

The Cropping Pattern in Tripura – A Retrospection

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Cropping pattern indicates the proportion of area under different crops at a particular point of time. A change in cropping pattern indicates change in the proportion of area under different crops. Change in the cropping pattern mostly from food grain crops to non-food grain crops is a welcome step in agriculture and it happens only when the farmers get commensurate return for their labour. The cropping pattern indicates the stage and degree of agricultural development of a region as well as diversification of the agriculture. The shift in crops from food grains to non-food grain is mainly due to higher price on non-food grains, commonly known as cash crops reflecting a change from subsistence cropping to commercial cropping. Nowadays the farmers are more interested in commercial cropping than that of the traditional cropping pattern, which gave them hardly the money required for their subsistence level living although they worked hard. Actually the increasing demand for the various non-food grain crops due to unabated population growth, the extension of agricultural benefits to the remote villages (particularly the irrigation facilities, scientific innovations and diffusion of commercial benefits to the far flung areas) fragmentation of lands and poor profitability of traditional crops have caused the cropping pattern to change throughout the country to some extent. In this paper an attempt is made to portray the cropping pattern of Tripura including the cropping pattern of ST, SC and OTHERS highlighting its gradual changes and the factors responsible for the present pattern in the state. The whole work is based on the agricultural censuses of Tripura, census report of 1930-31 and other published reports and the period of the study is confined up to 1990-91, the year in which the last report on agricultural census was published.

Historical background and the cropping pattern in 1930-31

In the early days, when the population of the state was very small and the tribals formed the majority of the population Jhum cultivation was the main occupation. During that time rice, jute, cotton and sesame and vegetables were the important produces that would grow abundantly in the jhum fields and plough cultivation was not popular amongst the tribals. Plough was limited to a narrow strip in the adjoining areas of

British Bengal. Although the basic objective of the production during that period was the requirement of subsistence level food grain, substantial quantity of food grain used to be exported to the adjoining areas.

But since 1877 plough cultivation started spreading throughout the state mainly due to the settlement of large number of Bengalese from across the border. The dynamism of Tripura's agriculture began with the extension of plough cultivation in the plains mainly for the grant of lands by the Kings on a liberal tenure system known as Jungle Abadi System (clear the forest and settle there) for which no rent would have been charged for four to ten years depending on the quality of lands granted to them. On the other hand it is also necessary to mention that the poor economic condition of the state was partially responsible for the kings inviting the immigrants to settle in the state. Available records show that the exchequer of the monarchy at that time was reeling under huge debts. The insistence of the British Government to increase the revenue of the state compelled the kings of Tripura to invite the people from other regions to cultivate and settle in the state and within 50 years from 1880-81 to 1930-31 a lot of immigrants from the British Bengal started settling in this state and plough cultivation started spreading all over the state. The agricultural development of Tripura states that cropping pattern of Tripura is not age-old and it took its birth in the early part of the Twentieth century. The cropping pattern of the state in 1930-31 is shown below in Table 1:

Table 1: Cropping Pattern of Tripura in 1930-31

Name of the crop	Rice	Jute	Sugarcane	Mustard	Tea	Others	Total(%)
Area under cultivation	410(86)	10.2(22)	7.6(1.6)	8.0(1.7)	12.3(2.6)	22.9(4.86)	471(100)

Sources: *Census Biharani* (1931), Soumendra Debbarma, Tripura State Tribal Culture Research and Museum. Government of Tripura, Tripura.¹

It may be mentioned that in 1931 the total area of the state was 4116 sq. miles of which total cultivable area was 2946 sq. miles. In Tripura at that time there are mainly two types of cultivation viz., (i) Jhum cultivation in the hills and (ii) Plough cultivation in the plains. Out of the cultivable area in 1930-31, (1) the area under Jhum cultivation was 2000 sq. miles (2) low lying areas fit for paddy cultivation was 545 sq. miles and (3) uplands fit for jute and mesta cultivation was 401 sq. miles. This shows that 68% of the total cultivable area was for jhum cultivation while 18% of the total area was low lying area favourable for rice

