

CHAPTER – I

AGRICULTURE & ALLED SERVICES

1.1. AGRICULTURE

1.1.1. The major chunk of the population (about 80%) of the State is based in the rural areas. Accordingly, the State economy is basically agrarian as it is rural based with agriculture contributing about thirty per cent of the State GDP. Agriculture thus assume a greater role in the overall economic development of the State and since majority of the people depend on Agriculture, employment and income generation also depend on the agricultural activities and development to a larger extent. It is a common perception that the comparatively low productivity of agriculture in the upland areas which form the major portion of the land in the State leads to uneconomical operations in the field and this in many cases has resulted in agriculture being only a subsistence farming. It is also a common trend that young people are consequently leaving their villages and are converging into the cities in search of jobs. This brings consequential problems of urbanization which stretches the existing facilities in the urban areas to the limits thus resulting in growing urban unemployment which has brought about problems of law and order in the towns and cities. Efforts are being taken to modernize old methods of technology and to reduce large scale jhuming through settled cultivation with high economic value crops. During the Ninth Plan period, a number of activities have been taken up by the Department of Agriculture especially in introducing horticultural cash crops like Tea, Mushroom, Cashewnut, etc. and encouraged other activities like floriculture and establishment of horticultural nurseries in the private sector for commercialization towards economic development. It is thus necessary that Agriculture including Horticulture be given a renewed thrust so that productivity can be increased and that the level of economic activity in the villages and rural areas can be given the desired momentum to bring about economic transformation in agricultural production.

1.1.2. The gross cropped area in 1998-99 is 2.90 lakh hectares while the net cropped area is 2.40 lakh hectares. A target of 3.20 lakh hectares gross cropped area with a net cropped area of 2.55 lakh hectares is anticipated during 2001-2002 against the likely achievement of 3.00 lakh hectares gross cropped area during 2000-2001.

1.1.3. With the increase in plan outlay, it has been possible to increase production and productivity both for foodgrain and horticulture crops. Substantial achievement has been achieved which commensurate to a large extent with the investment made in the following areas :-

possibility of cultivation of three crops of maize in a year as pre-*kharif*, *rabi* and main *kharif*

tea plantation of small and marginal farmers in small hold ings through a package scheme and prospect of expansion of the cultivation in non-traditional areas with suitable varieties adaptable to the soil and agro-climatic conditions

edible mushroom cultivation amongst small and marginal farmers through incentive provision of spawn (seed) materials, compost making and training component.

popularisation of polyhouses for vegetable growing and floriculture

production of off-season vegetables including tomatoes and cole crops

increasing production of high value spice crops of ginger and turmeric

introduction of coconut and cashewnut for settled cultivation with an impact in minimizing soil erosion, land degradation and reduction in jhum lands

setting of regulated markets for important crops like potato, ginger and other minor forest produce

creating awareness to farmers for use of organic manure, importance of grading and standardisation of agricultural produce for better marketing

implementation of watershed management schemes for sustainable agriculture thus encouraging people to take up various activities to sustain their livelihood and to improve their economy

construction of minor irrigation projects to bring more cultivable land under command areas

promotion on uses of agricultural equipments and farm machineries including power tillers and water pumps

providing facilities to farmers for training in modern technology and wider exposure on various aspects of crop cultivation, agricultural marketing, etc.

establishment of infrastructure for training and emphasis on adaptive research, seed testing, soil testing, integrated pest management, soil survey, extension services, etc.

1.1.4. REVIEW OF THE NINTH FIVE-YEAR PLAN (1997 - 2002) :-

Although the agricultural growth rate is yet to touch the national level. It is however, slowly and steadily progressing during the Ninth Plan period inspite of the numerous constraints and limiting factors such as undulating topography, transport communication problem, population dispersal pattern, land tenure system, occurrence of natural calamities, inadequate credit support, unsystematic marketing avenues, etc. Through continued efforts in the agriculture sector, with greater vigour and renewed emphasis and by adopting certain thrust and priority areas to improve the

productivity and production of both agricultural and horticultural, food self-sufficiency can be achieved in the near future.

I. Financial Achievement :

The approved outlay in the agriculture sector for the Ninth Plan (1997-2002) was Rs 13420 Lakhs including SF/MF. The approved revised outlay with expenditure in the first four-years (1997-98 to 2000-01) and the proposal for the remaining year (2001-02) of the plan period are given hereunder :

Year	Approved Outlay (Rs in lakhs)	Revised Outlay (Rs in lakhs)	Expenditure (Rs in lakhs)	Percentage of Expenditure
1997 - 1998	1202.00	900.00	900.78	84.59 %
1998 - 1999	1400.00	1200.00	1011.46	84.15 %
1999 - 2000	1450.00	1155.00	1121.67	95.59 %
2000 - 2001	1450.00	1215.00	1077.85	89.28 %
2001 -2002	1919.00	1469.00	1469.00 (anticipated)	-

II. Physical Achievement :

In spite of the various constraints, there has been a substantial improvement in crop production and the achievements are outlined below :

(A) Foodgrains :- Foodgrains constitute the main food items of the people of the State and there has been a substantial increase in the production. This production increased from 1.86 to 2.20 lakh tonnes during the first four years of the plan period and it is expected to achieve 233.34 lakh tonnes in 2001-02 by further development of existing rice fields with irrigation facilities for multiple cropping thereby raising the level of productivity per unit area through increased use of fertilizers and organic manures, more area coverage under high yielding varieties with adequate and need-based plant protection measures and adoption of improved crop production technology. The target and achievement in foodgrains production are shown here :

Year	Target (in lakh tonnes)	Target Achieved (in lakh tonnes)	Percentage of Achievement	Reasons for Shortfall
1997 - 1998	1.87	1.86	99.46	Due to reduced outlay, limited use of HYV in upland areas, slow adoption of scientific farming practices by farmers.
1998 - 1999	2.03	1.87	92.12	
1999 - 2000	2.17	2.15	99.08	
2000 - 2001	2.28	2.20	96.49	
2001 - 2002 (anticipated)	2.33	2.25	96.57	

Efforts were also made to popularise the cultivation of high yielding varieties of maize as pre-*kharif*, *kharif* and *rabi* crops, wheat and pulses through demonstration and minikit programmes in the cultivators' field

(B) Other Developmental Programmes :- The achievement in the production of agricultural and horticultural crops cannot be possible without the implementation of other developmental programmes for the supply of inputs, overall development of the soil, post harvest technology, marketing facilities, etc.

The consumption of inorganic fertilizers in the State is mainly for potato crop. During 1999-2000, the fertilizers consumption was 3970 tonnes of fertilizer nutrients - nitrogen, phosphorus and potash against the target of 4750 tonnes. The proposed target for 2001-2002 is 6500 tonnes as against the achievement of 3864 tonnes during 2000-01.

The National Watershed Development Project for Rainfed Areas (NWDRRA) has been implemented in 32 Micro-Watershed areas in all the districts of the State under the Centrally Sector Scheme with an area coverage of 24138 hectares since 1998-99.

The State Agricultural Marketing Board which had established two principal regulated markets at Mawiong and Garobadha has commissioned one cold storage of 1000 MT capacity and another of the same capacity is under the process of commissioning. The development of rural markets infrastructure has added to the need of forward linkages of the produce.

The AGMark Laboratory has also undertaken analysis of ground spices for awareness amongst the local entrepreneurs to maintain quality of food products. The Government of India has also established a sub-office of the Directorate of Marketing and Inspection to strengthen this aspect of quality control for agricultural produces.

The Work Plan for implementation under the Macro Management Mode submitted by the State to the Government of India which was effective from 1st April 2000 was approved for Rs 9.50 Crores and Rs 10.00 Crores for 2000-2001 and 2001-2002, respectively. However, Rs 466.30 Lakhs was released for 2000-2001 and Rs 405 Lakhs was expected to be released for 2001-2002.

1.1.7. STRATEGIES AND SECTORAL PRIORITIES FOR THE TENTH FIVE-YEAR PLAN (2002 - 2007) :-

Basing on the topography and climatic conditions of the State and to strive for achievement in food self-sufficiency, priority will continue to be given to foodgrains production. Though area expansion under foodgrains is limited due to the hilly terrain, the main strategies will be to further develop the existing rice fields with irrigation facilities for multiple cropping, raise the level of productivity per unit area through efficient use of fertilizers and organic manures, more area coverage under high yielding varieties, adequate and need-based plant protection measures and adoption of improved crop production technology. Further, land otherwise unsuitable for foodgrain

crops will be gainfully exploited for growing of horticulture and plantation crops. The priority areas are-

Attempts to popularise cultivation of Maize, Wheat and Pulses through crop demonstration and minikit programmes.

