PROBLEMS OF TRIBAL AGRICULTURE IN INDIA

Submitted to the
UNIVERSITY OF POONA
in partial fulfilment of the requirements of the
Master of Philosophy Degree in Economics

by
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CHAPTER I
INTRODUCTION

The tribal communities in India constitute almost 7 per cent of the total population of the country. According to the 1971 Population Census, out of a total population of 548 million persons, the Scheduled Tribes constituted 38 million persons, i.e. 6.9 per cent of the total population of the country. (See Table I). An analysis of the Table I reveals that there are nine states in the country having a concentration of tribal people. These are Madhya Pradesh (8.3 million), Orissa (5.0 million), Bihar (4.9 million), Gujrat (3.7 million), Rajasthan (3.1 million), Maharashtra (3.0 million), West Bengal (2.5 million), Assam (1.9 million), and Andhra Pradesh (1.7 million). There are, however, other states and Union Territories where the bulk of the population is tribal. These include Mizoram (94.25 per cent), Lakshadweep (92.9 per cent), Nagaland (83.6 per cent), Dadra and Nagar Haveli (86.9 per cent), Meghalaya (80.5 per cent), and Arunachal Pradesh (79.0 per cent). Manipur and Tripura have also sizable proportions of tribal population i.e. 31.18 per cent and 28.95 per cent respectively of their total population.

1.2 The geographical distribution of the Scheduled Tribes in the country can be divided into three main categories, viz.,

(i) those scattered over South-Western India in the hills and converging lines of the Western Ghats;

(ii) those occupying the central belt of the older hills and
and plateau along the dividing line between Peninsular India and the Indo-Gangetic plain;

(iii) those living in the North and North-Eastern Zone in the mountain valleys and Eastern Frontiers of India\(^1\).

The characteristic features of these Tribes are their isolation from the neighbouring areas, living as they do in the interior areas mainly in the hills and forests. Inadequate communication facilities in many of these areas have resulted in limited interaction with other population pockets.

1.3 Agriculture and forests occupy a prominent place in the tribal life and economy. This characteristic has also been revealed in the 1971 Census data. Of the working population among the Scheduled Tribes 93 per cent were engaged in sectors related to the exploitation of natural resources. (See Table II). These occupations include cultivation, (57.6 per cent) agricultural labour (33 per cent), and allied activities like livestock, forestry, fishery, plantation, hunting etc. (2.4 per cent). Land and resource uses among the tribals differ in different parts of the country. Communities like Onge, Jarawa and Sompen of Andaman and Nicobar Islands are even today dependant on hunting, fishing, collecting wild roots and tubers.\(^2\) Tribal Communities

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of Eastern India like Mizo, Naga, Kuki, Khasi, Adi Garo, etc.; Juang, Ehuinya and Bonda of Orissa, and some of the tribes of Andhra Pradesh, Bihar, Gujarat, Kerala, Maharashtra, Tamilnadu, Madhya Pradesh, etc., depend upon a primitive way of "Slash and burn cultivation" or shifting cultivation. This will be dealt in detail in Chapter 3 of this Dissertation. Settled farming, either of the wet or dry type, is also the primary source of livelihood for a large number of tribal communities. Some of the tribes of Andaman and Nicobar Islands and of Lakshadweep depend upon plantation of coconuts and arecanuts. The tribal communities living in the Western Himalayan regions i.e. the Gaddis and Gujjars of Himachal Pradesh and the Bhots of U.P. are more dependent on animal husbandry than on agriculture for their livelihood. The nomadic tribes of Rajasthan desert also earn their livelihood by raising animals through migratory grazing. The Birhors of Bihar and Orissa (called as the Makarakhiya Kols in the latter place) depend upon trapping small game and collecting plants and medical herbs.

1.4 The tribal people reside both in the plains and the hill areas. Although their economies differ, there are certain common features among them like, primitive farming practices, high labour intensity and some traditional social and cultural rigidities affecting their principal occupation.

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agriculture.

The plain tribals are largely settled cultivators with individual ownership of land. Like other small and marginal farmers in the country, they face the problems of uneconomic and scattered holdings, land alienation and tenancy systems. Tribal exploitation either in the form of land alienation, high rate of interest, low wage payments or even market imperfections, are regarded as the major problems facing the plains tribals. Lack of irrigation facilities is a common characteristic in most of the tribal areas. HYV Programme with the adoption of improved techniques of production and fertiliser use, as well as institutional credit facilities are yet to reach the tribal villages and to be accepted by them.

The agricultural problems of the hill tribals are somewhat different from those of the plain tribals. The "Shifting Cultivation" practised by the hill tribals has posed a number of problems - both for the tribal economy and the country as a whole. This is a very primitive and subsistence agriculture having much less carrying capacity on land. With the growth of tribal population, the pressure on the land is increasing and the cycle of shifting cultivation is decreasing, leading to further diminishing returns on land. The problems like destruction of forests, soil erosion and floods in the plains are said to be the outcome of shifting cultivation.

As mentioned in an earlier paragraph, there are some
tribes in U.P., Himachal Pradesh and Rajasthan who are largely livestock raisers. Their problems differ from those of the hills and plains tribal. The nomadic tribes of Rajasthan, for example, face problems of scarcity of grazing lands, with arid lands coming under cultivation as a result of extension of irrigation facilities in the desert areas. Many of them have given up cattle rearing in favour of work as landless labourers on these new farms.

In the ensuing sections an attempt is made to discuss the agricultural problems of the tribals, and the measures that have been taken or suggested to uphold the economy of the tribal population. In Chapter II, the agricultural problems of the plains-tribals and in Chapter III, that of the hills-tribals have been dealt with in detail. The discussion will end in Chapter IV after mentioning some of the suggested remedies in the field of tribal agriculture.
2.1 It is difficult to give an accurate picture of the "plains tribals" living in the country on the basis of a strict definition. The "Plains-tribals" are generally referred to the tribal population living in the plains outside the scheduled areas. The Excluded and Partially Excluded Areas Sub-Committee under the Chairmanship of Sri A.V. Thaker defined plains-tribals as those living outside 'excluded' and 'partially excluded' areas. The Sub-Committee viewed that although tribals living in the non-excluded areas are often hard to distinguish from the plains people among whom they live, they were generally in a backward condition, which was sometimes worse than the condition of the Scheduled Castes. Hence tribes whether living in the plains or in the partially excluded tracts are treated as plains tribals. While discussing the agricultural problems of the plains tribals, all tribal people who practise plains cultivation irrespective of the fact as to whether they reside in or outside the scheduled areas have been considered.

1. Committee on Welfare of Scheduled Tribes (1977-78) - Fifth Legislative Assembly, Andhra Pradesh - Second Report on Welfare of Scheduled Tribes in Plain Areas.

2. The Sub-Committee on Excluded and Partially Excluded Areas (other than Assam) was appointed by the Constituent Assembly.
2.2 The Economy of the Plains-Tribals

Like the great majority of rural people in the country, the economy of the plains tribals is predominantly agrarian in nature. The plains tribals cultivate small plots of land, which is generally owned or taken on lease. A large proportion work as labourers on other people's lands. The agricultural economy of the plains-tribals represents subsistence farming, due to the uneconomic size of the holdings and the primitive agricultural practices followed by them. In the three states of Madhya Pradesh, Rajasthan and Maharashtra, the majority of the tribal holdings are about 2 hectares in size, the holdings in Andhra Pradesh, Orissa, Bihar, West Bengal and Gujarat are below 2 hectares. A case study made by Saroj Kanti Choudhury in a Santal Village of Bolpur P.S. of West Bengal in February 1970, revealed that, out of the 51 cultivating farms in the village 45 farms were below the viable economic holdings i.e. 5 acres of land. Another important feature that was brought about by the study was that out of the total operated land, leased land constituted almost 59 per cent, and this proportion was highest (i.e. 71.78 per cent) in the size group of 2.51 - 5.00 acres. The same study also indicated that out of the total cultivating farms in the village land owning cultivators constituted

39.22 per cent and the rest, 60.78 per cent, were tenants or sharecroppers. Hence, the agricultural economy of the plains tribals not only suffers from size disincentives, but also from the tenurial disincentives. The uneconomic holdings of the farms, primitive farming practices, and tenurial disincentives in the farming sectors, keep the tribal farmers under poverty, as a result of which they are affected by other economic maladies like indebtedness, land alienation etc., leading to economic exploitation. An attempt is made in the ensuing paragraphs to analyse the agro-economic problems of the tribals - mostly residing in the plains.

2.3 Agricultural Practices

The plains-tribals are mostly settled cultivators. Their cropping pattern depends upon the nature of the soil, rainfall and availability of irrigation facilities. As lack of irrigation facilities is a common feature in most of the tribal areas, the tribal cultivators have to resort to the cultivation of rain-fed crops. The cropping pattern is therefore dependent upon the rainfall pattern; the bulk of the area being under mono-culture. The highest priority is given to food grains required for subsistence. Mr. Pawar after a study of some of the sample tribal villages in the Sabarkantha district of Northern Gujarat, where dry farming was practised in 75 per cent of total cropped area, and about 25 per cent of cropped area was under irrigation, reported that in the cropping pattern of the tribal cultivators highest
highest priority was given to foodgrain crops like bajra, maize, wheat etc. Commercial crops like ground nuts and cotton had been given comparatively less importance. An All India picture of the wet cultivation based on irrigation facilities in tribal areas is not available for the present. However some of the data compiled by Mr. I.P. Singh gives the position of irrigated areas in case of tribal districts of five states (see Table III). The table reveals that the percentage of irrigated areas in case of each of the tribal districts is much lower than that of the respective state averages.

There are instances of tribal areas where even though irrigation facilities are available, the volume of production and change in cropping pattern could not show any encouraging features due to small size of holdings, lack of investments in agricultural implements, and inputs prevalence of tenancy system etc. In case of the Santhal village of Bolpur P.S. referred to earlier, it was found that though more than 92 per cent of the cultivated area of the village had irrigation facilities, the productivity of crops was 4 quintals per acre, as against the Block average of 6.1 quintals. There are, however, instances where cropping pattern and productivity of


the tribal lands have improved where land, seeds, implements and inputs have been provided to the farmers side by side with the provision of irrigation. In Srikakulam district of Andhra Pradesh, and Ganjam and Koraput districts of Orissa, the Tribal Development Agencies are gradually undertaking irrigation schemes through MIPs, Lift Irrigation and wells. Added to the provision of water, the Agencies are supplying reclaimed lands for cultivation, seeds, fertilisers and pesticides etc. on subsidy basis for a limited period.

A comparative study made by T.V.S. Rao and N. Gopala Rao between 1973-74 (when the project was started), and 1975-76 in the above areas shows the range of differences in the cropping pattern, production, and income between the beneficiaries and non-beneficiaries. The study reveals that there is a perceptible shift in cropping pattern in favour of high yielding varieties of paddy, wheat, and vegetables on irrigated lands. The non-beneficiaries predominantly raise pulses, ragi and paddy of tribal varieties. The study further reveals that the beneficiaries under irrigation schemes are able to earn a gross income of Rs.1084.55, Rs.3105.80, and Rs.1412.84 (per household) in the project areas of Srikakulam, Koraput and Ganjam districts, as against the non-beneficiaries' income of Rs.891.06, Rs.820.66 and Rs.792.47 in the respective districts.

