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TRIBAL AGRICULTURE IN INDIA

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PART A—PRELIMINARY APPRAISAL

Dominant Mode of Agriculture among the Tribals

Traditionally, the dominant mode of agriculture among the tribals is shifting cultivation. In areas where shifting cultivation is not in vogue, tribal agriculture is very frequently limited to upland cultivation. Among some tribal communities like the Angami and Tangkhul Nagas of Nagaland, Apatanis of NEFA, sections of Saoras of Orissa, terrace cultivation is traditionally practised. Wet cultivation is a more recent development among the tribal people, particularly in central and western India.

Place of Agriculture in Tribal Economy

Among the most primitive tribes like the Jarawas of Andaman, Birhors of Bihar, agriculture has hardly any place in the economic life. They are traditionally food gatherers, and hunters.

Shifting cultivation is found among the tribal communities in different parts of eastern and central India. Previously it had a wider spread. At present it is found among many of the Naga tribes and Kuki Chin tribes of Nagaland and Manipur and Lushai Kuki tribes of Mizo Hills, Mikirs and Bodo group of tribes of Assam, Albor group of tribes, Daflas, Hill Miris, Akas, etc., of NEFA, Saoras, Konds and allied tribes of Orissa, Abhujmar and some of the sub-tribes of the Gonds in Madhya Pradesh and Andhra Pradesh. Also it nominally exists in parts of Maharashtra, Mysore and Kerala. Almost everywhere it is found that today, shifting cultivation is not the only source of livelihood for any of the tribes. It is supplemented by food gathering and hunting, household industry and casual labour.

Some studies undertaken on the number of people that can be supported by shifting cultivation shows that it is 0.06 to 0.25 (adult males) per square kilometre as against 0.25—0.6 in the case of animal husbandry and 0.6 to 2.0 in the case of primitive agriculture in settled village.¹ The methodology and underlying concepts of these studies however require to be checked thoroughly.

1. J. B. Ganguly, "Land Carrying Capacity under Jhuming in Tripura," *Educational Miscellany* (A Journal of the Directorate of Education, Tripura), Vol. III, Nos. 1 and 2, June-September, 1966.

Upland cultivation also is frequently found to be inadequate to provide full sustenance to the population concerned. Frequently it is supplemented by agricultural labour, collection of forest produce and other sources of livelihood.

Terrace cultivation and wet cultivation provide the technological base of subsistence economy in the true sense of the terms wherever these prevail.

It is paradoxical, but very frequently true, that shifting cultivation has been found to be in existence for quite some time, mostly in cash and commercial nexus. For instance, along with cereals and millets, many of the tribes of Assam grow cotton for sale to the traders from the plains. Chillies and vegetables grown by the shifting cultivators of Manipur, Tripura, Nagaland frequently find their way to the market. Ginger and turmeric grown by the shifting cultivators of Orissa, have extensive market in the plains. Even the shifting cultivators of NEFA had to supplement their sources of livelihood by entering into a trade channel, linking the plains of Assam with Tibet.

Land and Tribal Community

In many parts of the country, there is a tradition of well-demarcated areas being under the jurisdiction of specific tribal communities. Such jurisdiction is more of the nature of political category than of economic category. This tradition however is hardly recognized in the statute. Except in parts of North East India, rights of ownership or possession are recognized only in respect of lands under effective control of tribal households. This gap between tradition and statute creates a number of complications. When lands traditionally under the jurisdiction of a particular tribal community, but not in effective economic use, are taken over for public purposes or for allotment to outsiders, the tribals feel that their territory is being encroached upon.²

Nature of Right over Land in Shifting Cultivation and Problem of Switch over to Settled Agriculture

