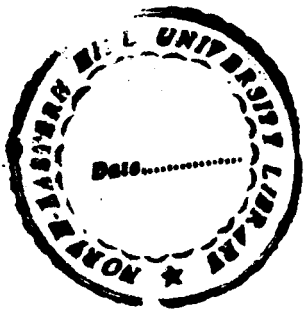

PROCEEDINGS OF
NORTH EAST INDIA HISTORY ASSOCIATION

SIXTH SESSION

AGARTALA : 1985

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Preface

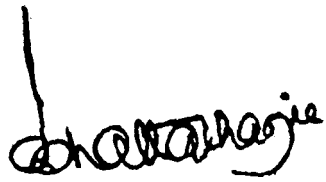
The Sixth Annual Session of the North East India History Association held at the Calcutta University Post-Graduate Centre, Agartala on October 3–5, 1985 was one of our most colourful academic meets in the region, attended by the largest number of delegates. Professor H. L. Gupta, formerly Head of the Department of History, Saugar University presided over the Session, which was inaugurated by Sri Nripen Chakravarty, Chief Minister of Tripura and graced by Dr. B. D. Sharma, Vice-Chancellor, North -Eastern Hill University as the Guest of Honour. Shri Dasarath Deb, Deputy Chief Minister of Tripura also addressed the delegates. Our colleagues, Professor J. B. Ganguly, Director, CUPG Centre, and Dr. Mahadev Chakravarti, Reader & Head, Department of Modern History at the Centre did us great honour as Chairman of the Reception Committee and the Local Secretary of the Session respectively.

We are grateful to the Calcutta University Post-Graduate Centre, Agartala for hosting the Session and warm hospitality offered to the delegates. The administration, members of the teaching faculties and the students' community in the Centre were all involved in the Session. The Centre received generous support from the Government of Tripura. The Chief Minister, Deputy Chief Minister and their cabinet colleagues generously spared time from their schedules to be with the delegates and participate in academic discussions. They entertained the delegates and offered as gifts some publications on Tripura and excellent pieces of indigenous handicrafts as token of love and affection of the people of the State. The Directorate of Information and Culture, Government of Tripura, organised colourful programmes depicting the rich cultural heritage of Tripura. Study tours were organised to the places of historical importance. On the whole, the delegates shall cherish the fond memory of the Session for a long time.

The academic standard of the Session was also very high. We have maintained our tradition of steady growth in membership pattern and the number of papers presented and discussed. Tripura is one of such areas in our region where we do not have enough historical studies. In Agartala Session, we indeed achieved a major breakthrough. Majority of the papers presented there were on Tripura. These shall certainly generate further research. The volume is a collection of sixty two papers, empirical as well as

analytical and interpretative. Some of the papers, particularly by the colleagues in other disciplines, have added to the merit of the volume by fitting well in our scheme of recording the living history.

I am personally thankful to my colleagues Dr. J. P. Singh, Dr. M. S. Sangma, Dr. O. P. Kejariwal and Dr. Gautam Sengupta for the ready help in editing and publishing the volume.



Shillong
The 22 August 1986

(J. B. Bhattacharjee)
General Secretary
North East India History Association

Contents

Agriculture Potential in the North East

M. C. Pandey

Inspite of the immence agricultural potential that exists in the North Eastern Region, the region has been deficit in food production and depends on food supplies from outside the region. However, the technology is available and adequately tested with farmers to ensure that the region could be self sufficient if the available technology was applied to sufficient areas already under cultivation in the region. To achieve the target of increased food production emphasis should be paid to Extension activities, use of increased fertiliser and irrigation, soil conservation and cropping pattern. The impact of agriculture production of the 60 s and 70 s need to be emphasised in the North-Eastern Region.

The history of agricultural development in the region is a less researched area, and the paucity of data, we are told, is a problem that the historians have to reckon with. As an alternative method, one may perhaps take stock of contemporary situation to ponder into the past. Why a resource-rich region with immence potential had to remain deficit in production, is left to the historians to answer.