Considerable changes have been brought about in the traditional agriculture during recent years involving use of modern inputs and new technology. The benefits of the developmental efforts have been confined largely to areas and people with developed resource base; The tribal agriculturists are no less responsive than the non-tribal ones to improved techniques of cultivation. What is lacking is exhaustive and dedicated extension work to orient the traditional tribal farmers towards better farming systems. The success of the programme in the tribal areas of Srikakulam (A.P.) and Ganjam and Koraput (Orissa) is an illustration. Similarly, the success achieved by the Gujarat State Fertiliser Company Ltd., under "Leap Forward Project" in some of the tribal villages of Chhotaudepur Taluka (Gujarat) can show some light in the way. 17 Added to the provision of modern inputs, like seeds, fertilisers and pesticides etc., at a subsidised rate for a limited period of time, the scheme provided technical guidance and know-how right from the selection of fields upto harvesting of crops to the participant farmers. The project was started in the year 1973-74, and an evaluation study conducted in 1975-76 showed that the per acre net income of participants in the maize tract covered by L.F. Project was Rs.1133.00, as against that of non-participants, Rs.117.00. In paddy tract, net

returns obtained by the participants on L.F. plots was Rs. 522.00, as against a mere Rs. 52.00 obtained by the non-participants from the same crop. There was also a gradual increase in proportionate area under commercial crops like cotton and vegetables etc., in the fields of tribal participants.

2.4 Except for a few cases of success in tribal agriculture with such comprehensive programmes of agricultural development through governmental agencies, the tribal agriculture in general suffers from backward and traditional methods of cultivation. Use of fertilisers, improved seeds, pesticides and modern agricultural implements are seldom evident among the tribal cultivators. Lack of all these facilities along with uneconomic holdings, tenurial imperfections, and dependence on monsoon, bring a very low yield per acre in tribal lands when compared to that of non-tribal areas of the country.

A comparative study with regard to the gross value of crops per acre in the tribal and non-tribal districts of Madhya Pradesh was made by I.P. Singh. The findings of the study as given in Table IV revealed that in comparison to the non-tribal district of Mandsaur, where the gross value of crops per acre was Rs. 151.50, the per acre gross value of crops in tribal districts of Jhabua, Khargone, and Dhar, were Rs. 131.30, Rs. 128.40 and Rs. 138.90 respectively. Similarly, compared to the non-tribal district of Jabalpur, the gross value of crops per acre in tribal districts of Mandla and
Shadol, and compared to the non-tribal district of Raipur, the gross values of crops per acre in the tribal district of Bastar, Durg, Raigarh and Surguja were much lower.

The backward nature and subsistence level of farming have made the tribal farmers' economy largely deficit. Income from the agriculture is not sufficient for the maintenance of a tribal family for the whole year. An enquiry made by the National Council of Applied Economic Research in the West Nimar area of Madhya Pradesh revealed that the average annual (per household) tribal income was Rs.1064.52, 76 per cent of which i.e. Rs.806.87, was contributed by agriculture. 24 per cent of the household income of the tribal was covered by other subsidiary incomes like collection and sale of forest products, working on others' farms as casual labour, periodic migration to other areas for working as farm labourer and livestock raising to some extent.

The household expenditure per tribal family being Rs.1164.80, there was a deficit of about Rs.100.00 in the cultivators' budget. This deficit was covered by borrowing from the money lenders and traders, thus resulting in indebtedness.

2.5 Indebtedness is a major problem of the plains tribal people. Living in a subsistence economy, the tribals go into debt mainly against the mortgage of land. Loans are obtained from money lenders and traders at high rates of interest and

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with manipulation of accounts. Reports of the study team of Tribal Development Programmes with regard to Koraput district of Orissa and in the tribal areas of Bihar revealed that in Koraput district the money lenders charged usurious rates of interest varying from 25 per cent to 100 per cent per annum, and in Bihar it ranged even from 50 per cent to 250 per cent.9

On the ground of inability to repay the loans in time, the tribal cultivator is often compelled to lose his land and become the tenants of their bondees or mortgagees, or labourers. Not only the tribal lands are alienated to the non-tribal money-lenders, but also, in some cases, the tribal lands are alienated to some well-to-do tribal persons on the same grounds. Where the land is not sufficient to meet the requirements, the creditor makes an agreement either oral or written, to get the services of the debtor till the loan is repaid. The latter is called the system of "Bonded Labour" which is largely prevalent in tribal areas. In either case the tribal is exploited. Alienation of tribal lands as a consequence of their indebtedness is a great obstacle to the economic development of tribal people and improvement of their agriculture.

The phenomenon of the green revolution, a continuous process of urbanisation, exploitation of mineral rich

areas, hydro-electricity projects, requirement of land for factory sites, township, etc., have also resulted in demand for lands in tribal areas. The value of tribal lands has also enhanced in recent years. In those areas where such projects are established, the tribals are easily dislodged from their land.

Over the years the percentage of cultivators in the tribal population has decreased from 68.15 per cent in 1961 to 57.6 per cent in 1971. On the other hand, the percentage of agricultural labourers have gone up from 19.73 in 1961 to 33.0 in 1971. (See Table V). A view expressed by some experts, "for the decline in the number of cultivators in the tribal work force during the last decade, is that tribal lands have been alienated to non-tribals."\(^{10}\)

2.6 The credit needs of tribal farmers are largely for unproductive purposes which include family consumption, and provisions for social, religious and other demands. A survey of indebtedness among tribals in Madhya Pradesh revealed that as much as 60 per cent of the total debt (38 per cent for domestic consumption and 22 per cent for social, religious and other requirements) were raised for unproductive purposes. (See Table VI). A report on tribals of Andhra Pradesh mentions, "various studies have shown that more than 60 per cent of loans taken by the tribals is for consumption purposes.

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\(^{10}\) Dubey and Ratan - Policy and Administrative Issues - Land Alienation and Restoration in Tribal Communities in India - P.195.
Unless credit is provided for their consumption needs, they will continue to seek help from the money lenders. The income from agriculture being insufficient to maintain their families, the tribals spend a large part of the year for gathering forest produce or for seeking employment elsewhere. The people who are at the starvation point cannot be expected to spend their time for improving the land and environment - a process which guarantees higher income in future. "Financing consumption, therefore, becomes more important to improve production capacity rather than financing production itself."  

As regards the sources of credits, the money lenders and indigenous traders etc., provide the major share of credit to the tribal people. A survey undertaken in Parla-khemundi Agency Area (Orissa) reveals that the tribals borrow 86.2 per cent of the total loans from unauthorised money lenders. (See Table VII). The co-operative societies could meet only 5.5 per cent of the total needs of the tribals and 7.8 per cent was met by other governmental agencies. In general, the tribals have not been able to get much benefit from the institutional credit sources including co-operative societies. The short-term credit requirements

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of the farmers for the purpose of seeds, fertilisers, wages of labour, manure, hire of bullocks, repair of implements, etc. were expected to be met by the Primary Agricultural Co-operative Societies. However, as mentioned by the National Commission on Agriculture, "Primary Agricultural Credit Societies operating in the tribal areas are weak, both structurally and financially and the credit provided by them has been far from adequate."¹³

Long-term credit would be generally for meeting agricultural development needs including soil conservation, land reclamation, construction of wells for irrigation purposes, purchase of agricultural implements, etc. The subsistence economy of the tribal population does not attract them to such land development programmes. Further, their low income would entail supply of their credit needs entirely from financial institutions; a major reliance would have to be placed on subsidies. However, in view of the inadequacy and poor quality of land, the majority of tribal cultivators are considered 'risky' to finance. Lower yields from the land generally affect their repaying capacity. Once they become defaulters they are no more considered for further help from the institutional sources. Again procedures and formalities involved in organising co-operative societies, getting loans sanctioned, etc., seems to have discouraged the tribals from coming to the co-operative folds. The

tribals have, therefore, to go for their needs to the money lenders and ultimately get exploited. The National Commission on Agriculture had mentioned that the Land Development Banks were not in a position to advance such investment credit. In case of such long term credit, a mortgage of land appeared necessary as a security. "In most tribal areas, land surveys and settlements have yet to be completed. Expeditious completion of this work will remove a major impediment in the grant of term credit." \(^{14}\)

2.7 Poor and unorganised marketing system in the tribal areas due partly to the inaccessibility, has left the tribal economy in many areas non-monetised. Transactions are still conducted on the basis of a barter system. Essential consumer goods, which have to be brought from outside (for example, salt, kerosene, coarse cloth, tea, gur, cheap varieties of soap, aluminium utensils, etc.) are purchased from the traders, who are also money lenders, in exchange for the agricultural and forest produce. "These traders advance money to tribals for various ceremonies on personal surety, stipulating repayment of loan with interest in the form of forest products or agricultural products after harvest. The entire crop is thus mortgaged in advance and very little remains with the farmers for personal consumption after the produce is collected by the trader." \(^{15}\) This results in further

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borrowing both in cash and kind from the trader, and the burden of debt thus increases. The food stuffs which the tribal farmers sell just after the harvesting to the traders at a depressed price would be required again for consumption in the lean season. The higher prices prevalent in the lean season results in either starvation for the tribal families or further indebtedness. Hence, they fail to derive the benefit either from high agricultural prices prevailing in pre-harvest period or from the prices prevailing in the post-harvest period. In addition, the village merchants, taking advantage of farmers' ignorance of weights and measures and prevailing market rates, exploit them in both ways; i.e. while selling to the tribal farmers their requisites, as well as purchasing from them the agricultural and forest products.16

2.8 Governmental Measures

The Union and the State Governments have been taking measures from time to time to improve the socio-economic conditions of the tribals. The important measures aimed at improving the economy of the tribals include the steps to save the tribals from the exploitation of money-lenders, traders and liquor contractors etc., improving agriculture and opening of employment opportunities through cottage industries, rural works programmes and giving preferences in

services, etc.

Among the laws to end economic exploitation of tribals the Debt Relief Legislations, the Land Alienation Acts and Acts regarding Abolition of Bonded Labour are very important. The problem of agricultural indebtedness and its seriousness could be felt by the authorities as early as nineteenth century by the uprisings like the Sonthal rebellion (1855), the Deccan riots (1874), and the riots of Ajmer (1891). The measures taken at that time were mainly palliative in nature and were applicable to restricted areas only. For instances, the Encumbered Estates Relief Acts and Court of Wards Acts passed between 1860 to 1890, the Land Alienation Acts passed in Punjab (1900) and other provinces and the Usurious Loan Act, 1918, were some of the earlier Acts aimed at checking rural indebtedness as well as land alienation. The cases were to be settled by the Courts.

