annual utilisable quantity of 1368 million cu.m. With the increase in demand for water throughout the year and to harvest the maximum utilisable water in the basin, Kallada Irrigation Project (KIP) was proposed in 1956. An estimated initial budget of Rs. 13 crores latter revised to Rs.74 crores were spent to complete its first phase of construction. One of the silient feature of the project is that it proposes to irrigate about 530 sq km of land for two time cultivation which will help an estimated increase of 2,22,000 tonnes in rice production. But, out of this 530 sq km irrigated area, only 200 sq km are under paddy. To analyse the present land use pattern of the region of such a delayed project is of crucial importance for cost benefit analysis and for formulating and planning of the second phase of the project Land sat MSS P144 Ro54 for Dec 1984 FCC and IRS 1A LISS I PO25 R62 for Feb 1993 FCC were used to analyse land use land cover change of the region.

Table no.1

Area of different classified land cover of Kallada river basin

	Area in Sq.km					
	1970 (toposheet)	%	1984 (Dec)	%	1993 (Feb)	%
Kallada river basin	1717.94	-	-	-	-	-
Kallada reservoir (water spread)	not const.	-	22.81	1.33	22.06	1.28
Forest	672.185	39.12	578.00	33.64	474.04	27.59
Degraded Forest	-	-	27.50	1.60	120.50	7.01
Plantation	-	-	107.50	6.25	234.17	13.63
Forest land submerged	-	-	22.81	1.33	22.81	1.33

Base map was prepared from Survey of India toposheet 1 : 250,000 scale and a land use land cover change map for the period of 1984-93 was prepared (see map). The area calculation was done using digital planimeter.

Significance of land use land cover study in the Uplands of Kerala

The events leading to large scale intervention that had taken place on the Western Ghat region dates back to the princely rule of Travancore State. The consecutive events like clearing of

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evergreen forest for teak plantation and other cash crops by the colonial people, then the exemption of upland plantation in the Land Reforms Act (1956) and the recent events of issuing Pattas (title deeds) for the encroached forest land all has contributed the extensive change in the land use pattern of uplands of Kerala. Though the government statistics shows the total forest cover of the state is 27.8% which tallies close to the National Forest Policy Act 1958. Studies show that the forest cover of Kerala is only 14%.

In specific to Kollam region, according to Indian Rubber Board Statistics, rubber plantation in Kollam district has experienced a growth rate of 33% between 1960-80. This has only put pressure on the uplands of this region.

Observation

The time series data of Kallada basin for the nine year period gives a clear picture of the trend in the change in land use and land cover of the region. The details of the land use change in this period os summarised in the Table 1. The area under plantation has increased two folds while forest land was degraded by eight times to that of 1984 status. The association of degraded land with plantation in specific locations helps inferring that the degradation of forest land is more due to human intervention. With the construction of Kallada reservoir 22.81 sq km of forest and was submerged as per 1984, and since the 1993 data is on February month the water speard of Kallada reservoir is only 22.06 sq km.

Conclusion and suggestion

Remote sensing technique is of immense use for timely, more economic and accurate means of collecting data on land use land cover of a region. In a state like Kerala where the land-man ratio is very low there is a need for timely planning and implementation policies for proper growth of the state.

Beyond the perview of this study thrust must be given for a detailed geoenvironemtal study for the recent recurring occurrence of landslides in this region.

Acknowledgement

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07

COCONUT HUSK 'RETTING' AND BACKWATER POLLUTION IN COASTAL KERALA: SOME EMERGING ISSUES

Prakash Nelliyat

Profile of Coir Industry in Kerala

Kerala has a dominant role in India's coir industry. This traditional cottage industry has thrived in Kerala from ancient times due to an abundant availability of coconut husk and the availability of retting* facilities in the coastal belts of Kerala. The economic importance of this labour-oriented village industry is great in terms of certain macro-economic variables like employment (especially for women), income, foreign exchange, etc.

Out of the total coir production in India, more than 70% is contributed by Kerala. The annual production of coir in this state is 1,20,000 tonnes. At present this industry provides employment opportunities for 2.13 lakh families and approximately 3.83 lakh people in the state. Out of this, 84.19 percent of the

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* Retting is the traditional natural method, in which husk is immersed in the backwater, rivers, canals into pits of four to five feet deep and covered with mud. Normally retting of husk takes about 8 to 10 months. In the first stage of this process, the husk swells up and carbohydrates, tanning and nitrogen components get leached out. During the second stage, the biological stage, micro-organims act upon the chemical components producing organic acids and gases. At the end of the process, the coir fibre - the middle lemellage - gets loosened and is extracted by a wooden hammer (husk beating).

employees are women. The low volume of investment required at various stages of production and the labour intensive nature of the industry are appealing aspects of it.

Retting and the backwater

Backwaters, which stretch irregularly along the coast line, are ecologically important as they join river systems with the sea and thus act as an ecological buffer zone. In addition to this, backwaters support excellent fishery resources as well as other renewable aquatic resources, rich sand deposits, high shell deposits, excellent navigation facilities, etc.

It is these backwaters that provides a water front for many economic activities including retting. Historically, retting has taken place in these backwaters because the saline water provides a more suitable source in terms of producing better fibre quality. Besides retting, the backwaters are utilised by the fishing community as well as by the timber industry for log setting. In that sense, the backwaters serve both ecological and economic functions.

It is important, therefore, to examine retting as part of the backwaters economy. This paper is based on the case study done in Kannapuram village, Kannur district in Kerala. Kannapuram is a typical coastal village surrounded by backwaters, rivers, lagoons, canals and ponds. The total area of the brackish water spread out in this village is 177.86 acres which is 5.02 percentage of the total land area of this village (3544.37 acres). A large part of this area is utilised for retting activities.

Retting and its environmental consequences

The retting process creates several environmental problems through backwater pollution in coastal Kerala as our case study of Kannapuram indicates. The intensity of pollution due to retting ffects the quality of water, air and sub-soil. In the retting yard dissolved oxygen gets highly depleted and is at a minimum during the pre-monsoon period. The pH value in retting yards is significantly lower than in the non-retting zone, leading to pollution problems in the backwaters. The concentrations of phosphate, nitrate and hydrogen sulphide are also higher in retting yards than in non-retting places, which results in a greyish black colour of water and consequently restricts light penetration. Moreover, the high concentration of hydrogen sulphide in retting yards creates air pollution in the form of bad odours; high ammonium concentration in sediments leads to soil pollution; and the stagnant polluted water provides an ideal breeding ground for mosquitoes.

Due to the above mentioned pollution problems, non- retting as well as retting communities have been adversely affected. First, the depleted levels of oxygen in the backwaters has adversely affected fishing. The impact of fish scarcity on the fishermen community has become an important social issue. Second, the presence of ammonia and other toxic chemicals in retting zones adversely affects the quality of soil. Hence this area is not suitable for prawn culture. This is an important economic and foreign exchange issue. The retting community, on the other hand, is affected by a mosquito problem from retting yards, which has led to high levels of filariasis in retting areas. Besides this, the foul smell of hydrogen sulphide from the retting zone makes the surrounding atmosphere unhygienic resulting in health hazards, especially among the communities engaged in this cottage industry. As a result of these problems, the backwaters are gradually losing their ecological importance as well as their economic value.

Analysing the problem

Analysis of the environmental problems of retting have been chiefly done in terms of avoiding the negative consequences of retting in the backwaters altogether by emphasising mechanisation. In other words, retting has been treated primarily as a pollution oriented problem and its solution technological. However, as the coir industry is a labour - intensive one and thus a source of employment, such a solution ignores the potential impact of mechanisation on employment. The modern fibre extraction techniques like mechanical and chemical methods are not viable alternatives because of their higher cost and labour displacing character.

Examining the solutions to the environmental consequences of retting, it may be noted that the problem needs to be examined in order to solve the economy - environment trade-off. The examination of retting not in terms of pollution economics only but also as part of backwater management might provide certain answers. Though the backwaters

are *purambok* lands under government control, various communities use it to sustain a livelihood, including the retting community. These waters were traditionally managed locally, but today need to be examined keeping in mind not only local systems of management, but also government policy. etc.

In order to deal with the retting problem, it may be necessary to strengthen the weak management systems both at the local and state levels. By doing this, it might be possible to preserve both an industry which is an important source of livelihood, as well as the backwaters, a natural resource which is important ecologically and economically in Kerala.

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08

CRITICAL STUDY OF SHORT SIGHTED DEVELOPMENT INTERVENTIONS AN EXPERIENCE FROM KUTTANAD

K.S.Ranjith[1]

Environmental effects of developmental projects are a source of serious controversy in contemporary Kerala. There are sections who hold the environmental lobby to be a major hindrance to economic growth, forgetting the fact that the modern environmental consciousness itself is only less than two decades old. Kuttanad development scheme which became controversial in the mid-seventies may perhaps could be characterised as the first environmentalist intervention in mega development projects in Kerala. But it may be noted that as early as 1952 some of the farmers from Kuttanad had openly highlighted in Malayalam dailies the potential harm that the developmental projects under consideration would do for Kuttanad. But all their objections based on their traditional knowledge was brushed aside by the developmental engineers.

Developmental interventions in Kuttanad are good examples of ecological disasters that short sighted developmental interventions can bring forth. Among them the Thannermukkom salinity barrier which was commissioned in 1975 in Vembanad lake is the most important one. The damage it caused to the highly delicate coastal ecology of the Kuttanad and its negative social impacts are now widely accepted facts.

Back ground

Kuttanad is a low lying area of coastal Kerala. It was part of the shallow coastal area of the Arabian sea. As a result of the geological uplift, a shallow bay was formed into which the rivers draining from the mountains to the east discharge. The bay has become an extensive brackish water lagoon and backwater system extending from Alleppey in the south to Cochin in the north and connected to the sea by the Cochin estuary.

Kuttanad extends over 1100 sq.km. and supports a population of 1.4 million. The major economic activity in the area is agriculture in which about 40% of the population is employed. Fisheries is the next important activity involving about 21,000 full or part-time fishermen.

Vembanad lake is 'central' to the ecological system of Kuttanad. Major developmental interventions which were taken place in Kuttanad are related to Vembanad lake.

Land reclamation through bunding the shallow parts of the lake started at least 100 years ago. In the course of time the 'padesekharam' are thus formed grown to about 55000 ha. As a result the area and depth of the lake were considerably reduced.

Kuttanad Development Scheme

Bunding of the land virtually came to a halt four decades ago. Since then emphasis has been on making the land more productive. There are basically two problems in increasing the agricultural production in Kuttanad. They are

1. salt water intrusion in the dry season, and
2. flooding in the wet season

Thanneermukkom salt water barrier was constructed in order to prevent the intrusion of salt water into the lake system in dry season. Thottappally spillway was constructed to remove the

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[1] Chintha Weekly, Thiruvanànthapuram - 695 001.

flood waters during the monsoon. Bunds repair and improvement scheme by KLDC sought to convert the temporary dikes around the paddy fields into permanent ones. And the Changanachery-Alleppy road was built across Kuttanad to strengthen the road transport network.

Impact of Thanneermukkom barrier

The barrier has been relatively successful in preventing the intrusion of saline water and enabling the increased cropping in the dry season. But its serious adverse effects are now evident. The fish and clam resources in the lake have drastically declined, water pollution has been enhanced and aquatic weeds has grown in epidemic proportions. Highly polluted water in the lake in dry season has also created serious health problems.

Depletion in fish resources

Fish distribution in the backwater is directly related to salinity. The estuarine fish fauna consists of species originating from the sea, fresh water species and true estuarine species. The latter reproduces in the estuarine environment and find their physiological optimum in the brackish salinity range. The marine fish and prawns in the Cochin backwater reproduces in the saline and cooler waters of the sea, but migrate into the estuary after completing their pelagic development.

Fish catches have shown a downward trend since the early 1970, coinciding with the closure of the Thanneermukkom barrier. Fish landings have now stabilized at around 3,000 tonnes despite the fact that fishing intensity increased ten fold. This has happened because, with the construction of the barrier the southern part of the Cochin backwater has been transformed into an area where salinity is too low for prawns and fish. Moreover the migration routes of the marine fish and prawns are interrupted by the barrier, its gates being closed during the pre-monsoon period when maximum upstream migration take place. Also the area south of the barrier is lost as a nursery ground for post larval prawns. The edible crab which once was the hallmark of this region is no longer found south of the barrier.

Clam resources

Clams sustain only in saline water. The "white" lime shells are the subfossil deposits of 'black' clams. In the southern part of the barrier these subfossil deposits are available, in plenty but live clams population has drastically declined.

Pollution and health problems

During the closure of the barrier in the dry season, the upstream area is no longer flushed by the tides and water is polluted by pesticides and fertilizers from the agricultural land and by the organic waste dumped into Kuttanad waters. This causes high level pollution leading to increased morbidity. People in the Kuttanad area generally depend on the lake water for drinking and cooking. Even today have no choice but to depend on the polluted lake water for many of the domestic uses. The growth of weeds, apart from creating transport bottlenecks, has also increased the cost of cultivation. Further, during summer the water level in the lake declines draining ground water from the adjacent coconut garden lands. This phenomenon would have long run consequences on productivity of coconut.

Social cost benefit analysis

Social cost benefit analysis of Thanneermukkom project shows only negative results. It is now clear that the estimate of the potential area that would be brought under double cropping as a result of the Bund was an exaggeration. Today the land under paddy is declining as a result of the adverse price movements. The planners exaggerated the gains and conveniently avoided the social costs.

Conclusion

Despite the debates that have already taken place on the tragedy of Kuttanad, the issue is still with no solution yet in sight. Permanent removal of the gates of the salinity barrier and reinstating the past ecology is one suggestion. Others such as the expert team from Holland suggests even larger mega intervention for rectifying the mistakes of the past. A recent study by IRR experts suggests that Kuttanad is not suitable for double cropping and they put forward the idea of single crop and prawn cultivation.

The experience of Thanneermukkom raises serious questions to the current developmental process. What even traditional farmers could easily predict four decades ago could not be identified by the developmental 'experts' and it ultimately turned into a disaster to the

ecology and adversely affect the livelihood of thousands of inland fishermen.

This underlines the importance of democratic process in developmental projects. It also focuses on the need for taking into consideration the experience of local people while going with the developmental interventions. Development projects have to be evaluated taking into consideration their indirect and lay run consequences.

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09

SACRED GROVES - A NUTRIENT AND WATER RESOURCE FOR KERALA

M.Rajendra Prasad, V.Sarojini Menon, P.N.Krishnan and P.Pushpangadan[1]

Sacred groves - tracts of virgin forests - are vestiges of an ancient practice in which people protected forest, to avoid the wrath of its resident God. Sacred groves exist in various parts of the country and are unique examples of ecological understanding and management. Inspite of their occurrence in many part of India - Meghalaya in the North East to Rajasthan in the West and states along the Western Ghats - very few studies have been done on them. Most of the studies done are restricted to exploration of floristic diversity. In Kerala, Ramachandran and Mohan (1990) made a survey and inventory of sacred groves and reported some important rare and endemic plants. In 1994 Sarojini Menon has evaluated the optimum productivity of scared groves system giving special emphasis to the common trees and lianac. Alteration by the soil fauna on structural, physical and chemical properties of soil in different systems have been extensively studied in different parts of the world. Nevertheless information on the scientific work regarding the physical edaphology and ecology of the sacred groves are scanty. The present communication deals with nutrient and water status of sacred groves and the possibilities of leaching out to the surrounding.

Study area

25 sacred groves of diverse agroclimate, ecology and edaphology were selected from all over Kerala for a detailed investigation.

Materials and methods

Soil samples from 6 to 10 cm depth were collected from inside as well as from nearby area of the sacred groves. Soil from Termites "mound" and earth worms casts were also collected.

Soil colour analysed using the Munsel Chart (Misra, 1965), Texure with the help of key given by soil survey Manual, U.S. Department of Agriculture (1951). Particles sizes were analyzed and categorised according to Piper (1950). Hydrological properties were found out according to Bouyoucos (1953). For chemical analysis the following methodology were used: PH - (Hessa, 1971) conductivity - (Willard *et al*, 1958). Organic carbon - (Varma and Balasubramanian, 1971) Phosphrous - (Watanabe and Olson, 1965 and Potassium (Jackson, 1975). Micro elements like zink, copper, iron and manganese were estimated by DTPA extract using AAS.

Result and discussions

a. Structural and physical properties

Generally the kavu grove soils are sandy or sandy loam in texture. Colour vary fro 2.5 YR to 7.5 YR in its hue, and with different magnitude of chrome and value. The soil moisture content varied from 1.43 ± 0.28 to 21.44 ± 1.92% for sandy soil and 3.30 ± 0.35 to 33.79 ± 1.22% in an annual cycle. The bulk density of sacred groves soil was 1.11 ± 0.14 and of adjacent soil recorded 1.21 ± 0.1 g/cm3. Similarly, the porosity of kavu soil was 58.13 ± 5.43%, and in adjacent soil it was 54.26 ± 6.57%. The average water holding capacity of sandy soil was 72.80% while the water holding capacity of sandy loam was 59.64%. But the field capacity of sandy soil is 30.10%; for sandy loam it was 41.02%.

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The hydroscopic coefficient of sand was 1.75%, for sandy loam it is around 1.07%.

b. **Chemical properties**

The percentage of organic carbon in the kavu soil was 1.200 ± 0.44%, while in the adjacent soil it was around 0.7264 ± 0.48%. The available content of phosphorus in kavu soil was 80.49 ± 93.269 kg/ha, on the other hand in the adjacent soil it was 54.796 ± 65.46 kg/ha. The availability of potassium is 142.4 ± 100.53 kg/ha. inside the kavu but only 128.17 ± 95.03 kg/ha was recorded in the adjacent area. The availability of micronutrients were also high in the kavu soil as compared to adjacent soil. The zinc showed 0.9962 ± 9.675 ppm in kavu soil, while it was 0.5902 ± 0.465 ppm in adjacent soil. The availability of copper was 1.2154 ± 1.292ppm inside and 0.7116 ± 0.424ppm in outside soil. Manganese in Kavu soil was 13.0842 ± 14.35ppm, but in adjacent soil it was 7.3902 ± 9.222ppm. The iron content was very high in the kavu soil as compared to the other elements, 111.7888 ± 97.689ppm inside the kavu and 71.196 ± 96.008ppm in outside soil.

The PH of soil is acidic and was around 4.78 ± 0.50 while in outside soil it was 5.06 ± 0.65. Conductivity of the soil was high in the kavu soil, 0.174 ± 0.14 mill. moh/cm2 while in adjacent soil it was 0.108 ± 0.08 mill. moh/cm2.

Aggregated flora in sacred groves and abundant organic matter in the floor during the year round cycle magnificently reduced surface run off of water and rain drop impact on soil. The microclimate created in the sacred groves are also very conducive for prevention of evapotranspiration as well as for maximum microbial activity, resulting in high litter turn over per year. Soil of the sacred groves showed low bulk density and high porocity than the soil of the near by area. These altogether enhanced the infiltration of maximum amount of water by minimising surface run-off and soil erosion. The soils are more acidic with high conductivity compared to the soil of nearby area. The amount of macro and important microelements were found to be high in sacred grove soil. The biotic communities in the soil alter the structural, physical and chemical properties thereby regulate organic matter decomposition and nutrient cycling. In sacred groves, the termite's mound acts as a channel to the water table through the macropore and large aggregate of earthworms casts are helpful in withholding maximum amount of water in the system. Moreover, the nutrient content of these two "biotic Soils" are higher than the parental soils indicating their possible role in rapid nutrient cycling. In short, vegetational cover, litter covering on the floor, microclimate, and faunal activity altogether alter structural, physical ad chemical properties of soil which preserve soil as nutrient rich and enhance the infiltration rate of water resulting in leaching out of nutrients from the system to near by area. The association of aquatic system present in the sacred groves acts as a reservoir for water storage, later this may reach to the flora and fauna of near by area in the form of ground water.

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ENVIRONMENTAL IMPACT ASSESSMENT OF WALAYARR LIMESTONE MINING, KERALA

K.K.Ramachandran·

Opening up of the mine, construction of roads to the mine, settlements and factory, etc., necessitated deforestation to the tune of 250 ha. of virgin forests of largely deciduous type. Floristically and faunistically, the area has been one of the richest in the Western Ghat region. No amount of rehabilitation would ever redeem the situation. In the circumstances, no further lateral expansion of the mining activity is recommended. As a rehabilitation measure, the mined area has to be filled up by the overburden material removed to the level of the topography that existed before mining. Then, the area shall be afforested with selected active species of plants. Once the mine ceases to be

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operative, the road leading to the mine site from the factory shall be permanently closed, as otherwise, it will pave the way for human migration and settlement, which will further cause deforestation.

Situation in Malampuzha dam causing drastic reduction of its life was apprehended widely before and even after the commissioning of the project. Our study indicated that, at the present level of development of the mine, there is no cause of undue worry about the siltation endangering the life of the dam. However, the situation will have to be reviewed, once any future mine development other than what had been originally proposed would take place.

No serious impact on water resources has bee observed, although diversion of water upstream has been contemplated at a high cost, adding up to the total cost of the project.

Pollution control measures are available in the factories. Still, employees are suffering from bronchial diseases. This shows that there is need for further improvement of the system. As for water quality, the mining has not caused any appreciable deterioration.

In the scenic wilderness of forest, the mine has already left an ugly scar at the expense of its aesthetic environment. The scar has got to be healed as pointed out above.

Considering the total investment, the employment potential of the enterprise has been only minimal. However, it is heartening that the project has provided basic amenities and physical benefits to the workers and lower grade employees who have not had those before joining the enterprise. On the other hand, the outlook of the local population towards the project has been negative; the main reason being lack of opportunity for them, inaccessibility to infrastructural facilities created by the project and the general apathy of those running the project towards them. Conversely, it shall be the endeavour that similar projects in future should sincerely try to remove such misgivings and ensure employment opportunities, participation ad involvement of local population, to the extent possible. Similarly, infrastructural facilities created by a project should be made available, at least, partly to the local people. In the present case, efforts should be made to improve the situation.

Conventional economic development maximizes *economic system goals*, such as satisfying basic needs (reducing poverty), increasing equity as well as useful goods and services. Marxist economics, on the other hand, *maximises economic system goals* as well as social system goals; the latter includes cultural diversity, institutional sustainability, social justice, participation etc. *Environmentally viable sustainable* development maximizes, in addition to the above two, the *biological system goals* as well, which includes genetic diversity, resilience, biologic productivity etc.

For the sake of argument one can excuse a project inhibiting or even sacrificing the biological systems goals, in the name of economic development. However, in this particular case, the project has been not only an ecological disaster, but also an economic failure. Besides, it has hardly achieved any social goals to take credit of, either.

Any future mining operation should undergo a rigorous environmental appraisal, both before and after the mining (this is equally applicable to any developmental project). It is to ensure that the environmental issues arising out of such projects are anticipated well in advance and remedial measures contemplated. Also, it allows to take stock, towards the end, as to how efficient had been the efforts towards environmental rehabilitation. for this purpose, an appropriate questionnaire for environmental appraisal of mining operation has been designed. We recommend this questionnaire or its modified version be used for deriving useful information on environmental auditing during and after the project implementation, besides understanding the state of the art of environment and its carrying capacity vis-a-vis the proposed project.

66 FOREST-HUMAN INTERFACE

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01

HUMAN BARRICADE AT JEERAKAPPARA TO PREVENT DEFORESTATION: A HISTORICAL TURNING POINT

K.Sreedharan*, Rev.Fr.Mathew Thakadiyel**, T.P.Kunhikannan***.

On the tenth day of March 1994, people from different parts of Kozhikode district, Kerala, poured in to a remote area of its eastern boundary and formed themselves into a human chain. It was a symbol of unity and determination to protect a piece of our national wealth- the Jeerakappara forest- and also a way of protest against the state government's attitude which was aiding and abetting mass scale deforestation in the state.

Environmental activists comprising of poets, scientists, political leaders, priests, social workers of all hues came forward with the call to protect our forests. They took an oath : "Jeerakappara forest and Thusharagiri waterfalls are part of our life blood and song of our heart and we will not allow anybody to take away them from us". This was part of a great people's movement to resist large scale deforestation.

Like the other districts in Kerala, Kozhikode too is situated on the slopes of the Western Ghats and below. Its forest area which ranges from Nilambur in the south, to Kannavam in the north in a way is the theatre of many developmental activities in the district. Three important rivers, the Chaliar, the Korapuzha, and the Kuttiadypuzha and a number of their tributaries support all the major projects like the Kakkayam hydro-electric project, the Kuttiady Irrigation Project, the Beypore port, the Grascim industries at Mavoor and all the drinking water projects of the district. These rivers are recharged every year by the rain forests on the eastern border among which Jeerakappara holds strategic importance.

Recent agitation had its origin in Kakkayam, the place of the Kuttiady hydro-electric project. The Kakkayam forests form the catchment area of Kuttiady power house, the only hydroelectric station in the of Malabar. These forests were vested with the government under Forest Vesting and Assignment Act of 1971. Prior to this, the forests belonged to the Pozhuthana royal family. Mr. Shankaranarayanan, the father in law of the local M.P. approached the court claiming about 3000 acres of forests arguing that it had been assigned to him by an oral agreement by the erstwhile landlord. He also pointed out that he was doing cardamon cultivation in the region. The government did not contest the case properly and he got 60 acres of forest land assigned to him by the Department. Violating the Kerala Tree Protection Act, he started felling trees from this forest. Organisations like the Kerala Sastra Sahitya Parishad (KSSP), Society for Protection of Environment Kerala, Youth movements like the Democratic Youth Federation of India (DYFI) joined hands and began to organise tthe people around against this. To begin with, a dharana was staged before the Civil Station in order to draw the attention of the district authorities in the matter. A people's march under the leadership of the KSSP was taken out from Calicut to Kakkayam. Simultaneously, the DYFI had started a people's check post which worked day and night to defeat and prevent the cladenstine removal of timber from the forests.

The Jeerakappara deforestation

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issue has a history of over a decade. It started in 1982 with an illegal onslaught on the forest. But, because of the timely action taken by the government then, the remaining forest lands was protected for the time being. In 1987, a special leave petition was filed before the Supreme Court by the Government to prevent the 'so called' private owners from their encroachments. When the political atmosphere changed, the forest bandits appeared in the scene once again, and started establishing their claims with bogus records with the connivance of the government.

This turned from bad to worse when the state government decided to withdraw the special leave petition before the Supreme Court in May, 1992 and thus giving a blank cheque to those people for felling the tree.

Local people protesting against the government's decision began their multi-faced agitations. The KSSP took the initiative by forming a common platform for agitation-the Jeerakappara Forest Protection Samiti. An expert committee comprising of environmental scientists from the KSSP, the SPEK, the CWRDM etc, visited the forest and recemmended that the Jeerakappara forest should be protected, because of the following strategic importance.

a. to safe guard the Thusharagiri water falls
b. to protect the catchment area of the mini-hydel project Chempukadavu, and
c. for the over all agricultural development of Kodanchery and neighbouring panchayaths.

Putting these demands together, 'The Samiti' submitted a detailed representation to all the MLAs of the state requesting them to influence the Assembly discussions to protect the Jeerakappara forest. Simultaneously, a writ petition was moved in the High Court, and obtained a stay order against the Govt's position to grant right to the private individuals on the forest lands.

The 'Samiti' organised the people and this movement gained momentum when several priests of the local churches joined together. Ultimately all these led to the formation of Kozhikkode District Forest Protection Co-ordination Samiti. The district Samiti organised a major convention which highlighted the issue and put forward the following demands: (1) plug the loopholes in the Forest Protection Laws by bringing out a proper legislation to protect the forest (2) until then tree felling in the forests and all the forest area transactions of any kind should be prohibited by an urgent ordinance. (3) those who encroach into forests and those who violate forest protection laws should be treated as criminals and dealt with severely. (4) the Jeerakappara forests should be declared as government forests (5) the Construction of the Chempukadavu mini-hydel project, which have little environmental consequence be started at the earliest.

As these demands went unheaded and the Government was proceeding to assign this ecologically sensitive forests to private individuals, the co-ordination committee called for a bandh in the forest region to protest against this. Twenty six panchayaths in the hilly region observed a total bandh on June 10th 1993. Inspite of all this the government assigned 270 acres of prime forest to forest contractors on July 8, 1993. The contractors had the power of attorney from the erstwhile landlords who had claimed the forest land for cultivation when the forests were taken over by the government in 1971.

As soon as the land was assigned to them the contractors with modern machinery, electric generators and other accessories entered the forest despite strong resistance by the local people. A mass hunger strike was organised in front of the RDO office. When the agitating public at Jeerakappara resisted the tree felling, they were encountered with fire arms by the goondhas of the contractors. At the request of the co-ordination committee the Dt.Collector visited the forest to see the 126 giant trees already felled. The Collector took custody of the generator set and other equipments used y he contractors. Who inturn registered a number of cases against the local people, parish priests and the leaders of Vana Samrakshana Samithi.

The people of Chembukadavu and Kodenchery undertook a long march into the forest declaring that the forest are the wealth of the people and as the government has failed to protect the forest, the people would take the responsibility to protect it. The people have also declared that they would not allow to remove even a single piece of timber.

The movement got wider public attention and the district Samiti decided to form a human chain to protest against the government's decision and also to protect the remaining forest. Wide publicity has been given to this programme by conducting two jathas on March 4-6, 1994 both through the coastal

belt and forest areas of the district. A new confidence and awareness was developed among the people which culminated at 10th March event. People of all walks of life, men, women, children, old and young, from all parts of the district assembled on the road around Jeerakappara forest about 10 km stretch and formed a human chain, about 15,000 them.

The human chain formed in Jeerakappara is only a symbol of people's reaction which is getting wider and wider acceptability against massive deforestation. Similar deforestation threats have also sprung up in the neighbouring places like Kavilumpara, Kanyad, etc. There are about 2500 cases pending with the courts involving thousands of acres of virgin forests. If the government's attitude and response to these cases are similar to what had happened in Kakkayam and Jeerakappara the entire forest cover of the region would be wiped off in no time. The only thing left with the people to protect their valuable forest is to get united and offer massive resistance whereever there is deforestation.

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02

COLONIAL NOTIONS AND STRATEGIES OF CONSERVATION: PROBLEMS OF INTERPRETATION

K.V.Kunhi Krishnan[*]

A proper understanding of the ecological history of colonial India is important both for historical and contemporary reasons. Understanding India's ecological problems and their historical roots is crucial, because the nature of possible political, economic and administrative remedies would depend on this understanding. Every set of conservationist strategies competing for acceptance today is based on its own understanding or ideas regarding the nature of the colonial impact upon the forests and other natural resources of the country. The nature of assumptions made, and the types of hypotheses advanced with which investigations are carried on and the types of questions asked will have a crucial role in the outcome of such investigations.

The unrestrained rapacity and greed of industrial capitalism is too well known to need mention. Concerns over the fast declining forest cover and the debate over the strategies of conservation started at the very outset of colonial domination.

The works of colonial writers like Brandis, Schlich, Ribbentrop, R.S.Troup, Stebbing, et al., internalise and assume the colonial value system. Another category of studies made under different assumptions and imperatives characterised non-Western societies as having value systems that are inherently more ecological than the Western society. Social conflicts over patterns of resource use are also sought to be explained within the framework of traditional academic sociology. Studies, which perceive the history of Indian forests as a long and bitter struggle for survival of the forest dweller against the appropriations of the expansionist state, draw heavily on this sociological perception.

Two recent interpretations of the cological history of colonial India are discussed here. One of them is the thesis advanced by Madhav Gadgil and Ramachandra Guha. They claim to have brought about a paradigmatic change, which they think, would enrich the mode of production paradigm. This is achieved through an unprecedented emphasis on the ecological bases of changes in society. In order to focus attention on the great devastation caused by colonialism, they draw a rosy picture of the pre-colonial period when, allegedly, there was perfect ecological balance and harmony. The advent of colonialism was an ecological watershed and marked a decisive break with the pre-colonial traditions. The industrial period is rightly portrayed as one of unlimited rapacity. The authors have tried to evolve a new theory of the caste system and link it with ecological conservation. The tendency to glorify tribal and peasant practices involving only the limited use of natural resources is the outcome of the old notion that oriental cultures are inherently more ecologically sustainable than Western

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cultures. This explanation betrays a kind of nostalgia akin to religious revivalism. The authors tend to neglect the very vital class content and systemic character of the ecological question and thus the true bearings of the historical context of the problem is distored.

The explanation put forward by Richard H.Grove from Cambridge is typical of the neo-colonial imperialistic apologetics. He traces the emergence of the notion of conservation in colonial India to the eighteenth century liberal humanitarian and radical intellectual traditions of Western Europe. While ritually affirming the exploitative character of colonialism, Grove discovers strong motives of benevolence behind the emergence of the interventionist colonial strategies of conservation.

Colonial domination and forests of Malabar

A glimpse into the relations between the colonial state and the Indian forests during the early decades of British domination would prove this claim to be historically untenable. The idea of forest conservancy entered the list of colonial concerns as a consequence of the unrest over the possibility of the ultimate drying up of the crucial teak supply. Ribbentrop wrote that "the mainspring of the movement was merely the maintenance of the supply of certain species of timber (at the outset teak only) and not the physical advantages derivable from forest conservancy. The first official order in this regard was the prohibition of the cutting of teak below the girth of 24th inches. Under further pressure from the home government and "with regard to the future strength of the king's navy it was decided to appoint a special officer with a view to the preservation and improved production of teak and other timber suitable for ship building." In 1806 a timber monopoly, was established throughout Malabar and Travancore. In 1805 the forest administration of the Malabar District was transferred from the Madras Government to the Bombay Government. These measures were taken purely to meet a significant strategic requirement, namely, to ensure a regular and abundant supply of ship building teak timber to the Bombay dockyard. Dr. Cleghorn wrote in 1858: "The supply of teak from the forest now rented from the Culangod Nambady will not apparently exceed 15 years". This is a serious consideration as it is the only forest from which long planks suitable for a frigate can be procured. The official historian of the Indian forests, Prof. E.P. Stebbing, held that the "Keynote of our interest in the forests between the years 1796 and 1860 may be said to have been their exploitation for timber chiefly teak". It was the period, when, according to Grove, the colonial conservancy efforts were strongly influenced by the crusading scientific spirit of the surgeon botanists.

The most widely practised method of reforestation was planting of favoured tree species. As a rule the best sites were selected and prepared for plantations. Despite the existence of degraded tracts, the best available natural forests were clearfelled to prepare ground for planting. The facts about plantation operations undermine the contention that the early colonial scientists were inspired by liberal and radical social and political attitudes and that their ideas had a weighty influence on the colonial adminstration.

In the formation of the forest department also we find the administrative economic and commercial considerations playing the crucial roles. The forests of India became a major concern of the British Indian Government during the era of railway expansion and opening of the vast hinterlands of India for British manufactures and capital.

In the forest department era, when information about the physical, climatic and environmental benefits of forest conservation were plentiful, the main thrust of forestry continued to be money making. No doubt, the words of the scientists carried weight in a period when science began to alter man's life in varied and significant ways. But in the colonial context of India the pressures exerted by the scientific lobby with regard to forest conservation were easily absorbed and integrated into the overall colonial system.

Human interaction with forests during the pre-British days was much less in scale compared to the cruel devastation that was to follow under colonialism. True, the colonial administration had zealously guarded and fattened several forest areas. But these were meant to be slaughtered and devoured exclusively by itself. Despite the high pitch rhetoric about conservation and protection of people's interests, throughout the colonial period the prime consideration of forest administration remained unchanged, namely, profit making.

There is no denying the fact that some of the early colonial scientists and

surgeons had humanitarian and progressive ideas. But these ideas and the scientific knowledge, disseminated by the pioneers of conservation functioned as convenient instruments of propaganda in the hands of the colonial state.

Forest conservation as an interventionist response to ecological degradation emerged, in the first place, as a result of the fear of the administration that the supply of vital strategic raw materials may be dried up, leading to a serious strategic set back which might even prove disastrous to the existence of the colonial state itself. At no point of time the colonial state had forsaken any financial benefits from forest exploitation. The state accepted only those suggestions, of the scientific community which were in tune with state policies and requirements.

Thus it is possible to explain the apparent contradiction between the ideas and concepts of conservation enunciated by the scientific lobby and the actual working of forestry in British India, as part of the overall colonial practice. Conservationist notions were essentially a colonial construct. These ideas often remained at the level of the rhetoric.

The rhetoric did perform its own functions. It facilitated the working of the colonial practice. Sections of colonial bureaucracy brandished the term conservation for their own respective purposes. The vital criterion in judging conservationist strategies should be the ascertaining of what was conserved and for whom.

The present writer would suggest that the colonial ideas and notions about forest conservation and the actual practice of forestry operated at entirely different levels. These ideas and notions functioned as a cover to the rapacity perpetrated on the forests by the colonialists.

66
03

CONSERVATION OF FOREST AND WILDLIFE RESOURCES OF KERALA

M. Balakrishnan[*]

Kerala has only about 10% of its land available as forest habitats. Habitats such as the west coast tropical evergreen, semi-evergreen, southern secondary moist mixed deciduous, southern montane wet temperate, marshes and grasslands are the major natural wildlife habitats in Kerala. The presence of about 150 commercially important species of timber is a key feature of these habitats. About 40 species of large and medium sized mammals, 400 species of birds, several species of reptiles, amphibians, fishes, lower chordates and invertebrates most of which are not yet identified and studied, constitute the wildlife resources of Kerala. The lion-tailed macaque (*Macaca silenusi*) and the Nilgiri tahr (*Hemitragus hylocrius*) are the two species of threatened mammals endemic to certain parts of forests of the Western Ghats of south India.

Encroachment for agriculture, poaching, fishing, firewood collection, collection of minor forest produce, forest fire, cattle grazing, forest plantations, river valley projects, tourism and pilgrimage are the major identified threat to the maintenance and management of forest habitats and wildlife resources of Kerala.

Investigations on wildlife populations, and studies on ethology and ecology of wild animals are essential for formulating scientifically sound sustainable management programmes essential for conservation of natural resources. Extraction of forest produce of various kinds are common in different parts of Kerala. Timber pulpwood, minor forest produce, medicinal plants, etc., are regularly extracted from our forests, legally and illegally. Subsistence and commercial poaching are also widespread in these habitats. As the local people are not involved in any of the conversation activities, the people who live in villages near forests and the forests and the foresters have antagonistic relationship.

Conservation objectives need to be thoroughly reviewed on the basis of recent international developments as none of the nations in the tropics may be in a position to protect the natural resources, in toto along with the ever

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increasing human population. Conservation areas are to be surveyed and effectively protected. Marginal subsistence utilisation of the resources by local people may be permitted in buffer zones and in forest reserves other than conservation areas, strictly on the basis of scientific principles.

Local people should be involved in conservation programmes which may yield better results as revealed in the case of the CAMPFIRE Programme in Zimbabwe and the Luangwa Valley Integrated Resource Development Programme in Zambia. International collaboration in these efforts would be highly useful as India has shortage of people trained in areas such a Natural Resource Management, Biodiversity Conservation and Sustainable Development.

66
04

FOREST-PLANTATION TRANSFORMATION AND EMPLOYMENT AT THE INTERCULTURAL ECOSCOPE

Peter van der Werff*

Focus and framework

This paper explores socio-economic welfare and the transformation of forests into plantations in Kerala. The analysis of intercultural, social and economic dynamics is related to advanced concepts of environmental sustainability, carrying capacity, and ecoscope. The units studied are landless labour households, employing foresters and planters, natural ecosystems and cash crop cultivation in the highland or foothills of Kerala.

The practical objective is to find compatibility of employment generation and environmental sustainability. In general, poverty alleviation requires many policy instruments. However, in Kerala employment is regarded as a very high priority. Therefore, unemployment is specifically investigated in relation to processes of environmental degradation and recovery.

The conceptual framework is based on a triangular structure of interactions between (1) physical environment (2)endogenous styles of human conduct and thinking and (3) exogenous human styles imported in the past and present. Often, cultural and physical systems develop in a more or less balanced relationship mutually influencing each other over time, keeping exploitation of man and nature within certain limits. The intervening third factor, the exogenous culture however, may disrupt this relationship whereby forms of exploitation become more difficult to check.

Forest-Plantation transformation

It is accounted that Kerala's forest cover, containing a rich evergreen flora, shrank from 25% to 12% in the period 1970-1990. About 65% of the forest reduction is attributed to conversion into plantations by both the government officials and private entrepreneurs. Other causes are hydro electric projects, forest fires, and encroachments for residence purposes. One debate concentrates on what happens after a certain area is deforested. On the optimistic side it is stated that the transformation into plantations causes only marginal damage. Immigrant planters are used to careful land use techniques in the lowlands and will be similarly careful with mountain soils. Cutting of forest will be followed by replanting with the right cash crops.

The pessimistic persuasion indicates adverse effects, notably during the first years after the resource transformation. This is often the illegal period before encroachers acquire government approval. These disruptions produce accelerating loss of soil quality, fertility and productivity threatening the great floristic variety and causing flooding in the densely populated downstream areas. Forest clearing is commonly followed by several systems of cropping which are believed to be unsuitable to the specific soil. However, initially high soil erosion is said to decline once a plantation system becomes established. Similarly, soil organic content is affected initially but

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then gradually recovers.

Highland and Foothill society

Planters prefer low investments to raise productivity and attempt to gain profits through choice of crops and operations at sales markets. They are led by market incentives, customs and local knowledge and by an insufficient awareness of sustainability requirements. The various export crops are sold at markets often controlled by exogenous forces.

In Kerala, countervailing powers to generate protective measures, and education and information systems did not get the opportunity to arise alongside with technological and organizational developments as had happened in the industrialisd North. As anywhere Southern cultures also generate persistence in perceptions and decisions, disregarding needs to adjust to effects of exogenous culture. This phenomenon, formerly used in theorizing about origins of poverty, is now being adopted as one of the explanations of environmental problems. Thus, the extrovert plantation economy is seen as operating in an endogenous culture which in itself does not draw attention towards sustainable land use which is endangered by exogenous factors.

Under these societal circumstances, the poor hope to gain a larger share of the spoils. Population growth in Kerala, although decreasing in recent years, has resulted in landlessness of many households. Most common lands are privatized. Remaining state controlled forest lands are accessible to encroaching planters' families who dispose of sufficient financial and social resources. Poor households are largely dependent on employment with others. As their access to natural resources has become restricted, they can hardly endanger the physical environment. For them the comparative advantage of employment in either forests or plantations is paramount.

The study of human perceptions and decisions combined with sustainability concepts and criteria, contributes to a balanced analysis of relationships between man and the physical environment. The concept of intercultural ecoscope identifies the environmental scope and its utilization as shaped by the endogenous and exogenous cultures.

67 LAND RESOURCE AND LAND USE

67
01

SIGNIFICANCE OF LAND RESOURCES IN SUSTAINABLE AGRICULTURAL DEVELOPMENT

C.J.Thampi*

Land Resources comprising 'Soil - Water - Plant - Animal' System are of paramount importance in the Parameters of Sustainable Agriculture, Farming Systems and Land Use Sustainability and it involves an integrated, scientific approach to planning. Sustainability need not be over estimated as an absolute permanent system. This is doubly so in agriculture because there are unstable elements within the system. In agriculture, Sustainability has scientific, ecological and economic dimensions. One of the concepts indicated to be taken into account, is productivity associated with input and output value plus changes in environmental capital cost. Sustainability may be stability of productivity over a period of time. The cultivable per capita land in India is expected to come down from 0.48 hectares in 1951 to 0.11 ha. in 2000 A.D., now hardly less than 2000 days ahead. In Kerala per capita land has come down to 0.13 ha. including forest and land under non-agricultural purposes. Population is expected to reach from 29 million in 1991 to 34 million in 2000 A.D., food production from about 11 lakh tonnes to 14 lakh tonnes. All other items also show an increasing trend while the land area of 38863sqkm remains the same and getting impoverished.

Soil resources and its productive capacity play a vital role in the performance of a particular plant species with reference to its natural habitat. Sustainability of the soil health and crop performance depends largely on the sustainability factors, physical, chemical, morphological, soil environmental and microbiological characteristics and type of crop, natural habitat, environmental requirements associated with appropriate management system. Both in the research and extension spheres we are yet to recognise the habitat of plant sub-system and its pedological significance.

Water resource another basic requirement of agricultural production needs to be assessed for its quality, availability and management from the source to the actual user in the field. We are only '*using*' the precious water in the irrigation areas but there is no '*management*' system. This calls for a suitable management mechanism at the micro watershed level to maintain high degree of production stability over a period of time. Watershed approach may be planned effectively for conserving the surface and ground water followed by their use potential on sustainability. Minor irrigation schemes must encompass each and every piece of our rice field and technology should be cost effective, simple in operation for the farmer even if initial capital investment is on the higher side for the Government. Efficient and farmer oriented location specific projects are needed. Land degradation is raising its head in different forms, magnitude and extent by destabilising the very basic foundation of our natural resource base on which depends our very existence. Soil erosion is evident in moderate and severe degree covering about 19 lakh hectares. Landslides are on the increase, and sea erosion is taking away our fragile system of small strip of land mass. Comprehensive measures are needed to preserve our resource base at Macro and Micro levels.

Energy input required must be made available to the farmer for agricultural

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operations at very reasonable rates. Electricity, non-conventional energy and energy plantations may be given its due place in the planning. Very little attention is being paid by the government to this important area of agricultural operations. It is necessary to ensure availability of efficient farm machinery even to small farmers for Agricultural operations to meet the changing scenario in the agricultural sphere. Agricultural labour availability is showing a decreasing trend in Kerala and it poses problems of availability of farm labour in time and at reasonable rates. Mechanisation is inevitable. Research and extension wings must come out with solutions to these problems of farmers.

Post-harvest management and marketing organisational efforts at micro level are essential requirements without which many of our efforts will fail to reach the desired goal.

Integrated (farming system) approach taking note of natural resources, climate, land, water, plants, labour, economic issues, production, processing and marketing aspects are needed. Agriculture must also take into account allied components of animal husbandry, fisheries, poultry development, management within the limits of environmental conservation.

Rapidly developing modern technologies, i.e., bio-technology, processing, micro electronics, etc., must be decentralised and brought within the easy reach of farmers. Farming system based on land use planning at micro level must have effective linkages with Agriculture and industry and other service sectors in rural scenario. Resource based perspective planning and formulation of state land use policy, state land resource management legislation are under the active consideration of the Central and state governments to provide legal protection to conserve the basic resources. An intensive awareness programme among all walks of life is also to be carried out to maintain sustainability and stability of agriculture.

67
02

GEOLOGIC HISTORY OF THE KERALA REGION

K.Soman and G.Mohanachandran*

The Kerala region, constituting the southern part of the Western Ghats continental margin belt assumes significance as it exposes a veritable assemblage of Precambrian metamorphic rocks suitable for the study of granulite petrogenesis, and on account of its juxtaposition with Gondwana fragments such as south western Sri Lanka and Madagascar in plate tectonics models. The major rock units cropping out in the Kerala region include charnockites, khondalites and associated garnet-biotite geneisses, cordierite gneisses, etc., hornblende-biotite gneisses, Dharwar and Sargur schists and a host of acid and basic intrusives. The available age data on Kerala rocks indicate that charnockites are the oldest rocks with reported ages ranging from 2155 to 2930 Ma. Although the khondalite ages also range from 2200 to 3070 Ma, their localisation within intracratonic basin within south Kerala and suggest their later origin than the massive charnockites. The garnet-biotite gneisses in south Kerala, and hornblends-biotite gneisses north of the Achankovil shear zone are retrogression products of charnockites/granuites, towards migmatisation, which is dated ca. 1550 Ma. in south Kerala. Late Precambrian - early Palezoic (740 Ma. to 550 Ma.) granites/syenites and slightly younger pegmatites intrude the country rocks, and the age of these bodies shows a general decrease towards the southern segments of the state, having implications on the tectonic evolution history. Dolerite dykes, contemporaneous in age with the Deccan basalts are seen in a number of localities throughout the region. The western fringe of the state is covered by Cenozoic sediments belonging to Quilon, Warkalla and Quartenary formations, with the former two formations of early Miocene to Pliocene age (20 Ma to 12 Ma) predominating over the latter. Occurrence of these sediments at various elevations in the onland region and the

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unconformities discerned within the sedimentary strata of the off-shore sediments along the Kerala coast suggests that many periods of uplift and subsidence affected the coastal tract, with implications on the geomorphic evolution and drainage patterns of the hinterlands. Manifestations of very recent upliftment of the Kerala coast, specially in its northern segment are discernable from C-14 date ranging from 4370-4490 YBP, C-4 carbon ages of limeshells from the Vembanad and Ashtamudi lakes yield ages of 3130 ± 10 YBP and 1330 ± 100 YBP respectively, suggesting that the estuarine systems of the Kerala coast floundered sequentially with the younger ones located towards the south.

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03

MORPHOMETRIC ANALYSIS AND ITS RELATION TO WATERSHED MANAGEMENT : CASE STUDY FROM VAMANAPURAM RIVER BASIN

D.Saritha, S.Sajikumar and K.C.Suresh

The Vamanapuram river is a major seventh order drainage system in the Thiruvananthapuram district. The length of the river is 81 km. and it drains an area of 787 sq.km. The spatial distribution of catchment area shows distinct peculiarity. The area under sediment source zone is very less in proportion to the area under sediment transport zone and the sediment transport zone is more. The river originates at a height above 1700m and after covering only 9 km. it plunges to 100m - an average fall about 200m/km. Most of the basinal area is covered by crystalline rocks of Archean age and a narrow strip of sedimentary rocks of Tertiary age is also found at the mouth of the river. All the landscape diversity of Kerala viz., highlands, midlands and lowlands is present in this basin. Due to all these peculiarities, the study of the Vamanapuram basin has got its importance.

Hydrology is a science that deals with the development and control of water resources. It has an important role in Watershed management. River basins are often considered as convenient unit for planning and development. The analysis of drainage parameters has an important role in watershed management. The morphometric parameters of the whole basin and the sub-basin with special reference to 22 fourth order sub-basins are analysed in detail using Hortonian principles. The morphometric parameters like stream length, drainage density, stream frequency, constant of channel maintenance, length of overland flow along with the stream order, bifurcation ratio, stream length etc. are computed to determine its relationship to hydrologic processes. The relationship between basinal area and total annual discharge is also analysed. The drainage density of the whole basin and the individual sub-basins is also determined and its relation to flooding is also analysed. These parameters can be taken into account while doing the watershed management like soil conservation practices, forest and range management practices, head water-control structures, debris-detention dams, small reservoirs and farm ponds. The same methodology can be adopted for the watershed management practice for the other drainage basins.

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67
04

PROBLEM ASSOCIATED WITH THE LOW PRODUCTIVITY OF ACID SULPHATE SOIL IN KERALA

V.O. Kuruvila and S. Patnaik*

Acid sulphate soils have been reported to occur in the West -cost of Kerala. The largest distribution of acid sulphate soils covering an area of 80,000 hectares, is found in the districts of Alleppey and Kottayam, known as 'Kuttanad'. One of the soils of this type, low in productivity, is locally known as kari soil. Rice is the only crop that is grown on this soil because of the hydrological condition. Soils representing typical Kari areas collected from surface 0-15 cm of rice fields in two locations, viz. Thottappally in Alleppey district and Vadayar in Kottayam district were used in these investigations. Laboratory incubation experiments were conducted with the soils to study the effect of submergence on the electro-chemical and chemical changes in the effort to find out the possible toxic factors that limit rice production . From the data on soil analysis and experiment, on the effect of flooding on the electro-chemical and chemical transformation in these soils, it was found that very low PH, high electrical conductivity, high concentrations of toxic nutrients like iron and aluminium and deficiency in phosphate might be responsible for the hazards encountered in growing a rice crop. The soil factor detrimental for growth of rice plant in these acid sulphate soils might, therefore, be due to a (a) osmotic effect due to high salt content, (b) injury due to excess H^+ ions, (c) toxicity due to excess iron and aluminium and (d) phosphate deficiency caused by AI-P and Fe-P interactions.

Acid sulphate soils have been reported to occur in the west coast of Kerala. There soils are locally known as kari, kole, pokkali, swamp, etc., depending on their locations. Rice is the only crop grown on these soils because of the hydrological conditions.

It was reported earlier that an extent of 80,000 hectares of the largest distribution of acid sulphate soils in the district of Alleppey and Kottayam known as 'Kuttanad', the rice bowl of Kerala. These soils have been reclaimed out of the sea and lie 1 to 2.5 m below the mean sea level, surrounded by ring bunds.

Seedlings of dwarf high yielding rice varieties are increasingly transplanted. The cultivators use lime as ameliorant and sufficient N,P,K, fertilizers based on the results of test. Rice is the staple food of the population. The farmers are enlightened and there is scope for increasing production potential in Kuttanad area.

It was, therefore, thought worthwhile to undertake systematic investigations on kari soil, in relation to production problems which will help in devising appropriate ameliorative measures.

Experiment

Surface (0-15) samples representing kari soil collected from two locations under rice cultivation, viz., Thotappally in Alleppey district and Vadayar in Kottayam district were used in this experiment. These soils were air-dried, ground and passed through 2 mm sieve. The physical, electro-chemical and chemical characters of these soils were obtained

Laboratory incubation experiments were conducted with the two soils to study the effect of submergence on the electro-chemical and chemical changes in an effort to find out the possible toxic factors that limit rice production. Fifty gram lots of the soils contained in 250 ml flasks were submerged with 50 ml of distilled water and incubated soils were drawn at the start of the experiment and at intervals of 10, 20, 30, and 50 days after flooding, extracted, filtered and washed with NaCl. Oxidizable matter, NH4 N, P, K, Ca, Mg, Fe, Mn, Al and S were determined in suitable aliquots. The change in Ph and eh was studied separately.

Results

Data on physical parameters show that the soils were clay loam in texture.

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The pH in water suspension varied from 3.2 to 3.4, their lime requirement being in the range 17,000 to 19,000 kg/ha to bring the soil PH to 6.5. Data on physico-chemical and chemical properties show that the soils were highly saline and acidic, high in C and N and low in available P. They show very low PH and low ratio of Ca^{++}/So4. From the data on soil analysis and experiments on the effect of flooding on the electro-chemical and chemical transformations in these soils it was found that high salt content coupled with very low PH and high concentrations of toxic nutrients like Fe and Al might be responsible for the hazards encountered in growing a rice crop. Even with higher content of organic matter the accumulation of ammonia was relatively low possible because of the fibrous nature of the organic matter. These soils were also deficient in phosphate. The low availability of phosphates in these soils mighty be due to fixation by Fe and Al which were present in substantial amounts. Although sulphate content in these soils was high, there was no marked reduction due to flooding even in the presence of substantial amounts of organic matter contained in these soils and hence there was no likelihood of sulphide toxicity. This is more so because of the presence of large amounts of Fe. These soils also contained substantial amounts of micro-nutrients, particularly Zn, which might sometimes attain toxic levels.

Conclusion

The two kari soils may be identified as acid sulphate soils from their physical characters, very low PH, high salt, organic matter and sulphate content and high ration of sulphate : calcium. Transformations of electro-chemical and chemical properties occurring as a function of time indicate that the soils factor detrimental for the growth of rice plants and the low productivity of the two kari soils might be due to (a) osmotic effect form high salt content, (b) injury from excess H^+ ions, (c) toxicity due to excess Fe and Al and (d) phosphate deficiency caused by Al-P and Fe-P interactions. There was likelihood of Zn toxicity in kari soils.

67 — 05

GEOMORPHOLOGICAL AND ENVIRONMENTAL ASPECTS OF BHARATHAPUZHA RIVER SYSTEM : KERALA.

S. Anirudhan[*]

Although there are 44 rivers in Kerala, Bharathapuzha occupies an important position in the minds of Keralites. However, the river has been showing symptoms of degeneration and it has caused great anxiety to the people who have begun to think about the steps to be taken to arrest it. Climatically the land of Kerala is different, as also socio-economic-political set up, from the rest of our country.

This narrow stretch of land with tropical humid climate and orographic factors help to maintain a number of rivers in small land area. A majority of these rivers are ephemeral near the source and the flow characteristics are dependent on factors like rainfall, soil cover, vegetation, etc.. A negative change in any of these factors is detrimental to the natural environment. To a great extent, because of the growing needs of a growing population, pressure and demand of land resources is increasing day by day. River channel is the first to respond to this phenomenon than other parts of drainage system. A majority of Kerala rivers show unwelcome changes mainly due to the accelerated use of land and water resources. Bharathapuzha is one such river.

Bharathapuzha is the largest river basin in Kerala, with a basin area of 6186 sq.km. About one-third of the basin area is in the adjoining State of Tamilnadu. This River is unique in that the channel bed is covered with beautiful sand bars especially from Parali downwards. These sand bars can be divided into several categories, such as longitudinal bars, side bars, midchannel bars, etc., of low sinuous sandy alluvial rivers like Bhrahmaputra.

This paper presents some of the

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salient features of hydrology and channel morphology of Bharathapuzha. Changes in morphology has been evaluated and discussed on the basis of present rate of utilization of water and sediment of this river. Human activities like sand mining, digging of large diameter open wells for municipal water supply scheme, construction of dams, reservoirs, etc., are the major activities on the river basin in this decade. Obviously these processes on the river would modify the river system within a short span of time unless some corrective measures are taken.

67
06

PETROGENIC AND OREGENIC PLACERS OF KERALA

D.S.Suresh Babu

Different scientists have classified placer deposits on the basis of various factors and signs. they are (1) based on the economic components in placers (gold, platinum, diamond, ilmenite deposits etc.); (2) depending on geologic age (modern & palace); (3) based on localisation conditions (surficial & submerged); (4) in relation to mineralogy (monomineralic & complex); (5) depending on the distribution pattern (regional & local); (6) according to their mode of transportation and site of deposition (eluvial, alluvial, eolian and beach placers) and also (7) according to the specific gravity factor (heavy heavy minerals, light heavy minerals and gem placer).

In contrarary to the above a new classification is proposed for placers in this paper citing typical examples from the Kerala state. Placer-forming minerals can be classified into petrogemic and organic types according to their source rock characteristic

Petrogenic placers are formed from all country rocks and the minerals occupy either the accessory or the rock forming state in source rocks. During weathering minerals like feldspars, micas, amphiboles and pyroxenes tend to leach out and relatively stable minerals left out to form petrogenic placers consisting of minerals like quartz; ilmenite, zircon, sillimanite, monazite, garnet etc. They often originate from huge masses of sediments brought to the coastal zone by weathering agents. Petrogenic placers found concentrated along the valleys of modern rivers are not economically viable deposits. The 22 km long heavy minerals concentrate of Chavara sands between Neendakara and Kayamkulam is a classic example of petrogenic deposit. It is estimated that the reserve of this deposit is 12.7 MT of ilmenite, 1.0 MT of rutile, 0.9 MT of zircon, 0.17 MT of monazite and 2.0 MT of sillimanite. Most of the source rocks in the eastern side of the modern deposit area have contributed placer minerals in the past to generate this high concentration of heavies.

Oregenic placers are resistant minerals released from the ore bodies or mineralised veins. Weathering of ore deposits leads to dissolution and subsequent leaching of sulphides, mica, feldspar and carbonates. Minerals like gold, platinum, cassiterate, scheelite, wolframite, etc. are left out in the process, which constitute the oregenic placers. Diamond and gemstones also come under this category. These placers are generally formed closer to the source region. Oregenic alluvial placers forming today can be worked out economically unlike the petrogenic alluvial placers seen in modern rivers. The Nilambur gold placer is a typical oregenic deposit. Here, the gold is released from a number of auriferous reefs similar to the Edic Greek and Bulolo in New Guinea. The evidence indicate that the number of primary occurrences in the southern flanks of Nilgiris and Wynad form the main source for gold in the area.

A third class of placers namely petrogenic-oregenic type can be originated by resistant minerals released from rocks rich in those minerals. Such anomalous rocks can provide placers composed of magnetite, ilmenite, chromite, etc. A placer of this kind is concentrated in the Ratnagiri beach of Maharashtra, where Deccan traps supply

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the placer minerals. All the world class placer deposits can be classified into either petrogenic or oregenic depending on their genetic specifications. It is concluded that regional extension of source rocks is required for petrogenic placers and a local or concentrated anomalous zone is sufficient to generate oregenic deposit. This genetic classification provides important clues for provenance research.

67
07

G I S APPLICATION FOR MICROLEVEL RESOURCE DATA MANAGEMENT

Terry Machado and Srikumar Chattopaddyay

A prudent development plan with inbuilt conservational measures and thereby making it sustainable calls for integration of diverse data system produced in the map form also as attributes. With increasing availability of remotely sensed data it has also become necessary to look for a sythesised mode of data management. Again, effective use of large spatial data sets is dependent upon the existence of efficient systems that can transform these data into useable information. Such a quest had forced the computer software personal to design a holistic, yet friendly packages that links the graphical and attribute data to produce user defined thematic maps.

Moreover, the main problem in using the result of an integrated survey is, that for many purpose they are too general and it is often very difficult to retrieve specific information from them about particular attributes of a landscape. The invention of digital processing technique, in middle seventies, has given birth to grid cell or "raster" mapping. Using this technique preliminary versions of mapping viz., GRID and IMGRID were first introduce in the Harvard Graduate School and quickly adopted by the Environmental Science Research Institute of US army . Thereafter many computer aided mapping softwares started appearing in the market in the form of Geographical Information System (GIS).

The GIS can be a effective tool when considered in the above frame work of overlaying different attribute based maps to produce a user defined environmental assessment map. Many authors in India started using GIS for different developmental projects mainly in small scale maps and remotely sensed data.

The GIS is of immense use in a major mapping programme like "Panchayat Resource Mapping" which is being undertaken in Kerala. In this paper an attempt has been made to adopt this computer based GIS technique to prepare maps for "Land Capability for Coconut" and "Erosion Prone Area" in the Kalliaserri panchayat in north Kerala in a fairly large scale map of 1:12,500. For this purpose version 1.3 of a indigenously developed GIS package called 'GeoReferenced Area Management' abbreviated as "GRAM" was used. This software is the product of joint venture of the Centre of Studies in Resources Engineering, Indian Institute of Technology, Bombay and the Department of Science & Technology New Delhi, and aimed to adopt spatial methodology for integrating natural resources and socio-economic parameters to aid planners at meso and micro level.

Methodology

The hard ware configuration used for this purpose constitudes a IBM-PC 486 with peripherals, Summagraphics MG-III digitizer and Roland DG GRX400 plotter.

Land capability is a qualitative measure of the limitations of the land from the point of view of agricultural development. This kind of capability assessment is a standard technique in any GIS; and is based on a systematic processing of different land related information such as landform, surface material, water availability and other environmentally sensitive parameters and their spatial distribution. Each parameter is rated - based on the limitations that it holds for an optimum sustenance of the crop according to a pre defined criterion. Here, the criterion we have adopted is a matrix consisting of the different land parameters on one side and eight classes of capability on the

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other.Each "pigeon-hole" of the matrix has a specific value (or range of value) for the land parameters - with the max. value being 8 and the least is 1. So in our rating scale class I is the least capable and the class VIII is the best capable as detailed the following table.

Landform
- Sid. Slp. Mod - 4
- Foot Slp. - 6
- Valley - 7
- Coast. Plain - 8
- Sand Ridg. - 7

Surface material
- Clay - 5
- Slt. Clay - 6
- Sand. Clay - 7
- Lat. Soil - 8
- Coast Allum. - 8
- Duri Crest - 1
- Mesa Crest - 1
- Sid. Slp.Stp - 2

Water availability
- High - 8
- Moderate - 6
- Low/Dry - 3
- Salt. Int - 7
- Tid. Mars. - 2

Environment
- Sand Mine. - 1
- Clay Mine. - 1
- Aban. Quary - 1
- Coco. Retting - 1

The above four maps could be individually assessed for relative estimate of each class. After assigning appropriate weightage as mentioned above these four maps were "OVERLAID" to generate a cummulation of these indices in one map. This map was used to carry out "MAXIMIZATION" function. The resultant maximised map was then "RECLASSIFIED" to produce the land capability map for the Kalliaserri Panchayat. The final map was prepared with just three classes viz., (1) Suitable (2) Moderately Suitable and (3) Not Suitable. This procedure was again repeated for erosion probability map with different weightages to produce the Map of Erosion Prone Area in Kalliaserri Panchayat.

67
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08

MORPHOCONSERVATION MAPPING IN QUILON DISTRICT - A TOOL FOR LAND MANAGEMENT

Mahamaya Chattopadhyay

Identification of morphoconservational zone is increasingly being recognised as an important tool in planning strategy for land watershed management. The process of identifying and mapping of morpho conservation zones indicate delineating and pinpointing areas susceptible to erosion and mass movements.

Since there will always be at least a moderate risk of erosion in tropical environment, the intensity of erosion depends on various interrelated factors which call for a thorough understanding of the mechanics of erosion processes. Although reconnaissance survey give a valuable general appreciation of erosion risk, they only indicate potential for erosion. An analysis of various morphogenetic factors like slope, drainage density, drainage texture, analysis of the density of source and junction points in a unit area of first order streams and the analysis of the existing land use pattern is required and this means carrying out semi- detailed survey of erosion. This method can be further refined by inputs of surface material and geological data.

Increasing population pressure and unplanned exploitation of the natural resources like land and water have created an alarming degradation of the natural state of affairs in the form of soil erosion, land slides and loss of soil productivity. These, on the other hand, has also accelerated the problems like deforestation, recurrence of flood, coastal erosion, non-perenniality of rivers, drying up of springs in the highlands and such others. To understand the problem a complete evaluation of land resources is of vital importance. Morphoconservation mapping is a step towards this appraisal. To prepare a morpho conservation map, the terrain system analysis must be carried out to form the base of this particular mapping.

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Study area

Quilon district has been selected for this morphoconservation mapping as it represents the general physiographic set up of Kerala vividly. The coastal plain along with the lowland and undulated terrain, midlands, highlands and steep escarpments characterise the terrain. The district has a total area of 2,767sq.km, of which nearly 13% of the area falls under coastal and lowlands category, 45% comes under midland and nearly 43% categorised as highlands. With the complete analysis of terrain system map for the Quilon district, it has been found that the highland region of Pathanapuram and Punalur areas and the watershed areas of Kallada and Achankovil rivers are quite fragile in nature and conservational measures should be taken up.

Results and discussion

For morphoconservation mapping analysis of topographical maps, serial photographs and image provide the basic data for this study. Field checking has been done in the key sectors to supplement the results. The sediment source zone of a river basin or the provenance of river basins like Ithikkara, Kallada and Achankovil has been marked. Among various geoenvironmental factors, slope perhaps is the most important factor responsible for erosion. So in this analysis data on slope classes, character and forms are incorporated. Analyzing maps on drainage density, slope landuse and terrain units, areas of potential erosion and mass movements have been delineated. Erosion is expected to increase with the steepness of slope which on the other hand contributes towards the increasing in the volume of surface run off. In this case the hilly areas of Achankovil reserve forest area have more than 4% slope in association with high drainage density of 4 to 5 km/km^2. and relative relief of 100 meter respectively. Slope profiles also show straight slope, convex to irregular slope which have been marked in the map. Aerial photographs also validates the slope forms. Gullies and badlands in the hilly areas together with the absence of adequate soil conservation practices are also important to this analysis since they indicate accelerated erosion implying increased water and sediment transport. Much of the land subjected to severe risk of erosion is mountainous with steep slope, but lower lands with gentle to moderate slope were also found to be erosion prone. The areas having moderate to steep slope near the immediate vicinity of Chadayamangalam panchayat in the command area of Ithikkara basin are also susceptible to erosion because of their exposed rocks and gullies. Continuous deforestation and slope instability in the upstream areas leads to danger of flooding and risk of erosion in the areas downstream. The surrounding areas of the Chendurni reservoir in the Chendurni Ar. is also marked for susceptibility on this ground. Landuse pattern also states presence of plantations like rubber and eucalyptus to a great extent in the upslopes and hills leading to wide damage in the forest ecosystem. The coastal regulation zone has also been marked.

Thus the morphoconservation mapping of Quilon district helps to realise the physical set up of the district along with its diagnostic attributes. Computation of morphogenetic factors along with their physical set up have made it possible to mark the susceptibility of the terrain, which should ultimately contribute towards the proper land management of the district.

67
09

GENERALISED GEOLOGIC AND GEOMORPHOLOGIC STUDIES OF THE VAMANAPURAM RIVER BASIN AND ITS ROLE IN RESOURCE EVALUATION

S.Sajikumar, D.Saritha, and K.C.Suresh.

Geologic and geomorphologic studies have significant influence on natural resource management. Such studies are essential in the state like Kerala with highly variable terrain features. Hence an attempt is made in this paper to describe the landform/geology of Vamanapuram river basin and their management processes.

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The Vamanapuram river originates form Chemmungi Mottai at an altitude of 1717 m. from the mean sea level in the Western Ghats debouches into the Arabian sea at Mudalapalli Pozhi near Perumathura. The river has a length of 81km. and covers a basinal area of 787sq.km.

The terrain forming process is primarily exogenous in Vamanapuram River Basin, although the Western Ghat landforms and certain coastal features can be directly related to faulting and tectonism. The significant terrain units of the basin are beach, coastal plain with laterite mass, coastal plain, food plain, low rolling terrain, moderately undulated terrain, highly undulated terrain, hilly areas, scarp slopes, etc. It covers the three distinct physiographic units such as high lands, midlands and low land.

The geomorphological processes operating in this system are marine/esturine, fluvial and denudational. The beach, coastal plain on laterite mass, coastal plain, etc., are formed due to marine/esturine processes. The beach is narrow and subjected to severe monsoonal erosion. The coastal plain on laterite mass is seen associated with lateritic cliffs. The wide coastal plain is mostly composed of sand sized particles. These units are of Cenozoic in age. Flood plains or valley fills are formed due to fluvial processes. It also includes lower terraces with alluvium and/colluvic deposits. These flood plains also come under Cenozoic sediments. At some places, these flood plains are underlined by khondalite and garnet-biotite gneiss. Other geomorphic units found in this basin is low rolling terrain formed in lateritic terrain with an average slope usually less than 15%. It is seen between the coast and around the middle part of the basin. Moderately undulated terrain is extensive around the Vamanapuram river basin with 15-25% slope. Highly undulated terrain is characterized by lateritic soil with an average slope of 25-35% and if found within the foot hills of Western Ghat region. Hilly areas form a part of the Western Ghat region with an average slope of >35%. The structurally controlled steep isolated hills are composed of Khondalities. Near vertical slopes are also seen in this basin and these regions are landslide prone areas.

Rocks of Archean, Tertiary and Quarternary Eras which includes khondalite, garnet-biotite gneiss, garnetiferous quartzo-feldspathic gneiss, etc., are seen in the basin. A major part is occupied by the Khondalite Group which includes garnet-sillimanite-biotit graphite schists, garnet-biotite graphite gneiss, calc granulites quartzites and patchy charnockites. The second major rock type of the basin consisting of garnet biotite gneiss occur as linear strips. The general strike is NNW-SSE to NW-SE direction. Garnetiferous quartzo-feldspathic gneiss is also exposed in some places in the southern part of the basin, which forms the low rolling terrain. The charnockites and dolerite dykes are also exposed in basin. The dykes are oriented parallel to the major lineaments trending NNW-SSE, NE-SW and ENE-WSW directions. A few occurrence of dukes of gabbroic composition is also noted in the basin. Cenozoic sediments include Tertiaries and recent to sub-recent sediments. Tertiaries consists chiefly of current bedded sandstones and clays. Recent to Sub-recent sediments consisting mainly of beach sands and alluvium are marked in the low lying areas bordering the coast. The clays seen in the flood plains are used for making of bricks. The upper Tertiary sedimentary sequence contains extensive belts of good quality kaolin clays just below the laterite cover. Extensive beds of kaolin is seen in Mangalapuram-Sastavattom area, which has a lateral extension of 7*1.5km and thickness of about 4.5m (Soman and Slukin, 1987). In some clay mines at Thonnakkal more than one bed of kaolin and a thin bed of laterised arkosic sand stone are observed. The clay products are utilised mainly in ceramics, rubber, paper industries, electronics, instrumentation and as refractory products. The kaolin deposits of the khondalite terrain and the presence of some of the key minerals of khondalite, namely, sillimanite and graphite in the clay depicts that the source of the clays was from the weathering materials of the khondalite-mignatite complex during the first cycle of laterization. These rock types are intruded by pegmatites and basic dykes of later age. The pegmatites which consists of precious and semiprecious minerals like Emerald, chrysoberyl, ruby, sapphire are highly weathered. Feild relations manifests that chrysoberyl is confined to the margins of the pegmatites. Pegmatite veins intruding the Khondalite/charnockite contains small amount of feldspar and muscovite. Weathering and erosion of the pegmatites have led to the concentration of gemstones along the river bed. The rock of Archean are intensely folded sheared and faulted. Lineaments are prominent, which controls the stream flow in

general. Systematic and comprehensive studies will help to assess and analyze the natural resources for planning and optimum utilization of the resources.

A geomorphology map along with its various morphographic components would help us to identify the fragile area. It also can help in planning viable landuse strategy.

68 WATER SCENARIO

68
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01

WATER RELATED ENVIRONMENTAL PROBLEMS OF KERALA

E.J. James*

While studying the environmental problems of a region, land, water and biomass have to be considered together. The present paper highlights mainly water related environmental problems of Kerala, with a view to highlight the necessity for judicious exploitation of the water resources and scientific management of this important resource.

Kerala State is situated in the humid tropics with a unique geomorphology, geology, meteorology, landuse and cropping pattern. These factors considerably influence the water resource and its management. Based on physiography, Kerala can be divided into three north-south zones: eastern highland (>76m), western lowland (<7.6m) and the central midland (7.6m-76m). About 44 rivers with lengths more than 15 km originate from the Western Ghats, of which 41 flow towards the west and ultimately join the Lakshadweep Sea. The remaining three rivers flow towards the east to the neighbouring States and join the Cauvery system and drain into the Bay of Bengal. Geologically, the major formations of the State are: (i) crystalline rocks and Archaean age, (ii) sedimentary rocks of Tertiary age, (iii), laterites capping the crystallines and the sedimentary rocks, and (iv) recent to subrecent sediments forming the low-lying areas and river valleys.

The average annual rainfall of the State is estimated at slightly less than 3000mm. However, the spatial and temporal distribution pattern is mainly responsible for the frequent floods and droughts in Kerala. The average annual rainfall in the lowland of Kerala ranges from 900mm in the South to 3500mm in the north. In the midland, annual rainfall ranges from 1400mm in the south to 4000mm in the north. In the highlands, annual rainfall varies from 2500mm in the south to about 6000mm in the north. About 60% of the annual rainfall in the State is received during the South-West monsoon (June - August), 25% during north east monsoon (September-December) and the remaining during the summer months.

It is estimated that the average annual contribution as discharge from the catchments of Kerala is around 70000Mm^3 and that the utilizable is only around 40000Mm^3. However, the estimate of utilizable yield has a number of limitations since certain environmental parameters have not been considered while computing the utilizable discharge. The available data for estimation purpose also have a few limitations. Based on certain studies, the total effective discharge of groundwater in the region is computed as about 8000m^3. The present withdrawal works out to about 1000m^3, leaving perhaps a balance of around 7000m^3 for further development.

The net area irrigated in Kerala is estimated to be 2,65,536ha, of which 1,04,019ha is the command of canals, 33,937 ha that of minor irrigation, 35,606ha that of tanks and ponds, 31,186ha that of wells and 6,788ha that of other sources. The estimated irrigation potential of Kerala is to cater to about 16 lakh ha.

Most of the power projects of Kerala depend on water resources. The hydel power potential of Kerala is estimated as 2600MW; slightly more than help of this potential has already been exploited. The environmental problems do not permit the exploitation of the full hydel potential of the State.

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The drinking water problems are acute in certain rural and urban areas during the summer months. It is envisaged to supply protected drinking water in all towns and villages by the end of the century.

The State has an inland navigation network of about 600Km length which calls for improvement. The other water resources development possibilities in the region include recreation and water sports, pisciculture and controlling salinity intrusion from the sea.

Some of the major problems associated with the water resources development of the region are:

* Sufficient data on hydrologic and other related aspects are not available
* No attempt has so far been made to prepare integrated river basin plans considering the availability of water and its demand
* Most of the projects do not consider the details on socio-economic and environmental factors

The important water related environmental problems of Kerala are listed below:

* Because of the peculiar topography, drainage pattern and rainfall characteristics, the region experiences frequent floods and droughts
* The intensive rainfall, changes in landuse and deforestation have been mainly responsible for high rate of sedimentation and frequent landslides
* The salinity intrusion in the estuaries and groundwater is a major problem in the coastal belt
* Because of reduced flows in the rivers in the summer months, proper flushing is not taking place, thereby increasing the concentration of pollutants in the downstream reaches of rivers
* The coastal belt of the State often faces considerable sea erosion, especially during the monsoon months
* Due to the limitations of the irrigation projects, water logging is experienced in many command areas
* The reclamation of wetlands and paddy fields not only accelerates floods but also limits the ground water recharge
* Most of the water resources projects in Kerala have been implemented without giving weightage to environmental factors
* Certain environmental problems are noticed in pockets, where ground water resources are over exploited
* The lakes, tanks, ponds, etc are often over-exploited and due to the human activities in the catchments, some of them have a tendency for eutrophication

There is a necessity to develop a Geographical Information System in order to achieve proper planning of water resources development and management. Environmental impact assessment may be carried out before major projects are taken up. The irrigation and hydel potential already created may be optimally utilised. Integrated river basin plans may be developed considering the water availability and demand, and due weightage may be given to socio-economic and environmental factors. In the Kerala context, conservation of water in the river beds, below the ground and in the soil by following conventional and modern techniques will be ideal.

68
02

WATERSHED MANAGEMENT SYSTEM - CERTAIN MISSING LINKS

S. Subbiah[*]

Introduction

An appropriate orientation for increasing the land productivity is the need of the day. Agricultural managers are trying to sustain the production advocating chemical fertilizer and crop protection by using pesticides etc., ignoring the want of an integrated effort to attain sustainable production Watershed management is one of the means which could provide all lateral supports for sustainable farming . But watershed management is not to be treated as one m,ore sectoral programme of the Agri. department with major funding for soil conservation and supply of plant materials. This is an integrated holistic

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approach for an all round development.

The present status

In kerala watershed management programme has been attempted under Western Ghats' Development Programme (WGDP) with objectives such as restoration conservation and protection of eco-system of Western ghats. National Watershed Development Programme (NWDP) is also being implements from 1990-91, with the assistance from Govt, of India. In both the cases he method of execution of the programmes in the field level is found to be the same. The project reports were prepared on the basis of soil survey maps and land capability classification maps, with the objectives of advocating alternate landuse pattern. The planning department and the Agricultural department are the nodal agencies for WGDP and NWDP respectively. In both the cases the District Collector is the Chairperson of the district level implementation committee. A family index survey has been contemplated in the NWDP, but no such socio-economic survey has been attempted in WGDP. The Coopting departments are mainly agricultural, soil conservation, diary development and forest only. Although the drainage treatment is one of the vital component which requires engineering skill, the Minor irrigation dept. is not a party under NWDP. Under WGDP 41 no. of watershed are being treated. Under NWDP 114 watershed are being treated. It is proposed to get the voluntary agencies involved under NWDP for implementing the programmes.