Whatever may be the position in the statute, shifting cultivation is frequently associated with the tradition of communal ownership of lands. The cultivator households carry on their cultivation on plots selected through various means, including divination. Ordinarily, a plot remains under cultivation for one or two years; after that it is abandoned and the household concerned clears up another patch of land for cultivation. After a lapse of a number of years, varying from 5-6 to 12-15 or at times even more, they may return to the same plot. The rotation cycle depends on the availability of land, population pressure, composition of soil and capacity of the same to recoup its fertility through natural process (as the tribals traditionally do not put any other fertilizer to augment the productivity). It is not always that the same household would cultivate the same plot of land. Very frequently, individual households do not have absolute ownership right over the lands cultivated by them; their rights are of the nature of usufruct. They can hold the land so long as they make effective use of the same. As soon as they stop their operations, their right ceases. In the next cycle any other person belonging to the same community may take up the plot. If, however, a person

2. B. K. Roy Burman : Land and Tribals, Appendix-Vol. XIV, Part VI (j) Census of India, 1961.

plants a tree on a plot of land, his right over the tree continues in many communities. As a result, a curious situation sometimes comes into existence, where the agricultural produce on a plot of land belongs to one person, but the trees on the same plot, belong to another.³

When the tribals switch over from shifting cultivation to settled agriculture, they require to develop the land and make investments for the same. In such cases, though theoretically the right continues to be of usufruct nature, special prerogatives of the households concerned over the plots of land are generally recognized. In some areas, such land is even transferred from one to another tribal through sale. But even then the community exercises some restrictions; for instance, sale to an outsider would be a cause of serious resentment. There are also legal restrictions against the alienations of the tribal lands.

Technology of Shifting Cultivation

Shifting cultivation has been defined by Conklin⁴ as any continuing agricultural system in which impermanent clearings are cropped for shorter periods in years than they are allowed to remain fallow. The practices connected with shifting cultivation vary considerably from area to area and tribe to tribe. Generally, the village communities carry on shifting cultivation within the boundaries of their respective villages. In many areas within the boundary of the village, there is clanwise demarcation of land. In the selection of plots for shifting cultivation various factors are taken into consideration. In an Ao Naga village,⁵ the following types of land were found to be preferred : (i) land which is more sunny and where less weeds grow; (ii) land which was left fallow in the last cycle of cultivation in the block, *i.e.*, land lying fallow for ten years or more; (iii) land facing east; as in such land less weeds grow; (iv) level land where soil does not erode.

In a general way, it can be stated that shifting cultivation is based on low technology and under-utilization of human resources.

The main implements used in connection with shifting cultivation are axe, *dao* or billhook and digging stick. After the plants and trees are slashed with an axe and/or *dao* or billhook, they are allowed to dry on the field; and then burnt. The ash is then spread over the field. Some tribes would broadcast the seeds on the ash; some would make holes with digging sticks and insert certain number of seeds of some or different varieties in the holes.

Again some tribes follow both the techniques depending upon the nature of the crop. Among the Garos, after the field is ready through slash and burn method, the ash is mixed up with the top loamy soil and spread all over the plot. Then seeds of millet and chillies are broadcast over the same. Seeds of other crops like paddy, sesamum, gourd, brinjal, etc., are sown dibbled in separate holes. Cotton is sown dibbled by most of the Garos, but some sow it by broadcast method as well. In Orissa, the shifting cultivators like the Juangs, Pauri Bhuiyas, ge-

3. B. K. Roy Burman : Dynamics of Persistence and Change of a Small Community—The Toto, Doctorate dissertation, Calcutta University, 1960 (unpublished).

4. H. C. Conklin. "The Study of Shifting Cultivation," *Current Anthropology*, February, 1961.

5. B. K. Roy Burman (Ed.) : Waromung, An Ao Naga Village, Census of India, 1961, Vol. I, Part VI, No. 1.

nerally insert the seeds of different varieties of crops, like millets, pulses, etc., in the same holes dibbled with digging sticks.