Introduction

The North Eastern Region comprises of five States, namely, Assam, Manipur, Meghalaya, Nagaland and the Union Territories of Arunachal Pradesh and Mizoram.

Physiographically, the region is divided into three divisions :

1. The North Eastern hills and basin.
2. The Brahmaputra Valley.
3. The Meghalaya Plateau.

In area, the North Eastern hill and basin comprises approximately 65% of the total area. The remaining 35% is covered by Brahmaputra valley (22%) and the Meghalaya plateau (13%). Leaving aside the Assam valley, the Barak valley and parts of Tripura about 70% of the land area in the North Eastern region is hilly.

The economy of the hill is based on Agriculture and Forestry with shifting cultivation as the main agricultural practice of the bulk of the people in the hill area. Agriculture is predominantly practiced by small farmers adopting old traditional farming methods acquired through hereditary training and through acquaintances with other farmers in the village. Interfusion of modern practice in traditional agriculture are non-existing despite its fertile soils and vast potential in food production.

The net sown area in the region is reported to be approximately 15% as against 47% of the national average. The region has been deficit in food production and depends on food supplies from outside the region.

Industrially the region is backward. The pace of industrial development is considerably slow, the output accounting for only 1.6% of that of the nation. Thus, the economy of the North Eastern region is primarily based on agriculture. Obviously, there cannot be a sustained improvement in the living conditions of the people without improvement in the overall supplies of goods required either through increased production or trade. Since the economy is based on agriculture, an understanding of growth in agriculture and benefits from growth in agriculture is essential.

From the 1981 census the population of the North Eastern Region is 2.66 million and has 90% of the total population living in rulal areas dependent on agriculture. The cultivation is of two distinct types. One is practiced on permanent as well as developed land in the plains, valleys and foothills known as settled cultivation. It accounts approximately for 14% of the total geographical area. The other type of cultivation known as shifting cultivation or jhumming, predominantly practiced in the hill area approximates 10% of the geographical area. Jhumming is also practiced in parts of Andhra Pradesh, Bihar, Madhya Pradesh, Orissa and Kerala as well as in Amason basin, South America, parts of Africa, high land areas of Manchuria and Korea and in South West China.

Jhumming is a primitive type of cutivation of land on slopes of even steep gradient. High land paddy also known as jhum paddy is the dominant crop mixed with maize, finger millets, fox tail millet, beans, tapioca, yam, sweet potato, ginger, cotton, tobacco, chillies, sessamum and leafy vegetables. All these crops are grown as rainfed crops.

Besides crops grown under the jhumming system, the north eastern region is an area with immense potential for growing a wide variety of crops. The following group of crops are grown.

1. **Food Crop**
   Paddy, Maize, Wheat, Ragi, Millets, etc.
2. **Pulses**
   Arhar, gram, lentil, etc.
3. **Oil Seed**
   Rapeseed, Mustard, yellow sarson, sessamum, soyabean, etc.
4. **Fruit**
   Citrus, plum, apples, bananas, pineapples, papaya, jackfruit, guava, etc.
5. **Plantation Crop**
   Tea, coffee and rubber.
6. **Vegetables**
   Tomatto, french bean, raddish, pea, brinjal, cabbage, cauliflower, cucumber, etc.
7. **Tuber Crops**
   Potato, cassava, sweet potato, tapioca, arrowroot and aroids.
8. **Spices Crops**
   Ginger, Turmeric, black pepper and large cardamon, etc.
9. **Cash Crops**
   Jute, Cotton, Sugarcane.
10. **Medicinal and Aromatic Plants**
    Citronella, droscorea, pyrethrum, rowlfia, mentha, etc.

FARM SIZE

A majority of the farm holdings in the North-Eastern region are small in size with an average size ranging from 2.7 acres (1.1 ha) in Tripura to 10.6 acres (4.2 ha) in Arunachal Pradesh (Table 1).