As regards the laws to protect the tribals from the exploitation of non-tribals the British Government passed the Scheduled District Act, 1874 and also provided for demarcation of Scheduled Districts to administer tribal areas. The Government of India Act, 1935 on the recommendation of the Simon Commission provided for the classification of districts on the basis of the predominance of tribal population into "Partially Excluded" and "Excluded" areas. Provincial

Governments also passed several Acts, to save the tribals. For example, the Madras Act I of 1917 was passed to regulate interest, and transfer of land in the Agency Tracts of Ganjam, Visakhapatnam and Godavari Districts. Similarly, the Chhotta Nagepur Tenancy Act of 1908 was to protect the backward aboriginal classes of tenants. 19

The Constitution of India, 1950, in the Fifth Schedule provides:

"In particular and without prejudice to the generality of the foregoing power, such regulations may -
(a) prohibit or restrict the transfer of land by or among members of the Scheduled Tribes in such area;
(b) regulate the allotment of land to the members of the Scheduled Tribes in such area;
(c) regulate the carrying on of business as money lender by persons who lend money to members of the Scheduled Tribes in such area."

The State Governments, which were responsible for the management and regulation of land tenures, have either amended the existing tenancy legislation or promulgated executive orders covering Scheduled Areas with a view to controlling alienation of tribal lands to non-tribals. For example in Madhya Pradesh, which has the highest concentration of tribal...

19. Land Alienation and Restoration in Tribal Communities in India - Edited by Dubey and Ratan.

population in the country, the Madhya Bharat Scheduled Area (Allotment and Transfer of Lands) Regulation, 1954, provides that no member of the scheduled tribe, except with prior permission of the Collector, can transfer, by way of sale, lease or otherwise, any land to any person other than the member of the Scheduled Tribe. In Orissa, the Orissa Scheduled Areas Transfer of Immovable Property by Scheduled Tribes Regulation 2 of 1956 and Sections 22 and 23 of the Orissa Land Reform Act, 1960 restrict the transfer of lands from Scheduled Tribes to members of non-scheduled tribes in Scheduled and Non-Scheduled Areas respectively. Similarly, in Gujarat, the Scheduled Areas Regulation, 1969, in Rajasthan the Act of 1956 concerning transfer of tribal lands, and Maharashtra Land Revenue Code, 1966, etc., are some of the examples of legal restrictions imposed by the State Governments regarding transfer of tribal lands to non-tribals. Inspite of these restrictions on the transfer of lands from scheduled tribes in different states, a large acreage of tribal land has continued to be alienated due to certain loopholes in the tenancy legislation, slackness in the implementation of restrictive provisions, and other socio-economic factors like lack of awareness on the part of tribals regarding legislative prohibitions, their poverty and fear and shyness of tribals to approach governmental authorities. It was only after June 25, 1975, after the President of India declared National Emergency in the country, most of the State Governments have amended existing laws or
even enacted new laws and tried to implement them more forcefully. The laws were amended or enacted mainly on the following lines -
(a) to plug loopholes which were used to grab tribal lands;
(b) To make them comprehensive so that they also cover tribals living outside Scheduled Areas;
(c) to simplify legal proceedings involved in the handling of land alienation cases;
(d) to tone up the administrative machinery for speedy handling of the cases;
(e) to include penal provisions to deal with future occurrences of land alienation;
(f) controlling the loaning activities of private money lenders in tribal areas; and
(g) abolition of bonded labour by the enactment of a Central Legislation. 21

In the areas of legislation, the State Governments have declared land alienation by way of sale, mortgage, or by possession under Tenancy Acts from a tribal to a non-tribal as null and void. For example the Government of Rajasthan made amendments to the Rajasthan Tenancy Act, 1955 in 1976 by which a mortgage in the event of failure to return land to the tribal mortgager, would be criminally liable to

21. Land Alienation and Restoration - in Tribal Communities of India - Edited by Dubey and Ratan - PP. 193-204.
imprisonment upto one year and a fine upto Rs.1,000 or both. The Orissa Government has amended the Orissa Regulation 2 of 1956 in which the period for obtaining tenancy on scheduled tribes lands by a non-tribal is now 30 years instead of 12 years, which was the period earlier. Provision of imprisonment and fines are included in the Act in the event of unauthorised occupation of any immovable property belonging to a member of any scheduled tribe by a non-tribal. Rest of the State Governments having concentration of tribal population in the States have amended the Acts accordingly. Available information regarding the cases of land alienation detected, registered and restoration of lands to tribals has been given in Table VIII. The Table reveals that the largest number of cases of land alienation have been detected or registered in Bihar (35,501), followed by Maharashtra (31,222), Rajasthan (22,328), Tripura (13,491), Andhra Pradesh (8,719), Orissa (7,338) and Gujarat (4,700) - in varying periods of time upto 1976 in cases of various states. The disposal of the cases within this period was not, however, very encouraging. Column 7 of Table VIII indicates that a large number of cases were still awaiting disposal. The Table VIII further revealed that the largest number of tribals (17,952) had been benefited with 15,848 acres of land in Bihar upto December 1976. The Report of the Commissioner for Scheduled Castes and Scheduled Tribes for the year 1973-74 indicated that cases of large scale alienation of tribal land were reported in the States of Assam, Kerala, Madhya Pradesh, U.P.,
and West Bengal too.

After the declaration of emergency, State Governments have also amended existing legislations regulating money lending activities such as interest rates, disposal of outstanding debts, licencing of money lenders operating in tribal areas, setting up debt relief Courts, etc. For example, in Rajasthan the Scheduled Debtor Act, 1975, places a moratorium of one year on the recovery of debts from scheduled tribes debtors such as marginal farmers, small farmers, agricultural labourers etc. An amendment to the Act in 1976, provides for total liquidation of debts of certain categories of debtors - marginal farmers, artisans and agricultural labourers below Rs.2,400 per annum. In Bihar, the Moneylenders Act, 1938 and the Bihar Moneylenders (Regulation of Transaction) Act, 1939 were amended regulating money lending activities in tribal areas. Similarly, several other states have enacted or amended legislation to make it more stringent and enforceable.

The bonded labour system in the country has been abolished through the Bonded Labour System (Abolition) Act, 1976. The main provisions of the Act are to declare bonded labour free from any obligation to render any free service, manual or menial and all such customs, traditions, contracts and agreements as applied to them were declared void.

Governments through a series of rules and regulations are trying to rehabilitate the freed bonded labourers. As on 31st July 1977 of the 97,396 bonded labourers identified in the country 95,997 had been released and 23,720 rehabilitated.

2.9 Planning and Tribal Agriculture

During the Plan-period both Union Government and State Governments have undertaken various Developmental Projects to bring about a change in socio-economic structure of the tribal economy. Under the Second Plan 43 Multi-purpose Pilot Projects were started with the main objectives of improvement of agriculture including encouragement of settled cultivation, organisation of co-operatives, provision of communications, health services etc. These projects were renamed as Tribal Development Blocks in the Third Plan. Each T.D. Block was intended to cover 25,000 people against the Community Development Blocks which was intended to cover 66,000 people. At present there are 484 tribal blocks and 20 sub-blocks (making a total of 504) operating all over the country.

An amount of Rs.19.93 crores was spent in the First Plan, during the Second Plan Rs.42.92 crores, the Third Plan Rs.56.98 crore, the Three Annual Plans Rs.32.32 crore, and


Rs. 75 crores during the Fourth Plan. So far as the development of agriculture and employment programmes in the tribal areas are concerned these programmes included communication, subsidy for agricultural equipment, animal husbandry, horticulture, minor irrigation, soil conservation, cottage industries, etc. Added to all these programmes, those of health, housing and other facilities were to be covered.

On the pattern of SFDA/MFAL Projects in rural areas, Tribal Development Agency Projects were established on an experimental basis in 1971-72. These projects covered areas like Srikakulam district of Andhra Pradesh, Singhbhum district of Bihar, Dantewada and Konta tehsils of Bastar district in M.P., and Ganjam, Koraput, Keonjhar districts of Orissa. The outlay for each of these agencies was Rs. 2 crores and the target was to cover 10,000 deserving tribal families or 50,000 deserving tribal people in each tribal agency project.

The Fifth Plan introduced the concept of sub-plan in the tribal areas - At present around two-thirds of the tribal population is covered by such Plans. The Plan has substantial provision for integrated rural development - developing agriculture through supply of agricultural inputs, minor irrigation services, soil conservation, development of road and communication, development of horticulture, adequate marketing facilities etc. Added to all

these the integrated programme also includes the problems of land alienation, indebtedness and exploitation, bonded labour, supply of consumer goods, housing etc. At a Macro level, the functions includes co-ordination of activities in tribal development projects, agricultural research on a regional basis, major irrigation projects, river valley development, industrial and mineral development of the region, etc. To help the States in the implementation of the tribal development programmes the Fifth Plan had outlined a Central assistance of Rs.198.33 crores, the share of the States being Rs.558.33 crores.27

The Sixth Five Year Plan however, hopes to make the Sub-Plan Schemes more comprehensive for the upliftment of backward areas which also include the tribal areas. "The approach of this Plan is to rely to a much greater extent on the development of agriculture, village and small industries, subsidiary occupations and related services through hill area, tribal area, revised minimum needs and area development programmes."28 For such area development schemes including hill area and tribal area plans and NEC outlays is Rs.2800 crores.

Though some of the changes in the tribal economy are in evidence on account of the activities undertaken by the government, the efforts have not so far been able to solve

27. Draft Five Year Plan (1978-83) 1.97, Page 112.
the basic problems of poverty, malnutrition and exploitation. Although legislations have been passed against the transfer of tribal lands, the benami-transfer of tribal lands to non-tribals is continuing. "There are instances of non-tribals marrying tribal women to get over the legal restrictions.\(^{29}\)

The problems of indebtedness, credit and marketing are linked to one another. The co-operatives have to play a significant role in this programme. As the tribals have a strong feeling of community living, and long tradition of democratic institutions, the co-operative movement has a chance of success. They failed in the past due to lack of proper organisation and implementation by the people in the field. Moreover, they fell into the hands of some vested interests. A study team was constituted by the Government of India in 1971 (Bawa Committee) on the co-operative structure in tribal areas. The Team has recognised that the society at primary level, which caters to the tribals, should provide a comprehensive range of services. It had recommended the organisation of credit-cum-marketing societies. The society is expected to provide loans to the tribals both for consumption and production purposes, undertake marketing operations in the tribal areas in the field of purchasing from the tribals agricultural and forest products and selling to them their daily necessities as well as agricultural inputs. Some of the State Governments have

already taken steps to establish co-operative societies based on the recommendations of the Bawa Committee. "It is hoped that the initial difficulties in the setting up of LAMPS (Large Sized Multi-purpose Co-operative Societies) would be overcome and these societies would be able to give much needed succour to the exploited tribal communities."\(^{30}\)

It is also good to note that the Government of India has issued instructions to nationalised banks to advance 0.5 per cent of their gross deposits under 4 per cent rate of interest to Scheduled Castes and Scheduled Tribes.

