

## SHIFTING CULTIVATION CONTROL PROGRAMMES AND TRENDS OF THEIR ADOPTION : SOME ACTION ORI- ENTED STUDIES

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### ABSTRACT

The shifting cultivation control programme of the Government starting in mid-fifties gained momentum in the 5th Plan with the introduction of variety of schemes by different states and Central Governments. The impact of these programmes in respect of weaning the people away from shifting cultivation and improvement of their socio-economic condition is yet to be assessed although the hill tribes are gradually becoming aware of the ill effect of this primitive form of agriculture. In this paper, some case studies showing mixed success has been discussed.

### INTRODUCTION

Shifting cultivation is a predatory system of agriculture involving indiscriminate cutting and burning of forests, improper land use leading to resource degradation, ecological imbalance as well as adverse socio-economic effects. Shifting cultivation regarded as the first step in food gathering and hunting to food production, is believed to have originated in Neolithic period around 7000 BC (Sharma, 1976). In India, shifting cultivation is widely practiced in the hills of north east, Orissa, Andhra Pradesh and also in some isolated pockets of Chattisgarh. It is known as *jhum* in North Eastern Region, *podu* in Andhra Pradesh, *bewar* or *daihya* in Chattisgarh and *podu* or *dunger chasa* in Orissa. Shifting cultivation as practiced in these regions is a highly complex system with wide variation based on cropping and yields pattern. These variants based on ecological and cultural variations in the tribal society are highly insulated because of topographical and language behaviour. However, this system in the present context has become unproductive. The system of cultivation is, however, a peculiar way of life among certain tribes and cannot be isolated easily from the socio-economic aspects owing to the system of land holding, cooperative efforts of the clans and the traditional culture.

#### *Shifting cultivation control programmes*

The *jhum* control programme of the government starting in mid fifties gained momentum in the fifth plan with the introduction of variety of schemes by different states and Central Government. In seventh five year plan as per the recommendation of task force on the shifting cultivation (1983), a scheme for control of shifting cultivation was in operation during 1987-88 to 1990-91. Govt. of India has launched watershed development project for shifting cultivation areas (WDPSCA) of NE region with 100% grant to the state plan. Some of the programmes being implemented are shown in (Table 1). These programmes are yet to make a dent on the overall problem and their impact in respect of weaning the people away from the shifting cultivation and improvement of their socio-economic condition is also yet to be assessed.

However, some studies of project sites have indicated the following trends :

- The hill tribes are gradually becoming aware of the ill effects of shifting cultivation. Wherever opportunities available many of the erstwhile shifting cultivators have become permanent cultivators.
- This primitive method of cultivation has declined as a mode of food production. However, in some areas shifting cultivation continues for production of noncereal crops like opium, hemp, Ginger etc.
- The programme has to be designed for each location based on the concrete condition of physiography, climate, land use, traditional occupation and so forth.
- Bench terraces with assured irrigation have proved most effective in attracting *jhumias* to settle agriculture.
- Horticulture and cash crop plantation can be popularized in places having marketing facilities ensuring higher returns.
- The tribals have become conscious of money oriented economy to respond to any project with assured returns.

The settlement of the shifting cultivation has not always met with complete success and in many instances they have abandoned new settlement to revert to shifting cultivation. Some of the case studies of these programmes showing mixed success, are discussed below.

#### ***Jhum control project under North Eastern Council (NEC) : an evaluation***

The high incidence of *jhuming* caught the attention of the NEC, which launched pilot projects during the Fifth plan to settle the *jhumia* tribal families in settled farming. The project in Arunachal was completed in 1978-79 and the rest in 1983-84 (Table 2)

These projects were evaluated by the Administrative Staff College of India, Hyderabad in 1988-89, selecting 300 (5.42 percent) households by random sampling out of 5537 beneficiary households. Its most important findings included inadequate supply of land, irrigation and other assets to households; lack of inputs like seed fertilizer, credit and extension services to farmers. The report finds that even though the *jhum* cycle in project areas declined from 7 to 11 years in 1977-78 to 3 to 7 years in 1988-89 the *jhum* area remained the same, thereby defeating the very purpose of the projects. The main reason was that settled farming could not provide all the crops except paddy to the households; for other crops they had to return to *jhuming*. The percentage of such families reverting to *jhuming* are - Arunachal 100, Meghalaya 91, Manipur 67, Nagaland 34 and Tripura 28. Thus the NEC experienced mixed success. (Neog, 1997)