Introduction of high yielding varieties of seeds and more area coverage under such seeds with higher yields wherever suitable to be grown with proper package of practices. To encourage farmers to replace the improved and traditional varieties with low yield records by HYV seeds but maintenance of germplasms of indigenous local varieties

Production and multiplication of quality, disease-free certified and true-to-type seeds through establishment of seed farms in all the districts of the State to be supplemented with the setting up of seed certification agency. Introduction of seed villages concept in the pattern of registered growers for seed potato to be looked into as an alternative.

Strategic interventions through timely delivery of agricultural inputs and efforts to encourage the farmers to go in for timely sowing of seeds and transplanting of seedlings.

Raising the level of productivity per unit area through increased and judicious use of fertilizers.

Encouraging farmers for production of organically produced crops through use of organic manures, etc.

Ensuring availability of irrigation facilities from minor irrigation projects, diesel pumpsets and shallow-tube wells and maximizing utilization of command areas especially in the winter months for multiple cropping.

Attempting to increase crop intensity by facilitating the availability of proper inputs and other necessary resources.

Increasing the availability of proper agricultural machineries through schemes for mechanization of agriculture and popularisation of power tillers, small tractors, hand tools and other farm implements.

Encouraging rabi (winter) crop cultivation with concentration on *rabi* maize and winter vegetables with local improved and high yielding varieties.

Thrusts on land development and management.

Frequent and widespread publicity campaigns.

Attempts to improve marketing facilities and marketing linkages.

Implementation of existing developmental schemes in right earnest and formulation of schemes for employment generation that would provide ample scope for involvement of unemployed youth for earning their livelihood.

Popularisation of low-volume, high value items like dehydrated mushrooms, black pepper and other spices to be consciously attempted.

Steps to be expedited to assess the viability of the two Government food processing units at Shillong and Dainadubi for smooth operation on commercial basis to be made available through constant 'Revolving fund'.

Strengthening and modernisation of the Extension wing for the purpose of wide publicity and improving efficiency in transfer of technology to farmers in aspects of Package of Practices, new techniques and improved cultivation methods so that the production and productivity can be increased. Effective mobility of extension personnels through provision of two-wheelers on loan basis.

Systematic interaction with Research organisations like ICAR for technical guidance in various areas of crop production, evolving of specific rice varieties for mid and high altitude regions and varietal improvement of local cultivars for better productivity.

More emphasis on provision of poly-houses in both the urban and rural set-up for further increase of production of off-season vegetables, flowers and vegetable seeds in heavy rained areas of the State.

Use of Sprinkler irrigation, Drip irrigation, mulching and rain-water harvesting to be given more emphasis.

Development of necessary infrastructure for phyto-sanitation facilities.

Implementation of Watershed Development programmes with involvement of watershed functionaries at the management level.

Ensuring of adequate and need-based plant protection measures to reduce losses in crop production.

Emphasis on the development of rural infrastructure for effective storage facilities and market infrastructure.

Extension of subsidies on both organic and inorganic fertilizers and encouraging use of organic manure. Awareness programmes through farmers' training and demonstrations on technology for production of vermiculture, etc.

Stress on evaluation and monitoring of on-going programmes to realise the impact of the schemes being implemented

Use of Information technology through setting up of computer network for imparting new technology and for providing marketing intelligence system.

1.1.8. APPROACH TO THE TENTH FIVE-YEAR PLAN (2002 - 2007) :-

In the approach to the Tenth Five-year plan, the State would continue to lay emphasis on increased production and productivity in the foodgrains sector inspite of limitation in area expansion due to land topography. Attempts towards self-sufficiency in foodgrains and achieving food security and keeping in view the contribution of the Agriculture sector to the overall economic development of the State, the Department in striving to fulfill the aims and objectives of the developmental schemes to be implemented would have to constantly face the following major challenges :-

- # to increase production and productivity *vis-a-vis* the increasing population.
- # to meet the needs of unemployment, poverty and malnutrition.
- # to face the unforeseen hazards of natural calamities causing destruction to standing crops.
- # to focus the research system on the development of economically viable and location-specific technologies for rainfed, flood-prone and irrigated areas.
- # to utilize research findings in priority areas for the benefit of the farming community.
- # to address efficient extension services and timely inputs availability to farmers.
- # to manage constant provision of irrigation facilities especially during the dry spell and for *rabi* cultivation.
- # to revitalize marketing support and processing facilities.
- # to increase participatory involvement of the community, co-operatives, local institutions and voluntary organisations.
- # to reduce post-harvest losses and to promote value-addition in agriculture.
- # to diversify agriculture and to accelerate horticulture development in areas of floriculture, plantation crops, aromatic and medicinal plants as well.
- # to cover more areas under settled cultivation to wean away the *jhumias* from their traditional *jhum* cultivation.
- # to combat free grazing of animals in all seasons which is a serious constraint to *rabi* cultivation of crops.
- # to restrict increasing pressure for diversion and transfer of productive agricultural lands for non-agricultural purposes.
- # to arrest land degradation and environmental pollution caused by open-coal mining in some specific areas damaging productive agricultural lands.
- # to develop areas of untapped potential.
- # to remove the problem of absence of land documents necessary to avail flow of credit to farmers from financial institutions.

to encourage efficient use of marginal lands maintaining soil fertility and productivity.

1.1.9. PROPOSALS FOR THE TENTH PLAN (2002-2007) & ANNUAL PLAN (2002-2003) :-

Amidst the challenges for implementation of the strategies mentioned in the foregoing paras, the Department proposed to continue with most of the existing schemes. However steps will be taken to modify the components of these schemes to avoid monotony but to achieve the objectives in fulfilling the strategies and sectoral priorities with greater vigour and renewed emphasis. **An outlay of Rs. 10000.00 lakhs is proposed for the Crop Husbandry (including Horticulture) sector for the Tenth Plan and an outlay of Rs. 1500.00 lakhs is proposed for the sector for the Annual Plan 2002-2003.** The schemes taken up during the Ninth Plan will again be given required impetus in the Tenth Plan along with other new schemes as highlighted in the following :-

(A). Continuing Schemes & Programmes :

1. Direction & Administration - The main objectives of the Scheme is to strengthen the present technical set up at all level on need-based basis.

2. Crop Husbandry :-

(i). **Seeds** - The State is contemplating to set up seed farms in each of the seven districts for production and multiplication of quality seeds to meet the increased seed requirement within the State. Besides the existing seed farm at Sambrak in East Garo hills district, the Department had so far acquired another seed farm at Jetragiri in South Garo hills district. At present, seed requirements especially HYV seeds are met through the outside agencies like the National Seed Corporation and other State seed corporations.

The departmental farms are to play these roles : (a) multiplication of quality seeds for distribution to the farmers (b) conducting adaptive trials for finding out suitability and adaptability of released and pre-released crop varieties and subsequently to take up demonstration of such established varieties in farmers' field for further extension (c) to meet the demand of quality seeds by the farmers in the district.

(ii). **Manures & Fertilizers** - The average consumption of fertilizers in the State is only about 16 Kg per hectare and about 80 per cent of this quantity is being used for potato crop and very negligible for foodgrains resulting in stagnation of foodgrains production. With the target to raise the consumption level to 27 Kg per hectare, the number of retail outlets have been increased for ready availability of the commodities. More emphasis will be given for use of organic manures which will also include components like vermi composting and construction of compost pits.

(iii). **Plant Protection** - The Scheme provides supply of plant protection chemicals and equipments at subsidised rate to encourage the cultivators to take timely plant protection measures so as to reduce crop loss. For judicious use and need-based application of pesticides, the

implementation of Integrated Pest Management programmes will be encouraged and with the commissioning of the Bio-Control laboratory sanctioned through the Central Government, more emphasis will be stressed in this area.

(iv). **Commercial Crops** - Through these schemes, the efforts are to increase the production of different commercial crops like arecanut, cotton, ginger, turmeric, potato, oilseeds, spices, pulses, mushroom and tea and to popularise new varieties by giving improved seed materials, etc. at subsidised rate for encouraging and motivating the farmers to promote extensive cultivation of these crops.

(v). **Extension & Training** - The State has one Basic Agriculture Training Centre at Upper Shillong to provide training to local entrepreneurs for taking up income generation projects on various aspects of crop production and for training of in-service personnels. The Farmers Training Centres in East Khasi hills, West Garo hills & Jaintia hills districts and the Farmers Training Institutes in West Khasi hills, Ri Bhoi, East Garo hills & South Garo hills districts are functioning as centres for imparting training to the farmers of the State. Extension services are being strengthened through the Central schemes.