TABLE 1

Average Farm Size

	Nagaland	Tripura	A. P.	Assam	Manipur	Mizoram	Meghalaya	Total
Acres:	8.7	2.7	10.6	5.8	4.8	5.7	8.0	7.1
Htrs.:	3.5	1.1	4.21	2.3	1.9	2.3	3.2	2.8
								National 0.3

The average farm size in the North East is much higher than the rest of the country (0.3 ha). However, use of agriculture inputs

and agriculture production are very low. Growing population and increasing per capita demand for food have made it imperative that production of food needs to be stimulated.

In the hilly areas of the North Eastern region the use of farm power or farm implement is practically non-existing. Most of the farm operation are done manually and to a large extent shared by women. In these areas the common implements used is the hoe. In the Assam and Tripura valley animal power is used like the rest of the country. Use of farm machinery both in the hills and plains is limited.

Soil and Fertilizer

As already indicated the North Eastern region is endowed with rich soil and agro-climate making it one of the most fertile regions. Red loamy soil and alluvial soil dominate the region, about 95% of the soils of the region are acedic in nature. On an average the soil PH ranges from 4.5 to 5.5.

Arunachal Pradesh, Nagaland, Meghalaya and Mizoram soils are high in Nitrogenous fertilizer while Assam and Manipur soils are medium in Nitrogenous fertilizer. In Phosphorous fertilizer the soils in the region are medium to low, while the soils are low in potash content. The soils are usually high in iron content and very low or sometime deficient in Zinc, boron and calcium.

Production wise, only Assam produces Nitrogenous fertilizer. (Table 2). All other States and Union territories depend on other state for fertilizer. (Tables 3 and 4). Consumption of fertilizer is very low. On the average 4 kg/ha of fertilizer is used in the North East as against the all India average of 36 kg/ha. (Table 5) Thus, the potential for utilization of fertilizer is immence.

Land Utilization

Table 6 summarises the land utilisation pattern and Table 7 summarise the area under cultivation, production and yield in kg/ha of important food grain. The production per unit area are comparable to the national average. However, total production is much low. The total production of food grain in the region is around 38 million tonnes against the demand of 42 million tonnes (Table 8).

The food production per unit can be significantly increased. Resources as fertile soil, well distributed rainfall, huge quantities of surface and ground water for irrigation, hydro-electric power potential are available. The consumption of fertilizer (average 4.9 kg/ha) must be increased to increase food grain production.

Irrigation

Ground water potential in the region is very high. As against this potential the utilization of ground water for irrigation is nil, and the area under irrigation is negligible.

Survey estimates have shown that more than 16 billion cubic metres of ground water are available. This would be adequate for irrigation of more than 1.6 billion hectares. Due to lack of proper irrigation high yielding varieties have not played a major role in agricutlture production. Besides non-existence of irrigation facilities, floods during the monsoon season are regular features causing heavy losses to crops.

TABLE 2

State wise production of Fertilizer

	Ammonium Sulphate (20.6% N)	Urea (46%N)	Single Super phosphate (16%P205)	N	Total P 205
Assam	39,3	198.8	11.1	99.5	1.8
All India	477.7	6019.9	1320.6	3420.6	983.7

Other states and Union Territories do not produce any Fertilizer.
Source : Fertilizer Statistic FAI New Delhi.

TABLE 3

State wise production and consumption of Fertilizer
(N,P_2O5 & K_2O) (in tons)

State	Production	Consumption	Surplus/Deficit
Arunachal	..	0.12	0.12
Assam	101.3	13.5	(87.80)
Manipur	..	4.2	4.20
Meghalaya	..	2.7	2.70
Nagaland	..	0.31	0.31
Tripura	..	2.93	2.93
Mizoram	..	0.08	0.08
Total	101.30	23.84	(77.46)
All India	4413.4	6417.9	2004.5

Based on 1982-83 (April-March)
K_2D Consumption treated as deficit Entire requirement through imports.