On examination of these two programmes it is found that there are some missing links which are vital for the successful implementation of the programmes, moreover, there is no provision for pre-project preparation, resource development and then implementing various development schemes. Programmes under WGDP are classic examples of wrong approach. For Nellimalam watershed programme the budget provision for the first year is as follows,

1. Soil Conservation Rs. 6.00
2. Diary Development Rs. 3.9

Later when it was informed to the Planning Dept. that the funds for diary development has to be limited to 10% of the Project cost as the immediate need is to create infrastructure. it was reconsidered and an amount of Rs. 2.10 lac was allotted for minor irrigation by reducing allocation under diary development to Rs. 0.75 lac.

Project Preparation

It is necesssary to inform the farmers at large that their traditional cropping pattern is very much sustainable but there are technological means to increase the productivity while keeping the sustainability of the land. They are to be convinced about the market forces and the market potential. The proposed target group shall be motivated to react and from their reaction the demands are assessed. After this , the available resource potential are to be surveyed and analysed.This should form the basis of project preparation in addition to the soil survey & land capability classification maps. For this purpose the entire water shed area need to be divided into various operational units so as to facilitate every member to express themselves and to gain confidence of the people. The present approach of depending on local ring leaders and having subsidy element as the basis for convincing the target would go against the very concept of the system approach.

Land Consolidation

Fragmented land holding s is said to be one of the constraints to achieve higher production in farming. Considering the socio economic pattern of the society either the land could be exchanged on convenient terms or the land under consideration could be leased out to potential farmers, in fact, leasing out of small holdings is being practiced in states like Punjab and Haryana. As there are similar provisions under the KLU act there may not be any difficulties for short term leasing.

Market Oriented Landuse Plan

Whether it is subsistence level farming or commercial level farming market orientation is essential and unavoidable. If productivity of subsistence level farming doesn't commensurate with the energy input one can switch over to cash corps. For example instead of growing topiaca in 5 cent plot if one prefer to grow vegetables/flowers his net income would go up. Nursery maintenance and seed production is another area which small farmers can take up. So market study is an essential element for preparing any landuse plan which is lacking and not included in any of the projects. Without a market study commercial farming would be a disaster.

Farm Mechanisation

Farm mechanisation is an essential evil if productivity is to be increased. But short sighted vision as to how to employ the surplus labour appear to a major constrain. If mechanisation is introduced it would economise the input cost and would encourage intensive cultivation. Intensive cultivation would increase more demand for labour. Otherwise untimely operation would cost heavily on the operations and many would discontinue cultivation and thereby demand for labour goes down. So It is high time to extend support for farm mechanisation.

Service Centres

It is necessary to arrange service centre for every watershed area which will take care of renting out mechinery, distribution of labour, Supply offarm input arranging subsidy, marketing and such other facilities.

Credit System

In any production systemcredit support is an integral part. Instead of the present system of cropwise lending system which causes delay and multiple cost, it may be consider to asess the annual credit requirement based on the landuse plan and market situation. On that basis the entire requirementis to be sactioned in one go. Thereafter, as and when there is credit requirement the bank may release so , based on technical recommandation of the credit officer of the bank or thatnof the Agricultural Officer of the Panchayat.

Insurance

Crop insurance is still a distant dream of farmers. The argument against crop insurence is that farming is monsoon dependent and traditional system of farm is more risky. Now that there are technological means to overcome these situation, it is not too late to intraduce insurence support. This might also encourage scientific farming.

Conclusion

The missing links referred above are seen within my vicinity. It is only intended to present that the objectives of any water shed programme could be.

a. develop the resources viz. human, land and water.
b. stabilize the resources and
c. design, planand implement development programmes for asustainable production.

The present approach of preparing a project based only on soil survey and land capabjility maps and implemending digfferent components through the concerned executive departments would help in spending the budgeted amount without creating any tangible effects. So a change in approach considering the identified gaps would be more opt way for a sustainable Agricutural production.

68
03

GROUNDWATER OCCURRENCE IN THE LATERITE FORMATION OF KERALA - SOME TYPICAL PROBLEMS

Ajaykumar Varma[1]

Introduction

Covering over 60% of Kerala's surface area, the laterite formation sustains a number of open wells, more or less catering to the demand for drinking water. Due to homestead type of habitation practice, a number of wells have been constructed in recent years. In many of these wells, the water table lowers considerably during the summer without any large scale increase in exploitation. Some of the wells even dry up during this period. The problems are especially noticed in the pumping wells dug in the laterite formations of crystalline rock terrain. Systematic studies carried out in two types of areas at Kannur and Pathanamthitta districts revealed that the problems are mainly due

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to undesirable human intervention.

Geology and hydrogeology

Laterite occurs as capping on the crystalline rocks and the tertiary sediments. In terms of their genetic relation, they are classified into (i) primary/high level laterite, a product of weathering, seen almost over the midland and high land regions and (ii) secondary/detrital/lowlevel laterite formed by partial or complete consolidation of transported laterite materials. A depth profile over laterite terrain generally exhibits a humus zone, pebbly zone, vermicular laterite, lithomarge in the descending sequence underlain by weathered/fractured/hard crystalline rocks. The thickness of laterite formation generally varies from 8m to 10m in the uplands and 15m to 20m in the plains and low lying slopes.

The vermicular laterite and lithomarge exhibit high porosity and generally form good aquifers. However, permeability varies considerably from 0.3m/d to 1.1m/d and hence, also the yield and specific capacity of wells. The depth to water table generally ranges from 5m too 10m below ground level with an average thickness of 4m. The well water table are generally subjected to very high fluctuation.

Aquifer environment

Due to differential depth of lateritisation and the resultant basement configuration, two types of aquifer environment are generally observed in the laterite formation. Detailed hydrogeological mapping revealed that subsurface microbasinal structures are developed at places where the resultant basement configuration is irregular. The laterite formation over such microbasins will function as a laterally confined aquifer with surrounding, relatively elevated basement mounts as boundaries, when the water level lowers to its level. In the second case, when the lateritisation is such that the resultant basement configuration is smooth, a broad laterite aquifer develops with the saturated groundwater exhibiting hydraulic continuity with nearby surface water system.

The wells dug in the laterally and seasonally confined aquifer described first, are generally perennial provided it is located within the micro basinal subsurface structure, whereas the wells on the basement mounts generally go dry during summer. The wells located in the broad laterite aquifers with hydraulic continuity are generally perennial. However, in a sloping terrain the water level in the upland wells lowers considerably or the wells dry due to the subsurface drainage of groundwater along the hill slopes. These problems are overcome generally by locating the well sites properly.

Human interaction and impacts

Continuous pumping from wells in laterite formation, increasing depth of river bed due to sand mining, and construction of deep cut irrigation canals are the major man made interventions on the laterite aquifer system. Hydrogeological mapping and systematic water level monitoring were carried out for five years since 1989 in two sites - one at Chirakkal, Kannur district and the other at Kaipattoor, Pathanamthitta district. In both the sites observations were made in pumping and non-pumping wells along with the nearby surface water structure. In the first site, both observation wells are located about 70m away from a large perennial pond having a surface area of 0.056 Sq.km. In the second site, systematic observations were made in a pumping well and a non-pumping well at a distance of 150m and 175m, respectively, from the perennial Achankovil river, in which the depth of the river bed has gone down by about 2.5m in the study area during the period of study. Random water levels were also monitored in two wells, comparatively nearer to the river bed, located about 50m and 80m, respectively.

During the monsoon season, there were no pronounced effects noticed in any of the wells with regard to water table lowering and yield. During the dry season, the pattern of water table lowering was different in pumping and non-pumping wells. In the first case, the average water table fluctuation between the peack monsoon level and lowest summer levels were 4.25m and 3m in pumping and non-pumping wells. In the second case, similar to the first case, the average water table fluctuation between the peak monsoon level and the lowest summer levels were 10.5m and 8m in pumping and non-pumping wells. The hydrographs from these wells also indicate a gradational increase in water table lowering during the summer. It is also observed that the recuperation of water after completely drying the wells, was faster by 30 to 40% in the case of non-pumping well in comparison to the pumping well.

Discussion

Results from both the sites indicate that pumping in laterite aquifer depletes the ground water level and yield. In all the four wells, the groundwater is confined to the lithomarge during the dry season. In non-pumping wells, the conventional extraction of water does not lead to a sudden lowering of water table and the original level is usually attained before the next event of withdrawal. Whereas in the pumping well, the water table suddenly lowers and the next event of pumping may take place before the water table attaining the original level. This inactivates the pores of the top aquifer zone. The fine grains of lithomarge blocks the vacant pores and on aeration it gets hardened. The block developed in such pores reduces the capability of the aquifer to yield and in course of time the portion of the aquifer will be lost for production. This may well explain the increased lowering of water table in pumping wells.

The hydrographs do not exhibit any pronounced effect on the water table due to the lowering of the river bed and the resultant groundwater drainage to the river. This may be due to the distant location of the wells from the river and the low permeability condition of the aquifer. However, the perennial wells near the river had gone dry and had to be deepened once in the last five years, which may well explain the drainage of groundwater to the altered river bed.

68
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04

A NOTE ON THE FRESHWATER RESOURCES OF NORTH MALABAR

M. Jayarajan

Introduction

Freshwater habitats occupy relatively a small portion of earth surface. They form the cheapest source of water for human needs and form a crucial part of hydrological cycle. Freshwater is becoming a scarce and precious commodity, essential for the sustenance of life. Our Western Ghat forests have been the source of origin of many streams. At present, they are facing threats due to human activities.

Present status

Only a few patches of forests exist today in the highlands of North Malabar region. In the midland and coastal region, natural forests exist in the form of sacred groves and mangroves.

History

Forest has not been managed in a systematic way in human history. Throughout India, they have been conserved for the sake of religious sentiments. The ruling classes had hunting preserves. Some of them have become wildlife sanctuaries today. The entire land of Kerala was once covered by moist evergreen forests. Human inhabitations here started some five thousand years ago during the Mesolithic period. The deterioration of forest began with the influx of different cultures. In the midland and coastal areas, small isolated patches of forests existed in the form of sacred groves and mangroves. There was wanton destruction of highland forests for cultivation before and after independence.

Rivers of North Malabar

Of the 41 westwardly flowing rivers, 19 belong to Kannur Kasargod districts - 16 of them are midland originated. Most of them have tributaries arising from sacred groves.

Sacred Groves

Sacred groves are present all over India. The existence of these 'islands' of forests owes to certain religious and cultural faiths. Man worshipped nature because of fear and wonders. Dendrolatry is a universal mode of worship. In North Malabar, there are 500 groves for worshipping Gods and Goddesses, and thousands of groves for worshipping snakes. In Kerala, snake worship is about

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3000 years old. Groves in Malabar are centres of ritualistic worship. A grove supports the environment as a forest does. There are perennial pools and ponds beside many groves. By transpiration, the grove renders the village with cool atmosphere. Vegetation retains moisture. Small rivulets originate from many groves. Thus the midland-originated rivers maintain their flow during summer. The rich biodiversity as that of tropical rain forest makes the groves, natural gene banks.

Laterite beds

Ancient cultivation has turned a vast area of our midland into laterite bed. There are only grass and shrubs here. Yet the porous nature of the rock allows percolation of water into deeper layers. Some portions of the laterite stand as reservoirs of ground water. Madayipara is an example. The perennial lake on the surface of the rock shows that such regions can form 'water tanks' for the surroundings.

Backwater

In the coastal region, the backwater bodies with its vegetation forms a mangrove ecosystem. A vast region on the eastern side of Ezhimala has mangroves. The freshwater content of the soil here is increased by the swamps and mangrove forests. Influx of salt water during dry seasons is partly checked by the above reservoirs. During rainy season, they get filled with freshwater and a certain amount of salt gets washed away. Kavvayi Kayal is the most prominent waterbody of North Malabar. This 38 km. long Kayal has not been given a significant position in the geographical\ political maps of Kerala. Many midland-originated streams join this water body.

Problems faced by our freshwater resources

Habitat destruction started ever since man started cultivation, some ten thousand years ago. At present he has reached the most difficult terrain for the construction of dams and for mining. Unfortunately, the developmental projects help the exploitation and destruction of habitat by the vested interests. In the recent years we face more droughts. This is not the result of low rainfall, but due to human interferences with water cycle. Thick vegetation protects the soil on the hill slopes from being washed away. The water percolates into the soil covered by humus. Streams originate from such watershed area. In the absence of vegetation, the soil on the steep hills is washed away. No stream can originate from such a region.

The sacred groves form watershed areas for some midland streams.They existed owing to religious beliefs. But at present, many of them are facing degradation. The new generation with incomplete scientific consciousness tends to consider groves as mere superstitions. Hence, an ecological consciousness has to be built up.

The water holding capacity of the laterite bed is lost due to mining activity. The impact of mining has become a threat to the lake on Madayipara.

Clearing mangroves and filling marshes will have serious impact on the mangroves ecosystem. If urgent measures are not taken, water may become limiting factor for man himself.

68
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05

HYDROLOGICAL ECOSYSTEM MANAGEMENT FOR KERALA

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Although situated in a tropical region with adequate rain fall, Kerala is likely to experience major shortages of water in the next two or three decades. The prolonged dry season from November to May is already a period of acute shortage in many urban and rural areas. Increasing utilisation rates due to urbanisation, population increase and change in consumption patterns are becoming

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unsustainable and efforts must be made to both augment the supplies and reduce utilisation rates.

In this paper, we examine the problem from both the supply and use angles. Substantial effort has been to examine the fluvial flux and sediment flux supply through the major rivers of Kerala. There is considerable variability in the river yield (sediment flux and water flux) from northern to southern Kerala. Hence eight rivers, viz. Chaliar, Bharathapuzha, Chalakudy, Periyar, Muvattupuzha, Achankovil, Kallada and Vamanapuram, considering the physiograhic and morphological characteristics, are selected for the study. The length of these rivers range from 88 to 224 Kms. Information on the sediment flux and fluvial supply are collected from Central Water Commission, Government of India, and on the riverine pollution from published reports.

For ease of comparison the drainage basins of Kerala rivers have been categorised on the basis of maximum elevations of head water; mountains (1000-3000m), upland (500-1000m), lowland (100-500m) and coastal plain (100m maximum head water elevation). Sediment load and river run off from unit of river basin during monsoon (June-September), post-monsoon (October-January), and premonsoon (February-May) for the above rivers for a period of eight years (1980-88) are estimated and presented.

Sediment flux in Chaliar is more than that in Periyar though the drainage basin of Chaliar is half that of Periyar and run off almost the same. This elucidates the anthropogenic impact on the river yield of Periyar and Chaliar. River run off per unit area is maximum for Muvattupuzha (41 cumec days), may be due to the inter river basin transfer. Even though Bharathapuzha is having maximum drainage basin the river yield is nominal when compared to other rivers of less drainage basin of identical agroclimatic zones. The relative increase of sediment flux and river discharge by smaller rivers simply reflect the decreased capacity of smaller river basins to store sediment and water.

River containment is essential, and less the fluvial water loss to the ocean, more will be the utilisation according to the farmers and irrigation managers. Decreasing river discharge by damming or diversion can have a major impact on the coastal zone as well as the river system like diminished nutrient flux to estuarine and coastal water. This may also result in salt wedge penetration often far upstream and consequent changes in brackish water echosystem. Salinisation accelerates the flocculation, hence sedimentation and sediment transport in this fragile ecosystem. It has been reported that in the course of fifty years, the average depth of Cochin estuary has reduced from 6.7m to 4.4m. As a result of the reduction in area and depth, the total volume of brackish water system between Alleppey and Azhikode has been reduced to 22.83%, since the beginning of this century to 1985. Anthropologenically-climatically accelerated sea level rise may augument this catastrophe further.

The major user areas, agriculture, industry and domestic use all offer scope for reduction of use. In agriculture, major efforts in irrigation have been undertaken without adequate regard for water potential. There is considerable over-irrigation at some locations as well. The problems of pesticide and fertilizer run offs, contributing to water pollution and non-usability of discharge water, fish kills, etc. also need to be looked into. Though the overall quantities and per hectare use of both fertilizer and pesticides are smaller in Kerala as compared with many other regions in India, the rainfall and waterflow patterns in Kerala ensure that the problem cannot be locally confined. For this reason, it is necessary to consider various agronomic options such as (1) developing rice varieties that need less irrigation, or irrigation in intermittent bursts rather than keeping standing water all the time; (2) less leachable fertilizers; (3) less persistent and more specific pesticides; (4) integrated pest management; (5) less emphasis on rice cultivation, and more on dry land cultivation of tree crop fruits, vegetables and pulses, thus reducing overall water requirements and (6) interbasin water transfer where possible.

On the industrial side, considerable attention needs to be given to the recycling and reuse of water, both cooling and process waste water. Internationally, the water recycle ratio in all manufacturing stands at more than 3.0, and considerably higher in selected industries such as paper, pulp and petrochemical products. Industries in Kerala have traditionally had once a through use for water but this practice can no longer be maintained. Existing and proposed industries need to be re-examined to reduce the water needs significantly through holding tanks and chemical treatment, and cost estimates need to be prepared for the same. There

are considerable deficiencies in the information available for an evaluation of industrial, agriculture and municipal sewage pollution in Kerala rivers. Water quality of the central Kerala rivers, especially Periyar and its estuarine regions, are highly deteriorated due to the industrial effluent, agricultural and municipal sewage. The effluent from major industries, viz, Binani, Indian Rare Earths, FACT and TCC located in Eloor form the major source of pollutants into Periyar and Cochin estuary. The upstream water temperature of Periyar river is 29.5° C whereas that of the industrial effluent ranges 31-49° C. The pH of the upstream water sample is 6.5, whereas that of effluent varies from 2 to 8. Suspensate concentration of effluent varies from 8 to 264 mg per litre. The above industries are located nearly 5 km from Varapuzha to Alwaye along the upper reaches of backwater. Strong tidal incursions, localised thermal excursions, eratic pH fluctuations during non-monsoon months are peculiar characteristics of this environment. Water pollution from fertilizer wastes such as phosphogypsm also need to be tackled by finding alternate uses for such products.

A major area of water use is domestic need. Here the problems are two fold: (1) pollution due to agriculture, industry and sanitation waste is contaminating sources of drinking water and (2) modern living patterns invariably are more water intensive than the traditional. Further, one has also to take into consideration the preference of Keralites to live in dispersed individual houses which render centralised water distribution and sanitation systems costly. Therefore, the system to be developed should integrate water harvesting and recharge to holding tanks in the ground, recirculation of waste wash and bath water for latrine flushing, dry latrines, small biogas generators for processing of a single family human waste, integration of such systems with gardening, etc., need to be actively researched for a sustainable pattern of water use.

An important area for analysis should be the treatment of water as a priced, economic source. At present, water is treated as a free or nearly free good, and there is considerable waste in use patterns, and pre-emptying of resources. An adequate pricing mechanism, including elements of pollution charges, market and pricing considerations in supply, differential tariffs for use in different catagories, credit for recycling/ pollution control, and credit for supply augmentation should be instituted. Some financial assistance in the form of low cost loans for water harvesting and for installation of water saving sanitation facilities may be considered.

There is a need for considerable research in many areas, some of which may be urgent. Important areas include soil maps and geological surveys for groundwater resources and holding capacities, water saving and reasonably priced sanitation measure, methods for supply augumentation, including water harvesting and re-introduction of traditional tank systems, community control and pricing of water resources, methods for decontamination of industrial and agricultural pollutants, analysis of routes and the extent of contamination, and methods for an integrated riverwater management system.

68
06

WATER RESOURCES SCENARIO OF KERALA

K.D. Nambudripad

The State of Kerala is in the humid tropics and is blessed with a fairly heavy rainfall of about 3000 mm every year on the average. This is more than 2.5 times the national average of 1140 mm. Within the State, the rainfall varies substantially from around 1500 mm in the south to 3000 mm or more in the northern districts and to about 6000 mm and more along the Western Ghats, while the eastern parts of the Palghat gap gets only about 1500 mm. About 90% of the rains fall during the monsoons (June to November). The three months of the S-W

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Monsoon brings in about 60% of the annual rainfall.

Runoff

The rivers of Kerala are monsoon fed and fast flowing. Of the 44 rivers that originate from the Western Ghats, all but 3 flow west to the Lakshadweep Sea, while the three east flowing rivers are in the upper part of the Cauvery river system. According to earlier estimates (PWD, 1974), the total runoff of the rivers of the State amounts to about 78,000 Mm^3, of which 70,300 Mm^3 is from Kerala catchments and the remaining 7700 Mm^3 from Karnataka and Tamil Nadu catchments.

Utilisable yield

It is important to understand that not all runoff (or annual yield) is "utilisable". The PWD estimate puts the total "utilisable" yield in the State at about 42,800 Mm^3, or 60% of the average yield. Even this estimate may be on the high side for several reasons. It is well to remember that monsoon flows contribute to almost 90% of the annual yield, leaving only about 10% during lean flow period. Only large storages can fill the gap. What appears to be of paramount importance for the State is to accelerate the provision of storage structures on a war-footing with locally generated funds.

Domestic/Industrial water supply

Based on a per capita consumption of 160 lpd and a projected population of 5.53 crores in the year 2021, the annual domestic and industrial uses have been estimated at 3230 Mm^3 and 4270 Mm^3 respectively; the total requirement is thus 7500 Mm^3. These are of the order of 6.5% and 9% respectively of the total projected demand. However, it is highly questionable whether the drinking/domestic water demand can actually be met by the Government at all.

The National Water Policy of 1987 and the State Water Policy of 1992 clearly state that all existing and future reservoirs - both irrigation and hydel - should have a drinking water supply component. In addition to the Aruvikkara and Peppara reservoirs which were built for water supply alone, only Malampuzha and Peechi have drinking water component, i.e. only 4 out of the more than 30 reservoirs. Perhaps, the cheapest, best and only solution to meeting the domestic and industrial water needs in the future is to draw water from all existing and future reservoirs.

Irrigation

According to the National Water Policy, next to drinking water, the priority is for irrigation. Until recently, the irrigation sector had been catering only to paddy. The exception was Neyyar and more recently the Kallada project where a Minor Conveyance System has been established for garden lands.

Whether we should continue to keep investing heavily for irrigating paddy has to be seriously looked into. Our irrigation policy perhaps needs a new direction and should cater primarily to cash crops, not only in the plains, but in the high ranges too, for crops like cardamom, coffee and tea. The farmers themselves may be able to raise the needed capital. It should be noted that about 2/3 of the total water demand is for irrigation and that the efficiency of these projects have not been satisfactory at all, as has been stressed in the National Water Policy.

Hydel Power

A major portion (about 85%) of the electric power being used in Kerala is generated within the State through hydro-electric stations. Only about 585 MW potential has so far been exploited, which constitutes about 38% of the ultimate potential.

During the past fifteen years, there has not been any significant increase in the installed capacity. If the remaining of the hydal power potential in the State is tapped by the construction of the hydel schemes on a warfooting, the energy problem of the State can be substantially solved. Hydel power is the cheapest, cleanest and safest of the various systems and even helps to develop good aquatic environment for fish, flora, fauna and wildlife, and for recreation. In addition, the storages thus created redistributes the available water in such a way that substantial flows in rivers exist even in the dry summer months.

Salinity control

Salinity intrusion into the rivers in the coastal belt of Kerala, in addition to depriving the people of good drinking water supply, has also a damaging effect on the crops grown in the low lands. A salinity of 250 ppm is considered acceptable. In Kerala, most of the industries fix a ruling salinity of

50 ppm.

Based on empirical formulae to suit various topographical situations, and on experimental verification in the Periyar, the quantity of freshwater required during the summer period of six months for arresting salinity has been worked out as 7200 Mm^3

Drainage and reclamation

The production of rice in the State can be increased to some extent by reclamation of presently waterlogged areas including shallow portion of backwaters, reducing the extent and duration of flooding, and removal of salinity, acidity and toxicity. An estimated 1.21 lakh ha can be reclaimed, mainly in the Kuttanad, Trichur District, Vaiboru, Parur, northern parts of Kerala, Kanayannur and Sherthallai. The quantity of fresh water needed for the reclamation is estimated to be 5000 Mm^3

Supply-demand situation

As against the State's utilisable water resources of 42,800 Mm^3, the future (year 2021) requirements would be of the order of 48,600 Mm^3, with irrigation taking the pride of place at 28,900 Mm^3 (59.5%), domestic and industrial uses, 7,500 Mm^3 (15.4%), salinity control, 7,200 Mm^3 (14.8%) and improving Karilands (toxicity removal), 5000 Mm^3 (10.3%), though these figures are over 20 years old and need re-evaluation. There is thus a shortage of 5800 Mm^3. Even that assuming the entire usable ground water is utilised (about 3000 Mm^3), there will be a shortage. Our neighbouring States should know that Kerala has definite plans to utilise her water wealth and that she requires it to the last drop.

68
07

MICRO LEVEL RESOURCE EVALUATION IN THE CHIT AR WATERSHED OF VAMANAPURAM RIVER BASIN

Suresh, S.Sajikumar and D.Saritha

Chit Ar is one of the fourth order sub-basins,located in the eastern part of Vamanapuram river basin. Chit Ar originates from an elevation of 891 mts.north of Bonaccord Tea Estate ,and finally joins in to the river Kallar river.

Any activity on land ,without proper understanding of physical properties of land creates an imbalance in ecosystem. This will subsequently lead to national hazards such as landslides, flooding, etc.

Hence, an understanding of various elements such as geomorphology, land utilization, terrain, surface material erosion, water potential, thickness of the weathered rock, etc. in micro scale is a tool for the study of land use in micro scale and its planning.

In this paper, an attempt has been made to study the landuse of Chit Ar sub-basin to understand the diversity in the landscape in micro scale. This basin sustains forest plantations like rubber plantations, common in the upland. Crops like tapioca, coconut, fruit trees are cultivated both in the uplands and low lands. The nature of the terrain system is hilly and sharp slopes. The reclamation of paddy field to accommodate other crops is common phenomena in the basin. These information have been plotted on a large scale map for detailed analysis and to study the suitability of the existing land use.

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68
08

AGRICULTURE WATER MANAGEMENT IN KERALA - STATUS AND SCOPE

K.M. Varadan·

Coconut based cropping system in uplands, paddy based cropping system in low lands and high value plantations like tea, coffee and cardamom in high ranges are the typical agricultural scenario of Kerala. Excess water resulting in water logged condition and loss of nutrients during monsoon (June-September) and moisture stress during dry periods (December-May) are the major causes for low productivity of crops. The application of the inputs like fertilizers are also restricted because of the water scenario referred to above. Therefore, water management is a crucial factor for improvement of agricultural productivity in Kerala.

About 13.5% of net sown area (percent to net cropped area) and 40.0% of the net sown area under rice are under different sources of irrigation. Therefore, nearly 86.5% of all crops except rice are under rainfed conditions only.

The general problems for water management are topography, multiple cropping system and small size of land holdings. Under irrigated systems the problems are unscientific application of water and lack of on farm water management practices.

Improvement in water management and hence productivity of crops can be brought about by a) adoption of soil and water conservation measures on watershed basis with people's participation b) improvement in water storage-especially at farm levels through construction of check dams, ponds, tanks etc., c) adoption of modern irrigation methods like drip and sprinkler systems for increasing water use efficiency, d) development of appropriate reservoir operation policy and on farm water management practices and e) provision of suitable drainage designs in padashekharams. The above measures will not only improve the water availability to crops during dry months but also reduced water logging effects during monsoons and increase the water use efficiency at various levels.

In order to achieve the various strategies suggested for improvement in agricultural water management, the following steps are essential: 1) Generation of appropriate scientific information on the various methods referred; 2) Demonstration of proven techniques of water management practices at farm level; 3) Training of officials and farmers; 4) Publication of technical material for common use; 5) Creation of awareness through appropriate communication media; 6) Institution of awards for excellence in water management practices at farm level.

Thus, there is considerable scopes for improvement of water management and increased agricultural productivity of all crops in Kerala State.

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68
09

LAND USE AND WATER MANAGEMENT PRACTICES IN CANAL COMMANDS : SOME REFLECTIONS FROM KALLADA IRRIGATION PROJECT IN KERALA

P.K.Viswanathan*

Introduction

Despite the massive investments made on the development of irrigation potential in India, the returns as well as the utilisation of the potential created remains to be still unsatisfactory. The lack of pursuit of scientific On-Farm Development (OFD) works is identified as the major contributing factor for the mismatch between the potential created and utilised. To reduce this time lag, an institutional intervention mechanism was introduced by setting up the Command Area Development Authority (CADA) during the Fifth Five Year Plan. The CADA is supposed to be responsible for water utilisation and integrated area development in the irrigation command, including modernisation of the (water) distribution system, the provision of drainage and the maintenance and operation of both the distribution and drainage systems (Government of India, CAD & WM Division, 1984, P.20). In this context, it becomes relevant to examine the factors, and constraints, if any, contributing to the lack of adoption of scientific On-Farm Development measures in the canal commands and the resultant unsatisfactory performance of irrigation systems both from the institutional (water management) and individual farmer's perspective.

Issues examined

On-Farm Development performs to be an effective measure of soil and water conservation in canal commands. This is further necessitated by the topographical specificities of a given region. For example, the topographical differences in Kerala when compared to the rest of India, necessitate adoption of the necessary land development (OFD) works as an important element in the agricultural development process. Kerala suffers from the hazards of serious erosion problems caused by high intensity of rainfall, undulating topography, unscientific and intensive agricultural practices, indiscriminate deforestation, fragmented holdings, etc. It is estimated that out of the geographical area of 38.86 lakh hectares, 15 lakh hectares (about 39 percent) are susceptible to erosion hazards in the State (Govt. of Kerala, 1984).

There are different studies which have well documented the need for and the importance of land development in the State. A study by CWRDM found that in none of the command areas of irrigation projects, On-Farm Development works, necessary to adopt scientific water management practices, have been carried out. In many blocks of rice fields, in the absence of field booties, water is let into the natural drainage channels with all its attendant evils. Field to field irrigation is practised in the absence of field irrigation channels (CWRDM, 1981). The study by Nair and Narayana (1983) highlights a variety of factors responsible for the inefficient management of agricultural land and shows that more than helping to stabilise and increasing production, irrigation projects are contributing to water logging, and, in the process, wastage of irrigation water. On the other hand, the management of irrigation projects is inefficient in terms of, (a) supplying water from main canal to the farmer's fields, and (b) regulating the storage and discharge of water from the head works taking into account the intensity and spread of rainfall in the command area and the crop water requirements. Kannan and Pushpangadan have identified the role of certain non-price factors, viz. institutional constraints and provision of critical inputs which have resulted in agricultural stagnation since the mid-seventies. It is definite that Kerala has a unique feature in terms of removing the major institutional constraints of absentee landlordism. But such a feature is not seen in the provision of the critical inputs, such as timely availability of water and land development which enables the farmers to enhance the technology of cultivation for increasing productivity. The authours have pointed out the insignificant public investment in land development in terms of soil conservation and consolidation of

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holdings.

New approach

None of the earlier studies have dealt with the dynamics of land use and water management practices in the irrigation commands, which could explain the sorry state of irrigation in the state. The paper is an extract from an ongoing study on the "Economics of On-Farm Development: A Case Study of Kallada Irrigation Project in Kerala". The problem of soil and water conservation is well conceived in the project document by introducing a new system of water distribution called, Minor Conveyance System (MCS). The water distribution in this system is effected through a buried PVC pipe line system. This micro distribution system is expected to improve water distribution system by eliminating seepage losses, removing spilling water to drains, saving land and ensuring equity in distribution. This is the only project of its kind catering to the water requirements of tree crops and this enables an assessment of the impact of irrigation on the yield levels of these crops.

Dynamics of irrigation and Land use

The introduction of irrigation brings about drastic changes in the local economy. The immediate impact of such an intervention is manifested in the local level land use, specifically in terms of preference for water intensive crops. But, Kerala sets a distinctive difference from rest of India in terms of a substantial conversion from highly water intensive paddy to relatively lesser water intensive crops like coconut. This contrasting picture will be well addressed in the paper.

Water management in the canal commands requires greater attention. In the specificities of an irrigation command, the much advantaged sections will be those farmers who are in the head reaches of the command. During the flow from the head to the tail reaches, the water distribution gets effected, causing difficulties to the tail end farmers. The non-adoption of necessary land development works by the farmers intensifies the problem of distributive inequalities across the head, middle and tail reaches. Thus, it will be interesting to look into the dynamics of land use and water management practices in the canal commands with the advent of irrigation.

A detailed analysis of the pattern of On-Farm Development works, i.e., the Minor Conveyance System (MCS) - supply of water through underground pipe system - is attempted through an intensive field study in the project area. The adequacy and effectiveness of the Minor Conveyance System is analysed in terms of its impact on soil conservation, reduction in seepage losses, effective water distribution and increased agricultural output. The dynamics of land use is examined with a detailed investigation of the changes in cropping pattern as a result of irrigation intervention. The question of how the changes in land use is affecting the local economy, especially its impact on the local environment will also be addressed in some detail.

68
10

KERALA WATER RESOURCES REGULATION POLICY

A.Suhrut Kumar, Manoj Changat

Inspite of having more than 3000 mm of annual precipitation, Kerala has been experiencing water shortage in recent years. Conversely in some years it is flood affected . A flood-draught cycle seems to have set in the state. Apart from the natural climatic variabilities, human activities in the form of landuse practices contribute to this problem. To a great extent certain laws, rules and policies were there in the concerned fields. But these provisions are inadequate to regulate the increasing use and abuse of natural resources like water, land, forest, etc. The prevailing laws, rules and policies are not adequate to regulate the present trend of water resource utilisation. What should be the

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control mechanism in terms of regulation, ownership, economy and technical aspects from the view point of users, managers policy makers and technical experts is the main objective of this study. Commensurate with the objective of the study, Delphi was chosen as the methodology. Delphi may be characterized as a method for structuring group communication process so that it is effective in allowing a group of experts, as a whole, to deal with a complex problem. As part of the study basic information like water resources and legislative provisions existing in relation to this were collected and critically analysed through literature survey. Following which detailed discussions were held with farmers in Thiruvananthapuram district, organisers and leaders of farmers societies and certain persons having specific knowledge about agriculture pattern, irrigation and water supply in Kerala.

Most of the experts in the panel responded positively and 22 responses were returned. The median as well as the quartile values Q1, Q3 of the second round also were assessed, as in the first round. The similarity in the ratings shows that the experts show a strong consensus and hence after the second round the study was terminated.

Results of the study indicate the following. Water purification system shall be changed according to new health and environmental circumstances and standards and they will be strictly enforced in the State.

Participatory and group based management system will be promoted in each catchment and command area for water conservation.

A status report on Water Resources of Kerala shall be adapted for each five years through a detailed water basin study.

It has been suggested that an Environmental Impact Assessment (EIA) and Environment Monitoring Programme (EMP) for each water related project shall be provided legally. Many of the experts proposed their personal preferences to be considered in such an assessment and monitoring programme.

Consumer protection laws shall be made applicable to maintain the standard of good water supply and to resist negligence and poor quality of water distribution.

Also there was a consensus to maintain and upgrade the standard and quality of water distribution system. A social auditing by local people will be adequate for protection and preservation of water resources, both surface and ground water and that will be introduced in a statutory mode.

Under decentralised administrative system local authorities shall be legally empowered with authorities for controlling, distributing, maintaining standard and monitoring the activities related to water resources, with active people's participation.

68
11

DRINKING WATER SCENARIO IN KERALA

T.N.N. Bhattathiripad

Even though Kerala receives an average annual rainfall of 3000mm, the drinking water availability during the summer months from mid-December to middle of June every year has become a major problem. The efforts to solve this vital problem has become more complicated because of lack of people's understanding and very poor water literacy.

Kerala's state budget does not include provision for starting new drinking water projects. The same is incorporated in the Union Government's Accelerated Rural Water Supply Programme (ARWSP). The people at large are unaware of this and they are least bothered about the development in drinking water front. This is the prime reason why development is at a standstill in drinking water front.

The ministers and leaders talk a lot about people's participation in development activities. But there is no organised method to inculcate water literacy amongst the masses. Eventhough the news-paper media brings news and views about development activities in drinking water front the people at large

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are least bothered since they are very poor in water literacy.

Kerala though blessed with copious rainfall, turns out be a conglomeration of 1164 problem villages and 65 municipal towns by the beginning of January. This pathetic situation eases only when the south west Monsoon advances in June. The major portion of the copious rainfall spills into the Arabian sea without serving any useful purpose.

Kerala conserves only a single digit percentage of the rain water it receives which is used for hydel power generation and irrigation by means of canal system. The power situation is precarious in Kerala. The area under paddy cultivation in Keala has dwindled alarmingly inspite of heavy subsidies in fertiliser, irrigation water and farmer's pensionary benefits.

Kerala's needs with respect to drinking water, hydro power generation, and irrigation can be solved by adverting to three dimensional water project. These facts have been brought to public notice through mass media. But the bureaucracy and engineers and the so-called administrators turn a deaf ear. The drinking water is a basic need which does not attract attention of even the politicians and people's movement which is the basic reason why development is at a stand-still inspite of the United Nations' call for observing Water Decade and Water Revolution Decade.

69 AGRICULTURAL TECHNOLOGY: NEW HORIZONS

69/01

BIOFERTILIZERS IN KERALA AGRICULTURE

M. Govindan, N. Krishnan Nayar, S. Sasikumaran

Biofertilizers are carrier based preparations containing beneficial microorganisms in a viable state. They are used for seed or soil application to improve soil fertility and help plant's growth by increasing the number and biological activity of desired microorganisms in the root environment. The major fertilizer input in our crop production technology is nitrogen. A soil dwelling bacterium, Rhizobium, is capable of fixing atmospheric nitrogen in symbiotic association with root nodules of leguminous plants. Preparations containing efficient strains of such bacteria can be used as biofertilizers for leguminous crops. It is a low cost technology and to a certain extent it can avoid use of costly chemical fertilizer. In addition to this few non symbiotic organisms like Azotobacter, Azospirillum, blue green algae etc are also used for this purpose. Phosphorous solublising microorganisms and mycorrhizae can also be used as biofertilizers. In this paper an attempt has been made to review the research works carried out on biofertilizers in Kerala.

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69/02

USE OF BOTANICALS FOR THE CONTROL OF VIRAL DISEASES OF CROP PLANTS

S. Balakrishnan and Vimi Louis

Many viruses and viroids have been reported to be the causal agents of several cultivated as well as wild plants, since the discovery of the tobacco mosaic virus (TMV) at the end of the nineteenth century. Effective therapeutic methods have not yet been developed for the control of plant diseases caused by viruses and viroids.

Bunchy top of banana, tungro and grassy stunt of rice, different types of mosaic diseases of vegetables, *Katte* of Cardamom, etc, are important viral diseases of crop plants in Kerala. Use of virus-free planting material, destruction of sources of viruses, manipulation of cultural practices, development of resistant varieties and control of vectors are the methods usually used for the management of viral diseases of crop plants. Cross protection, development of transgenic plants and use of botanicals are comparatively new areas in the management of viral diseases.

Of late, people are becoming more

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aware of the deleterious effects of pollution of the environment caused by the indiscriminate use of plant protection chemicals. Use of botanicals for the control of viral diseases of crop plants is gaining more momentum because it is both environment friendly and cheap. Leaf extracts and seed oils of many plants have been reported to possess antiviral properties and to reduce the incidence of viral diseases of crop plants. These botanicals usually get degraded in a comparatively short period without leaving harmful residues and this is a very significant advantage of botanicals over other plant protection chemicals. Most of the plants with antiviral property are either growing as weeds or cultivated for various purposes.

Kerala is replete with a large number of varieties of plants which can grow all the year round. Many of them may have antiviral properties and this area of research has not so far been adequately explored. Some work on these lines have been initiated in our laboratory and it has been found that incidence of cowpea mosaic virus disease can be reduced by spraying leaf extracts of some plants.

Botanicals with virus-inhibitory properties

Botanicals having virus-inhibitory properties can be classified into two, viz., plant extracts and seed oils.

Plant extracts

Research work on inhibition of plant viruses by plant extracts started with the experiments of Allard who pointed out the existence of substances that can prevent viruses from infecting normally susceptible plants. Later studies have for example reported that extracts of plants like *Calotropis procera, Datura metel, Euphorbia hirta, Boerhaavia diffusa* and *Alerus precatorius* possess antiviral properties against plant viruses, including tobacco mosaic virus. Similar studies on plant extracts reducing infections or inhibiting various viruses are reported in the literature.

Seed oils

Spraying of oils is recommended for controlling diseases caused by insect transmitted viruses. Neem oil and seed oils of *Pongamia pinnata*, etc., are for example, found effective in reducing the survival of *Nephotettix virescence* and the transmission of RTV by it.

Nature of inhibitors

i. *Chemical nature*

Inhibitors identified from botanicals are mostly proteins; but carbohydrates, polysaccharides, tannins and alkaloids are also reported from some plants. At least few plants have been found to contain more than one inhibitory substance

ii. *Physical nature*

Physical nature of inhibitors are studied regarding three aspects, viz., dilution end point (DEP), thermal inactivation point (TIP) and longevity in vitro (LIV). The main factors which affect the physical nature of inhibitors are the chemical nature of the inhibitor and the type of source plant.

Modes of action of inhibitors

The inhibitors may act directly on the virus particles or act via the host plant.

i. *Direct action on virus*

These compounds are referred to as 'Virus Inactivators'. (Ragetli, 1975). Inactivation of the virus may be by direct interaction or precipitation or preventing the uncoating process or by causing formation of aggregates of virus particles.

ii. *Action via the host plant*

These compounds are referred to as 'True Inhibitors' because they suppress the disease symptoms by interfering with the infection process proper, without altering or irreversibly changing the virions (Verma, 1982).

The chemical diversity of the inhibitors suggests that the inhibitors differ in the changes in the host physiology brought about by them. The only common factor may be that the altered metabolism of the cells of the host plants makes the conditions unfavourable for virus infection.

Some virus inhibitory agents may act in a systemic manner so that the treated plant may become insusceptible to infection by many viruses, either completely or partially. These inhibitors may act through the modification of intracellular host responses by producing some substances which induce resistance against viruses. These are referred to as 'Virus Inhibitory Agents' (VIA). In

general, the properties of plant extracts which induce systemic resistance against viral infection are the following.

a. Maximum activity within 12-24 hrs after treatment
b. Reversal of activity by Actinomycin-D
c. Activity against different viruses
d. Differences in the physical properties of VIA produced by different plant extracts on the same host plant.

Different plant species accumulate different amounts of VIAs in response to treatment with antiviral agents. In most cases VIAs appear to be some type of proteinaceous compound. VIAs are broad spectrum, highly potent antiviral and symptom-suppressing agents naturally present in higher plants. Studies on these will improve our knowledge on the management of viral diseases.

Practical applications of botanicals

Spraying of host plants, susceptible to virus infection, with crude extracts or purified preparations from leaves of *Clerodendron sp. Bougainvillaea sp., Mirabilis jalapa* and roots of *Boerhaavia diffusa* resulted in the development of resistance to subsequent virus infection within few hours in treated as well as nontreated leaves of sprayed plants. The resistance thus induced persisted for different durations with different plant substances.

Modes of action of oils

Seed oils and other essential oils usually have a place in the integrated pest management programme. Their modes of action are different from those of leaf extracts. The modes of action of oils are mainly the following:

Act as insect repellent
Change the feeding habit of insects
Act as a physical barrier on the plant surface
Increase the incubation period of virus in the host plant

Conclusion

Botanicals were earlier thought to be impractical agents for plant viral disease management. However, recent studies on some of the resistance-inducing plant extracts have generated interest on virus inhibitors from plants.

Direct practical control measures involving therapy of plant viral diseases are lacking till now and production of transgenic plants may take more time. Therefore, screening of botanicals for virus inhibitory property should continue. Even if the present work may not give results having much commercial importance, the knowledge gained will eventually lead to methods of control of viral diseases. There is much scope for this type of studies in Kerala.

69
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03

NEMATODE PESTS OF CROP PLANTS WITH SPECIAL REFERENCE TO RESEARCH WORK IN KERALA

Job Sathya Kumar Charles

The agro-climatic conditions in Kerala are conducive for growing together high value crops, like spices, fruits, vegetables, ornamental medicinal plants, etc., except cardamom and tea in all the 14 districts. The cultivation of different crop species by the farmers for maximum productivity from unit area of land provides congenial environment for steady multiplication of some injurious nematodes throughout the state and the expected yield is not obtained from these crops.

Phytonematodes

Plant parasitic nematodes are microscopic and vermiform in appearance. The females of some species become globular or saccate after fixing a permanent feeding site inside the roots of susceptible plant. The mouth cavity is

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armed with a hypodermic needle like structure called stylet or spear which is used to penetrate roots. Many species remain in soil and feed ectoparasitically without entering roots.

Major nematodes and their pathogenicity

1. Burrowing nematode (radopholus similis)

The first authentic report on the association of *R. similis* on banana in India was made from Kerala by Nair *et al.* (1966). It is responsible for a reduction of 41 percent bunch weight when the population load reached 146 per 10 gram root weight. The nematode causes extensive root and rhizome necrosis, delay bunching, poor growth and reduce the number and development of fingers. The banana varieties Kadali (AA), Pedalimoongil (AAB), Kunnan (AAB), Ayirankapoovan (AB), Peykunnan (AAB) and Pisang seribu were found least infected.

Pepper vines inoculated with *R. similis* exhibited severe foliar yellowing, defoliation and die back - typical symptoms associated with 'slow wilt' disease of pepper. In pepper gardens population of *R. similis* reaches the maximum during september - October and it is very low during the period from April to June. None of the cultivars screened so far was found tolerant\resistant.

The multispecies cropping systems followed in coconut and arecanut gardens provide the most favourable conditions for survival and multiplication of the nematode. The damaging level was one nematode per 800 gram of laterite\sandy loam soil for coconut and arecanut. The coconut dwarf cultivars Kenthali and Klappawangi were found least affected while areca cultivars Indonesia-6, Mahuva-B and Andaman-5 were found tolerant to the nematode attack.

Ginger and turmeric plants infested with *R. similis* showed drying of leaf tips and margins. Infested rhizomes exhibit the presence of shallow, watersoaked areas with rotting of roots. An initial inoculum level of ten nematodes caused 35 percent reduction of rhizome weight after four months and 46 per cent at the end of the season.

R. Similis was reported widespread on coffee in Wyanad hills.

2. Root-knot nematode (Meloidogyne spp.)

The root knot nematodes produce galls swellings on the roots of a wide variety of plants. The visible above ground symptoms include chlorosis of foliage, unthriftiness and wilting during the hot part of the day. The nematode is associated with pepper, cardamom, tea, ginger, turmeric, banana, betel vine, sesame, coleus, dioscorea, alocasia cucurbits and solanaceous vegetables. The peeper cultivar Panniyur-1 is found to be more susceptible to root-knot nematode than Karimunda.

An initial inoculum level of 100 nematodes per seedling was the marginal threshold level for reducing growth and yield of ginger over a period of 6 months after inoculation.

Meloidogyne incognita reduce 50 per cent germination of cardamom seeds raised in nursery beds used for more the ten years in Pampadumpara and Vandiperiyar tracts of Idukki district. The main symptoms of nematode infestation are galls on the root tips, profuse tillering, stunted and weak tillers, yellowing and drying of leaves and production of narrow, brittle and abnormal leaves.

3. Rice root nematode (*Hirchmannniella oryzae*)

This nematode was first reported by Nair *et al.*, (1969) in the Onattukara region. A survey of the pest in the low land rice areas of Kerala showed the presence in all regions. The rice varieties Aswathi, Bharati, Jaya, Mashoori, Triveni and Annapoorrna were infected. Several low land weeds were also recorded as host to this nematode. Reduction in root weight, foliage and earhead from 14.5 to 76.5 percent have been reported.

4. Cyst nematode (*Heterodera oryzicola*)

Paddy and banana are found to be favourable hosts. A weed plant, *kyllinga monocephala* is also recorded as a poor host. Inoculation with 6, 12 ad 18 thousand juveniles\sq.m area on rice cultivar Triveni cause losses from 20.7 to 41.9 per cent. An initial cyst load of 1000 per banana plat reduces the bunch weight by 56.6 per cent. The fruits exhibited a characteristic curvature of fingers with less total sugar content in inoculated plants.

5. Citrus nematode (*Tylenchulus semipenetrans*)

This nematode is considered to be one of the factors responsible for the citrus decline in Nelliyampathy. The trees showing initial decline symptoms

are observed to support a very high nematode population.

6. Reniform nematode (*Rotylenchulus reniformis*)

This nematode attacks a wide variety of crops. An initial population level of 1000 nematodes per plant affected brinjal yield from 29 to 48 percent.

7. Ectoparasitic nematodes

The spiral (*Helicotylenchus* spp.) stunt (*Tylenchorhynchus* spp.), lance (*Hoplolaimus* spp.) and ring (*criconemoides* spp.) nematodes occur in all soil types and feed on the roots of all cultivated plants. Little information is available about its pathogenicity.

A variety of chemical control measures have been developed and tried out successfully in case of cardomom, pepper, ginger, tumeric, banana, coconut, arecanut, paddy, bhindi, brinjal and coffee. However, this chemical approach cannot be continued for a long time due to pollution hazard, residue toxicity and high cost.

More emphasis need to be placed on the following lines of research in future

1. Survey for plant parasitic nematodes associated with medicinal or ornamental plants are to be taken up on priority.
2. Research on biological control and use of plant organics needs intensification.
3. Use of organic amendments and green manure for nematode control is to be expedited.
4. Develop an integrated nematode management schedule with greater emphasis on use of tolerant/resistant cultivars and biological control for different cropping systems.

69
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04

PROMOTING BIONUTRIENT AVAILABILITY FOR SUSTAINABLE SOIL AND CROP PRODUCTIVITY IN KERALA

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For a viable agricultural production system to be sustainable, it should promote the use of locally available input components. In addition it must be easy to practise technologies, yield favourable cost benefit ratio and maintain a non-negative trend in soil health and productivity. Being in the humid topics, Kerala experiences a fast declining soil organic matter status and high rate of soil and fertility erosion. A negative balance between supply and uptake of nutrients, escalated cost of inputs and non-remunerative prices for the farm produce are also identified as major constraints of crop production in Kerala.

Cropping practices to enhance nutrient availability from biological sources and organic matter recycling are very important for sustainability. The organic carbon content of soil which is considered as an index of soil fertility was monitored for several years in the fields continuously cultivated with tapioca in the Instructional Farm of College of Horticulture, Vellanikkara. The organic carbon content was depleted from 0.9 to 0.6 percent in four years, in the tapioca plots which were unfertilized or supplied with inorganic fertilizers alone. But when organic manure in the form of cowdung was applied at 10 t/ha, the organic carbon status was maintained at 0.9 percent.

Green manuring has been with rice culture since the beginning of rice cultivation. Apart from nitrogen, it supplies other nutrients and sustains the productivity of rice soil. Yield potential of rice with optimum fertilizer N seems to be different in presence and absence of green manuring. But in the context of intensive agriculture, farmer may not be able to practise green manuring in the traditional manner. Green manuring is seldom economically feasible because it has neither cash nor food value and yet requires human labour and the farmers are not wiling to devote a whole crop season to N accretion. Inclusion of dual purpose grain legume with food and manurial value in the rice cropping system is useful at this situation.

Inclusion of legumes in a cropping

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system increases the fertility and productivity of the soil by fixing atmospheric nitrogen and improving physical, chemical and biological properties of soil. Inclusion of a legume in a cropping sequence will gradually increase the yield of subsequent rice crop or other non-leguminous crops.

Experiments conducted at Agricultural Research Station, Mannuthy, to evaluate the benefits of grain legume - rice system over green manure - rice system revealed that the residue incorporation of grain legumes after harvest of 1-1.5 t/ha of grain, resulted in similar yield in succeeding rice as that of green manure incorporation. The nitrogen release in terms of extractable ammonium and nitrate in the soil was higher for green manure in the initial days. The mineralization was slow but steady for longer period in the case of legume residue and effected efficient use of residue - N than green manure-N by rice.

The response to applied phosphorus by rice is seldom observed in Kerala soils. This is partially due to quick and greater fixation of inorganic P and consequent unavailability to plants. The apparent recovery of P by rice from green manure or green manure + organic P applied plots were significantly higher than inorganic P alone applied plots. For precise estimation of mineralization of P from green manure experiments were conducted using 32P labelled green manure. The green manure 32P extracted from the soil solution in the next day of incorporation of green manure into the soil was as high as 25 percent. The P release was proportional to the rate of application of green manure in the soil. In the first 20 days after incorporation about 10percent of the soil extractable P was released from green manure at 0.5% addition by weight of soil.

Utilization of under and unexploited green manures in perennial crop systems and intercropped coconut gardens is found to be a viable remedy for sustaining the soil productivity. In an attempt to select efficient green manure crops for cultivation in coconut basins, various green manure crops like *Crotolaria Juncea, Crotolaria striata, Sesbania aculeata, Sesbannia speciosa, Cassia tora* and various cover crops like *Pueparia phaseoloides, Calapagonium mucanoides* and *Mimosa invisa* showed a tremendous potential for biomass accumulation and nutrient accretion.

It was observed that the neglected green manure crops such as *Cassia tora* and *Crotolaria striata* are shade tolerant and producing considerable biomass while the well accepted green manure crop *Crotolaria juncea* fail to grow well in the coconut basins. Twenty five to 35 kg of green manure was produced in one coconut basin by crops such as *casia, pureriai* and *mimosa* and is a viable method of green leaf manure production in intercropped coconut gardens.

The economic feasibility of using cultures of N fixing micro-organisms for increasing crop production has been proved beyond doubt particularly legume-rhizobium symbiosis and blue green algae/azolla culture in rice. Free living aerobic bacteria also contribute substantially to the N economy of the crops. In Kerala, achieving a continuous and stable improvement in the productivity of crops and soil at low cost calls for substituting market purchased inputs with farm grown biological inputs and adoption of easy to practice technologies.

69
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05

STRATEGIES FOR ENHANCING RICE PRODUCTIVITY IN KERALA

N.N.Potty and E.Tajuddin[1]

Productivity expression in a plant characteristic modulated by the interacting influences of environmental factors of soil and atmosphere. Low yield is often the result of faulty integration rather than inefficiency of the factors. Investigations on productivity improvement should therefore be based on factors that restrict the growth and development process of the plant under our conditions, and there mode of influence. Characteristic nature of

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permanency of our rice lands high iron and low carbon contents of the soil unadaptability and unsuitability of the varities total negligence to plant weather interactions and ignorance on process of yield formation and partitioning coefficient and aggravating imbalances all have jointly affected the yield improvement programmes. an effort to rectify these problems after assessing their intensity can improve productivity in the State to levels comparable with other states and countries. Results available on these aspects are discussed in the paper.

69
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06

SCOPE FOR ENHANCING PLANTATION CROP PRODUCTION IN WATERSHEDS

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Introduction

Plantation crops are important agricultural commodities in Kerala which contribute significantly to the national economy. Eventhough these crops occupy less than 2 percent of the total cultivated area, they account for 10 percent of the foreign exchange earnings and 80 percent of the export earnings from agricultural commodities. The common plantation crops cultivated in Kerala are coconut, arecanut, black pepper, rubber, tea, coffee and cardamom. It is important to note that the productivity of these crops in our country is low compared to other countries where these are traditionally grown. There is an urgent need to find out the strategies for higher productivity of these cash crops so as to meet future demands.

Among the various parameters like genetic variability, climatic requirement, management practices, etc., water availability to the plants especially during dry months (December to May) is one of the most important limiting factors resulting in low productivity. As 90 per cent of these crops are traditionally grown under rainfed condition, vagaries of monsoon will have direct impact on the yield of these crops. It is in this context that water management of rainfed system on a watershed basis becomes crucial for higher productivity of these crops.

Watershed Approach

Physiographically the lands in Kerala can be grouped into low lands (10 m MSL), midlands (10 - 70 m MSL) and high lands (70 m MSL). Cultivation of plantation crops is mainly mid highlands. Continuous stretches of plain and bottom lands interlocked with hilloks constitute small cutivated watersheds called 'Elas' which accounts for early 40 - 42% of the cutivated area especially in midlands and low lands. The slopy portion of the 'Elas' are cultivated with perennial crops like coconut, arecanut, pepper, etc.

Due to the nature of rainfall distribution, the bottom lands get flooded during rainy season and slopy mountains where plantation crops are cultivated get dried up during summer period. Because of these two characteristics, viz., uneven distribution of rainfall and undulating topography, the crop plants suffer due to floods in the valley bottom and moisture stress in the slopes. The water management practices suggested under such condition consists of a 'three tier system' with the following features.

1. Collection and conservation of the rainfall in the crop land/upland of the watershed;
2. Directing excess water (after storage in step 1) from various parts of the catchment into the dug out storage pond of sufficient capacity, located in the lowest position of the catchment (the stored water can be used for irrigation in the adjacent lands during the dry spells of the monsoon season);
3. Discharging remaining excess water into the regional drainage-cum-irrigation system.

Land Management Practices

The following land management practices which are suitable for hilly

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areas will enhance the productivity of plantation crops in watersheds.

Stone pitched walls

In slopes between 5 to 10% where crops like coconut and arecanut and black pepper are grown, stone pitched walls, bunding with vegetative barrier like leucaena, vettiver, pineapple are the recommended practices.

Bench terracing for perennial crops

Bench terraces can be used on any slope, from the steepest to the slightest. However, the effort needed to construct them is considerable. So they are generally used on steep slopes where other measures are unlikely to be effective. Special forms of bench terracing are used for perennial tree crops to be cultivated in watersheds. For small bush crops, the terraces may be small and closely spaced, just wide enough for a single row of bushes on each terrace. , Construction requires less labour than wider terraces and can be applied on steep slopes. This type, called step terracing, is particularly suitable for tea and coffee.

For larger tree crops, such as fruit and rubber, a wider spacing is required, and terraces are cut at intervals down the slope. Typical spacing might be 5 meters for fruit trees and 10 meters for rubber trees. Usually called overhead terraces, a single line of trees are planted on each terrace; the land between the terraces must be protected by a dense cover crop. For some tree crops, it is sufficient to cut a short length of terrace for individual trees. These are called platform terraces commonly used for palm plantations.

Progressive development of bench terraces

Where labour or money required for building bench terraces is lacking, such terraces can be formed progressively over time by trapping soil that has been moved downhill by tillage and erosion. This is done by constructing barriers across the slope at intervals. The method involves ploughing the land on the contour and allowing the soil to move downhill against the barrier of a stiff stemmed grass until the slope has been reduced to a on-erosive grade.

Contour trenches and pits

The rainfall received on hill slopes immediately rushes from the slopes and very little water percolates to the underground strata. It would, therefore, be necessary to undertake some measures to reduce this run-off and enable it to percolate to the ground water. One of such measures is digging staggered contour trenches on hill slopes of upto 15% to hold up water for the[*p2.02Xabov purpose. In this system, trenches along the contours are made and spaced according to the slope of the land, intensity of rainfall, crops, etc. The trenches are usually 60 cm to 75 cm wide and deep and of convenient lengths from 2.4 to 3.6 m.

In areas where there is already established trees, the alternative approach is making pits. The pits can be taken along contours and may be of any size. The pits may be located as and where they are feasible. A good amount of leaves fallen from the nearby trees gets accumulated in these pits. This results in the retention of moisture for a longer period than in the exposed land, in addition to the localised conservation of rain water.

Eventhough the soil and water conservation measures described above help harvest rainwater in the upland areas of watershed, the excess water after this storage coming from various parts of the catchment has to be diverted to storage ponds of sufficient capacity, located in the lowest position of the catchment. These dug out ponds could store the rain water resulting from heavy storms which occur every year.

In small watersheds where conservation is needed, the following measures must be taken to boost the productivity of plantation crops.

1. Transforming some slopes into terraced or semi-terraced fields.
2. Adoption of cheap water conservation measurers like contour trenching, pitting, etc., in the upland of the watershed.
3. Building of storage ponds, check dams and silt traps in the lower portion of the watershed for the collection of excess water and to retain silt.
4. Life saving irrigation by sprinkler and drips.

69
07

UNIQUE PTB RICE STRAINS TO AUGMENT THE RICE ECONOMY OF KERALA

K.M.Rajan, P.Ahamed, Jose Mathew and C.R.Elsy

Despite a dismal decreasing trend in the area and production of rice in Kerala, the productivity showed a two fold increase during the past four decades. Such a boost in productivity has been facilitated by the high yielding genotypes, especially the ptb varieties. From ptb 1 (Aryan) to ptb 52 (Aiswarya), 52 well acclaimed varieties have reached the rice front of Asia under the popular triplet 'ptb'. Most of these varieties are popular and unique due to their adaptability to diverse agro climatic conditions, biotic and abiotic stresses and high yield potential. Many improved ptb local strains are extensively used for resistance breeding on global basis. Recently released varieties like Kairali, Kanchana, Aathira and Aiswarya are the latest examples of multiple resistant varieties by incorporating resistance genes. This paper highlights the unique characteristics and advantages of the ptb varieties and their pivotal role in augmenting the rice production economy of Kerala.

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69
08

A NATURAL RESOURCES INFORMATION SYSTEM FOR KERALA

M.R.Venugopal

Remote sensing has emerged as a highly effective and extremely versatile technology for management of natural resources and for monitoring the environment. It is an expedient, economic and powerful tool for collecting extensive information on various earth resources for their optimum development and management. In view of the ever-increasing stress on the available land, water, forest and mineral resources, there is an imperative need for a pragmatic strategy to be developed based on a judicious mix of conventional approaches and modern techniques to arrive at quick and viable solutions for problems in natural resources management. Space Remote sensing can play a significant role in this respect by providing reliable, accurate, incredibly fast and real time information in a cost-effective manner. A state-level natural resources information system (NRIS) based on satellite data is suggested. The NRIS will basically be dependent on the orbital data and supported by other collateral sources. The system can incorporate any and all types of information with regard to the State's natural resources which can be processed to solve specific management problems. The NRIS helps quick appraisal and inventory of our existing and potential natural resources and for keeping a close watch on the dynamics of our environment and the interrelationships between its subsystems. It facilitates a holistic approach towards the State's natural resources which in turn will help remove regional imbalances, accelerate social changes and improve the quality of life of the people and their environment.

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69
09

GASIFICATION OF AGRICULTURAL WASTES

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Thermochemical conversion of biomass to synthesis gas (a mixture of CO and H_2) has received little attention compared to the similar conversion of coal. Biomass materials such as wood wastes, low grade plants, agricultural wastes etc., together with municipal solid wastes not only add to the total organic raw material base that can be utilized for energy purposes, but they also have to be removed for environmental reasons. Biomass is thus well suited as a feedstock for synthesis gas production and is expected to assume increasing importance as an energy resource.

Direct gasification of biomass to combustible gases involves complex chemistry. One major drawback of direct gasification is the inevitable simultaneous production of tars, phenols and acids, which must normally be removed by washing the gases before they are used for combustion. The composition of the gases is also complex (even after washing), and hence have limited use for synthesis purposes. Thus an acceptable approach for the maximum utilization of biomass may to be pyrolyse at moderate temperature to produce volatiles pyrolysis products, and char. The pyrolysis products contain valuable chemicals such as anhydrosugars, acetic acid, methanol etc. and can be recovered. The residual char, which contains normally 30-40% of the energy content of the original biomass is then separately gasified (using $CO_2/H_2O/O_2$) to clean CO and H_2.

Biomass Pyrolysis → Volatiles + Tar + Char
Volatiles + Tar + Char → Useful chemicals

Char gasification: CO_2 → CO; H_2O → CO + H_2; O_2 → CO + CO_2

The present paper describes the basic features of gasification of biomass chars using CO_2. Chars derived from different types of biomass representing a wide range of plant origin were gasified at 700°C in CO_2.

Carbon-CO_2 reaction is endothermic and catalysts are always needed to produce substantial gasification rates at temperatures below 900°C. Biomass samples generally contain a wide spectrum of metal species, with K and Ca being predominant. Alkali and alkaline earth metal species are known to be good catalysts for coal gasification. Little is known of their effect in biomass gasification. The primary objective of this study is to unveil the role, if any, of the indigenous metal species as catalysts in biomass char gasification.

The extent of gasification of the chars was found to be directly proportional to the sum of the molar concentrations of K and Ca in the chars. However, samples containing indigenous silica (eg., coir dust and wheat straw) were found to be exceptions; they showed much less reactivity than expected from their K and Ca contents. We suggest that during pyrolysis of the biomass silica deactivates K leading to reduced subsequent char gasification rate. This hypothesis is supported by the observation that the reactivity of potato pulp (a K-rich and silica-free biomass) is drastically reduced by the addition of silica. Such was not indicted in the case of Ca. The results indicate that the gasification rate in CO_2 of chars from any type of biomass can be predicted reasonably well from a knowledge of the metal ion content, provided the biomass has low silica content.

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69
10

PRESENT STATUS AND SIGNIFICANCE OF VARIETAL ADOPTION PATTERN OF RICE IN CENTRAL KERALA

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Productivity improvement is the net result of a three step process of technology evolution, transmission and its adoption. Management of productive enterprises therefore calls for a continuous analysis of the efficiency of the integration of these three steps of the process. Trends in rice production and productivity in Kerala during the last 25 years show that the productivity after an initial spurt has tended to remain stagnant subsequently. On the face of greatly enhanced availability and use of management inputs, this particular situation points out to the limiting effects in adoption of technology especially the seed. Corrective measures based on the analysis of the situation can bring about an upturn in the present trend. Adoption of suitable varieties of seed as the major technical input is most important.

This paper presents the results of a detailed survey on the adaptability and the extent of adoption of high yielding rice varieties in Palakkad district. The survey covered 765 *patasekharams* distributed in the four agricultural subdivisions of the district. The survey was conducted as per the instructions of the NARP/KAEP Workshop for the central region held at Pattambi during 14 to 16 October 1991. As per the decision of the workshop a detailed questionnaire was prepared and distributed to the various Krishibhavans of the district. The data received has been compiled and the conclusions presented in this paper. The results so obtained for Palakkad district was compared with the available information for Ernakulam district which in turn confirmed the conclusions drawn.

Data on the moving pattern of adoption of six high yielding varieties (HYV) of rice since 1966 is indicative of the receptivity of Kerala farmers for quality seeds. The data also shows the persistent higher adoption of varieties like Jyothi, Triveni and Mashuri. Trends for substitution with better types are strongly evident from the steep fall of area under IR 8. The traditional tall indica varieties have given way to the HYVs. However, the persistent use of tall varieties like Ptb 4, Ptb 10 and Ptb 12 indicates the possibility of their having some special advantages in their cultivation.

Present field position of varietal adoption has brought about two conspicuous trends: (i) non-descript varieties like 'Kunju Kunju' and 'AP' have overtaken the improved high yielding released genotypes; (ii) many released HYVs after an initial spurt have failed to inspire the farmers to go for continuous adoption. Also the trend shows that irrespective of the varieties under cultivation in the district, they tend to concentrate in selected locations even in apparently the same situation. This is a distinct point to the specific and inherent adaptability pattern of the varieties. This is evident from the popularity scores of Jyothi in Alathur and Shornur subdivisions. Here laterite soil represents both the regions. The variability in adaptability should therefore be a function of the variability in the physio-chemical characteristics of the laterite soils within the region. In laterite soils it has been reported that the extent of variability in the exchangeable Aluminium is from 15 to 50% which is sufficient enough to modify the crop growth and response pattern.

This sort of micro level variations is not confined to soil situations alone. The average rainfall at Kozhinjampara is 600 mm, whereas at Pattambi it is 2650 mm. These variations in weather and soil characteristics suggest that the variability is itself a continuous phenomenon, and that the variations are not abrupt. This constitutes distinctly different environments requiring plant types with specific adaptability criteria for yield expression.

The low average yield in the state has to be attributed to these environmental variabilities rather than the general incapability of the varieties under cultivation. The low yield should be the result of defective integration.

Yield improvement therefore is possible only by identifying the specific requirements through proper integration

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of the plant types for the environments.

The only way by which this can be done is through adoption of a suitable generation model with the *patasekharams* as the penultimate link as in the original concept of a seed village. This in turn will have an added advantage of providing feedback information on the requirements for higher productivity in the location.

A technically regulated production system will substitute the existing seed production programme. Such a programme has the advantage of better flexibility and viability as it will combine the scientific and social necessities. This in turn will help to provide a practical and need based orientation in varietal evolution programmes. This will indirectly transform the research production and dissemination into a participatory system with built-in strength of sustainability.

70 AGRICULTURAL TECHNOLOGY TRANSFER

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01

PROBLEMS OF TECHNOLOGY TRANSFER IN KERALA AGRICULTURE

C.Bhaskaran and N.P Kumari Sushama*

Agricultural production in Kerala contributes to over 35% of the state's economy. The state has developed its own systems of research and technology transfer to augment agricultural production. The research system in the state has come out, over the years, with sound package of practices recommended for cultivation of important crops in the state. Similarly, the extension system has chalked out and adopted a score of developmental approaches starting from the multi purpose approach of community development to the individual targeted approach of training and visit and to the group approach under "Group Management in Farming" at present.

In spite of all these efforts at technology generation and transfer, hardly 30 percent of these technologies have been accepted and adopted widely by the farmers in the state. To cite an example, the coverage under high yielding varieties of rice in the state is only 32 percent of the total area under rice cultivation. It is known that there exists a wide gap between knowledge production and its utilization by the farmers in the actual field situation. There are also constraints/problems in the transfer of technology process in Kerala's agriculture. The present paper is an attempt to provide a bird's eye view of these problems/constraints in agricultural technology transfer with special reference to Kerala State.

An earlier study has classified the constraints/problems in the development of agricultural sector into five broad categories, as folows.

1. Common basic constraints
2. Technological constraints
3. Organisational and administrative constraints
4. Extension constraints, and
5. Social constraints.

Research studies conducted in Kerala in the recent past have pointed out to the multiplicity of constraints/problems in the transfer of agricultural technology. They have been classified and presented as follows.

	Constraint/problem	Reported by
1.	Lack of sufficient land and fragmented land holdings	Memon and Bhaskaran (1989), Kunju (1989), John (1991), Sobhana and Shylaja (1994)
2.	Lack of irrigation and drainage facilities	Prakash (1989), Sulaiman (1989), Geethakutty (1993)
3.	High cost of chemical inputs and lack of availability in time.	Viju (1988), Sulaiman (1989), KAU (1989)
4.	High labour cost and shortage of labour in peak season	Kunju (1989), Anitha (1989), Bhaskaran (1992).

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5.	Lack of credit and high interest rates	Anantharaman et al. (1986), Ramanathan et al. (1987), Prakash (1989), Ranjendran (1992).
6.	Lack of market and warehouses	Ramananthan et al. (1987)
7.	Lack of knowledge	Anantharaman et al (1986), KAU (1989), Rajendran (1992)
8.	Lack of technical guidance	Prakash (1989), John (1991), Rajendran (1992)
9.	Complexity of technology and its incompatibility	Latha (1990), Kunju (1990)
10.	Pests and diseases	Prakash (1989), John (1991), Geethakutty (1993)
11.	Inappropriate technology and its environmental impact	Kunju (1990)

Besides the foregoing, lack of infrastructural facilities, absence of technology evaluation and upgradation efforts, inadequate training for farmers, extension personnel and researchers, lack of functional linkages among the research, extension, input and farmer sub-systems have also been observed to operate as constraints in the transfer of technology process.

The constraints listed above point to one important aspect - multiplicity of constraints in spite of multiple technology transfer agencies. Experience has shown that the Kerala farmer is more sensitive to the technology traits 'Relative Advantage' than to anything else. He is no more found wanting if he is sure of the gains accruing from the adoption of technology. But, of course, such experiences were sprinkled with sound political and extension agency support in the technology transfer process.

Recent studies have pointed out to the need for co-ordination and linkage among the multiple agencies engaged in technology generation and its transfer in agriculture. A model has also been suggested to promote functional linkages among the sub-systems, viz., Research sub-system (RSS), Extension sub-system (ESS), Client sub-system (CSS) and Input sub-system (ISS), involved in the transfer of technology process.

Functional linkages

RSS enhance participation in Farm trials, result demonstrations, field days, farmer's days, workshops, minikit trials, Lab-to-Land, village adoption and training programmes through ESS.

RSS contribute to correspondence course, souvenirs, books, newspaper columns and enhance involvement in demonstrations, co-op.societies, campaigns and interdisciplinary committees through CSS.

RSS involve ISS in seminars, Lab-to-Land, National demonstrations and village adoption programmes and enhance contact, with coop.societies, dealers and Nationalised banks.

ESS participate in lab-to-land programme, exhibitions, demonstrations, workshops and minikit trials through RSS.

ESS organise exhibitions, provide information support through AIR, seminars, publications and newspaper columns through CSS.

ESS organise training, consultancy service; participate in seminars, exhibitions through CSS.

CSS make regular visits to research stations, trials; participate in training, farmers' days, village adoption programme; establish correspondence with researchers, through RSS.

CSS participate in exhibitions, training, discussions; subscribe to extn. journals, establish correspondence with extn. personnel through ESS.

CSS Participate in seminars, group discussions, demonstrations, exhibitions, seek technical information and help through ISS.

ISS get chemicals tested in trials by researchers, feedback field experiences, provide publications support, seek advice in conducting demonstrations through RSS.

ISS cooperate in farm trials, dealers, training, seek help to solve field problems, literature to extension personnel through ESS.

ISS organise film shows, farmer contact

programmes, provide soil testing, services to farmers through CSS. marketing. PP equipment, and publications

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02

INFORMATION NEEDS OF AGRICULTURAL FARMERS : A SYSTEMS APPROACH

C.E.Ajith Kumar and S.Bhaskaran

Amongst the various categories of communication process in agricultural sector, the supply to and demand from the information store of agricultural farmers assume paramount importance. The systems approach envisages well articulated component sub-systems which jointly work out to accomplish a defined objective.

To avoid ambiguity certain terms used in this paper may be explicitly defined though they might have acquired a different connotation on account of their conventional and continuous use. The objective of the 'farmer' has been fixed as 'profitability' sustainability and consequent improvement of his living standard. The flow of information in the system begins from a motivated farmer, who raises pointed queries to his proximate extension agent, who in turn searches for an answer in his information store. If a solution is already available, the extension agent transmits it back to the sender; and if not, refers it to the research system. The researchers after confirming the validity and relevance of the question, pool a sequence of such questions they receive, fix priority and set out to conduct appropriately designed experiments to obtain precise solutions which are subsequently validated on cultivator's field trails. These have to be then got properly included in the local "package of practices recommendations" (in short, package of practices). The main outlet of the extensive research system in Kerala is supposed to be the package of practices. Almost all the extension programmes and extension publications are mainly rooted on this. The input agencies also depend on this for chalking out their marketing strategy. But this package of recommendations have been found to have certain serious limitations like less farming-situation specific, log time-gap between successive editions, based on crops rather than crop-system, etc.

Information needs of farmers : An overview

Farmer's information needs are mainly meant to facilitate them to take long-term and crop-management (during crop growth) decisions. Given the constraints with regard to his space (which includes the environmental and ecological conditions surrounding the land he owns or leases which are characterised by certain variables and are fairly independent of time - christened land profile variables in this paper - and time continuum, he has to suitably adjust the crop combination. A scheme for choosing the crops most suitable to his land has been detailed in the paper. This process involved the identification of most suitable crops with reference to the land-profile variables followed by the suitability analysis with regard to the time-related variables. The number of crops suitable to his land can thus be short-listed to three or four. The crops combination may be fixed on the basis of crop-combination matrix as detailed in the paper. Before beginning the crop-raising process, the farmer has to decide on various management practices. The information needs corresponding to this are mainly of three categories

1. Blanket recommendation as applicable to his land profile for the crops,
2. Based on the prevailing status of the crop at time t for a corrective application of inputs,
3. Crop-external variable such as assistance of finance, inputs etc. available to these crops

The evolution of an instrument for effective communication

The objective of any information

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system is that each potential user should receive just what he needs in a form that he can use at a time when he needs it. The communication model described earlier is considered to be the most suitable model in the present context. For increasing the validity of communication, the message should be encoded in such a way that it is received in terms of the stored experience - the frame of reference of the receiver with which he tries to derive a meaning. Every message has an element of retainability (in some memory device). Since the needs of the farmers having been thus squarely expressed, and they expect the extension agency to provide an answer, three of the important components in the model, viz., the message, the source and destination have been got fixed. It can be seen that it is now the encoding and decoding procedures, or the mode of communication, that are to be lent more light upon. Given the specificity of the needs of the target group, it can be derived that the print media communication has got an edge over other forms of communication in this context, in that it has high clarity, retainability, repeatability (if allowed for repeated reference) and can be suitable adjusted to have the effectiveness comparable to any real-time system. The major disadvantage of this mode of communication is that it can benefit only the literate. The effectiveness of the retrieval process can be ensured only if a suitable order or mode of indexing is integrated into a large volume of information, however large the volume be. With these in view, a document containing collection of all the state-of-the-art information required by a farmer during the cycle of operation of his crop combination, indexed in the order of time (chronological), is envisaged for effective communication by the extension system to the needy farmers. This document is named the "Crop manual" in the paper. In this manual, information has to be given mainly for regular but small time-intervals (week or month as the case may be). This part will be in a "diary" form. The information regarding all the operations applicable to the time-interval has to be given under that particular interval. The information in this section has to be given both time-interval-wise and crop-wise. All the information regarding the pre-planting and post-harvest operations have to be given. Apart from that the information needed to carry out corrective operations when the plants are seen to be showing signs of under-growth (with reference to certain standard parameters the values for which are also to be provided) and deformity in the crop-stand. The variables/information that could be given under each category are listed in detail in this part. In addition to this, two appendices, one giving all the details regarding all the possible inputs for all the crops in the combination and the other giving the information regarding some crop-external variables may also be provided. The input name, basic function, crop-wise prescription of dose and frequency per unit space, and all the inventory details of all these inputs for employing on all the possible crops in the select combination on the land. Even details regarding irrigation, human labour and cattle labour can be included in this appendix, if the supply of such inputs in the locality is organised and brought under a corporate body like a co-operative society or a registered firm. This opens up vast scope for increased linkage between client and input systems. A guide to crop protection measures may also be annexed to this appendix. This may contain information on both disease control and the pest insect control measures. In the second appendix, information with respect to all the crop-external variables possibly of interest to the farmer could be given.

The implementation in Kerala

Kerala is a potent ground for implementing such a communication system using the print media, having attained total literacy. At the initial stage, the scope of this programme can be limited to, say, a hundred consistently progressive farmers in the area. The implementation of such an instrument on a large scale needs sustained political will. In Kerala, as each panchayat has an agricultural office comprising an agricultural graduate at its head and a contingent of two or three technical officials, the crop suitability study for the farmers coming in the panchayat can be carried out by them for the farmers. Some pages can be allotted in the information document to the farmer to enable him to note down his feedback. Periodical pooling of the feedback of the farmers can be carried out by the respective agricultural offices and necessary action taken. The feedback can be ensured by the extension agency by linking all their assistance with the farmer's performance as revealed in the feedback pages of the document. By initiating effective feedback of the farmers, a continuous and cyclic

information flow can be ensured in the system. Let the hard-earned literacy of our poor farmers bear its fruits. Let the light of technology pour on the gloomy yet hopeful toiling farmers who, even without their knowledge, form the life line of our economy.

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MICRO-FARMS AND HOUSEHOLD ECONOMY OF RURAL KERALA: AN EMPIRICAL ANALYSIS WITH SPECIAL REFERENCE TO THE HOMEGARDEN FARMING SYSTEM

Darley Jose*, N. Shanmugaratnam**.

Kerala's agrarian structure is characterised by a preponderance of microholdings. The implementation of land reforms, intergenerational subdivision of land accentuated by population growth and lack of permanent non-farm source of employment, and the growth of a land market have contributed to the dominance of microholdings. Given the growing scarcity of land and the risks of monoculture, the typical Kerala farm household is faced with the challenge of choosing cropping systems that are land augmenting and sustainable.