cultivation and 14% of the total cultivable area was upland fit for cultivation like jutes and mesta. The census report 1931 shows average annual area under jhum cultivation was 114 sq. miles and the area under plough cultivation was 471 sq. miles. The cropping pattern in 1930-31 shows that 86% of the total area was under food grain cultivation, 4% in cash crops, 2% for the oilseeds, 3% for plantation and 5% for the others. In this connection it may be mentioned that substantial quantity of cotton, rice, sesame and some vegetables and other crops which would grow on the hilly areas under jhum cultivation had been kept outside the purview shown in the Table as the crops were not area specific and would grow basically simultaneously in jhum field albeit the quantum of their production was substantial.

Cropping pattern in the post merger period

It can be mentioned that the present form of cropping pattern in Tripura is nothing substantially different from the scene as long back as 50 years despite many socio-economic changes in the state. Even after the merger of the state with the Union of India in 1949, although different types of crops are grown in Tripura, rice is the principal crop of the state and it still covers the bulk of the gross cropped area. The net area sown under different crops has gone up from 1.58 lakh hectares in 1950-51 to 2.44 lakh in 1990-91 and the total area under cultivation comprised about 25% of the geographical area in the state. With a view to getting a clear picture of the cropping pattern of the state, different types of crops that are being produced in the state are classified in six groups and they inter alia include the following:

1. **Food grains** : It includes rice, wheat, other cereals, and pulses. In this connection it can be mentioned that out of 297.1 thousand hectares of grossed area of the state, according to state report on agricultural census in 1990-91, bulk area was under food crops totaling 246.8 thousand hectares (83.1%) of which 209 thousand hectares were under food grain cultivation with rice cultivation spreading in 206 thousand hectares. Thus it constituted 69% of the gross cropped area of the state in 1990-91.
2. **Cash crops** : It includes jute and mesta, sugarcane, and cotton and other fibres. Of these, jute and mesta constitutes the bulk portion. Next to rice, jute and mesta is the second crop which covers 9% of the total cropped area of the state. Mesta is coarse quality jute, which is produced in elevated hilly lands while jute grows in low-lying areas. It can be mentioned that according to agricultural census in 1990-

91, sugar cane was produced in 1316 hectares of land constituting only 0.4% of the total cropped area of the state while cotton and other fibres was limited to 1654 hectares of land in the state.

3. **Vegetables** : It includes mainly green vegetables comprising cauliflower cabbage, tomato brinjal, pumpkin, radish, patal (canto), Jinga, (cucurbitaceous) and local variety of vegetables etc.
4. **Horticultural crops** : It includes mainly mangoes, Jackfruits, Gauvas, Pinapples, Oranges, Litchi, Banana, and Lemom etc.
5. **Oilseed** : It includes rapeseed/mustard, sesame, groundnut etc. At the end of 1990-91 the total area under rapeseed, mustard, sesame and groundnut was 940ha., and 112ha. respectively.
6. **Plantation crops** : It mainly represents the area under, tea and rubber coconut, area nut cashew nut.

Cropping pattern from 1950-51 to 1990-91

Now let us examine the cropping pattern of the state according to Agricultural Census reports and other available records. The following Table 2 gives a short account of the cropping pattern of the state between 1950-51 and 1990-91, which is constructed on the basis of the information available from the agricultural census report of 1980-81, 1985-86 and 1990-91 and other published materials and they are presented as per classification of crops mentioned above.

Table 2 : Cropping Pattern of Tripura from 1950-51 to 1990-91
(Area in hectare)

Name of the crops	1950-51**	1980-81*	1985-86*	1990-91*
Food grain	158000	314845(76)	113504(67)	209008(70)
Cash crops	94540	53854(13)	69810(20)	34211(12)
Vegetable	N.A	7306(02)	8972(03)	12041(04)
Plantation	N.A	N.A	N.A	14162(05)
Horticultural	N.A	13266(04)	17407(05)	20071(07)
Oilseeds	8300	4260(01)	4710(02)	3875(01)
Others	N.A	18319(04)	9650(03)	2945(01)
Total	N.A	411850(100)	334047(100)	297100