Tribal economy is intimately connected with the forests. The forests provide them fruit, fuelwood, timber and other products which the tribals consume as also sell. Collection and marketing of minor forest products gives employment to the tribals and supplements their income. The National Commission on Agriculture has recommended the implementation of the Scheme of Social Forestry with the following objectives:

1. fuel wood supply to the rural areas and replacement of cowdung,
2. fodder supply,
3. small timber supply,
4. protection of agricultural fields against wind; and
5. recreational needs.\(^{31}\)

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The plantation of trees on the farmers own holdings, village commons, banks and bunds of the tanks, government waste lands, etc. was recommended by the Commission. The Scheme would not only give employment to the tribal people, but also can fulfil their basic needs in the long run. The Scheme has been working with the co-operation of both the Centre and State Governments since the Third Five Year Plan. Much of its success depends upon the willing co-operation of the rural and tribal people for which a net work of extension workers is needed.

The allied activities like dairying, poultry, bee-keeping, animal husbandry, etc., have great potentialities to provide employment all the year round to the tribal farmers. While promoting livestock and poultry development programmes for the tribals a distinction has to be made between tribal areas which have a market economy or are nearer to market centres, and areas which are inaccessible and where a market economy has yet to develop. In the first case steps have to be taken for breed development, management of livestock and poultry on modern and commercial lines. In the second case, the tribals may be helped to maintain the livestock to meet local consumption needs.

Tribals are quite familiar with the cottage industries like weaving and basket making etc. The traditional skills of the tribals should be identified and proper assessment should be made regarding the development potential of village and cottage industries based on available local raw
The Sixth Five Year Plan has proposed the schemes of regionally oriented investment programmes in the backward areas. Some of the examples of such programmes are -

(i) investment in major bridges, roads, marketing facilities, or communication that can open an area, make commercial agriculture profitable and possible to help to stimulate non-agricultural job opportunities;

(ii) investments in labour training which would be of particular importance in areas where a substantial change in the occupational structure is required;

(iii) emergence of rural banks, credit co-operatives and other institutions to improve the credit network and reduce exploitations;

(iv) support for land reforms and other programmes of institutional change.32

These programmes need sincere and systematic implementation in tribal areas by the implementing authorities. The success of the projects much depends upon the popular support and co-operation of the tribal people.

32. Draft Five Year Plan - (1978-83) 6.10.
CHAPTER III

TRIBAL AGRICULTURE IN HILL AREAS

SHIFTING CULTIVATION

3.1 The economy of the hill tribals is largely based on land and forest resources. Agriculture is the principal source of livelihood for the hill tribals, as it is for the plains-tribals. Although in some pockets of the hill areas, settled farming in the form of terrace or wet cultivation is practised by some of the tribes, the principal type of cultivation prevalent among the hill tribals is known as "Shifting Cultivation". It is assumed that shifting cultivation is the oldest method of agricultural practice adopted by many primitive tribes inhabiting in the tropical and sub-tropical regions. One source dates back the existence of shifting cultivation to 3000 B.C. ¹

The system consists of felling of trees in the hill slope, burning the fallen trees and bushes, and lastly dibbling or broadcasting seeds in the ash-covered soil. The land so prepared is cultivated for two to three years till its fertility is exhausted. Then the land is abandoned and a new patch of forest land is brought under cultivation. The cultivation is thus shifted from one patch of land to another after every few years of cultivation.

Though in English terminology this system is called

¹. Tripathy D.P. - Shifting Cultivation in Orissa - P.8.
as "slash and burn" cultivation, in India it has numerous local terms. It is known as "Jhum" in Assam, Kurao and Khelli in Bihar, Waler in Gujarat, Pendo, Bewar and Dahiya in Madhya Pradesh, Kumari in Madras, Bringa, Podu, and Dahi in Orissa, Tekongulu in Nagaland, Hookuismong in Tripura and Adiebick in NEFA.2

The system of Shifting Cultivation has been defined by Pelzer as "an economy of which main characteristics are rotation of fields rather than crops; clearing by means of fire, absence of draught animals and manuring, use of human labour only, employment of dibble stick or hoe; short period of soil occupancy alternating with long follow periods."3

We may briefly the characteristics of shifting cultivation as follows:
(i) Rotation of fields, not crops - or shifting of the fields over time and space;
(ii) using of fire as the clearing agent;
(iii) use of human labour as the chief inputs;
(iv) no animal or plough is used for cultivation;
(v) use of simple tools like dibble stick or hoe;
(vi) practice of mixed cropping in the land; and


(vii) shifting of homestead, if necessary.

3.2 Extent of Shifting Cultivation

In India Shifting Cultivation is found largely in the States of Andhra Pradesh, the hill districts of Assam, Arunachal Pradesh, Madhya Pradesh, Meghalaya, Mizoram, Manipur, Nagaland, Orissa and Tripura. The system also exists in some parts of Bihar, Gujarat, Mahareshtra, Mysore and Kerala. The data regarding the acreage covered under shifting cultivation, number of people depending on it, and its productivity, etc., are scanty and sketchy. Doubts have often arisen regarding the reliability of the published statistics. However, after compiling the reports given by the Commissioner for Scheduled Castes and Scheduled Tribes, and the Dhebar Commission, a Table is prepared, which gives a picture of the tribal population depending on shifting cultivation, the areas covered and the crops grown etc. (See Table IX). An analysis of the Table IX would reveal that during the sixtees, 25,89,401 tribal persons were depending upon 13,08,236 acres of land annually for shifting cultivation. Dhebar Commission viewed that since the land was changed in rotation, the total area affected by shifting cultivation might be estimated at five times the annual area. In North East India alone where shifting cultivation is largely practised by the tribals, about 2.7 million hectares of forest land are affected by jhuming and nearly

half a million tribal families were involved.\textsuperscript{5}

Although production of food crops is the main type of agricultural practice among the tribals under shifting cultivation, some cash and commercial crops are also raised. Shifting cultivators in different states, for example, are raising cotton, fruits, chillies, ginger, turmeric, oilseeds, sugarcane, jute, vegetables, for the markets in the plains.

A comparison of the Column 5 with Column 4 of Table IX indicated that per capita availability of land in India for shifting cultivation was only 0.50 acres. Table X, however, shows that the average land per person practising shifting cultivation varied between 0.004 acres in Bihar to 2.89 acres in Gujarat (including Maharashtra); in the majority of cases it was less than one acre. Considering the small amount of per capita forest land put under shifting cultivation, and the primitive practices of agriculture, the tribals have to depend upon - the collection of forest produce, hunting and gathering food etc., for the rest of the year. In some cases they are also engaged in house house industry and casual labour.

3.3 Low Productivity

The productivity of land under shifting cultivation has been estimated to be lower than that of wet and settled cultivation in any part of the country. An estimate of per acre paddy yield under shifting cultivation by the tribals

\textsuperscript{5} Wadia F.K. - Control of Shifting Cultivation in North Eastern Region- Prajnan Vol. V No. 3, Sept. 1976.
of Ganjam district (Orissa) shows that it is 240 Kg., whereas it comes to 480 Kg. to 600 Kg. in case of low land in the Plains. Similarly in Meghalaya it has been estimated that paddy yields in jhum areas are 715 Kg. per hectare, as against 1369 Kg. per hectare in more terraced agriculture. Low returns from agriculture have been mainly responsible in keeping the hill tribals at a subsistence level of existence.

The low productivity of land under shifting cultivation may be attributable to the following reasons:

1. **Primitive Methods**

It has already been mentioned that after burning the trees and bushes, the cultivators just broadcast the seeds on the ash bed or dibble the seeds into the holes. Generally plough is not used or earth is not dug. The main input in shifting cultivation is the ash from the burnt matter and human labour next to land and seed. A pattern of mixed cropping is generally adopted by the cultivators, where paddy, millets, beans, sweet potatoes, chillies, cotton, and a number of vegetables are planted together. In the absence of application of manure or fertilisers, or any improved techniques of cultivation, the yields per acre are bound to be low.


(ii) **Jhum Cycle**

A plot of forest land after being cultivated for two to three years is left fallow for a number of years to regain fertility. In the interval the cultivators cultivate other plots of land. This is known as the "Jhum Cycle". This cycle depends upon the pressure of population of a particular area as well as the availability of suitable hill slopes. The higher the density of population in a particular area, the shorter is the 'jhum cycle'. With increase in the population in recent years the jhum cycle which was 30 to 40 years in the past had decreased to 1 to 17 years in Arunachal Pradesh, 4 to 5 years in Meghalaya, Mizoram and Tripura, 5 to 10 years in Assam Hills, 6 to 8 years in Manipur and 6 to 15 years in Nagaland. With the jhum cycle, becoming shorter, the soil fertility does not fully recover and the yield of crops per acre decline.

(iii) **Land Ownership**

In most of the tribal areas in the hills the land is owned by the community as a whole. The power of distribution of land for cultivation rests with the village headman, or the village community. Due to non-fixity of individual tenurial rights, the farmers have little attachment to land. They do not take any interest for the improvement of land and hence, the productivity suffers. Moreover due to

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lack of individual records of right over the cultivable land, the tribals are unable to get the facilities of institutional credit for investment in agriculture against land as a security.

(iv) **Difficulties of Irrigation**

Tribal areas are extremely backward from the point of view of irrigation. Although, hill areas generally get more rainfall, the rain water is not retained on the hill land as it immediately runs off down the slopes. The tribals in the hills are therefore able to grow only rain-fed crops. The major problem is to preserve the water through dams or bunds, and the preparation of terraced lands for irrigation purposes which involve heavy cost.

Where terraces have been constructed, the cultivation is more intensive. The Apatanis of Arunachal Pradesh, the Angami Nagas, and the Savaras of Orissa, have been successful in intensive terrace farming under conditions of wet cultivation. The Savaras of Orissa have turned the Podu fields into terraced lands. Water from the neighbouring streams is diverted into these fields for irrigation with great care and ingenuity. Angami Nagas of Nagaland, and, in some areas, the Khasis have been practising settled farming by constructing terraces on the hill slopes. Though no sophisticated implements are used and no chemical fertilisers are applied in the fields, the Apatanies have achieved excellent results by efficient use of water resources. The carrying capacity of the soil is about 500 per
square miles, which has besides irrigated fields, pasture land, groves, housesites, forests, etc. 9

(v) **Carrying Capacity**

A comparative study on the carrying capacity of land under shifting cultivation in the areas of Mizo Hills (Assam), Keonjhar Hills (Orissa), and Abujhamaar Hills (Madhya Pradesh) (See Table XI) reveals that shifting cultivation can support varying number of people under different conditions of rainfall. 10 The rainfall in the Mizo Hills is 135", in the Keonjhar Hills 65" and in the Abujhamaar Hills 50". The carrying density of population per square mile is 37.5 in the Mizo Hills, 24.7 in the Keonjhar Hills and 14.3 in the Abujhamaar Hills. If we compare these figures with the present density of population of those areas, we find in the Mizo Hills it is 13.2 and in the Abujhamaar Hills it is 6.1, whereas in the Keonjhar Hills the figure is 63.2. The consequences of over population in the Keonjhar Hills are extension of cultivation to areas which are unusable for the purpose, shortening of respective cycles resulting in low average productivity (2.37 quintals per acre), and outmigration in search of work as agricultural labourers. Such problems are not there where density of


population is lower than the carrying capacity. Another important thing to note here is the difference between the carrying capacity under shifting cultivation with the highest rainfall in the Mizo Hills (37.5) and the carrying capacity of the Apatani under provisions of irrigation (500).