#### **Impact of rehabilitation programmes on shifting cultivators in Andhra Pradesh**

The Government of Andhra Pradesh has been trying from time to time to control shifting cultivation through massive rehabilitation programmes like land consolidation, social forestry and horticulture. A detailed study was taken up to examine the implementation of various horticulture programmes in the tribal areas of A.P. and their impact on the socio-economic conditions of the tribal households. Among the 8 predominantly tribal inhabited districts in the State, high incidence of shifting cultivation is reported in the two coastal districts of Visakhapatnam and East Godavari. A

sample of 100 households from 10 villages in these two districts was selected for a study of the impact of the programme. Among the sample districts, while 2,869 hectares of 'podu' land was covered with orchards like mango, cashew and jack fruit in Visakhapatnam involving 4,563 tribal households till 1988-89; about 6,338 hectares of 'podu' land was brought under cashew, lemon, orange and coffee plantations in East Godavari district during the same period. Most of the sample beneficiary households have abandoned 'podu' cultivation in that land which was surveyed by the revenue officials.

Implementation of the programme had a considerable impact on the socio-economic conditions of the shifting cultivators in the sample villages in the East Godavari district. The results were comparatively poor in the Visakhapatnam district. While nearly 195 Mondays of additional employment per household was created during the first year of plantation in East Godavari district, only about 102 Mondays of employment was generated in Visakhapatnam district. Maintenance allowance constituted about 12% of the total household income in Visakhapatnam district while its share is as high as 62% among the beneficiaries in East Godavari district. Similarly, a higher per week expenditure on various items of consumptions is also reported in East Godavari district compared to their counterparts in Visakhapatnam. However, the tribals are yet to be convinced of the necessity to stop shifting cultivation for ecological reasons.

Food habit of the tribals was another major constraint which is prompting them to stick to Podu cultivation as tribals are accustomed to millet crops which are grown quickly in podu lands with little investment. In order to wean them away from podu cultivation besides implementing rehabilitation programmes, supply adequate quantity of millets and other food grains should be ensured until they are accustomed to the changed cropping pattern on settled lands. (Rao et al 1999)

#### **ORISSA tribal development project, Kashipur assisted by IFAD**

Koraput is recognized as being the most backward districts with over ninety percent of the tribal population are below the official poverty line and has the largest tribal concentration in Orissa. Out of all the blocks, Kashipur is largest block in terms of area and also has the highest concentration of tribal population. Out of the 34000 hectares of land, only about 14% are low land. The tribal people depend upon shifting cultivation; they also cut down the trees of the forest in the region for fuel wood and also selling timber unauthorisedly. This has been a practice for last several decades resulting in large - scale deforestation and also imbalance in the ecological setting of the area.

Taking all these into consideration IFAD (International Fund for Agricultural Development) funded 'Orissa Tribal Development Project' to achieve sustainable economic upliftment of the tribal population and rejuvenation of degraded ecology in the project area. Keeping this objective in view, eight different sub components have been identified under this broad component of Agriculture and Natural Resource Development. These are : Soil Conservation, Agroforestry, Annual crop Development, Perennial crop Development, community plantation, Research and Training, Development of Nursery, Animal Resource Development and so on. The project was implemented during 1988 - 1987 at a total expenditure of 5941.30 lakhs. On the spot investigation of the development activities of the project was made in 30 sample villages selected from all watersheds. The study revealed that the replacement of local seeds by improved and HYV seeds in all villages in varying degrees. Horticultural & perennial crops have become more popular as the dunger lands have been settled in the names of tribal farmers and such high lands being more suitable for such crops, the project authorities could popularize it among the farmers through supply of seedlings and grafts.



Though the land holding size of the households in general has improved after settlement, the average holding size per household has been only 1.7 ha, a major proportion of which is high danger lands. The area irrigated in preproject period was increased by 77.1%. There has been practically no increase in milch cattle. There has been a significant increase in the area under ragi (150%), maize (71.7%), Niger (63.2%) and vegetables (53.6%) while area under hardy crops such as ragi, niger and maize increased due to settlement of danger land; vegetable area increased due to irrigation. Area under perennial crops in the preproject period is increased by 182.6%. Participatory rapid assessment study conducted by the study team indicates an increase in productivity of paddy from 7.26 q/ha to 24.20 q/ha during the implementation period. Similarly in case of Niger and ragi, the improvement in productivity is to the extent of 178% respectively. There was a visible increase in the consumption of agricultural inputs by sample households. The annual household income of all sample households from all sources was Rs. 11.92 lakhs in 1987-88 which increased to 17.5 lakhs in 1996-97 by 46.9%. The annual economic growth has little more than 5%.