There are some tribes like the Khasis who use hoe for upturning the soil and use both broadcasting method and plantation method, depending on the nature of the crop. Some of the Gond tribes of Central India even use plough in shifting cultivation.⁶

Defect of Shifting Cultivation

N. L. Bor, Forest Botanist in the Forest Research Institute, Dehradun in his Presidential Address to the section of Botany of the Indian Science Congress, 1942, attributed the cause of soil erosion in Assam to the practice of shifting cultivation. On the other hand, in 1953, Chaturvedi who was then the Inspector General of Forests to the Government of India, made an investigation of forestry problems in Assam and came to the conclusion that the notion widely held that shifting cultivation is responsible in the main for large scale soil erosion needs to be effectively dispelled. M. S. Sivaraman, the then Adviser, Programme Administration of the Planning Commission, observed that it is a mistake to assume that shifting cultivation in itself is unscientific land use. Actually it is a practical approach to certain inherent difficulties in preparing proper seed beds in steep slope where any disturbance of the surface by hoeing and ploughing will result in washing away the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for a proper seed bed are achieved with the help of fire. In most of the interior areas where communication 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.

Measures to Reduce Harmful Effects of Shifting Cultivation

In parts of NEFA and Nagaland, there are indigenous practices to check the harmful effects of shifting cultivation. The cultivators sometimes place cut-off tree trunks across the slopes so as to reduce the velocity of water and reduce soil erosion.

In recent years the extension agencies in these areas are also trying to encourage scientific *jhuming*, by advising the tribals to make furrows across the slope rather than along it, and also to adopt leguminous and other crops, with quick soil regenerating and soil binding capacities.

Besides, shifting cultivation beyond certain degrees of slope has been prohibited in most States.

Measures to Control Shifting Cultivation by Changing Land Use Pattern

(a) *Cash crop* : In Assam the following steps have been taken : (1) starting of nurseries of such cash crops as cashewnut, black pepper, coffee and cardamom and distributing them to local farmers; (2) opening up afforestation centres; and (3) use of hydrams.

6. C. Von Haimendorf : Tribal Hyderabad, 1945.

Evaluation studies undertaken by various organizations and scholars however show that these efforts have not been very successful everywhere. Firstly, the seedlings are not looked after very well. Secondly, these crops take three to five years to bear fruit and bring in cash. The farmers do not have the capacity to support themselves in the interim period, and lastly in most areas the people have remained sceptic about the scheme. It seems that it was introduced without adequate psychological preparation.

(b) *Horticultural* : In the hills of Assam and Manipur attempts have been made to introduce horticulture extensively on the fields normally given to shifting cultivation. Under the scheme, pine-apple, orange, and banana are being grown in many places. Difficulty of transport and marketing is however a restrictive factor in this matter.

(c) *Taungiya* : Another approach to the question of limiting the harmful effects of shifting cultivation is *Taungiya* or combination of silviculture and impermanent agriculture. In fact, the National Forest Policy Resolution of 1952 stipulates that as far as possible the *Taungiya* system should be introduced to tackle the problem of shifting cultivation.

(d) *Terrace cultivation* : In many areas subsidies are given by the Government to persuade the tribals to take to terrace cultivation or wet cultivation. In an Ao Naga Village, it was found that the efforts did not make much success. The reasons given by the people for the lack of response to the scheme are as follows:

- (1) Nature of the terrain is not suitable for wet or terrace cultivation.
- (2) Plots of wet cultivation are small and scattered and there is the fear of wild animals to reach the same.
- (3) Difficulty in making roads to reach the scattered plots for wet cultivation at long distances.
- (4) Rivers are deep and it is difficult to construct irrigation channel.
- (5) Lack of finance for irrigation.