(vi). **Agricultural Economics & Statistics** - The scheme aims and objectives are collection, compilation, processing of agricultural data and providing equipments for collection of meteorological data, etc. The Department has initiated computerised system of data storage, analysis, etc.

(vii). **Agricultural Engineering (Mechanical)** - To boost agricultural production through mechanisation of agriculture, the Department is taking advantage to implement the Centrally sponsored schemes of farmers agro-service centres, agriculture machinery training and evaluation centres and popularisation of improved agricultural equipments alongside the state plan schemes of mechanical engineering workshop and supply of power tillers, small tractors, etc. at 50% subsidy.

(viii). **Assistance to Small and Marginal Farmers (ASF/MF)** :- The aim and objective of the programme is for providing minikits of improved seeds and other facilities to Small and Marginal Farmers for increasing Agricultural Production. For the 10th Five Year Plan Period (2002-07), an outlay of Rs.450.00 lakhs has been proposed for the programme. The Physical Target for the 10th Five Year Plan is set at 9000 numbers of beneficiaries. For the Annual Plan 2002-03, the Outlay of Rs. 80.00 lakhs is proposed for the programme and a Physical Target of 1600 numbers is set for the programme.

3. Agricultural Research & Education - The Department do not undertake basic research since this is the mandate of the ICAR research complex for NEH region but it does take up location-specific adaptive trials on different crops for ascertaining their viability and further extension in the farmers' fields. These research trials, etc. are conducted through the three District & Local Research Stations & Laboratories at Shillong, Jowai and Tura while the two already constructed at Nongstoin and Williamnagar are yet to be functional due to non-creation of required technical posts to run the laboratories.

4. Investment in Agricultural Financial Institution - The scheme is for provision of share capital to be contributed to the Meghalaya Co-operative Apex Bank Ltd.

5. Agricultural Marketing & Quality Control –

(i). **Marketing:-** For efficient marketing, collection and reporting of reliable and accurate data on market intelligence & market sentiments of important agril-commodities is important. The scheme envisages such activities to prevent distress sale and that the farmers are not deprived of remunerative prices for their produces. The scheme also has provision for training of farmers on grading, post harvest storage, standardisation, etc. and exposure on marketing system in other states.

(ii) **Fruit Processing** - With extension of area under different horticultural crops, steps are to expand and modernise the two existing Fruit Preservation Centres at Shillong and Dainadubi. In addition, the Department will encourage private entrepreneurs to set up agro-based industries and other processing units for mushroom, tapioca, etc. thereby promoting cultivation of these crops and generating employment opportunities to local educated unemployed youth.

6. Location-specific Crops - The envisaged development in the agricultural and horticultural sectors is based on agro-climatic suitability. In case of rice, the Department shall attempt to cover all area below 500 MSL with HYV seeds and the area in high altitude region with improved varieties. Wheat, pulses and oilseeds shall be initially expanded in areas which are not only agro-climatically suitable but where there is social acceptability of these crops. In the horticulture sector, extension of citrus plantation will be concentrated on the southern slopes of the State with stone fruits and naspati to continue in the Shillong plateau and the Arabella range. Banana and Litchi shall be expanded in areas below 500 MSL while pineapple in region upto 800 MSL.

7. Employment Generation - In order to maximise employment opportunities under various activities, the pattern of labour in the form of regular and casual will be utilized to the extent possible within the limits provided in the schemes and programmes. The ample scope of self employment in the area of commercial crops, tea cultivation, mushroom cultivation, agro-service centres, mechanised agriculture, food processing, etc. will be gainfully exploited and alongside, the objective of ensuring greater access for women and other disadvantaged groups of the society will be given due consideration.

8. Non-Governmental Organisations - There are a number of registered farmers groups and voluntary organisation working for the lot of the farming community but their activities are not specific and widespread. For active participatory approach by the farmers, the involvement of these NGOs will be taken into account and stress will be laid on the training and orientation of the implementing schemes and programmes.

9. NABARD Loan Schemes - Though not much of this facility of availing NABARD loan has been achieved by the Department in the development of rural markets and irrigation projects infrastructure during the ninth plan period, fund provision for the purpose will be kept in the tenth plan.

10. Seed Certification Agency : The State does not have its own seed certification agency but presently the Assam Seed Certification Agency (ASCA) is assisting in seed certification. Setting up of a seed certification agency is required to certify disease-free and true-to-type seeds to be produced in the seed farms and the seeds produced in the seed villages.

11. Exploration of Ground Water Potentiality - In order to tap the resources through ground water in the cultivable lands, more than 625 shallow tube wells have been set up in the State particularly in the flood-prone rice growing belt of Garo hills districts and therefore to ensure water availability to growing crops during the critical months, need for more such wells will be proposed.

12. Establishment of Phytosanitary Unit - With the submission of the final report on border trade with India by the International Business and Technical Consultants (IBTC) to the Union Commerce ministry, a list of importable and exportable items has been recommended to enlarge the scope of border trade. All the existing customs check posts along the land border have also been recommended as trade routes, as such this calls for an immediate requirement of a Phytosanitary Unit in the State for issuing phytosanitary certificate for export of Agri-horticultural produce which is mandatory.

(B). New Proposals :-

1. For proper thrust and specific impact in the Command areas. The Multiple Cropping Scheme under 'Seeds' to be renamed as Command Area Development Scheme with existing objectives and provisions in the Scheme for supply of inputs like seeds, fertilizers and plant protection measures to encourage multiple cropping. Accordingly two new schemes to be added towards the objectives of adequate seeds availability and food security - the Seed Production and Multiplication Scheme specifically for paddy, soybean, pea, rapeseed and mustard, maize and other pulses to be introduced as Seed village concept and the Indigenous crops Development Scheme for development of indigenous crops of the State with importance from food value aspect and economic criteria.

2. To amalgamate the existing Seed Saturation Scheme and the Scheme on Demonstration in Cultivators field under 'Commercial Crops' for better impact on cereals and pulses production. The introduction of seed villages concept as an alternative to setting up of seed farms for adequate production of quality seeds may be taken up under this scheme with a new nomenclature viz. the Foodgrains Development Scheme.

3. The Potato Development Scheme under 'Commercial Crops' to be renamed as Tuber Crops Development Scheme so as to include other tuber crops like tapioca, sweet potato, yam and colocasia besides potato to enhance food security.

4. In Organic Manure Scheme the other components will include Vermi composting and construction of compost pits.

5. Under ‘Commercial Crops’ two schemes have been operated for spices viz., Spices Development Scheme and the Ginger & Turmeric Scheme which may be taken up under one single scheme - the Spices Development Scheme so as to include other spice crops like Large cardamom, black pepper besides ginger and turmeric. Item of soil conservation measures to be incorporated in the Scheme especially for planting along the slopes.

6. Arecanut and Betel leaf development scheme may also include Cashewnut and Coconut as Plantation Crops Development Scheme under ‘Commercial Crops’.

7. The two schemes for cotton development and jute development under ‘Commercial Crops’ to be merged under a single scheme to be given a new nomenclature - Fibre crops development scheme to avoid multiplicity of schemes with the same objectives.

(C). Centrally Sponsored/Central Sector Schemes :-

1.1.11. A number of centrally sponsored and central sector schemes have been implemented in the State by the Department during the ninth plan period. These schemes have provided the required strength to support the existing State plan schemes to a large extent, thus enabling the State to achieve its objectivity in crop production. Though some of these schemes are being operated as independent schemes from the Government of India, about 27 of these schemes have been brought under the Macro Management Mode since 2000-2001 for flexibility in implementation of the programmes as per state requirement. The proposal for these Macro management Schemes is being worked out for the tenth plan period. Similarly, the central schemes under Horticulture have been brought under the Technology Mission for Horticulture in the North East Region and the fund requirement has been worked out separately.

1.2 . HORTICULTURE

1.2.1. Meghalaya has a geographical area of 22,429 sq km with a population of 17.71 lakh approximately (1991 census). The state is endowed with a varied agro-climatic condition ranging from sub-tropical to temperate. The temperature ranges from around 2°C to 30°C depending upon the altitude which ranges between 100 to 2000 metres (MSL). Meghalaya is having an annual average rainfall of 11,000 mm (440"). The state can be broadly classified into three zones viz., the high, the mid and the low altitude.

1.2.2 In the context of the given topography and agro-climatic regime, Meghalaya does not permit significant increase in net area sown under food grain crop, the only alternative is to go for large scale cultivation of various horticultural crops by providing efficient marketing and processing supports.