The impact of various interventions for development of natural resources is also visible in terms of intensification and diversification of land use, regeneration of fallow lands and common properties project area. The project IFAD as a boon for them has brought a lot of changes in not only their life style but also has set the ground for bringing about a lot of changes in their well being and prosperity and also has been primarily responsible for the social and physical development of the area.. (Anonymous, 1998)

#### **From Jhuming to tapping**

The North Eastern Region lies well outside the traditional rubber belt but the existing agro climatic conditions coupled with low elevation and other modernizing influences has made areas within N.E. region most suitable for rubber plantation. In order to ameliorate the sad plight of the jhumias it was decided by the government to resettle the jhumias by raising viable rubber holdings on land. For this a corporation was established in Tripura on 1st March, 1983. It was suggested by the said corporation that the size of available rubber plantations would be 75 ha in a compact block and each family would be allotted 2.5 ha area requirement of 75 to 87 ha area in one center. It was also suggested that for raising 1 ha of rubber plantation, the rubber board would give Rs. 5000.00 cash and input subsidy and Bank would sanction Rs. 13,800.00 per ha as loan @ Rs. 12.5% interest per annum. Thus, for one individual family total subsidy and loan amount : Rs. 500.00 + Rs. 13,800 i.e., Rs. 18,000.00 would be released in a phased manner from the 1st to the 7th year. The Rehabilitation programme of the Tripura Rehabilitation plantation corporation has brought about a new hope to the jhumias of Tripura. Since its inception, the corporation took initiative for rubber plantations with a view to rehabilitate jhumias families at different centers. It may be noted that during the period from 1984-87 works were initiated by the said corporation for rubber plantation with a view to rehabilitate 719 jhumia families in Tripura. - 1078.5 area being covered under the scheme (Table 3).

However the transition from the jhuming to tapping is beset with various problems which need careful considerations. From the previous experience, it has been said that the two schemes viz settlement schemes and colony scheme failed to play a great role in rehabilitation. The most important defect in the above schemes was their sole reliance only on agriculture. Though there were provisions for settled farming, horticulture and animal husbandry but all these had very negligible impact on the household economy. A good number of families deserted due to inadequate supply of cultivable land.

Moreover, the colonies had serious disadvantages in respect of irrigation, lack of education and medical facilities and a good system of communication. It should be borne in mind that emphasis should not be upon plantations alone, on the other hand it should be three dimensional. Agroforestry based. If administrative lacunae are removed, educational facilities expanded, occupation patterns widened only then the jhumia will take more interest to accept the new scheme for improving their economic conditions. (Bhattacharya, 1992)

### **Jhumia settlement scheme in Tripura - an appraisal**

Control of shifting cultivation is a vital programme in Tripura aimed at restoring ecological balance in hill areas and improving the socio-economic conditions of the tribal community with a view to weaning the tribals from shifting cultivation and for providing economic base to the jhumia families, it had been decided by the Government of Tripura to resettle the jhumias under Integrated schemes combined with agriculture, horticulture, animal husbandry or pisciculture in compact blocks. Settlement programme for jhumia families has been implemented in the state since 1953-54 by the State Govt. There are 197 Jhumia settlement colonies. The economic information Technology, Agartala undertook a study to evaluate the jhumia settlement schemes by interacting with the grass root level beneficiaries of 6 selected jhumia settlement colonies/Centres (Table 4)

The development schemes for jhumia settlement implemented by Tripura Government have been most effective in rehabilitating jhumia families. There is a perceptible change in the social and economic outlook as revealed by the following results :

- A large base of facilities have been developed including educational facilities, drinking water, fishery, piggery, poultry and roads.
- The average annual income of the jhumia families being close to Rs. 8000/-
- All the colonies have received shelter facilities
- Income generating opportunities have increased in all the areas.
- The major shifts in occupation (before coming to the colony and present) observed are from agriculture labour/agriculture to wage labour. There has been some cases of shift from wage labour to selling fire wood.