The villagers are aware of another problem during the phase of introduction of terrace cultivation. According to them, during the first three years after construction of the terrace, the yield is not good. It goes down in course of time. Hence, only those who are prepared to live a life of austerity for a few years for the sake of a future prosperity are likely to be enthusiastic about terrace cultivation. But most of the people live in the present; and it is mainly shifting cultivation which stands by them in their present. There are also some studies which tend to show that the immediate effect of switch over from shifting cultivation to settled agriculture is malnutrition.⁷

In most of the areas the shifting cultivators carry on cultivation on the same plot for two years at a stretch. In some areas, the same crops are grown during both the years, but generally there is a variation of crops during the first and the second years. Even during the same year, sowing and harvesting of crops may follow a definite sequence. For instance, the Garos⁸ grow mixed crops of paddy,

7. B. S. Gupta : Tribal Welfare in India in Social Welfare in India, Publication Division, Government of India, 1960.

8. B. K. Roy Burman (Ed.) : The Garos of Assam—An Ethnographic Study, Office of the Registrar General, India (manuscript).

millet, cotton, chillies, ginger, sesamum, etc., on the first year plot, and only paddy in the second year plot. The seeds of millet and chillies are first sown broadcast, then the seeds of other crops are sown by dibbling. Maize is the first crop harvested from the first year *jhum* or *adal*; it is followed by ginger and millet. After the harvesting of millet, the first weeding is done. Then comes harvesting of paddy. Cotton is the last crop to come up. Vegetables grown in the shifting field are collected from time to time.

Value Orientations as a Factor in Tribal Agriculture

The question of values has been found to affect the adoption of settled agriculture where lands are available with the tribals or are made available by the Government. For instance, in a Toto family of West Bengal, the young son wanted to adopt settled agriculture of paddy, but the old father was opposed to it, as adoption of settled agriculture would require preservation of the grains for consumption purposes for a longer duration, whereas he was interested to prepare alcoholic drink and give a feast to persons who would join him in reciprocal labour relationship in connection with shifting cultivation.⁹ In Mysore, the *Jenukurubas* who were traditionally honey gatherers have been settled in a number of colonies under the tribal welfare scheme; but it is found that very frequently they leave the land fallow. Mishra of the Anthropological Survey of India has suggested that the constraint exercised by the social structure, which precludes mutual co-operation among the members of the household and which does not provide a congenial climate for the encouragement of entrepreneurs, is responsible for the *Jenukurubas* leaving the major portion of the land fallow.¹⁰

There are many other illustrations of how values and traditional concepts stand in the way of introduction of improved agricultural practices among the tribals. Referring back to the Totos of North Bengal it can be mentioned that certain varieties of millets are symbolically associated with their community life; they would not cultivate the varieties which prevail among the neighbouring Nepalis, for it would be considered to be almost moral apostasy. Similarly the Nepalis would not cultivate the varieties cultivated by the Totos, who are considered to be culturally low.¹¹

From the foregoing preliminary appraisal it seems not incorrect to say that shifting cultivation is a way of life, not merely a source of livelihood for many of the tribes.

PART B—SELECTED STATISTICS HAVING BEARING ON TRIBAL AGRICULTURE

Tribal Population

In 1961, the all-India tribal population was 29 million. If we assume a growth rate of 3 per cent per annum, then in 1970 the all-India tribal population is likely to be about 31 million.

9. B. K. Roy Burman : Dynamics of Persistence and Change of a Small Community—The Toto, *op. cit.*

10. P. K. Misra, "Economic Development among the Jenukurubas," *Man in India*, March, 1970.

11. B. K. Roy Burman : Dynamics of Persistence and Change of a Small Community—The Toto, *op. cit.*

Area under Shifting Cultivation

No precise estimates of area under shifting cultivation are available. However, according to the Commissioner for Scheduled Castes and Scheduled Tribes,¹² in 1960-61 there were 23 lakh acres under shifting cultivation at the all-India level and about 26 lakh persons were practising it (Appendix Table 1).