1.2.3. **Review of Horticultural Development Programme/Scheme under implementation during the Ninth Plan:**

I. Financial Achievement

Review of the financial achievement during the Ninth Plan for Horticulture Development Schemes and the break-up of the financial targets/achievement during the first four years of the plan period is as follows:

Year	Target	Achievement	Remarks
1997-1998	648.80	330.73	(-) 318.07
1998-1999	544.41	421.00	(-) 123.41
1999-2000	534.33	494.46	(-) 39.87
2000-2001	655.00	598.42	(-) 56.58
2001-2002	628.00	628.00	(Anticipated)
Total	3010.54	2472.61	(-) 537.93

The shortfall every year as indicated is due to revised budget outlay in this sector, as such the physical achievement in respect of various developmental schemes implemented in the state are impaired. More fund is required for the developmental schemes of crops like ginger, turmeric, vegetable, tea, mushroom and cashew nut which have commercial value.

II. Physical Achievements:

The Department had given more stress and thrust during the ninth plan period for horticultural development under the given topography and agro-climatic situation. The revenue returns from horticultural crops are also higher than from foodgrains.

Among the horticultural crops, potato continued to be the major cash crop but recorded a lower performance and achievement to the level of 1.43 lakh tonnes in 1999-2000 as against the projected target of 2.34 lakh tonnes. The shortfall was attributed to the dry spell during February till early part of May, 2000 in the East and the West Khasi Hills districts. A production target of 2.38 lakh tonnes was achieved during 2000-2001 but productivity has declined considerably. The increased cost of cultivation which obviously encourages the farmers to shift to other crops has also consequently added to the decline in potato production

Pineapple, banana, chillies, sweet potato, turmeric, tapioca, and papaya have registered significant increase in area and production in the first three years of the plan period. The growth rate of major fruit crops during the last 22 years has been estimated at 1.38 % and 3.60 % in area and production, respectively. The decline in productivity of certain crops like ginger is due to the area expansion in non-traditional areas. The area under the crop was 7607 hectares with productivity of 5701 Kg per ha. during 1999-2000.

Since the introduction of the Tea crop in the State, 423.13 hectares of land has been brought under tea plantation producing about 6,46,934 Kgs of green tea leaves during 1999-2000 and involving 450 small tea growers. Two tea processing units in the private sector have been established at Rongram and Nongpoh. During 1999-2000, a total of 6,28,063 number of seedlings were distributed to the tea growers through the Government tea nurseries at Umsning, Rongram and

Riangdo. The achievements through tea plantation in the State during 1995-96 to 1999-2000 are shown here -

Year	Tea Seedlings Distributed (Nos)	Area Covered (Ha)	Green Tea Leaves Produced (Kgs)	State Financial Assistance (Rs)
Upto 1994-95		220.95		
1995-1996	5,55,130	44.99	4,70,000	6,97,737
1996-1997	4,64,000	37.26	6,70,000	6,99,066
1997-1998	4,90,483	34.94	8,20,000	6,99,475
1998-1999	5,25,025	41.39	6,04,034	6,87,142
1999-2000	6,28,063	43.60	6,46,934	7,38,043

Vegetable cultivation particularly tomato has picked up successfully amongst the farmers because of the high rate of returns derived from harvesting as off-season produce. Around 60-65 per cent of the total production is despatched for sale to the neighbouring States.

For expansion of scope for edible mushroom cultivation, the existing Regional Centre for Mushroom development is being strengthened with the installation of modern equipment and machines for spawn production and compost. Production of the Oyster and white button mushrooms was visible in the farmers' field and with proper marketing linkages, it is expected that edible mushroom production will increase steadily.

1.2.4. Assessment of the existing productivity potential of various horticultural crops:

The Table below shows the increase in productivity of crops like sweet potato, chillies, turmeric, papaya, areca nut, banana and the decline in productivity of potato, ginger, citrus and tea with increasing trend may be apparently interpreted as promising crop and requires better improvement for further increase in productivity. The decline in productivity of some crops like ginger, pineapple is due to the area expansion in non-traditional areas. These promising crop need to be improved with due attention in the field management. The decline in citrus productivity is due to disease incidence, lack of proper intercultural practices, soil erosion and old plantation. For ameliorating the programme of citrus decline, rejuvenation of old orchards may be taken up. The decline in potato production is due to the increased cost of cultivation and shifting of cultivation to other crops.

STATEMENT SHOWING THE AREA PRODUCTION AND PRODUCTIVITY OF HORTICULTURE CROPS DURING THE NINTH PLAN PERIOD 1997-1998-1999-2000

Sl. No.	Name of the Crops	Area (Ha)			Production (MT)			Production (Kg/Ha)		
		1997-98	1998-99	1999-2000	1997-98	1998-99	1999-2000	1997-98	1998-99	1999-2000
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Potato	20764	20753	18339	200506	20159	143287	9656	9688	7811
2.	Sweet Potato	5215	5181	5220	16378	17291	17591	3142	3337	3370
3.	Ginger	7257	7433	7607	45260	45560	43369	6237	6129	5701
4.	Chillies	1768	1764	1790	1106	1051	1128	625	595	630
5.	Turmeric	1401	1375	1467	7129	6597	8197	5088	4798	5588
6.	Tapioca	3959	3953	4022	21067	21261	21497	5321	5378	5354
7.	Pineapple	7268	9291	9382	80404	80156	82461	11062	8627	8789
8.	Citrus fruits	7505	7523	7648	35549	35206	34173	4736	4679	4468
9.	Banana	5259	5194	5319	61011	62848	63383	11599	12100	11916
10	Temperate fruits	-	-	218	-	-	1710	-	-	7844
11	Papaya	494	495	507	2683	3697	3941	5431	7468	7773
12	Areca nut	9643	9685	9684	12071	11576	12579	1252	1195	1299
13	Tea	338	380	423	689(Kg)	490(Kg)	6304(Kg)	2039	1289	1480

The area of production and productivity of vegetable in the state during 1997-1998 are as follows:

<u>Vegetables</u>	<u>Area (Ha)</u>	<u>Production (MT)</u>	<u>Productivity (Kg/Ha)</u>
1 Cauliflower	835	1038	12431
2 Cabbage	1009	1051	10427
3 Peas	278	1751	6298
4 Carrot	266	2184	8210
5 Tomato	376	3285	8737
6 Radish	629	6660	10588

The overall average under vegetable cultivation in the state stands at 6357 hectares. At present the state is proposing to bring this existing 6357 hectares of land under optimum cultivating conditions thereby enhancing the productivity level as well as total production. The state has also proposed a master plan for bringing an additional 31,300 hectares of land under multiple vegetable cropping. This may be made possible with the launching of Technology Mission on Horticulture during the Tenth Plan.

The proposed area distribution and expansion programme of horticulture crop as prepared in the Master Plan is as follows:

Sl. No.	Crops	Area under expansion
1	Fruits	24000
2	Vegetables	31300
3	Spices	12300
4	Plantation	28700
5	Flower etc.	76
	Total	96376

The measures for expansion programme is conceived by taking into account the prevailing agro-climatic conditions and the availability of infrastructural facilities that are presently existing in the state which will support the proposed expansion programme under Master Plan for more than 15-18% of the available land.

1.2.5. Central Sector Schemes:

Certain numbers of Central Sector Schemes have been implemented in the state during the year 2000- 2001 as shown below :-

- 1) Development of vegetables
- 2) Development of Roots and Tuber Crops
- 3) Development of Floriculture
- 4) Development of Mushroom
- 5) Integrated Programme for the development of Spices
- 6) Development of Cashewnut
- 7) Use of Plastic in Agriculture
- 8) Development of Tropical, Arid and Temperate Zone fruits
- 9) Phyto Sanitary Centre

With the launching of Technology Mission for Development of Horticulture (TMH) in North Eastern Region by the Government of India, all the Central Sector Schemes converged into TMH. Allocation made under TMH for the year 2000-2001 and 2001-2002 is Rs 1094.57 lakhs. The Government of India already released Rs 134.30 Lakhs till date through Central SFAC (Small Farmers' Agri-business Consortium) to the State SFAC. The necessary arrangement have been made by the Department for implementation of various horticultural schemes under TMH.

The implementation of the Technology Mission of Horticulture will go a long way for improvement of horticulture crops in the state.

1.2.6. Strategies and Priorities for the Tenth Five Year Plan:

- Priorities on horticulture and plantation crops like tea, cashew nut, coconut, banana, ginger, turmeric, areca nut etc. as these give higher revenue returns and encourage permanent cultivation thus having positive impact on the areas which hitherto had been under traditional jhum practices besides supporting food security.