The traditional practice of growing an array of plant components (tree, shrubs and/or herbs; woody and/or non woody; seasonals, annuals and/or perennials) in an intense mix in time and space within the house compound, with or without incorporating livestock, poultry or fisheries, which contributes to the household subsistence, cash and habitat needs is referred to as homegarden agroforestry system or homestead farming system. Homegardens are highly dynamic production units in terms of enterprise components, labour use and market orientation. This system has much to offer the small farmer,and the woman who is marginalised in her own household whose survival algorithm demands spreading of risk by combining production for market with production for direct consumption. However, the rise of the market economy and cash crop monoculture like rubber has been threatening household food security and the continuity of the homegarden as an integrated ecosystem.

This paper attempts a microlevel analysis of the role of homegardens in the household economy of small and marginal farmers; and the sustainability of the system in socio-economic and ecological terms. The study was conducted in Palode village, Trivandrum district. A detailed survey of 80 homegardens of small and marginal farmers was conducted in the year 1990.

The agricultural production system

The agricultural production system of the village is comprised of three main components - the homegarden, wet land rice growing and extended garden (land other than the homegarden and wet land rice owned and/operated by the farmer. Homegardens form the major form of land use constituting 60.3% of the area owned/operated by the small and marginal farmers. Great disparity in land distribution exists among the holding size classes. 90% of the farmers together own only about 50% of the total land area whereas the rest 50% is concentrated in the hands of 10% of the farmers.

For 60% of the farm households homegarden alone forms the agricultural production base, while 40% have extended gardens and/or wetland rice growing to augment the homegarden base. The structure of the homegarden can be perceived as the outcome of the multidimensional effects of four major factors: (1) size of the garden (2) components (3) species composition and diversity and (4) organisation of the crops in time and space. The mean size of the garden is 47.66 cents. Given the size of the garden its structural organisation is determined by the farmer, whose decision is in turn influenced by a variety of social, economic , cultural, ecological, technological and institutional variables. The homegardens of the study village consist of three major components; (1) a mixed array of woody and herbaceous crops (2) a pure crop of rubber and (3) livestock. The garden invariably has a mixed array of

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woody and herbaceous crops, and may consist of one or more of the other components.

Homegarden and household economy

Income from homegarden, extended garden and wet land rice and off-farm income from employment, pension and remittance from outside family members contribute to the reproduction of the household economy. Off-farm income is almost as important as farm income in the household economy of small and marginal farmers, its share being around 45%. 80% of the sample households receive off-farm income from one source or other. The larger the holding size the higher is the land dependency ratio. Households which own wet land rice in addition to homegarden and/or extended garden showed higher dependency on land. This indicates the significance of wet land rice-growing in the economy of households with meagre or no off-farm income.

Homegarden plays a major role in the household economy contributing 33.6% of the total household income, where as extended garden and wet land rice together provide only 21.5%.

The family income from the homegarden (after deducting wages paid and input costs) varies from a minimum of Rs.228/- to Rs.29352/- among the households. Gardens with the maximum diversification of components showed higher returns. Homegardens with livestock bring in more income than gardens with mixed crops and rubber irrespective of the garden size. In gardens of less than one acre size, growing mixed crops alone gave higher returns whereas in gardens of more than one acre size, growing of mixed crops and rubber was more remunerative.

The returns from land does not increase proportionately to the increase in garden size. This is indicative of the higher land use intensity in terms of garden components and labour use in the case of farmers operating under higher land-constraints. There is a high degree of family labour use in the homegardens compared to extended garden and wet land rice.

The extent of market orientation is quite high in these gardens; about 65% of the produce is sold in the market to meet the cash needs and only 35% is used for home consumption. This could be due to the introduction of cash crops like rubber at the expense of subsistence crops; and the high value of the livestock products which contributes 32.7% of the total output from the homegarden. About 20% of the households ranked homegarden as their most important source of income while 70% ranked it second.

Productivity of homegardens

Output per hectare from the homegarden (in money value) was computed to examine the efficiency of the homegardens. The gardens with mixed crops and livestock components recorded the highest productivity, followed by gardens with mixed crops alone. Gardens growing mixed crops and rubber component were found to be inferior as regards per hectare output. Correlation studies showed that productivity was positively correlated to family labour employed, total species diversity index, tree species diversity index, presence of livestock, use of chemical inputs, availing agricultural credit and off-farm employment. Garden size, land dependency ratio, family size and presence of rubber were negatively correlated with productivity.

Gardens with only mixed crops showed the highest labour productivity while gardens with mixed crops and livestock had the lowest labour productivity. Thus, the high returns from the gardens with livestock components could be due to the high intensity of labour use. Gardens with mixed crops alone are more efficient in terms of land productivity and labour productivity than gardens with mixed crops and rubber.

Sustainability of the system

Sustainability of an agricultural system is not limited to the bio-physical, but has wider political-economic, social and cultural connotations. The problem of agricultural sustainability is rooted in the political economy of the agrarian structure, which largely determines the entitlements of the agrarian community. In the Kerala context, this takes on class, caste and gender dimensions. The traditional homegarden ecosystem is compared to the tropical rainforest ecosystem which is characterised by relative stability, self sustainability and ability to maintain productivity from inputs of solar energy. Homegarden can be considered almost self-sustainable at the subsistence level, with the minimum import of fossil fuel energy in the form of fertilizers and plant protection chemicals. Essential ecological processes and absorption and recycling of wastes remain almost

unhampered, which would imply that it is an environmentally clean system.

In the case of most of the households the authors studied, homegarden is a low to medium input production system which serves to meet the food and cash needs at a low to medium level. For the small and marginal farmers, these homegardens are crucial in the reproduction of the household economy.

However, one must not lose sight of the pressures the present day homegardens are going through and the dynamics at work. Most of the gardens have become highly market-oriented. The authors could discover that the introduction of the cash crop of rubber into the homegardens has resulted in the loss of biodiversity, as indicated by the Simpson's index of species diversity. This certainly would tell upon the sustainability of the system in terms of its reproduction over time. Also, this has increased the market dependence of the households, which has consequences for the household for security. Nevertheless, a judicious blending of production for home use and the market would help sustain the household economy of the farmer who operates under high resource constraints.

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INTER-ZONAL DIFFERENCES IN FERTILISER USE BEHAVIOUR OF RICE FARMERS OF KERALA

P.S. Geethakutty* and A.G.G.Menon**

Fertiliser being an expensive input, forms a sizeable part of the total cost of cultivation incurred by farmers. Kerala state has developed its own agricultural research and extension system to boost agricultural production. The research system has developed sound package of practices and the extension system has implemented a number of developmental programmes. Even with all this, it is yet to be understood how far the technologies and recommendations are transferred and utilised by the farmers of the state. There is a vast difference with regard to the fertilizer use behaviour of rice farmers in the different zones in the state. The present paper reports the results of a study on the fertiliser use behaviour of rice farmers in the different NARP zones of Kerala.

Methodology

The study was based on a survey conducted in all the 5 NARP. Zones of Kerala, viz, Southern, Central, Northern, High Range and Special Zone of problem areas. A total of 300 rice farmers were selected following a multistage random sampling procedure (60 from each district so that each district represented one NARP Zone).

A Composite Fertiliser Use Behaviour Index (CFUBI) was developed to measure the fertiliser use behaviour of the rice farmers. The index comprised of 6 dimensions - quantity of fertiliser and manures, time of application, type of fertilisers and manures, method of application and management practices related to application of fertilisers and manures.

Data were collected using structures and pretested interview schedule. The data obtained were analysed using Principal Component Analysis, Cumulative Root F and Coefficient of Variation.

Results and Discussion

Table 1 presents the mean indices of fertiliser use and coefficient of variation (cv) of each zone. The difference in

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Table 1
Comparison of NARP Zones based on the fertilizer use behaviour of farmers

SlNo	Type of Fetilizer Use	Zone (n=60/ zone)	Mean	C.Y.	
1.	Composite fertilizer use behaviour	CZ	70.255	16.11	
		HZ	67.605	22.60	
		SZ	66.284	16.91	
		PZ	62.110	10.39	CD = 4.30
		NZ	51.041	27.60	F = 23.628*
2.	Use of Nitrogeneous Fertilizers	PZ	76.565	7.92	
		CZ	69.108	14.62	
		HZ	61.912	24.42	
		NZ	46.913	32.02	CD = 3.659
		SZ	41.279	51.79	F = 63.646*
3.	Use of Phosphatic Fertilizer	PZ	80.717	10.70	
		CZ	75.378	19.06	
		SZ	67.500	27.27	
		HZ	67.308	39.69	CD = 6.655
		NZ	63.108	31.50	F = 8.715*
4.	Use of Potassic Fertilizer	PZ	86.615	7.83	
		CZ	76.453	20.80	
		SZ	72.127	18..57	
		HZ	61.822	54.98	CD = 8.45
		NZ	21.697	150.57	F = 67.918*
5.	Use of Orgnic Manures	HZ	79.382	15.78	
		SZ	74.228	17.90	
		NZ	72.447	25.64	
		CZ	60.152	50.79	CD = 7.006
		PZ	4.545	379.11	F = 164.073*

*Significant at 1% level of significance

CFUB of the various NARP zones were statistically significant among themselves (F = 23.63).

From the results, it is evident that the Composite Fertilizer Use Behaviour (CFUB) of rice farmers in one zone is significantly different from that in any other zone. In other words, the CFUB of rice farmers in each zone is specific to that zone.

Comparison of the NARP zones in relation to the CFUB of rice farmers revealed that the farmers in the Central Zone stood first with regard to CFUBI. However, nutrient-wise comparisons revealed that the farmers in the Problem Zone were in the first position except for the use of organic manure. The lowest position of Problem Zone in the use of organic manure together with the inefficient level of fertiliser nutrient's use which is above the recommended dose had actually pushed the Problem Zone to a low position with regard to CFUBI. The observed low use of organic manure in the problem zone could be attributed to the specific use pattern adopted by the farmers in the zone. The inherent rich humus content of the soil in the zone and the peculiar and traditional harvesting pattern followed leaving long stumps in the field and residues of aquatic life forms might have resulted in the low level of organic manure use by the farmers. The highly competitive minded farmers of this tract also go for higher doses of chemical fertilisers which are above the recommended level without considering the marginal productivity, pushing it down in terms of its CFUBI.

However, the relatively better position of Central and Problem Zones with regard to the use of nutrients and their various dimensions could be attributed to the progressive nature of the zone itself. In both these zones, farmers were found to take up rice cultivation more or less in commercial lines, against the subsistence type of cultivation followed by the farmers in the other three zones.

The lowest position of Northern Zone in CFUBI might have resulted from its lowest position in the use of phosphatic and potassic fertilisers. During the course of study, it was observed by the researchers that in the Northern Zone, quite a large number of farmers were not even aware of the use of potassic fertilizers. This, coupled with its relatively inferior position in infrastructure facilities, might have contributed to the observed low position

in terms of CFUBI. On the other hand, besides greater knowledge, the better resource endowments in terms of soil fertility, availability of irrigation water, etc., and higher economic motivation of farmers in the Central Southern Zone, might be the other reasons for the higher level of CFUBI in these two zones. The high level of CFUBI in the Highland Zone could be on account of the highest use of organic manures.

Conclusion

The zone specificity observed in the use of almost all nutrients and manures has to be seriously taken into account in designing extension strategy for fertiliser education. Steps must be taken jointly by the Depatments of Agriculture and Irrigation to augment the irrigation facilities, for lack of assured irrigation water is one of the major constraints on the use of chemical ferilizes. Farmers should be educated about the principles of balanced nutrition and also the role of each nutrient in crop production.

Wide variations observed in the use of organic manures reflects the overdependence of farmers on inorganic chemical fertilisers. The farmers should be educated on the concepts of Integrated Nutrient Supply System (INSS), wherein the role of organic manure in plant nutriention is emphasized.

In addition to imparting education on fertiliser use, proper and adequate infrastructural facilities like irrigation water, drainage, supply of inputs, etc., should be augmented in areas of the Northern zone.

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SOCIO-ECONOMIC OVERTONES OF BIOTECHNOLOGY AND GENETIC ENGINEERING WITH SPECIAL REFERENCE TO KERALA

N.N.Gokul Das

Twenty first century may be designed by the market structure carved out by biotechnology and genetic engineering. Like any other technology worming its way into the society, biotechnology may also widen the gap between the rich and the poor, be it between individuals and communities, or between nations, the affluent North and the impoverished south.

Agriculture : The eroding heritage

The first casualty of biotechnology will be our bioheritage, namely, biodiversity. The shift from genetic diversity to genetic uniformity, an unhappy outcome of the Green Revolution, may be further worsened. In Kerala the situation may be made still worse as farming is fast disappearing as a way of life. Paddy fields are being filled and converted for non-agricultural purposes. This will make in-situ conservation of biodiversity more difficult. It is also threatening the food security of the state. Some scientists hold the belief that biodiversity is safe in germ plasm banks. But it is a fact that we are not able to conserve and will not be able to conserve diversity by ex-situ means. Regarding gene banks it is said that they have turned out to be "gene morgues".

The biotechnologist is armed with tools such as endonuclease, DNA ligases and bacterial plasmid and techniques such as recombinant DNA technology, protoplast fusion, hybridoma technology and tissue culture. Trans-genic organism and biorectors with immobilized cells, microbes and enzymes may revolutionize agricultural, industrial and service sectors. These technologies already controlled by trans-national corporations (TNCs) may increase production but it can also cause poverty in the midst of plenty. For instance, any breakthrough in the attempt to produce Cocoa Butter Substitutes (CBS) will adversely affect the cocoa cultivators of the world. Naturally, cocoa growers of Kerala will also be hit. Similarly, by raising tissue culture plantations and exploiting "secondary metabolite technology", big companies of the US, Europe and Japan may be able to "manufacture" spices in their "factory farms". Pepper cultivators of Kerala may find themselves at the receiving end.

Biotechnology is getting ready to

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enter the edible oil market. A glut in edible oil front especially in soyabean oil, sunflower oil, rapeseed oil and palm oil may be expected in this decade itself. For coconut growers of Kerala already threatened by root wilt, the future is bleak. The fatty acids in coconut oil may have less double bonds but it is still healthier than animal fats and hydrogenated oils. Also, the campaigners against coconut oil have not been able to get any data to prove that continuous use of coconut oil invites cardiovascular problems.

Test tube crops need more pesticides

Tissue culture and new seed technology (production of somatic hybrid seeds) may also increase the demand for agrochemicals. Even if pest-resistant genes from the *Bacterium Bacillus thuringiensis* are cut and pasted to the genome of any crop, pests may still overcome such resistance of a narrow genetic base by mutation and selection. Reports indicate that "test tube crops" are six times more susceptible to diseases! This will invite all "problem pesticides" to fields and gardens and will create more "pesticide problems".

About forty eight TNCs and an equal number of public institutions are trying to develop herbicide resistant crop varieties. Some TNCs have achieved moderate success in this area. If HTVs (Herbicide Tolerant Varieties) are increasingly grown in fields and gardens it will invite a "herbicide cocktail" pushing the berbicide market and environmental disasters to scarring heights.

The threats of IPR

Genetic engineering may or may not succeed in transferring nitrogen fixing genes from bacteria to crop varieties. But emerging black laws and "effective *sui generis* systems" and international agreements on Intellectual Property Rights (IPR) can deride all its positive sides and deny the advantage to the small farmer.

The trojon cows

The Kerala Milk Marketing Federation (MILMA) is very enthusiastic about Embryo Transfer (ET). World Bank may be ready to advance loans for importing embryos. MILMA may not find it unethical to use bovine Growth Hormone (bGH) to increase milk production. But everything is not fair in profit making. The "Trojan Cows" born from these new technologies can promote big farms and increase production. But small farmers will find it difficult to adopt such technologies because of the high input costs and expert care required to maintain them. Thus these new technologies may adversely affect the interests of the rural farmer. Also, there will be a loss of genetic diversity in cattle wealth. Artificial insemination despite all its merits has already caused much gene erosion in native breeds.

The fisherman's luck

In aquaculture and fisheries new technologies may prove to be advantageous for the industry but to the traditional fisherfolk, it offers only a fisherman's luck. Pisciculture and induced breeding in private ponds will be welcomed but if big firms are allowed to attempt aquaculture in reservoirs of dams or in open sea close to the shore, it will affect the interests of the traditional fishing community.

Human health : The unhealthy trends

In health science and medicine, the potential of biotechnology in preventive health care, improved sanitation, nutrition, purification of drinking water and development of vaccines for tropical diseases is immense. But emphasis is on clinical essays, help against infertility, production of hormones, drugs to solve gerontological problems, organ transplantation and gene therapy.

Conclusion

Biotechnology is thus, a bitter pill and a double edged sword. It should be applied with caution. If not, it may erode not only biodiversity, but also economic options of the poor.

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A MODEL FOR EFFECTIVE VOCATIONAL AGRICULTURAL EDUCATION PROGRAMME IN KERALA

N.P.Kumari Sushama, G.T.Nair and C.Bhaskaran

It will not be an exaggeration to state that agriculture as a vocation for the rural youth is grossly neglected in Kerala. Efforts to ameliorate the situation and to attract the educated unemployed rural youth to agricultural avocations are therefore inevitable. In this perspective, Vocational Higher Secondary Education in Agriculture (VHSEA) assumes added significance in Kerala. Against this background, a research study was conducted to analyse the multidimensional aspects of VHSEA in Kerala and to suggest a model for strengthening the same.

The study was undertaken in nine VHSEA schools spread over eight districts in Kerala.

A critical analysis of the important findings of the study led to the suggestion of a comprehensive model for improving the effectiveness of VHSEA in Kerala.

Effectiveness of VHSEA is considered as a multidimensional consequence of six interacting dimensions as enunciated hereunder.

General organisation

1. There is ugent need to formulate a vocational education policy.
2. Statutory VHSE Board may be constitued at the state level.
3. The statutory VHSE Board at the state level should be further strengthened with exclusive cells for VHSEA at the Educational District Level.
4. Public awareness enhancement pogramme need to be sttrengthened.
5. New need-based VHSEA courses be started.

The courses should be so designed that there is dichotomy of courses ie. VHSE course about agriculture and VHSE courses in agriculture facilitating vertical mobility and employability, respectively.

Syllabi-curricula

The aspects to be considered in syllabi-curricula dimension are:

1. The medium of instruction should be changed to mother tongue.
2. The syllabi-curricula of the VHSEA programme should be periodically appraised.
3. The 1:3 ratio between theory and practical content as stipulated by the National Education Policy (1986) should be incorporated.
4. The theory content in respect of the vocational agricultural subjects and the agricultural science and general subjects should focus on providing the 'what to do' and 'why to do' knowledge relating to the specialisation chosen by the students to facilitate their vertical mobility and/or employability.
5. On the contrary, practical content should focus on the 'how to do' aspect of knowledge and in skill training.

Students

1. Admission should be based on vocational interest inventory, aspirations and abilities.
2. Preference should be given for students from agriculture/rural background.
3. Separate selection to vocational agricultural stream and agricultural science stream be instituted.

Teachers

The quality of vocational course teachers is another dimension of prime importance marring or making the success of vocational programme at +2 level because it is the vocational teacher who steers the entire teaching-learning process as per his/her abilities, dedication and commitment.

1. There should be exclusive recruitment of teachers on a permanent basis to the vocational education courses.
2. The teachers should be sent for induction training for three months and for refresher training at regular intervals.
3. Provision is to be made for the periodic updating of the their technical knowledge and skill through systematic training programme.

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4. The minimum tenure for the teachers in their vocational institutions may be fixed at five years.
5. Deputation of teachers for workshops on curriculum planning which will help the teachers to evaluate the theory and practicals of the vocational education courses in the context of the student's vertical mobility and employability.
6. There should be provision for an inbuilt evaluation of teachers performance.

Pedagogic Dimension

The following pedagogic methods would be useful in making the VHSEA more effective.

1. Programmed learning: Developing model instructional/programmed learning materials for the vocational agricultural students.
2. Case studies: Selection and presentation of case studies of successful employment ventures to students.
3. Simulation Games: Simulation games consist of a set of roles, a scenario and an accounting system in which one learns not lectures, but by acting and then by analysing the consequences of that action.
4. Tutorial: The tutorial system, where extra care is bestowed on each and every student.
5. Group projects and Individual projects: Group projects and Individual projects pertaining to agricultural aspects should be given to the VHSE students for shorter durations to help them to develop team spirit, cohesiveness and harmony.
6. Experiential learning: A process of continued evaluation, experience, observation, conceptualisation, action and reflection.
7. Billeting: The students are sent to stay with progressive farmers and entrepreneurs to learn from their experience in farming and other enterprises.
8. Study tours: Study tours should be made compulsory in VHSEA programme.
9. Earn-while-you-learn programme: A form of supervised occupational experience which not only helps the students to learn by doing something but they will also get an additional monetary incentive from this programme.

Infrastructure

Any educational programme requires basic infrastructural facilities to make teaching-learning situations more meaningful. In the present study it was found that many institutions where VHSEA courses are run lacked basic facilities.

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COMMUNICATION EFFICIENCY OF GRASSROOTS LEVEL AGRICULTURAL EXTENSION PERSONNEL IN KERALA

G.L.Sobhana[1]

Effective communication of appropriate technology to the millions of ultimate users is most essential for the economic and social progress of our nation where information gaps are very wide. This task is mainly entrusted with the wide network of extension agents working with various development departments in the country. They constitute a vital link between the research system and the clientele system. This link is maintained by delivering technology, persuading, motivating and convincing farmers to adopt them and also taking back the feed back information to the research system. Considering these key roles, the need for developing their competence as extension communicators assumes importance. Hence, this study was undertaken to assess the communication efficiency of Agricultural Assistants (AAs) - the grass roots level agricultural extension personnel in the state Department of Agriculture and to analyse factors that contribute to communication efficiency.

Methodology

The study was conducted during August-September 1989 in

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Thiruvananthapuram, Thrissur and Kannur districts of Kerala. Two Agricultural sub-divisions were selected randomly from each of the three districts and 30 AAs each working in panchayat Krishi Bhavans in the selected sub-divisions were drawn randomly, thus forming a sample of 180 for the study. A well structured, pretested and standardised questionnaire was developed and data were collected by mailed and distributed questionnaire method.

The communication efficiency was measured in terms of nineteen sub-dimensions under eight major dimensions, viz., knowledge, skill, attitudes, perceptions, empathy, ability for feedback, ability to plan and organise and ability to evaluate using an instrument specifically developed for the purpose. The instrument was developed by standard composite method under normalised ranking method as suggested by Guilford (1954) and tested for reliability and validity using accepted standardised procedures.

Communication efficiency

A majority of the AAs were having medium to high level of communication efficiency. The low, medium and high communication efficiency groups were found to differ significantly with each other in this respect. The high communication efficiency group of AAs had significantly higher mean scores on all the eight dimensions of communication efficiency. It was also observed that female AAs are equally good in communication efficiency as the male AAs.

Communication skills, correct perception of the needs of clientele and good knowledge about the subject matter, about the farmers and the extension techniques and favourable attitude towards self, towards farmers and the technology communicated and above all better attitude towards extension profession were the dimensions that contributed to the variably in communication efficiency.

Socio-psychological characteristics

The study revealed that a majority of AAs were hailing from rural background and there was almost equal strength of male and female extension workers at grassroots level.

All the AAs were found to have medium to high level of leadership ability. Most the AAs were medium with respect to their socio-psychological variables, viz., contact with farmers, sociability, job satisfaction, job commitment, achievement motivation, scientific orientation and occupational aspiration.

Significant differences in communication efficiency were observed with differences in age, marital status, experience and rural background. In all the cases AAs in the middle category were seen to possess high communication efficiency.

On comparison of main scores of communication efficiency of different groups based on their socio-psychological characteristics, differences in leadership ability, contact with farmers, sociability, achievement motivation, job satisfaction, job commitment, scientific orientation and decision making ability were seen significantly reflected on communication efficiency of AAs in a positive manner.

On correlation analysis, all the above factors except sociability revealed significant positive relationship with communication efficiency. But experience showed a significant negative relationship.

Step-wise regression analysis revealed that thirteen out of eighteen variables studied were responsible for explaining as much as 55.84 percent of the variation in communication efficiency. Among these variables, job commitment alone accounted for 23.79 percent of the variation followed by decision making ability contributing 12.41 percent towards variation in communication efficiency of AAs.

Implication

The findings of the study indicate that a majority of AAs are having an above average level of communication efficiency and if they are not utilizing this, it is not due to the lack of competence but may be due to some other reasons. Necessary measures are to be taken to find out and root out the causes so as to tap their efficiency to the maximum extent possible.

The positive and significant relationship of many factors studied with communication efficiency of AAs pinpoints to the need for continuous and well planned efforts to strengthen and develop these characteristics among AAs. These characteristics can be improved by organising suitable training programme such as leadership training, providing more opportunities to take part in decision making, motivating the AAs to do good work for the cause of the organisation, providing suitable

organisational climate that boost job satisfaction, recognition for good work, opportunities for career advancement and so on.

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08

TOWARDS SOCIALLY EQUITABLE AGRICULTURAL DEVELOPMENTS: THE CASE OF SCHEDULED CASTES AND TRIBES IN KERALA

P.Rajendran and A.G.G.Menon

Agricultural progress of the scheduled castes and scheduled tribes is an answer to the ills that plague this important but neglected segment of the society. An attempt is made in this paper to highlight the feasibility, utilisation and constraints in the adoption of agricultural technologies by the scheduled castes and scheduled tribes as revealed by scientific studies conducted in Kerala in the recent past. A model for effective implementation of agricultural development programme among the SC/ST population in Kerala is suggested at the end.

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70
09

GALASA PROJECT - A MODEL PLAN FOR DECENTRALISED, PARTICIPATORY AND SUSTAINABLE AGRICULTURE FOR KERALA

Pathiyoor Gopinathan

It is widely accepted that the first and perhaps the most important element for rapid agricultural growth is equitable distribution of land and natural resources. But Kerala's experience shows that land reforms by itself cannot lead to sustained increase in agricultural production. Despite many natural and created conducive factors, there is severe stagnation in our agricultural growth. This situation demands indepth study and firm corrective intervention.

GALASA - Group Approach for Locally Adapted and Sustainable Agriculture - is a model action plan for the massive application of appropriate agricultural technology in the fragmented and minuscule holding for the realisation of "optimum farm possible" yield in a sustained way.

The programme which is conceived, planned and being implemented under the contextual agro-ecological situations of three panchayats viz. Ollukkara, Madakkathara and Panancherry in Thrissur district has three unique approaches. It emphasises on decentralised approach considering agriculture essentially as a local area activity where potentials of local land, water, flora, fauna, atmosphere and institutions are more important. The standardised schematic programmes conceived centrally and implemented throughout the state have so far not delivered the desired results. It envisages on genuine functional collectivism of researchers, departmental officials and beneficiary farmers in removing the hurdles so far put in by the compartmentalised departmentalism. Thirdly it may emphasise the need for a strategic shift from the over dependence on energy exhausting inputs to that of energy saving *in-situ* input generation technique so as to optimise and sustain agricultural productivity.

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PURCHASING POWER OF KERALA FARMERS - A COMPARATIVE ANALYSIS IN TERMS OF CROP COMMODITIES AND PRICE OF PRODUCE

P. Ahamed*, T.J. Rehumath Niza** and M. Sivaswamy**.

Adoption of any improved technology is a decision to substitute or adopt a technique or practice presently being used for a newer one. The paper attempts to prove the hypothesis that given the access condition in terms of high farm price and productivity, farmers can be motivated to adopt even high level technologies to augment crop production. The purchasing power of the farmer should be measured in terms of the crop he grows.

The problem

Different types of tools, machines, crop varieties and other inputs are available to the farmers. Policy makers are faced with the difficult problem of recommending and evaluating alternative farm technologies. The important questions related to this are what type of technology is required to develop the agricultural sector and when, how and to what extent should technology be applied at the farm level. Such a recommendation should match the level of motivation of the farmer. Looking at the catalogue of farm machinery and other inputs, one can see a price quoted in rupees. This tells little of the farmer's power to purchase such inputs. Since the farmer's currency is the crops he grows, he must sell his crops to obtain the money to make the purchase of the inputs for adopting improved technology. A study by Clough (1984) reveals that in Japan a farmer needs to sell only half a kilogram of paddy to buy one kilogram of nitrogen fertiliser, whereas his counterpart in India has to sell 25 kilograms of paddyy. While a Japaneses farmer needs to sell only one crop of paddy to buy a medium powered tractor, an Indian farmer needs to sell no fewer than 50 crops. In this paper we analyse a set hypothesis: To make the farmer accessible to improved technological inputs, the technology be made affordable by motivating him with an attractive price for his produce.

Results

The study reveals that given an attractive price for the produce, the farmers can go for increasing the productivity. Increased productivity in unison with a reasonable farm price makes the improved technologies affordable to the farmer. Agriculture being the main stay of economy of Kerala, it is high time that planners, policy makers, agricultural scientists and administrators take a fresh look at the price policies and strategies for the development in the agrarian sector.

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70
11

ADOPTION BEHAVIOUR OF SERICULTURE FARMERS IN KERALA

P.V.Susamma and P.S.Geethakutty

The present study was conducted among 120 sericulture farmers in Thrissur and Palakkad districts, to estimate the extent of adoption of recommended practices in mulberry cultivation and silk worm rearing. We have also attempted to identity the factors which motivated the farmers to start this new enterprise, and analyse the constraints experienced by them in this field.

It was found that a majority of the farmers belong to the medium adoption category with low scores in fertiliser application, plant protection measures, disease control, etc.

The major constraints were low price of cocoon, lack of adequate marketing facilities, high price of fertilisers, difficulties in climatic conditions, high labour cost and high mortality of worms due to diseases.

The following were the important factors which were found to motivate the farmers to start sericulture: the profitability of the enterprise (I), the subsidies and other institutional help (II), monthly distributed income generation (III), opportunity for self-employment (IV), possibility of operating it as a family business (V), possibility for getting credit (VI), management by women in the family (VII).

From the observations of this study, it was found that the subsidy orientation of the farmers and the inadequate marketing facilities and lack of assured market price constitute serious draw backs to the sericulture enterprise, which otherwise can be a boon to the rural economy and a source of rural employment.

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71 FISHERIES DEVELOPMENT

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01

SHRIMP TRAWLING OFF THE COAST OF KERALA: A CRITICAL ASSESSMENT

T.R.Thankappan Achari*

Origin of shrimp trawling

Shrimp trawling is one of the most dominant fishing techniques brought up on the wake of fisheries planning and development in India. This high technology prevalent in the advanced fishery nations of the world had the reputation of being the most effective gear for harvesting the bottom dwelling species like prawns. In India this was first introduced in the state of Kerala in the second half of the fifties under the auspices of the erstwhile Indo-Norwegian Project (INP) at Neendakara, a Norwegian contribution to Indian fisheries.

Development under state and private sectors

The early attempts of INP as well as the state Govt. were to develop gillnet fishing by distributing to the fishermen small boat of 25 ft or below. However, as the trawling experiments proved to be a success, the thrust of fisheries development in Kerala from the Third Five Year Plan onwards was on shrimp trawling and supporting infrastructure facilities. Development of the traditional sector had only cursory attention. For, the future of fisheries was considered to be through mechanisation of the fishing techniques and modernisation of the processing facilities. Thus till the middle of the seventies, the state constructed and distributed to traditional fishermen over 1400 small mechanised boats, out of which 1200 were trawling boats.

The attempt was to make the fishermen owners of modern fishing equipment through provision of sizeable subsidies and hire purchase credit component. But the fishermen soon lost control of the new equipment.

Lured by the high profit contents in early shrimp trawling the fishermen leaders and the merchant class entered the arena and grabbed the control and management of the boats, reducing the owner fishermen to wage earners in the boats issued to them. The neo-class of fishermen who enjoyed access to institutional credit and political power went in a big way for trawling boats. They put up their own boat building yards and constructed any number of boat as wanted by them. This was further facilitated by the existence of a rich prawn ground in the coastal waters of Kerala and a buoyant export market for processed prawn products in USA and Japan.

From about 74,000 active fishermen, 200 mechanised boats and 20,000 traditional craft in 1961, the state experienced a big leap in these factors of production. The fishermen increased to 131,000 and the fleet comprised over 3,000 mechanised boats and 26,000 traditional craft in 1980 (CMFRI 1981). The trawling boats numbered 2,630. These boats mostly belonged to private entrepreneurs. Although the state government stopped construction and distribution of boats in the mid seventies, the private sector continued their hunt for trawling boats for prawns. Thus in 1990, there were over 5,000 mechanised boats in Kerala besides 11,000 motorised country craft and 19,000 non-motorised traditional craft. The active fishermen comprised 150,000, the

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mechanised sector absorbing 30,000 (20%) and the traditional sector 120,000 (80%).

Resource exploitation

The continental shelf of Kerala sprawls over 36,000 sq.km, the inshore sea having 13,000 sq.km. The most productive region is the inshore sea. The MSY of the coastal waters is estimated to be 5.7 lakh tonnes (MPEDA 1991), the share of prawns being 64,000t. The average productivity of all species of this region is 45 t/sq.km, and of prawns 5 t/sq.km. No other part of the sea of India has so much high fishery productivity potential.

The marine fish production which reached 4.5 lakh tonnes in 1973 steadily declined to 2.83 lakh tonnes in 1987 (37% fall). The prawn production which far out-stretched the potential in 1973 to 86,000t dropped steadily to 25,000t over the years (71% fall). Prawn production reached the lowest ebb of 22,000t in 1981. The share of traditional sector declined form 92% in 1966/70 to 69% in 1976/80 and that of prawns decreased from 80% to 20% during the period.

Pressure of fishing

In the entire marine waters of India, the pressure of fishing has been the highest in Kerala. There are 12 active fishermen for every sq.km of coastal sea of Kerala compared to one fourth of this at the national level. 27 % of the active fishermen, 32% of the trawling efforts and 98% of the ringseine fishing are concentrated in Kerala. There was a report of a drastic fall in the catch per unit effort of prawns during the years 1973-83 at Neendakara (from 82.6 kg to 12.3 kg). Despite the highest pressure causing resource depletion and uneconomic operations, the private sector has been guilty of more and more investment in the trawlers for inshore prawn fishing.

The average output per fisherman in the traditional sector was 3.8 in 1965. It steadily eroded to 1.6 t per fisherman in 1982. As against this, the productivity in the modern sector rose from 5.2 t in 1969/70 to 7.7 tonnes in 1982. Despite the big boom in marine fish production since 1989, the output per traditional fishworker (even including the motorised sector)was only 2.6t compared to 8.2t in the mechanised boats in 1992.

The labour productivity in the traditional sector in 1992 stood much below (less 32%) of that in 1965. Apparently there has been a very high concentration of fish production in the mechanised sector. 17% of the fishing enterprises, absorbing 20% of the labour force, controlled 40% of the fish production, the share of prawns being 75%.

Impact of trawling

The impact of trawling has been both positive and negative. The positive aspects included better production of prawn and demersal fishes and phenomenal development of sea food export trade. But the negative impacts on the fishermen and the resources have been manifold and these are briefly presented below

- Shrimp trawling led to very high pressure of fishing in the inshore waters of Kerala, endangering the resources and sustainable development of the sector.
- The profit mongering private entrepreneurs not only grabbed the trawling boats issued to the fishermen in the state sector but also built their own boats and pumped in more and more precious capital in the industry, despite the fact that these were in excess of the actual requirement and only aggravated the problem thereof in the sector.
- The entire public sector investment was poised in support of mechanised fishing, the artisanal sector getting little attention till the end of the Sixth Plan.
- The traditional fishing gears being of a passive nature had only limited access to the resource and they were relegated to the lowest status under pressure of the modern gear. The traditional fishermen had to content with less and less catches.
- Shrimp trawling harvesting anything and everything in the sea bottom, even not sparing the juveniles and planktons impoverished the sea, particularly so with incessant and indiscriminate criss-cross operations.
- The high percentage of trawl by-catches are thrown back into the sea. If allowed to grow, these would have provided valuable

addition to the catches of the fishermen as well as more protein food to the people.

- There has been growing unrest in the sea and the shore between the traditional fishermen and the mechanised operators, the former who are marginalised by the latter. Strong fishermen's unions have emerged championing the cause of the traditional fishworkers.

- Regulatory measures legislated by the government are often violated by the mechanised operators who are in command of political power and money. Many legal issues are referred to the High Court and Supreme Court.

Future outlook

The future of the marine fishery of Kerala is not on augmentation of fishing efforts on the inshore sea but to limit the number of excess mechanised boats through proper conservation and management measures. Strict management measures are also to be exercised in the number and size of ring seine fishing units. The fishermen may be encouraged to take up offshore fishing with appropriate craft, gear and supporting facilities, besides aquaculture.

71
02

A SURVEY OF INLAND FISHERY RESOURCE OF THRISSUR DISTRICT, KERALA

P.B.Abdul Kader and C.K.G.Nayar

Although the inland water bodies comprise several varied type of habitats, the inland fish production of the state is comparatively poor when compared with the rest of our country. This is possibly due to the paucity of information regarding the fishery resource of the inland water bodies. The present study has been undertaken, therefore, to make a preliminary investigation of the fish and fisheries of the inland waters in Trichur district, Kerala.

The district has an area of 3031 sq.km. extending from the Arabian Sea on the west to the Western Ghats in the east. The climate is hot and humid with 3000 mm of annual rainfall.

Karuvannur, Kecheri, Chalakudy rivers and their tributaries constitute the important lotic water bodies of the district. There are five reservoirs in the district, Viz., Peechi, Vazhani, Sholayer, Poringalkuthu and Chimmony reservoirs. The important estuaries include Azhikode and Chettuva estuaries. The Azhikode estuary leads into a network of interconnected system of backwater bodies. Along the costal base, the two estuaries are connected to each other by a long stretch of backwater canal, called Canoli canal. In addition to these water resources, there are a large number of ponds, canals, paddy fields and a number of natural lakes scattered all over the district. Katakampal, Manakody, Muriad, and Enamakal are the important lakes of the district.

For a detailed study of the fish and fisheries of inland water bodies of Trichur district, an extensive survey has been undertaken in this area. For this, 18 collection sites were identified and regular visits, at least two per month, were made for specimen collection.

In order to study the fishery importance of the species collected, the information regarding their occurrence, abundance and economic value are gathered from the local fishermen as well as from other available data. The collected specimens were preserved using 5% formalin and brought to the laboratory where they were identified with the help of standard reference books.

Similarly the fishing methods have been studied by visiting fishing sites and observing the mode of operations practised by the local fishermen.

The fresh water fishery of the district is very rich in its faunestic composition. The important rivers of the district viz. Karuvannur, Chalakudy,Kechery (Vadakanchery) rivers and their tributaries contribute the bulk of the freshwater fishes. As far as the riverine fishery is concerned, it is found to be more productive during post-

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monsoon periods than pre-monsoon periods. Depending upon the economic importance, the freshwater fishery resources of the rivers may be classified into the following categories.

1. Most economically important category of fish like *Channa Straita*, etc.
2. Economically important fishes such as *Anabas te studeineus*, and
3. Less economically important fishes including *Rasbora daniconius*, etc.

The reservoirs of Peechi and Vazhani were noted for a wide varieties of culture fishes, which are now mainly confined to *Catla, Mrigal, Cyprinus and Tilapia*. The fertilizers and pesticides washed down from the nearby agricultural fields cause heavy destruction to the egg and young ones of a wide variety of fishes. During the year atleast 10 lakhs fish seed is needed for stocking Peechi reserviors. The availability of this much quantity of pure fish seed is one of the main problems faced by the authorities. Mismanagement, human interference on the environment, pest attack, poaching, etc., are some of the important factors responsible for the deteriorating conditions of fish culture in these reservoirs.

The paddy fields (mostly Kole lands) are flooded during monsoon months. These seasonal water bodies with fertile microfauna host the varieties like *Channa, Heteropneustes, Ompok, Mystus, Horabagrus, Etroplus*, etc.

Studies conducted at Athirapilly and Vazhani areas of Trichur district shows that the hillstream fish fauna of the district is very rich in species diversity. The survey reveals the presence of 20 species of fishes belonging to 7 families and 11 genera.

The brackish water fishery is very productive throughout the Canoli canal from Azhikode to Chettuva. During the faunestic study 88 brackish water fishes belonging 42 families have been recorded from these water bodies. The brackish water forms are dominant over fresh water forms in the inland water of Trichur district. *Mullets, Lutjanids, Catfishes, Beloniforms, Silverbellies, Carangids, Halfbeaks, Cichlids, Ambassids, Theraponids, Lethrinids*, etc., are the important groups of fishes that are abundantly seen in these habitats. The presence of high percentage of young ones in the collection during this period suggests that the estuaries and backwaters of Trichur district are good breeding grounds for a variety of migrating species.

The fishing methods employed in the inland waters of Trichur district are mostly of conventional and indigenous. During the present study more than 25 types of fishing gears/methods have been noticed from various aquatic habitats. Of these, nets, traps and angling are the most important devices.

The increased demand for the inland fishes in Trichur district offer great scope for the development of inland fish culture. The different types of standing waters including ponds scattered all over the district can be profitably utilised for fish culture applying scientific methods.

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03

UTILISATION OF MOLLUSCAN FISHERY RESOURCES IN KERALA

D. Damodaran Nambudiri & T.M.Sankaran

Though Kerala enjoys a very prominent position in fish production and utilisation, the concentration is very often in fin fishes and crustaceans. Export oriented fish production is often leading to over exploitation of prawns of various varieties. However, no serious attention is seen to have paid towards the production of molluscs which facet the hazards of pollution leading to very high depletion.

Mussels and clams constitute the major molluscan fishery of Kerala. Oysters are also found in Kerala waters but with very less intensity. The Ashtamudi and Vembanad lakes, Cochin backwaters, Mahe estuary and the creaks of Dharmadom, Valapattinam, Nileswaram and Chandragiri are the locations having oyster populations. Regular exploitation of these resources are also reported.

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Mussel fishing

Kerala is considered as the mussel fishery zone of India, since extensive beds of both the green and brown mussels occur here which also account for the bulk of mussel production in the country. Of the two species observed in Kerala waters, the green mussel *Mytilus viridis* is seen along the Cannanore-Calicut coasts. The major centres are Koduvally, Mahe, Chombala, Moodadi and Thikkodi, Elathur, Chaliium and South Beach. About 340 canoes are engaged in the exploitation of these resources which employ around 325 full-time divers and 350 part-time divers. Annual average production is reported around 2,900 t. The catch per unit effort varied from 44.3 to 60.4 kg/canoe.

Mussels generally attach themselves by their thread like processes called lyssus to rocks and structures like piers, etc. Being highly gregarious in behaviour they are found in large concentrations wherever they occur.

The brown mussel *Perna indica* population is seen in the southern parts of Kerala. The main centres are Kovalam, Avaduthura, Vizhinjam, Mullur, Pulinkudi, Chowara, Enayam, Colachel, Kudiyapatnam and Muttom. About 300 catamarans, 520 full time and 270 part time fishermen are engaged in this fishery. The standing stock is estimated at 1,586 t. with a density of 5-8 kg/m^2. An annual production of 500 t. is reported. Peak landing season is November to January.

Generally mussels are exploited during September-April. Good low-tide clear water and sunny days are favourable for fishing.

Mussel culture is being practised in some centres especially at Vizhinjam. Rope culture is one method very often successfully employed.

Clam fishery

Kerala has a somewhat rich clam fishery resource mainly concentrated in Vembanad and Ashtamudi lakes. *Villorita Cyprinoides* and *Meretrix casta* are the major varieties reported from these lakes. Vembanad lake is having the black clam *V.cyprinoides*. Earlier production figures of black clam showed more than 20,000 t./year. But a gradual reduction in production is noticed during the last two decades. In the year 1968, the production was reported as 26,858 t. while in 1984 it was only 13,804.5 t. Again in 1989 it was only to the tune of 7,203 t. Indiscriminate exploitation and the environmental changes due to pollution etc., are thought to be the reasons behind this resource depletion. In Ashtamudi lake, the four varieties *Villorita Cyprinoides, Meretrix casta, Paphia malabarica* and *Katelysis opima* are obtained. Altogether an average annual production of 11,437 t. is reported during 1979 to 1984.

Utilisation

Oysters:

Fresh oysters on harvesting are packed in wet gunny bags and are safely transported for 25-30 hrs. without mortality in good condition. Live oysters are subjected to depuration. Meat from oysters is removed by a process called shucking after immersing them in hot waters. Oysters are processed as (i) Frozen oysters (ii) Canned oysters (iii) Smoked oysters and (iv) Oyster stew. Oyster meat is highly nutritious and is in demand in various countries like U.S.A., Canada, Holland, France, Japan, the Phillipines and Australia. Oyster shell which is mainly constituted of Calcium oxide which is used in manufacturing calcium carbide, lime, fertilisers and cement.

Mussels:

Fresh mussels on harvesting are subjected to depuration and meat shucking. Depurated whole mussels can be stored in acid condition where they remain acceptable upto 9 days. Mussel meat is processed as iced and frozen mussels, canned mussels, smoked mussels, dried mussels, marinated mussels, and mussel pickle. Frozen mussel meat keeps in acceptable condition for 40 weeks. Mussel meat is in high demand in France and also in some other European countries.

Clams:

The various techniques used in the processing of clam meat are similar to those used for other bivalve molluscs. Other products are clam juice, clam strips, and clam pickle. Shell is a by product in the manufacture of Cement, calcium carbide and lime. The shell lime is used as a mortar in building construction, in the treatment of effluent and in glass, rayon, polyfibre and paper industries.

71
04

A LOW COST BACKYARD HATCHERY TECHNOLOGY FOR SHRIMP SEED PRODUCTION

A.Laxminarayana

One of the factors impeding the growth of shrimp culture industry in Kerala is the non-availability of the seed of desirable species of shrimp at the appropriate time in sufficient quantities to stock the grow-out ponds. The natural shrimp seed resources available in the surf and estuarine regions are totally inadequate to stock the extensive areas identified as suitable for shrimp farming. The only solution to this problem is to produce quality shrimp seed in sufficient quantities in hatcheries. Establishment of a chain of backyard hatcheries in Kerala will help in revolutionising shrimp farming.

The different techniques of hatchery production of penaeid shrimp seed that have been developed in different parts of the world are generally capital intensive, involving high technology. The Narakkal Shrimp Hatchery under the Central Institute of Brackishwater Aquaculture has developed an indigenous, low cost backyard hatchery technology for marine shrimp seed production which is simple enough to be used by semi-skilled workers.

The shrimp are induced to mature by eyestalk ablation in land based maturation tanks fitted with biological filters. The write shrimp *P.indicus* matures 3 to 5 days after eyestalk ablation and produces around 70,000 nauplii per female. The tiger shrimp *P.monodon* takes 7 to 11 days to mature and spawn after eyestalk ablation.

The larval rearing is carried out in 5 tonne tanks. Mixed culture of phytoplankton dominated by *Chaetoceros* is provided as feed for the protozoa and mysis stages. For the post-larval stages either squilla powder of different mesh sizes or a particular feed prepared from inexpensive raw materials such as shrimp head waste, mantis shrimp, ground nut oil cake, fish meal and tapioca is provided. A survival rate of 35 percent is obtained from Nauplius to PL-20 in the case of white shrimp *P.indicus*. In the case *P.monodon* the survival rate obtained will be generally 25 percent. The survival of post-larvae can be increased by feeding them with freshly hatched nauplii of the brine shrimp, *Artemia*.

The seeds of penaeid shrimps can be produced in the hatchery during November to June (8 months period) in the conditions prevailing in Kerala.

The cost of construction of a backyard hatchery for producing 6 million seeds/year of tiger shrimp *P.monodon* will be Rs.5,00,000. The recurring expenditure will be Rs.1,25,000 per year. The revenue that can be expected from the sale proceeds of 6 million seeds of *P.monodon* at the rate of Rs.500 per thousand will be Rs.30,00,000.

Thus the backyard hatchery for marine shrimp especially of *P.mondon* is highly profitable. The seeds of *P.indicus* can also be produced from the same hatchery using the same facility. The seed production of *P.indicus* will be 8.4 million per year from 8 runs. Since the survival rate from Nauplius to PL-20 (seed) will be 35 percent, the revenue from sale proceeds will be Rs.8,40,000 at the rate of Rs.100 per thousand.

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71
05

AN IMPROVED FARMING PRACTICE FOR SUSTAINABLE SHRIMP PRODUCTION FROM TRADITIONAL SYSTEMS IN KERALA

K.S.Purushan.

Shrimp commands high unit value in global markets and Kerala has ideal environment for farming. Therefore any improvement in productivity can create a major impact on return per unit area and the socio-economic condition of the small and marginal farmers. As such, traditional farming practices which continued for ages are awaiting innovative techniques of increased production.

Successful shrimp farming being location specific, many aspects with reference to species (*Penaeus indicus* and *P. monodon*), technology, eco-characteristics (tidal range, soil texture, topography, water quality, turbidity, etc.) and support facilities determined the feasibility of viable operations.

As fool proof technology on turn key basis has not become a reality in our state, resorting to appropriate technology depending upon environmental conditions and prevailing situations is the only alternative to achieve the goal. Therefore, an improved extensive indigenous technology which can raise the present rate of shrimp production from 300 kg/ha to the level of 1500-2000 kg/ha has been evolved taking into consideration the various ecological, social and economic factors.

The technology essentially envisages enhanced shrimp production per unit area from traditional culture systems. Suitable methods of rejuvenation of shrimp farming from the level of location, field preparation, species selection, stocking density, feeding, water management, harvesting and marketing are cautiously followed from beginning to end.

One of the advantages of the technology is that adequate attention was bestowed to bring down the construction cost of shrimp farms as low as possible to make it within the reach of the rural farmers. furthermore, the greatness of the technology is that it will not threaten environmental resources besides giving economic profitability.

The technology oriented shrimp culture and management ponds will attain much increased rate of shrimp production from the fertile extensive brackishwater resources (2,42,000 ha) in Kerala, eventhough at present only a small portion of it (13,000 ha) is utilised for shrimp farming. This will in turn promote avocation avenues, rural development, business opportunities and much needed foreign exchange.

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71
06

A STRATEGY FOR THE DEVELOPMENT OF KERALA FISHERIES SECTOR

J.B.Rajan

Introduction

There has been a great deal of change in the Kerala fisheries sector since the fifties. The technological, socio-politic and economic scenario has changed drastically. The sector witnessed a fast growth in the factors of production and output. Fish trading, marketing and financing have widened in scope and depth. Despite the phenomenal growth in technology, production and other related factors, the perceived problems facing the sector still persist. These are poverty and unemployment, conflict between modern and traditional sector, the social and economic tension, middlemen's exploitation and outsiders,

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intervention, resource depletion and over exploitation.

Efforts have been made by the Government to resolve these problems. But the multiplicity of agencies dealing with the development of fisheries has led to the lack of an integrated approach to fisheries development and schemes launched are piece-meal. The programmes to generate employment and alleviate poverty have produced only marginal effects. Social and economic tensions and political intervention have complicated the efforts to solve the problems. Conflicting statements are made on the issues of resource depletion and over exploitation. The absence of a holistic approach to the management of the sector make the Kerala fishery scenario rather dismal.

The sector is now undergoing accelerated internal changes and faces an even more rapid changing environment. If the present trends continue it may create undesirable and unresolvable problems in the near future. What is needed is a long term strategy for the development of the Kerala fisheries sector - a strategy in conformity with the environment. In this paper an attempt has been made to suggest a strategy using a SWOT analysis. The long term objectives are also identified.

How to evolve a strategy?

To evolve a strategy numerous factors have to be considered such as:

1. Assessing the sector, its external environment, the future and the stakeholder expectation.
2. Appraising the strengths, weaknesses, opportunities, and threats.
3. Establishing overall objectives, identifying goals to achieve.

What forms the sector?

The sector comprises the resources, physical environment, fishermen and the community at large, merchants, money lenders, trade unions, concerned government departments, social and religious institutions and the consumers. Each of these groups has their expectations which may conflict with each other. For example, the fishermen wants sustained money income; the community wants education, health , social security and other amenities for a decent living; merchants, money lenders and the investors want to maximize their profit and so on.

It may be seen that the fisheries sector is a system composed of a set of interrelated components and stake holders with divergent objectives. The environment of any system comprises those elements with which it has some meaningful connection or relationship. The fisheries sector is such an open system that disturbances and changes can come from a variety of sources such as changes in social attitudes, demand patterns, competitors, introduction of new technology, government legislations, industrial relations etc. The past four decades in Kerala fisheries sector have witnessed all these changes. In the context of these changes, an indepth appraisal of the present status of Kerala fisheries is desirable.

SWOT analysis

SWOT analysis would provide the basis for the strategy to be followed and indicate the major areas of thrust. In the absence of a long term development strategy, it is necessary to start form scratch by studying

What are the strengths?
What opportunities may arise?
What are the weaknesses?
What are the threats that may arise?

Strengths : The strengths of Kerala fisheries are its resources, manpower and the environment for fisheries development.

Weaknesses : The weaknesses of the sector are the very nature of fishing itself, given the uncertainty of income, unhealthy competition, absence of proper utilisation of resources and lack of recognition.

Opportunities : The fisheries sector is a unique source of cheap animal protein to the population, employment and income for the coastal poor. There are ample opportunities in Kerala for fisheries development viz; production opportunities, marketing opportunities and opportunities for manpower utilisation.

Threats : The world's oceans are showing marked signs of deterioration, endangering not only fish, which is an important source of protein, but also the diversity of the marine life. Present trends show that like other natural resources, fishery resources are also under threat. The major threat facing the sector is to its sustainabililty - sustainability of resources and survival of fisherfolk.

Strategy for meeting the objectives

The approach is to define the correct objectives before contemplating

methods to achieve it. In general, all systems have conflicting objectives so that some form of priority is necessary. The objective should be based on the priorities given to the various components which form the sector. A strategy for meeting the objectives is to be developed so as to make use of the strengths and overcome weaknesses, create opportunities and foresee the threats.

71
07

KERALA FISHERIES :PROBLEMS AND PROSPECTS

Thomas Sebastian

In the Kerala economy, fisheries have acquired a prominent role since the 1950's. On account of the total output both in the marine and inland fisheries sectors, the number of fishermen involved, and the foreign exchange it brings and the vast potential remaining untapped, the fisheries sector ought to receive greater attention both in the state's economic planning and implementation.

The paper tries to highlight some of he major problems facing the fisheries sector and some of the results of government policy initiatives, especially through co-operative societies, and the dilemmas in the policy options of this sector.

In the first part of the paper a brief report on the status of fisheries sector in Kerala with reference to output, employment, export, marketing research and government policies is presented.

The paper begins with certain assumptions:

i. that it is unrealistic to assume that all fishermen, numbering nearly 8.40 lakhs can be given employment in the fishing sector either in the mechanised area or under co-operative societies established for them

ii. it is also sounding unrealistic to deprive private firms (non-traditional fishermen) engaged in the fishing sector of their occupation in order to provide employment and better living standards for the traditional fishermen. It assumes that the government is interested in the overall improvement of the fisheries sector which includes

a. traditional fishermen and their welfare

b. private firms and increased production as well as greater export

c. development of fish farms.

Do the failures in the past and the contradictions being faced at present, mean that an altogether new approach and fresh policies are to be initiated? The study realises that the failures in the past were not solely due to the wrong policies but mostly owing to the way they were implemented. The findings of the FAO's case studies on some of the variables in he fisheries sector in some Asian countries show that certain policies, with some improvements, when executed in a better way do yield positive results. This suggests that along with new or modified policies, there should be a commitment in the implementation of them, for a better and expected result.

Contradictions

Any policy initiative which attempts to establish new production and market relations in the Kerala fisheries sector, should take in its account some of the contradictions in this sector such as, private firms vs. traditional fishermen co-operative societies, mechanisation and greater volume vs. traditional crafts and low output, increasing international competition vs. protection of traditional fishermen's interest and welfare, labour mobility vs. traditional occupation, domestic competition vs. protection of traditional fishermen etc. The paper attempts to present problems faced by Kerala fisheries and the prospects with its complexities within these contradictions.

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71
08

ECOLOGICAL APPROACH - AN IMPERATIVE NEED FOR THE DEVELOPMENT AND MANAGEMENT OF BRACKISHWATER FISHERY RESOURCES OF KERALA

D.Sanjeevaghosh[*]

The extent of brackish water bodies that exist all along the coastal belt of Kerala consist of fortyfive identifiable backwaters adjoining fifty eight estuaries in the State. The fishery wealth and aquaculture potentials they offer are of great significance. They are considered to be a life support system for about 2 lakh people belonging to more than 32,000 fishermen families. Over 40,000 of them are bonafide fishermen engaged in capture fisheries. The extensive paddy fields and appurtenant wet lands beside the backwaters are used for the age-old practice of traditional 'prawn filtration'. It is an established fact that the backwaters of Kerala provide a good nursery ground for some species of penaeid prawns of the South West coast of India.

More than 100 species of fishes have been identified so far from different backwaters. Amongst the vast number of species, about 12 families contribute substantially to the fisheries. Penaeid prawns, pearl spot, mullets, crabs and clams are the most abundant forms having considerable market value and contribute appreciably to the landings.

The capture fishery resources of the backwaters are being exploited at their maximum levels. Over exploitation of the natural fishery resources has resulted in the disappearance of many fish varieties from the backwaters. The aquaculture potentials of these brackishwater resources are yet to be properly utilised.

Shrinking brackishwater bodies

The data on water resources survey published two decades back pointed out that the state of Kerala had 2,43,000 hectares of brackishwater areas and about fifty percent of the area, say 1,21,000 hectares, was ideal for taking up scientific shrimp culture. But, the brackishwater resources survey taken up in the year 1991 revealed that the total brackish water areas including the backwaters have shrunken to about 65,000 hectares, thus registering an alarming reduction of over 70% of the brackishwater area. Indiscriminate draining, filling and reclamation of backwater area, construction of bunds and salt water extrusion barriers and extensive dredging operations, all intended for non-fishery purposes, have already hampered the ecosystem irrecoverably.

A unique ecosystem

The brackishwater environment of Kerala is a unique ecosystem. There once existed a string of mangrove forests all along the estuaries and backwaters of Kerala. In the fisheries' point of view the existence of mangrove vegetation has great importance. It has great relevance in giving the fishery resources appropriate feeding grounds, shelter and nourishment as well as in entailing the high productivity of the brackishwater areas. Today there are only the vestiges of these vegetative system.

Destruction of mangrove forests and reclamation of shallow mudflats and swamps have denied the natural feeding and breeding grounds of a majority of fin fishes and shell fishes including penaeid shrimps and crabs. This has also resulted in altering the ecosystem irrecoverably. Preservation of the existing mangrove forests, and regeneration of new mangrove vegetation is essential to recreate the backwater ecosystem.

Fishing pressure

As per the latest records available, the number of fishing gears daily deployed in capturing fish is more than 40,000. Backwaters are subjected to fishing pressure round the clock. In addition to several traditional fishing methods, stake nets, Chinese dip nets and various types of free nets are also being widely used. The number of stationery gears like stake nets and Chinese nets are increasing day by day. Natural fishery resources including the juvenile shrimps migrating from the sea are indiscriminately fished out by these gears. The magnitude of fishing pressure

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exerted over the system is excessive enough to exterminate the living resources within a short period. But it is only on account of the transitory and migratory nature of a few fishes and some other fauna that the system is still surviving and sustaining some yield.

Aquatic pollution

Aquatic pollution has emerged as a major hazard to the development of brackishwater fisheries including aquaculture practices in Kerala. Heavy pollution load due to industrial effluent, pesticides, hydrocarbons, sewage and domestic wastes retting of coconut husk, oil spill, use of OBMS, dredging of lake bottom for navigational purposes and for collecting lime shell deposits, infestation of aquatic weeds, etc., have polluted the backwaters considerably. Implementation of many developmental activities including agriculture projects, envisaged for the utilisation of brackishwater areas for non-fishery purposes, have ultimately resulted in preventing the natural flow of water and inundation of brackishwater areas. Water stagnation, silting and degradation of water quality are now posing great threat to the development of brackishwater fisheries in Kerala.

Aquaculture potentials

The status of brackishwater aquaculture of the state is still accounted to that of traditional prawn filtration. Huge quantities of juvenile prawns and fishes are indiscriminately trapped and fished out in this practice. The prevailing method of prawn filtration in Kerala can be considered only as a very crude form of harvest fishery for juvenile prawns and young fishes. The present system of 'trapping, holding and harvesting' method of prawn filtration need to be checked. Collective shrimp farming in the extensive filtration fields can be resorted to as an appropriate way for upgrading the 'prawn filtration' under scientific shrimp farming.

Kerala has immense potentialities for brackishwater aquaculture. Culture of fin fishes like, mullets, chanoes, etroplus, Seabass, etc., and shell fishes like shrimps, prawns, crabs, clams, oysters, etc., offer great scope. Eventhough the state has rich resources, no headway could be made so far in the field of scientific aquaculture in the brackishwater sector.

Backwater fisheries management

At present there are no worthwhile management practices in the backwater fisheries sector of Kerala. Because of the absence of needed statutes and necessay infrastucture required for the enforcement of existing regulations, the management of brackishwater fisheries in Kerala is totally ineffective. A comprehensive statute commonly applicable to all parts of Kerala is still lacking. Prevailing different statutes for erstwhile Travancore-Cochin and Malabar areas of the state are conflicting and out-dated. The present perspective and system of utilisation of brackishwater resources are against the spirit of fisheries development in Kerala. For conserving the fishery resources, for protecting the genuine interest of the bonafide fishermen and for developing the potentials of brackishwater aquaculture, a proper perspective and effective management measures have become essential.

The entire backwater system and other identified areas adjacent to backwaters and sea need to be protected as potential areas for aquaculture. Necessary amendments have to be made to the provisions of the existing Land Reforms Act and Land Utilisation Orders. Separate statutes have to be enacted for protecting the areas for fishery development activities.

Conclusion

An ecological approach fortified with strong will and wisdom is required to manage the brackishwater fisheries sector of Kerala effectively. This has become urgent to preserve the rapidly deteriorating health of the ecosystem in the best interest of conservation of the living resources and their proper development. Any further delay in adopting and implementing the right development perspective and management measures is likely to cause irreparable damage to this fascinating ecosystem passed over to us as a natural heritage through the centuries. Management practices emphasising on triple objectives, viz., conserving the ecosystem, regulated use of the natural resources and scientific development of the potentials, have become imperative for the overall development and well being of the brackishwater fisheries sector of Kerala.

72 APPLIED SCIENCES AND SOCIAL IMPLICATIONS

72
01

THE USE OF POLYMER COMPOSITES AS BUILDING MATERIALS

Kuruvilla Joseph*

In our everyday life timber plays a significant role. But the resources for timber are getting depleted continuously, while the demand for the material is ever increasing. Neverthless, these materials are expensive and are non-renewable. According to the data available, by the end of this century the supply of wood will be scarce for the whole world. Because of the uncertainities prevailing in the supply and price of wood based materials, there is an acute need to use naturally occurring renewable resources. In fact, many of the advanced countries have undertaken crash programmes for conserving timber by utilizing agrowastes from developing countries. In many parts of the world, different parts of plants and fruits of many crops have been found to be viable sources as raw materials for industrial purposes. Further, natural fibres are renewable resource in many countries of the world. They are cheaper, pose no health hazard and finally provide solution to environmental pollution by finding new uses for waste materials. This will be important for the developing countries from various points of view, such as fabrication potential/application potential/use of indigenous raw material. Several studies have been reported based on the use of natural fibres and wood pulp as reinforcing fillers in polymer materials. For example, Kokta and co-workers have carried out a lot of work in the area of wood pulp based thermoplastic composites.

In India, studies have been reported on the use of natural fibres in thermoset plastics such as epoxy, phenol-formaldehyde, polyester, etc. These include the studies of Satyanarayana *et. al.* [RRL, TVM], Pavithran *et. al.*, [RRL, TVM], Varma *et. al.*[*IIT*, Delhi] and Mohan and Kishore [IISC, Bangalore]. They used fibres like coir, sisal, banana, jute, pineapple, bagasse, straw, etc. and also hybrids with glass. Processing techniques such as hand lay-up, press moulding, filament winding are used for the fabrication of thermosetting composites. For example, Satyanarayana *et. al.*, and Varma *et. al.* have prepared coir-polyester and banana-polyester composites by hand lay-up technique. Satyanaraya *et. al.* fabricated products such as projector cover, mirror casing, voltage stabilizer cover etc. using banana-polyester composites. Recently, Pavithran and co-workers have developed a new substitute for wood, known as "poly coir", a composite of coir fibre mat and phenol-formaldehyde resin.

Several studies have been reported based on the use of lignocellulosic wastes as raw material in the preparation of particle boards. These types of material provide a surface greater in length and cross-section than wood. Based on the concentration of wood wastes used, particle boards are classified into three categories, such as low density, medium density and high density for specific uses. For example, low density boards (upto 400 kg m^{-3}) can be used for thermal and acoustic insulation. Similarly medium density boards (upto 800 kg m^{-3}) and high density boards (above 900 kg m^{-3}) are used for building and furniture industries. Manny studies have been reported on the use of wood/agro-wastes as raw material for the preparation of particle boards. Most polywoods and particle boards available in the market are bonded with urea formaldehyde. This adhesive deteriorates on repeated contact with

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water, and on exposure to moisture and cyclic changes in weather leading to delamination. A urea formaldehyde bond is also not resistant to heat, fungus and other micro-organism. It emits free formaldehyde which has an offensive odour. On the other hand, phenol-formaldehyde bonded plywoods and particle boards last a life-time. The phenol formaldehyde bond is unaffected by water, moisture or tropical weather. It imparts a high degree of heat resistance to the product and impedes the growth of fungus and other microorganisms. Phenol-formaldehyde bonded boards are, therefore, ideally suitable for both exterior and interior uses. They are comparatively more expensive but prove economical in the long run.

Recently, we have developed jute ply made of wood veneer/jute fibre/glass fibre-phenol-formaldehyde systems.

Thermoplastic materials are being used increasingly for various applications. In recent years, the addition of agro-wastes and agro-forest materials such as sawdust, pulp, mill wood residue, bark, nut shells, bagasse, straw, coir, sisal, jute, bamboo etc. to plastics for the production of new materials has been undertaken.

Thermoplastic composites are more economical to produce than the original thermoplastics and, as a result, it may be possible to meet any future shortage of thermoplastics. The use of cellulosic materials in thermoplastic composites is highly beneficial, because the strength and toughness of the plastics can be improved. Moreover, cellulosic raw materials are very cheap, easily available and renewable. So the scarcity of wood can be overcome to some extent by producing thermoplastic composites using agro-wastes/natural fibres.

The above types of work will lead to the development of an indigenous technology for the design and fabrication of low cost products. Since India has plenty of natural fibres, fibre reinforced polymer composites and the subsequent application would be very attractive from the economic point of view. The technology transfer of these products to industries will provide more employment opportunities. The population problem is the most important socio-economic issue in this country. Therefore, the development of low cost housing materials is highly important for the socio-economic advancement of the country.

72
02

THE COMPUTER AND THE ECONOMIC FEARS AND CHALLENGES

K.P. Mammootty

The computer made its debut in the first half of this century. Through a few decades it has undergone tremendous transformation so much so that its influence is almost inseparable from daily human life.

Just as the growth of electronics from simple vacuum tube to the complex VLSI and microprocessor is one of the greatest marvels of this century, the development of computer from its first to fifth generation (artificial intelligence) is really astounding. We are on the threshold of 21st century where the computer is poised for a quantum jump.

Some of its capabilities are:

1. Completion of complex jobs with great speed
2. Capacity to make decisions
3. Work without fatigue
4. Simultaneous execution of different jobs
5. Precision and accuracy in results
6. Very large memory provision to retrieve data
7. More effective utilisation of human efforts reducing the cost of production
8. Remote control
9. Capacity to work in inaccessible areas

What are the applications of computer?

A plethora of communication equipments like Fax, E-Mail, Satellites, Cellular and Cordless phones are all basically computer operated. Without

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computer, such a big expansion in communication technology would not have been possible.

Food and Agriculture

Food and agriculture need an integrated approach to several input factors. It is very necessary to have a database of common interest for storage and retrieval to provide information on soil and its characteristics, fertilizer availability and distribution, water resources, meterological characteristics through the whole year, crop pattern, live stock and its mobilization and grain collection and distribution.

The activities of NRSA, FC, IFFCO, CWPRI, IMD and ICRISAT have to be properly co-ordinated. Information from different geographical regions of the country collected at different centres and fed through national data network would produce wonders in our food and agricultural sector.

The modern medicare system includes networking between hospitals for instant interactions, patient and disease database, formation of computerised medical storage system, body scanning and remote control of operations. As a result the public health improves.

With the introduction of computer, education assumes new dimensions and values. The distance education seems to be the only solution to mitigate the overwhelming pressure on urban areas for educational needs of an ever increasing population. It is the computer which makes this option possible through satellite communication.

Computer aided printing, audio visual aids, video tapes, TV and satellite transmission are widely used for dissemination of ideas and information. These methods cut across space and time and transforms the quality and quantity of outreach, consultation and other services which the universities and colleges in urban areas can provide.

People are conscious of quality of products. Computer aided design and manufacture have ben found essential if our products have to find demand in international market. Quality goods are easily sold and with increase of production there are more avenues for employment.

Office work is increasingly being automated. Defence, crime detection, weather forecast, geological and oceanographic investigations and research are some of the other fields in which the computers are widely used.

The computer in Kerala's context

Kerala is supposed to be an agricultural state. We have seen how computer helps to improve agricultural output through proper co-ordination which needs the assistance of computerised communication.

The industry will find new areas of hope if we concentrate to produce products of international standard. This also requires the help of computers.

With the explosion of knowledge in different fields, computerised instruction system, library system etc. have shown that they alone can keep the speed, content and volume of instructions and publications upto the human expectations.

We could adopt modern methods to improve quality and quantity without impairing the employment possibility.

To sum up, it can be said that computerisation leads to Economic growth, cost reduction, delay elimination, higher level of confidence and security, better facility, precision and accuracy, more leisure time, more efficient communication and above all availability of better employment chances and a better social status.

Computerisation is not just office automation, but something more involved and dynamic which affects almost every human activity. Nations and groups pretending not to have seen its unlimited capabilities stand to lose and are bound to fall behind in harnessing the benefits of modern scientific achievements for a better tomorrow.

72
03

INFORMATION TECHNOLOGY - EXPECTATIONS AND SET BACKS

T.N.Salim*

Problem definition

Information Technology (IT) comprise of all technologies related to computers, communications and electronic media. This paper focuses on computers and related technologies. These include hardware- the physical machine, and software - which make the machine do what they should.

Bright futures that IT brings to mankind have been described by many social theoreticians. They name it information society or post-industrialist society where information and scientific knowledge replace human labour as the main productive force.

There is a parallel euphoria about Keralam also in relation to IT. This paper briefly examines the basis for this optimism about IT as a technological phenomenon and its relationship to the future of Keralam.

History

Unlike innovations that triggered the industrial revolution, the development and consolidation of technologies for the information revolution had beeen rather scattered. Many of them were independent ideas, mostly from fields of pure science and mathematics.

Compulsions behind the rapid growth of information technology are the following.

1. Processing large volume information generated within a short time in war related operations to strategic advantage of nations and for extending the control of state over its citizens.
2. The information processing needed to monitor and control production and selling of large surplus of capitalist production in a dispersed market.

The myth of neutrality

Many advocates of IT repeatedly argue that the technology in itself is neutral and it is the way in which it is used makes the difference. Judging from the apparent flexibility of the technology, one is inclined to agree with this opinion. But, its genesis, use and pattern of development points to the predominantly capitalist nature of the technology itself. IT is a technology made for, used for and expanded for increasing the profitability of capitalist production.

Crisis of Kerala Model

The crisis of 'Kerala model' is a much debated subject. What we see now is a rapid disintegration of what were the positive effects of Kerala model - the deep rooted public distribution, health care and educational facilities.

Crisis of Industry

The industrial crisis in Keralam has a long history. Traditionally it is attributed to the energy crisis and labour problems. Many more serious problems like the limit on credit availability (C/D ratio of 15%) and abundance of mismanagement are rarely discussed.

IT and Keralam

IT is projected by many as a potential area of industrial growth in Keralam. Some of the supporting factors are:

1. High literacy, making technological assimilation easy.
2. Deeply penetrated network of training institutions.
3. Transformation of villages into semi urban trade centres.
4. Low power requirement of the technology.

We are not contesting these, but are trying to examine various options available for such a growth.

Policy on application

As a flexible technology IT has many different ways of usage. A broad categorization follows:

1. IT for automating service sector like

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i. Banking and Financial institutions.
ii. Administration.
iii. Education, Health care etc.

2. IT as a productivity tool in automation of production process.
3. IT as a service industry.
   i. Text processing (DTP)
   ii. Graphic and Design applications
   iii. Computer Training
4. IT in scientific and industrial (R&D) applications
5. As a production industry

i. Software
ii. Hardware

Each of these areas should be evaluated to determine their social and implementational cost and benefits with respect to Keralam.

Penetration into world market

Future of IT industry in Keralam depends on its ability to penetrate the global market, not only in low technical area of data/text processing but also in software design and development.

We examine three factors that deflate the optimism to some extent.

Technological hegemony and market control

Growth of IT is a typical example of cart before the bull. New innovations rarely match user needs and are always ahead of them. Innovations are the results of a fierce war for larger market share by a few multi national companies.

There are two effects for this.

i. It effectively hegemonizes technology by providing early access to new technologies to only interested parties.

ii. It limits the production and availability of low technological, low-cost options, prefering the most profitable ones only.(The disappearance of XTs and 20 MB HDDs by the end of 1992 and the current demise of AT 286s are examples.)

A less developed economy trying to penetrate nto the world market of IT can thus be effectively contained by the market leaders.

New world order, GATT etc.

The strict intellectual property right laws in some developed countries like USA are already threatening the innovativeness of software industry.

The controls that have started to appear in USA and other countries on the issue of temporary visas to Indian software professionals are but a clear foreboding of the ruthless competition of the new world market.

Cultural linkages of IT

Information systems try to simulate real world activities involving human beings and their actions.

Development of information systems is a process of a series of transformations or translations of a real situation or phenomenon into a set of actions triggered by an operator (user) sitting before a terminal or similar interface and carried out by an electronic information processing system.

[It first transforms the situation into a conceptual model by direct interaction with the system. Second is the transformation of the conceptual model into a design for implementation. In the third phase, this design is transformed into a program in any computer language. Fourth and final transformation takes place when the user interacts with this system, presumably to control events in the real world.]

All these transformations are non unique and semiotic in character. Except in the transformation of design into code, human beings are directly involved. Like any other semiotic process, this too is socially and historically determined.

Global market for IT is predominantly western. Unless one can imitate the semiotic process needed in their social and cultural milieu it may be impossible to develop systems that satisfy user needs.

Another aspect of the cultural linkage of IT is the need to develop our own methodologies and techniques in providing IT solutions to local problems.

72
04

RESEARCH, DEVELOPMENT AND APPLICATION OF NATURAL FIBRES IN KERALA WITH SPECIAL REFERENCE TO COIR FIBRE

V.G.Geethamma*

Our interest in products from renewable resource fluctuates with the price and availability of petroleum. When oil price rises, everybody becomes interested in renewable resources. Natural fibres are a major renewable resource material throughout the world especially in the tropics.

Natural fibres, particularly those based on cellulose have some advantages. Cellulose is abundant, renewable, inexpensive and amenable to chemical modification. These natural fibres can replace synthetic fibres for common applications, e.g., in grain storage, low cost housing and consumer goods where cost factor is important and very high strength is not required. Composites of natural fibres with polymers have got low density, high acoustic properties and high fracture toughness. Also, natural fibres do not cause toxicity and waste disposal problems associated with some synthetic and mineral fibres.

Coir industry

Kerala is endowed with natural fibres like coir, banana, sisal, etc. Among these coir has received maximum attention since it is most abundant and coir products have long been an export commodity. Coir industry in India is an important agro-based industry of great economic significance for the rural sector. The large volume of employment in coir extraction and processing of fibre into end products is a feature which attracts special attention at the national level.

India and Sri Lanka account for nearly 90% of the world's coir production. The coir industry in India is located mainly in Kerala due to the availability of abundant quantities of coconut husk and natural retting facilities in the backwaters. The annual production of coir fibre in Kerala is estimated as 1,27,000 tonnes which constitutes a considerable amount of the total coir output in India.

Coir is a lignocellulosic, strong fibre famous for durability. The lignin makes the coir weather resistant. Also, the high wet strength value of coir is advantageous when the performance of the product is in humid conditions. The use of coir in cordage and floor furnishing material has been known to the world for over a century. Most of the manufacturing is done in the cottage industry while others in mills. Brown fibre is used for the production of rubberised coir which is utilised in upholstery. Since coir is resistant to weather and bacteria decomposition, it can also be used in severe climatic conditions for marine applications and soil protection against erosion.

Polycoir

Apart from the conventional uses of coir fibres as mentioned above, research and development efforts have been in progress over the last few years. The efficiency of coir as a reinforcement in plastics, rubber, clay, cement, etc., is being evaluated. Research work is in progress in order to improve the interfacial adhesion between matrix and coir, to improve the flame resistance and to decrease moisture absorption properties of such composites. A product called 'Polycoir' has been developed by Regional Research Laboratory in collaboration with Coir Board. 'Polycoir' can be used as wood substitute building material which is a composite of phenol formaldehyde resin (plastic) and coir. Similar efforts are going on in Mahatma Gandhi University in the field of rubber composites using coir as a reinforcement.

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72
05

RESEARCH, DEVELOPMENT AND APPLICATION OF NATURAL RUBBER LATEX AND ITS SOCIAL IMPLICATION

Jyothi T. Varkey*

Natural rubber (NR) is one of the most important raw materials used in the Indian rubber industry. Rubber latex is an aqueous dispersion of rubber particles. It is obtained from the rubber trees growing in the Kerala high ranges. Rubber, in its latex form as well as dry form, is used in industry. About 12 percent of the total rubber produced per annum is used in latex form, while the rest is used in dry form. Kerala contributes 92 percent of the total national production of latex.

Low consumption

In Kerala, NR latex mainly finds its application for the production of gloves, foam rubber, thread, rubber bands, balloons etc. There are about 382 small units consuming 50 MT of latex and 3 large scale units consuming 500 MT of latex per year. Of the total NR production in 1993, only 2.4% was consumed in Kerala. This is very low compared to previous year's consumption. The rest of the total production is transported to West Bengal, Maharashtra and Delhi for different applications. There are only few large scale latex industries functioning in Kerala. Small scale units cannot maintain the specific standards of industrial pollution control. Hence they are locked up with small investment and low production and meagre employment potential.

Research

Extensive research works are going on in our country based on NR latex. The main areas of research comprise processing of latex (preservation), modification of latex (grafting, chlorination, epoxidization etc.) and product development. Blending of NR latex with other latices is also a method to improve properties for particular application. In Kerala the main research centres on NR latex are R.R.I.I. (Kottayam), Cochin University (Cochin), and Mahatma Gandhi University(Kottayam). However, there is not much interaction or co-ordination between industries and research institutes.

The latex factories are mainly located in highly populated localities in Kerala. The processing factories create serious problems of pollution. The conversion of field latex into concentrated latex generally accompanies the generation of huge quantity of waste water. This creates serious health problem. There are effective methods to control the pollution from latex industries. The natural rubber processing effluents can be treated with cheap chemicals like lime stone, waste lime, etc. However, very few latex units have effluent treatment units. Most of them pump the waste into the rivers.