TABLE 4

Statewise consumption of Fertilizer ($N + P_2O_5 + K_2O$) (in 000 tons)

	1980-81	1981-82	1982-83
Arunachal Pradesh	0.057 (28.7)	0.10 (75)	0.12 (20.0)
Assam	9.3 (36.8)	10.8 (14.9)	13.5 (25.0)
Manipur	3.0 (3.2)	3.3 (10.0)	4.2 (27.3)
Meghalaya	2.56 (34.4)	2.2 (-16.7)	2.7 (22.7)
Nagaland	0.08 (1.3)	0.35 (337.5)	0.31 (-11.4)
Tripura	1.98 (-7.8)	2.68 (35.4)	2.93 (9.3)
Mizoram	0.07 (-4.7)	0.049 (-30.0)	0.074 (51.0)
All India	5516 (5.9)	6067 (10)	6818 (5.8)

Figures in parenthesis indicate % increase over the previous years.

Source : Fertilizer Statistic FAI New Delhi.

TABLE 5

Statewise consumption of Plant nutrients (NPK) Per Unit of Gross Cropped Area

Kg./Hectare

	1981-82	1982-83
Assam	3.3	4.1
Manipur	15.4	19.8
Meghalaya	9.5	12.2
Nagaland	2.0	2.0
Tripura	7.0	7.6
All India	34.6	36.6

Source : Fertilizer Statistics FAI-New Delhi.

TABLE 6

Land Utilisation Pattern 1979-80 ('000 hectares)

	Geographical Area	Reported Area for land utilisation statistic	Forests	Not available for cultivation	Other uncultivated land	Fallow land	Net Area sown	Total cropped Area	Area sown more than once
	1	2	3	4	5	6	7	8	9
1. Arunachal	8358	5550	5154	19	135	130	112	128	16
2. Assam	7852	7852	1964	2415	564	230	2679	3311	632
3. Manipur	2236	2211	602	1445	24		140	213	73
4. Meghalaya	2249	2249	812	315	617	312	193	223	30
5. Nagaland	1653	1042	288	49	45	510	150	150	—
6. Tripura	1048	1048	578	120	100	4	246	385	139
7. Mizoram	2109	2101	1303	211	81	430	77*	106*	29
8. All India	328778	304681	67441	39299	33013	21990	142938	175177	32239

* Relates to total area under forest crops

Source : Fertilizer Statistic FAI

TABLE 7

Estimate of Area Production and Yield of Food Crops 1982-83

		Rice	Wheat	Maize	Total Cereal	Total Pulses	Total Food Grain
Assam	A	2302	105	20	2435	126	2562
	P	2580	118	12	2714	53	2767
	Y	1121	1120	604	1114	418	1080
Manipur	A	159	..	5	164	4	168
	P	219	..	6	225	2	227
	Y	1383	..	a	1383	a	1349
Meghalaya	A	108	..	18	126	4	130
	P	123	..	13	136	2	138
	Y	1140	..	718	941	a	926
Nagaland	A	111	..	18	129	4	133
	P	108	..	13	121	2	123
Tripura	A	296	3	..	299	6	305
	P	424	6	..	430	2	432
	Y	1430	a	..	1436	a	1417
Arunachal	A	90	21	23	134	..	134
Pradesh	P	94	20	26	140	..	140
	Y	1046	a	1121	1043	..	1043
All India	A	37794	23150	5693	100930	22388	123318
	P	46481	42502	6274	116781	11569	128351
	Y	1230	1836	1102	1157	517	1041

A – Area in 000 hectares P – Production in 000 tonnes Y – Yield in Kg/ha

Source : Ministry of Agriculture Government of India New Delhi.