- Economic transformation in production of horticulture crops with encouragement on growing of marketable crops and adoption of appropriate technology to ensure adequate production and economic returns.
- Strengthening of existing horticultural nurseries and encouraging of private nurseries for raising of quality planting materials in large nos. setting up of tissue culture laboratories.
- Production of disease free certified and true to type seeds through establishment of seed farmer in all the districts of the state to be supplemented with setting up of seed certification agency. Introduction of seed village concepts in the pattern of registered growers for seed. Potato to be looked into as an alternative.
- Ensuring availability of irrigation facilities from minor irrigation projects, diesel pumps and shallow tube wells.
- Increasing the availability of proper horticultural machineries and tools through schemes for mechanisation.
- Popularisation of low volume, high value items like dehydrated mushrooms, black pepper and other spices to be consciously attempted.
- More emphasis on provision of poly-houses in both the urban and rural set up for increased production of off-season vegetables, flowers and vegetable seeds in heavy rainfed areas of the state.
- Schemes for Tea cultivation which are currently limited to the three districts will also be extended to other districts in compact areas.
- Emphasis on new activities like floriculture, organic cultivation etc. with special mention on cultivation of Orchids which have export potential.
- Encouraging private entrepreneurs to set up small scale agro-based processing units near the horticulture cultivated areas for undertaking intermediate and preliminary processing of horticultural produce with suitable incentive from the State Government and package being offered by the National Horticultural Board (NHB). Department to also provide training support to entrepreneurs and farmers.
- Steps to be expedited to assess the viability of two Government Food Processing units at Shillong and Dainadubi for smooth operation on commercial basis to be made available through constant revolving fund.
- Attempts to improve marketing facilities and marketing linkage and strengthening of minimum support price.

- Emphasis on the development of rural infrastructure for effective storage facilities and market infrastructure.
- Use of information technology through setting up of computer network for imparting new technology and for providing marketing intelligence system.
- Implementation of existing developmental scheme in right earnest and formulation of schemes for employment generation that would provide ample scope for involving of unemployed youth to enable them to earn their livelihood. Schemes for tea cultivation which are presently limited only to the three districts of the state to be extended to other districts in compact areas

1.2.6. Approach to the Tenth five year Plan (2002-07):

Large scale cultivation of various Horticultural crops will be encouraged. In addition the approaches spelled out under Crop Husbandry having relevancy for development of Horticulture would also be the strategy/approach under this sector.

1.2.7. Programme for the the Tenth Plan (2002-2007):-

The existing Horticulture Development Scheme to be fragmented into four independent Schemes for better impact of horticulture development in the State - (a) Development and Maintenance of Orchard - cum - Horticulture Nurseries for a more concerted effort for the development of the Government Horticulture farms and nurseries which are the backbone for any area expansion and horticulture programmes. (b) Citrus Rejuvenation Scheme through which the rejuvenation and model orchard component to be implemented more in the lines of Tea Package Scheme with some modifications on cost schedule and release of funds to be based on the survival of plants. Other items like drip irrigation and use of plastics to be incorporated. (c) Fruit Development Scheme for various fruits development including supply of planting materials, etc. (d) General Horticulture Development Scheme to consist of other items under the existing scheme including establishment and grant-in-aid to agri-horti societies.

The requirement of funds for Horticulture Development both for the Tenth Plan and the Annual Plan 2002-2003 have been included in the proposed outlays for Crop Husbandry portion of Agriculture Sector.

1.3. SOIL AND WATER CONSERVATION

1.3.1. The Ninth Plan Agreed outlay for Soil & Water Conservation was Rs.5750.00 Lakhs and the anticipated expenditure at the end of the Plan is Rs.3562.94 Lakhs. The expenditure incurred during 1997-98, 1998-99, 1999-2000, 2000-2001 and the anticipated expenditure during 2001-2002 are Rs.549.09 Lakhs, Rs.669.22 Lakhs, Rs.649.95 Lakhs, Rs.844.68 Lakhs and Rs.850.00 Lakhs respectively. The Proposed Outlay for the Tenth Plan (2002-2007) is Rs.5000.00 Lakhs and the proposed outlay for the Annual Plan (2002-2003) is Rs.900.00 Lakhs.

1.3.2. The activities of the Soil & Conservation Department comprises mainly the Resource Conservation and management which may be classified into 4 (four) broad categories.

1. **Land and Water Resources Conservation and management** which includes the following :-

- i)
 - a) Soil Conservation Programme in General areas.
 - b) Jhum Control.
 - c) Watershed Management.
 - d) Special Central Assistance for Watershed Development in shifting cultivation areas.
 - e) Soil Conservation Scheme under NABARD Loan.

- ii). New schemes proposed for the 10th Plan Period :-
 - a) Reclamation of degraded lands affected through mining and quarrying and water management and water harvesting programmes.
 - b) Valley approach to land and Water Resources Conservation and management and Water Management and harvesting programme.

2. **Technical Supportive infrastructure/component.**

3. **Involvement and motivation component.**

4. **Programme Impact announcement.**

1.3.3. The Proposed activities for the 10th Plan Period and Annual Plan 2002-2003 are briefly summarized below :-

Ongoing Schemes:-

001. Administration : The Proposed 10th Plan outlay of Rs.600.00 Lakhs under this Head will be utilized for meeting the administrative cost of the Department and Office expenses. The proposed outlay for the Annual Plan 2002-2003 is Rs.175.00 Lakhs.

101. Soil Survey & Testing : Field Survey and preparation of Project Report for various projects will be continued into the 10th Plan. The proposed outlay for the 10th Plan and Annual Plan 2002-2003 is Rs.14.00 Lakhs and Rs.3.00 Lakhs respectively.

102. Soil Conservation Schemes : This rural based scheme comprises a number of items taken up to treat both agricultural and non-agricultural land by Conservation measures where the farmers are directly involved and benefits from the scheme. An amount of Rs.1005.00 Lakhs and Rs.200.00 Lakhs is proposed for the 10th Plan and Annual Plan 2002-2003 respectively for taking up the following components of the schemes.

- a) **Land Development & Afforestation Worker :** Construction of terrace and reclamation works in subsidy form including afforestation of barren hill slopes to prevent soil erosion will

be taken up to cover an area of 3926 ha during the 10th Plan and 1788 ha during 2002-2003.

- b) **Erosion Control Work** : It is proposed to cover an area of 6685 ha and 1114 ha during the 10th Plan and Annual Plan 2002-2003 respectively in controlling stream bank erosion of cultivated and cultivable land.
- c) **Water harvesting** : 1500 numbers and 200 numbers of Water harvesting structures for drinking /washing and irrigation purposes is expected to be taken up during the 10th Plan and Annual Plan 2002-2003 respectively.

109. Extension and Training : Rs. 120.00 Lakhs is earmarked for the 10th Plan and Rs.28.00 Lakhs for the Annual Plan 2002-2003 for meeting the establishment charges, office expenses at CTI Byrnihat. The scheme also involve training of farmers at CTI Byrnihat and outside the State and the extension programme for information services.

800 Other Expenditure :-

- a) **Construction and maintenance of Department non-residential buildings** : Rs.60.00 Lakhs is earmarked for the 10th Plan and Rs.7.00 Lakhs for 2002-2003 for construction of godowns, Office buildings, rubber processing house etc. The number of buildings targeted to be constructed is 20 nos. and 3 nos. during the 10th Plan and Annual Plan 2002-2003 respectively.
- b) **Jhum Control Schemes** : The schemes aims at weaning away the people from the practice of jhumming by treatment of abandoned jhum fields both for permanent cultivation and vegetative cover including Soil Conservation measures. It is expexted to cover 1366.87 ha under land development, afforestation including cash crop development, 16 nos. of drinking water facilities and 50 nos. of water harvesting structures during the Annual Plan 2002-2003 and the target fixed for the 10th Plan is 9643 ha of land development, , 96 nos. drinking water facilities and 500 nos. of water harvesting structures. Acquisition of 48 nos. of camp and camp equipments is also proposed for the Tenth Plan and 8 nos. for the Annual Plan (2002-2003). For this Scheme an outlay of Rs.600.00 Lakhs and Rs.80.00 Lakhs is proposed for the 10th Plan & the Annual Plan 2002-2003 respectively.
- c) **Watershed Management** : The scheme involves treatment of important micro watersheds by Soil Conservation measures. The following item of works is proposed for the 10th Plan viz : 5317 ha of Land Development, afforestation including cash crop development, 160 nos. camp & camp equipment and 240 nos. drinking water facilities. The physical targets for the Annual Plan 2002-2003 are 877.38 ha of land development, 24 nos. Camps & Camp equipments and 40 nos. drinking water facilities Rs.600.00 Lakhs and Rs.80.50 Lakhs is proposed for the 10th Plan and Annual Plan 2002-2003 respectively.
- d) **Commercial Crop Development Board** : Rs.110.00 Lakhs and Rs.22.00 Lakhs respectively is earmarked as financial assistance to the Commercial Crop Development Board during the 10th Plan and Annual Plan 2002-2003 respectively.

e) **Special Central Assistance for Watershed Development** : This is a Scheme taken up with Special Central Assistance while being a part of the State Plan Programme. The scheme aims at mitigating the ill effects of Shifting Cultivation, introducing land use for improvement of production, conservation measures and creating employment opportunities for the farmers. An amount of Rs.640.00 Lakhs is proposed for the 10th Plan and Rs.180.00 Lakhs for the Annual Plan 2002-2003 to cover 13048.55 ha and 2640 ha respectively.

f) **NABARD Loan** : An amount of Rs.350.00 Lakhs is proposed for the 10th Plan and Rs.39.70 Lakhs for the annual Plan 2002-2003.