3.4 Reasons of Pursuing Shifting Cultivation as an occupation -

Inspite of the disadvantages as stated above, the system of shifting cultivation continues among the tribals for various reasons.

(i) The tribals under shifting cultivation practise mixed cropping in the jhum land. In favourable conditions, the cultivator produces his family requirements of food, cereals, vegetables, oilseeds and pulses and a few cash crops to exchange or barter against his requirements from outside.

(ii) Shifting cultivation provides work to all the able bodied persons including grown-up children.

(iii) Plough cultivation requires more of investment in form of bullocks, seeds, fertiliser and labour charges which are beyond the means of an average tribal. For shifting cultivation the tribals do not spend much on these items. Ashes of natural vegetation are the only manure used in the land. Moreover shifting cultivation can be undertaken with extremely simple implements like hoe, digging stick and axe.

(iv) Extensive fertile lands are not available in the areas where the primitive tribes live. Besides in certain
areas where they live at the foot of the hills or plains, they have lost their wet land to non-tribals. As a result, they have no other alternative but to cultivate hills slopes.

(v) Shifting cultivation forms a part and parcel of their culture and way of life. The rituals, social organisations, and recreational activities are interwoven with the practice of shifting cultivation.

3.5 Effects of Shifting Cultivation - Two Views.

There are two views regarding the effects of shifting cultivation and the steps to be taken to tackle the problem. Those who opine that the system is bad and harmful have based their findings in the following lines.

Shifting cultivation has led to the destruction of valuable forests, soil erosion, and drying of the springs in the hills. It has affected rainfall and caused floods in the lower reaches of the valleys. H.L. Bor, the then Botanist of the Forest Research Institute of Dehra Dun had characterised shifting cultivation as harmful causing extensive soil erosion. It is viewed that the forests provide physical obstruction to the velocity of wind and water, and thus check soil erosion. Once the forests are gone due to continuous operation of shifting cultivation, land becomes loose, and dust storms and torrential rain cause wide scale soil erosion.

Mr. Nicholson, one time Conservator of Forests in Orissa, while giving evidence before the Partially Areas Enquiry Committee of Orissa, observed, - "The damage done to the forests by shifting cultivation was serious; and only under certain conditions where area of land available is large and population small, such cultivation does little harm." Due to practice of extensive shifting cultivation in the Koraput plateau (Orissa), for example, the sal forests have completely gone out of existence from the Sader Sub-division. Even some of the blocks of the district are practically devoid of all forest resources.

It has also been viewed that reduction of forests caused by shifting cultivation reduces the water-holding and water-releasing capacity of the hills. As a result streams and rivers run dry in summer - when actually water is most needed. Further, reduction of forests brings devastating floods in the plains as the rivers get silted rapidly.

Hence, on the basis of these observations, it is concluded that shifting cultivation gives rise to two grave enemies of agriculture i.e. flood and drought.

The second opinion on the effects of shifting cultivation is that, jhuming operation is not so much harmful as it has been generally described. Mr. Chaturvedi, at one time Inspector General of Forests, Government of India, and

Mr. M.S. Sivaraman, the then Advisor, Programme Administration, Planning Commission, are of the view that the system is not necessarily unscientific and can be improved. It is argued that the high humidity and heavy rainfall in the region does not permit the soil to remain barren for long. Some form of growth immediately covers the top soil which does not allow for further erosion. The tribals also prepare a seed bed in the steep slopes and do not disturb the top soil by ploughing or hoeing. Chaturvedi opined, "The notion widely held that shifting cultivation is responsible in the main for large scale soil erosion needs to be effectively dispelled. The correct approach to the shifting cultivation lies in accepting it not as a necessary evil, but recognising it as a way of life; not condemning it as an evil practice, but regarding it as an agricultural practice..."  

The opinion that shifting cultivation does not create much problem of soil erosion as some form of growth immediately covers the soil due to heavy rain cannot be accepted as universally true. Shifting cultivation has caused severe problems in the areas where rainfall is comparatively less,


and soil is not conducive for rapid vegetation, and the
density of population is more.

There is also another observation that in the Assam
Hills, at least ten centimetres of soil is washed away
even from the moderate slopes in each jhuming cycle. Al-
though the vegetation grows quickly, the successive growths
deteriorate from large trees to shrubs and bamboos, and
ultimately to coarse grass. Where the slopes are steep or
jhuming cycle short, barren rocks have also appeared.15

Hence, the shifting cultivation is one of the major
problems in the tribal areas and it is not an ideal method.
Dhebar Commission feels that, as nearly 10 per cent of the
tribal population depends upon jhuming, they cannot be
deprived of their land, their livelihood and their way of
life. "Total replacement of the system, if it comes at all,
will be a long term process."16 Similarly Mr. Sivaraman
concludes, "In most of the interior areas, where communica-
tion is not developed, and not sufficient land suitable for
terracing is available, jhuming alone can be done for the
present and as such every effort should be made to improve
the fertility of the jhumed land."17

15. Goswami P.C. - Status Paper on Shifting Cultivation
and Soil Conservation in North East India - Directorate
of Soil Conservation, Assam 1973 - quoted by Wadia -
17. Report of the Committee on Special Multipurpose Tribal
Block (Scheduled) Areas - PP.48-49 - quoted by Dhebar
System of shifting cultivation is a mixed problem, partly connected with the physical condition of the land and partly with social customs, traditions, and beliefs. The solution, for the present, is to regulate the farming practices on scientific lines so that its disadvantages are reduced and fertility of the soil is promoted. Alternative farming practices must be gradually introduced so that dependence on shifting cultivation is reduced.

3.6 Measures to Control Shifting Cultivation

Various schemes and programmes sponsored by the Centre and the State Governments are under implementation to wean away tribals from shifting cultivation. It is also expected that the programmes would enable the tribals to have a better and more stable income from agriculture. The important measures include—

(a) soil conservation activities, land reclamation, terracing, contour building, plantation, development of irrigation, development of pastures, etc.;

(b) Programmes of colonisation and settlement; - providing the tribals with land and other facilities to undertake settled cultivation, and also with residential accommodation;

(c) introduction of cash crops and horticulture;

(d) angia cultivation, and

(e) agri-silviculture.

The implementation and progress of some of the principal measures in this direction are mentioned below.
Soil-Conservation

Proper implementation of soil-conservation activities can yield immediate returns and can save the soil from further deterioration. It will give new soil, new vegetation and in few years rejuvenate forests too.

Dhebar Commission viewed that the soil conservation activities were progressing in full swing in the States of Andhra Pradesh, Gujarat, Maharashtra and Orissa. The Commission found that everywhere complaint was regarding the insufficiency of funds. In the North Eastern Region the States' programme of soil conservation comprise -

(a) the traditional soil conservation measures like terracing, contour building, reclamation, afforestation, irrigation, plantation etc., and
(b) special programme of resettlement.

Available reports show that by the end of 1975-76 an area of about 190 lakh hectares of agricultural land was treated with soil conservation practice and about 20 lakh hectares of non-agricultural land was put under afforestation and grass land development with a total expenditure of Rs.422 crores. Although these figures stand for the country as a whole, the major work, no doubt, has been done in the tribal areas.

Land Reclamation Schemes

A Land Reclamation Scheme has been undertaken by the Tribal Development Agencies in the tribal areas of

19. India (1977-78) P.211.
Srikakulam District of Andhra Pradesh. The Agency prepared the land, undertook minor irrigation works, and supplied the cultivators with drought cattle, farm implements and houses etc. A survey of the performances of the scheme for a period of three years (1973-74 to 1975-76), showed that as against 35.52 per cent of cultivated area put under shifting cultivation in the first year (i.e. 1973-74), the proportion declined to 10.76 in the second year and to 10.23 in the third year.\(^{20}\) In the areas, where the Tribal Development Agencies are undertaking this type of intensive works, the tribals are also gradually shifting to high yielding varieties and commercial crops.

**Terraced and Settled Cultivation**

Terraced cultivation is regarded as a more effective solution to the problems of shifting cultivation. In many areas subsidies have been given by the government to persuade the tribals to take to terrace cultivation. But terracing can be undertaken only under certain conditions, and not everywhere. Roy Burman and Sharma, in their study of a Naga Village, found that the efforts did not make much success due to the following reasons.

- (1) nature of the terrain was not suitable for terrace or wet cultivation,
- (2) plots were small and scattered and there was fear of wild animals,
- (3) difficulty of making roads to

reach the scattered plots for wet cultivation at long distance, (4) Rivers were deep and it was difficult to construct the irrigation channel, (5) lack of finance for irrigation.21

Another factor which inhibits the adoption of terrace cultivation is the feeling that the top soil containing fertility built into it by long years of leaf fall gets disturbed when terracing is made. The newly constructed terraces have comparatively inferior top soils. To restore fertility in the terraced fields green manures and other chemical fertilisers are necessary to be applied in the fields. It is doubtful how far the tribal cultivators with their subsistence economy will be able to invest in the inputs required for a more settled form of agriculture. Unless adequate and timely inputs are made available to them from the institutional sources, such costly projects of land reclamation and terracing are not normally undertaken by the tribals.

The National Commission on Agriculture has recommended the following points with regard to terracing of land for settled cultivation.22

(i) small scale irrigation may have to be arranged from hill-streams,
(ii) effective extension education is essential,

(iii) continued financing for maintenance, and institutional arrangements for irrigation, seed and fertiliser, etc.,
(iv) the land tenure system should be set right.

It is realised that settled-cultivation should not be regarded as the only solution to the problem of shifting cultivation. It may not be possible to obtain suitable lands for terracing to solve the problems of all tribal families depending upon shifting cultivation. It is also a time consuming process involving heavy cost. Hence, simultaneous programmes like Agri-silvi culture, introduction of horticulture crops, and development of livestock, etc. have to be taken up.