Source: * Agricultural Census 1980-81, 1985-86, 1990-91 and P.R. Bhattacharjee. *Economic Transition in Tripura.*²

At the very outset it may be mentioned that the fall in the gross operated area of 1990-91 compared to 1985-86 is due to the non-sampling of the Tea Estates of the state during Agricultural Census 1990-91. The above Table shows that since 1930-31 there occurred a moderate change in the cropping pattern of Tripura. The area under food grain production has come down from 86% in 1930-31 to 70% in 1990-91. Notable feature of the existing cropping pattern is shift of the farmers towards the horticultural crops, plantation crops, and vegetables instead of the cash crops. The declining trend of cash crops is mainly due to lack of marketing avenues and poor profitability for which the farmers are averse to grow jute and mesta in the state. The suspension of activities by Jute Corporation of India caused purchase of jute from the cultivators irregular and rendered the scope of jute marketing bleaker. Thus many farmers who would grow mesta in the uplands have left the mesta production and changed themselves either to horticultural production or vegetables production. Another worth mentioning feature of the census reports is the decline of oilseeds in the state and the production of other category of crops. Although the overall cropping pattern of the state indicates no sea changes compared to the picture prevailed in the state in 1930-31 the author subscribes the minor changes as qualitative indication because it could set a motion of change, which on sustenance is capable of gaining momentum. With a view to getting a clear picture about who is producing what type of crops in the state, let us segregate the overall cropping pattern in three types comprising ST, SC and OTHERS. It can be mentioned that 31% and 16% of the total population in the state come from socially and economically backward Scheduled Tribes (ST) and Scheduled Caste (SC) communities. The cropping of the ST people is shown below in Table 3.

Table 3: Cropping pattern of the Tribals in Tripura

Name of the crops	<i>(Area in hectare)</i>		
	1980-81*	1885-86	1990-91
Food grain	118902(76)	105195(69)	103302(74)
Cash crops	24673(16)	33680(22)	18936(13)
Vegetable	1452(01)	2465(02)	3598(02)
Plantation	N.A	N.A	1082(01)
Horticultural	3191(02)	6474(04)	9784(07)
Oilseeds	2495(02)	2972(02)	2685(02)
Others	5712(04)	2191(01)	901(01)
Total	156425(100)	152978(100)	140228(100)

Source: Agricultural Census 1980-81, 1985-86 and 1990-91, Revenue Department, and Government of Tripura.³

The cropping pattern of the tribals in Tripura is really interesting. It indicates that Tribals instead of diversifying the agriculture are inclined to food grain production. Although their inclination to the cash crops went up in 1985-86 it declined sharply in 1990-91 due to poor marketing of jute. This sudden change is mainly due to the reluctance of the tribal farmers to grow jute and mesta. Available records establish that they either shifted to the horticultural crops or bounced back to rice production. Horticultural crops include mainly pineapples, oranges, and mangoes. On the other hand why the tribal people are inclined to the food grain production is evident from the operational holdings of the ST people. The Agricultural Census of Tripura, 1990-91 shows that number of medium and big cultivators among the ST population is more (16%) compared to SC (4%) and OTHERS (7%) and the total operated area under their possession is also more. Agricultural Census of 1990-91 shows that 45% of the total operated area of the state belongs to ST people, 45% of the total operated area is held the by others and 10% of the total area is under SC people although they constitute 31%, 53% and 16% of the total population in the state. The overall cropping pattern of the tribals is not alike the cropping pattern of OTHERS or SC's in the state, which are presented in the following pages. It shows that the cropping pattern of the tribals is till date traditional and this is the reason why the tribal agriculturists are poor and they get less remunerative price for their produces. Now let us examine the cropping pattern of the SC people in the state shown in Table 4.