Land Use Pattern

It varies from village to village mainly depending upon the type of economy and the extent of practice of shifting cultivation. For illustration, the data in respect of a Naga village, Waromung,¹³ predominantly practising shifting cultivation, are given here. A survey of this village in 1964 revealed that out of 89.93 sq. kms. of land under cultivation, approximately 49.21 sq. kms. were under cycle of cultivation; another 30.36 sq. kms. were under permanent vegetation and the remaining 10.36 sq. kms. were under bamboo and palm grooves. The land under a tribal village could be owned by individuals, clans as also by the village as a whole. Table I extracted from the survey report of Waromung gives the percentage of total land under a particular pattern of use by ownership of individuals, clans and village.

TABLE I

Land utilization pattern	Per cent of total land under particular pattern of use owned by		
	Village	Clans	Individuals
1. Shifting cultivation	25	35	40
2. Terrace cultivation	—	20	80
3. Bamboo and palm grooves ..	25	40	35
4. Permanent vegetation ..	60	20	20
5. Water ways and other lands	100	—	—

Crop Pattern

An analysis of the available data in respect of a few tribal villages belonging to various States¹⁴ shows that crop pattern in most of the villages is oriented, by and large, towards the cultivation of foodgrains followed by the cultivation of selected commercial crops. Detailed socio-economic studies carried out in

12. Annual Report of the Commissioner for Scheduled Castes and Scheduled Tribes for the Year 1960-61, Government of India.

13. B. K. Roy Burman (Ed.) : Waromung, An Ao Naga Village, *op. cit.*

14. (i) E. H. Pakyntein : Phongjangre, Census of India, 1961, Vol. III, Part VI, No. 16; Longtlai, Census of India, 1961, Vol. III, Part VI, No. 18; and Laisang, Census of India, 1961, Vol. III, Part VI, No. 14. (ii) E. H. Pakyntein : Modymmmai, Census of India 1961, Vol. II, Part VI, No. 13. (iii) B. K. Roy Burman : Jara—A Dafia Village, Census of India, Vol. I, Part VI, No. 2. (iv) K. D. Ballal : Nuhan Kheda, Census of India, 1961, Vol. VIII, Part VI, No. 5. (v) Maharashtra Census Office : Shirvali, Census of India, 1961, Vol. X, Part VI(3). (vi) M. K. Devassy : Village Survey Monograph—Tribal Areas of Kerala, Census of India, 1961, Vol. VII, Part VI G. (vii) R. N. Trivedi : Jambur, Census of India, Vol. V, Part VI, No. 10. (viii) A. Chandrasekhar : Mattevada, Census of India, 1961, Vol. II, Part VI, No. 45 and Rettamala, Census of India, 1961, Vol. II, Part VI, No. 25.

the various States of India by the Census Organization show that foodgrains are generally cultivated for household consumption and commercial crops for sale, exchange or barter. In the tribal villages of Assam, the main foodgrain crop is paddy and is followed by millets, oilseeds, pulses, cotton and arum, etc. In some areas, e.g., United Khasi & Jaintia Hills, potato is a very important crop. In some parts of Garo Hills, jute is being grown in recent years. In some Assam tribal villages, paddy is grown in the fields whereas crops like chillies, pumpkins, ginger, maize, etc., are sown on the edges of beds of paddy fields. In the tribal areas of Andhra Pradesh, paddy is the main crop followed by maize, jowar, gram, etc. In Kerala tribal areas, the main crop of paddy is followed by crops like *ragi*, pulses, tapioca, etc. In Madhya Pradesh tribal villages, millets assume importance. In NEFA tribal villages, millets are important followed by chillies, pumpkins and pulses. In Gujarat tribal areas, important crops are groundnut, cotton, *kharif* and *rabi* jowar, etc.