Although 92 percent of the total latex production is from Kerala, this raw material is not consumed much in this State for fabrication of end products. There are various factors responsible for this. These include government policies, power cut problems, lack of financial support, labour problems, lack of know-how, etc.

By proper co-ordination of R & D institutes, universities and the industry financial institutions and policy makers, the present situation on NR latex can be improved. Since NR latex is an ideal raw material for small scale village industries, lot of employment opportunities can be given to the rural population. Universities, rubber research institutes, Government and industrial laboratories should undertake action oriented programme for training and transferring of the know how to the unemployed to start latex based industries.

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72
06

NATURAL RUBBER BASED INDUSTRIES IN KERALA: PROSPECTS, PROBLEMS AND RESEARCH

Siby Varghese*

Natural rubber (NR) is one of the important resources of Kerala where a large number of workers are involved in its harvest, processing and product development. As far as NR is concerned Kerala has a near monopoly in its production. Moreover, NR is the most important raw material used in the Indian rubber industry. Now-a-days many types of synthetic rubber are evolved for use in areas where NR was used. In India the consumption of synthetic rubber in relation to NR is 22:78 as against the world trend 65:35. However, the position of NR in the world industry is still strong and promising. The production of NR in 1992-93 was 3.65 lakhs tonnes and the projected production in 2000 A.D is about 6.5 lakhs tonnes. Considering all this aspects it is important to analyse the role of NR as an avenue for income and employment.

Because of its high industrial importance there is tremendous increase in the production of NR. As a result of which almost all operations in rubber processing provides employment both directly and indirectly to a large number of unemployed persons. Besides this in Kerala rubber is cultivated over an area of 428,864 hectares by about 60,000 farmers. The popular form of NR in India is the sheet rubber which is mainly produced in small holdings. There are over 6 lakhs such holdings in India. On an average one hectare of plantation provides direct employment to one person and indirect employment to a small family. Besides this, more than 1000 group processing centres by RPS's (Rubber Producer's Society) are also engaged in production of higher grade rubber. Other indirect inputs involved in the production of NR are rubber rollers and formic acid. It is estimated that there are about 200 rubber roller manufacturing units in the country giving employment opportunities for about 600 persons. The machinery used for processing concentrated latex is centrifuging machine which is generally imported from Sweden, China and West Germany and hence the potential of linkage in machine manufacturing is insignificant.

Besides production of TSR, crepe rubber, primary marketing of processed rubber to consuming industry also provides vast avenues for employment and income. Among the industries based on the state's natural resources NR based goods manufacturing sector occupies an important position. Moreover, research and developmental activities opened new avenues for the application of NR. An important work in this field is the replacement of butyl rubber by epoxidised natural rubber (ENR) produced from NR. In comparison to synthetic rubbers the production of ENR involves simple technology and hence it is comparatively cheaper. Now research activities are progressing well in order to widen the applicability of ENR. Liquid natural rubber used as a rocket propellant has got wide importance. Recently proposals are made for the rubberised road which consumes NR in all forms. One recent report reveals that rubberised road can last for 18 years without any damage even in high traffic areas.

Though Kerala claims about 92% of total production, we consume only 12% NR. This is because from the very beginning Kerala people's investment are in the plantation sector rather than in the industrial sector. Secondly the high rate of sales tax in Kerala compared to other states diminished the growth of rubber based industries. Besides this, the major consumption of NR is in the tyre sector. As far as tyre is concerned it consumes only 23% of NR and its major part is based on other petroleum based materials. Hence the locational advantage for a factory in Kerala is poor compared to North India.

To conclude NR processing is a lucrative economic activity and the development of this sector requires top priority. Research and development institutions should come up with new techniques to increase the durability of rubber products. Moreover, Government should implement new schemes so as to encourage the maximum investment in this area.

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72
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07

THE SCIENCE OF CHEMISTRY AND SOCIAL IMPLICATIONS

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Study and research in Chemistry is motivated basically by (i) the curiosity to know, just for the sake of knowing (fundamental or pure research) and (ii) the desire to acquire and apply knowledge for practical benefits (applied research). Both these approaches together have been fostering the growth of Chemistry.

Chemistry is the science of matter. It deals with the preparation, composition, properties, structure and reactions of substances, elements and compounds, natural and synthetic. In addition to the thousands of naturally occurring materials we have an endless list of man made substances. Chemical technology, which has provided man with dyes, drugs, plastics, anaesthetics, petroleum products, concrete, metals and their alloys, porcelain, glass, textiles, paper, paints and varnishes, fertilisers, soaps, perfumes and other cosmetics and hundreds of other useful materials, has extended her blessing hands to almost every realm of human life and activity.

Chemical knowledge/technology is a great blessing and at the same time a bane as well. Mankind is taken aback by the serious societal implications of polluting and hazardous chemicals profusely let out by chemical factories, green house effect, depletion of the ozone layer and so on. It is a widely accepted fact that the very existence of mankind depends on a wise and early initiative to check the ecological imbalance that has assumed frightening dimensions because of a greedy and harsh exploitation of nature nurtured by the consumerist culture spreading all over the world.

The above word of caution does not in any way intend to belittle the great contributions of Chemistry for a better and a more comfortable life. But for the lavish supply of fertilizers, insecticides and pesticides by the hundreds of chemical factories the acute food scarcity in the world would have been far worse and millions more would have been in the clutches of starvation. Role of the chemist is evident in all fields - dairy, pharmacology, construction, industries and hundreds of other areas which ensure a healthy and comfortable life for human beings.

In spite of all these blessings from Chemistry we have to re-emphasise the need for more 'sanity' regarding the exploitation of chemical knowledge. Comfort for a small section of the people in the world should not turn out to be a suffocating and torturous experience for the majority. The criteria that we must accept as responsible scientists, technologists, industrialists and politicians are: (i) sustainable development, (ii) welfare of vast majority of the people, if not all the people, (iii) minimum impact on nature's ecological balance (iv) simple life style that consumes minimum possible energy, (v) 'good bye' to conspicuous consumption and consumerism, and (vi) due importance to moral and spiritual qualities of life along with physical quality of life.

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13 AGRICULTURE : CROP STUDIES

13
01

COCOA ECONOMY OF KERALA: CONSTRAINTS AND LESSONS OF DEPENDENT DEVELOPMENT

A. Mathew Kurian*

The main objective of this paper is to discuss the introduction and commercialisation of cocoa in Kerala's economy as a case of dependent development. In the new dependent policy milieu of the Government of India, it is expected that these findings also might pose a case for policy reversal.

Colonial impact of world's agriculture

Before the establishment of colonialism world's agriculture, barring a few exceptions like the East Asian Spices, production was to meet local demand. In their colonial explorations, the European imperial powers identified certain tropical crops significant to them, as these were most suited to their consumption requirements and commercial interests. Some of these crops were cocoa, coffee, tea and rubber. As a consequence of colonial expansion, there was a shift in the cropping pattern of Third World's agriculture in favour of the so-called cash crops and against food crops. This resulted in the loss of food self-sufficiency of a vast number of Asians, Africans and Latin Americans and their enhanced dependence on the Westerners because the market power of these crops was vested in their hands in the neo-colonial era too, the transnational corporations are actively engaged in perpetuating the colonial type of world's agriculture.

World's Cocoa Economy : A brief history

It was Columbus, who "discovered" cocoa around 500 years ago. He learnt about this source of food of the South American inhabitants from the Azte king. But the first commercial shipment of cocoa beans to spain took place only in 1585. The spaniards liked the chocolate drink very much and they kept it as a secret from other Europeans for about one hundred years. But in course of time the habit of drinking chocolate spread to other parts of Europe and North America.

The Spaniards were the pioneers in diffusing the cultivation of cocoa crop from its natural habitat to other parts of the world. Later, all the imperial powers attempted to spread the crop in the suitable regions of their colonial possessions.

Though the tropical countries have been producing the entire world's cocoa crop, secondary and final processing and marketing are done by a few European and North American Transnational Companies. The leading trading companies are ACLI International (U.S), Voltart (Switzerland), Gill and Duffus (U.K.), Internatio (U.S./Holland) and J.H. Rayner (U.S). The giant processors are Nestle (Switzerland), Cadbury-Scheweppes (U.K.), Mars. Inc. (U.S), Rowntree-Macintosh (U.K) and Hershey Foods (U.S).

From their very inception these companies have been actively involved in the promotion of cocoa cultivation in the potential areas. Some of them had their own plantations in most of the cocoa producing regions. They also worked in collaboration with the colonial administration in spreading the cultivation mainly as a peasant crop.

In the post-war era the cocoa processing companies like Cadbury took a renewed interest in spatially spreading the crop in all potential areas of the world. The commercial history of Indian cocoa also has its genesis in the

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globalisation strategy of Cadbury.

The Historiography of Indian cocoa

Colonial phase

The available historical records show that cocoa plants were originally introduced in India by the East India Company. In 1798, the company obtained eight cocoa plants of criollo variety from the Amboyna Islands. They were planted in some of the Tirunelveli gardens.

George Watt observes that during the 19th century cocoa was grown on the Malabar Coast by the Roman catholic missionaries. William Logan in the *Malabar Manual* refers to 'Vigorously growing' cocoa plants at an experimental farm at Mananthody in Malabar. T.S. Bourdillon also identified cocoa as one of the naturalized trees of Travancore. Experimental plantings of cocoa were continued in South India even during the early 20th century. The National Commission on Agriculture identified the oldest existing plantation as the Kallar Fruit Research Station at the Nilgiris. Some of the trees were planted at this station in 1930-35 and these provided much of the planting material used in India in later years. In spite of these early attempts at the introduction of the crop, it 'remained a garden plant virtually upto 1950'.

Neo-colonial phase

Cadbury India, a subsidiary of Cadbury-Scheweppes, the British based transnational company took initiative in commercialising coca cultivation in India. In 1951, it collected a sample of criollo cocoa beans from the fruit station at Kallar and sent it to the laboratory of the parent company at London for ascertaining the quality of the beans. The experts commended favourably on the quality of the beans and recommended the planting of the crop on a commercial scale.

In 1959 the Government of India invited a cocoa expert of Cadbury, D.H. Urquhart, to investigate the prospects of growing cocoa in India. His report suggested the planting of Forastereo cocoa in South Indian states like Kerala, Karnataka and Tamil Nadu. This report is very significant as it brings out the alliance between Cadbury and Government of India.

Urquhart's report acted as the base on which the Government of India drew a policy for the promotion of cocoa cultivation in India. The Government entrusted the responsibility of this policy formulation to the Indian Council of Agricultural Research (ICAR). The Council constituted an adhoc committee to draw up a coordinated policy for the development of cocoa farming in the country in 1962. The ICAR assigned research activities on cocoa to the Central Plantation Crops Research Institute (CPCRI), Kasargod. In 1964, (CPCRI) initiated experimental farming of cocoa in its Vittal station in Karnataka and subsequently in Palode and Peechi in Kerala. The results of these experiments showed that cocoa could be cultivated profitably in many parts of South India as a mixed crop in coconut and aracanut gardens.

Based on Urquhart's report and the successful outcome of the ICAR experiments, the Government of India sanctioned a scheme for the promotion of cocoa cultivation in Kerala, Tamil Nadu, and Karnataka during the Third Five Year Plan (1962-67). While Kerala and Tamil Nadu were allowed to grow only criollo variety, Karnataka and other parts of India where permitted to plant Forastereo. However, Cadbury insisted that Forastereo cocoa must be given permission to be planted in all parts of India. Finally, the government of India succumbed to the pressure of the multinational company. During 1965-73, Cadbury arranged to import 7000 Kg. of Forastereo upper Amazon F2 generation seed material from Malaysia to raise seedlings for planting in India. During the late 1970s there was considerable expansion of area under cocoa and its production in India. According to a Government of India Report, the area under cocoa reached 22,952 ha in the early 1980's and production was around 4500 tonnes of dried beans.

Though the area and production of Indian cocoa consistently expanded in the 1970's, in the 80's we find a reversal. The main reasons of this de-development were the deficiency of marketing facilities and the price collapse engineered mainly by Cadbury, the chief buyer and promoter of Indian cocoa.

Cocoa Economy of Kerala: A case of Dependent Development

In the 1970's Cadbury, in collaboration with the Government machinery, succeeded in motivating a large number of farmers of Kerala to plant cocoa in their farms. They supplied seedlings at a nominal price to the farmers. In the 70's besides hiking price

they also extended incentive bonus to the potential farmers. As a result, the production of cocoa increased from 75 tones in 1975-76 to 3020 tonnes in 1980-81. But in May, 1980 Cadbury withdrew from Kerala's cocoa market. For some time, there was nobody to buy the crop. Further, it caused a terrible fall in the price of the crop.This resulted in the neglect and destruction of the crop. Subsequently, the joint co-operative CAMPCO ventured to enter into the cocoa market both in Kerala and Karnataka. They could also establish a chocolate factory at Puttur in Karnataka. But now CAMPCO finds it difficult to compete with Cadbury and it is associating with Nestle, another transnational giant to overcome its hardships.

Since 1980-81, inspite of massive efforts of Cadbury to revive the crop through free seedlings and fertilizer distribution, the area under the crop is steadily declining. It has dropped from 23,506 ha in 1980-81 to 9956 ha in 1991-92. The estimated production of cocoa has exhibited wide fluctuations. Production of dry cocoa beams declined from 3020 tonnes in 1980-81 to 1461 tonnes in 1982-83 which gain rose to 6090 tonnes in 1985-86, but again dropped to 5351 tonnes in 1991-92.

On the price front also one can observe severe fluctuations. In 1975 a kg. of wet beans could fetch Rs. 4.20/- which rose to Rs. 14/- in 1978 but fell to Rs. 5/- in 1981. In 1987 the price became Rs.8/- land dropped to Rs.7.50/- in 1990. But in 1993 it rose to Rs.15/- and now it is only Rs. 12/-.

Constraints and lessons of dependent development

The following are the major constraints one could notice from the experience of the cocoa economy of Kerala.

1. Marketing constraints
2. Severe price fluctuations
3. Displacement of food crops.
4. Economic losses due to neglect and shifting to other crops.

Finally, the basic lesson we have to learn from the experience of cocoa economy of Kerala (and also that of world's cocoa economy) is that TNC engineered and dependent development programmes are intended to cater to their commercial interests at the expense of Third World farmers. They want cheap raw material. The function of our agriculture is to respond to this demand of TNCs. Kerala's cocoa case, further, exposes the incapability of our governments to handle the TNCs' market and price manipulations. The experience of cocoa economy is a valid lesson to those who argue for Dunkelising Indian agriculture.

13
02

SERICULTURE DEVELOPMENT IN TAMILNADU AND KERALA: CONTRASTS AND IMPLICATIONS

R.Albert Christopher Dhas

Sericulture industry is considered to be a high potential sector in terms of providing income and employment to the rural mass and earning foreign exchange. The recent data available for the year 1989-90 indicate that sericulture is practised in 59528 villages by 10.31 lakh families in India. The export earnings from this industry was Rs.440.53 crores during 1990-91. The national importance drawn by this sector is evident from the increase in plan outlays for sericulture development. During the V plan period, the total allocation to sericulture was only Rs.25.54 crores which increased to Rs.167.37 crores by VI plan and further to Rs. 310.78 crores by VII plan period. The planning commission has proposed an outlay of Rs.860.76 crores for development of sericulture during the VIII Plan.

Sericulture industry has a long history in South India. However, much of the technical development and progress of this industry happened in the recent years. The implementation of the National Sericulture Project in India has played a major role for the same. Among the South Indian states, the development of sericulture industry showed differential growth pattern. Historically, Karnataka was the pioneering southern state in practising sericulture. Following

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Karnataka, the sericulture industry spread towards Andhra Pradesh and then to Tamilnadu. At present, Karnataka stands first in terms of silk production, followed by Andhra Pradesh, West Bengal and Tamilnadu.

It is interesting to observe that while Karnataka, Andhra Pradesh and Tamilnadu had recorded significant progress in sericulture sector, Kerala had not shown any remarkable growth. In this context, it is worth examining why Kerala behaves differently when compared to the other southern states, particularly, to the neighbouring state, Tamilnadu. Keeping the question as a background, this paper attempts to examine the growth pattern of sericulture industry in Tamilnadu and Kerala and the conditioning factors that have influence on the sericulture development and its growth pattern and finally to highlight the implications so as to answer the question whether sericulture has any scope for development in Kerala and if so, where lies the scope.

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03

MARKET STRUCTURE AND PRICE FORMATION OF CARDAMOM IN KERALA

K.J.Joseph* and Brigit Joseph**

The focus of the study is to analyse how the farm gate price of cardamom is formed under the present market structure which is characterised by regulated auctions. The structure of the regulated market varies from crop to crop depending on its specificities. In the case of cardamom, regulation is in the form of restricting the entry of persons into the different functional categories, viz. auctioneers, dealers, and exporters. The declared objective of such a regulation is to ensure a fair price and timely payment of sale proceeds. The structure of cardamom market is characterised by high concentration where a small number of exporters - many of them are dealers and few of them in addition to being dealers are growers as well - control the export market. Similarly a few auctioneers account for a large proportion of the quantity sold through auctions.

To analyse the influence of market structure on price formation we have analysed the market forces operating from the buyers and sellers side, i.e. the growers and auctioneers on the one hand and the dealers and exporters on the other. To begin with, the forces operating from the sellers side are two: the market power of the sellers (growers of cardamom), both the large and the small, who could withdraw the product from auction if the price quoted in the auction is found to be unsatisfactory. The auctioneers, similar to the sellers, are also interested in obtaining higher prices for the following reasons. First, since the auctioneers are also the growers of cardamom higher prices would lead to increase in their sale proceeds. Secondly, higher the price realised in auction higher the commission accruing to them and thirdly higher price quotation in a certain auction centre would attract more sellers to that centre thereby increasing the total revenue accruing to the auctioneers by way of taking sample.

Coming to the market forces operating on the buyers' side it needs to be noted that exporters as a category consists of both large scale exporters and small scale exporters and the leading exporters are found to be the major buyers in the auction centres. Since the profit of the dealers and exporters depends on the margin between the export price and auction price, the dealers and exporters would try to depress the auction price with a view to increase their margin. This is because the export price is exogenously determined and therefore the exporters may not be able to manipulate it.

Under these conditions the process of price formation would take place in the following way: In the bidding process the bidders (the exporters and dealers) would endeavour to reduce the price with a view to add to their margin. At the same time, the growers and the auctioneers would be interested in obtaining the maximum possible price to dilate their sale proceeds. If the price

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quoted is unsatisfactory the sellers would withdraw the product from auction. Now, the relevant question is, which category of sellers would be able to withdraw the product. Obviously, only those with adequate holding power and good storage facility could withdraw the product. On the other hand, those sellers without adequate holding power and who have already received an advance from the auctioneer would be forced to sell the product at the price quoted in the auction. Thus there is the possibility of price discrimination across different lots sold through auctions. That is, a situation where the smaller lots tend to get a lower and larger lots a higher price.

In this context, the pertinent question is to what extent the bidders can discriminate across different lots? This is to be looked in terms of the supply and demand conditions in the market. Given the export demand, if the domestic production is higher than what the export demand warrants (excess supply) the price quoted in the auction centres would be low and the price discrimination tends to be higher. On the contrary, in a situation of low production (excess demand) the price quoted in the auction centres would be relatively high and the price discrimination across different lots may be low.

The empirical analysis shows that the concentration of market power with a few leads to a situation of price discrimination across different lots sold in the auction centres. The analysis of price formation has thrown light into certain interesting aspects. That is, for cardamom the peak price is associated with the peak season and it is found to be because of the high export demand during the peak season. Further, the extent of price variation is found to be high during the lean season than in the peak season and as we move from a year with higher production to lower production the extent of price variation across different lots get reduced. This is found to be the outcome of the interaction of supply and demand on the one hand and the market power enjoyed by the bidders and the higher quality differential on the other. The analysis of price formation by taking the lot size and the quality of the lot revealed that during the peak season the price is determined by the quality of the lot where as during the lean season it is the differences in the lot size that determine the price variation. The different considerations of quality and quantity of the lot respectively during the peak season and slack makes the sale of smaller lots through auction unprofitable.

13
04

SCIENTIFIC APPROACHES FOR OPTIMISING RUBBER ECONOMY

M.R. Sethuraj

India produces 4,35,160 tonnes of natural rubber per annum against an annual consumption of 4,50,480 tonnes. India has been a net importer of natural rubber. Although we may pass through a transient period of self-sufficiency, our consumption is bound to surpass the production potential. A portion of the consumption will be exported as finished goods and the opportunities this country has in the export of finished rubber goods are extremely bright under the post-GATT scenario. In order to exploit this opportunity one of the aspects to be looked into is cost competitiveness. The rubber farmers in India have been enjoying a protected market but such protection can hardly sustain under a liberalised market economy. One of the important components of competitiveness in the industry is raw material cost and as such a professional approach in containing unit cost of production is becoming increasingly relevant in the new context. Efficiency in productivity can be achieved by using high yielding modern clones and by adopting low frequency tapping systems, increasing the task of tapper and by introducing the concept of productivity linked wage structure.

Different models have been worked out utilising documented data to examine

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the effect of various exploitation systems on productivity per unit area, productivity per labour and cost of production.

In view of the growing demand for natural rubber the country has to extend rubber cultivation to non-traditional areas. However, the potential productivity in areas thus selected should be of primary concern as the reduction in the operational costs per kilogram of rubber is from Rs. 17/kg at a yield level of 800 kg/ha to Rs. 7/kg at a yield level of 2500 kg/ha. Further for producing one lakh tonne of natural rubber, the area required to be planted with rubber can be reduced from 1,33,333ha at a yield level of 750 kg/ha to 40,000 ha at a yield level of 2500 kg/ha. Consequently, the investment requirement can also be reduced from Rs. 61,333 lakhs to Rs. 18,4000 lakhs.

The tapping task (i.e., number of trees a tapper has to tap) in India is one of the lowest in the world. It is computed that the harvest cost per kilogram can be reduced substantially from Rs. 12.37 with a tapping task of 300 to Rs. 10.97 with a tapping task of 450. The saving per hectare per annum by increasing the task from 300 to 450 is to the tune of Rs. 2100/ha. At the same time, a tapper gets additional earnings over and above what he earns for a tapping task of 300 @ Rs. 3.57 per day for a task of 350, Rs. 7.14 per day for a task of 400 and Rs. 10.71 per day for a task of 450. The number of labour displaced per hectare by increasing the task to 450 is only 0.17/day. Reducing the cost of production by increasing the tapping task can make the raw material more cost competitive and thus promote rubber based industries with a competitive edge in the international market. It is computed that the labour displaced per hectare by increasing the tapping task to 450 can easily be absorbed in the industry as the natural rubber consumption required to compensate labour displaced by increasing the task to 450 is only 3.4 kg. Another method of enhancing the cost competitiveness is by reducing the tapping frequency. Even under such situations the labour displaced can be accommodated in rubber based industries which is expected to be accelerated because of the cost competitiveness achieved for the rubber produced.

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05

COCONUT MARKETING EFFICIENCY IN KERALA : A STUDY OF MARKET INTEGRATION

R.Satheesh Kumar

The objective of this paper is to study the efficiency of coconut marketing in Kerala through inter - and intra - market integration.

Inter - and intra - market - integrations are studied with the help of the secondary data on wholesale prices for 21 year period (1969-1989) for seven selected markets. Various statistical tools like trend, growth rate, co-efficient of correlation, coefficient of variation and canonical correlation are used.

Results of the analysis exhibited a high level of inter and intra - market integration. However, relative differences exit in the efficiency of various Coconut products and markets. The canonical correlation results reveal that the inter - market integration is brought about by the oil prices so that it becomes the price leader. This implies that those who control and manipulate the coconut oil market succeed in controlling the coconut economy of the State.

In this context, the government's policy is critically assessed after spelling out the problems faced by the farmers, copra processors and oil millers. The measures taken by the government are found unsatisfactory. The failure is found to stem mainly from a lack of co-ordination among various agencies, defective formulation of schemes, inefficient and corrupt management and lack of finance.

The study also puts forward a few suggestions such as changing the base product from copra to coconut oil in supply management operations, group action scheme, product diversification, etc., to improve the efficiency of the present coconut marketing structure in Kerala.

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13
06

CONSTRAINTS ON DIFFUSION OF SERICULTURE: A CASE OF PALAKKAD DISTRICT

P.Shaheena*

The high employment orientation, low capital intensity, and female orientation in work participation rendered sericulture attractive to the labour abundant agro-based economy of Kerala. Further, mulberry was found to be an ideal intercrop for coconut plantation. Therefore, it was expected to supplement income from the homestead farms.

Attempts at diffusing sericulture in Kerala bagan as early as 1970s. But unsuitability of technology to the climatic conditions of Kerala thwarted early attempts of introduction of the activity. With the technological breakthrough a modest beginning in sericulture development was made during 1986-87 in Kanthallor and Marayoor areas of Idukki district with technical assistance from Central Silk Board (CSB). This was extended to cover certain pockets of Palakkad district during 1987-88.

There are reasons to believe that sericulture programme that has aroused so much expectations on the employment front has already reached a dead end. It was seen that 22.5 percent of the adopters in Palakkad have already abandoned the activity. Therefore, the purpose of this study is to evaluate the contemporary experience systematically to identify the constraints on the diffusion of sericulture. The most important source of data for our assessment was the Census of Sericulturists of Palakkad District 1992 conducted by the Integrated Rural Technology Centre, a unit of Kerala Sasthra Sahitya Parishad. The survey tried to capture the socio economic characteristics of the adopters and broad technical and cultural practices followed. For the calculation of cost and returns from sericulture, we undertook a sample survey of the two panchayats of Agali and Kuthannur of Mannarkadu and Alathoor Taluks, respectively.

The adoption of a new activity by the farmers will be influenced by the personal, social and cultural contexts. Though economic profitability is a very important consideration, adoption behaviour of the farmers cannot take place in purely economic terms isolated from social and cultural consideration. Therefore we proceed to examine the influence of socio-cultural and economic factors on the adoption technology.

An examination of socio-economic characteristics revealed that sericulturists are drawn from all landsize categories of farmers. In Palakkad district medium size farmers dominate, (63.3 percent of the adopters hold more than 2.5 acres) though in the state as a whole small and marginal farmers dominate. Categorisation of farmers as early and late adopters based on the year of entry (before or after 1987-88, the year of active Government) into the activity revealed no remarkable distinction between the two. But for the size of land holding and the main source of income there is not much distinction between socio-cultural characteristics of early and late adopters. Neither did the socio economic factors influence the rate of adoption. An interesting factor that has been revealed in the Census is that, eventhough mulberry can be cultivated as an intercrop in the coconut and arecanut gardens and other homestead treecrops, it was seen that only in 48 % cases mulberry was introduced substituting paddy. Surprisingly, only in 10 per cent of the cases mulberry was introduced as an intercrop. It was also interesting to note that the proportion of mulberry substituting paddy on the whole is relatively lower in higher size classes.

Even before the active intrvention of the Government in the propogation of sericulture, isolated attempts were made to rear silk worms. The earliest entrant was in 1980. Till 1988, the increase in numbers were very slow and the early entrants including those in 1988 constitute only 14 percent of the total adopters. A break occur in 1988, the year in which Governmental agencies including CSB began to actively intervene in the propagation of sericulture. The increase in the area also broadly follows the trend in the number of adopters. However the period of entry seems to have an influence on the persistence in the industry. Only 17.19 percent of the farmers who entered before 1988, had

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abandoned sericulture. The ratio rises to 24 percent in the subsequent periods. The propaganda of higher income had attracted a large number of cultivators, who substituted paddy and pulses, but might not have possessed adequate aptitude for the new enterprise.

According to the official sericulture programme projection, the net benefit has been claimed to be Rs.18,584.00 per acre. But the experience has shown that the expectation of this astoundingly high level of return has been belied. The realisation was only to the tune of a meagre Rs.635.59/acre. One of the main reasons for this was the low capacity utilization by sericulture farmers. Since the price realised during this period was not too low, the reason for the low returns was sought in the productivity per acre of mulberry. The productivity per 100 dfls (disease free laying), according to our sample survey was 30.1kg which in fact was slightly lower than the census estimate for Palakkad (35.58 kg). This could be considered as a promising performance as far as a non-traditional state is considered. But the performance of per acre of mulberry reveals a dismal picture. Achievement was to the tune of 146.52 kg and 45 kg for an acre of irrigated and rainfed mulberry, respectively, while the expectation was 320 kg and 160 kg per acre of irrigated and rainfed mulberry respectively. This comparatively low per acre productivity and not too low a productivity per 100 dfls is a pointer either to low mulberry leaf yield as the underutilization of the leaf capacity. We feel both factors are at play.

It has not been possible to compute mulberry leaf yield. But it was seen that the application of fertilizers and manures were less than fifty percent of the prescribed dozes which affects the mulberry leaf yield adversely. This might have caused a delay in the rearing of worms or reduction in the number of worms reared. The low productivity is also the result of under utilization of leaf capacity. Though normally five to six brushings can be done in an year the census revealed that-on an average only 2 brushings were undertaken in Palakad. It was expected that under irrigated condition 800 dfls per acre could be reared. Therefore in Palakkad district around 3,99,056 dfls can be brushed given an area of 499.82 acres under mulberry cultivation. In spite of this only 6,26,212 dfls had been brushed during 1992, meaning only 16.19% of the capacity has been utilised.

It has not been able to pinpoint the reasons for the low levels of capacity utilization. Three possible hypotheses can be put forward. (a) With a significant portion of farmers being new entrants, production has not been in full swing and the low utilization represents the initial teething problem. (b) The year 1992 has been an year of fall in prices, which declined by 52.91%. The drastic fall in prices and difficulties in marketing the produce increased the risks and reduced the incentive to rear. (c) Finally, the higher dependence of Kerala farmers on hired labour, not only for cultivation of mulberry but also rearing could be another reason for under-utilization of capacity.

The underlying factor responsible for the relatively lower prices realised by the Kerala farmers is the technical defects of Kerala cocoons. The average number of cocoons per kilogram in Karnataka falls within the optimum range of 650-700, whereas in Kerala it falls outside the range indicating the smaller size and spun silk content. The Kerala cocoons also show the technical defects of higher percentage of urinated cocoons, lower value of unbreakable filament lenght, etc. pushing Kerala cocoons to a low 'e' grade.

An improvement in quality of cocoons required strict adherence to the package of practices for cocoon production. Hence a need for strengthening the institutional infrastructure like establishment of more Chawki Rearing Centres, Seed Production Centres, Reeling Centres etc. A sound seed organisation is an essential complement for quality seed production. These efforts of the extension agencies can come to fruitition only in the context of an assured market and reasonable prices.

22 DECENTRALISATION OF GOVERNANCE AND DEVELOPMENT

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01

ECONOMICS AND POLITICS OF DECENTRALISATION IN KERALA

K.P.Kannan*

Decentralisation of developmental and administrative powers from the Central to State Government and from the latter to the district and below - has been a cherished goal in independent India. The demand for restructuring the Centre-State relations is a continuing one. Decentralisation below the level of the State is attempted now and then in some states. However, with the seventy-third and seventy-fourth amendments of the Indian Constitution, the agenda for decentralisation below the state level has acquired new dimensions and reactivated pubic debate.

The economic aspects of decentralisation in the context of economic development is based on sound theory. It recognises the need for taking into account the regional and local variations not only in resources but the specificities of each region. Costs of implementing developmental functions could be reduced through a decentralised framework wherein the local units would have the required autonomy. Mobilisation of resources is seen to be more effective at the local level because 'resources' are understood not merely in the narrow financial sense but also to encompass human resources and social institutions. It is also expected that at the local level various economic demands can be better articulated so that they could be taken into account while designing developmental programmes and its concomitants such as institutions. Provision of public goods and services is traditionally seen as ideal for a decentralised framework. In the developmental context, provision of critical infrastructure for agriculture and related activities can also be seen in this way. Concerns for people's participation and environmental sustainability, articulated more vigorously in recent times, are also seen as justifications for a decentralised development framework. In the Kerala context, there are many developmental function which are best left to the local level institutions within a decentralised developmental framework.

The political argument for decentralisation, especially in a pluralistic democratic polity, is also strong. It can be seen as the foundation for a stable democratic system with opportunities for practising the art of government at the local level. It also provides the ground for articulating various political demands appropriate to the local level. Within a decentralised framework, both the political bureaucracy and the executive bureaucracy, at the higher levels can pay greater attention to matters of policy, design and implementation of larger developmental programmes and a more effective administration by the government.

However, the actual experience of decentralisation in Kerala - despite convincing economic arguments, has been dismal. Political commitment to decentralisation has been confined, by and large, to important political leaders only. The agenda of decentralisation does not carry much weight with political parties as such, especially when it comes to implementation. This has been evident in the case of legislation for the establishment of local self government institutions at and below the district level as mandated by the Seventy-third amendment of the Indian Constitution. The irony of this piece of legislation is

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that it has been made necessary not by a demand for decentralisation from below but by the initiative taken at the level of the Central Government. That the initiative of the Central Government is confined to the question of decentralisation only below the level of the state and not between the Centre and the States is another glaring drawback of this attempt at decentralisation.

This paper is an attempt to address some of the crucial economic and political arguments in favour of decentralisation as well as to deal with the actual politics of decentralisation in Kerala. The conclusion is that there is a clear lack of political commitment to the agenda of decentralisation; some political parties are blatantly opposed to it because of their political vested interests resting in the communally segmented political constituencies, some others are committed to it in principle but their practical politics of patronage through centralisation of political power makes a mockery of their commitment. Political parties with an agenda of societal transformation are technically committed to it but has not invested their abundant and well demonstrated political energy to mobilise the broad masses of people for the idea of decentralisation. The solution probably lies in decentralisation becoming a people's demand but that seems to be begging the question because the most important actors are the reluctant political parties themselves. The question then is: is it possible to expand the constituency in every political party which stands for decentralisation? Can other people's movements such as trade unions, cooperatives, socio-cultural organisations and movements, be persuaded to continuously examine the agenda of decentralisation and contribute to a broad-based demand for decentralisation?

The paper attempts to provide some answers based on historical experience of the role of mobilisation of people in Kerala for achieving certain important social demands.

22
02

EXPERIENCE OF DISTRICT COUNCILS IN KERALA

T.K. Balan[*]

The District councils in Kerala were formed in February 1991 as part of the much delayed scheme of decentralisation. The first steps towards decentralisation in Kerala were taken in 1957 during the period of first Communist-led Ministry. The Administrative Reforms Committee headed by Sri. E.M.S. Namboothiripad recommended various measures towards the formation of institutions for devolution and decentralisation at different levels. But these recommendations could not be implemented because of the dissolution of that ministry in 1959. Attempts were again initiated in 1967, 1979 and in 1980. But it was not until 1989 that concreate steps were taken to implement District Administration Act. A detailed study was conducted on the various aspects of implementation of decentalisation and a set of Rules were adopted to ensure due powers for the District Councils. The first election to District councils was held in January 1991.

Special features

To start with 18 departments and 143 subjects were allotted to the District Councils and a High Power Committee was appointed to give suggestions for transferring more subjects. The District Councils in Kerala, had more powers when compared to the Zilla parishads in other states. The special reservations for women, scheduled castes and scheduled tribes; appointment of District Collector as Secretary of the elected Councils, powers for grass-root level planning; appointment of a Finance commission for devolution of Funds for the councils etc, were some of the special features of the District Councils legislation in Kerala.

Powers withdrawn

Exactly after four months, due to the political change at the helm of the

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state government the status of the District Councils was completely scuttled and most of their powers were withdrawn. The scheme planned by the Councils in the spheres of Public Health, Agriculture, Social Welfare etc., had to be shelved. The office-bearers and the people who at large were highly enthusiastic were thoroughly disappointed at the move for castration of the councils. Though strong protests were raised from all quarters only hardened the position towards the council by the government. Even the funds for establishment expenses were drastically reduced.

Innovative Schemes

There were suggestions that office bearers of the district councils should resign enmasse. But it was decided to continue in office and utilise whatever limited power that the councils still enjoyed to draw up and implement development schemes with mass participation. The office bearers of the district Councils with the active co-operation of some of the voluntary organisations like Kerala Sasthra Sahitya Parishad and concerned intelectuals, planned and implemented schemes in sectors such as Education and Minor Irrigation.

School programmes

In the case of universal education and literacy, Kerala stands first in India, but the standard of education is comparatively poor. Students, teachers, parents and the Department of Education have their own contributions to this sorry state of affairs. A survey conducted by the Council among the Primary and Upper Primary schools revealed that 35% of the students were unable to write their own name in the mother tongue without mistake. This percentage varied from 13% to a very high 69% in some schools.

The District Councils took initiative to implement schemes like school complex programme, 'Aksharapulari' and 'Betterment of First Standard' with the active co-operation of parents and teachers. Teachers were given special training by DIET and a time bound programme was launched in schools. 'Mother Parents Association' was a novel idea which received enthusiastic reception. Mothers took immense interest in their children's educational betterment scheme. The method of teaching was made simple and interesting to the students. The laboratory and library facilities in one school were shared with other needy schools. Vacation camps for students for fostering national integration and community life were arranged by clubbing the neighbouring schools. Panchayat level Education Committees were formed with representation of all political parties, local bodies, teachers/students organisations, educational experts, departmental officials etc. Such committees were formed at district level also and strict monitoring and periodical evaluation were carried out.

80% of the students in the schools were from lower strata of the society. The drop out rate in primary schools is very low in Kerala. This remarkable achievement is due to the wide network of noon-meal feeding programme in Kerala up to seventh standard. The District Councils focused its attention in this field and helped to make this programme a great success. Noon-feeding helped the students to sit in the class throughout the day and to attend their lessons regularly. The local committees formed for this purpose were strengthened and they rendered proper supervision, guidance and assistance.

The schemes for improving the standards of education in schools received tremendous financial and other help from the local people. The state minister for education and other officials were highly impressed by this scheme and the government formed a task force to implement these programmes throughout the state. Implementation of these programmes by District Councils proved that with the co-operation and participation of local people, teachers and students, significant achievements can be made in educational institutions even within the existing frame work.

The infrastructure facilities of the government schools including building and compound walls, drinking water supply etc. are quite meagre which invariably tell upon the standard of education. The District Councils came forward with mobilisation of National Savings Scheme deposits and collected Rs. 30 crores of which 20% was ear-marked for the development of schools. For the first time in Kerala, such a scheme was used to create minimum necessary facilities for the government schools without any direct financial burden to the government.

Some of the District Councils took steps to prepare 'District Development Plan' covering all the Panchayats, Municipalities and Corporation Councils in the district. Voluntary workers were recruited ward-wise and the formats

prepared by experts were used for the purpose. Detailed data regarding crop patterns, irrigation facilities etc, were gathered. Resource mapping was also undertaken in some districts. The help of the Government Departments, was used by the councils to implement minor irrigation schemes in panchayats. 60% of irrigation facilities were found to be useless due to lack of maintanence and repairs, as the local bodies could not afford for the repair work and the department took no responsibility at all for the repair works.

The real benefits of these schemes were thus being denied to the farmers and the public. Councils found that with a small number of manual labourers and technical supervision these repairs could be carried out. Some of the District Councils, with the help of voluntary organisations, Panchayat board, minor irrigation department, etc. conducted detailed surveys and local committees were formed for undertaking these repair works. Local panchayats mobilised free manual labour and technical supervision was rendered by departments.

Conclusion

The success of decentralisation mainly depends upon the political will. In Kerala a government committed to the aim of democratic decentralisation implemented it, but with change of the government the new democratic institutions were systematically scuttled.

The District councils even in these adverse circumstances, wer able to mobilise people and local resources in planning and implementing developmental programmes.

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03

DECENTRALISED PLANNING - THE KALLIASSERI EXPERIMENT

T. Gangadharan[*]

Experiences of innovative experiment in decentralised planning at Kalliasseri is analysed in this paper. Kalliasseri is a village panchayat in Kannur District. It has got the features of coastal and midland geography. The area of the panchayat comes to 15.7 sq. k.m. and the present population is 25003. The main crops are coconut and paddy. Kalliassery has played a vital role in the national movement. Famous political leaders K.P.R. Gopalan and E.K. Nayanar belonged to this village.

PRM in Kalliasseri

Kalliasseri activities started as part of the Panchayat Resource Mapping Programme (PRM) along with other 24 panchayat in different districts of Kerala during April 1991. A peoples' committee to conduct resource mapping was formed under the auspicious of the elected panchayat body. 70 selected volunteers were given three days training. During the voluntary mapping process, the programme became very popular among the concerned public. Mapping was over in 9 days.

Towards participatory planning

Due to the systematic completion of voluntary mapping, Kalliasseri was selected as the first panchayat to attempt on a panchayat development plan on the basis of Resource Maps. By September 1991, a set of maps were made available to the panchayat. These maps were presented before an assembly of panchayat members, volunteers and local politicians by experts from outside, along with some broad guideline for the preparation of a development action plan.

A core group of volunteers was organised for the onward activities. The group started their work by systematising and analyzing the data mapped. The exercise helped the core group to get more familiarised with maps. When we started discussion we realised that the data available in the maps were not sufficient for planning. It lacked some important resource information such as human resources and animal husbandry. The secondary source data were outdated. So we decided to conduct a socio-economic

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[*] Kalliassery, Kannur District.

survey to cover all the missing elements in the existing database. A census survey was conducted in January, 1992, by 100 selected volunteers. The survey was over in 10 days. Due to financial constructs we decided to compile the data from 4000 survey forms manually, under the guidance of statisticians. 20 volunteers were given one day training for tabulation and a tabulation camp for 7 days was conducted at Kalliasseri. Along with this, we arranged for collecting maximum secondary data about the panchayat.

Different groups of volunteers were given the task of preparing sectorwise status reports. Thus, by May 1992, the data analysis was completed and the problems of the panchayat were identified. By July 1992, we could prepare a draft action plan which prioritised activities in each sector.

In September 1992, a meeting of different district level Government officials who were directly involved in Panchayat level development discussed the sectorwise draft proposals. In the meeting fruitful discussions were held on linking the peoples plan and the ongoing departmental schemes. After this, the Panchayat body evaluated the whole things and finalised the Kalliasseri action plan and it was ready for presentation before the public.

Towards implementation

In October 1992, a Panchayath level public meeting was convened in which the action plan was discussed and a Panchayat Development Committee and eight subcommittees were formed for implementation. Vegetable cultivation and school complex were the immediate programmes selected for implementation. Within a week, ward level public meetings were convened for exhibition of resource maps, presentation of action plan and wardlevel planning of immediate schemes. We selected vegetable cultivation as the first item to be implemented, for the following reasons.

1. There is ample demand for vegetables according to our demand survey and most of the demand was met through imports.
2. There is about 200 hectares of land kept idle after first crop of paddy, which can very well be used for vegetable cultivation.
3. There are more than 2500 jobseeking youth in the Panchayat whose labour potential can be tried out in the production sector.
4. No centralised financial investment was essential for this programme.

It was well received by the people. The ward committees identified plots to be cultivated and groups of youths to manage it. This was our first trial for microplanning of a scheme. The target was 10 hectares and we could cover 12 hectares.

The Kalliasseri Panchayat Educational Complex started in January 1993 with Aksharavedi activities. The educational experiments conducted by the Complex helped in raising the standard to a pre-defined level in five years. The complex, the first of its kind in Kerala has now become self-reliant in planning and implementation of their activities. We have just switched on to an integrated health campaign lasting for one year.

Following are the important activities which we have started hitherto: 1. Vegetable cultivation 2. Pilot scheme for fresh water pisciculture 3. Demonstration plot for horticulture 4. Implementation of certain minor irrigation schemes 5. A massive one day 'Shramadan' (voluntary work) for cleaning the 16 km long drainage network of the Panchayat 6. Demonstration plot for soil conservation 7. Kalliasseri Panchayat Educational Complex and 8. Kalliasseri Total Energy Project.

The following survey and studies were conducted after Resource Mapping and Socio economic Survey: 1. Drainage survey and mapping 2. Educational institutions survey 3. Demand survey on vegetables and eggs 4. Engineering survey of marshy land for preparation of a project for prawns farming 5. Total energy survey and 6. L.T. power line survey and mapping

The major ongoing programmes are the total Energy programme, school complex and health programme.

Enolving a new organisation

When we started implementing the action plan, we felt that there should be a more suitable organisation for the purpose. So, the Kalliasseri Development Society was registered with the provision of a Panchayat assembly including 200 representatives (180 elected and 20 ex-officio). For every 25 households, one elected representative is provided for. Accordingly, the first election was conducted during December, 1993. It is meant that every decision of the development society should reach the people in the shortest time and in the same way, the feed back. In the implementation of the total energy programme and the massive drainage clearing campaign, this network has shown its strength.

Constraints

During the last three years, we had to face so many constraints as well. Maintaining a sustained liaison with the local political leadership, technicalities of the Panchayat bureaucracy, are problems to be tackled. Availability and flexibility of certain amount of financial resources could have helped the programme to a great extent.

22
04

THE PANCHAYATS AND THE MUNICIPALITIES ACT 1993 AND THE STATE OF LOCAL GOVERNMENTS IN KERALA

Gita Mathew* and Jose George**

The Constitution (Seventy-third Amendment) Act 1993 on panchayats and the municipalities has generated tremendous interest in the state of decentralisation of adminstration in India in general and in Kerala in particular. The critics are bewildered by this move towards further democratisation by a government which otherwise are known for their anti-people policies at the instance of the IMF and the World Bank. However, a close perusal of the provisions of the Act would reveal the hidden intention of the Government. The 1993 Act does not envisage any sort of devolution of power from the centre to the states and then downwards. The widely acclaimed provisions of the 1993 Act making periodical elections to the local bodies mandatory and ensuring one-third reservation to the posts for women were attained by the Left Front Governments of West Bengal and Kerala without waiting for the 73rd Constitutional amendment. On the other hand, this has given an opportunity for the state governments like that of Kerala and Karnataka to take retrograde steps in the name of implementing the 1993 Act. The classic example is the case of Congress lead UDF Government's effort to strengthen the hold of bureaucracy through the Kerala Panchayati Raj Bill, 1994. It reduces the PR institutions into an appendage of the state government. There are provisions to dissolve the elected panchayat samitees and allow the government official to preside over the meeting of the panchayat to discuss the non-confidence motion and even to use his casting vote in case there is a tie. The bureaucrats can also bar the 'disqualified representative' from contesting the elections for many years. Probably the positive aspect of the Act is the interest and debate generated in the name of the constitutional amendment. It is a good opportunity to demand for the implementation of the promises given by the ruling classes and in that process prepare the masses for a long-drawn struggle to achieve real democratisation of the society.

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22
05

DECENTRALISED PLANNING IN KARNATAKA

Jos C.Raphael

The present paper examines the structural arrangements for decentralised planning and its functioning in Karnataka state for the period of 1987 and after, with the background of "The Karnataka Zilla Parishad, taluk Panchayat Samithi, Mandal Panchayat and Nyaya Panchayat Act, 1985".

To analyse the functional part of decentralised planning inn Karnataka the experience from a district also is examined.

Figure: Institutional frame work for decentralised planning in Karnataka

State level	State Development council	Advisory body
District level	Zilla Parishad	Elected body
Taluk level	Taluk Panchayat Samithi	Nominated body
For a population between 8000 and 12000	Mandal Panchayat	Elected body
Village level	Gram Sabha	Members are all villagers

The following remarks are also offered by way of comparison of the nature of decentralised planning in Karnataka and Kerala.

1. Willingness to decentralise

The first and most important component of decentralised planning in any condition is, "the willingness to decentralise" by the state and it was the first and most important feature of decentralised planning in Karnataka introduced by the Janata Ministry of Shri. Ram Krishna Hegde in 1987 whereas in Kerala, this "willingness to decentralise" was shown, even if belatedly, by Left Democratic Front Ministry by Shri. E.K. Nayannar which introduced District Councils in the year 1991.

2. District Planning

District planning in Karnataka involved all inter-sectoral planning under the zilla parishad governance. But ir Kerala, district planning is limited for special component plan and Tribal sub-plan (Planning for scheduled castes and scheduled Tribes) and there is no participation of people's representatives in the governing body of 'Working Group of district Planing' in the districts. This short scope for district planning in Kerala makes it difficult for the co-ordination of developmental activities of various departments at district level; whereas in Karnataka state, it could co-ordinate the planning and developmental activities under the umbrella of zilla Parishad by bringing all development sectors under it. However, when the district Council were introduced in Kerala, almost all development sectors were brought under the District Council just as in Karnataka. But with the defeat of the Left in the assembly elections the situation regressed back to traditional state level planning.

3. Planning process

With regards to bottom to top level planning process, Karnataka state is ahead atleast in theory though not in practice. For example, earmarking of outlay for each sectoral scheme by the state heads of Departments who allow the local governments to choose the schemes from the "shelf of Schemes" which are framed at top level. But in the case of Kerala State, it needs more effort to achieve bottom to top level planning process at least in the structure.

4. Administrative delegation

Administrative autonomy enjoyed by the Chief Secretary of the Zilla Parishad over the district level departments is an another important feature of decentralised planning in Karnataka. Moreover, the Chief Secretary is drawn from the IAS cadre and entrusted with all development administration functions of the district. And this officer was superior in rank to the Deputy Commissioner (IAS) of the district. The deputy commissioner of the district had only the functions of commerce and law and order during the period of 1987 to 1992. In the case of Kerala state,

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District collector was the only bureaucratic head of the district to handle all development, commerce and law and order functions of the district unlike in Karnataka.

5. Devolution of Funds

The State of Karnataka has allocated approximately 30 percent of yearly state plan outlay for the district sector schemes during 1987-1992 which is structurally united but functionally tied up. However in Kerala, yearly allocation for district sector schemes (under district schemes, category IV) is approximately 35 percent from the state plan outlay for the same period.

6. People's participation

Another glaring feature of decentralised planning in Karnataka is its people's involvement in the planning process at local level. In Karnataka, the Gram sabha at village level, facilitated people's participation in the decision making process. But in the case of Kerala State, due to the absence of such village level assemblies, local people's participation in the planning and developmental activities of the villages could not be taken care of.

7. Spatial Planning

Without spatial planning decentralised planning is imperfect. In Karnataka as well as in Kerala or anywhere in India this major component of decentralised planning is missing. However, Kerala state's endeavour to support "Panchayat Level Resource Mapping" is an encouraging step forward towards decentralised planning.

8. Supporting arrangements

Appraisal, monitoring, evaluation and other supporting arrangements for decentralised planning have been established in Karnataka though appraisal and evaluation of any project or schemes have not been undertaken so far by the respective systems. In Kerala, regular monitoring of all developmental activities of districts is undertaken through monthly meetings of all development systems at various levels as in the case of Karnataka.

9. Delays

Delays in various sanctions are the stumbling blocks for the speedy development process. In Karnataka, such delays were mitigated by the introduction of zilla Parishad system. At present, people's urgent needs can be met with the decisions at district level which avoided frequent trips to the state capital, Bangalore, from the remote villages of Karnataka state. Whereas in Kerala State, "Speed Programe" of the Chief Minister, introduced after the decimation of the District Councils.

10. Local governance

Better accessibility for the people to zilla parishad members than MLAs is an another tangible achievement for the common people in the new Karnataka Panchayati Raj set up, which resulted in better local governance on developmental activities. Similarly in Kerala, during a short period of the District Councils with full powers, it could develop better local governance of the urgent local needs of the common people in the rural areas.

The picture that emerges is that in terms of decentralised planning Karnataka is ahead of Kerala.

22
06

DECENTRALIZED DISTRICT ADMINISTRATION AND INTEGRATED SPATIO-ECONOMIC DEVELOPMENT

P.J.Kurian[*]

Our Focus: India is set ready for decentralized district administration, through a seven tiered spatial set-up, from grama sabha to municipal corporation - covering the rural and urban areas of the country. The new set-up of Panchayati

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Raj and Nagar Palika Acts are supported by the tripod of people's participation, decentralisation of Power and integration of spatio-economic planning. Instead of sharpening the rural-urban dichotomy the vision of a socio-economic-spatial-integration should be developed.

Zilla Panchayat: The zilla panchayath will be the local government at district level, with powers to plan and administer. Delineated urban areas come under the Nagar Palika system.

There will be a finance commission to study and suggest ways and means for better financial allocations, in partnership with the state government. The provisions of district planning committees and metropolitan planning committees are intended to ensure preparation and implementation of better spatial plans (urban and regional plans, detailed town planning projects, traffic and transportation systems, housing, industrial infrastructure, trade and commercial facilities, environmental upgradation and planning etc., with an integrated approach to town and country planning, management and administration).

Along with the decentralisation of administration at district level, proper emphasis and constitutional support is given to spatio-economic planning. The dichotomy between rural and urban sectors at district level can be compromised with a built in mechanism of spatial integration.

The state government should constitute a 'State Commission on Urbanisation' for a better regional and urban Policy - in the lines of the 'National Commission on Urbanisation'. Nagar Palika-Municipal Act by defining and suggesting appropriate planning methodology. The roles of spatial plan, structure plan, Master Plan and action plan should be made specific. The functions and responsibilities of the present Development Authorities should be defined and their positive roles in urban and regional developments should be encouraged.

The linear budgeting of the state should change with the realistic, decentralized, spatio economic plans and programmes.

22
07

TOWARDS SELF-RELIANCE THROUGH DECENTRALIZED DEVELOPMENT

P.K.Kurian[*]

The Kerala society is going through a sad and degenerating phase. We need to redefine goals, reassess our resources to achieve these goals and formulate realistic and imaginative ways of mobilisation and implementation of the development projects. Self-reliance is a situation where a community or society can recycle their resources to much an extent that their dependence on other societies and other external inputs is little or negligible. Development refers to such activities that help to sustain life. People generally talk of development in the sense of increasing their comforts. But we would consider sustainability of the process to be a very important criteria of development. We must think of planning and implementing development through people centred, people participatory and people beneficiary approaches. Development itself needs to be given a reorientation. It is in this context that the following experiences of Malanadu Development Society, a voluntary agency are to be considered.

The Malanadu Development Society (MDS)

M.D.S. is a non-Governmental organisation, founded in 1977. The basic philosophy and belief of MDS is to help people realise their situation and empower them to take steps to change their life in a sustainable and better way. The case studies of experiences of MDS discussed in this paper are the Pampa Link Road and Intervention in the Green Sector.

Pampa Link Road

Pampa Link Road gives an alternative road link from Erumely to Plappally - on the Chalakayam Pampa State

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Highway. A major portion of a 12 Km stretch of the road goes through Pampa Valley - an isolated Village settlement of about 7500 families. Till 1989 this village virtually remained isolated, with river Azhutha on one side and rive Pampa on the other side. To the other two sides were the Sabarimala forests. Once the rivers were in spate the people were virtually cut off from the rest of world. There was no way to get to the hospitals, schools, offices, market, etc.

The people came together and decided to end their misery which was more than 4 decades old. The people of Pampa Valley organised themselves and requested Malanadu Development Society for help and guidance.

In a great surge of popular enthusiasm that we witnessed in the next three years, we experienced the wonderful dream of a 12 km all weather communicable road taking shape. The road was laid in 8 meters width. 41 culverts and 3 bridges were constructed on this road.

(1) This road has been rubberised and has the distinction of being the longest rubberised road in India. (2) This road, which we named Pampa Link Road has ended decades old isolation of the people. (3) This has reduced the distance to Sabarimala by 41 kms from the existing traditional route, saving a significant amount on the Oil bill of the nation every year. (4) People's road as it may be rightly called is a highly valued but really low cost road. The total cost of the entire stretch of Road comes to about Rs.1.65 crores, out of which about Rs.66 lakhs was Project Fund assistance of Council for Advancement of Peoples Action and Rural Technology (CAPART) under the Ministry of Rural Development, Government of India. This is the biggest JRY Programme supported by CAPART.

The people then elected a representative council and entrusted them with the responsibility of maintaining the road. This council has established a toll collection gate at the entrance to the road and is raising funds on their own to maintain and look after the road themselves.

The success of Peoples Road Project has had its ripple effect. Now the people down stream have planned and are executing at great speed another solid bridge across river Pampa. Taking inspiration from this road project, two more smaller roads and two more causeways are being constructed by people in the neighbouring areas. Perhaps, one brief comparison will give us a better insight. A Government sponsored state highway to Pampa is being built at snail pace and the cost of just one bridge surpasses the cost of the entire 12 km stretch of road built by the people. Work on the Government roads has been going on for years and yet it is not completed.

Intervention in the green sector

The Malanadu Development Society has chosen the green sector as its major area of intervention. This is because of the fact that greatest violence in the recent decades has been done against the Nature. We adopted a biogas programme for rural rejuvenation. Perhaps one model in this line for India is the Chinese achievement. Biogas has revolutionised the Chinese rural communes and they meet bulk of their rural energy needs from biogas. Biogas is used as fuel and biogas slurry is used in the fields as organic manure. Bio-degradable organic waste is recycled in such a way as to enhance energy production. In every way the Chinese model is one that is exemplary for India.

Biogas Programme was taken up by the Malanadu Development Society right from 1980. Biogas plants of the Fixed Dome type - Deena Bandhu model digester was introduced by the Society for the first time in Kerala. Though, we have built more than 5000 plants as on date, we have selected Anakkara, a village in the Idukki district, as a biogas village.

Biogas programme at Anakkara

We have so far constructed about 600 biogas plants at Anakkara. Nearly every household owns a biogas plant. This has resulted in an unprecedented growth in the village, especially in the green sector, agriculture and animal husbandry.

Pressure on the environment is eased as a result of substituting biogas for firewood. Trees are saved and this helps in maintaining environmental equilibrium. The most important contribution of biogas programmes is to agriculture. Bio slurry discharged from biogas plants is an excellent bio manure and has proved to be a panacea for almost all the ills of agri-crops.

Biogas slurry has been applied to vegetables, bananas, coconuts, spices, rice and tuber crops. The plants fed with biogas slurry have shown sign of great lush and luxuriant growth.

We have grown further from this biogas experience into an integrated village development project involving production, collection and marketing of milk, construction of biogas plants in

each of the household under our area of operation having cattle, application of biogas slurry to agricultural production of eco-friendly vegetables and fruits.

We have also organised about 12,000 farmers into 64 village based milk collection cooperatives. In addition to collecting milk from these farmers, we also provide them with veterinary support, supply of cattle feed, extension support in agriculture and related activities. Realising the importance of biogas programme, we have decided to introduce a biogas plant in each of the household associated with our dairy project. We believe that a realisation has dawned on us which will pave the way to sustainable development models in the villages.

Non-Governmental Organisations have great relevance in organising and empowering people. This realisation had dawned on us in the wake of all established mega systems like State and Governmental machinery failing to deliver goods to the people and bring substantial reliefs to the people.

29 TRIBAL SOCIETY AND ECONOMY

29
01

TRIBAL SITUATION IN KERALA

M.Sebastian*

According the 1991 Census the tribal population in Kerala is around 3.2 lakhs. Tribal groups today are spread over different regions. Those living in rural/urban areas are more accultured to the dominant culture. It is the tribal groups in forests who are facing the threat to survival with the forests, their main resource base, being increasingly depleted in the course of development. Huge construction projects activities transplant tribal groups from their traditional homes.

Generally, the Hill tribes are economically, educationally and technologically backward but they have a rich cultural heritage. Exploitation among them is comparatively less. Suicide is a rare occurrence. Their traditional arts, folk songs, traditional herbs therapy, rituals, etc., are rich and valuable.

The Government has attempted to identify all the tribes and chalk out various welfare programmes for them. Based on existing classification 35 groups are included in the list of Scheduled Tribes and another 13 are included in the list of other tribes. These 13 groups are eligible only for educational concessions. From the list of 35, five - the Kadar, Koragar, Kurembar, Kattunaicker and Chola Naicker are considered primitive tribes and live in very pathetic condition.

The existing classification is not a realistic and scientific one. For example, economically and educationally backward tribes like the Malamuthans are not included in the list of Scheduled Tribes. They are in a very poor condition. Mala Arayan another group is economically and educationally very much advanced, but is included in the list of Scheduled Tribes. Also the Kanikkar in Agasthyavanam area, Malappandaram in Kollam and Pathanamthitta districts and Kattupaniyar in Kozhikode District are eligible to be included in the list of primitive tribes. So a thorough study and afresh scientific classification of the tribes is essential.

Government expenditure on programmes to improve tribal welfare has been quite high. But the results have proven to be disappointing. Ignorance of the tribes about their rights is one main reason. The unscientific and unrealistic planning of the Welfare Scheme and the ignorance of the implementing agencies about the behaviour of the tribes are the other major reasons for the failure. For example, most of the tribes are not willing to consume milk and flesh of pet animals. But the government distribute goats to them. Exploitation outsiders is another major problem. As they live on the resources surrounding problem. Then it is important that their earning power is increased by helping them to better utilise the natural resources and in a sustainable manner.

Due to lack of educational facilities high illiteracy exists in remote areas. The tribal schools are not functioning well. It contributes to low literacy rate. In 1981 the tribal literacy rate was only 31.79%, in 1991 it went upto 57.22%. After the achievement of the tribal literacy programme, it was raised to 80.71% in 1993. Only through the effective implementation of the Tribal Literacy Programme can the living conditions of the tribes be improved.

If we wish to improve their living conditions, prospective planning and efficient machinery for its

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implementation are essential. Unfortunately the improvement of the welfare of the tribals is not a top priority. With the intention of protecting their land The Kerala Scheduled Tribes (Restriction on Transfer of Land and Restriction of Alienated Lands) Act 1975 was enacted, but practically the Act was put in the cold storage. None of the governments in power after 1975 have taken any step to enforce the law. Now the government with the help of the political parties propose to amend the law for helping the settlers.
Practically the same is the position in regard to the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act 1989. These two laws have been translated into Malayalam and distributed by the tribal literacy activists under the Kerala Saksharatha Samithi.

Affinity to modernity affects the cultural identity and economic existence of the tribes. The forest protection laws destroyed the traditional rhythm of the life of the tribes. The growing demands of our society should be met without altering their resource base to the extent that their identity is destroyed. Their identity is critical for sustaining not only their cultural heritage but also their very physical existence.

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02

ADULT EDUCATION IN TRIBAL AREAS: THE PROBLEM OF DROPOUTS

S.S.Sreekumar[1]

Adult Education is a programme meant for imparting functional literacy to the illiterates in the 15-35 age group. The National Adult Education Programme (NAEP) was introduced on 2nd October, 1978. Prior to this and in the late sixties and mid-seventies, we introduced programmes for Farmers' Training and Functional Literacy Programmes, Workers' Education and Non-Formal Education. These programmes had different components which were to be implemented by different ministries/departments. The NAEP was in a sense continuation of the earlier efforts and in another sense a significant step further.

It has been realised that the magnitude of the problems of adult illiteracy was gigantic and cannot be accomplished by the government alone. The programme of adult literacy is essentially a people's programme. In 1961, the Ministry of Education started a scheme of assistance to voluntary agencies working in the field of adult education. In 1982, the scheme was revised in the light of the 20 point programme. Under this scheme grant was given by the Government on the basis of programmes cost -75 percent of the administration cost, while 25 percent was to be borne by the voluntary agencies. These agencies which are aided by the government provide literacy training for adults.

A review of literature revealed that dropout is a major problem of the adult education programme. Drawing from the findings of the existing studies, the author made an attempt to study the phenomenon of dropout in the adult education implemented in one tribal area in Kerala state. All India Harijan Sewak Sangh is a voluntary agency founded in 1932 by Mahatma Gandhi. The Kerala branch of this organisation has been conducting adult education centres in Wyanad district, a tribal belt in Kerala. The programme was implemented in all the three community development blocks of Sultan Battery, Kalpetta and Mananthody. There were 300 Adult education centres functioning in Wyanad district spread over 13 Panchayats.

The present empirical study on dropout in adult education in tribal area was conducted with the following objectives.

1. to study the reasons for dropout and
2. to suggest remedies for preventing dropout.

Methodology

Survey method was followed for the conduct of the study. A census survey was conducted among 300 Adult Education Instructors of the All India Harijan Sewak Sangh. 208 instructors responded to

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the questionnaire, the response being 69.3 percent.

It has been observed that 62 percent instructors, i.e., 129 out of 208 observed dropout in their centres and the remaining 38 per cent did not point out any dropout in their centres.

Various reasons were listed in the questionnaire to identify the reasons relevant. These were: inaccessibility of the adult education centres, change of residence, marriage of women, sickness, heavy work at home, inconvenient timing of the adult education centres and ineffective training. Among these reasons the instructors identified only four reasons as relevant to dropout problem in tribal area of Wyanad district by change of residence (43 cases), marriage (33 cases) sickness (22 cases) and work at home (103 cases).

Findings

1. 62 percent of the respondents observed that dropout occurred in their centres

2. Four main reasons for dropout were observed by the instructors which include heavy work at home, change of residence, marriage in case of women and sickness.

3. Majority of the tribals are aware of the problems and consequences of being illiterate. Though the government and voluntary agencies are involved in the process of making them literate, they could not attend the literacy centres mainly because of their poor economic and social conditions.

4. The implementing agency, i.e., the All India Harijan Sewak Sangh had taken necessary steps at the appropriate time to prevent dropouts. In this regard, the agency was helped by local committees.

Suggestions

The following measures to improve the economic position of the tribals would prevent dropout in adult education in tribal area.

Lack of proper housing is one of the reasons for change of residence resulting in the discontinuity in attending adult education classes. The Government with the help of voluntary agencies can construct suitable houses in ideal location for healthy and safe residence.

The Government have to improve health facilities in the tribal areas by opening public health centres/clinics easily accessible to the population Refreshments before or after the classes may be arranged at the adult education centres. This will help those persons who want to go to work in farms, after the classes. This is a demand put forward by many who are attending adult education classes. Region specific conditions have to be borne in mind while implementing the programme.

The study reveals that any improvement in the economic position of the tribals surely reflects in their progress in in attendance in adult education classes. Hence one should determine the ways and means to tackle their problems which occur due to poor economic situation. Implementation of such a programme is a precondition for the success of adult education programme among the tribals.

29/03

CHANGING MEDICAL AND RELATED RITUAL PRACTICES AMONG THE TRIBALS - A STUDY AMONG THE MUTHUVANS AND THE MANNANS OF IDUKKI DISTRICT

K Jose Boban*

Introduction

The objective of the present study is to examine the medical practices and healing rituals existing in the tribal communities and to evaluate the changes occurring in the traditional medical systems as a result of the influence of various factors of change. The first aspect is a descriptive study of the traditional ethnomedicinal practices which are instrumental to the diagnosis, healing and prevention of various diseases and its inner ramifications with

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other aspects of tribal life, like social organisation, religion, life cycle, etc. The second aspect of the problem deals with the challenges of medical pluralism upon ethnomedicine and the ways in which this system manages to survive (though in a subdued manner) in a period of general social change which is occurring as a result of various tribal welfare measures of the government and also with increased interaction with nontribals.

The Muthuvan and the Mannan are the two tribal communities selected for the present study. Both are hill tribes living in the mountainous regions of Idukki District of Kerala. The Muthuvans and the Mannans possess some similarities as both of them live in similar habitats and on identical tracts of the forest. The dietary habits of both communities bear a number of similar features. Barring these few similarities, both communities show difference in culture, religious beliefs, social structure, dialect, occupation and level of acculturation.

The Muthuvans and the Mannans have been exposed to modern medicine in the same period. But some variations can be seen in the ways the two communities reacted towards this external influence. Neither community accepted modern medicine in the early stages of its introduction. Their negative attitude slowly changed with the passage of time. However, it can be noticed that the Mannans are more enthusiastic about exploiting the facilities of modern medicine, while the Muthuvans are accepting it reluctantly and also due to pressure of circumstances. This is an interesting situation which invites thorough analysis on anthropological lines.

Ethnomedicine and the changing Habitat

Due to the activities of various government agencies and nontribal immigrants from the plains, a number of changes have occurred in the high ranges which is the abode of these tribals. They have converted large areas of forests into agricultural fields and monoculture plantations. Construction of dams caused displacement of a large number of tribals from their catchment areas.

This change of habitat adversely affected the life of the tribals. After establishing contact with nontribals and also due to change in the consumptions pattern, new diseases came into existence among them. The tribal medicinemen find it difficult to treat these new diseases. When the tribals found that their ethnomedicines were ineffective in curing the new diseases, some of them sought the assistance of modern medicines. From their experience, they have realized that modern medicines are very efficient in healing the new ailments.

Reasons for the survival of ethnomedicine

Ethomedicines are still persisting among the tribal communities even after the introduction of modern medicines. Of course, its former popularity and reliability have considerably eroded and a number of tribals are now exploiting the facilities of modern medicine in addition to ethnomedicines. However, through a close observation one can find out that ethnomedicines are still viable and it plays a commendable role in the treatment of ailments among them. The favourable factors for the survival of ethnomedicines are the following.

1. easy availability
2. Economy
3. Efficacy
4. Purity
5. Screening
6. Healer-patient relationship

Co-operation between Modern Medicine and ethnomedicine

Modern medicines have come to stay among the tribes and flourish along with ethnomedicines are which is still strong in the tribal universe. Both play relevant roles in their health care and the tribals exploit the facilities of the two systems with a sense of pragmatism. As the ultimate aim of both systems of medicine is to preserve the health of people by fighting diseases, new avenues must be opened to bring forth chances of better cooperation between the doctors and the traditional healers. Such an understanding will be very useful for a modern medical practitioner. Then only he can interpret the behaviour of tribal patients and understand why they are responding in a particular fashion on certain occasions.

Health education : The urgent need

The tribals need to be made aware of the various aspects of health care through adequate programmes of health education. So, suitable programmes must be chalked out and implemented with the cooperation of the community as a whole and the medicinemen in particular for educating the tribals about the basic

necessities of health care like preservation of safe drinking water, personal hygiene, home sanitation, environmental sanitation, prevention of the spread of epidemics, etc. While introducing the modern ways of health care, special efforts must be made to enlighten them about the utility of their ethnomedicines.

Conclusion

The ethnomedicine of tribals is in a process of change due to interaction with other cultures. The influence of nontribal immigrants from the plains and the introduction of modern medicine into the tribal universe affected ethnomedicines and brought changes into this system. However, the confrontation between the ethomedicine and modern medicine resulted in a coexistence of the two and a division of labour. It is found that the introduction of modern medicine did not result in the complete destruction of ethnomedicine. Depending upon the nature of disease and mode of treatment the tribals pragmatically avail of the services of both systems.

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04

MUTHUVAN TRIBES OF IDUKKI DISTRICT

S. Rajendran

In this paper an attempt is made to study the cultural history of the *Muthuvans*, their folk literature and traditions.

The Muthuvan Tribe

This tribe differs from other tribes in their cultural features. The Muthuvans are of mixed origin according to Marco and Edgar Thurston. The information collected for the study also strengthen this view.

The information collected during field study is as follows. The ancestors left Madurai when there was a famine and moved towards a safer place in the forests and hills. As they roamed about they came across a river. They carried the '*Thampurakkal* - the rulers on their back and crossed the river. So they were given the title '*Muthuvan*' by the king in appreciation of their service. We can conclude that the Muthuvans may have left Madurai during the Pandian rule. As they carried the children and things on their back they were known as *Muthuvan*.

The habitats of the Muthuvan

The Muthuvans are gregarious and dwell in called '*kudi*'. In Idukki district there are altogether 87 such kudies.

Appearance

Some are tall, good looking and fair. Others are short and dark.

Dress and ornaments

Men wear a loin cloth and turban. A blanket is invariably tied on the back, to carry all their indispensable belongings.

Women wear a long cloth around the body with the end tucked well and having a cradle type of berth on their back to carry the babies. The women brush their hair well and tie it up in high knots. They use hair nets, slides and clips and wear ear rings, nose rings, beads on their neck and gold chains.

Language

These folks speak Tamil and Malayalam. Besides this they also have a language of their own.

Dwelling

Generally the houses are built in convenient places using bamboo, grass, 'etta' wood and leaves. It normally has two rooms roughly of 12 ft. length and 10 ft. width.

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Chavadi or Chathiram (council-hall)

Two separate chavadies are found in the Muthuvan settlement. One for boys and the other for girls.

The place where girls stay is called *'Ilantharimadam'*. Grand mothers chaperon the young girls.

Bathing hut

A hut is built exclusively for women to stay during their menstural period slightly on the outskirts of the settlement. This is referred as 'kuzhippuveedu' or bathing hut.

Agriculture

As these tribes do not reside in any one place permanently, their cultivation of crops keeps varying. *Ragi* and maize are the two principal crops. They do not give importance to paddy cultivation. No insecticide or fertilizer is used. The money yielding crops like cardamom and lemon grass are grown in large quantities.

Food

Rice, wheat, maize, tapioca, ragi etc. form their staple food along with green gram, dhal and peas. They also take chicken, black monkey, goat, deer, fishes, crabs. They love Ragi malt. They call it 'korangatti'. Added to this, they drink honey, milk and tea.

Liquor

They drink a lot of the local *'kall'*. alcohol and brandy. In fact they spend more than half of their earnings on liquor.

Celebration on maturity

When the girls matures - they are kept in the shed built outside the village called 'Muzhukkuveedu'. For the first four days after puberty she is considered untouchable. All required things will be supplied to her in the hut. This is called 'padipokkuvarathu' (things transportation).

Kondaikattu

This ceremony is common to boys and girls. This is also called *'Pampaikattu'*. Usually this is celebrated during Pongal festival. This is done a few years before marriage and is considered as a function proclaiming maturity.

Marriage

The form of marriage of the Muthuvans is different and is interesting. When a boy attains the age of marriage he expresses his desire to his friends - usually his cousin. They convey this to the boy's father. The parents in turn inform the maternal uncle. The practice is to marry the daughter of the maternal uncle. The bride is then sent to the forest along with her friends in the early hours. No one should know as to when she departs or return.

The groom should carry the dresses needed for the bride on his back. He must go to the forest with his friends and find the girls. The time permitted is one week. If the groom does not succeed then the marriage will not take place. When the girl is found the groom's friend holds the bride's hand and the wedding is over.

Funeral rites

When a person dies, news is conveyed to the whole community. The head of the family - male or female must represent their family in the funeral. The *'tantric'* has a vital role in the funeral rites. He sprinkles rice on the people standing around the corpse, after reciting the 'Mantras'. People believe that this guard them from the evils spirits. The corpse is carried on a bier and buried. Then they go to river and bathe. the funeral rites are called as *'Karumathi'*.

Pongal festival

The Pongal festival is celebrated in the Tamil month of Thai (January). All wear new dresses and special offerings are made in the temple and at home. The goats are offered in the temple. Pongal celebration goes on for ten days. A buffoon is elected for this festival. On all the ten days he should not bath or even brush his teeth. He changes his makeup to evil spirit, a female etc. and entertains everyone by going round the village. *Pongal* is prepared and offered to the God.

Beliefs

These folks believe that the dead will appear in dreams and talk. They wear ornaments like finger rings and bangles made of copper. The Muthuvans believe one should not say lies, if one does the Gods will be angry.

Drinking the cow's milk which has lost its calf or milking of such cow's is considered to be a sin. Also selling the cows milk is believed to be a sin.

Folk Literature

The folk literature of the Muthuvans are of two types viz. songs and prose. The songs consists of ballads and solitary ones. The folk literature of these people conveys the cultural heritage of this tribe. Besides this, they have knowledge of sculpture, painting, music, dance, drama and handicrafts.

Conclusion

Based upon the anthropological and social studies of the ancient tribes, there is no doubt that Muthuvans form an old tribe. The evidence collected during field study also adds credence to this belief. They live in the forest with a culture of their own. They are not literate. And the non tribal people take advantage of their innocence. The Government should take all steps to improve and uplift the life of the Muthuvans.

30 FISHERFOLK : MARGINALISATION AND MOBILISATION

30
01

IMPACT OF NEW ECONOMIC POLICIES ON THE FISHERIES SECTOR OF KERALA

K.M.Shajahan*

The New Economic Policies (NEP) of the government of India being implemented under the aegis of World Bank - IMF is having a deleterious impact upon the fisheries sector of Kerala. It is our argument that the NEP are going to worsen the crisis in the fisheries sector. It would become clear if one identifies the major current problems faced by the sector.

a. **Ecological degradation and resource depletion** : Export promotion motivated policies adopted in the fisheries sector in the post-independence period had resulted in promotion of indiscriminate mechanisation, introduction of inappropriate fishing technology, subsidised over investment all leading to over exploitation of marine resources.

b. **Marginalisation of traditional fishermen** : The new technology and means of production were owned by entrepreneurs from outside the fisherman community and consequently, the traditional fisherfolk did not gain from the gains of export led growth. On the other hand, their incomes were severely affected by the indiscriminate fishing adopted by the trawler sector. The gains were cornered by a small group of non-working trawler owners and a minuscule number of exporters. Starting from the early seventies,this inequality in income and thereby decline in the standard of living was a major source of severe conflict between the traditional fisherfolk and mechanised trawler sector. This was the background of successful mobilisation of traditional fishermen in the seventies and eighties.

c. **The domestic consumers welfare** also suffered as the domestic fish price rose.

The New Economic Policies with respect to the fisheries sector imply an even greater emphasis on export promotion, greater market biased choice of technology, opening the sector to multinational monopoly investment, like in the cost of fishing inputs due to removal of subsidies, particularly fuel. All this would worsen the problems we have identified above. On the otherhand, as a result of over emphasis on export of marine products, there will be increasing tendency to supplement the export basket with fish varieties which mainly cater to the domestic market. The market solutions to the choice of technology can lead to severe environmental degradation. The tradition of the World Bank with respect to forest resources has been one of mining them out, to be replaced by human controlled reproduction of commercial varieties of trees. In the fisheries sector the policy makers pay little attention to conservation but focus excessively on aquaculture.

Another important reflection of the New Economic Policy has been the visible awakening of the deep sea fishing industry. A large number of multinational companies have shown active interest to enter into collaboration with Indian companies to undertake deep sea fishing on commercial terms. The schemes for development of deep sea fishing constitute the core of the 8th five year plan of the government of India. The programme envisages introduction of over 2600 deep sea fishing vessels of over 12m to 40m size in the Indian waters. Of this, 1005 vessels are proposed to be introduced in the south west coast of India which includes Kerala's coast also. This extension of the deep sea fishing fleet is supplemented by 100% export

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oriented joint ventures. The performance of deep sea fishing operations at visakhapatanam in Andhra Pradesh has been aptly summed up by T.R. Thankappan Achari and A.J. Vijayan as follows: "

"The traditional fishermen were bypassed in the exploitation of the offshore deep sea fisheries.

* The deep sea fishing fleets were interested only in export varieties and valuable species, this in no way satisfied the needs of domestic consumers.

* In their pursuit of shrimp, they discarded other species, thus destroying and depleting large quantities of fish and

* Heavy financial loss to the public exchequer."

The above said details demonstrate that the attempts to undertake deep sea fishing in the country has failed on all counts. But in the pretext of new economic policies, the same experiment is being undertaken again on a very large scale. Moreover, the super imposition of alien technologies not suited for tropical waters will definitely lead to severe resource depletion at a faster rate. The deep sea fishing technologies which are highly capital intensive in nature will displace large amount of Indian labour already involved in the fishing sector.

The fisheries policy adopted by the government of Kerala is strictly in line with deep sea fishing policy adopted by the Central Government. As mentioned earlier, around 50% of the deep sea fishing vessels are proposed to be introduced in the south west coast of India which includes Kerala also. It is quite natural that a major share of these vessels will concentrate on Kerala waters - the most productive stretch of sea in the country. The Kerala fisheries sector already over burdened with a large number of fishing crafts will not be in a position to absorb the deep sea vessels proposed to be introduced in future. The consequent environmental problems and social tensions which is bound to erupt as a result of this measure will be very severe.