Table 4: Cropping Pattern of the SC's in Tripura

(Area in hectare)

Name of the crops	1980-81 (%)	1985-86 (%)	1990-91 (%)
Food grains	32639(76)	21339(61)	16918(63)
Cash crops	770(16)	8795(25)	3790(14)
Vegetables	1101(03)	1552(04)	2368(09)
Horticultural	1403(03)	1890(04)	2158(08)
Plantation	N.A	N.A	209(01)
Oilseeds	343(01)	297(01)	284(01)
Others	570(01)	1039(03)	1128(04)
Total	42828	34912	26890

Source: *Ibid.*⁴

The cropping pattern of the SC people in Tripura is very interesting. The cropping pattern of the SC people is substantially different from state's overall situation, which is preponderantly food grain induced and cash crop oriented while the cropping pattern of the SC's is diversified to a great extent. Having found the food grain production less remunerative, the SC have shifted from the traditional rice cultivation to the crops, horticultural crops and vegetable cultivation, which indeed is a good indication for the agricultural prosperity as well as economic development. It can be mentioned that lack of adequate land at the disposal of SC people is also a factor for such shift. According to 1991 census SC constituted 16% of the total population but the total area operated by them was only 9%. The horticultural crops produced by the SC agriculturists include mainly banana, pineapples, guava and jackfruit. The farmers belonging to this category mostly in west Tripura District have been employing modern farming techniques in vegetable production and they have come out from the traditional concept of subsistence farming and have embraced agriculture as an way of life and prosperity.

On the other hand the cropping pattern of OTHERS is also qualitatively very good and this is presented below in Table 5. It shows that the emphasis of the people belonged to other category is slowly but gradually shifting from the traditional paddy cultivation to horticultural crops, cash crops and plantation crops. The important feature in the cropping pattern of the OTHERS is the concentration on the plantation crops. The concentration on the horticultural crops and vegetables is not very bad although nothing substantial is achieved. But the averseness of the OTHERS farmers to cash crops is the biggest fiasco for the state of agricultural development.

Table 5: Cropping Pattern of Others in Tripura

Name of the crops	1980-8 (Area in ha.)	1985-86 (Area in ha.)	1990-91 (Area in ha.)
Food grains	163304(77)	96970(66)	88788(68)
Cash crops	22411(10)	27335(19)	11485(09)
Vegetables	4753(02)	4955(03)	6135(05)
Horticultural	8670(04)	9037(06)	8889(07)
Oilseeds	1422(01)	1441(01)	906(0.5)
Plantation	N.A	N.A	12871(10)
Others	12037(06)	6419(04)	916(0.5)
Total	212597(100)	146157(100)	129990(100)

Sources: *Ibid.*⁵

Factors determining crop pattern in Tripura

Although the overall cropping pattern in Tripura epitomizes the preponderance of food grain production and sharp swing in favour of horticultural and plantation crops, cropping pattern of the ST is too much traditional, the cropping of the SC's is slightly diversified and those of the others are almost at par with the scene of the state except minor variation. The picture of cropping pattern given above is a product of many factors some of which are controllable and some uncontrollable. It may be mentioned that the factors determining the crop pattern can be listed under five important heads such as physical factors (soil, climate etc); historical factors (early settlement of man on land, evolution of needs, capacity of population, tendril system etc), social factors (density of population customs, traditions, attitudes), economic factors (prices, income, size of land holdings and availability of agricultural resources etc.) and government policies. While the historical factors are already stated here only those factors, which inhibited the rapid diversification of crop pattern in Tripura are discussed briefly :

1. The first and foremost reason, which the author finds for the dismal state of diversified crops, is fear of food insecurity amongst the farmers. It is already stated that whole agricultural activities are carried out with a single objective of subsistence needs of the farmers. The socio-economic condition of the state is also partially responsible for this conservative approach of the cultivators. As 73% of rural population is living below poverty line and unemployment problem is more intense, food in-security is paramount to the farmers. While the successive floods and draughts in the 1980's have deepened the necessity of storing food grains the geographical isolation and transportation bottleneck have beleaguered people sticking to food security.
2. Dismal size of operation holding and the asymmetry in the size of agricultural holdings are responsible for the slow shift of the people from food grain to non-food grain crops. According to the Agricultural Census of Tripura in 1990-91, the average size of operational holdings is 0.97 hectare. Ninety per cent of the total operational holders in the state are marginal (68%) and small-farmers (22%). But the area under their possession is only 62% and the rest 38% is in the hands of medium and big cultivators. Available records establish that the big cultivators are very much in favour of paddy cultivation while the small cultivators are in favour of other crop cultivation.