A major impediment in successful implementation of the scheme is the 'mind setup' of the beneficiaries. The attitude of 'why should we do anything, we should get everything from the Govt.' has been a major obstacle. Drunkenness, indebtedness, lack of saving habits, superstition, unproductive expenditures on religious ceremonies like marriage etc. beyond their capacity. (Anonymous, 1999)

### **Constraints of rehabilitation**

To decide the future line of approach it is imperative to identify the deficiencies in the current rehabilitation programmes so that necessary corrective measures may be initiated at appropriate levels. Some of these are as follows :

- The Jhum control schemes were not continued for sufficiently long period to make jhumias self reliant by providing them assured alternative means of livelihood. The fall out was that many rehabilitated families reverted to jhuming when scheme was discontinued.
- The whole gamut of tribal society being interwoven with this means of food production, the new settlement created serious disturbances to their sociocultural life.
- Compared to born free living free jhum culture, settled farming demands management culture to which tribals are not adept. Habituated with subsistence cultivation and collection of minor

forest produce in hills for livelihood, the cultivators find it difficult to switch over to modern agriculture.

- In the plots of shifting cultivation a variety of crops are grown which satisfy the needs of cultivators. Jhum rice, which is glutinous is suitable for brewing often required by the tribals for drinks and performance of rituals where HYV rice is not suited.
- Absence of land ownership does not encourage farmers to invest in soil conservation and important development activities on the land.
- Non-existence of land records makes it impossible to have correct assessment of the actual area existing under jhum and the impact of a particular scheme in an area.
- Owing to the extreme dearth of trained and dedicated extension personnel in remote areas, many programmes are initiated without adequate extension back up to demonstrate improved technology.
- Marketing of agricultural/horticultural produce becomes impracticable in view of lack of link roads and required infrastructural facilities.
- The jhum control programmes are implemented by various departments agriculture, Soil Conservation, Forestry etc. in relative isolation without proper co-ordination through a multi-disciplinary approach.

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Table 1. Nature of efforts made in various states for control of shifting cultivation under various schemes

States	Aim and objective of control efforts
Assam	Purely a soil conservation scheme to settle the farmers on a permanent agriculture of varied form.
Manipur & Nagaland	Settling each shifting cultivator family on 1 to 2 ha. OF wet land terrace for permanent agriculture.
Mizoram & Meghalaya	Alloted of dry, as well as, wet terraced land with some sloppy land for horticultural purpose to each shifting cultivator family.
Tripura	In forest sector shifting cultivators engaged as wage earners in rubber plantations are to be settled on forest land in small colonies with provision of basic civic facilities like schools, sales deptt. Etc.
	In agriculture sector, the cultivators are to be settled on a new area far away from their jhum fields with allotment of developed tilla land for agriculture and horticulture crops.
Arunachal Pradesh	Reclamation and development of land for permanent cultivation provided with assured irrigation facility. Watershed management schemes with integrated programme of agriculture, horticulture, forestry and animal husbandry on the basis of land use classification.
Orissa	Soil conservation measures, annual crop development, perennial crop development, agro forestry and community plantation. Human resource development, infrastructure development, survey and land filling schemes.
Andhra Pradesh	Natural resource management and watershed management schemes, horticultural/crop plantations, community development programmes including education and health, Marketing and credit support.

(Source : Borthakur, 1992)

Table 2 : *Jhum* control projects under N.E.C.

State	Project site	Project area (Hectare)	Families settled (No.)	Project cost (Rs. Lakh)
Arunachal	Siang	1603	1613	123.30
Manipur	Iril	1379	1369	81.39
Meghalaya	Dhaleswari	1315	819	87.08
Mizoram	Dhaleswari Palak and Chandur	2082	1150	128.70
Nagaland	Mangleu	295	132	16.33
Tripura	Howrah and Manu	1118	594	61.75

(Source : Neog, 1997)

Table 3. District wise rubber plantation in Tripura

Name of the District	No. of Jhumias covered under the scheme	Area upto 1984-87 (in ha)
West Tripura	212	318.0
North Tripura	294	441.0
South Tripura	213	339.5
Total	719	1078.5

Table 4. The year of settlement and the total area of the colony

Sl. No.	Colony Centre Schem	Year of settlement	Total area of The colony (ha)
1.	Pathaliaghat colony	1977-78	37.4
2.	Taxapara	1978-79	24.0
3.	Surendra nagar sultung colony	1984	134.4
4.	Gangarai malsum colony	1991-92	88.0
5.	Bishram Ganj adivasi colony	1993-94	45.0
6.	Madhupur	1995-96	100.0

Table 5. The opinion of the sample beneficiaries about the settlement schemes

Pathaliaghat Colony	No. difference (92%) Successful (8%)
Taxapara	No. difference (100%)
Surendranagar Sultung Colony	No. difference (100%)
Gangarai Malsum Colony	Successful (70%) Failed (30%)
Bishramganj Adivasi Colony	Successful (50%) No. difference (29%) Failed (21%)
Madhupur	No. difference (100%)