004. Research : The scheme aims at conducting field trials and experiment in the farmer's fields and research works at the CTI Byrnihat. The amount proposed for the 10th Plan is Rs.8.00 Lakhs and the amount proposed for the Annual Plan 2002-2003 is Rs.0.80 Lakhs.

2216. Government Residential Buildings : Rs.80.00 Lakhs and Rs.10.00 Lakhs is proposed for the 10th Plan and Annual Plan 2002-2003 respectively for construction of Residential accommodation for staff etc.

800. New Schemes :-

1. **Soil & Water Conservation activities in River Valley Projects** : The schemes aims at Integrated land and Water Resources management and conservation approach in all the 7 districts of the State. The amount proposed for the 10th Plan and Annual Plan 2002-2003 are Rs.550.00 Lakhs and Rs.32.00 Lakhs respectively to cover 12000 ha and 1300 ha respectively.

2. **Soil and Water Conservation activities for reclamation of degraded land affected through mining etc. including water management and water harvesting programmes** : Rs.250.00 Lakhs is earmarked for the 10th Plan and Rs.20.00 Lakhs for the Annual Plan 2002-2003 for taking up land and Water Resources management and conservation approach in all the 7 Districts of the State to cover 1658 ha and 206.33 ha respectively.

1.4. ANIMAL HUSBANDRY

1.4.1. Livestock including poultry is an integral part of agriculture and contributes significantly to rural economy. While agriculture contributes about 30% of the total output of GDP, livestock including poultry constitutes about 25% of the agricultural output About 80% of its contribution to Gross National Product is from Cattle and Buffaloes with Sheep. Goats, Pigs and Poultry covering the balance 20%. Livestock production has a much larger contribution to manpower employment than agriculture while eggs, milk and meat production help in stepping up crop production through the availability of cash to the livestock farmer round the year which is utilised for purchase of seed, manure and fertilisers for agriculture operation. Establishment of dairy, poultry,

sheep & goat or pig farms help solve unemployment problems and provide valuable protein, vitamin and mineral rich materials like eggs, milk and meat. Organic manure from livestock and poultry enrich the soil for higher production of crop, vegetable and flower as well as horticultural produce.

Livestock and poultry is the only alternative avocation to the villagers for a subsidiary living.

1.4.2 Review of Achievements and Future Trends:-

India with 74.4 million tons of milk and 30.2 billion eggs ranks 1st in milk and 5th in egg production in the world. Per capita availability of milk/day has gone up from 124g in 1950-51 to 211g in 1998-99. The corresponding increase in egg availability/capita/ year was from 2 to 30 eggs. The availability of milk and egg is still lower than the minimum recommended levels. In Meghalaya, the total milk production has gone up from 42 thousand tonnes in 1972-74 to 62 thousand tonnes in 1999-2000. As regard to egg production, it has gone up from 20 million nos. to 85 million nos during the corresponding period. The annual growth rate of milk, egg & meat is 2.76%; 1.47% & 2.95% during the last five years. The per capita availability of milk was far below the all India level of 211 gms. The main reason is that, the people in Meghalaya, especially in the rural areas are not in the habit of drinking milk. Therefore the per capita availability of milk is only 75 grams per day. Egg consumption in Meghalaya is about 38 nos. per head/per year which is more than all India level of 30 egg, but far below the minimum recommended levels of 180 eggs by the NRC. In order to meet the demand of egg, the State have to import eggs, which is around 32 million nos. from outside the State. Meat production in the State was 16 thousand tonnes in 1972 and has gone up to 32 thousand tonnes in 1999-2000. The total numbers of animals slaughtered annually during the last 4(four) years was estimated at about 1.89lakhs cattles, 1.81 lakhs pigs and 1.26 lakhs goats, out of which about 40% of cattles, 11.25% of pigs and 18.36% of goats are imported from outside the state to meet the demand of about 80% of the population whose dietary habits are non-vegetarian.

The Broiler production in our State has increase every year, especially during last three years with an annual growth rate of about 8% annually.

1.4.3. Review of the Ninth Plan:-

Financial- The 9th Plan Outlay for this sector was fixed at Rs.5000.00 lakhs and the expenditure during the first four years of the Plan is Rs,2355.61 Lakhs. The approved outlay during 2001-2002 being Rs.800.00 Lakhs, the anticipated expenditure during the Ninth Plan period comes to Rs.3155.61 Lakhs.

Physical- The key item for assessment of achievements are meat production, egg production, artificial insemination, poultry farms, pig farms, sheep farms, veterinary hospitals, veterinary dispensary and veterinary aid centres. The year-wise achievements is shown in the table below:-

Items	Units	1996-97	Ninth Plan Target	Achievements during the Ninth Plan.
Meat	000' tones	29.06	34	34
Egg	Million Nos	79.2	90.2	90.2
Artificial Insemination	'000' Nos	26	38.0	26
Cattle Farms	(Nos)	3	4(Nos)	4
Sheep Farms	(Nos)	1	2	2
Poultry Farms	(Nos)	10	10	10
Pig Farms	(Nos)	10	11	11
Veterinary Hospital	(Nos)	4	5	4
Veterinary Dispensary	(Nos)	54	60	65
Veterinary Aid Centre	(Nos)	51	57	62
Milk	000 tons	57	66	66

} anticipated

A number of Private Enterprises were assisted for taking up A.H.& Veterinary Schemes The numbers of beneficiaries is shown in the table below:-

Schemes	97-98	98-99	99-2000	2000-01	20001-02	Total	
(i) Distribution of piggery units to farmers.	50 units.	32	60	36	60	238	
(ii) Distribution of poultry units to farmers.	71	35	87	-	87	280	
(iii) Distribution of Goatery units.	40	-	44	44	40	168	
(iv) Distribution of Dairy Units.	10	7	14	10	14	55	
(v) Piggery Production for unemployed youth.	42	22	37	48	42	191	
(vi) Broiler Production for unemployed youth.	35	67	70	81	70	323	
(vii) Dairy farming for unemployed youth.	18 } 12 }	31 } - }	44 } 24 }	29 }	44 } 74 (D)	37(AH) 139	174 }
(viii) Poultry Production for SF/MF & AL.	-	-	28	25	25	78	
(ix) Piggery Production for SF/MF & AL.	94	64	60	62	134	414	
(x) Feed subsidy for rearing of crossbred heifers.	119	108	135	126	115	603	
Total :-	490	366	579	476	624	2535	

1.4.4. The Approach for implementation of the programmes are briefly described below:-

Technologies and Infrastructure:-Technologies play an important role in improving efficiency of livestock production. The technology needs of small farms with low input system differs from those of high input systems. Extension models for effective transfer of technology in small production shall be developed and adopted. Basic research will be taken up vigorously with the aim of providing technologies spin-off of basic research.

1.4.5. Infrastructure in terms of hospitals, vaccine and diagnostic units; bulls semen stations and AI centres; Gaushalas and breeding farms and fodder production and demonstration unit have been created. These shall be strengthened. Co-operatives, NGO; breeders societies and farmers will be encouraged to participate actively to improve production efficiently.

1.4.6. Small livestock enterprises require some kind of organisational support for providing inputs, processing and marketing facilities. Coverage of enterprises in small ruminants and pigs will be extended. Besides, Government, private sector co-operatives and NGOs will also provide essential inputs and services, for improving efficiency of operation and productivity of small livestock and thereby increase the income level.

1.4.7. Conservation of Animal Bio-diversity:-The country has rich and diverse livestock genetic resources as evident from the availability of all species of livestock and large number of breeds/strains. Meghalaya has some of the best breed of dairy, draught and dual purpose cattle. These breeds of livestock and poultry are essentially the products of long term natural selection and are better adapted to withstand tropical diseases and perform under low and medium input. Many of these breeds may have useful genes for fast growth, prolificacy, and adaptability. Such utility genes and breeds shall be identified, conserved and utilized.