Levels of Per Acre Productivity (Case Studies)

Waromung village (Nagaland) (Tribe—Ao Naga) : The yield of paddy in the five households surveyed works out as under:

Household	Household size (acres)	Seed sown (maunds)	Total yields (maunds)	Per acre yield (maunds)
1.	3	2	70	23
2.	2.5	1.25	25	10
3.	4	4	40	10
4.	1.5	1	30	20
5.	3	1	30	10

It has been explained in this survey report that the above figures are approximations and the reasons given for the variations in the yield rate are : (a) damage caused by rats and other pests and (b) non-carrying out of weeding operations to the same extent by the different households.

Mizo Hills (Tribe—Pawi): A survey carried out in the Mizo Hills in two villages, namely, Mampui and Sairep by Saradindu Bose¹⁵ in 1967 showed the average production per acre to be of the order of 16.1 maunds in Mampui and 12.3 maunds in Sairep.

Attapaddi village (Kerala) (Tribe—Mudugas and Irulas) : *Paddy* : Muduga cultivators have reported a yield of paddy on an average over 52 *paras** of paddy per acre. In the case of Irula cultivators the variation reported in the yield of paddy is as wide as from 16 to 40 *paras* but the average yield of paddy is reported by them to be 65 *paras* per acre. It is nearly 26 per cent higher than that reported by the Mudugas. The low yield is attributed by them to the regular and in some cases even wanton crop destruction done by certain wild animals in the forest.

Ragi : The average yield reported by Mudugas and Irulas is 25 and 53 *paras* per acre respectively. The widest variation in the per acre yield reported by them

15. Saradindu Bose : Carrying Capacity of Land under Shifting Cultivation, Calcutta, 1967.

* *Para*=A large bushel, generally 13.1 litres in capacity.

is 57 and 74 *paras* respectively. Apparently, the rate of yield of *ragi* in the case of Irulas is more than double than that of Mudugas.

Chama† : The average yield per acre is slightly greater than 58 *paras* for Mudugas while the Irulas have 65 *paras* per acre. But the Irulas reported the widest variation in the rate of yield of *chama* than the Mudugas. The highest rate of yield of *chama* reported by Irulas is 87 *paras* and the lowest 16 *paras* while the corresponding figures given by the Mudugas are 67 and 12 *paras* respectively.

Thuvara (Pulse) : The average yield per acre of this crop is 22 and 52 *paras* for Mudugas and Irulas respectively. The yield per acre of this crop varies from 8 to 64 *paras* for Mudugas while the corresponding variation for Irulas is from 8 to 100 *paras*. It may be noted that the value that a measure of this crop fetches in the market is almost double that of any of the other agricultural products.

Tapioca : The rate of yield of this crop is found to vary considerably from 400 pounds to almost double of that. But the average yield is 583 pounds per acre. The tribes have reported rampant crop destruction in tapioca cultivation caused by wild pigs and the consequent decline of their interest in this matter.

The above review seems to suggest that even in the same ecology, yield rate may vary due to ethnic and cultural differences. However, more specific investigation seems to be necessary to ascertain the real causes of variations in yields.

Shirvali village (Maharashtra) (Tribe—Malhar Koli) : The average yield of paddy crop, as notified by the *Mamlatdar* is as follows :

Soil	Variety of paddy	Maunds per acre
Good	<i>Gaura</i>	22
Middle	<i>Nim Garua</i>	21
Inferior	<i>Halwar</i>	20

Naharkheda village (Madhya Pradesh) (Tribe—Banjara) : The average output of jowar and maize is 5 to 6 maunds per acre. Maize gives a better yield than jowar. Cotton yield is 3 to 4 maunds per acre. Wheat and gram sown in the *rabi* season are taken as rain-fed crops and the yield 5.6 maunds in the case of wheat and 4.5 maunds in the case of gram, are slightly lower than the average yields in the neighbouring areas.

In *Jambur (Gujarat) (Tribe—Widdis)*, per acre yield rates are as under :

	Maunds/acre
<i>Kharif</i> bajra	10
<i>Rabi</i> jowar	12½
Paddy	15
<i>Rabi</i> wheat	20
Cotton	5
Groundnut	13½
Sugarcane	35

† a cereal.