Within a few years of the initiation of export oriented strategy as a part of the New Economic Policies itself, the trend to supplement the marine products export basket with fish varieties at present sold to the local population has already set in. For example, the quantity of fish and frozen fish exported from the country between 1992-93 and 1993-94 (April - March) has shown an increase of around 25 percent (from 75794 tonnes to 94022 tonnes). It is very clear that this tendency will assume greater strength in the coming years. Under the new strategy, the major share of various varieties of fish will be caught by highly capital intensive technologies thereby leading to further immiserisation of the traditional fisherfolk and less fish for local consumption.

Though the above said are the major impact of the new policies, measures like with-drawal of subsidies for essential commodities like food items, fuel, etc., could be very severe. The general price rise of food items has already hit the traditional fishermen community hard.

There is a growing awareness among all concerned about the need to resist the new policy directive of the Central Government in the fisheries sector. In Kerala we are witnessing an interesting realignment of forces in the fisheries sector. An important feature of the rift in this sector so far has been the deep divide between the fish workers in the trawler sector and the traditional fishermen community. Based on a major slogan for ban on trawling during the monsoon months of June, July and August, the traditional fishermen community of the states have conducted major struggles. This has led to a ban though on a limited scale on trawling. But the mechanised trawler sector resisted this move strongly leading to perennial conflict between the two groups.

But with the initiation of New Economic Policies with its negative impact on the fisheries sector of Kerala, a total realignment of forces with divergent economic interests including the traditional and the trawler sector fishermen seems to be taking place. The move initiated by the National Fishermen Forum (NFF) has been joined by all major political parties of the state. This attempt marks the beginning of a new phase in the development of fishermen movements in the state.

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02

SOCIAL MOBILIZATION IN KERALA FISHERS, PRIESTS, UNIONS, AND POLITICAL PARTIES

Jona Halfdanardottir*

In my paper I discuss the emergence of social organizations and increasing politicization of the marine fisherfolk and the role played by Catholic priests in these processes. Cultural, in this case religious, factors played a decisive role in political mobilization. The population of marine fisherfolk in the state totalled 734,000 persons in 1989-90. Active marine fishermen numbered 134,000 men in 1985-86, whereof approximately 85% were engaged in artisanal and 15% in mechanized fishing. In addition to active fishermen hundreds of thousands of people are employed in activities related to fishing.

Culturally, Kerala's fisherfolk are far from forming a homogeneous group. The main factor determining their cultural identity is provided for by religion. Of the fishing population 27% are Hindus, 30% Muslims and 37% Roman Catholics. The status of the fisherfolk in the traditional Hindu stratification system was one of the lowest of all groups of outcastes. But although a large number of them were converted, they did not escape the 'untouchable' status ascribed to their occupation. Therefore, the different religious communities faced similar social stigmatization and the same miserable social reality.

Three main interacting factors may be discerned which gave rise to increasing politicization and social organization of fisherfolk in the late 1970s.

First, fast decreasing catches of some important fish species denoted overfishing in Kerala's coastal waters in the 1970s, consequent to drastic changes in the techniques and methods of fishing and sharp increase in fishing effort. In an effort to accelerate fish production Kerala's government had stimulated technical modernization of the fisheries. Until the mid-1960s the main emphasis was laid on upgrading existing techniques and gradually introducing new ones. After that state support and subsidies were chiefly made available for investments in mechanized boats and the latest techniques in fish processing. State subsidies for the development of the artisanal fisheries were withdrawn.

The implementation of modernization policy plus increase fish prices, particularly for prawns, caused a spurt in investments in the fisheries, and the boat fleet grew at a fast rate. Until the mid 1970s there was a noticeable increase in fish landings in Kerala. But after the mid 1970s there was a steady decline in the production of prawns, and the total fish landings began to fluctuate. The fact is that no notice had been taken of either the existing ecological and social systems, or ecological and socio-economic consequences the modernization-cum-growth model. No effort was made to change the exploitative social structure in the villages, characterized by a sort of feudalistic relationship between fish merchants-cum-moneylenders and the fisherfolk. Therefore, a process started where those with economic and political power were able to consolidate their power position. Moreover, most of the fishermen who did acquire mechanized boats were unable to manage the higher investment, in the end losing their fishing assets into the hands of fishmerchants - cum moneylenders. Further, Kerala's fisheries saw a rapid entry of persons from communities traditionally not involved in fishing, which broke the former caste barrier of the sector.

With no measures to restrict the harvesting of the fish resources in the coastal waters, the modernization process soon led to overfishing. Artisanal fishermen experienced a decline of 50% in productivity from 1969-70 to 1979-80, and their share in the total catches decreased drastically. Direct, often violent confrontations at sea between artisanal and mechanized boats became common. The situation culminated in massive unrest in the fishing villages in the late 1970s.

Second, the artisanal fisherfolk were, so to say, socially and politically a "forgotten" group. Political parties, left and right, neither showed any interest in mobilization work in the fishing villages nor did they react on the fisherfolk's problems. The main

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reason why left parties refrained from mobilizing the artisanal fisherfolk was that they were regarded as a vote-bank for the Congress party and the Muslim League. Actually the latter parties did not have to make any effort to obtain the fisherfolk's votes. The reasons for the fisherfolk's voting behaviour are based on a complex of socio-cultural and historical factors. The most important are: affinity of religious institutions and communal organizations with the above mentioned political parties, and the influential role of religious leaders in the fishing villages.

Although the political parties presence is rather recent in the fishing communities, the church as a social institution played a dominant role in the Catholic villages. Though other leaders existed, the priest had a major say in village affairs. Thus the priest's role was not limited to spiritual or religious matters. He also engaged himself in all secular matters, even telling the fisherfolk which party they should vote for at election times. Until recently, the only option was the Congress party.

Third, individual Roman Catholic priests and social workers active in various fishing villages, sought in the late 1970s to canalize the rising spontaneous protests of the people into organized action for defense of their interests. Indeed, this was not the first time that Catholic priests mobilized the fisherfolk into political action. After the first CPI government came to power (1957) the opposition, primarily the Catholic church and the organization of the high caste Nayars,mounted violent agitations against intended reforms in the agrarian and school systems. The Catholic church effectively managed to activate the Catholic fisherfolk into the agitations. In fact, this might be considered as marking the first stage of the fisherfolk's politicization. At that stage, however, their political participation was purely communal in character stimulated by Catholic priests safeguarding the interests of the church and the vested order.

In the 1970s an important development took place concerning the priests' engagement with the fisherfolk. At that time some of them began acting as individuals promoting changes in the existing social relations within the villages, instead of practising their traditional role only as representatives of the institutional church and the existing social order. In essence, the priests motivated a turn form the conventional ideology by rejecting that the existing exploitative social order is based on the 'will of God' and the fisherfolk's poverty is their 'fate', toward a more progressive or the reasons for their miserable socio-economic situation and mobilized them into direct organized action to change it In several fishing villages in southern Kerala priests and/or social workers motivated the creation of grassroot fishers' cooperatives and unions.

In 1980 representatives of different fishers' associations met and formed the Kerala Swatantra Matsya Thozilali Federation (KSMTF). Even though the majority of these organizations were Catholic, this was an important step in uniting the fisherfolk of different religious communities around their common cause. But when a Congress-led government came to power in Kerala in 1982, the shape of the union changed and conflicts within it escalated. The conflicts finally led to a split in the federation in 1983. The conservative faction broke away to form another union which had the backing of the church hierarchy, the Congress party, and parties to the right. Simultaneously, KSMTF officially was registered as a trade union.

The KSMTF was at the front of widespread protests of Kerala's fisherfolk in the early 1980s. The union was chiefly concerned with struggle for social betterment for the fisherfolk and against the destruction of their means of subsistence. Subsequently, in the early 1980s the larger political parties created their own fishers' unions. Anyhow, KSMTF has been the leading force concerning strategies and demands and joint struggles of the unions have been common. This has been reflected in increasing cooperation between KSMTF and unions sponsored by the left parties.

In addition to organizing into unions, fisherfolk in various villages in southern Kerala created grassroot cooperatives. In the early 1980s a number of local fisher's cooperatives active in Quilon, Trivandrum and Kanyakumari (in Tamil Nadu) districts joined together to form the South Indian Federation of Fishermen Societies (SIFFS). The cooperatives have tried to break down the exploitative social structure in the villages e.g. by taking the functions of marketing and intermediating of loans into their own hands.

Although Kerala's fisherfolk still face enormous socio-economic problems, and their grassroot associations only involve a small part of the total fishing population, at least locally they have been able to curb the malpractices of the

elites, and influence policy making in the fisheries. It might be argued that the modernization of the fisheries, the subsequent depletion of the coastal waters, and the increased competition over the resources enhanced changes in the political and social culture of the villages. Paradoxically, in view of the traditional conservatism of the catholic church, the prime mover for translating the people's dissatisfaction over their difficult socio-economic situation into political action were Catholic priests.

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03

MARINE BIO-DIVERSITY CONSERVATION AND THE FISHWORKER'S STRUGGLE TO PROTECT THEIR LIVELIHOOD IN KERALA

John Fernandez·

Introduction

Kerala lies on the south west coast of the Arabian Sea. It is one of the nine maritime states of India, and the seventh largest fish producing country. Kerala is the largest marine fish producing state in India contributing more than 30% of the total marine fish production and more than 36% of marine products exports. It has a long sandy unbroken coastline of over 590 kms providing sea borders to nine out of the fourteen districts of Kerala. Fish provides protein rich food to more than 75% of the Malayalees.

In Kerala fish has become the most essential item in the daily food intake of the poor and the rich alike. Malayalees are becoming more and more fish eating. Tapioca and fish as a meal has been recommended by nutritionist as a balanced diet like milk.

Fishery resource potential in Kerala

Kerala has an economic zone of 36,000 sq.kms of marine water spread. The marine wealth in this zone is also rich in its diversity with more than a hundred varieties of economic importance. Because of the high pressure of population, the per capita availability of fishable area is only 10 hectars in Kerala as against 177 ha in Gujarat and 37 ha at the national level. There are more than 1,50,000 active marine fishermen and a population of 7.5 lakhs depend on fishing as their means of livelihood. The fishery resource potential of the continental shelf of Kerala as per an earlier estimate (1976) was about 8 lakh tonnes of which 4 lakhs tonnes was considered to be of the inshore sea area of 0-50m depth. The working group on resources constituted by Government of India estimated the resource potential in the inshore area as 5.70 lakh tonnes in 1991. After a spurt in production reaching the level of around 6.5 lakhs tonnes consistently for two years during 1989 and 1990, the marine fish production has declined to 5.64 lakh tonnes in 1991 and 5.61 lakh tonnes in 1992. As the fish landings in Kerala are almost entirely from the inshore sea, the level of exploitation has exceeded far above the maximum sustainable limit.

Marine bio-diversity

Marine bio-diversity is the very basis of the livelihood of artisanal fishworkers in Kerala. Traditionally the artisanal fishing community has been maintaining these living resources as "common property resources" available freely to local communities. The abundance and diversity of fish resources in the inshore sea of Kerala are the richest in India and probably in the world because of its unique geographic and occenograhpic features. Kerala lies within 20 degree north of the tropical latitudes of the Equator having relatively warm and stable climatic conditions year round. Such constant physical conditions allow evolution of specialized relations between marine lives, high marine diversity and high primary productivity. Forty one rivers, most of them originating from the Western Ghats which is rich in bio-diversity flow westwards carrying fresh water and nutrients and fall into the Arabian sea providing it the right saline mix and source of nutrients for fish life. A river is falling into sea at every 15km on an average. Unlike in the temperate regions Kerala coastal waters have a large variety of species though in small

Programme for Community Organisation PCO Centre, Spencer Junction, Trivandrum - 695 039.

quantities. They are available in different colours, shapes and sizes. Sandy and muddy substrata, a large number of coral reefs and benthic vegetations are other important features of our marine waters. The two monsoon rains occurring annually enrich the sea with plenty or oxygen and fresh water.

Fisheries science and technology

Fishing in the marine waters is a hunting operation. Till the middle of the 1960's artisanal fishworkers were the only people engaged in fishing. The primary basis of their production systems and life styles were derived from their concept of "Mother Sea". The artisanal fish workers manage their fishery on the basis of their knowledge systems and their science and technology. Technology consists of various craft and gear combinations. Crafts like *Kattamarams* were designed to be the most appropriate to the surf-ridden beaches for launching and landing. It can be propelled manually as well as by sails using wind energy. It is the only "unsinkable" craft in the world. The quintessence of gear technology is the "mesh size". For each species a particular gear with specific "mesh size" has been designed so that it will catch only that particular species and within that only adult ones. As most of their gears are passive, all those who cast nets on the migratory path of the fish have equal chance of getting fish. Shore-seine operation is the best example of the superior and sophisticated scientific and technical skill of the artisanal fishworkers. From the beach they look at a shoal of fish migrating at a distance of 2-3 kms away from the shore, the fishermen can judge almost accurately the type of fish, the depth at which they are travelling and speed. But in matters like literacy, formal education, health, housing and sanitation fishworkers are far behind the rest of the Kerala society. Inspite of their own "poverty" they never overfished and generally never got involved in anything that damage the marine eco system.

Fisheries scenario after the advent of planned development

With independence came the five year fisheries development plans designed on the models of "western industrial fisheries development" which placed emphasis on capital intensive technologies, maximizing production and increase in export and even more foreign exchange. This development approach did not place any emphasis on either improving the existing technology of crafts and gears or human development of the fishworkers who depend on fishery for a livelihood or on the sustainability of the fishery resources. After implementing seven such five year plans the end result in the fisheries sector raise more contradictions, conflicts and ever more marginalisation of the artisanal fishworkers.

Mechanisation and its impact

In Kerala mechanisation was synonymous with "Trawlerisation" meant mainly for the exploitation of coastal shrimp. A new technology imported form temperate waters was superimposed over a rich and diverse artisanal technology developed over centuries by the active fishing communities. This led to all kinds of disturbances within the fishery and fishing community. Shrimp was available more in the inshore waters where artisanal fishermen had been harvesting them using a variety of ecologically appropriate fishing gear. The result was destruction of fish habitats, benthic vegetation and over exploitation of marine shrimp leaving no scope for any more exploitation. The fishery industry has to look to aquaculture for increase in shrimp supplies.

Intervention from other sectors

Construction of big dams and bunds obstructs the free flow of rich nutrients downstream and fish migration. This has led to depletion of organic life in these waters. Reclamation of water bodies reduce further the already shrinking water bodies. Deforestation in the Western Ghats together with destruction of mangroves at the edges of the coastal rivers left the sea grasses and corals unprotected and excess sedimentation choked out the life in the coral reef ecosystem in Kerala. Large scale application of pesticides and chemicals in agriculture and industrial wastes pollute rivers and backwaters and thereby the sea. Coastal tourism is another threat to fish and fishworkers.

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04

FORMATION OF THE DEPARTMENT OF FISHERIES AND SOCIO-ECONOMIC CHANGE AMONG THE FISHERMEN OF TRAVANCORE: 1914-1924 A.D.

G.Sugeetha

Nutriment of the people in Travancore consisted mainly of rice, tapioca and fish. Fishing industry therefore acquired importance. Fisheries provided a means of livelihood to a large number of people both in the form of fishing and its related industries. Further, fishing provided the aptitude of the people for overseas trade and maritime activities.

The economic importance of fishing as an industry is self-evident and as such, development of fisheries formed an important plank of the Government of Sri Mulam Thirunal (1885-1925) of Travancore, even though the general trend of the Government of India towards the development of fishing was not very encouraging. Accordingly, the Fisheries Department was constituted in 1914, which introduced scientific curing and culturing of fish. It was combined with the Department of Agriculture, the head of the combined department being designated Director of Agriculture and Fisheries. Fish curing yards were opened at several places and the fishermen were encouraged to adopt new and sanitary methods of curing.

The problem before the department was firstly to increase the yield, secondly to improve the marketing facilities and thirdly to develop marine industries such as the manufacture of fish oil, fish guano, fish manure, etc. The department attempted to increase the yield by improving the existing methods of fishing by introducing new devices such as improved boats and fishing implements and by producing better arrangements for the distribution of fresh fish.

The department introduced several socio-economic schemes to improve the working and living conditions of the fisher-folk.

The fishermen were, as a class, the most backward in point of education. With the spread of education, they would become more thrifty and prudent and all difficulties in their depressed condition would be removed. The Travancore Government sanctioned the opening of a special school in 1917 for Valans, the fisher-folk inhabiting the shores of the Vembanad backwaters at Panavally, a populous fishing centre near Vaikam. Weaving and coir works were adopted in the school as part of the training in some useful secondary profession.

The organisation of co-operative societies was yet another essential for improving the economic condition of the fishermen. Such societies aimed at giving loans, taking deposits and in course of time engaging themselves in fish trade so as to eliminate the middlemen altogether, who stood between the producers and the consumers and swallowed the lion's share of the profits.

On the recommendation of the Director of Fisheries, the Government sanctioned the registry of a house-site of ten cents of *poramboke* land wherever available, free of *tharavila*, to members of the poor fishermen communities. The allocation of house-sites for this class of society was an important progressive measures of the Government of Sri Mulam Thirunal. The grant of house-sites and loans to build habitats was the only solution to save them from destruction and disease.

The organisation of the Department of Fisheries and its working helped the people who had adopted fishing as a mode of subsistence to re-discover themselves and their potential in the sphere of receptive economics.

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05

THE PROCESS AND CHALLENGES IN THE MODERNIZATION OF DHEEVARA COMMUNITY OF KERALA

K.M.Udayabhanu·

The present paper gives an account of the process of modernization among the Dheevaras, a traditional fishing community of Kerala. Modernization involves the emergence of a new behavioural system with certain distinctive characteristics, such as considerable value change in the system itself. It is a process of cultural imitation of the upper castes by the lower castes. It is said to be the changes in customs, rituals, ideology and way of life. Another term widely used as a substitute for the term modernization is 'Westernization'. The difference between these two terms are that, when there is Sanskritization, mobility may be said to occur within the framework of caste, whereas Westernization implies mobility outside the framework of caste.

Background of the problem

The Dheevaras are Hindu fishermen who practised fishing as their age old traditional occupation. What is so significant about this community's village life is the presence of strong family ties. Another noteworthy aspect is the desire of the people belonging to this community to display their distinct identity. This identity is reflected in their traits, tastes, refinement, language, culture, attitude and life style. They constitute about 41.25% of the total fishermen population of the state, the rest being Muslims (25%) and Christians (33.50%).

Historical Process of Modernization in Kerala

During the 19th and the first half of the 20th Centuries in Kerala, the socio-religious movement had primarily resulted in the creation of a new awareness among the lower castes. From this awareness, they assumed strength to fight for social justice. The following are considered to be the nodal points of agitations for social justice: the Shanar agitation (1865), the Malayail Memorial (1891), the Ezhava Memorial (1896) Vaikom (1924), Guruvayur (1931) and Paliyam (1948) sathyagrahas, and the Abstention (1932) movement. The intellectual awakening which took place in the Kerala society during this period was the immediate factor for the agitation for social justice. It wiped out many traditional social evils such as 'untouchability', unapproachability, negation of travel right and denial of temple entry.

In the early days, the Dheevaras were ruled and controlled by the Sthanis or Kadakodies of the respective area who obtained '*theetturam*' or decrees from the rulers. The village affairs were under the direct control of the Sthanis, whose consent was necessary for the conduct of marriage, funeral and puberty rites, etc. In olden times the sub-sects of the Hindu fishermen did not interdine or intermarry with one another. As a result of the effective campaign carried on by the leaders of the community, this social exclusiveness has almost disappeared.

Radical changes have been brought about in the community by the efforts of its community leaders. The Dheevaras of Kerala have contributed their due share in the process of social changes and modernization of the society as a whole.

Challenges in the modernization of Dheevara Community in Kerala

When a member of a lower caste or community improves him or her by acquiring positions of power in an organ of government or a party or as a pressure group, we call it mobility. Practically very little element of social mobility has taken place among the Dheevaras and the members of other communities. Their interaction has been invariably with the same type of people, with similar experience, ideas and culture. Consequently, they experienced much difficulty in achieving social mobility.

The present literacy rate of the community is around 84%. But in higher educational level, its performance is very poor compared with other backward communities. Economic backwardness is the major reason for the low level of higher education. In 1984 this community was

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listed as OBC. The social stigma attached to the fishing profession still continues in Kerala and the tendency of the younger generation to move away from the traditional occupation is very much evident.

Previously the Dheevaras were enjoying reservation at the rate of one post for every 40 posts. Though the Dheevaras were included in the OBC list, the quantum of reservation was reduced to 2% for Class IV posts and 1% for other posts. Introduction of the concept of creamy layer to enjoy the benefit of reservation (based on Mandal Report) is against the interest of the advanced sections of the community.

Deeply wedded to conventions, customs and manners, the traditional fishermen have been hostile to the introduction of mechanised fishing.

Political participation

Till recently, the majority of Dheevaras were the tenants of Nair and Muslim landlords. Politically, they served as the vote bank of these landlords and their political parties. After the implementation of land reforms, many Dheevaras have acquired proprietary rights in land. This social uplift has changed their attitude towards politics.

Conclusion

As the Dheevaras remained backward in education, they failed to cultivate intimate relationship with the educated sections of the high castes. But the advent of mechanised fishing has created difficulties for them. The basic elements that would enable them from getting out of the shell of tradition are education and skills related to that.

VOLUME 4

CONTENTS (*Continued*)

31

കേരളത്തിലെ മുസ്ലിങ്ങളുടെ സാമൂഹിക സാംസ്കാരിക വികാസം 1920 മുതൽ 1950 വരെ — 'ൻറുപ്പുപ്പാക്കൊരാനേണ്ടാർന്നു'', 'സുൽത്താൻ വീട്' എന്നീ നോവലുകളെ ആധാരമാക്കി ഒരു അന്വേഷണം (സംക്ഷേപം)

എം.ജമാലുദീൻ കുഞ്ഞ്*

ആമുഖം

ഇരുപതാം ശതകത്തിൻെറ ആദ്യദശകങ്ങളിൽ കേരളം അഭൂതപൂർവമായ പരിവർത്തനത്തിനു സാക്ഷ്യം വഹിച്ചു. നിഷേധിക്കപ്പെട്ടിരുന്ന അവകാശങ്ങൾ കൈവരിക്കാൻ വേണ്ടി സമുദായങ്ങൾ സംഘടിച്ചു പ്രവർത്തിക്കാൻ തുടങ്ങി. മുസ്ലീങ്ങളും ആ പാത പിൻതുടർന്നു. കേരളത്തിലെ ഇതര സമുദായങ്ങളിൽ നിന്നും ഭാരതത്തിലെ ഇതര മുസ്ലിം ഉപവിഭാഗങ്ങളിൽ നിന്നും വ്യത്യസ്തമായ സാഹചര്യങ്ങളും പ്രശ്നങ്ങളുമാണ് അവർക്കു നേരിടേണ്ടി വന്നത്. ഇതര സമുദായങ്ങൾക്ക് ബാഹ്യമോ ആഭ്യന്തരമോ ആയ ഒരു ശക്തിയോടു മാത്രം ഏറ്റുമുട്ടേണ്ടി വന്നപ്പോൾ മുസ്ലീങ്ങൾക്ക് ഒരേസമയം ഈ രണ്ടു ശക്തികളോടും ഏറ്റുമുട്ടേണ്ടി വന്നു. അതു പരിവർത്തനപ്രക്രിയയെ സങ്കീർണമാക്കി. 1920നും 1950നും ഇടയിൽ ഉണ്ടായ പരിവർത്തനം മുസ്ലിം സമുദായത്തെ സംബന്ധിച്ചിടത്തോളം നിർണായകമായിരുന്നു. വൈക്കം മുഹമ്മദ് ബഷീറിൻെറ 'ൻറുപ്പുപ്പാക്കൊരാനേണ്ടാർന്നു' (1951) പി.എ.മുഹമ്മദ് കോയയുടെ 'സുൽത്താൻ വീട്' (1971) എന്നീ നോവലുകളിൽ ഈ മാറ്റം ആകർഷകമായി ആവിഷ്കരിച്ചിട്ടുണ്ട്.

ഈ പ്രബന്ധത്തെ മൂന്നു ഭാഗങ്ങളായി തിരിക്കാം. ഒന്നാം ഭാഗത്ത് കേരളത്തിലെ ഇസ്ലാംമത പ്രചാരണത്തിൻെറ പ്രത്യേകതകൾ, ഇരുപതാം ശതകം വരെയുള്ള വികാസം, തിരുവിതാംകൂറിലും കൊച്ചിയിലും മലബാറിലും നിലനിന്ന വ്യത്യസ്ത സാഹചര്യങ്ങൾ, പത്തൊമ്പതാം ശതകത്തിൽ ഈജിപ്റ്റിൽ ഉണ്ടായ ഇസ്ലാമിക നവോത്ഥാനപരിശ്രമങ്ങൾ കേരളത്തിലെ ബുദ്ധിജീവികളിൽ ചെലുത്തിയ സ്വാധീനം, അതിൻെറ ഫലമായി രാഷ്ട്രീയ സാമുദായിക വിദ്യാഭ്യാസരംഗങ്ങളിൽ വന്ന മാറ്റം ഇവ ചർച്ച ചെയ്യുന്നു. രണ്ടാം ഭാഗത്ത് സാഹിത്യവും സമൂഹവും തമ്മിലുള്ള ബന്ധം, ബഷീറിൻെറയും മുഹമ്മദ് കോയയുടെയും കൃതികളിൽ പ്രത്യക്ഷപ്പെടുന്ന മുസ്ലിം സമുദായം, കൃതികളുടെ സാജാത്യവൈജാത്യങ്ങൾ, പരിവർത്തനം ആവിഷ്കരിക്കുന്നതിൽ പ്രകടിപ്പിച്ചിട്ടുള്ള കൗശലം, പരിവർത്തനത്തോടുള്ള സമീപനം എന്നിവ വിശകലനം ചെയ്യുന്നു. മൂന്നാം ഭാഗത്ത് സാഹിത്യകൃതികളിൽ പ്രത്യക്ഷപ്പെട്ട പരിവർത്തനം എങ്ങനെ സാമൂഹിക രംഗത്തു വികാസം നേടുന്നു എന്നു സൂചിപ്പിക്കുന്നു.

ഒന്ന്

കേരളത്തിലെ ഇസ്ലാം മതപ്രചാരണം - ചരിത്രപരമായ സൂചനകൾ:-

ക്രിസ്തുവിനു മുമ്പു തന്നെ പാശ്ചാത്യർ കേരളതീരത്തു കച്ചവടത്തിനെത്തിയിരുന്നു. പ്രധാന തുറമുഖങ്ങൾ, കൊടുങ്ങല്ലൂരും കൊല്ലവും. പെരിയാറിലെ വെള്ളപ്പൊക്കത്തിനു ശേഷം കൊച്ചിയും കോഴിക്കോടും വികസിച്ചു. കച്ചവടത്തിനെത്തിയവർ തുറമുഖനഗരങ്ങളിൽ താമസിക്കുകയും നാട്ടുകാരായ സ്ത്രീകളെ വിവാഹം കഴിക്കുകയും ചെയ്തു. ഈ ബന്ധത്തിൽ ജനിക്കുന്ന കുട്ടികളെ 'ഖലാസി'കൾ എന്നു വിളിച്ചിരുന്നു.

ഏഴാം ശതകത്തിൽ അറേബ്യയിൽ ഇസ്ലാം മതം പ്രചരിച്ചതോടെ കേരള തീരത്തെ അറബികളും അവരുടെ ആശ്രിതരും ഇസ്ലാം മതം സ്വീകരിച്ചു. ചേരമാൻ പെരുമാളിൻെറ മക്കാ യാത്രയെക്കുറിച്ചു ചരിത്രകാരൻമാരുടെ ഇടയിൽ ഭിന്നാഭിപ്രായമുണ്ട്. മാലിക് ഇബ്നു ദിനാറിൻെറ മതപ്രചാരണയാത്രയും സ്വാധീനം ചെലുത്തി.

കേരളത്തിലെ മതപ്രചാരണത്തിനു നാലു കാരണങ്ങൾ ഉണ്ട് - സാമ്പത്തികം, സാമൂഹികം, രാഷ്ട്രീയം, വൈജ്ഞാനികം. സമ്പന്നരായ അറബിക്കച്ചവടക്കാരുടെ സ്വാധീനവും സാമീപ്യവുമാണ് സാമ്പത്തിക കാരണങ്ങളിൽ പ്രമുഖം. അധഃകൃതർക്ക് സാമൂഹികമായ അടിച്ചമർത്തലുകളിൽ നിന്നു രക്ഷനേടാൻ മതപരിവർത്തനം അവസരം നൽകി. അതിനു ഭരണാധികാരികളുടെയും വരേണ്യവർഗത്തിൻെറയും എതിർപ്പും ഉണ്ടായില്ല. മലബാറിൽ മതപരിവർത്തനത്തിനു സാമൂതിരി പ്രോത്സാഹനം നൽകിയതു രാഷ്ട്രീയ കാരണങ്ങളാലാണ്. സൈനികശക്തി വർധിപ്പിക്കുവാൻ പെരുമരോടും മുക്കുവരോടും മതപരിവർത്തനത്തിനു വിധേയരാകാൻ അദ്ദേഹം കല്പിച്ചു. വൈജ്ഞാനിക കാരണങ്ങളിൽ പ്രമുഖം സൂഫികളുടെ സ്വാധീനമാണ്. വീരാരാധനയ്ക്കും ഭക്തി

* എം.ഇ.എസ്.കോളെജ്, മമ്പാട്-676 542

പ്രസ്ഥാനത്തിനും കൂറുള്ള മണ്ണിൽ സൂഫികൾ ജനങ്ങളെ ആകർഷിക്കുകയും മതപരിവർത്തനത്തിനു പ്രേരിപ്പിക്കുകയും ചെയ്തു. ആദ്യത്തെ മതപ്രചാരകനായ മാലിക് ഇബ്നുദിനാർ ആദ്യകാല സൂഫിയാണെന്നു സൂചനയുണ്ട്.

ഉത്തരേന്ത്യയിൽ രാജാക്കൻമാരോടും സൈന്യത്തോടും ഒപ്പമാണു മതവും വന്നത്. കേരളത്തിൽ കച്ചവടക്കാരോടും സൂഫികളോടും ഒപ്പവും. കേരളത്തിൽ ഷിയാ മുസ്ലീങ്ങൾ ഇല്ല. ഉത്തരേന്ത്യയിൽ നിന്നും ഭിന്നമായി കണ്ണൂരൊഴികെ മുസ്ലീങ്ങൾ ഭരണീയരായിരുന്നു. ഭാരതത്തിന്റെ ഇതര ഭാഗങ്ങളിൽ നിന്നും ഭിന്നമായി കേരളത്തിൽ മുസ്ലീങ്ങൾ ഒരു ഉപവിഭാഗമായി വികാസം പ്രാപിച്ചു. ഉറുദു മാതൃഭാഷയല്ലാത്ത ഒരേയൊരു മുസ്ലിം ഉപവിഭാഗമാണത്.

കേരളത്തിലെ മതപ്രചാരണത്തിന്റെ പ്രത്യേകത മൂലം പല പ്രാദേശികാചാരാനുഷ്ഠാനങ്ങളും മുസ്ലീങ്ങൾ സ്വീകരിച്ചു. നിലവിളക്കു കത്തിക്കൽ, താലികെട്ട്, മരുമക്കത്തായം തുടങ്ങിയവ അതിൽ പെടുന്നു. ഒരു പ്രദേശത്തുള്ളവർ കൂട്ടമായി മതപരിവർത്തനം നടത്തിയപ്പോൾ പഴയ ആചാരങ്ങളും പുതിയ മതത്തിലേക്കു കൊണ്ടുവന്നു.

ഇരുപതാം ശതകത്തിൽ ഉണ്ടായ സാമൂഹ്യമായ ഉണർവ് മുസ്ലീങ്ങളെയും ബാധിച്ചു. തിരുവിതാംകൂറിലും കൊച്ചിയിലും ഭരണാധികാരികളിൽ നിന്നു പരിഗണന ലഭിച്ചു. മലബാറിൽ ബ്രിട്ടീഷ് ഭരണാധികാരികളും ജൻമികളും അടിച്ചമർത്തിയതിനാൽ നിഷേധാത്മകമായ സമീപനം മുസ്ലീങ്ങൾ സ്വീകരിച്ചു.

ഈജിപ്ഷ്യൻ നവോത്ഥാന നായകൻമാരുടെ സ്വാധീനം വക്കം മൗലവിയെ ഉല്പതിഷ്ണുവാക്കി. അദ്ദേഹം കൊടുങ്ങല്ലൂരിലെ പുരോഗമനവാദികളുമായി ബന്ധപ്പെട്ടു. മലബാർ കലാപകാലത്ത് മലബാറിൽ നിന്നു വന്ന പണ്ഡിതൻമാർക്ക് കൊടുങ്ങല്ലൂർ അഭയം നൽകി. മൂന്നു സ്റ്റേറ്റുകളിലെ മുസ്ലിം ധിഷണാശാലികൾക്ക് സംഗമഭൂമിയായി കൊടുങ്ങല്ലൂർ മാറി. 'ഐക്യസംഘം' രൂപം കൊണ്ടു. ഐക്യസംഘത്തിന്റെ പിറവിക്കു മുമ്പുതന്നെ അത്തരത്തിലുള്ള പുരോഗമനപരമായ നീക്കങ്ങൾ ഉണ്ടായിരുന്നു.

യാഥാസ്ഥിതിക മുസ്ലിം മതപണ്ഡിതൻമാരുടെ സമീപനം:

നമ്പൂതിരിമാരും മാപ്പിളമാരും നേരിട്ട പ്രശ്നങ്ങൾ സമാനമെങ്കിലും നമ്പൂതിരിമാർക്കൊപ്പം വിജയം നേടാൻ മുസ്ലിംകൾക്കു കഴിഞ്ഞില്ല. ആധുനിക വിദ്യാഭ്യാസവും സ്ത്രീവിദ്യാഭ്യാസവും കൈക്കൊള്ളുന്നതിനോടു ശക്തമായ എതിർപ്പുണ്ടായി. മാതൃഭാഷയെയും ആംഗലഭാഷയെയും വെറുത്തു.

1920കളിലുണ്ടായ അസ്വാസ്ഥ്യവും നവോത്ഥാനപ്രവർത്തനം നേരിട്ട വെല്ലുവിളികളും പരിവർത്തനം പല വഴികളിൽ തിരിച്ചുവിട്ടു. മതനവോത്ഥാനം ആധുനിക വിദ്യാഭ്യാസം സ്വീകരിക്കാൻ പ്രേരിപ്പിച്ചു. ആധുനിക വിദ്യാഭ്യാസം രാഷ്ട്രീയമായ ഉണർവു സൃഷ്ടിച്ചു.

പരിവർത്തനത്തിനു മുമ്പിൽ പകച്ചുപോയ യാഥാസ്ഥിതികത്വം. അതിന്റെ പരാക്രമങ്ങൾ നടത്തി. സമുദായം മാറ്റം ഉൾക്കൊണ്ടു.

രണ്ട്

കലാകാരനും സമൂഹവും പരസ്പരം ബന്ധപ്പെട്ടിരിക്കുന്നു. നല്ല കലാകാരൻ മാനവികതയുടെ വക്താവാകുന്നു.

മുസ്ലിം സമുദായം മലയാളസാഹിത്യത്തിന് അന്യമായിരുന്നു. അറബി-മലയാളത്തിലെ സമാന്തരസാഹിത്യം മറ്റുള്ളവർക്ക് അപ്രാപ്യമായി നിലകൊണ്ടു. 'മുഗിയുദ്ദീൻമാല'യാണ് ആദ്യത്തെ അറബിമലയാള കൃതി. അന്ധവിശ്വാസവും അനാചാരവും പ്രചരിപ്പിക്കുവാൻ പൗരോഹിത്യം സ്വാർത്ഥലക്ഷ്യത്തോടെ പ്രവർത്തിച്ചു. സമ്പന്നർ അതിനു കൂട്ടുനിന്നു.

മുസ്ലിം സമുദായത്തെ അവതരിപ്പിച്ച എഴുത്തുകാരനാണ് വൈക്കം മുഹമ്മദ് ബഷീർ. ആദ്യകൃതിയായ ബാല്യകാലസഖി (1944) പ്രസിദ്ധീകരിക്കാൻ മുസ്ലിം പ്രസാധകർ വിസമ്മതിച്ചു. സമുദായത്തെ ആവിഷ്കരിക്കുന്ന, ലക്ഷ്യബോധത്തോടെ രചിച്ച നോവലാണ് 'ൻറുപ്പുപ്പാക്കൊരാനേണ്ടാർന്നു' (1951). അതിന്റെ രചനയിൽ സർ സെയ്യിദ് അഹമ്മദ്ഖാന്റെ സ്വാധീനം കാണാം. യാഥാസ്ഥിതികത്വത്തിനെതിരെ ഉല്പതിഷ്ണുത്വം നേടുന്ന വിജയം ആവിഷ്കരിച്ചിരിക്കുന്നു. വിദ്യാഭ്യാസം നേടിയ തലമുറ പാരമ്പര്യത്തിൽ ഊറ്റംകൊണ്ടു തകർന്നടിയുന്നവരെ കൂടി ഉയർത്തിക്കൊണ്ടുവന്നു.

'ൻറുപ്പുപ്പാക്കൊരാനേണ്ടാർന്നു' — വിശകലനം, പ്രമേയം, ഇതിവൃത്തം, കഥാപാത്രങ്ങൾ, വീക്ഷണകോടി ഇവയുടെ അപഗ്രഥനം — പല തലങ്ങൾ.

'സുൽത്താൻ വീട്' (1971) വിശകലനം, പ്രമേയം, ഇതിവൃത്തം, കഥാപാത്രങ്ങൾ, വീക്ഷണകോടി ഇവയുടെ അപഗ്രഥനം. രണ്ടു നോവലുകളിലെ സമാനാംശങ്ങൾ — ഇരു കൃതികളും തമ്മിലുള്ള വ്യത്യാസം. കലാപരമായ പരിഗണനകൾ — വിലയിരുത്തൽ.

മൂന്ന്

സാഹിത്യത്തിൽ നിന്നു ജീവിതത്തിലേക്ക് — സമുദായത്തിൽ സംഭവിച്ച മാറ്റം സൂചിപ്പിക്കുന്നു. മതനവോത്ഥാനത്തിന്റെ ഫലങ്ങൾ — വിദ്യാഭ്യാസം സൃഷ്ടിച്ച മാറ്റം — 'ഐക്യസംഘ'ത്തിന്റെ പിൻമുറക്കാർ പുതിയ പാതയിലേക്ക്.

44

കർഷകപ്രസ്ഥാനം പാലക്കാട് താലൂക്കിൽ

ആർ.കൃഷ്ണൻ. ആലത്തൂർ*

ഇന്ത്യയിലെ കർഷകജനതയുടെ അവകാശങ്ങളും ദേശീയ സ്വാതന്ത്ര്യവും നേടുന്നതിനായി 1936ൽ അഖിലേന്ത്യാ കിസാൻസഭ രൂപീകരിച്ചതിനുശേഷം അതിന്റെ പ്രവർത്തനങ്ങൾ മലബാറിലും ആരംഭിച്ചു. കണ്ണൂരിൽ 1935ൽ തന്നെ വിഷ്ണുഭാരതീയന്റെ നേതൃത്വത്തിൽ ഒരു കർഷക സംഘം രൂപീകരിച്ചിരുന്നു.

1937ൽ ഇടതുപക്ഷ കോൺഗ്രസ്സുകാർ പാലക്കാട് ജൈനമേടിനു സമീപം മാവിൻതോട്ടത്തിൽ ഒരു വളണ്ടിയർ ക്യാമ്പ് സംഘടിപ്പിച്ചിരുന്നു. ആ ക്യാമ്പിൽ ഞാനൊരംഗമാവുകയും രാഷ്ട്രീയപഠന ക്ലാസുകളിൽ പങ്കെടുക്കുകയും ചെയ്തു. പേവായൂരിൽ നടന്ന രണ്ടാം മലബാർ കർഷകസമ്മേളനത്തിൽ പാലക്കാടു നിന്നും ജാഥയായി ഞങ്ങൾ പുറപ്പെട്ടു.

കുടിയിരുപ്പുകാരൻ 'തറകുത്തിയവകാശ''ത്തിൻമേലാണ് വീടുവെയ്ക്കാൻ സ്ഥലം പാട്ടത്തിനു വാങ്ങുന്നത്. സാമ്പത്തിക കഴിവിനനുസരിച്ച് നാലോ അഞ്ചോ സെന്റ് മുതൽ മേല്പോട്ടായിരിക്കും പാട്ടത്തിനേൽക്കുക. നാലണ മുതൽ മേല്പോട്ടായിരിക്കും വിസ്തൃതിക്കനുസരിച്ച് പാട്ടം നിശ്ചയിക്കുക. കുടിയിരിപ്പു പറമ്പിൽ മതിൽ കെട്ടണമെങ്കിൽ, കിണർ കുഴിക്കണമെങ്കിൽ, പ്ലാവോ തേക്കോ മുറിക്കണമെങ്കിൽ, പുര ഓടിടണമെങ്കിൽ ഭൂവുടമസ്ഥന്റെ സമ്മതം വാങ്ങണം. ഒഴിയാൻ പറഞ്ഞാൽ ഒഴിഞ്ഞു കൊടുക്കണം.

നെൽപാടങ്ങൾ പാട്ടത്തിനേറ്റു വാങ്ങുന്നത് ഒരു കൊല്ലത്തേക്കായിരിക്കും. കൊല്ലം കഴിഞ്ഞാൽ ഭൂവുടമ ആവശ്യപ്പെട്ടാൽ ഒഴിഞ്ഞു കൊടുക്കണം. പാട്ടം നിശ്ചിത നെല്ല് പാട്ടപ്പറക്കു അളന്നു കൊടുക്കണം. മിക്ക ഭൂവുടമകളും രശീതി നൽകില്ല. പാട്ടം ഏഴു മേനി മുതൽ ഇരുപതു മേനി വരെയാണ്.

കാണക്കുടിയാൻമാർക്ക് 12 കൊല്ലത്തേക്കാണ് ഭൂമി ചാർത്തിക്കൊടുക്കുക. ഒരു നിശ്ചിത സംഖ്യ ഭൂവുടമ വാങ്ങുകയും അതിന്റെ പലിശ കഴിച്ച് ബാക്കി മിച്ചവാരം എന്ന പേരിൽ വാങ്ങുകയും ചെയ്യും. 12 കൊല്ലം കഴിഞ്ഞാൽ പൊളിച്ചെഴുത്തവകാശം കൊടുത്ത് വീണ്ടും ചാർത്തി രജിസ്റ്റാക്കിക്കണം. അവരും കുടിയാൻമാരാണ്. ചാർത്തു പുതുക്കുന്നില്ലെങ്കിൽ ഭൂമി ഒഴിഞ്ഞുകൊടുക്കണം. ചില ജൻമികൾ മറ്റു കുടിയാൻമാർക്കും മേൽചാർത്തു കൊടുത്തു എന്നുംവരും. ദേവസ്വങ്ങൾക്കും കാണക്കുടിയാൻമാരും വെറുമ്പാട്ടക്കുടിയാൻമാരുമുണ്ടാകും.

നിശ്ചിത പാട്ടത്തിനും മിച്ചവാരത്തിനും പുറമേ കുടിയാൻ ഓണക്കാഴ്ചയായി വാഴക്കുല ജൻമിയുടെ വീട്ടിൽകൊണ്ടു കൊടുക്കണം. ഭൂവുടമയുടെ വീട്ടിൽ കല്യാണമോ അടിയന്തരമോ ഉണ്ടെങ്കിൽ ആവശ്യപ്പെടുന്നതെല്ലാം കുടിയാൻ കൊണ്ടുകൊടുക്കണം.

ചില ഭൂവുടമകളുടെ കുടിയാൻമാരോ കുടിയിരുപ്പുകാരോ കല്യാണം കഴിച്ചാൽ ജൻമിയാണ് ആദ്യ രാത്രി വധുവിനെ ഉപയോഗിക്കുക. ഭൂവുടമയുടെ മുമ്പിൽ കുടിയാൻ പാദരക്ഷ ധരിച്ചോ കുപ്പായം ധരിച്ചോ തോർത്ത് ചുമലിലിട്ടോ നിൽക്കാൻ പാടില്ല. തോർത്തുമുണ്ടു കക്ഷത്തുവെച്ച് വായപൊത്തി ''അടിയൻ'', ''റാൻ'', ''കരിക്കാടി'' തുടങ്ങിയ പ്രാകൃത ഭാഷയിലേ സംസാരിക്കാവൂ. കുടിയാൻമാരുടെയും തൊഴിലാളികളുടെയും സ്ത്രീകൾ റവുക്കയോ, ജാക്കറ്റോ, ബ്ലൗസോ, മേൽമുണ്ടോ കൊണ്ടു മാറുമറച്ചു ജൻമിമാരുടെ വീടുകളിലും പാടത്തും പോകാൻ പാടില്ല. പെറുമ സ്ത്രീകൾ മുട്ടിനു താഴെ മറച്ചു മുണ്ടുടുക്കാൻ പാടില്ല. അപമാനവും ഭീഷണിയും അയിത്തവും ശാരീരിക മർദനവും തിരിഞ്ഞുനിന്നാൽ പോലീസ് മർദനവും ''എടാ'', ''എടീ'' എന്നീ വിളികളും സാധാരണയായിരുന്നു.

ഈ സമ്പ്രദായങ്ങളെ വെല്ലുവിളിച്ചുകൊണ്ടായിരുന്നു ഇവിടെ കർഷകപ്രസ്ഥാനം രൂപംകൊണ്ടു വളർന്നത്. ഇത്തരം മർദനങ്ങൾക്കും അപമാനങ്ങൾക്കും ചൂഷണങ്ങൾക്കും എതിരായി ജാതി നോക്കാതെ, മതം നോക്കാതെ അധ്വാനിവർഗമെന്ന നിലയ്ക്ക് ''സംഘടിച്ച് ശക്തി നേടി'' സമരം ചെയ്യുകയല്ലാതെ മറ്റും പോംവഴി ഇല്ലെന്ന് കൃഷിക്കാരെയും തൊഴിലാളികളെയും സംഘടിപ്പിക്കാനിറങ്ങുന്ന പ്രവർത്തകരെ അപമാനിക്കാനും, ശാരീരികമായും, മാനസികമായും, സാമ്പത്തികമായും നശിപ്പിക്കാനും ഭൂപ്രഭുവർഗവും അവർക്കു കൂട്ടുനിൽക്കുന്ന പിന്തിരിപ്പൻമാരും ഗവൺമെൻറും

* എക്സ് എം.എൽ.എ.; ആലത്തൂർ-678 541

അവരുടെ സകല കഴിവുകളും ഉപയോഗിച്ചുകൊണ്ടിരുന്നു. ഊരുവിലക്കും സമുദായഭ്രഷ്ടും അറസ്റ്റും അടിയും വെടിയും ജയിലും വകവെക്കാതെ പ്രവർത്തിച്ച് രക്തസാക്ഷികളായവരും, ജീവനുള്ള രക്തസാക്ഷികളും ധാരാളമുണ്ട്. ആയിരക്കണക്കിനാളുകൾ ത്യാഗങ്ങൾ സഹിച്ചതിന്റെ ഫലം അവരുടെ പിൻതലമുറ അനുഭവിക്കുന്ന കാഴ്ച കേരളത്തിലെവിടെയും ഇന്നു കാണാം.

അധ്വാനിച്ചു ജീവിക്കുന്ന കർഷകജനവിഭാഗം സ്വയം സംഘടിക്കുമെന്നു കരുതുന്നതും ശരിയല്ല. ജീവിത പ്രശ്നമാണിതിനു കാരണം. ഭക്ഷണത്തിനും, പാർപ്പിടത്തിനും മറ്റുള്ളവരെ ആശ്രയിക്കേണ്ടിവരികയും തൊഴിൽ ചെയ്തില്ലെങ്കിൽ പട്ടിണികിടക്കേണ്ടിവരികയും ചെയ്യുന്നവർ തൊഴിലിനും കൃഷിഭൂമി കൈവശം കിട്ടാനും വേണ്ടിതന്നെ തമ്മിൽ തമ്മിൽ മത്സരിക്കേണ്ടിവരുമ്പോൾ അവർ സ്വയം സംഘടിച്ച് വർഗസമരം നടത്തുമെന്നു കരുതുന്നതബദ്ധമാണ്. എല്ലാം ദൈവവിധിയും തലേലെഴുത്തുമാണെന്നവരെ പഠിപ്പിച്ചവരാണ് മേലാളൻമാരും അവരുടെ അനുചരൻമാരും.

പാലക്കാട് ജില്ലയിൽ ആദ്യത്തെ കർഷകതൊഴിലാളി സമരം

വണ്ടാഴി കിഴക്കേ മുറിയിൽ പി.അപ്പു ധനശേഷിയുള്ള വൻകിട കൃഷിക്കാരനായിരുന്നു. അപ്പു കർഷകസംഘവുമായി യോജിച്ചിരുന്നില്ല. അപ്പുവിന്റെ കുടുംബത്തിലുള്ള ചിലർ കർഷകസംഘം പ്രവർത്തകരായിരുന്നു. കർഷകതൊഴിലാളികളും അപ്പുവുമായി തൊഴിൽ തർക്കമുണ്ടായി. പണിമുടക്കു സമരമാരംഭിച്ചു. തറകംതോറും വിശദീകരണയോഗങ്ങൾ നടത്തികൊണ്ടിരുന്നു. വണ്ടാഴി, മുടപ്പല്ലൂർ, കിഴക്കഞ്ചേരി വില്ലേജുകളിലെ കൃഷിക്കാരും, കർഷകതൊഴിലാളികളും ചെത്തുകാരും സമരത്തെ സഹായിച്ചുകൊണ്ടിരുന്നു.

കിഴക്കേമുറിയിൽ ഒരു വലിയ പൊതുയോഗം സംഘടിപ്പിച്ചു. ജാഥകളായി ആളുകൾ വന്നു നിറഞ്ഞുകൊണ്ടിരുന്നു. സി.എച്ച്.കണാരനും എം.നാണുവും ഞാനും പ്രസംഗിച്ചു. പ്രസംഗങ്ങളിൽ ആവേശഭരിതരായവർ നീണ്ടകരഘോഷം നടത്തികൊണ്ടിരുന്നു.

സമരത്തെ നേരിടാൻ എം.എസ്.പിക്കാർ വന്നു. എടത്തുകാരുടെ കളത്തിൽ ക്യാമ്പ് ചെയ്തു.

എം.നാണു, പൊന്നു, കണ്ടേലൻ, ചാമിയാർ, സി.വി.മാധവൻ, അപ്പുക്കുട്ടൻ എന്നിവരെയും എന്നെയും അറസ്റ്റ് ചെയ്തു. കേസ് വാദിച്ചു. ഓരോ കൊല്ലം നല്ല നടപ്പുജാമ്യത്തിനു ശിക്ഷിച്ചു.

അന്ന് പാലക്കാട് താലൂക്ക് പാർടി കമ്മിറ്റിയുടെ ചാർജ് വഹിച്ചിരുന്ന കോഴിക്കോട്ടുകാരൻ എം.കണാരൻ വണ്ടാഴിയിലും ആലത്തൂരും വന്ന് പണിമുടക്കുസമരം സംഘടിപ്പിച്ചതിനു ഞങ്ങളെ കുറ്റപ്പെടുത്തി. ''കൃഷിക്കാർക്കെതിരായി കർഷകതൊഴിലാളികളെ സമരത്തിലിറക്കുന്നതു പാർടിയുടെ നയമല്ല,'' എന്നതാണ് കണാരൻ പറഞ്ഞത്.

ഒരാഴ്ച കഴിഞ്ഞ് സ:പി.കൃഷ്ണപിള്ള വണ്ടാഴിയിൽ വന്ന് കാര്യമന്വേഷിച്ചു. ആലത്തൂർ വന്ന് എന്നോടു സംസാരിച്ചു തിരിച്ചുപോയി. പാലക്കാട് പാർടി കമ്മിറ്റി ഭാരവാഹികളെ കോഴിക്കോട്ടേക്കു വിളിപ്പിച്ചു സംസാരിച്ചു. കാര്യം രമ്യമായി ഒത്തുതീർപ്പിലെത്തി.

കുറെ മാസം കഴിഞ്ഞ് കണ്ണമ്പ്ര റബ്ബർ എസ്റ്റേറ്റിൽ തൊഴിലാളികളുടെ സമരം നടക്കുമ്പോൾ സമരത്തെ സഹായിക്കാൻ കർഷകസംഘം മടപ്പല്ലൂർ മാത്തൂരിൽ ഒരു പൊതുയോഗം സംഘടിപ്പിച്ചു. ഒളിവിൽ പോയി. ഒളിവിലിരുന്നു കർഷകസംഘം പ്രവർത്തനം തുടർന്നു. പിന്നീട് കമ്മ്യൂണിസ്റ്റ് പാർടി വീണ്ടും നിരോധിക്കപ്പെട്ടു.

കുനിശ്ശേരി വില്ലേജിൽ ''നൂറ്റിപ്പത്തുകളം'' എന്ന പേരിൽ ഒരു കളവും പതിനൊന്നേക്കർ നെൽകൃഷിയും ഒളപ്പമണ്ണ മനവകയാണ്. പൊന്നു, നാരായണൻ, പരമേശ്വരൻ എന്നീ സഹോദരൻമാർ കുടിയാൻമാരെന്ന നിലയിൽ കളത്തിൽ താമസിക്കുന്നുണ്ട്. കളത്തിൽ ഞാൻ ഒളിവിൽ താമസിക്കുമ്പോൾ ഒളപ്പമണ്ണ മനവക കാര്യസ്ഥൻ വന്ന് ''നാളെ ആലത്തൂർ സബ് രജിസ്ട്രാഫീസിൽ വന്ന് പാട്ട ശീട്ട് ഒഴിമുറിയിൽ ഒപ്പിട്ടു തരണമെന്ന് തമ്പുരാൻ കല്പിച്ചിരിക്കുന്നു' എന്ന് പൊന്നുവിനോടു പറഞ്ഞു പോകുന്നതുകണ്ടു.

ഞാൻ പൊന്നുവിനെ വിളിച്ച്, ''ഒഴി മുറിയിൽ ഒപ്പിടരുത്, ഒപ്പിട്ടാൽ കൃഷിയും കളവും ഒഴിഞ്ഞുകൊടുക്കേണ്ടിവരും'' എന്നുപദേശിച്ചു. പൊന്നു ജൻമിയെ ഭയന്ന് നാരായണനേയും കൂട്ടി ആലത്തൂർ രജിസ്ട്രാഫീസിൽ ചെന്ന് ഒഴിമുറിയിൽ ഒപ്പിട്ടു. പരമേശ്വരൻ എന്റെ ഉപദേശം സ്വീകരിച്ചു; ഒപ്പിടാൻ പോയില്ല.

കുനിശ്ശേരിയിൽ തമിഴ് ബ്രാഹ്മണരുടെ ഗ്രാമത്തിനടുത്ത് പത്തേക്രയോളം നെൽപാടങ്ങൾ ഒരു ബ്രാഹ്മണന്റെതാണ്; ഒരു കളവും കളത്തിൽ താമസിച്ച കുടിയാന്റെ പേർ അപ്പു. ഞാൻ ആ കളത്തിൽ ഒളിവിലിരിക്കുമ്പോൾ അപ്പു പറഞ്ഞു: ''തമ്പുരാൻ പാട്ട ശീട്ട് ഒഴിമുറിയിൽ ഒപ്പിട്ടു തരണമെന്നും കൃഷി തുടർന്നു നടത്താനനുവദിക്കാമെന്നും പറയുന്നു, എന്താ വേണ്ടത്?'' ഞാൻ പറഞ്ഞു. ''ഒഴിമുറിയിൽ ഒപ്പിട്ടാൽ കൃഷി ഒഴിഞ്ഞുകൊടുക്കേണ്ടിവരും.'' അപ്പു ഞാൻ പറഞ്ഞതനുസരിച്ചു ഉറച്ചുനിന്നു.

1948 ആഗസ്റ്റ് 14ന് എന്നെ അറസ്റ്റു ചെയ്തു. പോലീസ് മർദനം അസഹനീയമായിരുന്നു. ജയിൽ മുറ്റത്ത് പുല്ലുചെത്തിക്കുകയും ചെയ്തു. എന്നെയും സി.വി.മാധവനേയും 6 മാസം തടവിനു ശിക്ഷിച്ചു. സേലം ജയിലിലെത്തിച്ചു. ശിക്ഷ കഴിഞ്ഞ ഞങ്ങൾ പുറത്തുവന്ന് ഒരാഴ്ചക്കകം സേലം ജയിലിൽ വെടിവെയ്പു നടന്നു. 22 പേർ മരിച്ചു. കുറച്ചുപേർക്കു പരിക്കുപറ്റി.

ശിക്ഷ കഴിഞ്ഞു പുറത്തുവന്ന് വീണ്ടും ഒളിവിൽ പോയി പ്രവർത്തിക്കേണ്ടിവന്നു. ഒരുദിവസം എന്നെ അന്വേഷിച്ചു വീട്ടിലെത്തിയ പോലീസ് പാർടി എന്നെ കിട്ടാതായപ്പോൾ ജ്യേഷ്ഠൻ മുത്തുവിനെ അറസ്റ്റുചെയ്ത് കണ്ണൂർ ജയിലിലേക്കു കൊണ്ടുപോയി. ഇതു കണ്ടുനിന്ന അപ്പൻ രാമസ്വാമി മയങ്ങി വീണു. നാലു ദിവസംകൊണ്ടു മരിച്ചു പോയി.

ഞാൻ കീഴടങ്ങാതെ ഒളിവിലിരുന്നു പ്രവർത്തിച്ചുകൊണ്ടിരുന്നു. എം.പി.കുഞ്ഞിരാമൻ മാസ്റ്ററും എ.കെ.രാമൻകുട്ടിയും, സി.വി.മാധവനും, ടി.ദാമുവും ഒളിവിലിരുന്നു പ്രവർത്തനം തുടർന്നിരുന്നു.

ആ സമയത്താണ് തെലുങ്കാനാ സമരം പിൻവലിക്കുകയും പാർടി നിയമവിധേയമാക്കപ്പെടുകയും ചെയ്തത്.

ഞങ്ങൾ വെളിയിൽ വന്നു. സ്വീകരണ യോഗങ്ങൾ ഗംഭീരമായിരുന്നു. കുനിശ്ശേരി വില്ലേജിൽ സ്വീകരണയോഗത്തിൽ സ്ത്രീകളടക്കം നാലായിരത്തിലധികം പേർ പങ്കെടുത്തിരുന്നു. അവരെല്ലാം കർഷകപ്രസ്ഥാനത്തിലണിനിരക്കുവന്നവരായിരുന്നു. രണ്ടരകൊല്ലം മുമ്പ് അതേ സ്ഥലത്ത് ആലത്തൂരിൽ നിന്നും ജാഥ വന്ന് പൊതുയോഗം നടത്തിയതിൽ ഒരാൾ മാത്രം പങ്കെടുത്ത കഥയുണ്ട്. ഒളിവിലെ പ്രവർത്തനം കൊണ്ടുവന്ന മാറ്റം. 1952ൽ മദിരാശി നിയമസഭയിലേക്കു പ്രായപൂർത്തി വോട്ടടിസ്ഥാനത്തിൽ നടന്ന തെരഞ്ഞെടുപ്പിൽ ആലത്തൂർ ദ്വയാംഗ മണ്ഡലത്തിൽ കമ്യൂണിസ്റ്റു പാർടി എന്നെ സ്ഥാനാർഥിയാക്കി. ആലത്തൂർ, കുഴൽമന്ദം, കൊല്ലങ്കോട് 'ഫർക്ക'കളും കൂടിച്ചേർന്നതായിരുന്നു ആലത്തൂർ ദ്വയാംഗ നിയോജകമണ്ഡലം. എന്നെ ജനറൽ സീറ്റിലേക്കും ഒ.കോരനെ (കോൺഗ്രസ് സോഷ്യലിസ്റ്റ്) സംവരണ സീറ്റിലേക്കും, കെ.എം.പി.പാർടി നേതാവ് കെ.കേളപ്പനെ പാലക്കാട് പാർലിമെൻറ് നിയോജകമണ്ഡലത്തിൽ ജനറൽ സീറ്റിലേക്കും ഐക്യമുന്നണി സ്ഥാനാർഥികളായി നിർത്തി മത്സരിപ്പിച്ചു. തെരഞ്ഞെടുപ്പിൽ ഞങ്ങൾ വിജയിച്ചു. മലബാറിൽ നിന്നും നിയമസഭയിലേക്കു കോൺഗ്രസ് പാർടിക്കു വെറും നാലു സീറ്റു മാത്രമേ കിട്ടിയുള്ളു. പാലക്കാട് പാർലിമെൻറ് ദ്വയാംഗ മണ്ഡലത്തിൽ കോൺഗ്രസ് സ്ഥാനാർഥിയായിരുന്ന വെള്ള ഈച്ചരൻ സംവരണ സീറ്റിൽ വിജയിച്ചു.

ആ കാലത്ത് കുത്തനൂർ മൂർക്കത്തെക്കളത്തിൽ പണിചെയ്യുന്ന ജൻമപെരുമക്കൾ സ്ത്രീകൾക്കു റൌക്കയോ, ജാക്കറ്റോ, ബ്ലൌസോ ധരിക്കാൻ ജൻമികുടുംബക്കാർ സമ്മതിച്ചിരുന്നില്ല. സംഘടനാശക്തിയുപയോഗിച്ച് ബ്ലൌസ് ധരിക്കാൻ സ്ത്രീകളെ പ്രേരിപ്പിക്കുകയും അവരതനുസരിക്കുകയും ചെയ്തു.

1952 സെപ്റ്റംബറിൽ കൊല്ലങ്കോട്ട് പയ്യലൂരിൽ കോഴിശ്ശേരി ബാലകൃഷ്ണൻ നായരെന്ന വൻകിട ജൻമി ഹരിജൻ തൊഴിലാളിയായ കാളനെ, കൊയ്യുമ്പോൾ കതിരുപെറുക്കിയ കുറ്റത്തിനു അടിച്ചുവീഴ്ത്തി ബൂട്ടിട്ട കാലുകൊണ്ട് ചവിട്ടി ബോധം കെടുത്തി. ബാലകൃഷ്ണൻ നായർ പോലീസ് സബ്ബ് ഇൻസ്പെക്ടറായിരുന്നു. കാളനെ ആശുപത്രിക്കു പോകാനനുവദിച്ചില്ല.

ഇതറിഞ്ഞ ഞാൻ പാർടി സഖാക്കളുമായാലോചിച്ച് കൊല്ലംകോട്ട് ക്ഷേത്രത്തിനടുത്ത് റോഡരുകിൽ ഷെഡ്ഡു കെട്ടിയതിൽ കിടന്ന് നിരാഹാരവ്രതമനുഷ്ഠിച്ചു. നാലാം ദിവസം കാളനെ പോലീസ് വാഹനത്തിൽ ആശുപത്രിയിലെത്തിച്ചു. നിരാഹാരവ്രതം അവസാനിപ്പിച്ചു.

ആ കാലത്ത് കർഷകത്തൊഴിലാളികൾക്കു നെല്ലുകൂലിയും കൊയ്തതിനു പതമ്പുകൂലിയും നൽകിയിരുന്നത് അളവിൽ കുറവുള്ള വല്ലിതാപ്പിലായിരുന്നു. കൃഷിക്കാർക്കു മിക്കവർക്കും പാട്ടമളന്നാൽ രശീതു കിട്ടുകയുമില്ലായിരുന്നു.

കുടിയാൻമാരെയും കുടിയിരുപ്പുകാരെയും ഭൂവുടമസ്ഥൻമാർക്കു തോന്നുമ്പോൾ ഒഴിപ്പിക്കുന്ന പതിവു സാധാരണയായിരുന്നു. പാട്ടബാക്കിയുടെ പേരിലും പാട്ടം കയറ്റിക്കിട്ടാനും കുടിയിരുപ്പു പറമ്പുകൾ വയലുകളാക്കി മാറ്റാനും ഒഴിപ്പിക്കപ്പെട്ട കഥകൾ എണ്ണിയാലൊടുങ്ങാത്തത്രയുണ്ടായിരുന്നു.

44

കാസർഗോഡ് താലൂക്കിൽ കർഷകസംഘത്തിന്റെ ഉയർത്തെഴുന്നേല്പ്

(കർഷക പ്രസ്ഥാനവും എന്റെ അനുഭവങ്ങളും)

കെ.മാധവൻ*

1930ൽ ജയിൽ മോചിതനായി കാഞ്ഞങ്ങാട്ടെ വീട്ടിൽ തിരിച്ചെത്തിയ എനിക്ക് സേലം ജയിലിൽ നിന്ന് പെൻസിൽ കൊണ്ടെഴുതിയ ഒരു പോസ്റ്റ് കാർഡ് കിട്ടി. സഖാവ് കൃഷ്ണപിള്ള എഴുതിയ പ്രസ്തുത കത്തിലെ ഉള്ളടക്കം അന്ന് ഒരു ബാലനായിരുന്ന എന്നെ ആശ്ചര്യപ്പെടുത്തിയിരുന്നു. കോൺഗ്രസിൽ രണ്ട് വിഭാഗങ്ങളുണ്ടെന്നും അതിൽ ഒന്ന് പണക്കാരന്റെതും മറ്റൊന്ന് പാവപ്പെട്ടവരുടേതുമാണെന്നും, പാവപ്പെട്ടവർക്കുവേണ്ടി

* കാഞ്ഞങ്ങാട് 671 315

പ്രവർത്തിക്കാനാണ് ഉദ്ദേശ്യമെങ്കിൽ കർഷകരെ സംഘടിപ്പിക്കാൻ ഇറങ്ങണമെന്നുമായിരുന്നു കത്തിലെ ഉള്ളടക്കം. ഇതിന്റെ അർഥം ശരിയായ രീതിയിൽ മനസ്സിലാക്കാൻ പിന്നെയും കുറെ സമയമെടുത്തു.

മലബാർ രാഷ്ട്രീയത്തിൽ ഇടതു-വലത് പേരിതിരിവിന്റെ ആരംഭം വാസ്തവത്തിൽ മുപ്പതുകളുടെ തുടക്കത്തിൽ തന്നെ ഉണ്ടായിരുന്നുവെന്നതിന്റെ ഉദാഹരണമായാണ് കൃഷ്ണപിള്ളയുടെ കത്തിനെ ഈ ലേഖകൻ കാണുന്നത്. കൃഷ്ണപിള്ള, കേരളീയൻ തുടങ്ങിയവരുമായുണ്ടായിരുന്ന രാഷ്ട്രീയ ബന്ധങ്ങൾക്ക് പുറമെ 1934ലെ പാപ്പിനിശ്ശേരി ആറോൺ മിൽ സമരമായിരുന്നു എന്നെ ഒരു വിചിന്തനത്തിന് പ്രേരിപ്പിച്ചത്. സമരത്തെക്കുറിച്ച് കേളപ്പനും ഇ.എം.എസും മാതൃഭൂമിയിൽ പ്രസിദ്ധീകരിച്ച ലേഖനങ്ങളിൽ പ്രകടമായ രാഷ്ട്രീയ ഭിന്നതകളുടെ സൂചനയുണ്ടായിരുന്നു. സ:കൃഷ്ണപിള്ളയുടെ കത്തിനെക്കുറിച്ച് അപ്പോഴാണ് ശരിക്ക് ആലോചിച്ചത്. തുടർന്ന് ഞാൻ കോൺഗ്രസ് സോഷ്യലിസ്റ്റ് പാർടിയിൽ ചേരുകയും താലൂക്ക് സെക്രട്ടറിയായി തിരഞ്ഞെടുക്കപ്പെടുകയും ചെയ്തു. കാസർഗോഡ് താലൂക്ക് കർഷകസംഘം രൂപീകരണത്തിന് മുമ്പായി ചേർന്ന കാസർഗോഡ്-മലബാർ സംയോജന സമ്മേളനത്തിൽ കാസർഗോഡ് താലൂക്കിലെ കുടിയാൻമാർക്ക് ഭൂമിയിൽ സ്ഥിരാവകാശം നൽകണമെന്ന് ആവശ്യപ്പെടുന്ന ഒരു പ്രമേയം ഞാൻ അവതരിപ്പിച്ചിരുന്നു. എന്റെ ബന്ധുക്കളായവരടക്കമുള്ള മുഴുവൻ ജൻമിമാരും എതിർത്തെങ്കിലും പ്രമേയം പാസ്സായി. കർഷക സംഘത്തിന്റെ രൂപീകരണത്തിന് നേതൃത്വം നൽകാൻ പ്രസ്തുത സംഭവവും എനിക്ക് പ്രേരണയായി. തുടർന്ന് 1937ൽ കെ.ടി. കുഞ്ഞിരാമൻ നമ്പ്യാർ പ്രസിഡണ്ടും ഈ ലേഖകൻ സെക്രട്ടറിയുമായി താലൂക്ക് കർഷക സംഘം നിലവിൽ വന്നു. 1938ൽ കർഷക സംഘം രൂപീകരിക്കപ്പെട്ടതിനെതുടർന്ന് തൃക്കരിപ്പൂരിൽ നിന്നും കാസർഗോഡ് വരെ ഒരു കാൽനട പ്രചാരണ ജാഥ നടത്തിയിരുന്നു. താലൂക്കിലെ ഒരു പ്രമുഖ ജൻമിത്തറവാട്ടംഗമായിരുന്ന സുബ്രഹ്മണ്യൻ തിരുമുമ്പായിരുന്നു ജാഥാ ക്യാപ്ടൻ. പ്രസ്തുത ജാഥയിലായിരുന്നു ആദ്യമായി ചെങ്കൊടിയേന്തിയത്. ജാഥയിൽ നിന്നുയർന്ന പ്രധാന മുദ്രാവാക്യങ്ങൾ 'സാമ്രാജ്യത്വം തുലയട്ടെ, ജൻമിത്വം നശിക്കട്ടെ' തുടങ്ങിയവയായിരുന്നു. കറാച്ചി പ്രമേയത്തിലെ മുദ്രാവാക്യങ്ങളടങ്ങുന്ന പ്രസംഗങ്ങളായിരുന്നു ഞങ്ങൾ നടത്തിയത്. അതുകൊണ്ടുതന്നെ കോൺഗ്രസുകാരിൽ പലരും ഞങ്ങൾക്ക് നൽകപ്പെട്ട സ്വീകരണയോഗങ്ങളിൽ പങ്കെടുത്തിരുന്നു. മിക്കപ്പോഴും പ്രാദേശിക ജൻമിമാരെ ഭയന്ന് കർഷകർ സ്വീകരണയോഗങ്ങളിൽ നിന്ന് മാറിനിന്ന സംഭവങ്ങളുമുണ്ടായി. ആവശ്യത്തിന് ഭക്ഷണം പോലും ലഭിക്കാതെ ജാഥാംഗങ്ങൾ പട്ടിണി കിടക്കേണ്ടിയും വന്നിരുന്നു. എങ്കിലും പ്രസ്തുത ജാഥയ്ക്ക് കർഷകരിലുണ്ടാക്കാൻ കഴിഞ്ഞ ചലനം ചില്ലറയല്ല. ഗ്രാമങ്ങൾ തോറും കർഷകസംഘങ്ങൾ ഉണ്ടായത് ഈ ജാഥയെ തുടർന്നാണ്. പ്രാദേശിക പ്രശ്നങ്ങൾ കൈകാര്യം ചെയ്യുന്നതിനും സംഘം മുന്നോട്ടു വന്നു. ജൻമിത്തം ഒരിക്കലും നശിപ്പിക്കാൻ കഴിയാത്തതാണെന്നും അത് ഈശ്വരസൃഷ്ടിയാണെന്നുമുള്ള കൃഷിക്കാരന്റെ വിശ്വാസത്തിന് ഇളക്കം തട്ടുന്നതിനും ഇത് സഹായകമായി.

കർഷകസംഘത്തിന്റെ ആദ്യനാളുകളിൽ സംഘാടനത്തിന് തടസ്സമായി നിന്നത് കൃഷിക്കാരന്റെ അന്ധവിശ്വാസങ്ങളും ജാതി സമ്പ്രദായവുമായിരുന്നു. നിർഭാഗ്യത്തിന് കാസർഗോഡ് താലൂക്കിലെ പ്രധാന പ്രവർത്തകരായ തിരുമുമ്പും കെ.ടി.കുഞ്ഞിരാമൻ നമ്പ്യാരും കോടോത്ത് നാരായണൻ നായരും ഈ ലേഖകനും എല്ലാം ജൻമിത്തറവാടുകളിൽ ജനിച്ചവരായിരുന്നു. ഈ കാരണം കൊണ്ട് കൃഷിക്കാർ ഞങ്ങളുമായി എളുപ്പം അടുത്തില്ല. ഒരിക്കൽ കേരളീയൻ എനിക്ക് ഒരു ഉപദേശം തന്നത് നന്നായി ഓർക്കുന്നു. യോഗത്തിൽ പങ്കെടുക്കുന്നതിനും മറ്റും കൃഷിക്കാരന്റെ വീടുകളിൽ ചെന്നാൽ കഞ്ഞിവെള്ളം തന്നെ വാങ്ങിക്കുടിക്കണമെന്നും ഇളനീരോ പച്ചവെള്ളമോ കഴിക്കരുതെന്നുമായിരുന്നു അത്. അനുഭവത്തിൽ കേരളീയന്റെ ഉപദേശം ശരിയാണെന്നു തെളിഞ്ഞു. ഒരിക്കൽ കയ്യൂരിൽ വെച്ചുണ്ടായ അനുഭവം രസകരമായിരുന്നു. ഒരു യോഗത്തിൽ പങ്കെടുക്കാൻ എത്തിയതായിരുന്നു. കൂടെ തിരുമുമ്പുമുണ്ടായിരുന്നു. ഉച്ചയ്ക്ക് 3 മണി കഴിഞ്ഞിട്ടും ഊണ് കിട്ടിയില്ല. ഭക്ഷണം പ്രതീക്ഷിച്ചു നിന്ന ഞങ്ങൾക്ക് അവസാനം കിട്ടിയ മറുപടി 'തമ്പുരാൻമാർക്ക് ഭക്ഷണം കൊടുത്താൽ താഴ്ന്ന ജാതിയിൽപെട്ട വീടുകാർക്ക് പാവം കിട്ടുമെന്നാ'യിരുന്നു. ജാതിബോധത്തിന് പുറമെ ജൻമിയോടുള്ള അന്ധമായ വിധേയത്വവും ഭയവും ഞങ്ങൾക്ക് തടസ്സം സൃഷ്ടിച്ചിരുന്നു. കാഞ്ഞങ്ങാടിനടുത്ത ഒരു സ്ഥലത്ത് ചേർന്ന യോഗത്തിൽ ധാരാളം കൃഷിക്കാർ ഒത്തുകൂടിയിരുന്നു. തൽസമയം അതുവഴിപോയ ഗ്രാമപട്ടേലരുടെ ഉഗ്രാണിയെ കണ്ടമാത്രയിൽ ഭയന്ന് വിറയ്ക്കുകയും സർക്കാരിനെതിരെ യോഗം ചേരുമ്പോൾ അതിൽ പങ്കെടുക്കരുതെന്ന അയാളുടെ ആക്രോശം കേട്ടയുടൻ കൃഷിക്കാർ ഒന്നടങ്കം സ്ഥലം വിടുകയും ചെയ്ത കാര്യം ഓർമയിൽ വരുന്നു. മറ്റൊരവസരത്തിൽ നോട്ടീസടിച്ച് സംഘടിപ്പിച്ച ഒരു യോഗത്തിൽ കേരളീയൻ പ്രസംഗിച്ചുകൊണ്ടിരിക്കെ പ്രാദേശിക ജൻമിയുടെ ഗുണ്ടകൾ വന്ന് കലക്കിയ അനുഭവമുണ്ടായി. എന്നാൽ ഇതൊന്നും അധികനാൾ കൃഷിക്കാർ സഹിച്ചിരുന്നില്ല. കർഷകസംഘം ശക്തിപ്പെട്ടതോടെ ബലമായി കൊയ്ത വിളയോട് കൂടി ജൻമിയുടെ വീടിന് മുന്നിൽ മീറ്റിംഗ് ചേർന്ന സംഭവവും കൃഷിക്കാരനെ അതിരറ്റ് ദ്രോഹിച്ച ജൻമിമാർക്കെ

തിരെ കൃഷിക്കാർ സാമൂഹ്യ ബഹിഷ്കരണം കല്പിച്ച സംഭവവുമുണ്ടായി. പെരുവത്തൂർ ഏരിയയിൽ കൃഷിക്കാർ ജൻമിക്കെതിരെ ഇത്തരത്തിലുള്ള ബഹിഷ്കരണം സംഘടിപ്പിച്ചിരുന്നു. വണ്ണാത്തി മാറ്റ് വിലക്കുക, സദ്യ ബഹിഷ്കരിക്കുക, ക്ഷൗരത്തിനും 'ഊളിക്കത്തിനും' മറ്റു വേലകൾക്കും ആൾക്കാർ ജൻമിയുടെ വസതിയിൽ പോകാതിരിക്കുക തുടങ്ങിയ രീതിയിലായിരുന്നു ബഹിഷ്കരണം. ബഹിഷ്കരണം ശക്തിപ്പെട്ടപ്പോൾ വിവരമറിഞ്ഞ് കൃഷ്ണപിള്ളയും കേരളീയനും സ്ഥലത്തെത്തി. ഇത്തരത്തിലുള്ള ബഹിഷ്കരണം കർഷകസംഘത്തെ ഒറ്റപ്പെടുത്തുകയേ ഉള്ളുവെന്നും പകരം മർദനങ്ങൾക്കും അക്രമപിരിവുകൾക്കുമെതിരെയുള്ള സമരം ശക്തിപ്പെടുത്തുകയുമാണ് ആവശ്യമെന്ന് കൃഷിക്കാരെ ബോധ്യപ്പെടുത്തുകയുണ്ടായി.

കൃഷിക്കാരന്റെ അധ്വാനം മുഴുവൻ വാരം പാട്ടമായി ജൻമി കവർന്നെടുത്ത കാലഘട്ടത്തിലാണ് കർഷകസംഘം പിറവിയെടുക്കുന്നത്. വാരം പാട്ടത്തിന് പുറമെ നുരി, ശീലക്കാശ് മുക്കാൽ, വെച്ചുകാണൽ തുടങ്ങിയ അക്രമപിരിവുകൾ വേറെയുമുണ്ട്. 1936ൽ കൊടക്കാട് സ:എ.വി.കുഞ്ഞമ്പുവിന്റെ നേതൃത്വത്തിലും ഈ ലേഖകന്റെ നേതൃത്വത്തിൽ മടിക്കൈയിലും കർഷകസംഘം രൂപീകരിച്ചപ്പോൾ മുമ്പോട്ടു വെച്ച പ്രധാനാവശ്യങ്ങൾ വാരം പാട്ടം കൊടുത്താൽ ജൻമി രശീത് നൽകണമെന്നും ഒഴിപ്പിക്കൽ പാടില്ലെന്നുമാണ്. ഇതിനെതിരെ കൊടക്കാട് നീലമന നമ്പൂതിരിയും മടിക്കൈയിൽ ആലമ്പാടി പട്ടേരിയും കുടിയാനെ ഒഴിപ്പിച്ചു. ഇതിനായി പോലീസിനേയും ഉപയോഗിച്ചു. എന്നാൽ കൊടക്കാട് കൃഷിക്കാർ ഇലച്ചി കണ്ണൻ, കൊയ്യൻ കുഞ്ഞിക്കണ്ണൻ, നമ്പി മാസ്റ്റർ എന്നിവരുടെ നേതൃത്വത്തിലും മടിക്കൈയിൽ ചാർത്താങ്കാൽ രാമൻ, കുടുക്കവളപ്പിൽ കൊട്ടൻ, ശംഭു ജ്യോത്സ്യർ എന്നിവരുടെ നേതൃത്വത്തിലും ജൻമിമാരുടെ നടപടിയെ എതിർത്തു. മടിക്കൈയിൽ ജൻമി പിൻമാറിയതിന്റെ പിന്നിൽ സ്ഥലത്തെ പ്രമുഖ കോൺഗ്രസ് നേതാവായ എ.സി.കണ്ണൻ നായരുടെ കർഷക സംഘത്തോടുള്ള അനുകൂല നിലപാടും ഒരു കാരണമായിരുന്നു. കറാച്ചി പ്രമേയത്തിന്റെ സ്വാധീനമായിരുന്നു കണ്ണൻ നായരിൽ.