TABLE 8

Production of Food Grain in N. E. States and Procurement from Central Pool

(In 000 Tons)

	Production	Procurement	Total
Assam	2766.7 (92.6)	220.5 (7.7)	2987.2
Manipur	226.5 (92.9)	17.1 (7.1)	243.6
Meghalaya	153.6 (88.7)	19.5 (11.3)	173.1
Nagaland	123.0 (84.5)	22.6 (15.5)	145.6
Tripura	431.9 (96.1)	17.5 (3.9)	449.4
Arunachal Pradesh	139.9 (97.3)	3.9 (2.7)	143.8
Mizoram	34.6 (89.4)	4.1 (10.6)	38.7
TOTAL	3876.2 (92.7)	305.2 (7.3)	4181.4

Figure in parenthesis represent percentages
Source : FCI

Shifting Cultivations

In the last decades much has been said and done on shifting cultivation. The destruction of the national resources due to short cycle of shifting cultivation have been recognised. It destroys forests, results in soil erosion, silts the rivers resulting in floods, silts reserviors and dams. Due to burning there is reduction in organic carbon. The magnitude of the problem has been increased by shortening of the shifting cultivation cycle from 30 years of earlier decades to 5 to 8 years, a short cycle of 2 to 3 years is not uncommon. However, this primitive, non-acceptable and destructive method of cultivation is providing food to the bulk of the tribal families in the hill areas of the North-Eastern Region. It has been estimated that shifting cultivation covers 27 lakh hectares, of which about 16 percent of the land is cultivated at one point of time by approximately 4.5 lakh tribal families. Replacing shifting cultivation to traditional cultivation needs to be done gradually. Abrupt interruption in the treditional system may lead to disastrous effects.

Animal Production

In this paper I have not made much mention about animal

production. It is well known that in the north-eastern region consumption of meat and meat products is highest in the country. Dietery habits is basically restricted to the consumption of rice and meat (Beef, Pork, Mutton, Chicken, etc). Animals are mainly used for meat purpose. Region's potential for the development of animal husbandry is immence, meat and meat products are scare. The main source of beef is cattle brought from Assam and other regions of the country. If effeorts are made in a systematic manner, meat production could be increased in a short span of time. The region could not only become sufficient in meat production but significant amount could be exported to other regions.

Measures for Improvement

The North Eastern Region was largely by-passed by green revolution of the 60's and 70's in which new strains of wheat, rice, millets, pulses and varieties of several other crops were cultivated with fertilizer, water, chemical and other simple farming methods. These modern farming methods helped farmers in Punjab, Haryana, Andhra Pradesh, Tamil Nadu, Uttar Pradesh and several other states to boost agriculture production. In the North Eastern Region there were several constraints most significant of these are soil conservation, irrigation facilities, water management, Extension support, modern inputs (like seed, planting material, fertilizer, etc) shifting cultivation, land utilisation, credit facilities, marketing infrastructure, etc.

During the last decades several agricultural development programmes have been initiated to boost agricultural production in the north-east by NEC, ICAR, State Governments and several other agencies. Encouraging results have been produced by agricultural scientists working in the north-east. Problem relating to agricultural production have been identified, in many cases measures have been taken to improve production potential. However, the impact of agricultural production has not been felt, keeping in view the rich natural resources, favourable agro-climatic condition prevailing in the region, availability of suitable agricultural technology to farmers, new varieties, package of agronomic practices have been demonstrated that could bring significant increase in yield.

Once again, it is emphasized that technology is available and adequately tested with farmers to ensure that the region could be self-sufficient if the available technology was applied to sufficient area already under cultivation in the region.

To achieve the target of increased food production in the region,

emphasis should be paid to

1. Extension
2. Fertilizer and Irrigation
3. Soil conservation
4. Cropping pattern.

Extension

The transfer of technology and farming methodologies developed by the scientists to farmers' field is the basic idea behind any extension programme. The principal elements of the new technology are improved seeds, use of balanced fertilizer applications and other recommended cultural practices. For successful implementation of extension activities there must be trained manpower. During the last seven years several programmes have been undertaken to develop technical and non-technical manpower at all levels of agricultural production by the ICAR, State Governments and through sponsored programmes of NEC. Table 9 shows the Training courses organised by ICAR.