Holding Size

The data furnished in Appendix Table 2 in respect of a few tribal villages in various States, show that the average holding size in those villages varies from one acre to eight acres. But in the majority of villages, it is found to be below five acres. The distribution of holdings among various size-groups shows that the majority of households have holdings up to five acres barring the tribal villages of Rajasthan, Gujarat where their dispersal is also observed among holdings exceeding five acres.

No precise information is available regarding the number of parcels into which a tribal holding is divided. Some data on this aspect are available in respect of Warumung village of Nagaland which are reproduced below:

TABLE II—DISTRIBUTION OF HOUSEHOLDS BY NUMBER OF PLOTS CONSTITUTING A HOLDING

	Total	1 plot	2 plots	3-5 plots	5 plots and more
Households ..	20	1	3	11	5

The NSS Report in its 17th round also gives the following data in this respect regarding Assam which is quite revealing:

TABLE III—ESTIMATED NUMBER OF PARCELS PER OPERATIONAL HOLDING AND AVERAGE AREA OF PARCELS FOR EACH SIZE CLASS OF OPERATIONAL HOLDING (COMBINED SAMPLE) IN ASSAM

Size class of operational holding (acres)	Number of parcels per operational holding	Average area per parcel (acres)	Size class of operational holding (acres)	Number of parcels per operational holding	Average area per parcel (acres)
Up to 0—49	1.18	0.25	12.50—14.99	5.76	2.22
0.50—0.99	1.56	0.48	15.00—19.99	3.67	4.67
1.00—2.49	2.15	0.78	20.00—24.99	9.00	2.44
2.50—4.99	2.96	1.19	25.00—29.99	—	—
5.00—7.49	3.50	1.69	30.00—49.99	6.00	4.17
7.50—9.99	3.90	2.21	50.00 and above	—	—
10.00—12.49	5.44	2.05	All sizes	2.75	1.31

The costs of cultivation are largely comprised of human labour cost. The component of non-labour cost is rather negligible. The following data extracted from the report of Jara, a tribal village in NEFA seem to be interesting:

TABLE IV—SELECTED COST ITEMS IN FIVE HOUSEHOLDS OF NEFA VILLAGE

(in Rs.)

Inputs	Household				
	1	2	3	4	5
Seed	7.00	2.50	9.00	5.00	2.00
Hired labour	Nil	18.00	5.00	Nil	35.00
Manures and fertilizers	Nil	Nil	Nil	Nil	Nil
Tools and implements	2.66	Nil	2.50	Nil	Nil
Land charges	1.00	1.00	Nil	Nil	1.00

The wide range of variations in labour charges shows the varying extent to which hired labour is engaged by various households. The cost of tools and implements in two households shows the expenses incurred for purchasing new tools during the year. The variations in expenses on seeds are explained by the variations in the nature of terrain and the type of soil.

APPENDIX

TABLE 1—NAMES OF TRIBES AND THEIR POPULATION, PRACTISING SHIFTING CULTIVATION, AREAS IN WHICH THIS PRACTICE IS FOLLOWED IN THE STATES/UNION TERRITORIES AND ACREAGE UNDER SHIFTING CULTIVATION