**Agri-Silviculture Programmes**

Agri-Silviculture programme has been recommended as another alternative to improve shifting cultivation. It aims at integrating the forest preservation with shifting cultivation. It is based on the assumption that trees play a vital role in protecting agriculture in the long-run. Trees preserve moisture in the land by giving shade to the soil, their falling leaves provide manure to the soil; loppings and thinings give firewood to the cultivators, so that cow-dungs and animal droppings can be used as manure. Lastly, forests provide valuable timber, fruit, honey and several other raw materials to the tribals which can be exchanged for consumer goods. The programme has to be worked out in a planned manner in different regions.
depending upon the availability of land for cultivation and for forests, system of land tenures, availability of water, etc. "The programme should provide the five F's - food, fuel, fodder, fruits and fair returns to the farmer."\(^{23}\)

This objective can be achieved by a rational distribution of productive land for agriculture, horticulture, silviculture and pastorage. The National Commission on Agriculture opines,\(^{24}\) "we should say that the lower and middle hill slopes should be suitable for horticultural and plantation crops and higher slopes for afforestation and pasture and grassland development." We have also referred to the Programme of "Social Forestry" in Chapter II. Agri-Silviculture Programme designed for the hill tribals is only a scheme on the same lines.

**Taungia System**

Taungia System is a combination of Silvi-Culture and impermanent agriculture. It has been tried with success in Assam and Manipur tribal belt and is under experiment in Tripura area.\(^{25}\) Under this system the cultivators are permitted to clear and burn a part of the forest area and then

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plant rows of commercially valuable trees. The farmer is permitted to cultivate his own crops between the rows of the new plantations. Within three to four years when the new plantation gets established, the farmer is allowed to move to another part of the forest and repeat the process there. This method enables the commercially useful trees to be exploited by a cycle of about 50 to 150 years. The cultivator will return to the first plot where the trees having full growth are ready to be cut down.

Cash Crops and Horticulture

The Dhebar Commission in its report gives a note on the possibilities of undertaking cash crops and horticulture plantation programmes in different parts of the tribal areas of the country. 26 Himachal Pradesh is supplying potato seeds to a great part of India. The Commission feels there is urgent need to provide credit, transport and marketing facilities to the tribal cultivators. Andhra Pradesh Government in the Arku Valley is trying pine-apple, other fruits and coffee. Chillies and cashewnuts can be conveniently produced by the Andhra tribals. Gujarat, Maharashtra and Rajasthan are ideal for growing cotton and tobacco at the lower altitude and various types of fruits at higher altitude. Bihar, Madhya Pradesh, Orissa, and West Bengal can produce oranges, pineapples, plantains and potatoes.

Coffee can be grown at higher altitudes of these areas. In Orissa there is a scope for tumeric cultivation. The Assam tribal areas, Manipur and Tripura grow large quantities of oranges and pineapples. They can also develop tea gardens in these areas. But fruits of these areas are mostly wasted for want of transportation facilities.

Miss Wadia, after an assessment of the resettlement, plantation and horticultural schemes undertaken by the governments of North-Eastern Region, feels that there are two major problems which are not properly dealt with by the governments. First is the post reclamation credit needs and second, the marketing arrangements.27 Added to these, seeds, plants, manure, fertilisers and insecticides etc. should be provided to the tribal cultivators practising the cultivation of cash crops and horticulture - in different states of the country.

Colonisation Schemes

Colonisation schemes in the tribal areas aim at a comprehensive programme to resettle the shifting cultivators. State governments are taking steps to induce the tribals to settle agriculture by providing them with residential facilities, lands for cultivation and necessary inputs, and implements. Government of Orissa, for example, have established a number of colonies in the tribal areas during the plan

period. Available information revealed that by 1974-75 altogether 105 such colonies were set up, in which 3098 families were settled. But subsequently it was found that 522 families i.e. about 17 per cent of the families had deserted for some reason or other. Some efforts have also been made by the Government to rehabilitate the tribals in Dandakaranya Project area by providing them 25 per cent of the reclaimed lands. Government of Tripura, for example, have started the colonisation scheme for the tribals since 1953-54 - and a large number of tribals have been settled. In recent years Government of Tripura have proposed to settle 200 jhumia families - 100 families will be settled for horticultural development, and the rest 100 families will be settled on agricultural land. Government of Assam proposed to resettle 11,600 families in the Mikir and North Cachar Hill districts under a scheme for the "Permanent Settlement of Jhumia Cultivators Through Development of Plantation Crops," Though they will be employed on wages in rubber and coffee plantation, subsidiary employment will be provided to them through settled agriculture and other forest works.


Although various State Governments are undertaking colonisation schemes in the above lines to divert the shifting cultivators to settled agriculture, the projects have not been enthusiastically accepted by the tribals in all places. It is found that tribals, in some places, have either deserted the colonies or are maintaining two establishments i.e. the old houses in the hills and the new houses in the colonies.

A well planned extension programme is needed to orient the traditional hill cultivators towards a permanent settled cultivation. Timely help with regard to seeds, fertiliser, implements credit and water facilities will keep the cultivators attached to their new farms.

Occupations allied to agriculture like animal husbandry, poultry, fishing etc., as have been discussed in Chapter II can be taken up simultaneously in the settled areas as subsidiary source of employment. Forest areas should be earmarked for the purpose of grazing of cattle and other animals.

Tribal families, both undertaking shifting cultivation as well as under colonisation programmes, should be organised under the SFDA/MFL for their requirements of credit, inputs, etc. and for the marketing of their produce.

Forest and agro-based small and cottage industries may be opened in the tribal areas depending upon the availability of raw materials and other facilities.

Added to all these a network of communication should receive the top priority in these areas.
4.1 In the earlier chapters some of the major problems of the tribal agriculturists, both living in the plains and in the hills have been discussed. An attempt was also made to review the measures taken by the authorities to tackle them. This chapter reviews the suggestions given by different authorities and scholars to solve the agricultural problems of the tribals.

It has been pointed out in Chapter II, that the major problems facing the plains tribals are uneconomic holdings, land alienation, tenurial disincentives, indebtedness, problems of marketing and lack of extension services.

4.2 In order to make the uneconomic holdings of the tribals into economically viable units, there are suggestions that in the matter of land distribution schemes priority should be given to small cultivators. The proper implementation of such a suggestion would however be dependant upon the availability of surplus land - either by way of ceilings or from Government waste land, as also the number of landless as well as poor tribals with uneconomic holdings in the

1. (a) V.K. Puri - Planning for Tribal Development - Yojana Vol. XXII/10, June 1, 1978.
village. In comparison to the needs of the people, the available surplus land is generally inadequate. Under such circumstances the distribution of land would need to be weighed among the landless tribals or the uneconomic holdings. In either case the total magnitude of the problem cannot be solved. Hence, more intensive methods of cultivation of the existing farms with the provision of water, inputs, seeds and fertilisers to generate more income from the field at governmental initiative have to be taken up. At the same time allied activities like livestock raising, poultry, piggery etc. should be encouraged. Rural works programmes will help the landless and land poor tribals to earn and supplement their income.

4.3 Almost all the scholars who have been studying the agricultural problems of tribals, the Committees and Commissions appointed to go through their economic problems have been pointing out that the land alienation, as a result of tribal indebtedness is the main cause of their exploitation. Suggestions for the passing of legislation against alienation of tribal land have been made. State Governments have passed laws against alienation of tribal lands to non-tribals, implemented them, and in some cases restored the alienated land to the tribals. But due to loopholes in the legislation, benami transfers of land are continuing. A detailed study is needed to be done in this regard, and solutions have to be found out to remedy the legal loopholes and to solve the specific economic problems of tribals who are
allowing such benami transfers. The Commissioner for Scheduled Castes and Scheduled Tribes however felt, "it seems that it has not been possible to know the magnitude of the problem in all the tribal areas of the country. It will go a long way if comprehensive surveys by expert agencies are made in the tribal areas where this problem has known to be acute. Efforts are also required to be made by the State Governments to ensure that the restored tribal lands are really cultivated by the tribal cultivators and timely agricultural assistance is made available to them."  

4.4 It has been widely suggested that in order to keep small and medium tribal farmers free from the clutches of exploiters (i.e. money lenders) arrangements for granting loans through co-operatives and other financial institutions should be made. It has been felt that co-operation in the past has failed in the tribal areas due to certain troubles - like working of some vested interests, inadequate or no landed securities with the tribals, no provision for giving loans for unproductive purposes, etc. Mr. Puri suggests, "Keeping these considerations in view, the rebuilding of the co-operative movement has once again to be done from co-operative credit societies and all mistakes of the past to be remedied."  

by way of charging high interest rates and alienate their land, the traders and middlemen also exploit the tribals in the field of marketing. Considering all these problems, the Study Team constituted by the Government of India in 1971 (Bawa Committee) on the Co-operative Credit Structure in Tribal Areas, had suggested the unification of credit and marketing structures. The unified structure should provide for all services including production credit (short term, medium term and long term), supply inputs and essential consumer - commodities, marketing of agricultural and minor forest goods and credit for consumption needs and social purposes. Based on the suggestions of the Bawa Committee the State Governments have started working large-sized-credit-cum-marketing societies in the tribal areas. The successful working of these societies will go a long way to save the tribal cultivators from the clutches of the exploiters.

As it is difficult to cover all the tribal farmers through co-operative societies, the nationalised banks should be allowed to open more banks in the tribal areas and start giving credits to the tribals at a concessional rate.

4.5 An important suggestion which has been stressed by many persons is the development of extension efforts which would cover the entire agro-economic lives of the tribals.

Pal while outlining the problems of tribal agriculture in the plains stated "Extension efforts are sporadic and are half heartedly directed.... concentrated drives are lacking." He suggested that extension services should be geared to the needs of the tribals.\textsuperscript{5} For implementing improved agricultural practices in the tribal areas what is essential is that proper environment is to be created so that the initiative and co-operation of the tribal population can be generated. This also requires extensive and liberal use of extension services. The extension efforts should be concentrated on the most improved agricultural practices rather than for package use of such practices.\textsuperscript{6}

It should be the duties of extension workers not only to acquaint the tribal farmers with the improved practices of agriculture, but also to help them in availing credit and marketing facilities through institutional channels. The shyness of the tribal farmers in establishing contacts with extension personnel should be removed by arranging frequent visits of such personnel for supplying inputs etc., at the village level.


4.6 The plains tribals live mainly on the fringes of forests in some of the states. It is, therefore, suggested that their agricultural economy must be married to the forest needs. Not merely to supplement their incomes, but also to reduce the pressure on their small holdings, a larger number could be encouraged to tap the forest produce. As Dhebar Commission had put it the forest policy should be recast to suit the tribal policy.\textsuperscript{7}

The Scheme of "Social Forestry" for tribal areas as has been suggested by the National Commission on Agriculture has been mentioned in earlier chapters. The Commission feels that the scheme has good employment potential and it can solve the basic needs of farmers like fuel, fruits, fodder and small timbers and poles for housing etc.

The collection and marketing of minor forest produce should be entrusted to forest labour co-operatives and forest contractors should be replaced by such co-operative societies.\textsuperscript{8}

4.7 It has been suggested that there should be rigid implementation of Act safeguarding the interests of the share-croppers. If possible a way should be found to see that they become full-fledged land owners.\textsuperscript{9} Available


information reveals that a number of states have enacted laws conferring ownership rights on the cultivating tenants. Though the data regarding the tribal beneficiaries due to the enactment of laws are not presently available, an all India figure shows that around 40 lakh tenants have come to acquire ownership rights over 37 lakh hectares of land. A strict and speedy implementation of such laws in the communities where tribals are involved is highly desirable.