മേൽ കൊടുത്ത രണ്ടു സംഭവങ്ങളും കാസർഗോഡ് താലൂക്കിൽ കർഷകസംഘം വ്യാപിക്കുവാൻ കാരണമായി. തുടർന്ന് മടിക്കൈ ഗ്രാമാധികാരി ഏച്ചിക്കാനം കേളുപട്ടേലർ 35 വർഷത്തെ കൈവശക്കാരനായ വാഴക്കോടൻ കണ്ണനെ ഒരു കാരണവുമില്ലാതെ ഒഴിപ്പിച്ചപ്പോഴും കൃഷിക്കാർ പ്രതികരിക്കാൻ തയ്യാറായി. ജൻമി മറ്റൊരു കൃഷിക്കാരനെ പിടിച്ച് വിത്ത് ഇറക്കി. പക്ഷെ പ്രസ്തുത വിള കർഷകസംഘത്തിന്റെ നേതൃത്വത്തിൽ വാഴക്കോടൻ കണ്ണനുവേണ്ടി കൊയ്തു. ഈ ലേഖകനും പി.അമ്പുനായരുമടക്കം 21 പേർ പ്രതികളായി പോലീസ് കേസ്സെടുക്കുകയുണ്ടായി. കൃഷിക്കാർ ഭീകര മർദനത്തിന് ഇരയായി. ഇത് വമ്പിച്ച പ്രക്ഷോഭസമരങ്ങളിളക്കി വിട്ടു. അവസാനം കേസ്സിൽ ജൻമി തോൽക്കുകയും വാഴക്കോടൻ കണ്ണന് കൃഷിസ്ഥലം തിരിച്ചു കിട്ടുകയും ചെയ്തു. ഈ സംഭവം ഒഴിപ്പിക്കലിനെതിരെ നാടാകെ സമരം പടർന്നു പിടിക്കാൻ ഇടയാക്കി. കൃഷിക്കാർ ക്രമേണ പൂർണമായി കോൺഗ്രസ് സോഷ്യലിസ്റ്റ് പാർടിയുടെ പിന്നിൽ അണിനിരന്നു. ഈ ഘട്ടത്തിൽ മടിക്കൈയിൽ പാരലൽ സർക്കാർ ഉണ്ടാക്കിയെന്ന ചാർജ് ചുമത്തി ഈ ലേഖകനെ ഒന്നാം പ്രതിയായും ഗണപതി കാമത്ത് രണ്ടാം പ്രതിയായും പോലീസ് കേസെടുക്കുകയും ചെയ്തു. ഞങ്ങളെ ജയിലിലടച്ച് സംഘത്തെ പൊളിക്കാനുള്ള പോലീസിന്റെ ശ്രമം എന്നാൽ കൃഷിക്കാരെ കൂടുതൽ ഊർജ്വസ്വലരാക്കുകയാണ് ചെയ്തത്. അന്നൊക്കെ ഗ്രാമപഞ്ചായത്ത് തെരഞ്ഞെടുപ്പ് ജൻമിയുടെ വീട്ടിൽ കൈപൊക്കി വോട്ടെടുത്താണ് നടത്തുക. മടിക്കൈയിൽ ഈ ഘട്ടത്തിൽ നടന്ന തെരഞ്ഞെടുപ്പിൽ കർഷകസംഘം നേതൃത്വത്തിൽ കൃഷിക്കാർ ഭൂരിപക്ഷം നേടുകയും സംഘം പ്രാദേശിക നേതാവ് അപ്പുകാർണവർ പ്രസിഡണ്ടായി തിരഞ്ഞെടുക്കുകയും ചെയ്തു. പ്രാദേശിക സഹകരണസംഘവും കർഷകസംഘത്തിന്റെ കയ്യിലേക്ക് വന്നു. ഇതേ സന്ദർഭത്തിലാണ് ദേശാഭിമാനി ഫണ്ട് ശേഖരിക്കാൻ മടിക്കൈയിൽ എത്തിയ എ.കെ.ജി. പോലീസിനോട് ഇടഞ്ഞത്. ഈ കേസ്സിൽ എ.കെ.ജി. ഒന്നാം പ്രതിയും ഈ ലേഖകൻ രണ്ടാം പ്രതിയുമായിരുന്നു.

കമ്യൂണിസ്റ്റ് പാർടി രൂപീകൃതമായതോടെ കർഷകസംഘത്തിന്റെ നേതൃത്വത്തിൽ അത് ഗ്രാമങ്ങളിൽ ഏറ്റവും വലിയ ശക്തിയായി വളർന്നു. വളരെ പെട്ടെന്ന് ഓരോ ഗ്രാമ പഞ്ചായത്തും സഹകരണ സ്ഥാപനവും കമ്യൂണിസ്റ്റ് പാർടി കയ്യടക്കി. ജൻമിത്തത്തിനെതിരായി നിരവധി സമരങ്ങൾ ആളിപ്പടർന്നു. പെരുവത്തൂരിനടുത്ത് തുരുത്തിയിലെ ഗ്രാമാധികാരി കർഷകസംഘത്തിന്റെ സമ്മേളനത്തിനായി ഉയർന്ന പന്തലിന് തീവെച്ചതിനെ തുടർന്നുണ്ടായ പ്രക്ഷോഭം, (ഈ സംഭവത്തിൽ പ്രസ്തുത ഗ്രാമാധികാരി സുബ്രഹ്മണ്യം തിരുമുമ്പിനോട് പരസ്യമായി മാപ്പു പറഞ്ഞു.) പനത്തടിയിലെ നെല്ലെടുപ്പു സമരം, പനത്തടി പട്ടേലർ കോടോത്ത് കേളുനായർക്കെതിരെ ഉണ്ടായ അഴിമതി കേസ്, തുടർന്ന് പട്ടേലർ കൊടുത്ത മാനനഷ്ടക്കേസ്സിൽ അദ്ദേഹത്തിനുണ്ടായ പരാജയം, ഈ സംഭവങ്ങളൊക്കെ നാട്ടിൽ പല ചലനങ്ങളും ഉണ്ടാക്കി. കമ്യൂണിസ്റ്റ് പ്രസ്ഥാനമാണ് കർഷകന്റെ യഥാർഥ ബന്ധുവെന്ന് കൃഷിക്കാരന് ഈ സംഭവങ്ങളിലൂടെ ബോധ്യമായി.

ആദ്യഘട്ടത്തിൽ ഏറ്റവും വൈകി കർഷകസംഘം രൂപീകൃതമായത് കോടാം ഗ്രാമത്തിലാണ്. ഈ ലേഖകനും മടിക്കൈ കുഞ്ഞിക്കണ്ണനും പങ്കെടുത്ത

യോഗത്തിൽ വെച്ചാണ് അവസാനം കർഷക സംഘം രൂപീകൃതമായത് — 1954ൽ. വിവരമറിഞ്ഞ് അന്ന് പ്രബലമായിരുന്ന കോടോം തറവാട്ടിലെ അംഗവും പ്രാദേശിക ജൻമിയുമായിരുന്ന ബേഡകം കൃഷ്ണൻ നായർ സംഘത്തിന്റെ ഭാരവാഹികളായി തിരഞ്ഞെടുക്കപ്പെട്ട സഖാക്കളെ ക്രൂരമായി മർദിച്ചു. ഇതിൽ പ്രതിഷേധിക്കാൻ വേണ്ടി നിശ്ചയിച്ച പൊതുയോഗം ഗവൺമെൻറ് നിരോധിക്കുകയും ചെയ്തു. തുടർന്ന് നിരോധനാജ്ഞ ലംഘിക്കാൻ കർഷകസംഘം തീരുമാനിച്ചു. അന്ന് എം.എൽ.എ. ആയിരുന്ന ടി.സി.നാരായണൻ നമ്പ്യാർ, ഈ ലേഖകൻ, കോടോം തറവാട്ടംഗമായിരുന്ന കുഞ്ഞിമംഗലം നാരായണൻ നായർ, കെ.എം. കുമാരൻ, വി.കുഞ്ഞിരാമൻ, കെ.നാരായണൻ എന്നിവർ നിരോധനാജ്ഞ ലംഘിച്ച് അറസ്റ്റ് വരിച്ചു. തുടർന്നുണ്ടായ കേസ്സ് ശക്തമായ പ്രക്ഷോഭത്തെ തുടർന്ന് പിൻവലിക്കപ്പെടുകയും ചെയ്തു. 1966ൽ പ്രസ്തുത ജൻമി, ബേഡകം കൃഷ്ണൻ നായർ, ഒഴിപ്പിക്കൽ പ്രശ്നം സംബന്ധിച്ച് തർക്കത്തെ തുടർന്നു കോടോം ഗ്രാമത്തിൽ വച്ച് തന്നെ കൊല്ലപ്പെടുകയുണ്ടായി.

എടുത്ത് പറയേണ്ടുന്ന മറ്റൊരു സംഭവം ചീമേനി തോൽവിറക് സമരമാണ്. ചെറുവത്തൂരിനടുത്ത് ചീമേനിക്കും പരിസരപ്രദേശങ്ങളിലുമായി ആയിരക്കണക്കിന് ഏക്രവനം തായക്കാട്ട് മനവകയുണ്ടായിരുന്നു. ഈ വനം തിരുവിതാംകൂറിൽ നിന്നും വന്ന കൊടുകപ്പള്ളി മുതലാളി ചാർത്തി വാങ്ങി. തലമുറകളായി ഈ പ്രദേശത്തെ കൃഷിക്കാർ തോലിനും വിറകിനും ആശ്രയിക്കുന്നത് ഇവിടത്തെ ഈ വനമാണ്. കൊടുകാപ്പള്ളി വനമേറ്റെടുത്തതോടെ തോലും വിറകുമെടുക്കുന്നത് നിരോധിച്ചു. കർഷകസംഘം ഈ പ്രശ്നമേറ്റെടുത്ത് പ്രക്ഷോഭണമാരംഭിച്ചു. തിരുമുമ്പും ടി.കെ. ചന്തനുമായിരുന്നു ഈ സംഭവത്തിന്റെ മുന്നിൽ. അവസാനം കൃഷിക്കാർ തന്നെ വിജയിച്ചു. സംഘം പ്രവർത്തകരുടെ പേരിലുള്ള കേസ്സുകളും സർക്കാർ ഒടുവിൽ പിൻവലിക്കുകയും ചെയ്തു.

പ്രാദേശിക ജൻമിമാർക്കെതിരെ നടത്തിയ സമരങ്ങൾക്ക് പുറമെ ജൻമിത്വത്തിനെതിരെ നിയമം കൊണ്ടുവരുന്നതിന് സർക്കാരിൽ സമ്മർദ്ദം ചെലുത്താൻ 1939ൽ ടി.എസ്സ്.തിരുമുമ്പിന്റെ നേതൃത്വത്തിൽ മറ്റൊരു ജാഥ മംഗലാപുരത്തേക്കു പോകുകയുണ്ടായി. 101 അംഗങ്ങളടങ്ങിയ പ്രസ്തുത ജാഥയുടെ പൈലറ്റ് ഈ ലേഖകനായിരുന്നു. കൃഷിക്കാർ നൽകിയ മെമ്മോറാണ്ടത്തിന് മറുപടിയായി ഭീഷണി സ്വരത്തിൽ കലക്ടർ പുറത്തിറക്കിയ നോട്ടീസിനെ കൂസാതെയായിരുന്നു ഈ നടപടി. പ്രസ്തുത മെമ്മോറാണ്ടത്തിന്റെ കോപ്പി പ്രാദേശിക ജൻമിമാർക്കും സംഘം പ്രവർത്തകർ ജാഥയായി ചെന്ന് നൽകി.

കാസർഗോഡിന്റെ ചരിത്രത്തിൽ തങ്ക ലിപികളാൽ എഴുതപ്പെടേണ്ട എണ്ണമറ്റ സമരങ്ങളാണ് 1930-40 കാലഘട്ടത്തിൽ കർഷകസംഘം നടത്തിയത്. മേൽ വിവരിച്ച സമരങ്ങളിൽ മാത്രം ഒതുങ്ങുന്നതല്ല കർഷകസംഘത്തിന്റെ ചരിത്രം. പ്രധാനപ്പെട്ട സംഭവങ്ങം മാത്രം ഉൾപ്പെടുത്തിയാണ് ഈ പ്രബന്ധം തയ്യാറാക്കിയത്. കർഷകസംഘത്തിന്റെയും കമ്യൂണിസ്റ്റ് പാർടിയുടേയും നേതൃത്വത്തിൽ ഫ്യൂഡൽ സാമ്രാജ്യത്വ വിരുദ്ധസമരം നടത്തി കൃഷിക്കാർ സ്വാതന്ത്ര്യവും കൃഷിഭൂമിയും സ്വന്തമാക്കി. ഈ സമരങ്ങളുടെ പരമ്പരയിൽ പ്രസിദ്ധമായ കയ്യൂർ സമരവും പെടുന്നുണ്ടെന്ന് ഓർക്കേണ്ടതുണ്ട്. 1939 മാർച്ച് 29ന് കയ്യൂരിൽ ഒരു പോലീസ് കോൺസ്റ്റബിളം കൊല്ലപ്പെട്ട സംഭവത്തെ തുടർന്നുണ്ടായ കേസ്സിൽ കർഷകസംഘത്തിന്റെ ധീരരായ നാല് പ്രവർത്തകരേയാണ് സാമ്രാജ്യത്വം തൂക്കിലേറ്റിയത്. കയ്യൂർ സമരത്തെക്കുറിച്ച് ഒട്ടനവധി ലേഖനങ്ങളും ചില പഠനങ്ങളും പുറത്തുവന്നിട്ടുണ്ടെങ്കിലും താലൂക്കിലെ മറ്റ് ഫ്യൂഡൽ - സാമ്രാജ്യത്വ വിരുദ്ധ സമരങ്ങളെക്കുറിച്ച് കൂടുതൽ പഠനങ്ങളും ഗവേഷണങ്ങളും നടത്തേണ്ടിയിരിക്കുന്നു എന്ന് പറഞ്ഞുകൊണ്ട് ഈ പ്രബന്ധം അവസാനിപ്പിക്കുന്നു.

46

ബഹുജനപ്രസ്ഥാനങ്ങളും സാമൂഹ്യസാഹചര്യങ്ങളും

പി.സോമനാഥൻ*

1920നുശേഷം ഇന്ത്യയിലെ വിവിധ തൊഴിൽ രംഗങ്ങളിലെ തൊഴിലാളികളും സംഘടിക്കുകയും വ്യാപകമായ സമരങ്ങളിലേർപ്പെടുകയും ചെയ്തു. ദേശീയ പ്രസ്ഥാനത്തിന്റെ വളർച്ചമൂലമുണ്ടായ അവകാശബോധവും തൊഴിലാളി ബഹുജനഐക്യത്തിന്റെ ഫലമായുണ്ടായ കരുത്തിലുള്ള വിശ്വാസവുമായിരുന്നു ഇതിനു കാരണം. അനുകൂലമായ സാമൂഹ്യസാഹചര്യത്തിൽ മാത്രമേ ഇത്തരത്തിലുള്ള തൊഴിലാളി പ്രവർത്തനം ഫലപ്രദമായി രൂപപ്പെടുത്താൻ കഴിയൂ. അധ്യാപകസംഘടനകളുടെ ആവിർഭാവവും അവ നടത്തിയ സമരങ്ങളുടെ ഫലപ്രാപ്തിയും ഈ വസ്തുത ഒന്നുകൂടി വ്യക്തമാക്കുന്നു.

1930-കളിലാണ് കേരളത്തിൽ അധ്യാപകസംഘടന രൂപമെടുക്കുന്നത്. അന്ന് ഇന്ത്യയിലാകെയുള്ള സ്ഥിതിഗതികളും ഈ സംഘടനാ രൂപീകരണത്തിനു പ്രേരകമായിരുന്നു. ഭഗത്സിംഗ്, സുഖ്ദേവ്, രാജ്ഗുരു എന്നിവരുടെ വധം ഉൾപ്പെടെയുള്ള സംഭവവികാസങ്ങളുടെ പശ്ചാത്തലം ദേശീയ ബോധത്തെ വളർത്തുന്നതും ബഹുജനഐക്യത്തെ സുദൃഢമാക്കുന്നതുമായിരുന്നു. പൂർണസ്വാതന്ത്ര്യമാണു ലക്ഷ്യമെന്ന് കറാച്ചി കോൺഗ്രസ് അംഗീകരിച്ച പ്രമേയവും ബഹുജനസംഘടനകളുടെ വളർച്ചയ്ക്കു സഹായകമായിത്തീർന്നു.

കേരളത്തിലും ബഹുജനസംഘടനാ രംഗത്ത് ഇതിനനുസരിച്ച പുരോഗതിയുണ്ടായി. 1936-ലെ തെരഞ്ഞെടുപ്പിൽ കോൺഗ്രസിനു വമ്പിച്ച വിജയമുണ്ടായി. ഈഴവർ, ക്രിസ്ത്യാനികൾ, മുസ്ലീങ്ങൾ എന്നിവർ ജാതിമതാടിസ്ഥാനത്തിൽ സംഘടിക്കാൻ തുടങ്ങി. പക്ഷേ പിന്നീടാപ്രസ്ഥാനങ്ങൾ ദേശീയപ്രസ്ഥാനവുമായി ബന്ധപ്പെട്ടു. സ:എ.കെ.ജി., ശ്രീ.മുഹമ്മദ് യൂസഫ് തുടങ്ങിയ നേതാക്കളും സ:ഇ.എം.എസ്സിന്റെ പത്രാധിപത്യത്തിലുള്ള 'പ്രഭാതം' പത്രവും ഈ പ്രവർത്തനങ്ങളെ വളരെയധികം ഉത്തേജിപ്പിച്ചു. 1921-നു ശേഷം കേരളത്തിലെ വിവിധ പ്രദേശങ്ങളിലെ സ്വാതന്ത്ര്യസമര പ്രവർത്തനങ്ങൾക്ക് ഒരു ഏകീകൃതസ്വഭാവമുണ്ടായി. വിവിധ ജീവിതതുറകളിൽപെട്ട ജനങ്ങൾ സ്വാതന്ത്ര്യസമരത്തിൽ പങ്കാളികളായതോടെ ബ്രിട്ടീഷ് ഭരണകൂടവും ഇവിടത്തെ ജൻമിമാരും ഒരു ഭാഗത്തും ജനങ്ങൾ മറുഭാഗത്തുമെന്ന നിലയിൽ വ്യക്തമായ ചേരിതിരിവുണ്ടായി. 1929ലാരംഭിച്ച സാമ്പത്തികകുഴപ്പം ജനങ്ങളുടെ ജീവിതം കൂടുതൽ ദുഃസ്സഹമാക്കി. ഇതോടെ നാനാ രംഗത്തുള്ള തൊഴിലാളികളും സംഘടിതരായി അവകാശസമരങ്ങളിലേർപ്പെട്ടു. ചണമിൽ, തുണിമിൽ എന്നിവിടങ്ങളിൽ ശക്തമായ സമരമുണ്ടായി. കാർഷികോല്പന്നങ്ങളുടെ വിലയിടിവ്, കൂലിക്കുറവ്, തൊഴിലില്ലായ്മ എന്നിവയ്ക്കെതിരായി കർഷകരും തൊഴിലാളികളും ഒരുമിച്ചു സമരത്തിനിറങ്ങി. ബഹുജനങ്ങൾ ഈ സമരങ്ങൾക്കു പിൻതുണ നൽകി.

ശ്രീനാരായണ ഗുരുവിന്റെ നേതൃത്വത്തിൽ നടന്ന ഐത്തോച്ചാടന പ്രവർത്തനങ്ങൾ, ദേശീയ സ്വാതന്ത്ര്യസമരപ്രസ്ഥാനങ്ങൾ, അധ്യാപക തൊഴിലാളി സംഘടനകൾ ഇവ ഒരുമിച്ചു നീങ്ങാൻ തുടങ്ങി. അധ്യാപകർക്ക് ശമ്പളം നൽകുവാൻ സർക്കാരിൽ നിന്നു കിട്ടുന്ന ഗ്രാൻറുപോലും മാനേജർമാർ പൂർണമായി അവർക്കു നൽകിയിരുന്നില്ല. അധ്യാപകരിൽ ഭൂരിഭാഗവും കുടിയാൻമാരും മാനേജർമാർ ജൻമിമാരുമായിരുന്നു. സ്വാഭാവികമായും അധ്യാപകർ അധിക പീഡനത്തിനു വിധേയരായി.

വിവിധ ജനവിഭാഗങ്ങൾ തങ്ങളുടെ അവശത പരിഹരിക്കുന്നതിനായി സംഘടിച്ചതുപോലെ അധ്യാപകരും സംഘടിക്കുവാൻ പ്രേരിതരായി. 1934-ൽ മലബാറിൽ എലിമെൻററി സ്കൂൾ ടീച്ചേഴ്സ് യൂണിയൻ എന്ന സംഘടന രൂപമെടുത്തു. മലബാർ പ്രദേശത്തെ 70 ശതമാനം അധ്യാപകരും അതിൽ അംഗങ്ങളായി. അധ്യാപകർ ആത്മാർഥമായി തങ്ങളുടെ ജോലി ചെയ്യണമെന്നു താല്പര്യമുള്ളവരായിരുന്നു. പല പ്രതികൂലസാഹചര്യങ്ങളിലും ബഹുജനങ്ങളുടെ സഹായം ലഭിക്കുവാൻ ഇതു കാരണമായി. രാഷ്ട്രീയ സംഭവവികാസങ്ങളുടെ ഫലം അധ്യാപകരെ നേരിട്ടു ബാധിക്കാൻ തുടങ്ങിയപ്പോൾ അവർ രാഷ്ട്രീയകാര്യങ്ങളിൽ തല്പരരായി. എല്ലാ സാമൂഹ്യപ്രവർത്തനങ്ങളിലും അവർ പങ്കാളികളായി. 1938-ൽ കൊണ്ടുവന്ന ഭരണപരമായ പരിഷ്കാരങ്ങളെ എതിർക്കുവാൻ യൂണിയൻ തീരുമാനിച്ചു. എന്നാൽ അധ്യാപകർ രാഷ്ട്രീയ

* പൗർണിമ, മുണ്ടയ്ക്കൽ, കൊല്ലം-1

പാർടിയിൽ ചേരുന്നതിനു വിലക്കുണ്ടായിരുന്നു. 1939-ൽ മന്ത്രിസഭ രാജിവച്ചൊഴിയുന്നതിന് മുമ്പ് ഈ വിലക്കു നീക്കി. എന്നാൽ പണിമുടക്കവകാശം അന്നും നിഷേധിക്കപ്പെട്ടു. ആ സാഹചര്യത്തിൽ അവർക്കേർപ്പെടാവുന്ന സമരമാർഗം അധികാരികളെ ബഹിഷ്കരിക്കുക എന്നതായിരുന്നു. അങ്ങിനെ ഗുരുജനസമാജ ബഹിഷ്കരണം ആരംഭിച്ചു. ദേശീയപ്രസ്ഥാനത്തിന്റെ ഭാഗമായി സർക്കാരിനെതിരായി നടന്ന സമരത്തിന്റെ ഭാഗം തന്നെയായിരുന്നു ഇത്. ജനങ്ങളും ആ സമരത്തിനു പിന്തുണ നൽകി. അറസ്റ്റും ശിക്ഷയുംകൊണ്ടു സമരത്തെ ഒതുക്കാൻ സർക്കാർ നോക്കി. പക്ഷേ ഭാഗികമായെങ്കിലും ജോലിസ്ഥിരത, ക്രമമായി ശമ്പളം കൊടുക്കുക, ശമ്പളം കൊടുക്കാത്ത മാനേജർമാർക്കെതിരായി നടപടിയെടുക്കുക തുടങ്ങിയ ആവശ്യങ്ങളും അംഗീകരിക്കപ്പെട്ടു. ജയിൽശിക്ഷയ്ക്കു വിധിക്കപ്പെട്ട അധ്യാപകനേതാക്കളെ മോചിപ്പിച്ചു തിരികെ ജോലിയിൽ പ്രവേശിപ്പിച്ചു. വമ്പിച്ച നേട്ടങ്ങളായിരുന്നു ഇവ.

അധ്യാപകസംഘടനയുടെ ആവിർഭാവവും ആദ്യം നടന്ന ശക്തമായ സമരവും ചില പ്രധാന കാര്യങ്ങളും നമ്മെ പഠിപ്പിക്കുന്നു. സംഘടനാ പ്രവർത്തകർ അതു ശ്രദ്ധിക്കേണ്ടതാണ്.

1. തികച്ചും അനുകൂലമായ സാമൂഹ്യസാഹചര്യം ഉണ്ടെങ്കിൽ മാത്രമേ ഓരോ പ്രത്യേക ജനവിഭാഗവും സംഘടിക്കുകയും അവകാശസമരങ്ങളിലേർപ്പെട്ടു വിജയിക്കുകയും ചെയ്യുകയുള്ളു. ഉണ്ടാകാനിരിക്കുന്ന ഓരോ സമരവും മുന്നോട്ടു നയിക്കുന്നത് ഈ പാഠം ഉൾക്കൊണ്ടിട്ടായിരിക്കണം. സമൂഹത്തിനിണങ്ങാത്ത ഡിമാൻറുകളുമായി നീങ്ങുന്ന സംഘടനകൾ പടിപടിയായി ദുർബലപ്പെടും. സംഘടനയ്ക്കകത്തുള്ള സാമൂഹ്യബോധമുള്ളവർ സംഘടനയെ കയ്യൊഴിയുന്നതും സംഘടനയ്ക്കു പുറത്തുള്ളവർ അത്തരം സംഘടനയെ ഒറ്റപ്പെടുത്തുന്നതുമാണിതിനു കാരണം. അധ്യാപകസംഘടനകളും സർവീസ് സംഘടനകളും ക്ഷയോൻമുഖമാകുന്നതിന്റെ കാരണമിതാണ്.

2. സമൂഹത്തിനുകൂടി സ്വീകാര്യമാകുന്ന ഡിമാൻറുന്നയിച്ചു നടത്തുന്ന സമരം താൽക്കാലികമായി പരാജയപ്പെട്ടാൽപോലും ദീർഘകാലാടിസ്ഥാനത്തിൽ വിജയമായിത്തീരും.

3. തനതായ ആവശ്യങ്ങൾക്കുവേണ്ടി പ്രവർത്തിക്കുമ്പോൾപോലും സ്വന്തം ഉത്തരവാദിത്വം നിർവഹിക്കാൻ അധ്യാപകൻ ബാധ്യസ്ഥനാണ്. കടമകൾ അധ്യാപകനെ സംബന്ധിച്ചിടത്തോളം സർവപ്രധാനമാണ്. അധ്യാപകനും സമൂഹവും തമ്മിലുള്ള ബന്ധം സുദൃഢമാക്കണം. ഇതു സമരകാലത്തും അല്ലാത്ത അവസരത്തിലും ഓർമിക്കണം. അധ്യാപകന്റെ പ്രവൃത്തിയിലുള്ള ആത്മാർഥത സമൂഹത്തിനു ബോധ്യപ്പെടണം.

4. സമരവും ഡിമാൻറു നേടിയെടുക്കലും സാമൂഹ്യ വികസനത്തിനാവശ്യമാണ്. ക്ഷേമപ്രവർത്തനങ്ങളുടെ വ്യാപനമാണത്. യാന്ത്രികമായ അർഥത്തിൽ ഇതൊരു നിർമാണപ്രവർത്തനമല്ലെന്നു വാദിച്ചാലും വികസനപ്രവർത്തനമാണെന്നു സമ്മതിക്കണം. ഡിമാൻറുകൾക്കു രൂപം നൽകുമ്പോഴും സമരം നടത്തുമ്പോഴും ഇതോർമിക്കണം. സാമൂഹ്യപ്രതിബദ്ധതയുള്ള ഓരോ സംഘടനയും വികസനപ്രവർത്തനത്തിന്റെ ഏജൻസിയാണ്. ഓരോ സമരവും വികസനപ്രവർത്തനത്തിന്റെ ഉപാധിയാകണം. ഈ വസ്തുത മനസ്സിലാക്കുന്ന സംഘടനാപ്രവർത്തനമാണ് യഥാർഥത്തിലുള്ള ട്രേഡു യൂണിയൻ സംസ്കാരത്തിന്റെ സവിശേഷത.

46

കേരളത്തിലെ തോട്ടം തൊഴിലാളി യൂണിയനുകൾ

കെ.പദ്മനാഭൻ*

തോട്ടം വ്യവസായരംഗത്ത് കേരളത്തിന് ഒരു പ്രധാന സ്ഥാനമാണുള്ളത്. ഇന്ത്യയിലെ തോട്ടങ്ങളുടെ ആകെ വിസ്തൃതിയിൽ പകുതിയോളം കേരളത്തിലാണെന്ന് പറയാം. ഇന്ത്യയിലെ തേയില, റബ്ബർ, കാപ്പി, ഏലത്തോട്ടങ്ങളുടെ ആകെ വിസ്തീർണം 11,89,423 ഹെക്ടറാണെങ്കിൽ അതിൽ 5,53,056 ഹെക്ടർ കേരളത്തിലാണ്. ഇത് 45 ശതമാനം വരും. കൂടാതെ കൊക്കൊ, ഓയിൽപാം എന്നിവ കൂടി തോട്ടം നിയമത്തിന്റെ പരിധിയിൽ പെടുത്തിയിട്ടുണ്ട്. കേരളത്തിലാണെങ്കിൽ കശുമാവു തോട്ടങ്ങളും കൂടി, പ്ലാന്റേഷൻ കോർപറേഷനാണ് ഏറ്റെടുത്ത് നടത്തുന്നതെന്നതുകൊണ്ട് അതിന്റെ വിസ്തീർണം കൂടി കണക്കിലെടുത്താൽ ഇന്ത്യയിലെ 50 ശതമാനം തോട്ടങ്ങളും കേരളത്തിലാണെന്ന് പറയുന്നതിൽ തെറ്റില്ല. കേരളത്തിന്റെ മറ്റൊരു പ്രത്യേകത എല്ലാ തോട്ടവിളകളും കൃഷി ചെയ്യാവുന്ന ഏകസംസ്ഥാനമെന്ന പരിഗണനയും നമുക്കുണ്ടെന്നതാണ്. റബ്ബർ, ഏലം എന്നിവയാണ് ഇവിടത്തെ പ്രധാന തോട്ടവിളകൾ.

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ഒറ്റപ്പെട്ട സാഹചര്യങ്ങളും, കങ്കാണിമാരും

സഹ്യപർവതത്തിന്റെ മലയോരങ്ങളിലാണ് തേയില, ഏലത്തോട്ടങ്ങൾ സ്ഥിതി ചെയ്യുന്നത്. മനുഷ്യർ താമസിക്കാൻ മടിയ്ക്കുന്ന ഈ ഒറ്റപ്പെട്ട മലയോരങ്ങളിൽ പണിയെടുക്കാൻ പലവിധ മോഹനസുന്ദരവാഗ്ദാനങ്ങൾ നൽകിയാണ്, ഈ നൂറ്റാണ്ടിന്റെ ആദ്യത്തിൽ നാട്ടിൻപുറങ്ങളിൽ നിന്നും ആളുകളെ കൊണ്ടുപോയിരുന്നത്. കങ്കാണിമാർ വഴിയാണ് തോട്ടങ്ങളിൽ ആദ്യനാളുകളിൽ, തൊഴിലാളികളെ ജോലിക്ക് വെച്ചിരുന്നത്. ഒരു തൊഴിലാളി ഒരു ദിവസം പണിയെടുത്താൽ ഒരണ തലക്കാശ് (തിരുവിതാംകൂറിൽ അതിന് തുല്യമായ ചക്രം) കങ്കാണിക്ക് ലഭിക്കുമായിരുന്നു. തന്റെ കീഴിലുള്ള മുഴുവൻ തൊഴിലാളികളും പണിയെടുത്താലേ അത്രയും പേർക്ക് തലക്കാശ് ലഭിക്കൂ എന്നതുകൊണ്ട്, തൊഴിലാളികളെ ചമ്മട്ടി കൊണ്ട് അടിച്ച് പണിക്ക് ഇറക്കുമായിരുന്നു. ഇതിനായി കങ്കാണിമാരുടെ വക കോൽ മേസ്ത്രിമാർ ഉണ്ടായിരുന്നു. കോലുമായി തൊഴിലാളികളെ അടിച്ച് ആട്ടിൻപറ്റത്തെപ്പോലെ തെളിയിച്ച് പണിയെടുപ്പിക്കുന്നവരായിരുന്നു ഈ കോൽ മേസ്ത്രിമാർ. ഇങ്ങനെയുള്ള കോൽ മേസ്ത്രി സമ്പ്രദായം അവസാനിപ്പിച്ചത്, 1957ൽ അധികാരത്തിൽ വന്ന ഇ.എം.എസ് മന്ത്രിസഭയുടെ കാലത്ത് ഇതേക്കുറിച്ച് അന്വേഷിച്ച് സമർപ്പിച്ച ഒരു റിപ്പോർട്ടിന്റെ അടിസ്ഥാനത്തിലാണ്.

യൂണിയനുകളുടെ ആവിർഭാവം

ബ്രിട്ടീഷ് കമ്പനികളാണ് തോട്ടങ്ങൾ ആരംഭിച്ചതെന്നതുകൊണ്ട് രാഷ്ട്രീയ-സാമൂഹ്യ പ്രവർത്തകർക്ക് തോട്ടങ്ങളിൽ പ്രവേശിക്കാൻപോലും സ്വാതന്ത്ര്യത്തിന് മുൻപ് വിഷമമായിരുന്നു. അതുകൊണ്ടുതന്നെ സ്വാതന്ത്ര്യം ലഭിച്ചതിനുശേഷമാണ് തോട്ടം തൊഴിലാളി യൂണിയനുകളധികവും ഉണ്ടാകുന്നതും, പ്രവർത്തനമാരംഭിക്കുന്നതും.

എന്നാൽ തോട്ടം തൊഴിലാളികൾക്ക് താമസിക്കാൻപോലും ഇടവും, കുടിവെള്ള സൗകര്യവും, അത്യാവശ്യം വേണ്ട വൈദ്യസഹായവും നൽകിയാലേ തൊഴിലാളികൾ ഈ ഒറ്റപ്പെട്ട സ്ഥലങ്ങളിൽ താമസിച്ച് പണിയെടുക്കുവാൻ വരികയുള്ളൂ എന്നു വന്നതിനെതുടർന്ന്, നിയമനിർമാണങ്ങൾ ഒന്നുമില്ലാതെതന്നെ, ഈ സൗകര്യങ്ങൾ ഏർപ്പെടുത്തി കൊടുക്കാൻ തോട്ടമുടമകൾ നിർബന്ധിതരായി. പക്ഷേ റീഗെ കമ്മിറ്റി (Rege Committee — 1944-47), റോയൽ കമ്മീഷൻ എന്നിവ അന്ന് ഏർപ്പെടുത്തികൊടുത്ത സംവിധാനങ്ങളുടെ അപര്യാപ്തതയിലേക്കു ഗവർമെൻറിന്റെ ശ്രദ്ധ ക്ഷണിക്കുകയുണ്ടായി.

1947-ൽ കൂടിയ തോട്ടം ത്രികക്ഷി സമിതിയുടെ (ഇതാണ് പിന്നീട് തോട്ടങ്ങളുടെ വ്യവസായബന്ധ സമിതിയായത്) യോഗത്തിൽ വച്ച്, സിക്ക് അലവൻസ്, പ്രസവകാല വേതനം, വൈദ്യസഹായം, വിദ്യാഭ്യാസം, ക്ഷേമപ്രവർത്തനം, 12 വയസ്സുവരെയുള്ള കുട്ടികളെ ജോലിക്ക് വെയ്ക്കുന്നതിൽ നിരോധനം എന്നീ വിഷയങ്ങളിൽ ചില ശുപാർശകൾ സമർപ്പിച്ചു. ഇതിന്റെ ചുവട് പിടിച്ചാണ് 1950ൽ തോട്ടം വ്യവസായബന്ധ സമിതിയിൽ തോട്ടം തൊഴിലാളി ബില്ലിന്റെ കരട് അവതരിപ്പിച്ചതും, 1951ൽ അത് ആക്ടായി രൂപാന്തരപ്പെട്ടതും. എന്നാൽ നിയമം പാസ്സാക്കിയെങ്കിലും 1954 ഏപ്രിൽ 1 മുതലേ അത് നടപ്പിലാക്കിയുള്ളൂ.

ആദ്യസമരങ്ങൾ

രണ്ടാം ലോകമഹായുദ്ധത്തെ തുടർന്ന് അനുഭവപ്പെട്ട കൊടിയ ഭക്ഷണക്ഷാമം തോട്ടങ്ങളെ നന്നായി ബാധിക്കുകയുണ്ടായി. നിലവിലുള്ള കൂലി വർധിപ്പിക്കുകയോ, തൊഴിലാളികൾക്ക് ജീവിക്കാൻ മതിയായത്ര ഭക്ഷ്യസാധനങ്ങൾ റേഷൻ വിലക്ക് നൽകുകയോ ചെയ്യണമെന്ന് അസംഘടിതരായ തൊഴിലാളികൾ ആവശ്യപ്പെടാൻ തുടങ്ങി. ഒരു സംഘടനയും പ്രവർത്തിക്കുന്നില്ലെന്നതിനാൽ ആ ആവശ്യം നിഷേധിക്കപ്പെട്ടു. ഇതിനെ തുടർന്നാണ് 1946ൽ വയനാട്ടിലെ ചിറക്കര തോട്ടത്തിലെ തൊഴിലാളികൾ പണിമുടക്കി തൊട്ടടുത്ത പട്ടണത്തിൽ പ്രകടനം നടത്തിയത്. ആ പണിമുടക്കം ഉടൻതന്നെ വടക്കൻ വയനാട്ടിലും, തെക്കേ വയനാട്ടിലും പടർന്ന് പിടിക്കാൻ അധിക ദിവസം വേണ്ടിവന്നില്ല. ഈ പണിമുടക്കിന് നേതൃത്വം നൽകാൻ അന്ന് തലശ്ശേരിയിൽ നിന്നു, യശഃശരീരനായ സി.എച്ച്.കണാരൻ വയനാട്ടിൽ വന്ന് താമസിക്കുകയുണ്ടായി. എൻ.ഇ.ബലറാമും ആ സമരകാലത്ത് വയനാട്ടിൽ ഉണ്ടായിരുന്നു.

ഈ സമരത്തെതുടർന്ന് തോട്ടം തൊഴിലാളികളുടെ ഇടയിലുള്ള സ്വാധീനശക്തി വളർന്നു സംഘടന രൂപീകരിച്ചു പ്രവർത്തിക്കാൻ ശ്രമിക്കുമ്പോഴാണ്, കമ്യൂണിസ്റ്റ് പാർടിയെ നിയമവിരുദ്ധപാർടിയായി പ്രഖ്യാപിച്ച്, നേതാക്കളെ അറസ്റ്റ് ചെയ്യുകയോ, മർദ്ദിച്ച് ഒതുക്കുകയോ ചെയ്യുന്ന ഗവൺമെൻറ് നയം പ്രത്യക്ഷപ്പെട്ടത്. ഈ പരിതഃസ്ഥിതിയിൽ ഐ.എൻ.ടി.യു.സി തോട്ടം തൊഴിലാളികളുടെ ഏക കേന്ദ്രസംഘടന എന്ന പദവി നേടിയെടുത്തു.

തിരുവിതാംകൂർ മേഖലയിലും 1949-50-51 വർഷങ്ങളിലാണ് നിരവധി യൂണിയനുകൾ തോട്ടം രംഗത്ത് രജിസ്റ്റർ ചെയ്തിട്ടുള്ളതെന്ന് കാണാൻ കഴിയും. മലയാള വർഷം 1123, 24 എന്നീ രണ്ടു വർഷങ്ങളിലായി 9 തോട്ടം യൂണിയനുകൾ രജിസ്റ്റർ ചെയ്തതായി രേഖകൾ വ്യക്തമാക്കുന്നുണ്ട്.

വടശ്ശേരിക്കര കേന്ദ്രമാക്കിയ ഈസ്റ്റേൺ എസ്റ്റേറ്റ് വർക്കേഴ്സ് യൂണിയൻ ക്ഷാമബത്ത, ബോണസ്, സിക്ക് അലവൻസ്, പ്രസവാനുകൂല്യം എന്നിവയ്ക്കൊക്കെ പോരാടിയിട്ടുണ്ട്. 1200 തൊഴിലാളികളെ അണിനിരത്തി 52 ദിവസം നീണ്ടുനിന്ന ഒരു പണിമുടക്കവും അവിടെ സംഘ

ടിപ്പിക്കപ്പെട്ടിട്ടുണ്ട്. നെടുമങ്ങാട് താലൂക്കിൽ ഇടക്കാലാശ്വാസം അനുവദിക്കണമെന്നാവശ്യപ്പെട്ടുകൊണ്ട് 1951ൽ 23 ദിവസം നീണ്ടുനിന്ന ഒരു പണിമുടക്കുസമരം നടത്തിയതിന്റെ അനുഭവവുമുണ്ട്. അന്ന് നിലവിൽ വന്നു കഴിഞ്ഞിരുന്ന മിനിമം വേജസ് കമ്മിറ്റി ഈ ആവശ്യം നിരാകരിക്കുയാണുണ്ടായത്.

1946-ലെ പുന്നപ്ര-വയലാർ സമരത്തെ തുടർന്ന് തിരുവിതാംകൂറിൽ ഉണ്ടായിരുന്ന പ്രത്യേക സ്ഥിതിഗതികളും, 1948ൽ കമ്യൂണിസ്റ്റു പാർടി നിയമവിരുദ്ധമായി പ്രഖ്യാപിക്കപ്പെട്ടതിനെതുടർന്ന് വന്ന സ്ഥിതിഗതികളും മൂലം പരസ്യമായി ട്രേഡ് യൂണിയൻ പ്രവർത്തനം നടത്താൻ എ.ഐ.ടി.യു.സിക്കാർക്ക് കഴിയാതായി. രംഗമാകെ ഐ.എൻ.ടി.യു.സിക്കും എച്ച്.എം.എസിനും അടക്കിവാഴാൻ ഈ സന്ദർഭം അവർ പ്രയോജനപ്പെടുത്തി.

ബി.കെ.നായർ, കെ.കരുണാകരൻ, ദിവംഗതനായ കൊയിലാണ്ടി കുമാരൻ, വി.എം.രാഘവൻ, സി.ഇ.ഭരതൻ, ടി.പി.ജി.നമ്പൂതിരി എന്നിവരായിരുന്നു ഐ.എൻ.ടി.യു.സിയെ നയിച്ചിരുന്നത്.

എ.ഐ.ടി.യു.സി. നേതാക്കളായി പി.ബാലചന്ദ്രമേനോൻ, റോസ്സമ്മാ പുന്നൂസ്, സി.എ.കുര്യൻ, വി.എൻ.ശിവരാമൻ, പി.രാമലിംഗം, പി.രവീന്ദ്രൻ എന്നിവർ ഈ രംഗത്ത് വളരെകാലം പ്രവർത്തിച്ചവരാണ്.

പ്രാക്കുളം ഭാസി, ശ്രീകണ്ഠൻ നായർ, ടി.എം.പ്രഭ, പി.വി.വർഗ്ഗീസ് എന്നീ യു.ടി.യു.സി നേതാക്കളും, പി.വി.വിൽസൺ, ശിവരാമഭാരതി, സുബ്ബയ്യ എന്നീ എച്ച്.എം.എസ് നേതാക്കളും ഈ രംഗത്ത് നിരവധി വർഷം പ്രവർത്തിച്ചവരായിട്ടുണ്ട്.

സി.ഐ.ടി.യു. രൂപീകരണത്തിനു മുൻപ് തന്നെ എ.ഐ.ടി.യു.സി സംഘടനയിൽ നിന്ന് പ്രവർത്തിച്ചവരാണ് ഇന്ന് ഈ രംഗത്ത് ഏറിയകൂറുമുള്ളത്.

കെ.പദ്മനാഭൻ, പി.കുഞ്ഞിക്കണ്ണൻ, പി.ആർ.ഗോപാലകൃഷ്ണൻ, സുന്ദരമാണിക്യം, വി.എസ്. ചന്ദ്രശേഖരപിള്ള, പി.ഉണ്ണികൃഷ്ണൻ, ലാലാജി ബാബു, പരമേശ്വരൻ നായർ എന്നിവർ ഈ രംഗത്ത് സജീവമായി പ്രവർത്തിക്കുന്നു.

മരിച്ചുപോയ കെ.ഐ.രാജൻ, എം.ജിനദേവൻ എന്നീ സഖാക്കൾ തോട്ടം തൊഴിലാളി സംഘടന കെട്ടിപ്പടുക്കാൻ അളവറ്റ സംഭാവന നൽകിയവരാണ്.

പിന്നീട് 1952ന് ശേഷമാണ് എ.ഐ.ടി.യു.സി യൂണിയനുകൾ ഈ രംഗത്തെ പ്രവർത്തനമാരംഭിച്ചത്. സി.ഐ.ടി.യു രൂപീകരണശേഷം മുൻപ് എ.ഐ.ടി.യു.സി. യിൽ പ്രവർത്തിച്ചവർ തന്നെ ആ സംഘടനയുടെ നേതൃത്വത്തിൽ പ്രവർത്തനങ്ങൾ തുടർന്നു.

ട്രേഡ് യൂണിയൻ ബാഹുല്യം

യൂണിയനുകളുടെ ബാഹുല്യം ഈ രംഗത്ത് ഒരു അനാരോഗ്യ പ്രവണതയായി ഇന്ന് നിലനിൽക്കുന്നു. ഒരു മേഖലയിൽ തന്നെ ഐ.എൻ.ടി.യു.സിയുടെ നിരവധി യൂണിയനുകൾ കാണാം.

കൈവിരലിൽ എണ്ണാവുന്നവരെ വച്ച് യൂണിയൻ സംഘടിപ്പിച്ച് മാനേജുമെൻറിനുവേണ്ടി കരാറിൽ ഒപ്പുവെയ്ക്കുന്ന പ്രവണതയും ഈ രംഗത്ത് ഒരു തീരാശാപമായി മാറിയിരിക്കുന്നു. അധ്വാനഭാരം വർധിപ്പിക്കാനും, മറ്റു പല തൊഴിലാളിവിരുദ്ധ നടപടികൾ അടിച്ചേൽപ്പിക്കാനും ഇതു മൂലം മാനേജുമെൻറുകൾക്ക് കഴിയുന്നു.

ഹാരിസൺ മലയാളം വക കാളിയാർ എസ്റ്റേറ്റിൽ തൊഴിലാളികളെ യൂണിയന്റെ അടിസ്ഥാനത്തിൽ റിക്രൂട്ടു ചെയ്യുവാൻ ഉണ്ടാക്കിയ കരാർ 5 ട്രേഡ് യൂണിയനുകൾ ചേർന്ന് ഒപ്പു വെയ്ക്കുകയുണ്ടായി. അതിനെതിരെ സീനിയോറിട്ടി അടിസ്ഥാനത്തിൽ സ്ഥിരപ്പെടുത്തണമെന്ന് സി.ഐ.ടി.യു. ഉൾപ്പെടെ ഒപ്പു വെയ്ക്കാത്ത യൂണിയനുകൾ ആവശ്യപ്പെട്ട് ഒരു സമരം സംഘടിപ്പിച്ചപ്പോൾ, നടത്തിയ റഫറണ്ടത്തിൽ ഒപ്പു വെച്ച നാല് യൂണിയനുകൾക്ക് അംഗീകാരം നഷ്ടപ്പെട്ടു. സി.ഐ.ടി.യുവിന് മാത്രം 44% തൊഴിലാളികൾ വോട്ട് ചെയ്തു. ആകെ തൊഴിലാളികളുടെ റഫറണ്ടം നടത്തി, 15%ത്തിലധികം തൊഴിലാളികളുടെ പ്രാതിനിധ്യമുണ്ടെങ്കിൽ സി.ഐ.ടി.യുവിനെ അംഗീകരിച്ചാൽ മതിയെന്ന് പറഞ്ഞിട്ടുപോലും ചില യൂണിയനുകൾ എതിർക്കുന്നു. പല കേന്ദ്ര സംഘടനകളും തോട്ടം മേഖലയിലെ അംഗത്വത്തെക്കുറിച്ച് അതിശയോക്തിപരമായ കണക്കുകളാണ് മുന്നോട്ടുവയ്ക്കാറ്. വിവിധ ട്രേഡ് യൂണിയനുകൾ ഈ രംഗത്ത് അവകാശപ്പെട്ട മെമ്പർഷിപ്പിന്റെ ലിസ്റ്റ് വെച്ചുകൂട്ടിയാൽ കിട്ടുന്ന എണ്ണം തോട്ടങ്ങളിലെ ആകെ തൊഴിലാളികളെക്കാൾ വരും.

ഈ അതിരുകടന്ന അവകാശവാദം ചില സർക്കാർ കമ്മിറ്റികളിൽ കയറിപറ്റാൻ വേണ്ടി മാത്രമാണ് ഉന്നയിക്കുന്നതെന്ന്.

തൊഴിലാളികളെ പട്ടികയിൽ സ്ഥിരപ്പെടുത്താൻ പണം വാങ്ങുക, സ്ലോട്ടർ ടാപ്പിംഗിന് മരം കൊടുക്കുമ്പോൾ അമിത കോമ്പൻസേഷൻ, മരത്തിന് തന്നെ ലാഭവീതം വേണമെന്ന് അവകാശവാദം തുടങ്ങിയ എതിർക്കപ്പെടേണ്ട നിരവധി തെറ്റായ സമ്പ്രദായങ്ങൾ ഈ രംഗത്ത് ചില സ്ഥലങ്ങളിലെങ്കിലും നിലനിൽക്കുന്നു.

സമുദ്രനിരപ്പിൽ നിന്നും 3000 മുതൽ 6000 അടി വരെ ഉയരമുള്ള പർവതസാനുക്കളുടെ ഇടയിൽ സ്ഥിതിചെയ്യുന്ന ഈ തോട്ടങ്ങളിൽ എത്തിപ്പെടുന്നതിന് വളരെ ക്ലേശങ്ങൾ സഹിക്കേണ്ടതുണ്ട്. അർപ്പണമനോഭാവമുള്ള പ്രവർത്തകരെ കണ്ടെത്തി ഈ ചുമതല ഏൽപ്പിക്കാൻ കഴിഞ്ഞാലേ നല്ല നിലയിലുള്ള തോട്ടം തൊഴിലാളി യൂണിയനുകൾ കെട്ടിപ്പടുക്കാൻ കഴിയൂ.

47

ചരിത്രംനിശ്ശബ്ദത തകർക്കുന്നു

(കേരളചരിത്രം 1937-1957)

ആണ്ടലാട്ട്*

ഒന്ന്

1930-34 കാലത്തെ ഒന്നും രണ്ടും നിയമ ലംഘന പ്രസ്ഥാനം കേരളത്തിൽ വമ്പിച്ച വിജയമായിരുന്നു.

കെ.പി.സി.സി.യിലെ ഒരു വിഭാഗം നിയമ നിഷേധ സമരം ഇവിടെ ആരംഭിക്കുന്നതിന് എതിരായിരുന്നു. അതിനാൽ മറ്റു സംസ്ഥാനങ്ങളിൽ സമരത്തിന്റെ അല ശക്തിപ്പെട്ടിട്ടും കേരളം മിണ്ടാട്ടമില്ലാതെ കിടപ്പായിരുന്നു.

മാർച്ച് 9 ന് വടകരയിൽ വച്ചുകൂടിയ കെ.പി.സി.സി.യാണ് നിയമലംഘന പ്രസ്ഥാനത്തെ സ്വാഗതം ചെയ്തത്. പ്രചാരണത്തിന് ഒരു സബ് കമ്മറ്റിയെ ചുമതലപ്പെടുത്തുകയും ചെയ്തു. നിരവധി പേർ ആവേശത്തോടെ അതിനെ സ്വാഗതം ചെയ്ത് അതിൽ പങ്കെടുക്കാൻ മുന്നോട്ടു വന്നു.

അവരൊക്കെ സത്യഗ്രഹ വാളണ്ടിയർമാരായി ചേർന്നു.

ആവേശത്തിന്റെ നാളുകളായിരുന്നു അത്; സ്വപ്നങ്ങളുടെയും എന്നിട്ടും കോൺഗ്രസ് പ്രമാണിമാർ പലരും ഇതിൽ നിന്നെല്ലാം വിട്ടു നിന്നു.

കേളപ്പന്റെ നേതൃത്വത്തിലുള്ള ഉപ്പുസത്യാഗ്രഹജാഥ കോഴിക്കോട് നിന്നും ഏപ്രിൽ 13 ന് പയ്യന്നൂർക്ക് യാത്ര പുറപ്പെട്ടു. 'ഈ ജാഥ കേരളത്തെ മുഴുവൻ പിടിച്ചു കുലുക്കി. കേളപ്പന്റെ പ്രസംഗം കേൾക്കാൻ' കൂടിയിരുന്ന ആയിരങ്ങളെ ഇളക്കി മറിക്കുകയും ആയിരക്കണക്കിനാളുകളെ സ്വാതന്ത്ര്യസമരത്തിന്റെ മധ്യത്തിലേക്കെടുത്തെറിയുകയും ചെയ്തു.

രണ്ട്

എന്നാൽ അവരുടെ ആവേശം തല്ലികെടുത്തപ്പെട്ടു. സമരം പെട്ടെന്നു നിർത്തിവെച്ചതോടെ സംഭവിച്ചതതാണ്. പുതിയ പ്രവർത്തകരെ ഇത് നിരാശരാക്കി. പക്ഷെ അവർ തളർന്നില്ല. പുതിയ വഴികൾ അവർ തേടി. ജയിലിലെ ജീവിതം അവർക്കു വെളിച്ചമേകി. വിപ്ലവകാരികളുമായുള്ള ബന്ധമാണിതിനു കാരണം. കിരൺ ചന്ദ്രദാസ്, കമൽനാഥ് തിവാരി, സെൻഗുപ്ത, ചക്രവർത്തി, ആചാര്യ തുടങ്ങിയവർ. അവർ കാട്ടിയ വെളിച്ചം മാർക്സിസമായിരുന്നു. ജയിലിൽവെച്ചു ചർച്ചകൾ നടന്നു.

മൂന്ന്

പക്ഷെ, എന്താണ് മാർക്സിസം? അതറിയില്ല. അറിയാൻ വഴിയില്ല. പഠിക്കാനാവശ്യമായ പുസ്തകങ്ങൾ കിട്ടാൻ വഴിയില്ല. അവയൊക്കെ അവിടെ കടക്കുന്നത് വിലക്കിയിരുന്നു.

"കമ്മ്യൂണിസ്റ്റ് ഇൻറർനാഷണലിന്റെ സാഹിത്യങ്ങളും സോവിയറ്റ് പ്രസിദ്ധീകരണങ്ങളും ഇന്ത്യയിൽ കടക്കുന്നതിനെ കടൽച്ചുങ്ക നിരോധനത്താലും മറ്റെല്ലാവഴിക്കും ബ്രിട്ടീഷ് അധികൃതന്മാർ കർശനമായി തടഞ്ഞിരുന്നു. എന്നാൽ കുറെയൊക്കെ പല വഴിക്കും അവ ഇന്ത്യയിൽ എത്താതിരുന്നില്ല." (പി. നാരായണൻ നായർ)

"സോഷ്യലിസ്റ്റാശയം സംബന്ധിച്ചു ഞങ്ങളുടെ ധാരണകളും അപൂർണവും അവ്യക്തവുമായിരുന്നു." (ഇ.എം.എസ്.)

നാല്

അതേ അവസരത്തിൽ അവരെ മാർക്സിസത്തിലേക്കടുപ്പിച്ച മറ്റൊരു വലിയ യാഥാർത്ഥ്യമുണ്ടായിരുന്നു. അതു പുതുതായി ഉയർന്നുവന്ന സോവിയറ്റ് റഷ്യയായിരുന്നു. പട്ടിണിയില്ലാത്ത നാട്. തൊഴിലില്ലായ്മയും ചൂഷണവുമില്ലാത്ത നാട്. അധ്വാനിക്കുന്നവന്റെ സ്വർഗരാജ്യം.

"സോഷ്യലിസത്തിന്റെ അടിസ്ഥാനപ്രമാണങ്ങളെക്കുറിച്ചു പറയത്തക്ക വിവരമൊന്നുമില്ല. എന്നാൽ അവയുടെ സജീവപ്രതീകമാണ് സോവിയറ്റു യൂണിയനിൽ കാണുന്നതെന്നു ഞങ്ങൾക്കറിയാമായിരുന്നു... സോഷ്യലിസത്തിന്റെ മൗലികപ്രമാണങ്ങൾ സംബന്ധിച്ചു താത്വികാടിസ്ഥാനത്തിൽ പഠനം നടത്താൻ സൗകര്യം കിട്ടിയിട്ടില്ലാത്ത ഞങ്ങൾക്കു സോഷ്യലിസത്തിനു അനുകൂലമായ അഭിപ്രായം സ്വയം ഉണ്ടാക്കുവാനും അതു ജനങ്ങളോടു പറയാനും സഹായിച്ച വസ്തുതയാണിത്"' (ഇ.എം.എസ്)

അഞ്ച്

തൊഴിലാളി കർഷകാദി അടിസ്ഥാനവർഗ

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* എ.കെ.ജി.സെൻറർ ലൈബ്രറി, തിരുവനന്തപുരം-34

ങ്ങളെ സംഘടിപ്പിക്കുകയായിരുന്നു ആദ്യപരിപാടി. ''1934 നോടുകൂടി നടന്ന ഈ പുതിയ മാറ്റത്തിനു നേതൃത്വം നൽകിയത് സഖാവ് പി. കൃഷ്ണപിള്ളയാണ്.

പ്രധാനമായും മൂന്നു തരത്തിലുള്ള സംഘടിത പ്രവർത്തനങ്ങളാണ് നടന്നത്.

1. ബൂർഷ്വാ വിഭാഗങ്ങളുമായി യോജിച്ചുകൊണ്ടും അതേ സമയത്ത് തന്നെ തൊഴിലാളികളെയും കൃഷിക്കാരെയും കൂടുതലാകർഷിച്ചുകൊണ്ടും കോൺഗ്രസിനെ ശക്തിപ്പെടുത്തുക.
2. സോവിയറ്റ് യൂണിയനെ ബഹുമാനിക്കുകയും സോഷ്യലിസത്തിൽ വിശ്വസിക്കുകയും ചെയ്യുന്ന കോൺഗ്രസുകാരെയെല്ലാം ഉൾപെടുത്തിക്കൊണ്ടു കോൺഗ്രസ് സോഷ്യലിസ്റ്റ് പാർട്ടി എന്ന പ്രത്യേക സംഘടന കെട്ടിപ്പടുക്കുക.
3. വർഗസമരത്തിലടിയുറച്ച തൊഴിലാളിയൂണിയനുകളും കിസാൻ സഭകളും കെട്ടിപ്പടുക്കുകയും സ്വതന്ത്രമായ ബഹുജനപ്രസ്ഥാനങ്ങളെയും ബഹുജനസമരങ്ങളെയും ശക്തിപ്പെടുത്തുകയും ചെയ്യുക.''

ആറ്

കോൺഗ്രസിന്റെ വളർച്ച കാണാൻ അംഗസംഖ്യയിലെ വളർച്ചതന്നെ നോക്കാം.

1934-ൽ കേരളത്തിൽ ആകെ ഉണ്ടായിരുന്ന കോൺഗ്രസുകാർ കേവലം 3000-ത്തോളമായിരുന്നു. 1938-39 ആകുമ്പോഴത്തെ അംഗസംഖ്യ 60,000 ത്തോളം.

അംഗസംഖ്യ മാത്രമല്ല മുഖ്യ വസ്തുത. വില്ലേജു കമ്മറ്റികളും കോൺഗ്രസ് സംഘടനയുടെ അഭേദ്യഭാഗമായിത്തീർന്നു. 500 ഓളം വില്ലേജ് കമ്മറ്റികളും. ''...കീഴ്കമ്മിറ്റി മെമ്പർമാർ, പരിശീലനം കിട്ടിയ വാളണ്ടിയർമാർ, സമ്മർ സ്ക്കൂളിൽ പങ്കുകൊണ്ട പ്രവർത്തകന്മാർ മുതലായവരെല്ലാംകൂടി 5000 ത്തോളം പ്രവർത്തകന്മാർ കോൺഗ്രസിന്റെ ദൈനംദിന പ്രവർത്തനങ്ങളിൽ ചുരുങ്ങിയതോതിലെങ്കിലും പങ്കു കൊള്ളുന്നുണ്ടെന്ന നിലവന്നു.'' (ഇ.എം.എസ്)

ഏഴ്

ആരായിരുന്നു ഈ അംഗങ്ങൾ? സാധാരണ കൃഷിക്കാരും തൊഴിലാളികളും.

അവകാശസമരങ്ങളിലൂടെ അവരുടെ സംഘടനകൾ കെട്ടിപ്പടുത്ത് അവരെ രാഷ്ട്രീയമായിക്കൂടി വളർത്തിയെടുത്തതിന്റെ പ്രതിഫലനമായിരുന്നു അംഗസംഖ്യയിൽ കണ്ടത്. ഇതൊക്കെ ചെയ്തത് പ്രവർത്തകർ അവരോടൊപ്പം നിന്ന്, അവരിലൊരാളായി മാറിയിട്ടായിരുന്നു.

എട്ട്

1931-ൽ കെ.പി.സി.സി. നടത്തിയ സമ്മർ സ്ക്കൂൾ ആ ലക്ഷ്യത്തോടെയായിരുന്നു. വിഷയങ്ങളോ - ലോകചരിത്രം, ഇന്ത്യാചരിത്രം, രാഷ്ട്രീയവിജ്ഞാനം, സാമ്പത്തികശാസ്ത്രം, കോൺഗ്രസ് സംഘടന, യുദ്ധം, രാഷ്ട്രീയസ്ഥിതി എന്നിവയും.

ഈ വിദ്യാർഥികൾ താലൂക്ക് ഗ്രാമതലങ്ങളിൽ ക്ലാസുകൾ നടത്തി. ഈ പ്രക്രിയ അനുസ്യൂതം തുടർന്നുകൊണ്ടേ ഇരുന്നു.

കമ്മ്യൂണിസ്റ്റ്കാരുടെ മാത്രം പരിപാടിയായിരുന്നു. ഈ പഠനപരിപാടി. കമ്മ്യൂണിസ്റ്റ്കാരായി മാറിയിരുന്ന കോൺഗ്രസുകാരുടെ പരിപാടി. അതിനുമുമ്പ് ഒരിക്കലും അത്തരമൊരു സമ്പ്രദായം ഉണ്ടായിട്ടില്ല. മറ്റു പാർട്ടികൾക്കും അങ്ങനെയൊരു പരിപാടി ഉണ്ടായിരുന്നില്ല.

ഒൻപത്

തൂക്കുമരച്ചുവട്ടിൽവെച്ചും പതറാതെ ''രാജ്യത്തിനുവേണ്ടി മരിക്കുന്നതിൽ ഞങ്ങൾ അഭിമാനം കൊള്ളുന്നു.'' എന്നു പറയാൻ പാകത്തിൽ മനസ്സു വളർന്ന കയ്യൂർ സഖാക്കൾ അന്നത്തെ സമൂഹമനസാക്ഷിയുടെ പ്രതിബിംബം മാത്രമായിരുന്നു. പുന്നപ്രയിലും വയലാറിലും പീരങ്കിയെനേരിടാൻ വാരിക്കുന്തം എടുത്തവരുടെ മനസ്സും മുൻപൊന്നവരുടേതിൽ നിന്നും അഭിന്നമായിരുന്നു. ഈ മാനസികാവസ്ഥയിലേക്കുള്ള വളർച്ചയുടെ കഥ കാണാതെ ആ സമരങ്ങളെ മനസ്സിലാക്കാനുമാവില്ല.

അന്നത്തെ കർഷക ജീവിതപരിതഃസ്ഥിതി വി.വി. കുഞ്ഞമ്പു ഇങ്ങനെ വിവരിച്ചു:

''പ്രാദേശിക തർക്കങ്ങളോ വ്യവഹാരങ്ങളോ അക്കാലത്തു ദുർലഭമായേ ഉണ്ടായിരുന്നുള്ളു. ഉള്ളവതന്നെയും സമാധാനപരമായി പറഞ്ഞു തീർക്കുന്നതിനു പ്രവർത്തകർക്കു യാതൊരു പ്രയാസവും ഉണ്ടായിരുന്നില്ല. കാരണം, ഏറ്റവും നിഷ്പക്ഷമായ രീതിയിലാണു അത്തരം കേസുകളും തർക്കങ്ങളും പറഞ്ഞു തീർത്തിരുന്നത്.''

പത്ത്

ഈ വളർച്ചയിലും ജനങ്ങളുമായുള്ള ബന്ധത്തിലും കോൺഗ്രസുകാരൊക്ക സന്തോഷിക്കേണ്ടതല്ലേ? ഒരു കൂട്ടർക്കു സന്തോഷമല്ല നോവാണ് അനുഭവപ്പെട്ടത്. ആ നോവ് അവരെ കോൺഗ്രസ് (സോഷ്യലിസ്റ്റ്) ദ്രോഹികളാക്കി മാറ്റിത്തീർത്തു.

ആ ദ്രോഹം എത്രത്തോളമായിരുന്നു?

''അദ്ദേഹം (മുഹമ്മദ് അബ്ദുറഹിമാൻ) പ്രസിദ്ധനായിരുന്നു കാലത്താണ് വടക്കേ മലബാറിലെ മൊറാഴയിലും കോട്ടയ്ക്കലടുത്തുള്ള പറപ്പൂരും കേരള സംസ്ഥാന കോൺഗ്രസ് കമ്മിറ്റിയുടെ ആഭിമുഖ്യത്തിൽ വമ്പിച്ച രണ്ടു രാഷ്ട്രീയ സമ്മേളനങ്ങൾ നടത്തപ്പെട്ടത്. ഈ രണ്ടു സമ്മേളനത്തിനും ചാലപ്പുറം ഗാങ്ങിന്റെ ആത്മാർഥമായ സഹകരണമുണ്ടായിരുന്നില്ല എന്നു മാത്രമല്ല, കഠിനമായ എതിർപ്പാണുണ്ടായത്. സമ്മേളനത്തിന്റെ നടത്തിപ്പിനു പണം കൊടുക്കുന്നതിനെപ്പോലും അവർ വിരോധിച്ചിരുന്നു.'' (മൊയ്തുമൗലവി)

പതിനൊന്ന്

''അധികാരസ്ഥാനങ്ങൾക്കുവേണ്ടിയുള്ള അവരുടെ മത്സരം ചിലഘട്ടങ്ങളിൽ വളരെ പരിതാപകരമായ നിലയിലേക്കു നീങ്ങുകയും കോൺഗ്രസിന്റെ ആരോഗ്യകരമായ പ്രവർത്തനം പ്രയാസമാക്കുകയും ചെയ്തു.'' (ദാമോദരമേനോൻ)

1935-ൽ ഇടതുപക്ഷത്തിനു ഭൂരിപക്ഷം കിട്ടുകയും എ.കെ.ജി കെ.പി.സി.സി പ്രസിഡൻറായി തെരഞ്ഞെടുക്കുക്കപ്പെടുകയും ചെയ്ത അവസരത്തിൽ ഐക്യത്തിനുവേണ്ടി വലതുപക്ഷത്തിനു ഭൂരിപക്ഷം സീറ്റുകൾ ദാനം ചെയ്തവരെപ്പറ്റിയാണ് ഇത് പറയുന്നത്.

പന്ത്രണ്ട്

ഈ പിളർപ്പന്മാരുടെ ചങ്കിടിപ്പ് കേട്ടത് ചുകപ്പു കൊടി കണ്ടപ്പോഴാണ്. ചുകപ്പുകൊടി റഷ്യയുടേതാണ്. ആ ചുകപ്പ് ചൂഷണമില്ലാത്ത പുതിയ ജീവിതത്തിന്റെ പ്രതീകമായ ആയിരുന്നു.

ആ അവസ്ഥ അവരെ ഭയവിഹ്വലരാക്കിയെങ്കിൽ അത്ഭുതമില്ല. പണ്ടു ആലപ്പുഴയിലെ ആ വങ്കൻ ജന്മി പറഞ്ഞില്ലെ കർഷക തൊഴിലാളിയെപ്പറ്റി ''അവന്റെ ശരീരംഎന്റെ ചോറുതിന്നുണ്ടായതാണ്.'' എന്നുവെച്ചാൽ അവൻ ജന്മിയുടെ അടിമയെന്ന്!

മനസ്സിലെ ഈ ദുർഗന്ധം പലരും പുറത്തുവിട്ടു. സി.കെ. ഗോവിന്ദൻ നായർ ചേറ്റൂരിയിലെ വില്ലേജ് രാഷ്ട്രീയ സമ്മേളനത്തിൽ പറഞ്ഞു:

''നമ്മുടെ രാജ്യത്തിലും പലെ കൊടികളും പ്രത്യക്ഷപ്പെടാൻ തുടങ്ങിയിട്ടുണ്ട്. അതിലൊന്നു ചുകപ്പുകൊടി. റഷ്യയെ പ്രതിനിധീകരിക്കുന്ന കൊടിയാണത്. ഇന്ത്യാക്കാരായ നമുക്കു പ്രത്യകിച്ചും ത്രിവർണപതാക ഉണ്ടായിരിക്കെ നാമെന്തിനു റഷ്യൻ കൊടിയെ ബഹുമാനിക്കണം? ത്രിവർണ പതാകയുടെ കീഴിൽ അണി നിരന്നു നമുക്കു നമ്മുടെ ലക്ഷ്യം പ്രാപിക്കാം.''

പതിമൂന്ന്

1940 കളുടെ തുടക്കം മുതൽ കേരളത്തിൽ ഒരു പുതിയ കാഴ്ച കാണാം. അതുവരെ കൃഷിക്കാരെയും തൊഴിലാളികളെയും പ്രത്യേകം സംഘടിപ്പിക്കുന്നതിനെ വിമർശിക്കുന്നവർതന്നെ അവരുടെ പ്രത്യേക സംഘടനകൾ ഉണ്ടാക്കാൻ തുടങ്ങി.

തൊഴിലാളികളും കൃഷിക്കാരും അപ്പോഴേക്കും ഒരജയ്യശക്തിയായി വളർന്നു കഴിഞ്ഞിരുന്നു. അവർ പരസ്പരം സഹായിച്ചു. അങ്ങനെ അദ്ധ്വാനിക്കുന്ന വർഗം മൊത്തം ഒന്നിച്ചു നിന്നുകൊണ്ട് വളരെ ചുരുങ്ങിയ കാലംകൊണ്ടു എന്തുവലിയ മാറ്റമാണു സമൂഹത്തിൽ ഉണ്ടായത്.

ആ ഐക്യത്തെയും ഐക്യത്തിലൂടെ വളർന്നുവന്ന ശക്തിയുമാണ് കോൺഗ്രസുകാർ വിഭജിച്ചു ക്ഷയിപ്പിച്ചത്.

കമ്മ്യൂണിസ്റ്റ് പാർട്ടി ഇവിടെ രൂപംകൊള്ളുന്നതിനു മുമ്പു മുതൽ തന്നെ ഇവിടെ കമ്മ്യൂസ്റ്റ് വിരുദ്ധ മുന്നണി പിറവിയെടുത്തുവെങ്കിലും 1940 ആദ്യം അതു ശക്തിയാർജ്ജിച്ചു. കമ്യൂണിസ്റ്റുകാർ ഒറ്റപ്പെടുത്തപ്പെട്ടു.

പതിനാല്

1951-52 വരെ ഈ അവസ്ഥ തുടർന്നു. 1947 ആഗസ്റ്റിനു ശേഷം അധികാരം കൈയ്യിൽ കിട്ടിയ കോൺഗ്രസ് കൊലവിളിയുമായി നടന്ന കാലമാണ്. പോലീസും കോൺഗ്രസും ജന്മിയും മുതലാളിയും പുരോഹിതനും കമ്മ്യൂസിസം നശിപ്പിക്കാൻ കൈകോർത്തു പിടിച്ചു. ''കമ്യൂണിസ്റ്റ്ക്രമം'' എന്നു കൂവി അവർ കമ്യൂണിസ്റ്റുകാരെയും അവർക്കു വിരോധമുള്ളവരേയും വേട്ടയാടി. നിയമം ലംഘിക്കുന്ന ജന്മികളെ സംരക്ഷിക്കുകയും നിയമംനടപ്പിലാക്കണമെന്നാവശ്യപ്പെട്ടവരെ ക്രൂരമായി മർദ്ദിച്ചൊതുക്കാൻ കച്ചകെട്ടുകയും ചെയ്തു.

മർദ്ദനങ്ങളുടെ കാലം മാത്രമല്ല, കരിങ്കാലികളുടെയും കാലമാണത് അവകാശ സമരങ്ങൾ പരാജയപ്പെടുത്താൻ കരിങ്കാലികളെ ഉണ്ടാക്കികൊടുക്കുന്നതാണ് ട്രേഡ് യൂണിയൻ പ്രവർത്തനമെന്ന് കോൺഗ്രസുകാർ കാട്ടികൊടുത്ത കാലം.

പതിനഞ്ച്

1952 ആയതോടെ പുതിയ സംഭവികാസങ്ങൾ ഉണ്ടായി. കമ്യൂണിസ്റ്റുകാർക്കെതിരെ കൊലവിളി നടത്തി അനുയായികളെ ഉഷാറാക്കി ഇറക്കിവിട്ട കെ. കേളപ്പൻതന്നെ, കോൺഗ്രസിനെതിരെ മത്സരിച്ചു, പാർലമെൻറിലേക്ക്, അതോ കമ്യൂണിസ്റ്റ് പാർട്ടിയുടെ പിന്തുണയോടെ അദ്ദേഹം ജയിച്ചു.

ഇതാണൊരു പ്രവണത. കോൺഗ്രസിന്റെ നില കേരളത്തിൽ പൊതുവെ പരുങ്ങലിലായി.

രണ്ടാമത്തേതും ഇതുപോലെ പ്രധാനമാണ്. കമ്യൂണിസ്റ്റ് പാർട്ടിയുടെ പിന്തുണയോടെ പാർലമെൻറിൽ എത്തിയ കെ.എ. ദാമോദരമേനോൻ തിരികെ കേരളത്തിൽ എത്തിയത് കെ.പി.സി.സി പ്രസിഡൻറായിട്ടായിരുന്നു.

പതിനാറ്

1957 ഏപ്രിൽ 5ന് കേരളത്തിൽ ഇ.എം.എസിന്റെ നേതൃത്വത്തിലുള്ള കമ്മ്യൂണിസ്റ്റ് പാർട്ടി മന്ത്രിസഭ അധികാരത്തിൽ വന്നു.

20 കൊല്ലംമുമ്പ് കണ്ട ഒരു സ്വപ്നം ഭാഗികമായി സത്യമായിത്തീർന്നു. അധികാരത്തിൽ വന്നത് മാത്രമല്ല കാര്യം. ചരിത്രത്തിൽ നിന്നു പുറന്തള്ളപ്പെട്ടിരുന്ന അടിസ്ഥാനവർഗംചരിത്രം സൃഷ്ടിക്കുന്ന ശക്തിയായി വളർന്നുവന്നു. ചരിത്രത്തിൽ മാത്രമല്ല സാഹിത്യത്തിലും ചിന്തയിലും ജീവിതത്തിലും ഭരണത്തിലും എല്ലാം അവന്റെ സാന്നിദ്ധ്യം ഒരു യാഥാർഥ്യമായി. ചരിത്രത്തിന്റെ നിശ്ചലബ്ദത അവർ തകർത്തു. ഈ മാറ്റത്തിനുള്ള ചിന്തയിലും പ്രവൃത്തിയിലും പരിപാടിയിലും കമ്യൂണിസ്റ്റുകാർക്കുള്ള പങ്ക് മറ്റാർക്കുമില്ല. ചരിത്ര രേഖകൾ പറയുന്നത് അതാണ്.

54

കേരളത്തിലെ സമ്പന്നമായ വാദ്യകലാപൈതൃകത്തെക്കുറിച്ച് ഒരന്വേഷണം

കെ.സി.നാരായണൻ*

1. ഇന്ത്യയിൽ മറ്റിടങ്ങളിൽ കാണാത്തവിധം സമ്പന്നവും വികസിതവുമായ ഒരു വാദ്യകലാപാരമ്പര്യം കേരളത്തിനുണ്ട്. വൈവിധ്യമേറിയ താളവാദ്യങ്ങളും അവ കൊണ്ടുണ്ടാക്കിയ ഗ്രാൻഡ് ഓർക്കെസ്ട്രകളും ഈ പാരമ്പര്യത്തിന്റെ സവിശേഷതകളാണ്.

2. കേരളത്തിലെ ശബ്ദസംസ്കാരത്തെ മറ്റു സ്ഥലങ്ങളുടേതിൽനിന്നും വേർതിരിക്കുന്ന ഏറ്റവും പ്രധാനപ്പെട്ട ഘടകവും സംഗീതത്തെ അപേക്ഷിച്ച് വാദ്യകലക്ക് കേരളത്തിലുള്ള പ്രാമാണ്യം തന്നെ. കേരളത്തിന് സ്വന്തമായി ഒരു ക്ലാസിക്കൽ സംഗീതപാരമ്പര്യം ഉണ്ടോ എന്നതിനെപ്പറ്റി പണ്ഡിതൻമാർക്കു അഭിപ്രായവ്യത്യാസം ഉണ്ട്. എന്നാൽ അവരും അംഗീകരിക്കുന്നതാണ് കേരളത്തിന്റെ ക്ലാസിക്കൽ വാദ്യകലാപാരമ്പര്യം.