TABLE 9

Training Courses Organised by ICAR (Till December 1982)

Names of Programme	Number of Courses Organised	Number of Trainees Trained
1. Krishi Vigyan Kendra	68	1166
2. Trainers Training Centre (Nagaland)	32	320
2. KVK (Meghalaya)	52	1300
3. KVK (Arunachal)	80	1189
4. KVK (Manipur)	43	750
5. KVK (Sikkim)	2	30
TOTAL		4755

Source : ICAR (Additional Information)

It is evident from the above (Table 9) that farmers, farmwomen, VLW's volunteers, etc have been trained under the ICAR Extension Programme. Extension activities in the form of National demonstration, Training and visit programme, Mini Kit demonstration, Lab to land programme etc have also been undertaken in the region.

The region has made a large stride in the field of Education recording some of the highest level of literacy in the country. More than 75% of the people are rural based. Population density per square kilometer is also low. Majority of the farmers are small farmers with small holdings. A large number of farmers cultivate their own land.

Success of any agricultural programme is on its extension activities. Infrastructure for extension activities is available in each of the five states and two union territories. Extension facilities available to farmers are negligible. With the high rate of literacy and availability of trained extension personnel (Table 9), a well-knit programme on extension activities needs to be developed to implement and recommend the programme developed by scientists to farmers on a regular basis.

Introduction of television has brought maximum benefits to farmers through agriculture programme televised through National and regional broadcasts. Information like introduction of new varieties, irrigation, infestation of diseases and pests, fertilizer application are being televised through these programmes. Impact of Radio and Television broadcast have not come to the advantage of the farmers of the North-Eastern Region, this needs to be developed. Again, the initial spade work will have to be done through the activities of the extension service. Several agriculture departments of the State Governments and agricultural universities of the North Eastern Region have been able to organise extension services to carry the message of new production techniques to farmers, the role of these services, is mainly advisory but, through a process of demonstration, convincing the farmers about the value of the new techniques. The farmer with this conviction has adopted the new techniques to his farms. In these states extension activities of the organisation is a kind of management support to their farmers. These management centres should operate at district, block and village levels. They should assume major responsibility for the supply of important inputs like seed, fertilizer, pesticides and services for efficient management of soil and water.

Fertilizer and Irrigation

Fertilizer plays a critical role in stimulating agriculture production. Scope of increasing fertilizer consumption is enormous as per capita fertilizer consumption in the region is lowest leading to lowest production of food grain in the country. Most of the

fertilizer used in the region is for tea cultivation, very little or no fertilizer is used for food crops.

Fertilizer used in the North Eastern Region is still at a minimal, the real potential for fertilizer use is still to be realised. Most of the farmers in the region are still near the low end of fertilizer response curve which indicates that increase in the yield from initial application of fertilizer is neither substantial nor insignificant.

From the results obtained in the experimental plots various levels of fertilizer doses have been recommended for food and vegetable crops. However, application of fertilizer strategy is based on recognition of current farmer practices due to high level of risks and availability of fertilizer to the farmers. With these elements playing their role, the fertilizer application recommended may be lower than the optimum levels.

The reason being,

1. Gradual acceptance by farmers for fertilizer application. Once he recognises the importance of fertilizer he may increase the fertilizer doses as per his will. Though low doses will not produce maximum yield or reach the point of limiting returns on use of fertilizer, the low dosages are an efficient way to get maximum advantage from fertilizer use on many farms and will also cover the risk involved to the farmer. The use of low doses of fertilizer applications will provide near maximum profit in the wet season, but applying more fertilizer in the dry season could increase profit and yields.