Sr. No.	Name of the State/Union Territory	Name of the tribes	Total population depending on shifting cultivation (approx.)	Total acreage of land (approx.) utilized for shifting cultivation (acres)	Name of the district, division areas where shifting cultivation is carried on
(1)	(2)	(3)	(4)	(5)	(6)
1.	Andhra Pradesh	.. Bagata, Gadabas, Kammaras, Khonds, Kotiyas, Koyas, Konda-Kapus, Konda-Reddis, Konda-Dhors, Malis, Manna Dhora, Nayaks, Porjas, Rena, Savaras.	2,00,000	96,000	Srikakulam district, Agency tracts Visakhapatnam district, East Godavari district, West Godavari district.
2.	Assam	.. Chakma, Garo, Jaintia, Khasi, Lushai, Lalung, Mikir, Mizo, Naga.	9,79,000	5,08,800	Garo Hills, United Mikir and North Cachar Hill, United Khasi and Jaintia Hills, Naga Hill district, Mizo (Lushai) Hill district, plain district of Kamrup, Nowgong of Cachar.
3.	Bihar	.. Birjia, Kharis, Norwe, Mal Paharia, Sauria Paharia.	1,15,000	436	Singbhum, Santhal Parganas, Ranchi district.
4.	Gujarat	.. Bhil, Kunbi, Kokanis, Mavchi, Varhli	25,000*	72,300*	Dang district and in some parts of Surat district.
5.	Kerala	.. Irular, Kurumbas, Kurichians, Mudugar, Paniyan.	10,000	10,000	Attapaddy Amson, Valluvanad taluk, Malabar district.
6.	Madhya Pradesh	.. Agariya, Baiga, Bharia, Gond, Korwa, Kodaku, Madia, Majhwar, Mawasi.	30,000	9,47,680	Durg, Bastar Chhindwara, Chanda, Balaghat, Nandia, Raigarh.
7.	Madras	.. Kadar, Kurumbas, Malasar, Pulayanas Paniyan.	2,200	3,000	Coimbatore district, Nilgiris district.
8.	Maharashtra	.. Halkki, Katkari, Kunbi, Kumari-Marahta, Maria Gond, Thakur, Wakkals.	*	*	Kolaba district, South Chanda Division, Janjira Sub-Division.
9.	Mysore	.. Bettakuruba, Jenukuruba, Kunbis, Kuman, Marati, Soligars.	14,000	2,500	Interior mountainous tracts of Belgaum and South Kanara district.
10.	Orissa	.. Bhuiya or Bhuyan, Bhunjia, Gadaba, Jatapu, Juang, Kond Koya, Khanda, Kotia, Paroja, Saora.	9,35,700	4,00,000	Keonjhar, Sundergarh, Dhenkanal, Sambalpur, Kalahandi, Ganjam, Koraput.
11.	West Bengal	.. Toto	N.A.	N.A.	Jalpaiguri district.
12.	Manipur	.. Angami, Kabui, Kacha-Naga, Maring, Tangkhul.	1,83,000	54,000	In the hill tracts of the Union Territory.
13.	Tripura	.. Chakma, Garo, Halam, Jamatia, Kuki, Lushai, Mag, Noatia, Beang, Tripura.	95,501	1,16,900	Sadar, Khowai, Kailashahar, Kamalpur, Dharmanagar, Udaipur, Sonemura, Belonia and Amarapur Sub-Division.
Total			25,89,401	22,75,616	

Note : *Both for Gujarat and Maharashtra.

TABLE 2—AVERAGE SIZE OF HOLDING IN SELECTED TRIBAL VILLAGES AS ALSO DISTRICT AVERAGES OF TRIBAL ASSAM AROUND 1961

Village/district	State	Average holding size (acres)	
Sanwara	Rajasthan		4.88
Shirvali	Maharashtra		3.12
Naharkheda	} Madhya Pradesh		8.06
Jaitpuri		} Gonds	4.50
		} Kols	3.80
Batasipur	} Assam		3.94
Resubakrapara			1 to 2
Titaguri			5.62
Laisong			3.30
Mattewada	Andhra Pradesh		4.30
Attapaddy	} Kerala	Madugas	1.50
		Irulas	2.00
Jara	NEFA		4.50
Garro Hills	} Assam		4.62
United Khasi & Jaintia Hills			4.37
United Mikir & N. C. Hills			4.36
Mizo Hills			4.27
Manipur			3.81
Tripura			2.96
Nagaland			4.93