4.8 Consolidation of holding and co-operative farming has also been suggested to form a wider basis of agrarian reorganisation, especially in tribal areas. Social and economic homogeneity among the tribes makes for better possibility of success of such an experiment.

4.9 The diversification of agriculture in the form of piggery, poultry, dairy, etc. has been suggested to be encouraged in the tribal areas as a solution to the problems of landless tribal and as a supplementary source of income for small tribal farmers. While implementing such programmes the aptitudes of the tribals must be taken into account - and in addition to helping the tribals in


providing necessary inputs, facilities of marketing of the
produce must be considered.

4.10 There are also suggestions regarding the promotional
measures for installation and extension of forest based
and agriculture based small industries. Such programmes
should be taken up by the State, and educated tribals
should be given preference in training and employment over
others for employment.13

Added to this there is a great potentiality of
cottage industries like basket making, weaving etc. which
can be encouraged among the tribals. They can be developed
as subsidiary employment to agriculture.

4.11 The main approach to the solution of the problem of
shifting cultivation has been considered as permanently
settling the shifting cultivators and weaning them away from
the practice of shifting cultivation. Dheber Commission
(1961) felt that the terrace cultivation "holds out immense
possibilities of improvement and in many places throughout
the tribal areas it has been already taken up with enthu­
siasm." For proper implementation of the scheme the follow­
ing suggestions are to be borne in mind.

(a) Terraced cultivation involves heavy initial expendi­
ture of money and energy by the tribals, and it is, there­
fore, necessary for government to give considerable

13. B.N. Sahu - Guide Lines for Development of Tribal
Agriculture in India. IJAE - July (1970).
assistance both for building up terraces and providing proper irrigation. For this purpose it has been suggested to give subsidy to the tribal farmers who would undertake the terrace cultivation.

(b) Considering the subsistence nature of the tribal economy it is often suggested that the amount of subsidy should be substantial otherwise the tribals would not take to settled cultivation through terracing. In certain cases subsidy covering 75 per cent of the total cost of terracing even could not be successful to attract the tribals towards terraced cultivation. Where the land is suitable for terracing, but the economy of the tribal is bad, it is better that government should bear the entire cost of terracing.

(c) National Commission on Agriculture suggests that small scale irrigation may have to be arranged from hill streams to irrigate the terraced field. Land tenure system should be set right - so that terraced irrigated fields is not alienated to non-tribals. Terracing should be undertaken where there is possibility of continued financing of maintenance and institutional arrangements for irrigation, seed, fertiliser etc. Lastly, effective extension education


should be essential. 16

4.12 Land Colonisation Schemes which have been undertaken by the governments is another alternative to divert the tribals from shifting cultivation to more settled cultivation. The following suggestions have been made for successful implementation of such schemes.

(a) There should be adequate land, properly demarcated and title of deeds should be given to the tribals.
(b) Provision of irrigation, other inputs to be invested in land should be made simultaneously.
(c) The settlers should be provided employment in clearing land, constructing houses, wells, approach roads and irrigation works and the wages to be borne by the Government.
(d) Colony should be self sufficient in every respect - with provision of drinking water, schools, co-operative societies, etc. 17

4.13 For those settlers who are allotted horticultural holdings two facilities, considered important, have been suggested.

(i) Assured markets at fixed prices for fruits and
(ii) Supply of food and other necessities to the tribal families at the controlled prices. It is further suggested that some alternative employment avenues would be necessary


17. Report of the Scheduled Areas and Scheduled Tribes Commission - Ch.2.
to provide the families with some sustenance during the slack seasons.\(^\text{18}\) Plantation crops of rubber, tea and coffee have also been suggested in place of shifting cultivation where terracing is not feasible. The gestation period of horticultural plantation crops is long. There would be need for payment of wages to the tribals during this period, while the cash crop farms are maintained, as a source of livelihood.

1.14 Miss Wadia has suggested that the tribal families in the hill areas should be organised under SFDA/MFP Schemes for their requirement of inputs, credits, etc., and for the marketing of their produce. The tribals can also be benefited from such schemes which assist marginal farmers in undertaking ancillary occupations like dairying, poultry, piggery, agro-industry, etc. Under the SFDA and MFAL, the identified cultivators are encouraged to avail of credit and marketing facilities. It is hoped that the communal nature of cultivation under shifting cultivation would be an ideal setting for co-operative institutions to develop once the rehabilitation of tribal families has been undertaken.\(^\text{19}\)

4.15 Goswami and Saikia are of the opinion that there are

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certain social habits and customs, which affect the improvement of agriculture in the tribal areas. They suggest that these practices should be changed. Customs like payment of bride price, expenses for appeasement of evil spirits during sickness, extravagant expenses during marriage ceremonies, have ruined many of the families economically. In some of the tribal societies a person after marriage is required to live in the house of the bride. Before marriage he is not expected to work hard in his father's farm as he knows that after marriage he will have no rights over the property of the parents.

A change in these customs and habits can be possible only through the spread of education in the tribal areas. Opening of adult education centres and extension of publicity programmes, and constant contact of extension workers with the tribal farmers will gradually change their outlook. Reduction of expenses during social ceremonies, and abolition of bride price are likely to help capital formation among the tribal cultivators. Similarly, extension of medical facilities will relieve the people from heavy expenditure on ceremonial rites during diseases.

4.16 From the above discussions it is clear that agricultural development in the tribal areas requires an integrated approach. Improvement of infra-structure, changes in the

social habits and customs, creation of an urge for development among the tribals are quite interlinked problems. On the other hand agricultural development in its wide connotation also includes animal husbandry, poultry farming, forestry, sericulture, bee keeping, lao cultivation, etc. An integrated approach for agricultural development calls for a co-ordination among the governmental and non-governmental agencies engaged in the development activities in tribal areas.
<table>
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<tr>
<th>States/Union Territories</th>
<th>Total Population</th>
<th>S.T. Population</th>
<th>Percentage of S.T. Population to the Total</th>
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**Union Territories:**

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<td>4,71,707</td>
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* Assam includes NEFA.
Table II

Percentage Distribution of Scheduled Tribe Workers by Employment in Agriculture and Allied Activities

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<tr>
<th>States/Union Territories</th>
<th>Cultivators</th>
<th>Agricultural labourers</th>
<th>Total % of workers engaged in agr. activities</th>
<th>Livestock, Forestry, Fishery, Hunting, Plantation, Orchards and allied activities</th>
<th>Others</th>
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<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3 (2+3)</td>
<td>4</td>
<td>5 (4+5)</td>
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<td>States:</td>
<td></td>
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<td>1. Andhra Pradesh</td>
<td>36.1</td>
<td>49.1</td>
<td>85.2</td>
<td>4.0</td>
<td>89.2</td>
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<td>2. Assam</td>
<td>85.3</td>
<td>7.1</td>
<td>92.4</td>
<td>0.6</td>
<td>93.0</td>
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<td>3. Bihar</td>
<td>61.9</td>
<td>28.1</td>
<td>90.0</td>
<td>1.2</td>
<td>91.2</td>
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<td>4. Gujarat</td>
<td>48.3</td>
<td>42.3</td>
<td>90.6</td>
<td>1.0</td>
<td>91.6</td>
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<td>5. Himachal Pradesh</td>
<td>82.5</td>
<td>3.1</td>
<td>85.6</td>
<td>5.9</td>
<td>91.5</td>
</tr>
<tr>
<td>6. Kerala</td>
<td>17.7</td>
<td>62.6</td>
<td>80.3</td>
<td>7.9</td>
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<td>93.6</td>
<td>1.0</td>
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<td>90.6</td>
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<td>90.8</td>
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<td>89.1</td>
<td>1.9</td>
<td>91.0</td>
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<td>93.2</td>
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<tr>
<td>3</td>
<td>Dadra &amp; N.Haveli</td>
<td>76.9</td>
<td>18.3</td>
<td>95.2</td>
<td>1.1</td>
<td>96.3</td>
</tr>
<tr>
<td>4</td>
<td>Goa, Daman &amp; Diu</td>
<td>19.2</td>
<td>47.1</td>
<td>66.3</td>
<td>6.5</td>
<td>72.8</td>
</tr>
<tr>
<td>5</td>
<td>Lakshadweep</td>
<td>0.1</td>
<td>-</td>
<td>0.1</td>
<td>30.7</td>
<td>30.8</td>
</tr>
<tr>
<td>6</td>
<td>Mizoram</td>
<td>92.1</td>
<td>0.4</td>
<td>92.5</td>
<td>0.2</td>
<td>92.7</td>
</tr>
<tr>
<td>India</td>
<td>57.6</td>
<td>33.0</td>
<td>90.6</td>
<td>2.4</td>
<td>93.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>

N = Negligible.

Source - Calculated from Census of India 1971, Series I, Part II-o(1).
## Table III

Percentage of Irrigated to Total Cultivated Area under Tribal Farming

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage of irrigated to the total cropped area in the tribal district and State as a whole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tribal District</td>
</tr>
<tr>
<td>1. Gujarat</td>
<td>Nil to 1.5</td>
</tr>
<tr>
<td>2. Madhya Pradesh</td>
<td>0.3 to 2.5</td>
</tr>
<tr>
<td>3. Maharashtra</td>
<td>0.6 to 4.3</td>
</tr>
<tr>
<td>4. Orissa</td>
<td>0.3 to 6.3</td>
</tr>
<tr>
<td>5. Rajasthan</td>
<td>2.0 to 4.0</td>
</tr>
</tbody>
</table>

Table IV

Gross Value of Crops per Acre in Tribal and Non-Tribal Districts of Madhya Pradesh

<table>
<thead>
<tr>
<th>Non-Tribal Districts</th>
<th>Tribal Districts</th>
<th>Per Acre Gross Value of Crops (1963-64) in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandsaur</td>
<td></td>
<td>151.5</td>
</tr>
<tr>
<td>Jhabua</td>
<td></td>
<td>131.3</td>
</tr>
<tr>
<td>Khargone</td>
<td></td>
<td>128.4</td>
</tr>
<tr>
<td>Dhar</td>
<td></td>
<td>138.9</td>
</tr>
<tr>
<td>Jabalpur</td>
<td></td>
<td>141.9</td>
</tr>
<tr>
<td>Mandla</td>
<td></td>
<td>96.4</td>
</tr>
<tr>
<td>Shadol</td>
<td></td>
<td>100.1</td>
</tr>
<tr>
<td>Raipur</td>
<td></td>
<td>213.7</td>
</tr>
<tr>
<td>Bastar</td>
<td></td>
<td>173.4</td>
</tr>
<tr>
<td>Durg</td>
<td></td>
<td>145.6</td>
</tr>
<tr>
<td>Raigarh</td>
<td></td>
<td>184.2</td>
</tr>
<tr>
<td>Surguja</td>
<td></td>
<td>150.9</td>
</tr>
</tbody>
</table>

### Table V

Percentage Distribution of Total Workers among Scheduled Tribe Population as Cultivators, Agricultural Labourers and other Workers in 1961 and 1971.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Labourers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>68.15</td>
<td>57.6</td>
<td>19.73</td>
<td>33.0</td>
<td>12.12</td>
<td>9.4</td>
</tr>
</tbody>
</table>


(ii) Census of India 1971, Series I, Part II a(i).