Many of the indigenous breeds because of poor economic viability are showing decline in numbers and even facing extinction. The livestock owner may neglect such relatively less productive breeds and, therefore, the State shall take up the responsibility of conserving them.

1.4.8. Breeding Policy:-Efforts have been made in the past to increase milk production through selection and crossbreeding in cattle. A re-orientation of the cattle and buffalo breeding policy would be attempted for indigenous breeds and for Draught Animal Power (DAP). Producing quality males would be an essential component of breeding policy. Existing breeding farms, breeders associations, shall be involved in producing good quality pedigreed males for breeding purpose and for improvement of indigenous breeds shall be encouraged. An effective mechanism for providing disease free quality semen for high productivity will be taken up and be brought to the farmer's door.

1.4.9. Milk and Draught Animal Power (DAP):-A milch herd of around 1 lakhs cows and buffaloes with an effective genetic improvement programme for milk would be reasonable to meet the future milk needs of the State. The current yield levels for crossbred and indigenous cows and buffaloes are 3245, 274 & 616 kg per year respectively could safely be increased to the targeted levels through increased availability of feeds, culling of low producers, strengthening of field programmes of selection and progeny testing of bulls for milk and providing breeding and other input services at the farmers' door. The newer breeding and reproductive technologies will form an

integral part of breed improvement. The crossbreeding shall be restricted to low yielding indigenous cattle breeds.

1.4.10 Eggs:-Poultry Sector is highly organised. The germplasm, feed and other inputs like vaccines are being marketed by private Sector. Egg production in the rural Sector needs to be serviced by the Govt. as well as by the private Sector. The focus shall be on providing genetically improved Stocks and technologies for rural poultry production. Low input breeds shall be introduced which will minimise feed expenditure. This will not only provide nutritional household security to rural families but also extra family income.

1.4.11 Feeds and fodder, Straws, stovers and other agricultural by products would continue to be major input as livestock feed for ruminants. At present, the existing technologies for improving digestibility of straws have remained mostly confined to laboratories and not used by the farmers mainly because of high costs and cumbersome processes involved. Biotechnological techniques which can develop recombinant microbes to digest straws, neutralize lignin and its by products, and release carbohydrates through a solid state fermentation process, need to be researched for making available energy for livestock feeding.

Productivity of livestock dependent on availability of quality feed and fodder in requisite quantities. Production of coarse grains has gone down over the years. There is large shortage of green fodder and concentrates. Efforts would be made to make available required quantities of Cereals and oil meals for livestock and poultry sector. Non-conventional animal feed resources shall be exploited to make available protein for livestock feeding

A large infrastructure in terms of veterinary hospitals/veterinary aid centres has been created and trained veterinary manpower is available but much less than required. These facilities need further expansion in view of difficult terrain of the State and livestock population. Because of financial constraints, it is becoming increasingly difficult for the state to expand these facilities and provide free animal health care services. Some category of livestock owners shall be charged for the services provided. This will not only help the State to improve animal health services but also encourage their development in private sector.

1.4.12. **Livestock Insurance and Credit** : Adequate insurance cover to guard high producing animals against risks need to be provided. The Government of India has initiated a pilot scheme on cattle insurance with subsidized premium rate for non-scheme animals belonging to people below the poverty line. The scheme after initial experiences shall be extended to the whole country to benefit the poor livestock owners.

Credit facilities especially to small holders will be promoted, together with forward and backward linkages. The credit policy would be so designed to be in consonance with economic policies. The credit will be linked to access of extension, breeding and health services. Schematic lending shall be based on standardised project reports prepared and regularly updated according to realistic market prices.

These can be overcome by :- (i) adopting a Comprehensive Plan for development of production, processing and marketing of livestock and livestock products through judicious application of modern technologies on breeding, feeding & nutrition, management, processing, disease control and marketing.

(ii) Adoption of scientific fodder production and conservation by utilising the local germ-plasm and improved seeds and cuttings obtained from reputed organisation, in the homestead, fallow or unutilised land and adoption of Agro-Forestry.

(iii) Collection of milk from rural areas at a remunerative price to the farmers and processing it for use as fluid milk or milk products, including indigenous products. Similarly, organisation of collection and marketing of eggs and live broilers as well as establishment of meat plants in the State would give a boost for production of poultry, meat animals like pigs, goat, rabbit or even beef cattle.

1.4.13. Strategy :-Qualitative improvement in all classes of domestic livestock e.g, Cattle Buffalo, Sheep, Pigs, Poultry, Ducks and Rabbit through creation of adequate infrastructure for animal production, health coverage, processing of animal products and organisation of an efficient marketing system to match the production so envisaged.

Production of fodder and balanced livestock feed will receive high priority to make animal production activities cost effective and remunerative to the farmers. Greater participation of farmers will be sought for by encouraging the organisation of farmers co-operatives, and N.G.Os in various activities.

Breeding facilities of cattle and buffaloes will be so organised that the cattle and buffalo owners need not travel a long distance to get the stock inseminated with frozen semen as this will be taken as a domiciliary service by well trained custom service boys of the areas under the supervision of local VAS on payment of fixed charges.

Breeding facilities for other animals will be extended through supply of quality breeding animals to be provided by the Govt. and the accredited farmers co-operative societies in particular.

The role of State Farms will be to supply the breeding animals of better germplasm, training of local farmers and demonstration of latest systems of farming maintaining a minimum standard therefor.

Encouraging establishment of Commercially Viable Projects by private entrepreneurs, Co-operative societies and big business houses of repute on equity participation basis, if required.

Training is the basic requirement for entrepreneurs taking up livestock farming on commercial basis and as such Entrepreneurship Development Programme (E.D.P) will be one of the prime thrust areas in the plan.

1.4.14. Action proposed to be taken to achieve the targets :-

- (a) Re-organise the State Poultry Farms to supply larger number of quality egger and broiler chicks to the prospective farmers.
- (b) Encourage establishment of one commercial hatchery for production and supply of quality egger chicks.
- (c) Encourage entrepreneurship development for commercial production of eggs and broilers through bank finance.
- (d) Provide additional infra-structural support to the existing poultry Co-operatives for manufacture of balanced feed for layers and broilers and marketing of the produce including training of farmers.
- (e) Availability of poultry vaccines, de-wormers and medicines is to be made easier involving the progressive poultry societies over and above increased supply to the State Health Care Units.
- (f) Gradual establishment of Co-operative Poultry Unions one in each district by the end of the plan period .
- (g) Introduction of low input breeds to help, AL, MF, SF and Women Farmers.
- (h) Development of Piggery demand a massive effort on priority basis.
- (i) Introduction of Custom Service in A.I. and allied activities has shown good results in some states. By taking up E.D.P. (Entrepreneurship Development Programme) in all the districts and gradually ramifying such services at Block levels, a good number of Custom Service Persons could be developed through proper training.

1.4.15. TENTH PLAN APPROACH FOR A.H. & VETERINARY :-

Considering the present state of development of Animal Husbandry in Meghalaya, the State will continue to devote on development of infrastructures and create condition to increase production of animal origin protein like meat and egg and also to generate self-employment to the people. The approach to the Tenth Plan is to achieve the objectives as enumerated below: -

- (i) To augment production of meat and egg to the National level of per capita consumption.
- (ii) To create adequate infrastructure in each districts covering as many blocks as possible for animal production and veterinary health coverage.
- (iii) To improved the facilities for breeding of all kind of Livestock and Poultry and make available improved varieties of Livestock and Poultry birds to the farmers.

(iv) Plan to create condition for accelerated development using modern technology of animal production and remove constraints. People will be encouraged through adequate extension services, publicity campaign, training and mass communication to participate and involved in Livestock Production.

(v) To increase production and reduce economic loss due to mortality from epidemic diseases.

(vi) To generate additional employment opportunities to educated un-employed youth/under employed persons through Livestock and Poultry Production

1.4.16. PROGRAMME FOR TENTH PLAN AND ANNUAL PLAN 2002-03:-

The outlay proposed for the Tenth Plan(2002-2007) is Rs. 5500.00 lakhs and the outlay proposed for the Annual Plan 2002-03 is Rs. 900.00 lakhs for taking up the following programmes –

(1) **Direction and Administration:**

The main objectives of the Scheme is to Strengthen the present administrative set up at all level. An out lay of Rs. 350.00 lakhs is proposed for the tenth plan and Rs.50.00 lakhs for the Annual Plan 2002-2003.