2. Fertilizer being one of the costly inputs, the poor farmer would be interested in the use of optimum doses of fertilizers for maximum returns.

As already emphasised fertilizer is one of the important agriculture inputs, increase in productivity will have to be achieved by increasing the use of fertilizer.

Irrigation

In addition to the heavy rainfall during the monsoon season there is an abundant water resource available in the north eastern region. During the rainy season there is too much of water and during the dry season water is not available though there is plenty of water in the vincinity. The north-eastern region has greatest irrigation potentials offering tremendous possibilities of increasing agriculture production. The biggest constraint in the exploitation of this potential is water management.

Simple techniques of water management such as storing of

water at different levels in the hilly areas, use of water stored in dams for hydroelectrical purposes, or construction of canals. In each of these cases water could be used for irrigation through gravity specially during the dry period.

Multiple Cropping

The increased food requirements of the North Eastern States will have to be met through higher crop yields on the basis of production technology which is available at present and which the scientist will continue to improve. Considering the low yield of major food crops in the region, the available technology does offer the possibilities of meeting our increased food needs during the next decade or two.

At present agriculture is largely monoculture, with rice as the main crop raised each year. Area sown more than once is negligible and yield per hectare for most of the crop are poor. A small proportion of farmers use modern farm inputs.

Emphasis will have to be given to multiple cropping with application of improved management techniques and use of fertilizer. For quick gains a multi-directional multiple cropping farming system needs to be emphasised in the following directions :

1. Cultivation of high yielding and improved varieties with application of fertilizer and use of irrigation.
2. Emphasis on multiple cropping, double cropping and intercropping with appropriate plant population.
3. Emphasis on mixed farming, in other words, livestock based farming and agro forestry based farming.
4. In a gradual process, shifting cultivation needs to be discouraged with a view to bring settled cultivation in areas affected by shifting cultivation. The 3-tier forestry-horticulture and crop based farming system developed by ICAR to replace shifting cultivation be emphasised through special extension agencies.
5. Continuous mono-cropping needs to be discouraged; suitable double cropping system be identified and per unit area production be increased.

Soil Conservation

It has been estimated that about 48 tonnes of top soil hectare jhum land is washed off annually, leading to soil erosion and rapid decline in soil fertility. In addition to this, extensive denundation of forest meeting demands of firewood, fodder industry and faulty cultivation on hill slopes, particularly root crops like potatoes,

ginger, radish, casava, etc. Graining root crops on hill slopes tends to loosens soil, leading to landslides and destruction of vegetation on hill sides. There is, therefore, an urgent need to undertake massive programme on soil conservation directed towards :

1. Development of horticulture based farming system in the hill slopes;
2. Discourage cultivation of tuber crops, rhizomatous crops and other root crops on hill slopes;
3. Control of floods and soil erosion through water management and planning suitable vegetation cover.

Conclusion

In the last 5 years there has been less concern with food shortages. The annual growth rate in food grain production during first four years beginning 1980-84 is 2.65 percent as against 2.31 percent in the thirteen year period between 77-1980. An all-time record food grain production of 151 million tonnes was during the calender year 1984. The country has gone to the international market to sell its wheat.

In spite of this apparent abundance of food, rapid population growth has economical, social and political implications leading to malnutrition, poverty and unemployment. Thirty seven years after independence approximately 48 % of the population live below poverty line. Agriculture, the backbone of rural economy has to be given high priority to attain district-wise self-sufficiency in food.

In the context of the North-East, the total food grain production in the region is around 38 million tonnes against the demand of million tonnes. (Table 8). The region is deficit by approximately 5 million tonnes per annum, this target of 5 million tonnes can be easily achieved, through the use of high yielding varieties, consumption of fertilizer, and irrigation facilities. The region can become the rice bowl of India.

The major responsibility rests on extension agencies for spreading the knowledge of scientific methods of land use and creating awareness on soil conservation and land management among the farmers.

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