### Table VI

Purpose-wise Distribution of Debt per Tribal Family

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Amount (Rs.)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture</td>
<td>257.42</td>
<td>39.9</td>
</tr>
<tr>
<td>2. Consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Social and Religious</td>
<td>71.62</td>
<td>11.1</td>
</tr>
<tr>
<td>(b) Domestic Consumption</td>
<td>243.24</td>
<td>37.7</td>
</tr>
<tr>
<td>3. Others</td>
<td>72.91</td>
<td>11.3</td>
</tr>
<tr>
<td>Total</td>
<td>645.19</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table VII
Sources of Loan (Perlakhemundi Agency Area) 1971.

<table>
<thead>
<tr>
<th>Sources of Loan</th>
<th>Percentage of Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tribal and Rural Welfare Deptt.</td>
<td>0.2</td>
</tr>
<tr>
<td>2. Other Govt. Agencies other than Co-operative Societies</td>
<td>7.6</td>
</tr>
<tr>
<td>3. Co-operative Society</td>
<td>5.5</td>
</tr>
<tr>
<td>4. Unofficial Co-operative Society</td>
<td>0.5</td>
</tr>
<tr>
<td>5. Tribal Creditors</td>
<td>36.9</td>
</tr>
<tr>
<td>6. Non-Tribal Creditors</td>
<td>49.3</td>
</tr>
</tbody>
</table>

Source - Survey made by D.C. Mohanty and published in Tribal Problems of To-day and Tomorrow - Sabari Cultural Society, Bhubaneswar, P.80.
<table>
<thead>
<tr>
<th>Name of State</th>
<th>Period</th>
<th>Total No. of Cases of land alienation registered/detected</th>
<th>No. of cases disposed of</th>
<th>Extent of land restored to Scheduled Tribes</th>
<th>No. of cases benefited for disposal</th>
<th>No. of cases pending for disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>1973-74</td>
<td>8,719</td>
<td>2,246</td>
<td>N.A.</td>
<td>N.A.</td>
<td>5,772</td>
</tr>
<tr>
<td>Gujarat</td>
<td>Upto Dec. 1976</td>
<td>4,700</td>
<td>2,676</td>
<td>2,572 (hectares)</td>
<td>1,475</td>
<td>2,024</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>Till July 1976</td>
<td>31,222</td>
<td>15,421</td>
<td>12,779 (hectares)</td>
<td>7,923</td>
<td>14,478</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>Till Sept. 1976</td>
<td>22,328</td>
<td>1,287</td>
<td>4,775.24 (acres)</td>
<td>1,279</td>
<td>21,049</td>
</tr>
<tr>
<td>Tripura</td>
<td>1974-75</td>
<td>13,491</td>
<td>78</td>
<td>N.A.</td>
<td>N.A.</td>
<td>13,413</td>
</tr>
<tr>
<td>Orissa</td>
<td>1973-74</td>
<td>7,338</td>
<td>3,493</td>
<td>1,981.83 (acres)</td>
<td>1,142</td>
<td>3,845</td>
</tr>
</tbody>
</table>

N.A. = Not available.

### Table 14

Names of Tribes and their Population Practising Shifting Cultivation, Areas in which this Practice is followed in the States/Union Territories and Areas under Shifting Cultivation

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the State/Union Territories</th>
<th>Name of the Tribes</th>
<th>Total Population depending on shifting cultivation (Approximately)</th>
<th>Total Area of land tracts, divisions, for shifting areas where shifting cultivation (Annually) is carried on</th>
<th>Kind of Crops grown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andhra Pradesh</td>
<td>Magare, Gadebas, Kammara, Konde, Kotigas, Koya, Konde-Kapar, Konda-Reddi, Konda-kdir, Malir, Menna, Narayana, Parajk, Nama, Saveras</td>
<td>2,00,000</td>
<td>90,000</td>
<td>Srikakulam, Sonepahar, Balasagun, Vizianagaram, East Godavari Dist., West Godavari Dist.</td>
</tr>
<tr>
<td>2</td>
<td>Assam</td>
<td>Chekma, Gero, Jain, Kash, Latung, Meltir, Mizo, Naga</td>
<td>5,79,000</td>
<td>5,08,000</td>
<td>Garo Hills, United, Kikir and North-Cocher Hill, United, Khasi and Jain, Hils, Naga Hill Dist., Sylhet (Lushai) Hill Dist., Field Dist., of Assam, Nowgong of Assam, Sylhet (Lushai) Hill Dist.</td>
</tr>
<tr>
<td>3</td>
<td>Bihar</td>
<td>Siraj, Kheria, Narwe, Mal-paharia, Sauria paharia</td>
<td>1,15,000</td>
<td>436</td>
<td>Singhabhum, Santal, Fregnas, Munshi Dist.</td>
</tr>
<tr>
<td>4</td>
<td>Gujarat</td>
<td>Bhill, Kanai, Kowai, Navati, Wari, Verhil</td>
<td>25,000</td>
<td>72,300</td>
<td>Dung Dist. and some Paddy, Pusals, parts of Durat Dist.</td>
</tr>
<tr>
<td>5</td>
<td>Kerala</td>
<td>Tarug, Kurumba, Kuri Giana, Mudug, Paniyan</td>
<td>10,000</td>
<td>10,000</td>
<td>Hill Pady, Vali Venand, Taluk, Pusals, Malasa Dist.</td>
</tr>
<tr>
<td>6</td>
<td>Madhya Pradesh</td>
<td>Azariya, Bilgi, Bheria, Gond, Korwa, Konkar, Madia, Majhawar, Raw</td>
<td>30,000</td>
<td>44,100</td>
<td>Turq, Estar, Chin, Wora, Chanda, Heline, Nanda, Kelghar, Pusals, Oilseeds, Pulses.</td>
</tr>
<tr>
<td>7</td>
<td>Madras</td>
<td>Kester, Kurumba, Kalaser, Pulayam, Paniyan</td>
<td>2,200</td>
<td>3,200</td>
<td>Cotmetore Dist.</td>
</tr>
<tr>
<td>8</td>
<td>Maharashtra</td>
<td>Halki, Khatkari, Kumbi, Kumari, Katar, Kria Gond, Thakur, Wakkala</td>
<td>5,000</td>
<td>1,000</td>
<td>Kolasa Dist. South, Chanda Division, Janjira Sub-Tiu.</td>
</tr>
<tr>
<td>9</td>
<td>Mysore</td>
<td>Battukuru, Janauturu, Kund, Kuman, Marati, Soliga</td>
<td>14,000</td>
<td>2,500</td>
<td>Interior Mountains, Oilseeds, Oilseeds, Pulses, Asias.</td>
</tr>
<tr>
<td>10</td>
<td>Orissa</td>
<td>Shuyan or Shuyan, Benda Shunjia, Gadebas, Jatoug, Juahea, Konde, Koya, Kanna, Potia, Peraja, Secra</td>
<td>9,35,000</td>
<td>4,00,000</td>
<td>Keonjha, Sundergarh, Paddy, Pulser, Thanksaal, Sambalpur, Turmer, Giner, Fruit, Karpur, Pulses, Oilseeds, Asias.</td>
</tr>
<tr>
<td></td>
<td>West Bengal</td>
<td>Toto</td>
<td>N.A.</td>
<td>N.A.</td>
<td>Salpaiguru Dist.</td>
</tr>
<tr>
<td></td>
<td>Manipur</td>
<td>Angami, Jab chir, Kacha Naga, Murung, Tongahul</td>
<td>1,33,000</td>
<td>54,000</td>
<td>In the Hill Dist. of Ut. on Territories, Paddy, Pusals, Potta, Cotton, Oilseeds</td>
</tr>
</tbody>
</table>

**Total** | 23,89,401 | 1,06,236 |


**Note** - Both for Gujarat and Maharashtra.

**N.A.** - Not available.
Table X
Statement showing Land per Person Practising Shifting Cultivation in different States.

<table>
<thead>
<tr>
<th>S-No.</th>
<th>States</th>
<th>Land (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andhra Pradesh</td>
<td>0.48</td>
</tr>
<tr>
<td>2</td>
<td>Assam</td>
<td>0.52</td>
</tr>
<tr>
<td>3</td>
<td>Bihar</td>
<td>0.004</td>
</tr>
<tr>
<td>4*</td>
<td>Gujarat</td>
<td>2.89</td>
</tr>
<tr>
<td>5</td>
<td>Kerala</td>
<td>1.00</td>
</tr>
<tr>
<td>6</td>
<td>Madhya Pradesh</td>
<td>1.47</td>
</tr>
<tr>
<td>7</td>
<td>Madras</td>
<td>1.45</td>
</tr>
<tr>
<td>8</td>
<td>Mysore</td>
<td>0.18</td>
</tr>
<tr>
<td>9</td>
<td>Manipur</td>
<td>0.29</td>
</tr>
<tr>
<td>10</td>
<td>Orissa</td>
<td>0.43</td>
</tr>
<tr>
<td>11</td>
<td>Tripura</td>
<td>1.22</td>
</tr>
</tbody>
</table>

India 0.50

* Both for Gujarat and Maharashtra.

Table XI
Carrying Density of Population in Three Regions of Shifting Cultivation

<table>
<thead>
<tr>
<th></th>
<th>Mizo Hills</th>
<th>Keonjhar Hills</th>
<th>Abujhawer Hills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall in inches</td>
<td>135</td>
<td>65</td>
<td>50</td>
</tr>
<tr>
<td>Average slope in degree</td>
<td>22</td>
<td>19.3</td>
<td>16.5</td>
</tr>
<tr>
<td>Shifting cycles in years</td>
<td>6</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Years of holding the land for cultivation</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total area surveyed in acres</td>
<td>47190</td>
<td>2541</td>
<td>2164.5</td>
</tr>
<tr>
<td>Available cultivable land in acres</td>
<td>19615</td>
<td>1364</td>
<td>6477</td>
</tr>
<tr>
<td>Percentage of cultivable land within total area</td>
<td>34.8</td>
<td>54.6</td>
<td>29.0</td>
</tr>
<tr>
<td>Production rate of crops in quintals per acre</td>
<td>5.65</td>
<td>2.37</td>
<td>3.57</td>
</tr>
<tr>
<td>Present density of population per square mile</td>
<td>13.2</td>
<td>63.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Carrying capacity of population per square mile</td>
<td>37.5</td>
<td>24.7</td>
<td>14.3</td>
</tr>
</tbody>
</table>

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