3. ഈ വാദ്യകലകളുടെ സ്വഭാവം പരിശോധിക്കുമ്പോഴാ നമ്മുടെ മുന്നിലെത്തുന്നത് കേരളത്തിൽ അങ്ങോളമിങ്ങോളം വേനൽക്കാലങ്ങളിൽ അരങ്ങേറുന്ന ഉത്സവരംഗങ്ങളാണ്. രാത്രിയിൽ വെട്ടിത്തിളങ്ങുന്ന പന്തങ്ങളുടെ ചുവപ്പുവെളിച്ചത്തിൽ അണിനിരക്കുന്ന പതിനഞ്ചാനകയും. അവയുടെ മുന്നിൽ നിരന്നു നിൽക്കുന്ന പെണ്ണക്കാരും ഇലത്താളക്കാരും കൊമ്പുകാരും കുഴൽക്കാരും അടങ്ങിയ ഇരുനൂറോളംപേരുടെ ഒരു സംഘം. അവർ ലോകത്തിലെ ഏറ്റവും വലിയ ഒരു ഗ്രാൻഡ് ഓർക്കെസ്ട്രക്കു രൂപം നൽകുകയാണ്. മന്ദമായും താഴ്ന്ന സ്ഥായിയിലും തുടങ്ങിയ ആ മേളത്തിനു ക്രമേണ വേഗവും സ്ഥായിയും വർധിക്കുന്നു. മൂന്നു മണിക്കൂർ പിന്നിടുമ്പോഴേക്ക് ഏറ്റവും വലിയ വേഗത്തിലും ഉച്ചത്തിലും അതു പെന്ന് പൊട്ടിച്ചിതറുന്നു. അതിനുശേഷം അതിനേക്കാൾ വലിയ ഒരു ഒച്ച കേൾക്കണമെങ്കിൽ, കൊട്ടിനു ശേഷം വരുന്ന വെടിക്കെട്ടുതന്നെ വേണം.

4. മൂന്നു മണിക്കൂർ നീണ്ടുനിൽക്കുന്ന ഒരു വാദ്യമേളം — കേരളത്തിനു വെളിയിലുള്ള ഒരാൾക്ക് സങ്കൽപിക്കാൻ പോലും സാധ്യമല്ലാത്തതാണ് അത്. മൂന്നു മണിക്കൂർ ദൈർഘ്യമുള്ള കച്ചേരികൾ അവർ കേട്ടിട്ടുണ്ട്. അതിൽ പാട്ടിന്റെ അകമ്പടിക്കുള്ള ഉപാംഗങ്ങൾ മാത്രമാണ് വാദ്യങ്ങൾ. ഇവിടെയിതാ ഒന്നിന്റെയും അകമ്പടിയാലല്ലാതെ, തന്നിൽത്താൻ പൂർണമായി, വാദ്യങ്ങളുടെ ഒരു സ്വതന്ത്രകലാരൂപം. കച്ചേരിയിൽ അപൂർവമായി വാദ്യങ്ങൾക്ക് സ്വാധികാരം ലഭിക്കുന്ന വേളയുണ്ട് — തനിയാവർത്തനങ്ങൾ. എന്നാൽ ഏറ്റവുംമികച്ച തനിയാവർത്തനം പോലും ഇരുപതുമിനുട്ടു കഴിഞ്ഞാൽ മുഷിയും എന്നാണ് അനുഭവം. ആ സ്ഥാനത്തിതാ, ഇരുപതുമിനുട്ടല്ല അതിന്റെ പത്തിരട്ടിയോളം ദൈർഘ്യംവരുന്ന ഒരു വാദ്യമേളം. പാശ്ചാത്യ നാട്ടിലെ സംഗീതപ്രധാനമായ ശബ്ദസംസ്കാരത്തിൽ നിന്ന് തികച്ചും വ്യത്യസ്തമായ ഒരു ശബ്ദസംസ്കാരമാണ് കേരളത്തിൽ ഉള്ളതെന്ന് ഇതിൽ നിന്ന് മനസ്സിലാകും.

5. അതാണ് കേരളത്തിന്റെ പ്രത്യേകത. സംഗീതത്തെക്കാൾ താളവും ശ്രുതിയെക്കാൾ വാദ്യവും ഇവിടെ പ്രാധാന്യം നേടി. സംഗീതവും സംഗീതവാദ്യങ്ങളും ഇവിടെ അധികം വികസിച്ചില്ല. തൽസ്ഥാനത്ത് താളവും താളവാദ്യങ്ങളും ഇവിടെ മേൽക്കൈ നേടി. ഈ താളവാദ്യങ്ങൾ ഉപയോഗിച്ചും ഗംഭീരമായ ചില നാദശിൽപ്പങ്ങളും ഇവിടെ ഉണ്ടായി.

6. എന്തുകൊണ്ട് കേരളത്തിൽ താളവാദ്യങ്ങൾക്കും, കൊട്ടിനും ഇങ്ങനെയൊരു വികാസം ഉണ്ടായി? ചരിത്രപരമായ അന്വേഷണത്തിൽ നിന്ന് നാം എത്തിച്ചേരുന്ന നിഗമനം കൊട്ടാൻ ഒരു ജാതിയുണ്ടായതുകൊണ്ട് എന്നാണ് — 'മാരാർ', 'പൊതുവാൾ' തുടങ്ങി കൊട്ടുതന്നെ കുലവൃത്തിയാക്കിയ ഒരു സമുദായത്തിന്റെ സ്പെഷ്യലൈസേഷനാണ് ഇങ്ങനെ കൊട്ടിന് അസാധാരണ വികാസം സൃഷ്ടിച്ചത്.

7. ഒപ്പം തന്നെ കൊട്ടുകാർ കണ്ടെത്തിയ ഒരു സാങ്കേതിക രീതിയും അതിനു സഹായകമായി — 'ഉരുട്ടിക്കൊട്ടുക' എന്ന രീതിയാണത്. ഈ രീതി കേരളത്തിലൊഴികെ മറ്റൊരിടത്തും കാണുകയില്ല. ഈ രീതി കണ്ടെത്തിയതോടെ കൊട്ട് ഗുണപരമായി തന്നെ ഒരു പുതിയ തലത്തിലേക്കുയർന്നു.

8. ഇങ്ങനെ 'ജാതി'യുടെ ഭൗതിക സാഹചര്യം കൊണ്ടും 'ഉരുട്ടിക്കൊട്ടുക' എന്ന സാങ്കേതിക കണ്ടുപിടുത്തംകൊണ്ടും കേരളത്തിൽ വളർന്നു വികസിച്ച വാദ്യകലാരൂപങ്ങൾ ഏതൊക്കെയാണ്? അവയെ താഴെ പറയുന്നപ്രകാരം മൂന്ന് വിഭാഗങ്ങൾ ആയി വിഭജിക്കാം.

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* മാതൃഭൂമി ആഴ്ചപ്പതിപ്പ്, കോഴിക്കോട്

1.മേളങ്ങം: അനവധി വാദ്യങ്ങം ഒരുമിച്ചുചേർന്ന്, അഥവാ, മേളിച്ച്, സൃഷ്ടിക്കുന്ന നാദശിൽപ്പങ്ങം ആണിവ. പഞ്ചാരിമേളം, പാണ്ടിമേളം, പെമ്പട മേളം തുടങ്ങിയ പെണ്ടമേളങ്ങം ഇതിലുംപ്പെടുന്നു. അനവധിപേർ ഒത്തൊരുമിച്ചുചെയ്യുന്ന ഒരു സംഘവൃത്തി — ടീംവർക്ക് — ആയതുകൊണ്ട് ഇതിൽ വ്യക്തിയുടെ സിദ്ധികംക്ക് പ്രകാശനമില്ല.
2.വകകം: വ്യക്തിയുടെ സ്വന്തം വൈഭവം പ്രകടിപ്പിക്കാൻ 'വക'യുള്ള ഇനങ്ങം. തായമ്പക ഇതിൽ പ്രധാനമാണ്.
3.മേളം-വകകം: മേളത്തിന്റെ ടീംവർക്കും തായമ്പകയുടെ വ്യക്തിഗതസ്വഭാവങ്ങളും ഇടകലർന്നവ. പഞ്ചവാദ്യം ഇതിൽ ഉംപ്പെടുന്നു.

9. ഈ വാദ്യകലാരൂപങ്ങളുടെ ഘടന വിശകലനം ചെയ്താൽ രണ്ടുതരം സ്വഭാവങ്ങം അതിൽ കാണാം.
(എ) ഒരു ഗോത്രകലയുടെ ശക്തിയും വീര്യവും.
(ബി) ഒരു ക്ലാസിക്കൽ കലയുടെ ചിട്ടയും അച്ചടക്കവും.
ഗോത്രവീര്യവും പിന്നീടുവന്ന ആഢ്യവൽക്കരണത്തിന്റെ ചിട്ടയും ഒരുമിച്ചുചേർന്നതാണ് ഈ വാദ്യകലകം എന്നും കേരളത്തിന്റെ ചരിത്രപരിണാമവുമായി അതിന്ന് ഗാഢബന്ധമാണ് ഉള്ളതെന്നും ഈ വിശകലനം കാണിക്കുന്നു.

54

സോപാന സംഗീതം

സദാശിവ മാരാര്*

1. കേരളത്തിലെ ക്ഷേത്രസോപാനങ്ങളിൽ ജനിച്ച്, വളർന്ന് രൂപംകൊണ്ട ഈ സംഗീതപദ്ധതി കേരളത്തനിമയാർന്ന ഒന്നാണ്. നാടോടി ഗാനാലാപനശൈലിയും വേദജപശൈലിയും കൂട്ടിചേർത്ത് ഉണ്ടാക്കിയ പുതിയ സംഗീതശൈലിയാണത്.
2. ശ്രുതി, സ്വരം, രാഗം, താളം ഈ അടിസ്ഥാനതത്വങ്ങളിൽ കർണാടകസംഗീതവും സോപാനസംഗീതവും തമ്മിൽ ഭേദമില്ലെന്ന വാദം ശരിയല്ല. കാരണം സോപാനസംഗീതത്തിൽ *22 ശ്രുതിയും 14 സ്വരസ്ഥാനങ്ങളുമാണ്* ഒരു സ്ഥായിയിൽ ഉള്ളത്. അതേസമയം കർണാടകസംഗീതത്തിൽ യഥാർഥത്തിൽ *24 ശ്രുതിയും 12 സ്വരസ്ഥാനങ്ങളു*മാണ്. കർണാടകസംഗീതത്തിലെ 'പാടി'യും സോപാനസംഗീതത്തിലെ 'പാടി'യും വ്യത്യസ്തരാഗങ്ങളാണെന്ന് ഡോ. ഓമനക്കുട്ടി ഗവേഷണം നടത്തി തെളിയിച്ചിട്ടുതന്നെയുണ്ട്.

താളത്തിന്റെ കാര്യത്തിലാണെങ്കിൽ അക്ഷരകാലം മാത്രം നോക്കി ഇത് കർണാടകസംഗീതത്തിലുള്ളതാണ് എന്നു പറയുന്നതിൽ അർഥമില്ല. കർണാടകസംഗീതത്തിൽ ഒരേയക്ഷരകാലമുള്ള പല താളങ്ങളില്ലേ? മാത്രമല്ല സർവലഘുക്കം താളം പിടിക്കുന്ന രീതി മുതലായവയും നോക്കണം. സർവോപരി താളസംബന്ധമായി അതിസൂക്ഷ്മപ്രയോഗങ്ങളടങ്ങുന്ന ഇവിടത്തേതുപോലെയുള്ള ബൃഹത്തായ താളമേളപദ്ധതി ലോകത്തിൽ മറ്റൊരിടത്തുമില്ലതാനും.
3. സോപാനസംഗീതമെന്നാൽ അഥവാ കൊട്ടിപ്പാടിസ്സേവയെന്നാൽ അഷ്ടപദി പാടലല്ല. കൊട്ടിപ്പാടിസ്സേവക്ക് കാലക്രമേണ അഷ്ടപദിയും (ഗീതാഗോവിന്ദം) ഉംപ്പെടുത്തിയെന്നു മാത്രം.
4. ഇന്നു കേട്ടുവരുന്ന കൊട്ടിപ്പാടിസ്സേവ ശരിയായ സോപാനസംഗീതമല്ല. അതിന്റെ കല്ലും നെല്ലും പതിരും മാറ്റി സംശുദ്ധമാക്കിയെടുത്ത് വെളിച്ചത്തുകൊണ്ടുവരേണ്ടത് മലയാള (കൈരളീ) മാതാവിനോട് അകൃത്രിമഭക്തിയുള്ള സംഗീതശാസ്ത്രജ്ഞൻമാരുടെ കടമയാണ്. അവരുടെ സജ്ജീവശ്രദ്ധ ഇക്കാര്യത്തിലുണ്ടാകുമെന്ന് ആശിക്കുന്നു.

* താലൂക്ക് സ്റ്റാറ്റിസ്റ്റിക്കൽ ഓഫീസ്, ഒറ്റപ്പാലം-679101

57

മാറുന്ന മൂല്യങ്ങളും നായകസങ്കല്പവും കേരളീയ ജീവിതത്തിലും സിനിമയിലും

വി.കെ.ജോസഫ്*

ഒരു സമൂഹത്തിന്റെ രാഷ്ട്രീയ, സാമ്പത്തിക, സാംസ്കാരികാവസ്ഥകളുടെ മുദ്രകളും ചിഹ്നങ്ങളുമായി സിനിമയെ തിരിച്ചറിയുവാനും വായിച്ചെടുക്കുവാനുമുള്ള ശ്രമങ്ങൾ വളരെ ദുർബ്ബലമാണ് നമ്മുടെ നാട്ടിൽ. വ്യക്തിയും സമൂഹവും, സംസ്കാരവും സാമൂഹ്യബന്ധങ്ങളും, പ്രത്യയശാസ്ത്രവും സമൂഹഘടനയും ഇവയൊക്കെ തമ്മിലുള്ള രേഖീകൃത അറിവുകളായി സിനിമ മനുഷ്യപരിത്രത്തിൽ സ്ഥാനം പിടിച്ചു കഴിഞ്ഞു. ജനപ്രിയതയേറെയുള്ള സിനിമയെ പ്രത്യയശാസ്ത്ര പുനരുല്പാദന ക്ഷമതയുള്ളതും വിപണനസാധ്യതയേറിയതുമായ ചരക്കായിട്ടാണ് മൂലധന ശക്തികൾ പരിഗണിക്കുന്നത്. ചലച്ചിത്രകാരന്റെ മനസ്സിൽ നിന്നാണ് സിനിമയുണ്ടാവുന്നതെങ്കിലും അതിന് സാമ്പത്തികവും സാമൂഹികവും രാഷ്ട്രീയവുമായ ഒരു അടിത്തറയുണ്ട്. സിനിമ ഒരു സാംസ്കാരിക രൂപമെന്ന നിലയിൽ സമൂഹത്തിന്റെ പ്രതിഫലനം കൂടിയാവുന്നത് അങ്ങനെയാണ്.

അമാനവീകരിക്കപ്പെട്ടതും അന്യവൽക്കരിക്കപ്പെട്ടതുമായ മനുഷ്യസത്ത, മുതലാളിത്ത സമൂഹത്തിന്റെ കമ്പോളവൽക്കരിക്കപ്പെട്ട പരിതഃസ്ഥിതികളിൽ നിന്നാണുണ്ടാവുന്നത്. യഥാർഥ ജീവിതാനുഭവങ്ങളുടെ അറിവുകളിൽ നിന്നും സൗന്ദര്യാനുഭൂതികളിൽ നിന്നും ജനങ്ങളെയാകെ തടയുന്നതിനുള്ള ഭൗതിക പരിസരം സൃഷ്ടിച്ചുകൊണ്ട്, ആത്മാവ് പൊള്ളയാക്കപ്പെട്ട, ആൾക്കൂട്ടങ്ങളുടെ വികൃതമാക്കപ്പെട്ട രുചികളെയും ആസുരവാസനകളെയും തൃപ്തിപ്പെടുത്തുന്ന ചരക്കുകളായി ജനപ്രിയസിനിമകൾ അരങ്ങുതകർക്കുകയാണ്. മുതലാളിത്ത കമ്പോള സാമ്പത്തിക ശാസ്ത്രവും ജനപ്രിയമുഖ്യധാരാ സിനിമകളും സൃഷ്ടിച്ചെടുക്കുന്ന കമ്പോളസംസ്കാരം, നിലനിൽക്കുന്ന വ്യവസ്ഥാപിത സമൂഹഘടനയ്ക്ക് സംരക്ഷണത്തിന്റെ ബോധപരിസരം സൃഷ്ടിച്ചുകൊടുക്കുന്നുണ്ട്. ഉപഭോക്താക്കളുടെ വ്യാജമായ ആവശ്യങ്ങൾ മുൻകൂട്ടി നിർണ്ണയിക്കപ്പെട്ടുകൊണ്ടുള്ള മുതലാളിത്തോൽപ്പാദന രീതികളെ എന്നും അതിന്റെ വക്താക്കൾ ജനങ്ങളുടെ പേരിലാണ് ന്യായീകരിക്കുന്നത്. ജനങ്ങൾക്കാവശ്യമുള്ളത് ഉൽപ്പാദിപ്പിച്ച് വിതരണം ചെയ്യുന്നുവെന്നാണവരുടെ വാദം. പക്ഷേ വാസ്തവത്തിൽ അനാരോഗ്യകരവും കൃത്രിമവുമായ ഉപഭോഗവാസനയുടെ പ്രേരണകൾ സൃഷ്ടിക്കുകയും അതിനനുസൃതമായി കമ്പോളത്തിലേക്ക് പുതിയ ചരക്കുകളെത്തിക്കുയും മനുഷ്യർക്ക് സംതൃപ്തി നൽകാത്ത തുടർച്ചയായ പുതിയ ആവശ്യങ്ങൾ സൃഷ്ടിച്ചുകൊണ്ടുമാണ് മുതലാളിത്തം അതിജീവിക്കുന്നത്. ഈ രീതിതന്നെയാണ് ജനപ്രിയ സിനികളുടെയും കർത്താക്കൾ സ്വീകരിക്കുന്നത്.

നടീനടന്മാരുടെ താരമൂല്യം, വ്യാജവും കൃത്രിമവും വികൃതവുമായ പെരുമാറ്റ രീതികളും ചിന്തകളും, ജനാഭിമുഖ്യസ്വഭാവമുള്ള പ്രമേയങ്ങളുടെ സ്വീകരണം എന്നിവയിലൂടെ ആൾക്കൂട്ടത്തെ കീഴടക്കുകയും അധീശവർഗ്ഗമൂല്യങ്ങളുടെ ആധിപത്യം അതിവിദഗ്ദ്ധമായി സ്ഥാപിച്ചെടുക്കുകയും ചെയ്യുന്ന തന്ത്രങ്ങളാണ് ഇത്തരം സിനിമകളിലൂടെ ആവിഷ്ക്കരിക്കപ്പെടുന്നത്. ജനങ്ങളുടെ മേലുള്ള ആധിപത്യവും അധികാരവും നിലനിർത്തുന്നതിനുള്ള മൂലധന ശക്തികളുടെ സാംസ്കാരിക ഇടപെടലുകളായി മുഖ്യധാരാ സിനിമകൾ മാറുന്നുണ്ട്. ഈ ഇടപെടലുകളുടെ ഫലമായി, നമ്മുടെ സിനിമയിലും ജീവിതത്തിലും മാറിക്കൊണ്ടിരിക്കുന്ന മൂല്യങ്ങളെക്കുറിച്ചും നായക സങ്കല്പങ്ങളെക്കുറിച്ചുമാണീ ചെറിയ കുറിപ്പ്.

മലയാള സിനിമയുടെ അവസ്ഥയും മാറുന്ന സങ്കല്പങ്ങളും

ഇന്ത്യയിലെ ചലച്ചിത്രചരിത്രമാരംഭിക്കുന്നത് ഫാൽക്കേയുടെ 'രാജാ ഹരിശ്ചന്ദ്ര'യിലാണല്ലോ. പിന്നീടേറെക്കാലം പുരാണ ചിത്രങ്ങളാണ് ഹിന്ദി സിനിമയിൽ ആധിപത്യം പുലർത്തിയത്. നമ്മുടെ തൊട്ടയൽപക്കത്ത് തമിഴ് സിനിമയും ഹിന്ദിയുടെ വഴിയിലൂടെതന്നെ നീങ്ങി. എന്നാൽ മലയാളത്തിലെ ആദ്യ നിശബ്ദസിനിമ 'വിഗതകുമാരൻ' സാമൂഹ്യകഥയെ അടിസ്ഥാനമാക്കിയുള്ളതായിരുന്നു. രണ്ടാമത്തെ ചിത്രം 'മാർത്തണ്ഡവർമ്മ' ചരിത്രകഥയെ ആസ്പദമാക്കിയാണ് നിർമ്മിക്കപ്പെട്ടത്. 1941-ൽ പുറത്തിറങ്ങിയതും മലയാളത്തിലെ അഞ്ചാമത്തെ ചിത്രവുമായ 'പ്രഹ്ലാദ'നിലൂടെയാണ് മലയാളസിനിമ പുരാണാഖ്യാനം തേടു

* മൈത്രി, 31/842, തിരുവനന്തപുരം-695 024

ന്നത്. പക്ഷേ വീണ്ടും പതിനഞ്ചോളം കൊല്ലം കഴിഞ്ഞാണ് പിന്നൊരു പുരാണകഥ സിനിമയാകുന്നത്. ഇതിനിടെ നിർമ്മിക്കപ്പെട്ട ഒട്ടെല്ലാ ചിത്രങ്ങളും സാമൂഹ്യകഥകളെ അടിസ്ഥാനമാക്കിയായിരുന്നു. സിനിമയുടെ രൂപപരവും സാങ്കേതികവുമായ പിഴവുകളേറെയുണ്ടായിരുന്നെങ്കിലും ഇതര ഭാഷാ ചിത്രങ്ങളിൽ നിന്ന് വ്യത്യസ്തമായി, സാമൂഹ്യാഖ്യാനത്തിന്റെ ശക്തമായ പാരമ്പര്യവും തുടക്കത്തിലെ നമുക്കവകാശപ്പെടാനാകും. പക്ഷേ ഇന്ന് ആ പാരമ്പര്യം തീരെ ദുർബ്ബലമാവുകയും ഹിന്ദി, തമിഴ്, തെലുങ്ക് സിനിമകളുടെ ജനപ്രിയരീതികൾ മലയാളികളുടെ മനസിനെ കീഴ്പ്പെടുത്തിക്കൊണ്ടിരിക്കുകയുമാണ്. യാഥാർത്ഥ്യത്തിന് നിരക്കാത്ത അതിനാടകീയതയും വൈകാരികതയും കൃത്രിമത്വവും ധാരാളമുണ്ടായിരുന്നെങ്കിലും ജീവിതത്തിനോടുള്ള സമീപനങ്ങളും മൂല്യബോധവും വളരെ ആത്മാർത്ഥതയുള്ളതായിരുന്നുവെന്ന് ആദ്യകാല സിനിമകൾ പരിശോധിച്ചാൽ കാണാം. സകുടുംബം തീയേറ്ററിലെത്തുന്ന പ്രേക്ഷകരെയാണ് ചലച്ചിത്രനിർമ്മാതാക്കൾ പ്രതീക്ഷിച്ചിരുന്നതെന്നതിനാലും, അന്നത്തെ സമൂഹത്തിന്റെ പൊതു സ്വഭാവത്തിന്റെയും മൂല്യാഭിമുഖ്യത്തിന്റെയും സ്വാധീനത്താലും ഈ ചിത്രങ്ങളിൽ സഭ്യതയുടെ അതിരുവിടാതിരിക്കാൻ അവർ നിർബന്ധം കാണിച്ചിരുന്നു. അതുകൊണ്ട് തന്നെ ഇന്നത്തെ ജനപ്രിയ ചിത്രങ്ങളിലെപ്പോലെ വിലോഭനീയവൽക്കരിക്കപ്പെട്ടതും ആഭാസകരവുമായ ലൈംഗികരാജകത്വത്തിന്റെയും ഹിംസയുടെയും വർണ്ണനകളിൽ നിന്നൊക്കെ അത് മോചനം പ്രാപിച്ചിരുന്നു. അമ്പതുകളിൽ പുറത്തുവന്ന 'ന്യൂസ് പേപ്പർ ബോയ്', 'രാരിച്ചൻ എന്ന പൗരൻ' എന്നീ സിനിമകൾ മൂല്യബോധത്തിന്റെയും ലക്ഷ്യബോധത്തിന്റെയും ധീരമായ പരിശ്രമങ്ങൾകൊണ്ട് ശ്രദ്ധേയമായിരുന്നു.

അറുപതുകളിൽ നമ്മുടെ സിനിമകൾ ഏറെയും സാഹിത്യകൃതികളിൽ നിന്നാണൂർജ്ജം സ്വീകരിച്ചത്. നവോത്ഥാന, പുരോഗമന പ്രസ്ഥാനങ്ങളിലൂടെയും സാഹിത്യപ്രവർത്തനങ്ങളിലൂടെയുമുയർന്നു വന്ന പുതിയ ജീവിതാവബോധവും മൂല്യബോധവും ഈ സിനിമകളെയും സ്വാധീനിച്ചതായി കാണാം. അറുപതുകളിലും എഴുപതുകളുടെ ആദ്യവുമായി നമുക്കു ലഭിച്ച ഭേദപ്പെട്ടതും ശരാശരിയിലുമുയർന്നു നിൽക്കുന്നതുമായ സിനിമകളായ ഓടയിൽ നിന്ന്, ഭാർഗ്ഗവീനിലയം, ചെമ്മീൻ, ഇരുട്ടിന്റെ ആത്മാവ്, യക്ഷി, പണിതീരാത്ത വീട്, അടിമകൾ, വാഴ്വേമായം, മൂലധനം, കടൽപ്പാലം, അരനാഴികനേരം, കുട്ട്യേടത്തി, തുലാഭാരം, അസുരവിത്ത്, നഗരമേനന്ദി, അനുഭവങ്ങൾ പാളിച്ചകൾ, ഒരു പെണ്ണിന്റെ കഥ എന്നിവയും ഉയർന്ന ചലച്ചിത്രബോധം പുലർത്തുന്ന 'ഓളവും തീരവും', 'ഉത്തരായണം' തുടങ്ങിയ ചിത്രങ്ങളും സാമൂഹ്യവിമർശനത്തിന്റെയും സാമൂഹ്യബോധത്തിന്റെയും മൂല്യങ്ങളോട് സത്യസന്ധമായ അടുപ്പം പുലർത്തിയിരുന്നതായി കാണാം. അക്കാലസിനിമകളിലെ പ്രമേയവും നായക കഥാപാത്രങ്ങളുടെ ഘടനയും പെരുമാറ്റ രീതികളും ജീവിത വീക്ഷണവും ഒക്കെ നമ്മുടെ സാഹിത്യ സാമൂഹ്യ രംഗങ്ങളിലെ പൊതുധാരയുമായി ഏറെക്കുറെ ഒത്തുപോകുന്നതായിരുന്നു. ആ സിനിമകളിലും വില്ലനും നായകനും അവർ തമ്മിലുള്ള സംഘർഷങ്ങളും സംഘട്ടനങ്ങളും ഒക്കെ ഉണ്ടായിരുന്നെങ്കിലും അവയിലൊന്നും ഇന്നത്തെ സിനിമകളിലുള്ളത്ര ഹിംസയും അക്രമവും ന്യായീകരിക്കപ്പെടുന്ന നിലപാടുകളില്ലായിരുന്നു. നസീർ, മധു, സത്യൻ തുടങ്ങിയ നടന്മാരഭിനയിച്ചിരുന്ന പഴയകാല സിനിമകളിലൊന്നിൽ പോലും നായകന്മാർ നിയമം കയ്യിലെടുക്കുകയോ, വില്ലന്മാരെ ശാരീരികമായി വകവരുത്തിക്കൊണ്ടുള്ള പ്രതികാര നിർവ്വഹണമോ ചെയ്തിരുന്നില്ല. എന്നാൽ ഇന്ന് സുരേഷ് ഗോപി, മോഹൻലാൽ, മമ്മൂട്ടി തുടങ്ങിയവരുടെ നായകരൂപങ്ങൾ സ്ക്രീനിൽ എല്ലാ ഹിംസാത്മക പ്രവർത്തനങ്ങളെയും നീതിന്യായ നിർവ്വഹണത്തിനായി ഉപയോഗിക്കുകയാണ്. പണ്ട് ചിത്രാന്ത്യത്തിൽ നായകനാൽ പരാജയപ്പെടുത്തുകയോ, കീഴ്പ്പെടുത്തുകയോ ചെയ്യുന്ന ദുഷ്ടന്മാരെ പോലീസിലേൽപ്പിക്കുകയാണ് ചെയ്തിരുന്നത്. എന്നാലിന്ന് വീരനായകന്മാർ തന്നെ തോക്കോ, ബോംബോ ഒക്കെ ഉപയോഗിച്ചുകൊണ്ട് നീതി നിർവ്വഹണം നടത്തുകയാണ്. ഇത് നമ്മുടെ സമൂഹജീവിതത്തിലും രാഷ്ട്രീയത്തിലും പ്രതിഫലിക്കുന്നുണ്ട്. നെഹ്റുവിന്റെ കാലം മുതലേ പരിമിതമായെങ്കിലും തുടർന്നു വരുന്ന സോഷ്യലിസ്റ്റാശയങ്ങളും, സാമൂഹ്യക്ഷേമപദ്ധതികളും ആശയപരമായും പ്രായോഗികമായും അട്ടിമറിക്കപ്പെടുമ്പോഴും അധോലോക രാഷ്ട്രീയക്കൂട്ടുകൾ കരുത്താർജ്ജിക്കുമ്പോഴും ജനങ്ങൾ ഏറെക്കുറെ അതിന് കീഴ്പ്പെടുന്നതിന്റെ പലേ കാരണങ്ങളിലൊന്ന് ജനപ്രിയ സിനിമകൾ സൃഷ്ടിച്ചെടുത്ത വ്യക്തികേന്ദ്രീകൃത പ്രവർത്തനങ്ങളുടെ പ്രത്യയ ശാസ്ത്രപരിസരമാണ്. അധോലോക നായകരുടെ അക്രമങ്ങളെയും ഹിംസയേയും ഗ്ലോറിഫൈ ചെയ്യുന്ന തരത്തിലുള്ള നായകരെയാണ് ഇന്ന് നമുക്ക് ലഭിക്കുന്നത്. ദേവാസുരം, അദ്വൈതം, കൗരവർ, അഭിമന്യു, ഭൂമിയിലെ രാജാക്കന്മാർ, ധ്രുവം, ഏകലവ്യൻ തുടങ്ങിയ സിനിമകളിലെ നായകരെ ഉദാഹരണത്തിന് പരിശോധിക്കുക. ഈ സിനിമകളൊക്കെ വയലൻസും വർഗീയതയും അരാഷ്ട്രീയവാദവും പ്രചരിപ്പിച്ചുകൊണ്ട് നമ്മുടെ മൂല്യബോധത്തിന്റെയും സംസ്കൃതിയുടെയും ജീർണവൽക്കരണത്തിന് ആക്കം കൂട്ടുകയാണ്. ജനങ്ങളുടെ മനസിലേക്ക് മതാനുഷ്ഠാനങ്ങളുടെ, വർഗീയ വൽക്കരിക്കപ്പെട്ട ബിംബങ്ങളുടെ ചിഹ്നങ്ങളും പുതിയ രാഷ്ട്രീയാർത്ഥങ്ങളായി ആസുരരൂപം പ്രാപിച്ചെത്തുകയാണ്. ഈ സിനിമകളിലാകെ മാറിവരുന്ന

നായകരൂപങ്ങളും സമ്മാനിക്കുന്ന മൂല്യബോധം നമ്മുടെ സാമൂഹ്യജീവിതത്തിലും രാഷ്ട്രീയത്തിലും അതിന്റെ വേരുകളാഴ്ത്തുകയാണ്. ദേശീയ പ്രസ്ഥാനത്തിന്റെയും കാർഷിക സമരങ്ങളുടെയും ഒക്കെ ത്യാഗോജ്ജ്വല ചരിത്രത്തിൽ നിന്നുയർന്നു വന്ന രാഷ്ട്രീയ നേതൃത്വങ്ങൾക്ക് ഇന്ന് പകരം വയ്ക്കപ്പെടുന്നതും ആധിപത്യം നേടുന്നതും അക്രമത്തിന്റെയും ഹിംസയുടെയും അഴിമതിയുടെയും മതമൗലികവാദത്തിന്റെയും കുടപിടിച്ചു വളരുന്ന നേതൃരൂപങ്ങളാണ്. ഈ പകരം വയ്ക്കലുകൾക്കും അംഗീകാരം നേടലുകൾക്കും നമ്മുടെ മനസ്സിലാധിപത്യം നേടുന്ന സിനിമകളിലെ പുതിയ നായകരൂപങ്ങളുടെ സംഭാവനയുണ്ട്. അഴിമതിവൽക്കരിക്കപ്പെട്ടതും ക്രമരഹിതവുമായ ഈ സമൂഹത്തിൽ കായികശക്തികൊണ്ടും ആയുധശക്തികൊണ്ടും സൃഷ്ടിച്ചെടുക്കുന്ന വ്യക്തികേന്ദ്രീകൃത തെമ്മാടിത്തങ്ങളെ രക്ഷാമാർഗ്ഗങ്ങളായി ഉദാത്തീകരിക്കുന്ന പ്രവണതകളും നമ്മുടെ സിനിമകളിൽ പ്രബലമായി വളരുകയാണ്. ഇത് വെറും സിനിമയിൽ മാത്രമൊതുങ്ങുന്ന സാഹസികതയല്ല. ഇന്ത്യൻ ജീവിതത്തെയാകെ കീഴ്പ്പെടുത്തിക്കൊണ്ട് തെമ്മാടിത്തത്തിന്റെ നായകരൂപങ്ങളും രാഷ്ട്രീയത്തിലെ രക്ഷാപുരുഷന്മാരായി അവതരിപ്പിക്കുന്നിടത്തേക്ക് അത് നീണ്ടു ചെല്ലുന്നുണ്ട്.

സിനിമയിൽ നായകൻ നിർവ്വഹിക്കുന്ന ഹിംസാത്മക പ്രവൃത്തികളെ ചലച്ചിത്രത്തിന്റെ സാങ്കേതിക മേന്മകളും പ്രത്യേകതകളുപയോഗിച്ചുകൊണ്ട് വിലോഭനീയവൽക്കരിക്കുകയും മനോഹരമാക്കുകയും ചെയ്യുന്ന രീതി ഏറിവരികയാണ്. ഉദാഹരണത്തിന് കഴുത്തിൽ കത്തി കൊണ്ട് വരണ്ടു ചോരപൊടിയുന്നതിന്റെ സമീപദൃശ്യം, കഴുത്തറക്കുന്നതിന്റെയും ഒടിക്കുന്നതിന്റെയും മർദ്ദിക്കപ്പെട്ടവനും പരാജിതനാക്കപ്പെട്ടവനുമായ വില്ലന്റെ തകർന്ന പോരയൊലിക്കുന്ന മുഖത്തിന്റെ സമീപദൃശ്യം, സ്ലോമോഷനുപയോഗിച്ചുള്ള ആക്രമണ രംഗങ്ങൾ ഇതൊക്കെയും ഹിംസയെ അംഗീകരിക്കുവാനും സ്നേഹിക്കുവാനും അതിൽ സൗന്ദര്യം ദർശിക്കാനും പതുക്കെപതുക്കെ സമൂഹത്തിന്റെ അബോധതലങ്ങളെ പ്രേരിപ്പിക്കുന്നു. ഇങ്ങനെയൊരുക്കപ്പെടുന്ന മണ്ണിലാണ് രാഷ്ട്രീയത്തിന്റെയും മതവൈരങ്ങളുടെയും കമ്പോളതാൽപ്പര്യങ്ങളുടെയും ഹിംസാത്മകത കടന്നുവരികയും ജീവിതത്തെയാകെ അധീനമാക്കുകയും ചെയ്യുന്നത്. സിനിമകളിലെ അക്രമവും ഹിംസയും കണ്ട് രസിക്കുന്ന പ്രേക്ഷകർ നാളെയഥാർത്ഥ ജീവിതത്തിൽ ഹിംസയും അക്രമവും സ്വീകരിക്കുവാനും ന്യായീകരിക്കുവാനും നിർബന്ധിതരാവും.

57

കേരളത്തിലെ തെരുവു നാടകവേദി

എൻ. ആർ. ഗ്രാമപ്രകാശ്*

ആമുഖം: ലോകവ്യാപകമായ പ്രസ്ഥാനമാണ് 'തെരുവു നാടകവേദി.' അമേരിക്കൻ ഐക്യനാട്ടിൽ പ്രചാരത്തിലുള്ള 'ഗറില്ല തിയേറ്ററും' 'ഗട്ട് തിയേറ്ററും' 'ഷോക്ക് ട്രൂപ്പും' ലാറ്റിനമേരിക്കയിലെ 'സംവാദ നാടകവേദി'യും (Forum Theatre) ബ്രിട്ടനിലെ 'അജിറ്റ്-പ്രോപ്പ്' തിയേറ്ററും, 'ഹാപ്പനിംഗ്സും' എല്ലാം തെരുവു നാടകത്തിന്റെ വ്യത്യസ്ത മുഖങ്ങളാണ്.

ലക്ഷ്യങ്ങൾ: മുഖ്യമായും മൂന്നു ലക്ഷ്യങ്ങളാണ് തെരുവുനാടകത്തിനുള്ളത്. 1. പ്രചാരണം. 2. പ്രക്ഷോഭണം. 3. പ്രബോധനം (pedagogy). വിവിധ നാടൻരൂപങ്ങളും മറ്റുമായി തെരുവിലെ രംഗാവതരണങ്ങളും പ്രാചീനകാലം മുതലെ ഉണ്ടായിരുന്നുവെങ്കിലും, തെരുവുനാടകത്തിന്റെ വ്യതിരിക്തത, അതു പ്രകടമാക്കുന്ന രാഷ്ട്രീയപക്ഷപാതമാണ്. അതുകൊണ്ടുതന്നെ ഏതു രാഷ്ട്രീയത്തിലേയും രാഷ്ട്രീയനാടകവേദിയുടെ (Political Theatre) ഭാഗമാണ് തെരുവുനാടകങ്ങളും.

ഘടന: തെരുവിൽ അരങ്ങേറുക, തെരുവിനുയോജിച്ച വിനിമയഭാഷ ഉപയോഗിക്കുക, തെരുവിന്റെ (ജനങ്ങളുടെ) പ്രശ്നങ്ങളും അവതരിപ്പിക്കുക ഇത്രയും ഒരു തെരുവുനാടകംകൊണ്ടു സാധ്യമാകണം. അതു പ്രൊസീനയത്തിൽ നിന്ന് ജനമധ്യത്തിലേയ്ക്കിറങ്ങിയ ദൃശ്യകലാസങ്കേതമാണ്. ജനങ്ങളെ അന്വേഷിച്ചുപോകുന്ന രംഗവേദിയാണ്. ചെലവ് കുറവ്, എവിടെ ജനങ്ങളുണ്ടോ അവിടെ അരങ്ങ്, കലാകാരൻമാരും പ്രേക്ഷകരും തമ്മിൽ വേർതിരിവില്ലായ്മ, കർമത്തിനു പ്രേരിപ്പിക്കൽ ഇവയെല്ലാം തെരുവു നാടകത്തിന്റെ സ്വഭാവങ്ങളിൽ ഉൾപ്പെടും.

വേരുകൾ: ആധുനിക രൂപത്തിലും ശൈലിയിലുമുള്ള തെരുവുനാടക അവതരണം വ്യാപകമാക്കിയത് സോവിയറ്റ് യൂണിയനിൽ ജൻമമെടുത്ത തൊഴിലാളികളുടെ നാടകപ്രസ്ഥാനമാണ് (Workers Theatre Movement) . ഇതിൽ നിന്നു പ്രചോദമുൾക്കൊണ്ട് ഇംഗ്ലണ്ട്, ജർമനി, അമേരിക്ക എന്നിവിടങ്ങളിലും തെരുവുനാടക സംഘങ്ങൾ രൂപം

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കൊണ്ട്. തൊഴിലാളികർഷകർക്കിടയിൽ വിപ്ലവഗവൺമെൻറിൻെറ ആശയങ്ങൾ എത്തിക്കുന്നതിനും പ്രതിവിപ്ലവശക്തികളെ തുറന്നുകാട്ടുന്നതിനും അവർക്കു കഴിഞ്ഞു. ചൈനയിലെ 'ലോങ് മാർച്ചി'നൊപ്പം തുറന്ന വേദികളിൽ നാടകം അവതിരിപ്പിക്കുന്ന സംഘങ്ങളുണ്ടായിരുന്നു. സ്പെയിനിൽ ആഭ്യന്തരയുദ്ധം നടക്കുമ്പോഴും ക്യൂബയിൽ വിപ്ലവാനന്തരവും ആശയപ്രചരണത്തിനായി തെരുവുനാടകങ്ങൾ അവതരിപ്പിച്ചിരുന്നു.

തെരുവുനാടക പ്രസ്ഥാനം — ഇന്ത്യയിൽ: ഇന്ത്യയിലെ മിക്കവാറും സംസ്ഥാനങ്ങളിൽ സ്ഥിരം തെരുവുനാടക സംഘങ്ങൾ പ്രവർത്തിക്കുന്നുണ്ട്. സഫ്ദർഹാശ്മിയുടെ രക്തസാക്ഷിത്വം തെരുവുനാടക പ്രസ്ഥാനത്തിൻെറ വളർച്ച പതിൻമടങ്ങാക്കി. 1989 ഏപ്രിൽ 12ന് ആചരിച്ച സഫ്ദർഹാശ്മി ദിനത്തിന് ഇന്ത്യയുടെ വിവിധ ഭാഗങ്ങളിലായി മുപ്പതിനായിരത്തോളം തെരുവുനാടകങ്ങൾ അവതരിപ്പിക്കപ്പെട്ടതായി കണക്കാക്കുന്നു.

ഇന്ത്യയിലെ തെരുവുനാടകപ്രവർത്തനത്തിൻെറ ആധ്യചലനങ്ങൾ ബ്രിട്ടീഷ് ഭരണകാലത്തുതന്നെ പ്രകടമായിട്ടുണ്ട്. ബോംബെ ആസ്ഥാനമാക്കി 1942ൽ സ്ഥാപിതമായ ഇന്ത്യൻ പീപ്പിൾസ് തിയേറ്റർ അസോസിയേഷൻ (IPTA) ആ രംഗത്തു മാതൃകാപരമായ പ്രവർത്തനം കാഴ്ചവെച്ചു. രാഷ്ട്രീയപ്രക്ഷോഭണത്തിൻെറ ശക്തമായ പ്രചരണമാധ്യമമെന്ന പദവിയിലേക്ക് തെരുവുനാടകം വളർന്നത് 1970കളിലാണ്. ഇക്കാലയളവിൽ ഇടതുപക്ഷാശയങ്ങൾക്ക് ഇന്ത്യൻ രാഷ്ട്രീയത്തിൽ ലഭിച്ച മുൻകയ്യും ദേശീയ നാടകവേദിക്കായുള്ള അന്വേഷണങ്ങളും തെരുവുനാടകപ്രസ്ഥാനത്തിൻെറ വളർച്ചയ്ക്ക് സഹായകമായി.

കേരളത്തിലെ തെരുവുനാടകവേദി: എഴുപതുകളുടെ ആദ്യപകുതിയിൽ തന്നെ തെരുവുനാടകങ്ങൾ പ്രത്യക്ഷപ്പെട്ടു തുടങ്ങിയെങ്കിലും അതൊരു സംഘടിത പ്രസ്ഥാനമായി മാറുന്നത്, ഇന്ത്യയിൽ നിലനിന്ന ആഭ്യന്തര അടിയന്തിരാവസ്ഥ പിൻവലിച്ചതിനുശേഷമാണ്. കെട്ടി നിർത്തിയ സർഗശക്തിയുടെ കുത്തിയൊഴുക്ക് എല്ലാ രംഗങ്ങളിലുമെന്നപോലെ നാടകവേദിയിലുമുണ്ടായി. സംസ്ഥാനത്തിൻെറ വിവിധ ഭാഗങ്ങളിൽവെച്ച് പുരോഗമനശക്തികളുടെ ആഭിമുഖ്യത്തിൽ തെരുവുനാടകാവതരണങ്ങളും ചർച്ചകളും ക്യാമ്പുകളും നടന്നു. ആയിരക്കണക്കിന് തെരുവുനാടകാവതരണങ്ങൾ, ഓരോ തെരഞ്ഞെടുപ്പുകാലത്തും കേരളത്തിൽ ഉണ്ടാകുന്നു.

ദൃശ്യകലകളും സാമൂഹ്യപ്രവർത്തനവും — കേരളപാരമ്പര്യം: ദേശീയമോചന സമരത്തിൻെറയും സാമൂഹ്യപരിഷ്കരണ പ്രവർത്തനങ്ങളുടെയും തൊഴിലാളിവർഗപ്രസ്ഥാനത്തിൻെറയും എല്ലാം ഭാഗമായി നാടകത്തെ ഉപയോഗിച്ച പാരമ്പര്യം കേരളത്തിനുണ്ട്. 'അടുക്കളയിൽ നിന്ന് അരങ്ങത്തേയ്ക്ക്', 'മറക്കുടയ്ക്കുള്ളിലെ മഹാനരകം', 'ഋതുമതി', 'പാട്ടബാക്കി', 'നമ്മളൊന്ന്', 'കൂട്ടുകൃഷി', 'ഇതു ഭൂമിയാണ്', 'നിങ്ങളെന്നെ കമ്യൂണിസ്റ്റാക്കി', 'ഇങ്കുലാബിൻെറ മക്കൾ' തുടങ്ങിയ നാടകങ്ങൾ പ്രത്യക്ഷമായിതന്നെ രാഷ്ട്രീയ സാമൂഹിക മാറ്റങ്ങൾ ഉന്നം വെച്ചുകൊണ്ട് രചിക്കപ്പെട്ടവയാണ്. ആശയപ്രചാരണത്തിനായി നാടകത്തോടൊപ്പം മറ്റു ദൃശ്യകലാരൂപങ്ങളും അക്കാലങ്ങളിൽ ഉപയോഗിച്ചിരുന്നു.

1950കളിൽ കോഴിക്കോട് ആസ്ഥാനമായി പ്രവർത്തിച്ചിരുന്ന മലബാർ കേന്ദ്രകലാസമിതി, സാമൂഹ്യപ്രമേയങ്ങൾ കൈകാര്യം ചെയ്യുന്ന നാടകങ്ങളെ പ്രോത്സാഹിപ്പിച്ചു. പൊതുവെ സാമൂഹിക രാഷ്ട്രീയ നാടകങ്ങളുടെ വളർച്ചയ്ക്ക് അനുകൂലമായ അവസ്ഥയായിരുന്നു കേരളത്തിലുണ്ടായിരുന്നത്. നാടകവേദിയുടെ നിലവിലുള്ള ചട്ടക്കൂടിൽ, പുരോഗമനാംശമുള്ള പ്രമേയങ്ങൾ അവതരിപ്പിക്കുകയായിരുന്നു ഇക്കാലമത്രയും. ഇതാകട്ടെ, പിന്നീട് രാഷ്ട്രീയനാടകവേദിയുടെ ദൗർബല്യമായി പരിണമിച്ചു.

തെരുവു നാടകവേദിയുടെ പ്രസക്തി: 'പാട്ടബാക്കി'യുടെയോ 'നിങ്ങളെന്നെ കമ്യൂണിസ്റ്റാക്കി'യുടെയോ രൂപപരമായ അവസ്ഥകളിൽ നിന്ന് ഏറെയൊന്നും മുന്നോട്ടുപോകാൻ പ്രൊസീനിയത്തിലെ രാഷ്ട്രീയ നാടകാവതരണങ്ങൾക്കു കഴിഞ്ഞിട്ടില്ല. പുതിയ കാലത്തിനു പുതിയ നാടകരൂപമെന്ന തത്വം ബ്രെഹ്തും, മേയർഹോൾഡും, ഇർവിൻ പിസ്കാറ്റും നടപ്പിലാക്കിയത് ഓർത്തുകൊണ്ടാണ് ഇതെഴുതുന്നത്. മറ്റെല്ലാ സമരായുധങ്ങളുടെയുമെന്നപോലെ നാടകവേദിയുടെയും മൂർച്ചകൂട്ടുകയെന്ന ദൗത്യനിർവഹണത്തിൽ കേരളത്തിലെ പുരോഗമനപക്ഷത്തിനു വീഴ്ച പിണഞ്ഞിരുന്നു. ഈയൊരു കുറവു പരിഹരിക്കുകയെന്ന ചരിത്രപരമായ ചുമതല നിറവേറ്റുക കൂടിയാണ് തെരുവുനാടക പ്രവർത്തകർ ചെയ്തത്. വിപ്ലവകരമായ പ്രമേയം അരങ്ങേറുന്നതിന് വിപ്ലവകരമായ രൂപം കണ്ടെടുക്കുന്നതിൽ തെരുവുനാടകപ്രവർത്തകർ നല്ലൊരു പരിധിവരെ വിജയിച്ചിട്ടുണ്ട്.

ചരിത്രാവലോകനം: കേരളത്തിലെ ആദ്യത്തെ 'തെരുവരങ്ങ്' എവിടെ, എന്ന് ഇങ്ങനെ കൃത്യമായി പറയാനാവില്ല. ജനങ്ങളിൽ നിന്നു രൂപം കൊണ്ട് ജനങ്ങൾക്കിടയിൽ തന്നെ വിലയം പ്രാപിക്കുന്നതുകൊണ്ടും സ്ക്രിപ്റ്റ് പ്രസിദ്ധീകരിക്കാത്തതുകൊണ്ടും കാലഗണനയും മറ്റും പ്രയാസകരമാണ്. ജനകീയ സാംസ്കാരികവേദി, പുരോഗമനകലാസാഹിത്യസംഘം, ശാസ്ത്രസാഹിത്യ പരിഷത് തുടങ്ങിയ ബഹുജനപ്രസ്ഥാനങ്ങൾ, സമത, മാനുഷി പോലുള്ള സ്ത്രീവിമോചന സംഘങ്ങൾ, പരിസ്ഥിതി, പ്രതികരണസംഘങ്ങൾ തുടങ്ങിയവ സ്ഥിരമായി തെരുവരങ്ങിലെത്തിയിട്ടുണ്ട്. വിവിധ രാഷ്ട്രീയകക്ഷികളുടെ യുവജനസംഘങ്ങൾ തെരുവുനാടകത്തെ പ്രചാരണോപാധിയാക്കിയിട്ടുണ്ട്. എന്നാൽ വ്യവസ്ഥാ വിരുദ്ധ

രാഷ്ട്രീയ പക്ഷത്താണ് തെരുവ് നാടകത്തിന്റെ സ്ഥാനമെന്നത് വ്യക്തം. കെ.എം.രാഘവൻ നമ്പ്യാർ, പി.എം.താജ്, വി.കെ.പ്രഭാകരൻ, ജോയ് മാത്യു, മധുമാസ്റ്റർ, പി.എം.എം.ഹനീഫ്, കരിവെള്ളൂർ മുരളി, ജോസ് ചിറമ്മൽ, എ.ആർ.രതീശൻ, പി.ഗംഗാധരൻ, മുല്ലനേഴി, കോലഴി നാരായണൻ, എ.ആർ.ചിദംബരം തുടങ്ങിയവർ തെരുവു നാടകരംഗത്തെ പ്രവർത്തകരാണ്. 'കുരിശിന്റെ വഴി', 'നാട്ടു ഗദ്ദിക', 'അങ്കക്കോഴികൾ', 'പടയോട്ടം', 'ദിനോസറുകൾ', 'ഗാട്ടു കരാറിനെതിരെ' തുടങ്ങിയവ ശ്രദ്ധേയമായ തെരുവുനാടകാവതരണങ്ങളാണ്.

ഉപസംഹാരം: തെരുവുനാടകപ്രസ്ഥാനം ലോകമെങ്ങും വളർന്നുകൊണ്ടിരിക്കുന്ന ഒന്നാണ്. കേരളത്തിന്റെ ദൃശ്യകലാപൈതൃകവും പ്രതിരോധസ്മരപാരമ്പര്യവും സമന്വയിക്കുന്ന പ്രസ്ഥാനമായി അതിനെ വികസിപ്പിക്കുകയെന്നത്, കേരളത്തിലെ ജനകീയ നാടകപ്രവർത്തകരുടെ കടമയാണ്.

59

മലയാള സാഹിത്യ രചനയും വ്യാഖ്യാനാത്മക സൂചികയും

ആർ.രഘുനാഥൻ*

സാഹിത്യചരിത്രത്തിന് സാർവ്വലൗകികവും സാർവ്വദേശീയവുമായ ഒരു താത്വികാടിത്തറ നിർദ്ദേശിക്കപ്പെട്ടിട്ടില്ല. എങ്കിലും ചരിത്രരചയിതാവ് അവശ്യം പരാമർശിക്കേണ്ട വസ്തുതകളെക്കുറിച്ചും സ്വീകരിക്കേണ്ട സമീപനത്തെ സംബന്ധിച്ചും ചില ധാരണകളുരുത്തിരിഞ്ഞുവന്നിട്ടുണ്ട്—വസ്തുതകളല്ല, അവയുടെ വ്യാഖ്യാനമാണ് ചരിത്രം; ചരിത്രകാരന്റെ ഈ വ്യാഖ്യാനാത്മക സമീപനം സാഹിത്യചരിത്രകാരനും സ്വീകാര്യമാണ്; ദേശകാല സമൂഹത്തിന്റെ പശ്ചാത്തലത്തിൽവേണം സാഹിത്യകൃതികളെ അപഗ്രഥിക്കുവാൻ; സാഹിത്യചരിത്രം, സമൂഹവും സാഹിത്യവും തമ്മിലുള്ള ജൈവബന്ധത്തെ അപഗ്രഥിക്കുന്ന പഠനമായിരിക്കണം — സാഹിത്യചരിത്ര രചനയെക്കുറിച്ചുള്ള ഇത്തരം ആധുനിക സങ്കൽപങ്ങൾ എന്തെന്നു വെളിപ്പെടുത്തുകയാണ് പ്രബന്ധത്തിന്റെ ആദ്യഭാഗം.

ഓരോ സാഹിത്യചരിത്രവും അതുണ്ടായ കാലത്തിന്റെ സൃഷ്ടിയാണ്. കാരണം സാഹിത്യരചനയ്ക്കാവശ്യമായ അസംസ്കൃത വസ്തുക്കൾ ചരിത്രകാരന് വിതരണം ചെയ്യുന്നത് കാലമാണ്. ഈ വസ്തുത ഉപാദാന ശേഖരണത്തെയും അപഗ്രഥനത്തെയും സംബന്ധിച്ച ചിന്തകളിലേക്കു നയിക്കുന്നു.

ഉപാദാനം ശേഖരിക്കുന്നതിലും ഉപയോഗപ്പെടുത്തുന്നതിലും മലയാളത്തിലെ പ്രമുഖ സാഹിത്യചരിത്രരചനകൾ സ്വീകരിച്ച സമീപനം എന്ത് എന്നും അതിന്റെ ഗുണദോഷങ്ങൾ എന്ത് എന്നുമുള്ള അന്വേഷണത്തിന് ഇവിടെ പ്രസക്തി ലഭിക്കുന്നു. ഭാഷയിലെ പ്രധാന സാഹിത്യചരിത്രകൃതികളെല്ലാം അവയുടെ രചനയ്ക്കാവശ്യമായ ആകാരവസ്തുക്കൾ സംഭരിക്കുന്നതിലും ശാസ്ത്രീയമായി വിലയിരുത്തുന്നതിലും പരാജയപ്പെട്ടുവെന്നും അതാണ് അവയുടെ പരിമിതികൾക്കും പകപതക്കുറവിനും ഇടയാക്കിയതെന്നും ഈ അന്വേഷണം വ്യക്തമാക്കുന്നു.

ദേശകാല സമൂഹചരിത്രത്തിന്റെ പശ്ചാത്തലത്തിൽ അനാവൃതമാകേണ്ട സാഹിത്യചരിത്രം, സാമൂഹ്യ സാംസ്കാരിക സാമ്പത്തിക മാറ്റങ്ങൾ സാഹിത്യത്തിൽ ചെലുത്തിയ സ്വാധീനം, സാഹിത്യ ഭാഷയുടെ പരിണാമം, സാഹിത്യ സംവാദങ്ങൾ, കലാ സാംസ്കാരിക രാഷ്ട്രീയ സ്ഥാപനങ്ങളുടെ സംഭാവനകൾ തുടങ്ങി ഒട്ടനവധി ഘടകങ്ങൾ ഉൾക്കൊള്ളണം. സാഹിത്യചരിത്രം പോലെ വിപുലമായ ഒരു വിഷയം പൂർവകാലപ്രാബല്യത്തോടെ ഉൾക്കൊള്ളേണ്ടിവരുമ്പോൾ അതിനാവശ്യമായ ആകാരവസ്തുക്കളുടെ വ്യാപ്തിയും വൈപുല്യവും വർധിക്കുന്നു. വിജ്ഞാന വിസ്ഫോടനത്തിന്റെ ഈ നൂറ്റാണ്ടിൽ നില്ക്കുമ്പോൾ ഇത് വിസ്മയനീയമാംവിധം പെരുകുകയും വൈവിധ്യമുള്ളതായിത്തീരുകയും ചെയ്യുന്നു. വിവിധ രീതിയിലുള്ള പുസ്തകങ്ങൾ, ആനുകാലികങ്ങൾ, വ്യത്യസ്ത രൂപത്തിലും മാധ്യമത്തിലും പുറത്തുവന്നിട്ടുള്ള മറ്റനേകം വായനോപാധികൾ തുടങ്ങി ലഭ്യമായ എല്ലാ വിജ്ഞാനസാമഗ്രിയും സാഹിത്യചരിത്രകാരന്റെ അസംസ്കൃത വസ്തുവാണ്.

ഉപാദാന രേഖകളുടെ സംഭരണം പോലെയോ അതിലേറെയോ ഗൗരവത്തോടെ നിർവഹിക്കേണ്ടതാണ് അവയുടെ വിശകലനവും. ഇത് ഫലപ്രദമായ നിർവഹിക്കുന്നതിന് ഗ്രന്ഥാലയശാസ്ത്ര തത്വങ്ങളുടെ വെളിച്ചത്തിൽ ആകരവസ്തുക്കളെ വിന്യസിക്കേണ്ടതുണ്ട്. ഇതിനു ഗ്രന്ഥസൂചി (Bibliography) എന്നു പറയുന്നു. ചരിത്ര രചയിതാവിന്റെ ചരിത്രസങ്കൽപത്തിനും രചനാപദ്ധതിക്കും ഉപയുക്തമാകത്തക്കവിധത്തിൽ വിഷയാധിഷ്ഠിതമായി രേഖകൾ വിന്യസിക്കുന്നത് ഏറെ സഹായകമായിരിക്കും. കാരണം ഒന്നിലേറെ രേഖകൾ ഒന്നിച്ചുവച്ച പഠിക്കുമ്പോൾ മാത്രമേ ചരിത്ര

* കേരളസർവകലാശാല, കാര്യവട്ടം - 695 581

വസ്തുതകളിലേക്കുള്ള വഴി തെളിഞ്ഞു കിട്ടുകയുള്ളു. രേഖകൾ സ്വീകരിച്ചിരിക്കുന്ന സമീപനസമ്പ്രദായം, അവയുടെ ആധികാരികത മുതലായവയെപ്പറ്റി എന്തെങ്കിലും മുൻകൂട്ടി മനസ്സിലാക്കാതെ അവ പരിശോധിക്കേണ്ടി വരുമ്പോഴുണ്ടാകാവുന്ന പ്രത്യാഘാതങ്ങൾ ഇവിടെ പരിഗണിക്കേണ്ടതുണ്ട്. ചരിത്രഗവേഷകൻ അഭിമുഖീകരിക്കുന്ന അത്തരം വൈതരണികളെ വിജയകരമായി നേരിടുന്നതിന് രേഖകൾ അവയുടെ സംക്ഷേപത്തോടും (abstracts) വ്യാഖ്യാനത്തോടും (annotations) കൂടി ഗ്രന്ഥസൂചികകളിൽ വിന്യസിക്കാവുന്നതാണ്. വ്യാഖ്യാനത്തിൽ രേഖകളുടെ ആധികാരികതയെപ്പറ്റിയും സമീപനരീതിയെപ്പറ്റിയും നൽകുന്ന സൂചനകൾ മുൻവിധിയോടെ അവയെ സമീപിക്കാൻ ചരിത്രകാരന് സഹായകമാകും. സംക്ഷേപമാകട്ടെ, രേഖ എത്ര മാത്രം തന്റെ വിഷയവുമായി ബന്ധപ്പെട്ടിരിക്കുന്നുവെന്നു വെളിപ്പെടുത്തുകയും ചെയ്യും.

സ്വന്തം കാലത്തിൽ നിന്നുകൊണ്ട് കടന്നു പോയ കാലത്തെ വീക്ഷിക്കുകയും വിലയിരുത്തുകയുമാണ് സാഹിത്യചരിത്രകാരൻ ചെയ്യുന്നത്. അയാളുടെ കണ്ടെത്തലുകൾ യുക്തിധിഷ്ഠിതവും വസ്തുതാപരമായി സത്യസന്ധത പുലർത്തുന്നതുമായിരിക്കണം. അനവധി വിജ്ഞാനശാഖകളിൽ ആധിപത്യമുറപ്പിച്ചുകൊണ്ടു മാത്രമേ സാഹിത്യചരിത്രകാരന് കാലസംഭൃതമായ ചരിത്രവസ്തുതകളിലേക്ക് കടന്നുചെല്ലുകയും അവയെ അപഗ്രഥിക്കുകയും ചെയ്യാനാവൂ. സാഹിത്യത്തിലും തദനുബന്ധമായ വിജ്ഞാനശാഖകളിലുമുള്ള ഉപാദാനങ്ങൾ സമഗ്രമായി ശേഖരിക്കുകയും ശാസ്ത്രീയമായി ക്രമപ്പെടുത്തുകയും വ്യാഖ്യാനാത്മകമായി പരിശോധിക്കുകയും ചെയ്തിട്ടുള്ള ഗ്രന്ഥസൂചികളിൽ നിന്നുവേണം അയാൾ തന്റെ യാത്ര ആരംഭിക്കേണ്ടത്. എങ്കിൽ മാത്രമേ നിർദ്ദിഷ്ട ലക്ഷ്യം കൈവരിക്കാനാവുകയുള്ളു.

61

സമൂഹനിഷ്ഠത — മലയാള കവിതയിൽ

കെ.കെ. ഇന്ദിര*

മനുഷ്യൻ ഒരേസമയം സ്വകാര്യജീവിതവും സാമൂഹ്യജീവിതവും നയിക്കുന്നവനാണ്. ഈ ദ്വന്ദ്വ ജീവിതത്തിനു വേണ്ടുന്ന ദ്വിവിധപ്രേരണകളും അവനിൽ നൈസർഗികമായി തന്നെ പ്രവർത്തിക്കുന്നുണ്ട്. അപരനുമൊത്തുള്ള കൂട്ടായ്മക്ക് വ്യക്തി നിർബന്ധിതനാകുന്നതുകൊണ്ടാണ് മനുഷ്യൻ സമൂഹജീവിയാകുന്നത്.

അന്യസഹവാസകാംക്ഷ, സംഘജീവിതപ്രേരണ എല്ലാ വ്യക്തികളിലും ഒരേ തോതിലല്ല പ്രകടമാവുന്നത്. ഈ പ്രേരണ ശക്തമായി പ്രവർത്തിക്കുന്നവരിൽ സ്വാർഥപരതയേക്കാൾ അന്യപരിഗണന മുന്നിട്ടു നിൽക്കുന്നു; അവൻ സ്വജീവിതത്തെ നിസ്സാരീകരിച്ച് സമൂഹനൻമക്കു വേണ്ടി നിലകൊള്ളുന്നു. ഈ പ്രേരണ സാധാരണ നിലയിൽ വർത്തിക്കുന്നവർ സ്വഹിതത്തോടൊപ്പം അന്യഹിതത്തേയും ഉള്ളു തുറന്നു മാനിച്ചു സാമൂഹ്യ-വൈയക്തിക ജീവിതത്തിന്റെ സമതുലിതാവസ്ഥയെ കാക്കുന്നു. സംഘപ്രേരണയേക്കാൾ സ്വകാര്യപ്രേരണ മുന്നിട്ടു നിൽക്കുന്നവരാകട്ടെ, സ്വാർഥപരതയാൽ സാമൂഹ്യജീവിതത്തെ മലിനമാക്കുന്നു. സ്വത്വപരതയും സമൂഹപരതയും ഈവിധത്തിൽ മനുഷ്യജീവിതത്തെ അടിമുടി നിയന്ത്രിക്കുന്നതായി കാണാം.

സാഹിത്യത്തിലെ സ്വത്വനിഷ്ഠതയും സമൂഹനിഷ്ഠതയും

ജീവിതാവിഷ്കാരമായ സാഹിത്യത്തിലും സാഹിത്യകാരന്റെ സ്വത്വപ്രേരണകളും സമൂഹപ്രേരണകളും പ്രാധാന്യം നേടുന്നു. വ്യക്തിയുടെ സ്വകാര്യജീവിതാവിഷ്കാരത്തിലൂടെ ആസ്വാദകനിലെ വൈയക്തിക പ്രേരണകളെ മാത്രം ഉണർത്തുകയും അനുഭവിപ്പിക്കുകയും ചെയ്യുന്ന സാഹിത്യകൃതി രചനാപരമായും ആസ്വാദനപരമായും സ്വത്വനിഷ്ഠസാഹിത്യത്തിന്റെ പരിധിയിൽ വരുന്നു. വ്യക്തിയിലൂടെ സമൂഹത്തിലേക്കു വികസിതമാവുകയും സമൂഹനൻമയെ ലക്ഷ്യമാക്കുകയും ചെയ്യുന്ന തരത്തിലുള്ള ജീവിതചിത്രണത്തിലൂടെ അനുവാചകനിലെ സാമൂഹ്യപ്രേരണകളെ പ്രവൃദ്ധമാക്കുന്നതരം സാഹിത്യസൃഷ്ടി രചനാതലത്തിലും ആസ്വാദനതലത്തിലും സമൂഹനിഷ്ഠസാഹിത്യമായി വ്യപദേശിക്കാം.

സാഹിത്യത്തെ വിശ്വവ്യാപകമായും കേരളീയമായും വിശകലനം ചെയ്യുമ്പോൾ സമൂഹനിഷ്ഠതക്ക് കൂടുതൽ പ്രാധാന്യമുള്ളതായി കണ്ടെത്തുന്നു. സമൂഹചേതസ്സിന്റെ അസംതൃപ്തിയും പരിവർത്തനകാംക്ഷയും ആദ്യം പ്രതിഫലിതമാവുന്നത് സാഹിത്യത്തിലാണ്. ഒരു പരിവർത്തനത്തിന്റെ അന്തർനിഹിത സന്ദേശവുമായി ഈ കാലഘട്ടത്തിൽ സാഹിത്യം സവിശേഷമായും സമൂഹനിഷ്ഠമാവുന്നു.

മലയാള കവിതയിലെ സമൂഹനിഷ്ഠത

മലയാള കവിതയുടെ വികാസപരിണാമങ്ങൾ വ്യക്തമാക്കുന്ന മണിപ്രവാളം, പാട്ട്, കിളിപ്പാട്ട്, തുള്ളൽ, ആട്ടക്കഥ എന്നീ പ്രസ്ഥാനങ്ങളോടൊപ്പം 20-ാം നൂറ്റാണ്ടിന്റെ പ്രാരംഭത്തിൽ മലയാള കവിതയിൽ പ്രാമുഖ്യമാർജിച്ച കാല്പനിക പ്രസ്ഥാനത്തേയും വിശകലന വിധേയമാക്കി മലയാളത്തിൽ സാമൂഹ്യനൻമ ലക്ഷ്യമാക്കുന്ന കാവ്യങ്ങൾ എത്രത്തോളമുണ്ടെന്ന് കണ്ടെത്തുവാൻ കഴിയും.

മണിപ്രവാള പ്രസ്ഥാനം

മണിപ്രവാളപ്രസ്ഥാനം, പാട്ടു പ്രസ്ഥാനം എന്നീ വിഭിന്നധാരകളിലൂടെ വളർന്നുവന്ന ആദ്യകാല മലയാള സാഹിത്യം സ്വത്വ-സമൂഹ നിഷ്ഠതയുടെ വിഭിന്ന മുഖങ്ങളാണ് പൊതുവെ അനാവരണം ചെയ്യുന്നത്. 12-ാം നൂറ്റാണ്ടിൽ നിന്ന് 15-ാം നൂറ്റാണ്ടിന്റെ അന്ത്യത്തോളം നീളുന്ന കാലഘട്ടത്തിൽ രചിക്കപ്പെട്ട അച്ചീ ചരിതങ്ങളിൽ വ്യക്തിയുടെ അനധികൃതമായ ലൈംഗികാഭിലാഷങ്ങൾ തെഴുത്തു നിൽക്കുന്നു. സ്വന്തം കിടപ്പറവൃത്തികളിലേക്ക് അനുവാചകരെ വിളിച്ചിരുത്തി സൽക്കരിക്കുന്നതിനും അതിലെ രസം നുണയുന്നതിനും വേണ്ടി സ്വാർഥപൂർണരായ ത്രൈവർണികരിൽ നിന്നും രൂപംകൊണ്ട ഈ കാവ്യങ്ങൾ രചനാതലത്തിലും ആസ്വാദനതലത്തിലും സ്വത്വനിഷ്ഠതയുടെ ഭാവതലം പ്രകാശിപ്പിക്കുന്നു. 16-ാം ശതകം മുതലിങ്ങോട്ടുള്ള കാലഘട്ടത്തിൽ രൂപംകൊണ്ട രാമായണം ചമ്പു, നൈഷധം ചമ്പു, ഭാരതം ചമ്പു

* ബിഷപ്പ് മൂർ കോളെജ്, മാവേലിക്കര

തുടങ്ങിയവയിൽ ഇതിഹാസകഥാസ്പദമായ പ്രമേയം സ്വീകൃതമായിരിക്കുന്നു. സമൂഹത്തിന് ധർമാധർമ വിചിന്തനത്തിന്റെ ഉന്നതമാതൃകകൾ കാണിച്ചുകൊടുക്കുന്ന ഇതിഹാസകഥകളിലേക്കു തന്നെ തിരിച്ചുപോകാൻ ഉന്നതവർഗത്തെ പ്രേരിപ്പിച്ചത് പാട്ടുപ്രസ്ഥാനത്തിൽ ഉദയംകൊണ്ട കാവ്യങ്ങളുടെ സ്വാധീനം തന്നെയാവണം. കൂത്ത്, കൂടിയാട്ടം തുടങ്ങിയ ദൃശ്യകലകളുടെ സാഹിത്യരൂപമായിരുന്ന ഈ ചമ്പുകളിൽ സമകാലിക ജീവിതവിമർശനവും ഉൾക്കൊള്ളിച്ചിട്ടുണ്ട്.

പാട്ടു പ്രസ്ഥാനം

ആര്യാധിനിവേശത്തിനു മുമ്പ് തമിഴകത്തിന്റെ സാംസ്കാരികധാരയിൽ വിലയം പ്രാപിച്ചുകിടന്ന കേരളീയ ജനത തങ്ങളുടെ ആ സാംസ്കാരിക പൈതൃകത്തെ മറികടന്നുകൊണ്ട് കൂടുതൽ ദീപ്തിമത്തായ ആര്യസംസ്കൃതിയെ നെഞ്ചിലേറ്റുന്നത് പാട്ടുപ്രസ്ഥാന രചനകളിലൂടെ തെളിയുന്നു. രാമചരിതകാരൻ കാവ്യം ചമച്ചത് പടയാളികളെ പോരിൽ ഉത്സുകരാക്കുന്നതിന് വേണ്ടിയായിരുന്നുവെന്ന ഒരു നിഗമനമുണ്ട്. സാഹിത്യത്തിന്റെ പ്രയോജനമൂല്യം തന്നെയാണ് ഈ നിഗമനത്തിലൂടെ വ്യക്തമാക്കപ്പെടുന്നത്.

എല്ലാ ജാതിയിൽപ്പെട്ട ആളുകളും രാമകഥ പൊല്ലുന്നതിന് യോഗ്യരാണെന്ന് 'മറ്റു പ്രജ്ഞൻമാർക്ക് അറിയുന്നതിനായി' കാവ്യം രചിച്ച കണ്ണശ്ശരാമായണ കർത്താവ് ഊന്നിപ്പറയുന്നുണ്ട്. ചാതുർവർണ്യ വ്യവസ്ഥിതിയിലെ അന്യായങ്ങൾ പരോക്ഷമായെങ്കിലും ഇവിടെ ചോദ്യം ചെയ്യപ്പെടുകയാണ്. സമൂഹത്തിൽ നടമാടിയ സ്വാർഥലോലുപതയുടെ അധാർമികതക്കെതിരെ പ്രതികരിക്കുകയാണ് ഇതിഹാസ പുരാണാദികളുടെ പുനരാഖ്യാനത്തിലൂടെ കണ്ണശ്ശർ മൂവരും ചെയ്തത്.

പാട്ടു പ്രസ്ഥാനത്തിലുൾക്കൊള്ളുന്ന പെരുശ്ശേരി നമ്പൂതിരിയുടെ കൃഷ്ണഗാഥ എന്ന കാവ്യം ഭാവപരമായി പാട്ടുകൃതികളുടെ തുടർച്ചയാവാൻ ശ്രമിക്കുന്നു പക്ഷെ സ്വന്തം ജീവിതപശ്ചാത്തലം കൊണ്ട് ലഭിച്ച 'നമ്പൂതിരിത്ത'ത്തിൽ നിന്ന് കൃഷ്ണഗാഥകാരന് വിട്ടുനിൽക്കാൻ സാധിച്ചിട്ടില്ല.

എഴുത്തച്ഛനും കിളിപ്പാട്ടു പ്രസ്ഥാനവും

കവിത ഒരു വിനോദോപാധി മാത്രമായി മാറിയിരുന്ന വേളയിൽ എഴുത്തച്ഛൻ കവിതക്ക് നൽകിയ സാമൂഹ്യപ്രതിബദ്ധ സ്വഭാവവും ആത്മവിമലീകരണ മൂല്യവും അദ്ദേഹത്തിന്റെ കാവ്യങ്ങൾ വ്യക്തമാക്കി തരുന്നു. അധാർമികമാംവിധം സ്വാർഥസുഖങ്ങളിലേക്ക് മുഖംപൂഴ്ത്തിയിരുന്ന നാടിന് സാൻമാർഗിക ജീവിതത്തെക്കുറിച്ച് പുതിയൊരവബോധം പകരുകയാണ് കവി ചെയ്തത്. ഈ കർമം സമൂഹമധ്യത്തിൽ ആ കാലഘട്ടത്തിൽ ഒരു ശുദ്ധീകരണ പ്രക്രിയ നിർവഹിച്ചു. തങ്ങൾ വിസ്മരിച്ചുകളഞ്ഞ മഹത്തായ സാംസ്കാരിക പാരമ്പര്യത്തിലേക്കും, ഈശ്വരോൻമുഖതയിലേക്കും നാടിന്റെ മേധാവികളായിരുന്നവരെ അദ്ദേഹം തിരിച്ചുകൊണ്ടുവന്നു അമിതമായ ഭോഗാസക്തി അധാർമികതയിലേക്ക് നയിക്കുമെന്നും അധാർമികത വിനാശമാണെന്നും സ്വധർമമാചരിക്കുന്നതിൽ വീഴ്ച പാടില്ലെന്നും ഈശ്വരോപാസനയാണ് പരമമായ മുക്തിയെന്നും ഓരോരുത്തരുടെയും ഹൃദയത്തിൽ ഓതിക്കൊടുത്തു, എഴുത്തച്ഛന്റെ കവിത. മണിപ്രവാള പ്രസ്ഥാനം എന്നന്നേക്കുമായി സ്ത്രീസ്തുതിപരങ്ങളായ കാവ്യപ്രമേയങ്ങളിൽ നിന്ന് വിട്ടുമാറി ധാർമികാടിത്തറയുള്ള ഇതിഹാസകഥകളെ ആശ്രയിക്കുന്നത് എഴുത്തച്ഛനു ശേഷം കാണുവാൻ സാധിക്കുന്നു.

കുഞ്ചൻനമ്പ്യാരും തുള്ളൽപ്രസ്ഥാനവും

നാടുവാഴിത്ത മേധാവിത്വത്തിന്റെ ദൂഷ്യവശങ്ങളെല്ലാം സമൂഹമധ്യത്തിൽ നടമാടിയ 18-ാം ശതകത്തിൽ മേലാളരുടെ ദുർനടപടികളും വെളിവാക്കുന്നതിനും സമൂഹത്തെ അനീതിയുടെയും അഴിമതിയുടെയും പിടിയിൽനിന്ന് മുക്തമാക്കുന്നതിനും കവിതയുടെ മറവിൽ നിന്നുകൊണ്ട് സത്യങ്ങൾ ഉദ്ഘോഷിക്കുക എന്നല്ലാതെ മറ്റൊരു പോംവഴിയും ഇല്ലായിരുന്നു. പരസ്യമായി സാമൂഹിക വിമർശം നടത്തുന്നുവെന്ന പഴിയിൽ നിന്നും വിട്ടുനിൽക്കാൻ വേണ്ടിയെന്നോണം ഇതിഹാസകഥകളുടെയും പാത്രങ്ങളുടെയും പിന്നിൽ നിലയുറപ്പിച്ച നമ്പ്യാർ, ഉപരിവർഗത്തിന്റെ സ്വാർഥ പൂരിതമായ ഹീനജീവിതം തന്റെ കൃതികളിൽ പരമാവധി തുറന്നുകാണിച്ചു. സുലളിത മലയാളത്തിൽ, ചടുലാത്മകമായ ദ്രാവിഡശീലിന്റെ അകമ്പടിയോടെ നമ്പ്യാർക്കവിത സാമാന്യ ജനത്തിനിടയിലേക്കു നിസ്സങ്കോചം ഇറങ്ങിച്ചെന്നു. ജനകീയ കവിതയുടെ തലത്തിലേക്ക് മലയാളസാഹിത്യം നമ്പ്യാരിലൂടെ ഇറങ്ങിവന്നു.

ആട്ടക്കഥാ പ്രസ്ഥാനം

തുള്ളൽ പ്രസ്ഥാനം സാഹിത്യത്തെയും കലയെയും ജനകീയവൽക്കരിച്ച അതേ കാലഘട്ടത്തിൽ തന്നെയാണ് യഥാർഥ ജീവിതത്തിൽ നിന്നും സമൂഹത്തിൽ നിന്നും മുഖം തിരിച്ച് വ്യക്തിഗതമായ ആസ്വാദന മൂല്യത്തിൽ മാത്രം ഉന്നംവച്ചുകൊണ്ടുള്ള ആട്ടക്കഥപ്രസ്ഥാനം കേരളത്തിൽ സജീവമാകുന്നത്. ഫ്യൂഡലിസ്റ്റ് വ്യവസ്ഥിതിക്ക് മാത്രം കരലാളനം ചെയ്യാൻ കഴിയുമായിരുന്ന കഥകളിയെന്ന ദൃശ്യകലയുടെ സാഹിത്യരൂപമാണ് ആട്ടക്കഥ. ക്ഷത്രിയ വിഭാഗമായിരുന്നു പ്രധാനമായും ആട്ടക്കഥാകർത്താക്കൾ.