Asymmetry in the size of operational holdings of ST, SC and OTHERS is also partially responsible for tardy diversification as one section emphasizes on one particular type of crop while another section on other types. The average size of the operational holdings of SC and ST and OTHERS are 0.63 and 1.18 and 0.91 hectare respectively. According to the Agricultural Census 1990-91, 16% of the ST, 4% of the SC and 7% of the OTHERS castes operational holders who are either medium or big cultivators are controlling 41%, 40% and 38% of the total operated areas respectively in the state and they are in favour of rice cultivation irrespective of ethnic identity. The study shows that this asymmetry in the size of the operational holdings is the key for switching over of substantial number of the small and marginal farmers belonging to SC and OTHERS to non-food crops from food crops.

3. The attitude of big cultivators is also the factor that affected the cropping pattern immensely. It is being found that cultivation of other crops other than rice requires the constant supervision and meticulous care from the cultivators. But in actual practice more than 38% of the agricultural lands, which are with the possession of the medium and big cultivators are not involved in agriculture. Rather majority of them are averse to other crops while the small and marginal cultivators are not able to withstand the risk of cultivating the other crops because of uncertainty in marketing the produces.
4. Scarcity of croplands is another factor that caused rigidity in the diversification of cropping pattern. Available records show that the net cultivable area of the state is 297200 hectares only, of which rice is cultivated in 209000 hectares of land, which is really amazing. Available information shows that the net sown area of the state can hardly be increased from 25% of the land mass and scope for horticultural activities could hardly be extended to 96000 hectares of which 35000 hectares had already come under operation.
5. The marketing of other agricultural produces is another reason for which the cropping pattern is so traditional. As the state is geographically isolated and industrially undeveloped and there is hardly any infrastructure in the state the marketing of non-food crops excepting rice and horticultural crops is a stupendous task. Although the state has a tremendous scope of development in horticultural produces, the farmers who are not getting proper price for their produces due to lack of proper marketing avenue are very much dependent on the local consumers and border trade with Bangladesh and thus diversification is slow.

6. Absence of adequate credit coupled with lack of technological inputs is responsible for the existing cropping pattern. We know that commercial cropping to a great extent necessitates adequate capital, improved technology and inputs. At present 73% of the rural people is under the below poverty line and most of the farmers are working with the traditional capital, knowledge and skill. The farmers are mostly without any liquid resources and are heavily dependent on the owned capital, bullocks and advances from the village moneylenders and middlemen. But due to absence of adequate credit from the institutional agencies like the commercial banks, co-operative banks and agricultural credit co-operative societies at the opportune time the farmers are not able to inject the adequate technology and inputs in agriculture and thus diversification suffered a big jolt and vice versa. As a result they are employing less quality inputs and technology. In 1987 per hectare average use of fertilizers in Tripura was only 17 kgs, while there had been only 24 power tillers and 113 tractors in the state. The net irrigated area of the state was 7.7% (18858 hectares) of the total cropped area out of which 3.6% of the total operated area was wholly irrigated and 4.1 partly irrigated in 1990-91 while the average size of credit offered by agricultural credit societies was Rs.200 only.

To conclude it can be mentioned that before the merger, historical and social factors governed cropping pattern of Tripura while in post merger period economic factors and Government policies caused the cropping pattern to change.

Notes and References

1. *Census Biharani* (1931), Somendra Debbarma, Tripura State Tribal Culture Research and Museum, Government of Tripura, Tripura.
2. *State Report on Agricultural census of Tripura, 1980-81, 1985-86, 1990-91*, Director of Land Records and Settlement, Government of Tripura, and P.R. Bhattacharjee, *Economic Transition of Tripura*, Vikash Publishing House Pvt. Ltd. New Delhi.
3. *Agricultural census op.cit.*
4. *Ibid.*
5. *Ibid.*