കാല്പനിക പ്രസ്ഥാനം

19-ാം നൂറ്റാണ്ടിന്റെ അന്ത്യദശകങ്ങളിലും 20-ാം നൂറ്റാണ്ടിന്റെ ആദ്യദശകങ്ങളിലുമായി കേരളീയ

സമൂഹത്തിലും മലയാള കവിതയിലും അടിമുടി ഒരഴിച്ചുപണി നടന്നു. മനുഷ്യജീവിതത്തെക്കുറിച്ചും അവന്റെ കർമവൈഭവത്തെക്കുറിച്ചും വ്യക്തിസ്വാതന്ത്ര്യത്തെക്കുറിച്ചും നൂതനമായ ഒരവബോധം സമൂഹത്തിന്റെ അടിത്തട്ടിൽ നിന്ന് മേലേത്തട്ടുകളിലേക്ക് സംക്രമിതമായി. നിയതമായ ചട്ടവട്ടങ്ങൾക്ക് പ്രാധാന്യം കല്പിക്കുന്ന സാമൂഹ്യജീവിത സംവിധാനവും കാവ്യലോക സംവിധാനവും തകർച്ചക്ക് വിധേയമായി. ജാതിമേധാവിത്വത്തിന്റെ ഉഗ്രശാസനങ്ങളിൽ നിന്ന് വ്യക്തിപ്രഭാവബോധത്തിന്റെ സ്വാതന്ത്ര്യത്തിലേക്ക് കേരളീയ ജനത എത്തിപ്പെട്ടു. നിയോക്ലാസിസിസത്തിന്റെ കൃത്രിമത്വത്തിൽ നിന്ന് കാല്പനികതയുടെ അകൃത്രിമത്വത്തിലേക്ക് മലയാള കവിതയും ആ കാലഘട്ടത്തിൽ ചെന്നെത്തി. കേരളത്തിലെങ്ങും അലയടിച്ചുകൊണ്ടിരുന്ന സാമൂഹ്യപരിവർത്തനങ്ങളുടെ പ്രതിഫലനം മലയാള കവിതയിൽ പരക്കെ നിഴലിച്ചു. അതോടൊപ്പം തന്നെ പരിവർത്തനങ്ങൾക്കുള്ള പ്രചോദനസ്രോതസ്സായി കവിത സ്വയം പരിവർത്തനപ്പെടുകയും ചെയ്തു. കുമാരനാശാൻ, വള്ളത്തോൾ, ഉള്ളൂർ, ചങ്ങമ്പുഴ എന്നിവരിലൂടെ ആധുനിക ഘട്ടത്തിൽ സമൂഹനിഷ്ഠ—സ്വത്വനിഷ്ഠ കവിതയുടെ ഭിന്നമുഖങ്ങൾ മലയാളം അനാവരണം ചെയ്യുന്നു.

മലയാളം കണ്ടിട്ടുള്ള മഹാകവികളിൽ ഉന്നതശീർഷനായ കുമാരനാശാൻ തന്റെ വ്യക്തിജീവിതത്തിന്റെ വലിയൊരുഭാഗം സാമൂഹിക ബാധ്യത നിറവേറ്റുന്നതിനും മൃതിയേക്കാൾ ഭയാനകമായ പാരതന്ത്ര്യത്തിൽ നിന്നും കേരളീയ ജനതയെ മോചിപ്പിക്കുന്നതിനും ശ്രദ്ധചെലുത്തി. ഈശ്വരോൻമുഖമായി വ്യക്തി സഞ്ചയിക്കുന്ന സിദ്ധികൾ പോലും സമൂഹത്തിന്റെ നൻമക്കുവേണ്ടി — വ്യക്ത്യുൻമുഖവും ലോകോൻമുഖവുമായ വിശുദ്ധ സ്നേഹ പ്രകാശനത്തിനുവേണ്ടി വിനിയോഗിക്കണമെന്ന് 'നളിനി'യിലൂടെയും 'കരുണ'യിലൂടെയും ധ്വനിപ്പിച്ചു. മനുഷ്യസ്വാതന്ത്ര്യത്തെ നിഹനിക്കുന്നതിനെതിരെയുള്ള കടുത്ത വിമർശനമായി 'ലീല'. നിർമല സ്നേഹത്തിനു മുന്നിൽ ഭീഷണിയായി മാറുന്ന സമൂഹത്തിലെ കുത്സിത വാസനകൾക്കെതിരെ ഉഗ്രമായ വിമർശനങ്ങൾ എറിയുകയാണ് 'ചിന്താവിഷ്ടയായ സീത'. നിലവിലിരിക്കുന്ന ജാതി വ്യവസ്ഥിതിയുടെ അടിവേര് തന്നെയും പിഴുതെറിയാൻ തക്ക ശക്തമായ പ്രേരണ സമൂഹചേതസ്സിൽ ഉളവാക്കുന്നതിനായി കവിതയെ ശക്തമായ ആയുധമാക്കുന്നു 'ദുരവസ്ഥ'യും 'ചണ്ഡാലഭിക്ഷുകി'യും.

ബ്രിട്ടീഷുകാർ നേരിട്ടു ഭരണം കയ്യാളിയിരുന്ന മലബാർ പ്രദേശത്ത് ദേശീയ പ്രസ്ഥാനവും കോൺഗ്രസും ശക്തി പ്രാപിക്കാൻ തുടങ്ങിയ 1920-കളിൽ ആ പ്രവർത്തനങ്ങളുടെ സന്ദേശങ്ങൾകൊണ്ട് വള്ളത്തോൾ തന്റെ കാവ്യകലയെ പുതിയൊരു വഴിയിലേക്ക് നയിച്ചു. അയിത്തോച്ചാടനം, സർവമതസാഹോദര്യം, ദാരിദ്ര്യനിർമാർജനം, വിദ്യാഭ്യാസ പ്രചരണം ഇവയ്ക്കൊക്കെ വേണ്ടി കവിതയെ അദ്ദേഹം അണിനിരത്തി. താൽക്കാലികമായി ഭാരതത്തിന് വന്നുചേർന്ന അധഃപതത്തിനപ്പുറം ആർഷഭാരതത്തിന്റെ മഹത്തായ സാംസ്കാരിക പാരമ്പര്യത്തിലേക്ക് ശ്രദ്ധ ക്ഷണിച്ച് അതിനെ വാഴ്ത്തിപാടുക വഴി ആത്മബോധവും സ്വരാജ്യാഭിമാനവും ദേശീയബോധവും വളർത്തി. ലോകനൻമയ്ക്കായി സ്നേഹശീലരാകുവാനാണ് 'അച്ഛനും മകളും' എന്ന കാവ്യത്തിലൂടെ ഋഷിവര്യൻമാരോട് വള്ളത്തോൾ ആഹ്വാനം ചെയ്യുന്നത്. പരിമിതികളുണ്ടെങ്കിലും ചിത്രശാല, ഭക്തിദീപിക, കർണഭൂഷണം, പിംഗള തുടങ്ങിയ പ്രമുഖ കൃതികളിലൂടെ സമകാലിക പ്രശ്നങ്ങളെ ഉള്ളൂർ അഗാധമായി ഉൾക്കൊണ്ടു. ആത്മനാശം വന്നാൽപോലും താൻ അടിയുറച്ച് വിശ്വസിക്കുന്ന മൂല്യങ്ങളിൽ വിട്ടുവീഴ്ച ചെയ്യുകയില്ലായെന്ന് പ്രഖ്യാപിക്കുന്ന വ്യക്തിമഹത്വത്തെ 'കർണഭൂഷണ'ത്തിലൂടെ അനാവരണം ചെയ്യുമ്പോൾ മൂല്യപ്രച്യുതി സംഭവിച്ച കാലഘട്ടത്തിന് ഉന്നതമായ മൂല്യബോധം ഉള്ളൂർ പ്രദാനം ചെയ്യുന്നു.

കാല്പനിക പ്രസ്ഥാനത്തിന്റെ ഉച്ചസ്ഥായിയിൽ നിൽക്കുന്ന ചങ്ങമ്പുഴയുടെ കവിതകൾ കവിത്രയത്തിന്റെ കവിതകളിൽ നിന്ന് ഭിന്നമായി സ്വത്വനിഷ്ഠ സാഹിത്യത്തിന്റെ സ്വഭാവ സവിശേഷതകളാണ് പൊതുവെ സംവഹിക്കുന്നത്.

മലയാള കവിതയുടെ ആദ്യ മുതൽ ആധുനിക കാലഘട്ടം വരെയുള്ള ചരിത്രത്തിലൂടെ കടന്നുപോവുമ്പോൾ മാനവികതക്കും മൂല്യവത്തായ ഹൃദയവികാരങ്ങൾക്കും പ്രാധാന്യം നൽകണമെന്ന ഉദ്ബോധനം ഗൗരവമായി കവിതയിലൂടെ സഫലമായിട്ടുണ്ടെന്ന് ഗ്രഹിക്കാൻ കഴിയും. അപമാനവീകരണത്തിലേക്കും അമിതമായ സ്വാർഥപരതയിലേക്കും ജീവിതം ചെന്നെത്തുമ്പോൾ അതിന്റെ അനാശാസ്യതയെക്കുറിച്ചും സംഭവിക്കേണ്ടുന്ന അനിവാര്യമാറ്റങ്ങളെക്കുറിച്ചും തങ്ങളുടെ കാലഘട്ടത്തിന് മാർഗദർശനം നൽകുന്ന കവികളെ മലയാളത്തിലും നാം കണ്ടുമുട്ടുന്നു.

മലയാളകവിതയിലെ രണ്ടു ട്രോജൻ കുതിരകൾ

ഇടശ്ശേരിയും എൻ.വി.കൃഷ്ണവാരിയരുടെയും കവിതകളിലെ പ്രത്യയ ശാസ്ത്ര സാന്നിദ്ധ്യങ്ങളെക്കുറിച്ചും വൈരുദ്ധ്യങ്ങളെക്കുറിച്ചും ബൃഹദ്സന്ദർഭത്തിലുള്ള ഒരു പരിശോധന

കെ.പി. മോഹനൻ*

I. (1) ''കവിതാലോകത്തിലേയ്ക്ക് കടത്തിവിട്ട ട്രോജൻ കുതിരയാണ് വാരിയർ (എൻ.വി.കൃഷ്ണവാരിയർ). ഒരു പ്രത്യേക വിഭാഗത്തിൽപെട്ട കവിതയുടെ സാഹർത്തൃത്വം നൽകി അദ്ദേഹത്തെ മാനിയ്ക്കാം'' — എന്ന ശ്രീ.എം.പി.ശങ്കുണ്ണിനായരുടെ അഭിപ്രായം പ്രസിദ്ധമാണ്. ഈ പ്രസ്താവന ഏറെക്കുറെ എൻ.വിയ്ക്കെന്നുപോലെ ഇടശ്ശേരിയ്ക്കും ബാധകമായ ഒന്നാണ്. രണ്ടുപേരും അന്ന് അത്യന്തികം ജനപ്രിയമായിരുന്ന ചങ്ങമ്പുഴയുടെ അതിലോലമായ കാവ്യഭാഷയോടും കാവ്യപ്രമേയങ്ങളോടും പൊരുതിനിന്ന് സ്വന്തം വ്യക്തിത്വം തെളിയിച്ചവരാണ്. ഇവർ രണ്ടുപേരും തങ്ങൾ ജീവിച്ചിരുന്ന കാലഘട്ടത്തിലെ ഭൗതിക ജീവിതത്തിന്റെ യക്ഷപ്രശ്നങ്ങളെ, സധൈര്യം, കവിതകളിൽ അവതരിപ്പിച്ചു. അന്നത്തെ കവിതാസങ്കല്പങ്ങളുമായി ഒത്തുനോക്കിയാൽ കാവ്യബാഹ്യങ്ങളെന്നു തോന്നാവുന്ന കുറെയധികം വിചിത്രകല്പനകളും ഒരു വിചിത്ര കാവ്യഭാഷയും ഇവർക്കുണ്ടായിരുന്നു. പഠനംകൊണ്ട് വൈയാകരണനായിത്തീരേണ്ടിയിരുന്ന എൻ.വി.ഭാഷയുടെ വ്യാകരണവും ജീവിതത്തിന്റെ വ്യാകരണവും തമ്മിലുള്ള പൊരുത്തക്കേടുകളും ശരിയ്ക്കും തിരിച്ചറിഞ്ഞ് കാവ്യഭാഷയുടെ മേലെ ചില കടന്നാക്രമണങ്ങളുംതന്നെ നടത്തി. ശാസ്ത്രസാങ്കേതിക പദങ്ങളുടെ മലയാളതർജ്ജമകളും ഇംഗ്ലീഷുപദങ്ങളും എല്ലാം ചേർന്ന എൻ.വിയുടെ കാവ്യഭാഷ, കാവ്യഭാഷയെക്കുറിച്ച് അന്നുവരെ നിലനിന്നിരുന്ന സിദ്ധാന്തങ്ങൾക്കുമേൽ കനത്ത ആഘാതം ഏല്പിക്കുന്ന ഒന്നായിരുന്നു. എൻ.വി.പരിഭാഷകളിലേക്കും പരവിജ്ഞാനങ്ങളിലേക്കും നീങ്ങിക്കൊണ്ടാണ് കാവ്യഭാഷയെ പരിഷ്കരിച്ചതെങ്കിൽ ഇടശ്ശേരി താൻ ഒതുങ്ങിക്കൂടിയ പൊന്നാനിയിലെ പ്രാദേശികത്തനിമകളിലേക്ക് തിരിച്ചുപോയ്ക്കൊണ്ടാണ് കാവ്യഭാഷയെ ദൃഢീകരിച്ചത്. കാർഷികവിളകളുടെ കരുത്തും പ്രതിരോധശേഷിയും കുറയുമ്പോൾ അവയെ അവയുടെ കാട്ടുപുല്ലിനങ്ങളോട് ചേർത്ത് കരുത്തുറ്റ വർഗസങ്കരങ്ങൾ ഉല്പാദിപ്പിക്കുന്നതുപോലെ പദഘടനയിലെ (Lexis) തിരഞ്ഞെടുപ്പ് — കൂട്ടിച്ചേർപ്പ് പ്രക്രിയകളിൽ (selection and combination) പ്രാദേശികത (Provincialism), പഴമ (Archaism) എന്നിവ വരുത്തി കാവ്യഭാഷയ്ക്കു കരുത്തും കാന്തിയും പകരാനാണ് ഇടശ്ശേരി ഉദ്യമിച്ചത്, വളരെ വിചിത്രമെന്നു തോന്നിയേക്കാവുന്ന ചില ന്യാസബന്ധവ്യതിയാനങ്ങൾ (collocation shifts) ഈ രണ്ടു കവികളുടെയും രചനകളിൽ കാണാം. തങ്ങൾ സ്വീകരിക്കുന്ന കാവ്യപ്രമേയങ്ങൾക്ക് ചേരത്തക്കരീതിയിൽ ഭാഷയുടെ മേൽ ഈ കവികൾ നടത്തിയ കടന്നാക്രമണങ്ങൾ അവരുടെ ആന്തരിക വ്യക്തിത്വത്തെക്കുറിച്ച് പഠിയ്ക്കാൻ വളരെയേറെ പ്രയോജനപ്പെടും. ഗ്രാമത്തനിമകളിൽ നിന്നും നാട്ടറിവുകളിൽ നിന്നും, പ്രകൃതിയിൽ നിന്നും അകന്നുപോകുന്ന മനുഷ്യൻ ഇപ്പോൾ പഠിക്കുന്ന ''സ്കൂൾ'' അത്ര നല്ല ഒന്നല്ല എന്നുതന്നെ ഇടശ്ശേരി വിശ്വസിച്ചു.

I (2)പ്രമേയങ്ങളുടെ കാര്യത്തിലും കവിതാബാഹ്യമെന്ന് അന്നു കണ്ടുപോന്നിരുന്ന നിരവധി പ്രശ്നങ്ങളെ സധൈര്യം തങ്ങളുടെ കവിതകളിലേയ്ക്കാനയിക്കാൻ ഇടശ്ശേരിയും എൻ.വിയും ശ്രമിച്ചു. പരിസ്ഥിതി പ്രശ്നങ്ങൾ, ആഗോള വിപണിയും സാമ്രാജ്യത്വവും, യന്ത്രവത്കരണവും അസന്തുലിത സമ്പദ്ഘടനയും, ഭൂനിയമ പരിഷ്കാരങ്ങൾ, മുതലാളിത്ത സംവിധാനത്തിൻ കീഴിൽ അപചയപ്പെടുന്ന ജീവിതമൂല്യങ്ങൾ എന്നിവയെല്ലാം ഇവരുടെ കവിതകൾക്ക് പ്രതിപാദ്യവിഷയങ്ങളായിരുന്നു. ഇത്തരം പ്രശ്നങ്ങളെ ഇതേ തീവ്രതയോടെ തന്റെ കവിതകളിലേക്ക് കൂട്ടിക്കൊണ്ടുവന്ന മറ്റൊരാൾ വൈലോപ്പിള്ളിയാണ്. ''കവിതയിലേക്ക് കടത്തിവിട്ട ട്രോജൻകുതിര'' എന്ന പ്രയോഗത്തിൽ അഭിനന്ദനസൂചകമല്ലാത്ത എന്തെങ്കിലുമുണ്ടെങ്കിൽ അതിനു കാരണം ഈ കവികൾ സൃഷ്ടിച്ച അപരിചിത കാവ്യഭാഷയും, അപരിചിത കാവ്യാനുഭവങ്ങളും ആയിരുന്നു.

I (3) ഈ അപരിചിതത്വങ്ങൾ കവിതയിൽ കൊണ്ടുവരാൻ ഈ രണ്ടു കവികളെയും നിർബന്ധിച്ച ചില പ്രശ്നപരിസരങ്ങൾ ഉണ്ടായിരുന്നതും നാം കാണേണ്ടതായിട്ടുണ്ട്. ഇടശ്ശേരി(1906-1974)യെക്കാൾ പത്തുവയസ്സ് ഇളപ്പമുണ്ട് പ്രായത്തിൽ എൻ.വി.കൃഷ്ണവാരിയർക്ക് (1916-1989) എങ്കിലും രണ്ടുപേരും ബോധപൂർവ്വം സാഹിത്യത്തെ സമീപി

* ഗവൺമെൻറ് കോളെജ്മയ്യഴി 673 311

ക്കുന്നത് 1930കളിലാണ്. രണ്ടുപേരുടെയും കാവ്യ വ്യക്തിത്വങ്ങളും രൂപംകൊണ്ട ഈ കാലഘട്ടത്തിന്റെ പ്രത്യേകതകളും എന്തെല്ലാമായിരുന്നു?

(1) 1929-30 കാലഘട്ടങ്ങളിൽ ലോകത്തെയാകെ പിടിച്ചുകുലുക്കിയ സാമ്പത്തിക പ്രതിസന്ധി.

(2) ഫാസിസ്റ്റ് ശക്തികളും ഫാസിസ്റ്റ് ശക്തികൾക്കെതിരെയും സാമ്രാജ്യത്വ ശക്തികൾക്കെതിരെയും ലോകത്തെമ്പാടും നടന്ന പോരാട്ടങ്ങളും അവയിൽ സോഷ്യലിസ്റ്റ് ചേരിയ്ക്കുണ്ടായ വിജയവും.

(3) അന്നുവരെ പ്രമേയങ്ങളും പാസ്സാക്കിയും പരിമിതമായ രീതിയിൽ പ്രതിഷേധിച്ചും കഴിഞ്ഞുപോന്ന ഇന്ത്യൻ നാഷണൽ കോൺഗ്രസ് ഗാന്ധിജിയുടെ നേതൃത്വത്തിൽ, ഇന്ത്യയിലുയർന്നുവന്ന കർഷകസമരങ്ങളെയും തൊഴിലാളി സമരങ്ങളെയും സ്വാതന്ത്ര്യസമരവുമായി ഇണക്കിച്ചേർത്തത്. അതിന്റെ പരിസമാപ്തിയെന്ന നിലയിൽ 1942ലെ ക്വിറ്റിന്ത്യാ സമരം.

(4) ഇംഗ്ലീഷ് വിദ്യാഭ്യാസത്തിന്റെ ഫലമായിട്ടുണ്ടായ ലിബറൽ കാഴ്ചപ്പാടുകളും, ഭാരതീയ സാംസ്കാരിക ചിഹ്നങ്ങളെ പുതിയ കോണുകളിലൂടെ കണ്ട് വ്യാഖ്യാനിക്കുവാനും അവയെ ഫലപ്രദമായി നവോത്ഥാനത്തിൽ പ്രയോജനപ്പെടുത്തുവാനും ഇന്ത്യൻ ബുദ്ധിജീവിവിഭാഗങ്ങളും നടത്തിയ ശ്രമങ്ങളും.

(5) സാഹിത്യ-സാംസ്കാരിക രംഗങ്ങളെ സംബന്ധിച്ചിടത്തോളം ജീവൽസാഹിത്യസംഘടനയുടെയും പുരോഗമനസാഹിത്യസംഘടനയുടെയും ആവിർഭാവം.

I (4) മാർക്സിസത്തിന്റെയും ഗാന്ധിസത്തിന്റെയും സത്തകളും ഈ രണ്ടുപേരുടെയും കവിതകളിൽ ഒരു നിമഗ്ന സ്വാധീനമായി കാണാൻ കഴിയും. ഇവയെക്കുറിച്ച് സൈദ്ധാന്തികമായി ഏറെ പഠിച്ചിരിക്കാവുന്നത് എൻ.വി.യാണെങ്കിലും കവിതയിൽ ഒരു സംസ്കാരമായി ഇവ ലയിച്ചു ചേർന്ന് കാണുന്നത് കൂടുതലും ഇടശ്ശേരിയിലാണ്.

(a) ഗ്രാമം X നഗരം
(b) കൃഷീവലസമൂഹം X കുലീനസമൂഹം (peasantry X gentry)
(c) പഴയ തലമുറ X പുതിയ തലമുറ
(d) ഗ്രാമകേന്ദ്രീകൃത ഉല്പാദന വിതരണം X യന്ത്രവത്കരണം
(e) പരിസ്ഥിതി X വികസനം
(f) ഹിംസ X അഹിംസ
(g) ഗാന്ധി X മാർക്സ്

എന്നിങ്ങനെ നിരവധി ദ്വന്ദ്വങ്ങളും തമ്മിൽ നിലനിൽക്കുന്ന വൈരുദ്ധ്യങ്ങളെക്കുറിച്ച് ഈ രണ്ടു കവികളും ചിന്തിച്ച രീതികളും അവരുടെ വ്യക്തിസത്തയെ അനാവരണം ചെയ്യുന്നതിൽ ഒരു മുഖ്യപങ്കു വഹിക്കുന്നുണ്ട്.

I (5) ജ്ഞാനശാസ്ത്രത്തോട് ഈ രണ്ടു കവികളും പുലർത്തിയ സമീപനരീതികളിലെ അന്തരം, ആർജിതാനുഭവങ്ങളെ വിലയിരുത്തുന്നതിലും ഒരു വലിയ അന്തരം സൃഷ്ടിച്ചിട്ടുണ്ട്. ചെറുപ്പത്തിൽ ദാരിദ്ര്യം രണ്ടുപേരുടെയും കൂട്ടുകാരനായിരുന്നു. വിശക്കുന്നവന്റെ സഹജപ്രതികരണം ഹിംസ ആയിരിക്കുമെന്ന് ഇടശ്ശേരി തിരിച്ചറിഞ്ഞു. ജനകീയ സമരങ്ങളിൽ പുരോഗമന സ്വഭാവമുള്ളവയെ തിരിച്ചറിഞ്ഞു സഹായിക്കാൻ ഇക്കാരണത്താൽ ഇടശ്ശേരിക്കു കഴിഞ്ഞു. എൻ.വിയ്ക്ക് ഇക്കാര്യത്തിൽ പരിമിതികളും ഉണ്ടായിട്ടുണ്ട്. ''ബുദ്ധനും ഞാനും നരിയും'' (ഇടശ്ശേരി) ''കടൽക്കാക്കയെ ആരറിയുന്നു'' (എൻ.വി.) എന്നീ കവിതകളെ മുൻനിർത്തി ഇക്കാര്യം വിശദീകരിക്കാൻ കഴിയും.

I (6) സമൂഹം സൃഷ്ടിക്കുന്ന ഭാഷണസ്വഭാവങ്ങളുടെ മേലാണ് ഒരു കവി തന്റെ കാവ്യസംസ്കാരങ്ങളും പടുത്തുയർത്തുന്നത്. ഒരു സവിശേഷകാലഘട്ടത്തിലെ സാംസ്കാരിക ഘടനകളുടെ കേന്ദ്രത്തിൽ നിന്നുകൊണ്ട് പ്രവർത്തിക്കുന്ന ഒരു ഭാഷാവ്യവഹാരമാണ് (discourse), കവിതയടക്കം എല്ലാ സാഹിത്യരൂപങ്ങളും പക്ഷെ സാഹിത്യശാഖകളിൽത്തന്നെ ''താൻ കുറച്ച് കൂടുതൽ ഓമനിയ്ക്കപ്പെടണം'' എന്ന നിർബന്ധം കവിതയ്ക്കുണ്ട്. ഇത് ഒരു സാഹിത്യജനുസിന്റെ (literary genre) സവിശേഷമായ നിർബന്ധമാണ് (Genre compulsion). തങ്ങളുടെ കവിതകളെ ആകാവുന്നിടത്തോളം ജനകീയ പ്രശ്നങ്ങളോട് അടുപ്പിക്കാൻ ശ്രമിച്ചപ്പോഴും പല രീതിയിൽ ഇവരുടെ കവിതകളും അകലം പാലിക്കുന്നത് സാഹിത്യജനുസ്സിന്റെതായ ഈ പിടിവാശി മൂലമാണ്.

I (7) എൻ.വിയും ഇടശ്ശേരിയും കാവ്യഭാഷയിലും കാവ്യപ്രമേയങ്ങളിലും വരുത്തിയ വിപ്ലവകരമായ മാറ്റങ്ങളും കടമ്മനിട്ട, കക്കാട്, കെ.ജി.ശങ്കരപ്പിള്ള, സച്ചിദാനന്ദൻ തുടങ്ങിയ പിൽക്കാല കവികളെ ഒരളവിൽ സ്വാധീനിച്ചിട്ടുണ്ട്.

മലയാളകഥ - എം. ടി. ക്കുശേഷം

ഇ.പി. രാജഗോപാലൻ*

ഈ പ്രബന്ധം, മുഖ്യമായും, മലയാള കഥയുടെ രണ്ടുഘട്ടങ്ങളെക്കുറിച്ചാണ്: ആധുനിക ഘട്ടവും അതിന് ശേഷമുള്ളതും. ഈ രണ്ടു ഘട്ടങ്ങളുടേയും പഠനം ഒരുപോലെ വ്യക്തമാക്കുന്ന ഒരു കാര്യമുണ്ട് - തൊട്ടുമുമ്പുള്ള ഘട്ടത്തിൽ പ്രാന്തപ്രദേശത്ത് നിന്നിരുന്ന (Peripheral) കാര്യങ്ങൾ പിന്നീട് കഥയുടെ കേന്ദ്രത്തിലേക്ക് വരുന്നു. എം.ടി.യുടേയും ടി. പത്മനാഭന്റേയും കഥകളിൽ ഏകാന്തത ഒരു മൂർത്ത പ്രശ്നമാണ്. മനുഷ്യബന്ധങ്ങൾ അതാര്യമാവുന്നത് ഈ കഥകളിൽ നാം വായിച്ചറിഞ്ഞു. ഈ പ്രശ്നത്തെ ഏറെ അനുതാപത്തോടെയാണ് എം.ടി.യും മറ്റും കണ്ടത്. പ്രതീക്ഷയറ്റ ജീവിതത്തെയല്ല അവർ വരച്ചു കാണിച്ചത്. വ്യക്തിത്വത്തിന് പൂർണ്ണതയുണ്ടാവുന്നത് സമൂഹത്തിലാണ് എന്ന ധാരണക്ക് വന്ന തകർച്ചയാണ് കഥയിലെ ഏകാന്തതയുടെ സാമൂഹ്യശാസ്ത്രം. ഇതിന് എം.ടി. തലമുറ കാല്പനികമായ ഒരു പരിചരണമാണ് നൽകിയത്. ജീവിതം ദുസ്സഹവും നിരർഥകവുമാണ് എന്ന് ഇവരുടെ കഥകൾ തീരുമാനിക്കുന്നില്ല; അതിന്റെ നേരിയ സൂചനകൾ ഉണ്ടെന്നുമാത്രം. അത് പറഞ്ഞത് പിൻതലമുറയാണ്. മുൻതലമുറയിൽ കേന്ദ്രസ്ഥിതമല്ലാത്ത ഒരു ആശയത്തിൽ അവർ ഊന്നിനിന്നു എന്നർഥം.

ആധുനിക ജീവിതത്തിന്റെ ഭീഷണമായ സമസ്യകൾ തന്നെയാണ് ആധുനിക കഥകളുടെ പിറവിക്കു പിന്നിൽ. ''എന്റെ പേരെന്താ...? ഞാനാരാ...?'' എന്നു ചോദിക്കുന്ന മനുഷ്യൻ ആധുനികകഥയിലെ കേന്ദ്രവ്യക്തിത്വമാകുന്നു. ചുറ്റുപാടിനെ തിരിച്ചറിയുന്നതിൽ പരാജയപ്പെടുന്നവനാണ് ഈ നായകൻ. സ്വയം നിർവ്വചിക്കാനാവാത്ത ഇയാൾക്ക് ചരിത്രത്തെ നിർവ്വചിക്കാനാവുന്നില്ല. അതുകൊണ്ടൊന്നും ഒരുനാൾ മരണത്തിന്റെ ഒടുങ്ങിപ്പോകുന്ന നിസ്സഹായ ജന്മത്തിന്റെ ചിത്രമാണിത്. അന്യത്വത്തിന്റെ പീഡനമനുഭവിക്കുന്ന മനുഷ്യനാണിത്. ഇതിന്റെ പൂർണമായി വരുന്ന നായക സങ്കല്പവും ഉണ്ട്. അവിടെ ആരും നായകനെ (നായികയെ) തിരിച്ചറിയുന്നില്ല. സമൂഹത്തെ തിരിച്ചറിയാത്ത, സമൂഹം തിരിച്ചറിയാത്ത ഭ്രഷ്ടരുടെ വിധിയാണ്, അതുകൊണ്ട്, ആധുനിക കഥകളിലെ മുഖ്യ സാന്നിദ്ധ്യം. ഇവർക്ക് ലോകം ഒരടഞ്ഞ വ്യവസ്ഥയാണ്.

ഇരുൾ നിറഞ്ഞ ഈ ലോകം കഥയിൽ കടന്നുവന്നതെങ്ങനെയാണ്? പാശ്ചാത്യ ചിന്തകളുടെ സ്വാധീനമെന്നു മാത്രം ഉത്തരമായി പറഞ്ഞാൽ പോരാ. സാർത്രിയൻ അസ്തിത്വവാദത്തെ ദുർബ്ബലമായിട്ടെങ്കിലും പിൻപറ്റാൻ പ്രേരിപ്പിക്കുന്ന ഒരു രാഷ്ട്രീയസാഹചര്യം ഉണ്ടായിരുന്നു. സ്വാതന്ത്ര്യലബ്ധിക്കു ശേഷം നഷ്ടമായിക്കൊണ്ടിരുന്ന സംഘസത്ത, കൂടിയ ഭൗതിക മോഹങ്ങൾ, അപമാനവീകരണത്തിൽ കലാശിക്കുന്ന വികസന രീതികൾ, യന്ത്രവത്ക്കരണം, നഗരവത്ക്കരണം... ഇതിനോട് രണ്ടു രീതിയിൽ പ്രതികരിക്കാം - രണമൂല്യത്തോടെയും അല്ലാതേയും. രണമൂല്യത്തെ ചോർത്തിക്കൊണ്ടുള്ള പ്രതികരണമാണ് ആധുനിക കഥകളുടേത്. കൂട്ടായ്മയുടെ കരുത്ത് ഇല്ലാതായ, സമരങ്ങളുടെ അനിവാര്യത ബോധ്യപ്പെടാത്ത ഒരു മനുഷ്യസങ്കല്പത്തിന്റെ അവതരണമാണ്, മൊത്തത്തിൽ, ആ കഥകൾ. ''വ്യക്തിയുടെ അന്യതാബോധത്തെച്ചൊല്ലിയുള്ള ഉത്കണ്ഠ, യുക്തിരാഹിത്യത്തിന്റെ അതിരോളം എത്തിനില്ക്കുന്ന ചില മാനസികാവസ്ഥകളുടെ നേർക്കുള്ള ആഭിമുഖ്യം, കാലം മനുഷ്യാസ്തിത്വത്തിൽ വരുത്തുന്ന വികൃത പരിണാമത്തെക്കുറിച്ചും മരണത്തിന്റെ ഞെരുക്കുന്ന അനിവാര്യതയെക്കുറിച്ചുമുള്ള ചില സാമാന്യാശയങ്ങൾ'' - ആധുനികകഥകളുടെ പ്രമേയങ്ങളുടെ (ആധുനിക പക്ഷത്തു നിന്നുള്ള) നല്ലൊരു സംഗ്രഹമാണിത്. ജീവിതത്തിന്റെ അർഥശൂന്യതയാണ്, സംത്രാസവും ഉദ്വിഗ്നത്യും നിറഞ്ഞതെന്ന് വിശേഷിപ്പിക്കപ്പെട്ട രചനകളിലൂടെ, വെളിവായത്, ഏത് അനുഭവവും ദർശനത്തിന്റെ നാണയമായി മാറ്റിയെടുക്കപ്പെട്ടു. ദാർശനികവും സർവ്വലൗകികവുമായ ആവരണം ഏതൊരു അനുഭവത്തിനും ലഭ്യമായി. അനുഭവങ്ങളുടെ ധ്വനികൾ ലഘൂകരിക്കപ്പെടുകയായിരുന്നു. സ്ത്രീ ആഹാരബിംബത്തോട് സമീകരിക്കപ്പെട്ടു. വായനാ സമൂഹത്തിൽ ഒരു പക്ഷത്തിന് ഇത് സ്വീകാര്യമാവാതെ വന്നു. ''കല എനിക്കു വേണ്ടി'' എന്ന ദർശനം കൊണ്ടാണ് കലാകാരന്മാർ ഇതിനെ നേരിട്ടത്.

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ആധുനിക കഥകളുടെ ആവിഷ്ക്കരണ രീതികളുടെ പഠനത്തിൽ കേന്ദ്രസ്ഥാനം കിട്ടുന്നത് അവയിലെ ആഘാതമൂല്യ (Shock value) ത്തിനാണ്. ജീവിതമൂല്യങ്ങളെ നിഷേധിക്കുവാനുള്ള തിടുക്കത്തിൽ ആഘാതമേൽപ്പിക്കുന്ന മുഹൂർത്തങ്ങളിലേക്ക് കഥ പെട്ടെന്ന് കയറിച്ചെന്നു. കലയിലെ യാഥാർഥ്യത്തെക്കുറിച്ചുള്ള ഉപരിപ്ലവധാരണകൾ തിരുത്തി എന്നത് ആധുനികതയുടെ ഗുണപരമായ ഒരു സംഭാവനയാണ്. എന്തും സാധുമാണ് എന്ന ബോധം കലയിലെ സ്വാതന്ത്ര്യത്തിന് പുതിയ മാനം നൽകി. കറുത്ത ഹാസ്യത്തിന്റേയും അസംബന്ധ ദർശനത്തിന്റേയും ഭ്രമാത്മകതയുടേയും പ്രാകൃതികതത്തിന്റേയും ഗംഭീരമാതൃകകൾ ആധുനികകഥകൾ പണിതിട്ടുണ്ട്. ചിത്രകലയാണ് ഈ ശില്പനിർമ്മിതിയിൽ ഏറെ സ്വാധീനം ചെലുത്തിയത്. എക്സ്പ്രഷനിസവും സറീയലിസവും ക്യൂബിസവും താന്ത്രികതയും കഥയിലെ സജീവതയായി. യൂജിൻ ലൺ, മാർക്സിസം ആൻറ് മോഡേണിസം (1985) എന്ന പ്രബന്ധത്തിൽ ആധുനികതയിൽ നാല് മോട്ടീഫുകൾ ഉണ്ടെന്നു പറയുന്നു: സൗന്ദര്യശാസ്ത്രപരമായ ആത്മപ്രതിഫലനമാണ് ഒന്നാമത്തേത്. മാധ്യമത്തെ സൃഷ്ടിയിലേക്കുതന്നെ പിടിച്ചെടുക്കാനുള്ള ശ്രമം. അതായത് പുറം യാഥാർഥ്യത്തിന്റെ വസ്തുനിഷ്ഠമായ പ്രതിഫലനത്തിൽ നിന്നകന്ന് കലാവിഷ്ക്കാരത്തിന്റേയും നിർമ്മാണത്തിന്റേയും യാഥാർഥ്യത്തിന് ഊന്നൽ നൽകൽ. ബ്രെഹ്റ്റിന്റെ എപ്പിക്ക് നാടകങ്ങളും പിക്കാസ്സോയുടെ ക്യൂബിസവും ഇതിന്റെ നല്ലയുദാഹരണങ്ങൾ. മൊണ്ടാഷ് ആണ് രണ്ടാമത്തേത് - നേർക്കുനേരെയുള്ള ആഖ്യാനത്തെ ദുർബലമാക്കലും വൃത്യസ്തപരിപ്രേക്ഷ്യങ്ങളെ ഒരേകാലത്ത് സന്നിവേശിപ്പിക്കലുമാണിത്. മൂന്നാമത്തേത് വിരോധാഭാസവും സന്നിഗ്ധതയും അനിശ്ചിതത്വവുമാണ്. കാഫ്ക്കയുടേത് പോലെ ദുരൂഹമായ അനുഭവം നൽകുക എന്നതാണിത്. അവസാനത്തേത് ഉദ്ഗ്രഥിത വ്യക്തിത്വത്തിന്റെ മരണമാണ്. അതായത് മനോസംഘർഷങ്ങളാൽ കീറിപ്പറിഞ്ഞ വ്യക്തിത്വങ്ങളെ അവതരിപ്പിക്കുക. ഈ നിരീക്ഷണങ്ങൾ മലയാളത്തിലെ ആധുനികകഥയുടെ സന്ദർഭത്തിലും പ്രസക്തമാണ്.

ഈ കാലഘട്ടത്തിൽ തന്നെ നിന്നുകൊണ്ട് വ്യത്യസ്തമായ ആശയതലങ്ങൾ സ്വീകരിച്ച കഥാകാരന്മാരുമുണ്ട്. വി.കെ. എൻ., എം. സുകുമാരൻ, വത്സല, വൈശാഖൻ, സി.വി. ശ്രീരാമൻ എന്നിവർ ഇവരിൽപ്പെടുന്നു. വി.കെ.എൻ. ആൻറി - ഫിക്ഷന്റെ ആളാണ്. അദ്ദേഹം ഭാഷയെ മറിച്ചിടുകയും നിശിതമായ ഹാസ്യം കൊണ്ട് കാലവിചാരണ നടത്തുകയും ചെയ്തു. നിത്യവ്യവഹാരങ്ങളിലെ മൊഴിവഴക്കങ്ങളെ പൊളിച്ചെഴുതിയും, കാലങ്ങളെ കൂട്ടിക്കെട്ടിയും, ക്ലിപ്തമായ അർഥബോധമില്ലാതേയും വാക്കുകൾ എടുത്തുപയോഗിച്ചും, വിവിധ ജ്ഞാനമേഖലകളുടെ സൂചനകൾ വിതറിയും കഥാപാത്രത്തെ പുതുക്കുന്നു ഈ കഥാകാരൻ. വത്സല സാമൂഹ്യബോധത്തിന്റെ ഭാഗമായി സ്ത്രീയുടെ പീഡിതലോകത്തെക്കുറിച്ചെഴുതുന്നു. സ്ത്രീകൾക്കു മാത്രമെഴുതാൻ പറ്റുന്ന കഥകളല്ല വത്സലയുടേത്. സ്ത്രീമുക്തിയെ പൊതുമുക്തിയുടെ ഭാഗമായേ ഈ കഥാകാരി കാണുന്നുള്ളു. ദാമ്പത്യം, തൊഴിൽ, മാതൃത്വം: ഈ സ്ഥാപനങ്ങളിലെല്ലാം സ്ത്രീയനുഭവിക്കുന്നതെന്ത്, അതിന്റെ വർഗ്ഗസ്വഭാവമെന്ത് - ഇതാണ് വത്സലയുടെ അന്വേഷണം. റിയലിസത്തിന്റെ പഴക്കങ്ങളെ അപൂർവമായി മാത്രം മറികടക്കാറുണ്ട് വത്സലക്കഥകൾ. ആധുനികർ വളർത്തിയെടുത്ത ആവിഷ്ക്കാര രൂപങ്ങളെയെല്ലാം പിന്തുണക്കുകയും അതിന്റെ ചരിത്രദർശനത്തെ നിഷേധിക്കുകയും ചെയ്തു, എം. സുകുമാരൻ. അദ്ദേഹം മനുഷ്യസ്ഥിതിവത്തിന്റെ സാമൂഹ്യമാനങ്ങളെ അറിയുകയും പീഡനത്തിന്റെ ചരിത്രകാരണങ്ങളെ കലാത്മകമായി അപഗ്രഥിക്കുകയും സമരത്തിന്റെ രാഷ്ട്രീയത്തെ കൈവിടാതിരിക്കുകയും ചെയ്തു. ഇടത്തരക്കാരന്റെ ദൈന്യവും സ്നേഹാവിഷ്ക്കാരത്തിന് നേരിടേണ്ടി വരുന്ന പ്രയാസങ്ങളും മൃദുലമായ ഭാഷയിൽ കുറിച്ചിടുകയാണ് വൈശാഖൻ. ഭക്തിയുടേയും രതിയുടേയും ദ്വന്ദഭൂമികയിൽ നിന്നുകൊണ്ട് അധികാരത്തിന്റെയും അവകാശത്തിന്റേയും സമസ്യകളെ അറിയുന്നു, സി.വി. ശ്രീരാമൻ. ഭൂതകാലത്തെ സമകാലവിമർശനത്തിനായി ഇത്ര ലാവണ്യാത്മകതയോടെ ഉപയോഗിക്കുന്ന മറ്റൊരു കഥാകാരൻ മലയാളത്തിലില്ല.

- രണ്ട് -

ആധുനികതയുടെ ദർശനത്തിന്റെ ജീർണിപ്പ് വളരെപ്പെട്ടെന്ന് വ്യക്തമായ ഒന്നാണ്. ഭാഷയുടെ പുതുമയും കാര്യവാഹകശേഷിയും ഒപ്പം ചോർന്നു. കഥ അനിവാര്യമായും പുതിയ ഇടങ്ങളിലേക്ക് വളർന്നു. അത് ആധുനികതയുടെ ചരിത്രദർശനത്തെ തിരുത്തി. സാമ്പ്രദായികമായി മാറിയ രൂപങ്ങളിൽ നിന്ന് വിടുതി നേടി. അതേ സമയം ആധുനികതയുടെ പാരമ്പര്യവിരുദ്ധമായ പരീക്ഷണങ്ങളെ കുറേക്കൂടി മുന്നോട്ടെത്തിച്ചു. പൂർണ്ണമായും പാശ്ചാത്യമായ അർഥത്തിൽ അല്ലെങ്കിലും, മാറിയ ഈ കഥാവസ്ഥയെ നമുക്ക് ആധുനികോത്തരത എന്നു വിളിക്കാവുന്നതാണ്.

ലോസ് ആഞ്ചെലീസ് ഒരു ആധുനികോത്തര നഗരമാണെന്ന് റെയ്നർ ബാനം 'ലോസ് ആഞ്ചെലീസ്' (1971) എന്ന പ്രബന്ധത്തിൽ പറയുന്നു. ഈ അമേരിക്കൻ നഗരത്തിന് ഒരു കേന്ദ്രമില്ല. പണ്ടേ ചിന്നിച്ചിതറാൻ തുടങ്ങിയ ഒരു നഗരമാണിത്. ആസൂത്രിതമല്ലാത്ത ഒരു മഹാസ്ഥലി (Unplanned megaspace) ആണീ നഗരം. ഒരൊറ്റ തത്ത്വത്തിലേക്ക് ഈ നഗരത്തെ ചുരുക്കിപ്പറയാനുമാവില്ല. ആധുനി

കോത്തരകഥകളെക്കുറിച്ച് പഠിക്കാൻ സഹായകമാണ് ഈ വാസ്തുവിദ്യാസങ്കല്പനം. ഈ കഥകൾക്ക് ഒരു കേന്ദ്രമില്ല, അതായത് പൊതു സ്വഭാവമില്ല. ഇന്ന് കഥകളേയുള്ളൂ. മാതൃകാകഥയില്ല. നാനാത്വമാണ് ഇന്നത്തെ കഥയുടെ വാക്ക്. അനുഭവങ്ങൾക്കെല്ലാം നടുനായകമായി ഒന്നിനെ സങ്കല്പിക്കാൻ അനുവദിക്കാത്ത സാമൂഹ്യമനോഭാവമാണ് നാനാത്വത്തിന്റെ പിറവിക്ക് പിന്നിൽ. അനുഭവങ്ങളെ അനുഭവങ്ങളായിത്തന്നെ കൈക്കൊള്ളുകയും ദാർശനികമായ അർഥാന്തരന്യാസങ്ങളായി അവയെ പരിചരിക്കാതിരിക്കുകയുമാണ് ആധുനികോത്തരകഥ ചെയ്യുന്നത്. ആധുനികർ വിളുമ്പിലേക്ക് മാറ്റി നിർത്തിയ ജീവിതമേഖലകളും സമസ്യകളും പുതിയ കഥകളിലേക്ക് കടന്നു വരുന്നു; ആധുനികർ പരിഗണിച്ച പ്രമേയതലങ്ങൾ തന്നെ വ്യത്യസ്തമായ ഊന്നലുകളോടെ അവതരിപ്പിക്കുകയും ചെയ്യുന്നു. തിരിച്ചറിയാൻ പ്രയാസകരമെങ്കിലും, വിധ്വംസകമായി മാറിക്കൊണ്ടിരിക്കുന്ന ഉപഭോഗസംസ്കൃതിയുടെ ആയിരം മുഖങ്ങളെ പുതിയ കഥകൾ വിശകലനം ചെയ്യുന്നു. അധികാര പ്രയോഗങ്ങളുടേയും സാംസ്കാരിക മർദ്ദനത്തിന്റേയും അനുഭവങ്ങളും അവയിലുണ്ട്. പ്രച്ഛന്ന വേഷങ്ങളുടെ അനന്തമായ നിരയായി മാറുന്ന ജീവിതവും, ഒരുത്തനെ മറ്റൊരുവന് പൂർണ്ണമായും അറിയാമെന്ന അറിവും, 'വേഗത' നേടുന്ന അശ്ലീലമായ പ്രാധാന്യവും പുതുകഥകൾ തിരിച്ചറിയുന്നു. രാഷ്ട്രീയ പ്രയോഗങ്ങളുടെ ഫലപ്രാപ്തിയിലുള്ള ഗുണപരമായ സന്ദേശങ്ങളാണ് ചില കഥകൾ. കഥയെഴുത്തുതന്നെ കഥയാവുന്നതിന്റെ ഉദാഹരണങ്ങളും ഉണ്ട്.

ഉള്ളടക്കം, രൂപം എന്നീ സാമ്പ്രദായികാംശങ്ങൾക്കപ്പുറം, കഥാകൃത്തുക്കൾക്ക് പാഠം നിലനില്ക്കുന്ന രീതികളെക്കുറിച്ചുകൂടി വേവലാതിപ്പെടേണ്ടി വന്നിരിക്കുന്നു. മാധ്യമപരമായ വെളിപ്പെടുത്തലുകൾ കഥയിൽ കടന്നുവരുന്നത് ഇതിന്റെ ഭാഗമായാണ്. കഥാനിർമ്മാണത്തിന്റെ ആന്തരരഹസ്യങ്ങൾ വെളിപ്പെടുത്തുന്ന, കഥയോടൊപ്പം നിരൂപണത്തെ ചേർത്തെഴുതുന്ന കഥകളും പുതുകാലത്തിന്റേതാണ്. സൃഷ്ടിയുടെ നിഗൂഢത, ഇച്ഛാപൂർവ്വകമല്ലാത്ത എഴുത്ത് (Automatic writing) തുടങ്ങി ആധുനികർക്ക് പ്രത്യേകാനുരാഗമുണ്ടായിരുന്ന രചനാ സങ്കല്പങ്ങൾ തള്ളിപ്പോയിരിക്കുന്നു.

ഇന്നത്തെ കഥകൾ വായനക്കാരനെ ഏറെ ആദരിക്കുന്നു. ശില്പത്തിലെ ദുരൂഹത കുറച്ചുകൊണ്ടും വായനക്കാരനെ നേരിട്ടഭിസംബോധന ചെയ്തുകൊണ്ടുമാണ് ഇത് പ്രകടമാവുന്നത്. ജനപ്രിയതയുടെ അരികിലേക്ക് പോലും ചിലപ്പോൾ ഇതെത്തുന്നു എന്നതും അവഗണിക്കേണ്ടതില്ല.

മൗലികത ഒരാശയമെന്നനിലയിൽ തകർന്നതും പുതിയ കഥകളുടെ പശ്ചാത്തലത്തിലുണ്ട്. ഒരു കൃതിയിൽ മറ്റു കൃതികളുടെ, ഒരു രൂപത്തിൽ മറ്റു രൂപങ്ങളുടെ സാന്നിധ്യം വായനക്കാരൻ അറിയുന്നുണ്ട്. ജൂലിയക്രിസ്റ്റേവ പാഠാന്തരത്വം (Intertextuality) എന്നു വിളിക്കുന്നത് ഇതിനെയാണ്. ബാർത്ത് പറയുന്നു: ഓരോ പാഠവും ഉദ്ധരണികളുടെ സങ്കലനമാണ്. കാൽവിനോ പറയുന്നു: സാഹിത്യം കൂട്ടിയണക്കലിന്റെ കളിയാണ്. പറയാനുള്ള കഥകളൊക്കെ പറയപ്പെട്ടിരിക്കുന്നു. പുതിയ സങ്കലന വ്യവകലന പ്രക്രിയകളിലൂടെ കഥാപാരമ്പര്യത്തെ പുനരാനയിക്കുകമാത്രമാണ് ചെയ്യാനുള്ളത്. ഈ പ്രക്രിയകൾ പുതിയ ഊന്നലുകളായി മാറുന്നു; അങ്ങനെ കഥതന്നെ പുതിയതാവുന്നു. മാറ്റിയെഴുത്ത് (Rewriting) കഥാമാർഗ്ഗമാവുന്നതിന്റെ കാര്യമിതാണ്. പ്രശസ്തകഥകളുടെ പാരഡികൾ എഴുതിക്കൊണ്ട് സക്കറിയയും മറ്റും ഈ ആശയത്തെ ഏറെ മുന്നോട്ടെത്തിച്ചിരിക്കുന്നു. പ്രശസ്ത കൃതികളുടെ തുടർച്ചയായും കൃതികൾ വരുന്നുണ്ട്. തുടരെഴുത്ത് (Extrapolation) എന്നുവേണം ഇതിനെ വിളിക്കാൻ.

വിവിധ കഥാരൂപങ്ങളുടെ സാന്നിദ്ധ്യം ഇന്ന് കഥയിൽ ഒരേസമയത്ത് വായിക്കാം. കഥയുടെ പാരമ്പര്യങ്ങളൊക്കെ ഇന്ന് സജീവമാണ്. കാല്പനികതയുടേയും സാമൂഹ്യയാഥാർഥ്യത്തിന്റേയും മാതൃക പിന്തുടരുന്ന കഥകൾ ഇന്നുണ്ടാവുന്നുണ്ട്. ജനപ്രിയരീതിയെ അട്ടിമറിക്കാനായി ആ രീതി തന്നെ പിന്തുടരുന്ന കഥകളും ഉണ്ട്. പത്രഭാഷയും പാഠപുസ്തക ഭാഷയും കഥയിൽ കടന്നുവരുന്നു. ഇങ്ങനെ കഥ മെറ്റാഫിക്ഷന്റെ തലം പ്രാപിക്കുന്നു. കറുത്ത ഹാസ്യം, ഭ്രമാത്മകത, ദൂരവത്ക്കരണം എന്നീ ആധുനിക രൂപങ്ങളുടെ സാമൂഹ്യപ്രയോഗങ്ങളും ഇന്ന് കഥയിലുണ്ട്.

ജീവിതത്തിന്റെ ചീന്തല്ല കഥ എന്ന ബോധം പുതിയ കഥകളിലും പ്രബലമാണ്. ഇതുമായി ബന്ധപ്പെട്ടതാണ് കഥയും യാഥാർഥ്യവും തമ്മിലുള്ള ബന്ധത്തിന്റെ സ്വഭാവം. മുൻതലമുറകളിൽ നിന്ന് വ്യത്യസ്തമായി ഇന്നത്തെ കഥകൾ യാഥാർത്ഥ്യത്തെ നോക്കിക്കാണുക മാത്രമാണ്. അതിനെ അനുഭവിപ്പിക്കാനോ ദർശനവത്ക്കരിക്കാനോ കഥകൾ പൊതുവേ വിമുഖതകാട്ടുന്നു. ഇതുമായി ബന്ധപ്പെട്ടുവരുന്നതാണ് കഥയിലെ ദൂരവത്ക്കരണം. കഥാകാരന്മാർ ദിവ്യമഹത്വം നിറഞ്ഞ മനുഷ്യർ എന്ന തങ്ങളുടെ റോൾ പുനഃപരിശോധിക്കാൻ തയ്യാറാവുന്നതിന്റെ തെളിവാണിത്.

പാഠം കഥയുടെ ഒരു പ്രധാന ഉത്കണ്ഠയാവുന്നു എന്നു പറഞ്ഞു. ഇതുമായി കണ്ണിചേരുന്നതാണ് പാഠസംഘർഷം തന്നെ വിഷയമായി വരുന്ന കഥകൾ. ഒരു യാഥാർഥ്യത്തെപ്പറ്റിത്തന്നെ വിവിധ പാഠങ്ങൾ വരുന്നു. ഏതാണ് നേര് എന്നറിയാതെ വിഷമിക്കുന്ന ആഖ്യാതാവാണ് ഈ കഥകളുടെ കേന്ദ്രസ്ഥാനത്ത്. ''ഏത് അർഥപ്രതീതിയിലാണ് ഞാൻ വിശ്രമിക്കുക?'' എന്നതാണ് ഇവിടത്തെ ചോദ്യം. യാഥാർഥ്യം അസാധ്യമാണ് എന്നും ആപേക്ഷികയാഥാർഥ്യം മാത്രമേയുള്ളൂ എന്നുമു

ള്ള ബോധമാണിതിന്റെ പിന്നിൽ. ഒന്നിനും സ്ഥിര പാഠമില്ല എന്നും വ്യത്യസ്തവേളകളിൽ ഒരാൾ തന്നെ വ്യത്യസ്തപാഠങ്ങൾ ഉണ്ടാക്കിയേക്കാം എന്നും ആണ് ഈ കഥകളിലെ നിലപാട്. ദേഹപാഠങ്ങളിൽ സദാ ശ്രദ്ധിച്ചുകൊണ്ടിരിക്കുന്ന ബഹുജനമാധ്യമ വ്യവസ്ഥയുടെ വിമർശനമായും, ഭാഷയുടെ അടിത്തറ തകിടം മറിയുകയാണെന്നും സുസ്ഥിരവും സമൂർത്തവുമായ അർഥഘടന നശിക്കുകയാണെന്നും ഭാഷ പരസ്പരമേറ്റുമുട്ടുന്ന അനിശ്ചിതത്വങ്ങളുടെ ലീലയാണെന്നും ഉറപ്പിക്കുന്ന ഘടനാവാദാനന്തര ചിന്തയോടുള്ള അനുഭവമായും കഥയിലെ പാഠസംഘർഷത്തെ കാണാവുന്നതാണ്.

പാഠത്തിനുള്ളിൽ ഒരു നാട്യഗൃഹം പണിയുന്ന കഥകളും ഉണ്ടായിത്തുടങ്ങിയിട്ടുണ്ട്. മുഹൂർത്തങ്ങളെയും സാധ്യതകളേയും അഭിനയിച്ചു കാട്ടുന്ന (Acting out) കഥാപാത്രങ്ങളാണ് ഇവിടെയുള്ളത്. യാഥാർഥ്യത്തെ, അത് കേട്ടറിയുന്നയാൾ ഒരു പാഠമായി മാറ്റുന്നതെങ്ങനെ എന്നതിന്റെ ഒരു മാതൃകയാണ് ഈ നടനം. വിമർശകൻ പാഠത്തിലെ ഒരു സൂചനയെ പ്രമേയത്തോടിണങ്ങും വിധം വികസിപ്പിച്ചെടുക്കുന്നതിന് തുല്യവുമാണിത്.

ആധുനികർക്ക് സ്ത്രീ ആസ്വാദ്യമായ ഒരു രതിബിംബം മാത്രമായിരുന്നു എന്നു മുന്നേ പറഞ്ഞു. ആധുനികോത്തരകഥകൾ സ്ത്രീയെ വ്യക്തിയായി തിരിച്ചറിയുന്നു. അവ സ്ത്രീപാദത്തിന്റെ രാഷ്ട്രീയധ്വനികളേയും ഭാഷാധ്വനികളേയും ഉൾക്കൊള്ളുന്നു. അന്തർജ്ജനത്തിന്റേയും വത്സലയുടേയും കഥകളിൽ നിന്ന് വ്യത്യസ്തമായി "സ്ത്രീകൾക്ക് മാത്രം രചിക്കാവുന്നതും വിവിധ രീതികളിൽ സ്വാതന്ത്ര്യബോധം പ്രകടിപ്പിക്കുന്നതുമായ രചനകൾ" ഉണ്ടാവുന്നുണ്ട്. സരസ്വതിയമ്മയുടേയും മാധവിക്കുട്ടിയുടേയും കഥകളുടെ വികാസമാണിവ. ഈ കഥകൾ "പുരുഷമേധാവിത്വത്തിന്റെ പ്രത്യയ ശാസ്ത്രത്തോട് കലഹിക്കുന്നു." പുരാണകഥകളെ സ്ത്രീപക്ഷത്തു നിന്നുകൊണ്ട് വായിക്കാനും, ആൺഭാഷയിൽ നിന്ന് മോചിതമായ ഒരു ഭാഷയുണ്ടാക്കാനും ഈ കഥകൾ സമരം ചെയ്യുന്നു.

62

മലയാള ചെറുകഥ — 1950 വരെ

കെ.എസ്. രവികുമാർ

പത്തൊൻപതാം നൂറ്റാണ്ടിന്റെ ഉത്തരാർധം ഇന്ത്യൻ ഭാഷകൾക്കെല്ലാം പുതിയ ഒരു ഉണർവ്വുണ്ടായ ഘട്ടമാണ്. അതേ കാലഘട്ടത്തിലാണ് ഇന്ത്യയുടെ രാഷ്ട്രീയാധികാരം കൈപ്പിടിയിലൊതുക്കിക്കഴിഞ്ഞ ബ്രിട്ടീഷുകാർ ഭരണത്തിന്റെയും പഠനത്തിന്റെയും മേഖലകളിൽ ഇംഗ്ലീഷ് ഭാഷ നിർബന്ധിതമാക്കി. ആ ഭാഷയിലൂടെ ആധുനിക വിദ്യാഭ്യാസം നേടിയ ഭാരതീയർ യൂറോപ്യൻ നവോത്ഥാനത്തിന്റെ വിജ്ഞാനധാരകളും ആശയഗതികളും ഉൾക്കൊണ്ടു. ഒപ്പം ഇംഗ്ലീഷിലൂടെ പരിചയപ്പെട്ട സാഹിത്യരൂപങ്ങളുടെ സാധ്യതകളും അവരെ പ്രലോഭിപ്പിച്ചു. ഭാരതീയ ഭാഷകളിൽ അങ്ങനെ രൂപം കൊണ്ട സാഹിത്യ പ്രസ്ഥാനങ്ങളാണ് നോവൽ, ചെറുകഥ, ഉപന്യാസം തുടങ്ങിയവ.

ഈ പുതിയ സാഹിത്യരൂപങ്ങളുടെ ആവിർഭാവത്തിനും വളർച്ചയ്ക്കും കളമൊരുക്കിയ സാഹചര്യങ്ങളിൽ പ്രധാനം പുസ്തകപ്രസിദ്ധീകരണത്തിന്റെയും ആനുകാലിക പ്രസിദ്ധീകരണങ്ങളുടേയും മുന്നേറ്റമാണ്. ഗദ്യസാഹിത്യത്തിന്റെ വികാസത്തിനും പ്രചാരണത്തിനും ഇത് കാരണമായി. ആചാരനിഷ്ഠമായ ഫ്യൂഡൽ സാമൂഹിക ക്രമത്തിൽ നിന്ന് വ്യക്തിക്ക് കൂടുതൽ പ്രാധാന്യം ലഭിക്കുന്ന ഒരു ജീവിതക്രമത്തിലേക്ക് കേരളവും മെല്ലെ പരിവർത്തിക്കാൻ തുടങ്ങി. ഈ പശ്ചാത്തലത്തിൽ ആരംഭിച്ച ചെറുകഥാ പ്രസ്ഥാനത്തിന് വലിയൊരളവോളം കാലത്തിന്റെ ആത്മാവിനെ ആവിഷ്കരിക്കാൻ കഴിഞ്ഞു.

പൊൽക്കഥകളുടേയും പാട്ടുകഥകളുടേയും പാരമ്പര്യം മറ്റു ഭാഷകളിലെന്നപോലെ മലയാളത്തിലുമുണ്ടായിരുന്നു. അതിൽ നിന്നും ഭിന്നമായി ഗദ്യത്തിലെഴുതി അച്ചടിച്ച കഥകൾ മലയാളത്തിലുണ്ടാകുന്നത് 1824ൽ ആണ്. കേരളത്തിൽ അച്ചടിച്ച ആദ്യത്തെ മലയാള പുസ്തകമായ 'ചെറു പൈതങ്ങൾക്ക് ഉപകാരാർഥം ഇംഗ്ലീഷിൽ നിന്നും പരിഭാഷപ്പെടുത്തിയ കഥകൾ' എന്ന് മതപ്രബോധനപരമായ ചെറിയ കഥകളുടെ സമാഹാരമാണത്. പരിഭാഷയിലൂടെ ലഭിച്ച അതിലെ കഥകളെ ചെറുകഥ എന്ന് വിളിക്കാനാവില്ല. പിന്നീട് ഉണ്ടായ ആനുകാലിക പ്രസിദ്ധീകരണങ്ങളിലും ഗുണ്ടർട്ടിന്റെയും കേരളവർമ വലിയ കോയിത്തമ്പുരാന്റെയും പാഠമാലകളിലും മതപ്രബോധനപരമോ ഗുണപാഠപ്രധാനമോ ആയ ചെറിയ ഗദ്യകഥകൾ കാണാം. എന്നാൽ നാമിന്ന് അർഥമാക്കുന്ന തരത്തിൽ ചെറുകഥ എന്ന സങ്കല്പത്തോടടുത്തു നിൽക്കുന്ന ഒരു സ്വതന്ത്രരചന ആദ്യമായി പ്രകാശിതമാകുന്നത് 1891-ൽ ആണ്. സി.പി.അച്യുതമേനോന്റെ പത്രാധിപത്യത്തിൽ നടന്നിരുന്ന വിദ്യാവിനോദിനി

* പുതുശ്ശേരിൽ, സ്വാതിനഗർ, തിരുവനന്തപുരം-695 023

മാസികയിലാണ് അത് അച്ചടിച്ചു വന്നത്. അന്ന് കഥയോടൊപ്പം രചയിതാവിന്റെ പേരു ചേർത്തിരുന്നില്ലെങ്കിലും അച്യുതമേനോന്റെ സുഹൃത്തും, കുറെക്കാലം വിദ്യാ വിനോദിനിയുടെ സഹപത്രാധിപരുമായിരുന്ന വേങ്ങയിൽ കുഞ്ഞിരാമൻ നായനാരാണ് അത് രചിച്ചതെന്ന് കരുതപ്പെടുന്നു.

നാടോടി കഥകളിൽ നിന്നും ഗുണപാഠകഥകളിൽ നിന്നും ഭിന്നമാണ് പെറുകഥ എന്ന സാഹിത്യരൂപം. പ്രാഥമികമായി അത് ഗദ്യത്തിലുള്ള സംക്ഷിപ്തമായ ഒരു ആഖ്യാനാത്മക രചനയാണ്. യുക്തിബോധത്തിനു നിരക്കുന്ന ഇതിവൃത്തം, യഥാർഥ മനുഷ്യരുടെ ഛായയും പ്രകൃതിയുമുള്ള കഥാപാത്രങ്ങൾ, വിശ്വസനീയമായ ജീവിതചിത്രീകരണം, ഗുണപാഠ പരാമർശത്തെക്കാൾ ഒരു സവിശേഷ ജീവിതാവസ്ഥയുടെ അന്തർഭാവത്തെ സ്ഫുരിപ്പിക്കാനുള്ള കഴിവ്, കഥയിലുടനീളം പ്രസരിച്ചു നിൽക്കുന്ന കഥാകൃത്തിന്റെ വ്യക്തിത്വം — ഇതൊക്കെ പെറുകഥ തനിമ നേടിയ കാലത്ത് അതിന്റെ അടിസ്ഥാന സവിശേഷതകളായി കരുതപ്പെട്ടിരുന്നു. എന്നാൽ നിരന്തര പരിണാമിയായ ആ സാഹിത്യരൂപത്തിന് പിൽക്കാലത്തുണ്ടായ വികാസത്തിൽ ഈ പരിധികളെ ഉല്ലംഘിക്കുന്ന മേഖലകളിലേക്ക് പെറുകഥ വളർന്നു.

വാസനാ വികൃതിയോടെ ആരംഭിക്കപ്പെട്ട മലയാളത്തിലെ പെറുകഥാസാഹിത്യം ക്രമേണ നമ്മുടെ സാഹിത്യത്തിലെ മുഖ്യവിഭാഗങ്ങളിലൊന്നായി വളർന്നു. മൂർക്കോത്തു കുമാരൻ, സി.എസ്.ഗോപാലപ്പണിക്കർ, ഒടുവിൽ കുഞ്ഞികൃഷ്ണമേനോൻ, സി.പി.അച്യുതമേനോൻ തുടങ്ങിയവർ ആദ്യകാലത്ത് പെറുകഥകളെഴുതിയവരിൽപ്പെടുന്നു. ഇരുപതാം നൂറ്റാണ്ടിന്റെ തുടക്കത്തോടെ രസിക രഞ്ജിനി, ഭാഷാപോഷിണി, മംഗളോദയം തുടങ്ങിയ മാസികകളിലൂടെ പെറുകഥ വ്യക്തിത്വമാർജിക്കാൻ തുടങ്ങി. എം.ആർ.കെ.സി., അമ്പാടി നാരായണപൊതുവാൾ, കെ.സുകുമാരൻ, ഈ.വി.കൃഷ്ണപിള്ള, പി.ജി.രാമയ്യർ, സി.ശങ്കരവാര്യർ, സി.വി.കുഞ്ഞുരാമൻ, എസ്.രാമവാര്യർ തുടങ്ങിയവർ കഥാകൃത്തുക്കളെന്ന നിലയിൽ പ്രശസ്തി നേടി. ചമ്പത്തിൽ ചിന്നമ്മുഅമ്മ, തച്ചാട്ടു ദേവകിയമ്മ, ടി.സി.കല്യാണിയമ്മ, അമ്പാടി കാർത്ത്യായനിയമ്മ തുടങ്ങിയ വനിതകളും അക്കാലത്ത് പെറുകഥകൾ രചിച്ചു. 1932ൽ എം.പി.പോൾ ഖണ്ഡകഥാപ്രസ്ഥാനം എന്നൊരു ലക്ഷണഗ്രന്ഥം എഴുതത്തക്കവണ്ണം ആ സാഹിത്യവിഭാഗം വളർച്ച നേടി. എങ്കിലും മലയാളത്തിലെ മികച്ച പെറുകഥകൾ ഉണ്ടായത് അതിനുശേഷമാണ്.

1930വരെയുള്ള കാലം മലയാള പെറുകഥയുടെ ചരിത്രത്തിലെ പ്രഥമഘട്ടമാണ്. പ്രണയം, വീരാപദാനം, അമളി, കുറ്റാന്വേഷണം തുടങ്ങിയ പ്രമേയങ്ങളെ അധികരിച്ചുള്ളവയായിരുന്നു അന്നത്തെ കഥകളിലധികവും. പരിണാമഗുപ്തി ദീക്ഷിച്ചുകൊണ്ടുള്ള ഇതിവൃത്തങ്ങളോടുകൂടിയ അന്നത്തെ കഥകളിൽ പലതിനും കെട്ടുകഥയുടെ സ്വഭാവമായിരുന്നു. മലബാർ കെ.സുകുമാരന്റെ കഥകൾ പോലെ ഫലിതപ്രധാനമായവയും ധാരാളമുണ്ടായി. ജീവിതയാഥാർഥ്യങ്ങളുടെ ചില സൂചനകൾ വേങ്ങയിൽ കുഞ്ഞിരാമൻ നായനാരുടേയും മൂർക്കോത്തു കുമാരന്റെയും മറ്റും കഥകളിൽ കാണാതിരുന്നില്ല. എങ്കിലും 1920നുശേഷമുള്ള കാലത്താണ് നിത്യജീവിതയാഥാർഥ്യങ്ങളെ പെറിയ തോതിലെങ്കിലും കഥയ്ക്കു വിഷയമാക്കിത്തുടങ്ങിയത്. ഈ.വി.കൃഷ്ണപിള്ള, വി.ടി.ഭട്ടതിരിപ്പാട്, എസ്.രാമവാര്യർ തുടങ്ങിയവരുടെ കഥകളിൽ ഇതു കാണാം.

1930കളോടെ ഈ പ്രവണത കൂടുതൽ ശക്തമാവുകയും പെറുകഥ കേരളീയ ജീവിതത്തെ ശക്തമായി പ്രതിഫലിപ്പിക്കുന്ന സാഹിത്യരൂപമായിത്തീരുകയും ചെയ്തു. ഒപ്പം പെറുകഥ എന്ന സാഹിത്യരൂപത്തിന്റെ ശില്പപരമായ പ്രത്യേകതകളിൽ ശ്രദ്ധിക്കുകയും ചെയ്തു തുടങ്ങി. ഇതിനു കളമൊരുക്കിയ സാഹചര്യങ്ങൾ പലതാണ്. കേസരി ബാലകൃഷ്ണപിള്ളയുടെ പത്രപ്രവർത്തനത്തിലൂടെയും മറ്റും മാർക്സിസത്തിന്റെയും മനഃശാസ്ത്രത്തിന്റെയും ആശയങ്ങൾ അപ്പോഴേക്കും മലയാളത്തിലേക്ക് സംക്രമിച്ചു കഴിഞ്ഞിരുന്നു. ദേശീയ സ്വാതന്ത്ര്യസമരത്തിന്റെ അലയൊലികൾ, മലബാറിലെ കർഷക സമരങ്ങൾ, തിരുവിതാംകൂറിലും കൊച്ചിയിലുമുണ്ടായ തൊഴിലാളി മുന്നേറ്റങ്ങൾ, ലോകയുദ്ധങ്ങൾക്കിടയിലുണ്ടായ സാമ്പത്തികത്തകർച്ച, സാക്ഷരതയുടെ പ്രചാരം എന്നിവയെല്ലാം അതിൽ പെടുന്നു. ഇംഗ്ലീഷിനു പുറത്തുള്ള പ്രസിദ്ധരായ യൂറോപ്യൻ കഥാകൃത്തുക്കളുടെ ശില്പഭദ്രമായ പെറുകഥകൾ കേസരിയുടെ വിവർത്തനത്തിലൂടെ ലഭിച്ചത് പെറുകഥാ ശില്പത്തെക്കുറിച്ച് പുതിയ അവബോധം കഥാകൃത്തുക്കൾക്കു നൽകി, ഇതെല്ലാം കൂടി മലയാള പെറുകഥയിൽ ഒരു പുതിയ യുഗം സൃഷ്ടിച്ചു.

ഇങ്ങനെ രൂപംകൊണ്ട പുത്തുയുഗത്തിന്റെ മുന്നണിയിൽ നിന്ന കഥാകൃത്തുക്കൾ അഞ്ചുപേരാണ് — തകഴി ശിവശങ്കരപിള്ള, കേശവദേവ്, എസ്.കെ.പൊറ്റെക്കാട്, പൊൻകുന്നം വർക്കി, വൈക്കം മുഹമ്മദ് ബഷീർ. ഇവരോരുത്തരും തനതായ വ്യക്തിത്വമുള്ള കഥാലോകങ്ങളും ആഖ്യാനരീതിയും വികസിപ്പിച്ചവരാണ്. എങ്കിലും ആ വൈവിധ്യങ്ങൾക്കിടയിൽ അവരെ ഏകോപിപ്പിക്കുന്ന ചില സമാനതകളുമുണ്ടായിരുന്നു. മനുഷ്യന്റെ സാമൂഹിക സത്തയ്ക്ക് അവർ നൽകിയ പ്രാധാന്യമായിരുന്നു അതിൽ പ്രധാനം. കാലത്തിന്റെ ഉദ്വേഗങ്ങളെ ഏറിയോ കുറഞ്ഞോ അവർ തങ്ങളുടെ പെറുകഥകളിലൂടെ ആവിഷ്കരിച്ചു. സാധാരണ ജനങ്ങളുടെ ഭാഷയോടടുത്തു നിൽക്കുന്ന ഭാഷാരീതി സ്വീകരിച്ചു. ഇങ്ങനെ ജനകീയമായിത്തീർന്ന പെറുകഥ അപ്പോഴേക്കും മലയാള

ത്തിലെ ഏറ്റവുമധികം വായിക്കപ്പെടുന്ന സാഹിത്യ വിഭാഗമായിത്തീർന്നു.

കുട്ടനാടൻ കാർഷികപശ്ചാത്തലത്തിൽ സാമൂഹികവും മനഃശാസ്ത്രപരവുമായ കാഴ്ചപ്പാടുകളിലൂടെ മനുഷ്യബന്ധങ്ങളെ വിശകലനം ചെയ്യുന്ന കഥകളായിരുന്ന തകഴിയുടേത്. തൊഴിലാളികളുടേയും തൊഴിലില്ലാത്തവരുടേയും ജീവിതസമരങ്ങളെക്കുറിച്ചാണ് കേശവദേവ് ആവേശത്തോടെ എഴുതിയത്. പള്ളിമതത്തിന്റെയും പൗരോഹിത്യത്തിന്റെയും ചൂഷണത്തിനിരയായ മലയോര കർഷകരായ കൃസ്ത്യാനികളുടെ ദൈന്യമാണ് പൊൻകുന്നം വർക്കിയുടെ കഥാലോകത്ത് കാണുന്നത്. മനുഷ്യപ്രകൃതിയിലെ സ്വഭാവവൈചിത്ര്യങ്ങളെ ആധാരമാക്കി യാഥാർഥ്യവും കാല്പനികതയും ചാലിച്ചെഴുതിയ കഥകളാണ് എസ്.കെ.പൊറ്റെക്കാടിന്റെത്. സാമുദായികവും രാഷ്ട്രീയവും ആത്മീയവുമായ തീവ്രാനുഭവങ്ങളെ ആത്മനിഷ്ഠമായി അവതരിപ്പിച്ച കഥകളാണ് വൈക്കം മുഹമ്മദ് ബഷീർ എഴുതിയത്. ഇവർക്കു പിന്നാലെ വന്ന കാരൂർ, ലളിതാംബിക അന്തർജ്ജനം, പി.സി.കുട്ടികൃഷ്ണൻ, വെട്ടൂർ രാമൻനായർ, കെ.സരസ്വതിഅമ്മ തുടങ്ങിയവരും ചിലതനതു മേഖലകളിൽ ചുവടുറപ്പിച്ചുകൊണ്ടുള്ള കഥകളാണെഴുതിയത്. ഇവരിലെല്ലാം കാണാവുന്ന സാമാന്യമായ സാമൂഹികോൻമുഖത്വത്തിനപ്പുറം പ്രത്യയശാസ്ത്രപ്രതിബദ്ധത പുലർത്തിയിരുന്ന കലാകാരൻമാരും ഇക്കാലത്ത് രംഗപ്രവേശം ചെയ്തു. ജീവിതയാഥാർഥ്യങ്ങളെ ആവിഷ്കരിക്കുക മാത്രമല്ല, ജീവിതം എങ്ങനെയായിത്തീരണം എന്ന വിഭാവന കൂടി അവരുടെ കഥകളിൽ കാണാം. സി.അച്യുതക്കുറുപ്പ്, ഡി.എം.പൊറ്റെക്കാട്, ചെറുകാട്, തുടങ്ങിയവരാണിവരിൽ പ്രമുഖർ.

ആദ്യഘട്ടത്തിലെ മലയാള ചെറുകഥകൾ ഇതിവൃത്ത പ്രധാനമാണ്. 1930കളോടെ അത് സംഭവകേന്ദ്രീകൃതമായി. അടിസ്ഥാനപരമായി റിയലിസത്തിന്റെ സാങ്കേതിക രീതിയെ പിന്തുടരുന്നവയാണ് അവ. ഈ ഘട്ടത്തിൽ ചെറുകഥകൾക്ക് മാതൃകയായി വർത്തിച്ചത് ഇംഗ്ലീഷിലെ ചെറുകഥകളല്ല; ഇംഗ്ലീഷ് ഭാഷയിലൂടെ പരിചയപ്പെട്ട ബൽസാക്കിന്റെയും ചെക്കോവിന്റെയും മറ്റും കഥകളാണ്. മാനവികതയിലായിരുന്നു ഈ കാലഘട്ടത്തിലെ ചെറുകഥകളുടെ ഊന്നൽ.

1950കളോടെ മലയാള ചെറുകഥയിൽ വീണ്ടുമൊരു പരിവർത്തനത്തിന്റെ തുടക്കമായി. ചെറുകഥയിൽ സമൂഹത്തെക്കാൾ വ്യക്തിക്കു പ്രാധാന്യം വന്നുതുടങ്ങി. ബാഹ്യസംഭവങ്ങളുടെ ആവിഷ്കാരത്തെക്കാൾ കഥാപാത്രങ്ങളുടെ ചിത്തവൃത്തികൾക്ക് പ്രാധാന്യംവന്നു. ടി.പദ്മനാഭന്റെയും എം.ടി.വാസുദേവൻനായരുടെയും മറ്റും കഥകളിലാണ് ഈ പരിവർത്തനം കണ്ടുതുടങ്ങിയത്.

1891 മുതലുള്ള ആറു ദശകക്കാലം മലയാള ചെറുകഥയുടെ ഉദയവികാസങ്ങളുടെ കാലമാണ്. ദ്രുതഗതിയിലുള്ള ചരിത്രപരിണാമങ്ങളുടെ കാലം കൂടിയായിരുന്നു അത്. ആ ചലനങ്ങളുടെ മുദ്രകൾ സമൂഹോൻമുഖരായ മനുഷ്യരുടെ കഥകളിലൂടെ രേഖപ്പെടുത്തുകയാണ് ഈ കാലയളവിൽ മലയാള ചെറുകഥ ചെയ്തത്. ആ നിലയിൽ അക്കാലത്തെ ചെറുകഥാ സാഹിത്യത്തിന് സാഹിത്യപരിത്രപരം മാത്രമല്ല, ചരിത്രപരവുമായ പ്രാധാന്യമുണ്ട്.

INDEX OF ADVERTISERS