(2) **Veterinary Services & Animal Health:**

The state health cover policy aims at increasing production and reduce economic loss of farmers by reducing mortality and morbidity. Norms as laid down by Government of India to provide one Vety. Dispensary or Aid Centre for every 5000 cattle units and distance of 10 K.M are being followed in the State. Based on projected Livestock population, the requirement of Veterinary Institutions comes to 160 Nos.. The total number of existing Vety. Dispensaries and Aid Centres in only 138 Nos. Hence another 5 dispensaries is proposed to be set up during the Tenth Plan. Two Veterinary Hospitals one at Shillong and another at Nongstoin which was constructed during the Eight Plan will be strengthened. The spill over schemes for construction of Veterinary Hospital at Tura will also be completed during the Tenth Plan. Construction of another Veterinary Hospital at Jowai is being taken up. The outlay proposed for this programme is Rs. 1450.00 lakhs for Tenth plan and Rs. 300.00 lakhs for 2002-03.

(3) **Cattle Development :**

The only accepted breeding programme for improvement of non-descript indigenous Cattle is cross breeding with exocitic breed by means of artificial insemination using frozen semen technology. With the existing infrastructures it has been possible to cover only 13.77 % of the total breedable cattle in the State. The number of cross bred cattle population of the State constitute only 2.79 % of the Cattle population. During the Tenth Plan it is proposed to increase

the number of cattle population and this is sought to be achieved by increasing the coverage Artificial Insemination by 15 % per year.

The four existing Cattle Farms in the State will continue to support cross breeding programme for maintaining pure line of Fresian Holstein and Jersey breed for use in Cattle Breeding. Excess bulls and heifers produce in these farms will be supplied to progressive farmers. However in the process of breeding for production of bull and heifers milk are produced which contribute to enhancement of milk production.

In order to encourage and involve the people in Cattle breeding and farming, the existing schemes for distribution of Dairy unit, Calf subsidy for rearing of cross bred heifers and Dairy Farming for educated unemployed youth will continue with larger outlay in order to cover more beneficiaries.

The targeted beneficiaries to be covered under these schemes are :-

	Likely to be Achieved in 9 th Plan	<u>Tenth Plan</u>	<u>2002-03</u>
(i) Distribution of Dairy Units	- 55	86	45
(ii) Feed subsidy for rearing of cross bred heifers under S.L.B.P.	- 603	800	220
(iii) Dairy Farming for Educated unemployed youth.	- 174	1185	86

Outlay proposed - Rs. 550.00 lakhs for 10th Plan & Rs. 100.00 for 2002-03.

(4) **Poultry Development**

Eggs production in the State is far below its requirements. Hence the need to re-orient its Poultry Breeding Farms, Broiler Farms and Duck Farms to meet the demand for chicks, eggs and broiler meat. The proposed re-orientation is focus on production of Layer Chicks, Broiler Chicks and egg production as illustrated below :-

(i) Regional Poultry Breeding Farm, Kyrdemkulai envisaged to maintain 1000 pure line white leghorn and R.I.R. with 200 cocks, 2000 parent Layers (Hybrid) with 200 cocks and 6000 pure line, 5400 growers pure line chicks and also 4800 chicks of parent hyline chicks as replacement. Its targeted production is 3,65,000 Layers Chicks and 6,60,000 eggs annually and also to rear 4500 Broiler birds for sale.

(ii) Broiler Farm Kyrdemkulai is envisaged to rear 2000 Parent Broiler Layers with 250 cocks, 5000 Parent Broiler Chicks and 2500 Parent Broiler chicks. Its targeted production is 2,19,000 Broiler Chicks and 4,00,000 eggs annually.

(iii) Poultry Farm Bhoi, Umsning is envisaged to maintain 1000 Parent Layers birds (egg strain) with 150 cocks, 1500 parent Layers Chicks (egg strain), 2500 Broiler Parent Chicks, 1100 Parent Broiler Layers in two batches, 4000 Commercial Layers Hen (egg Strain), 6000 Broiler Chicks and 10,000 Layers Chicks. With targeted production of 9000 Grower Birds for

supply to farmers and beneficiaries, 6000 Broiler birds for meat purpose and 13,00,000 eggs annually.

(iv) Poultry Farm Rongkhon is envisaged to maintain 2000 Layer birds (Hyline). Hyline chicks 5000 Broiler Parent Chicks 1225 and Broiler chicks for rearing 2500. Its targeted production is 6,40,000 eggs each annually.

(v) Three District Poultry Demonstration Farms Mawryngkneng/Mairang/ Baghmara is envisaged to maintain 1000 Layers each and their targeted production is 2,20,000 eggs each annually.

(vi) Three District Poultry Demonstration Farms Jowai/Williamnagar/Nongstoin Will maintain 2000 Layers (Hyline) 5000 Chicks (egg Strain) and 2500 Broiler Chicks each. Their targeted production is 2800 Grower birds for supply to farmers, 2250 broiler birds for meat and 4,48,000 eggs each annually.

(vii) Duck Farms in Garo Hills will maintain 500 Ducks and 1500 duckling. Its targeted production 56,000 duckling, 1000 grower ducks for supply to farmers and 1,00,000 eggs annually.

In order to encourage and involve people in Poultry Production, the existing Schemes for Distribution of Poultry Unit, Piggery Production under S.L.B.P and Poultry/Broiler Production schemes for educated un-employed youth will continue with larger outlay to cover more beneficiaries. The targeted beneficiaries to be covered under this scheme are :-

	Likely to be Achieved in 9 th Plan	Tenth Plan	2002-03
(i) Distribution of Poultry Unit -	280	1120	245
(ii) Poultry Production under SLBP -	78	1100	30
(iii) Poultry/Broiler Production of - Educated un-employed youth.	323	547	100

Past experience shows that due to high cost of feed, many beneficiaries were unable to continue the schemes without support from Government. To overcome this constraint and make it Substantiable it is proposed to ensure linkage with schemes for supply of feed subsidy to farmers under Feed and Fodder Development.

An amount of Rs. 1100.00 lakhs is proposed for Tenth Plan and Rs. 150.00 lakhs for 2002-03.

(5) **Piggery Development**

Piggery is common amongst the people of Meghalaya. It almost a way of life for every household in rural areas. There are one Regional Pig Breeding Farm and 9 District Piggery Farms but number of Blocks are still without pigs Multiplication farms. The State has the Potentiality to show the best result in Piggery production but it has not been able to achieve its target of

Production. All existing pig farms need to be suitably strengthened to meet the demand for Breeding Stock. Some more pig Demonstration farms is to be set up in the Blocks which have not been covered by existing Farms.

(i) The Regional Pig Breeding Farm will maintain 100 sows with 25 Boars. Its targeted production of piglets is 1560 annually.

(ii) 5 (five) District Piggery Farms will maintain 30 sows and 5 Boars each. Their targeted production of piglets is 465 annually each.

(iii) 4 (four) District Piggery Farms will maintain 20 sows and 3 Boars each. Their targeted production of piglets is 290 annually each.

(iv) 6 (six) new pig Demonstration Farms is to be set up in the sub-divisions.

In order to encourage and involve people in Piggery Production, the existing Schemes for distribution of Piggery units, Piggery Production under S.L.B.P. and Piggery Farming for Educated un-employed Youth will continue with much larger outlay to cover more beneficiaries. To ensure continuity and make them sustainable, there will be linkage with Scheme for providing feed subsidy to farmers under Feed and Fodder Development. The targeted beneficiaries to be covered under these schemes are :-

	Likely to be Achieved in 9 th Plan	Tenth Plan	2002-03
(i) Distribution of Piggery Unit	238	680	84
(ii) Piggery Production under SLBP	414	754	131
(iii) Piggery Farming for Educated un-employed Youth.	191	340	70

An amount of Rs. 1200.00 is proposed for the Tenth Plan and Rs. 112.00 lakhs for 2002-03 for Piggery Development.

(5) Sheep, Goat and Rabbit Development.

With a view to popularising Goatery Farming for meat production, one Sheep and Goat Farm in West Khasi Hills was started during the Eight Plan.

About 1200 kids both male and female is expected to be produced for the supply to farmers after keeping reserved the required numbers in the farm for breeding purpose.

In order to encourage and involve people in Goatery Production, the scheme for distribution of Goatery Unit will continue with larger outlay to cover more beneficiaries.

(6) Rabbit Farms

Rabbits Farming is very much encouraging to increase meat production. It is economically viable in rural areas because of less investment cost due to availability of local materials for housing and feeding and the return is expected to be high. The only Rabbit Farms in the state are to be improved and strengthened to produce result and impact on the economy of farmers. A new thrust is to be given in this aspect through training, adoption of modern system

of management and breeding in collaboration with I.C.A.R. for N.E.H Region. An outlay of Rs. 120.00 lakhs is proposed for the Tenth Plan and Rs. 15.00 for 2002-03 for Sheep, Goat and Rabbit Development. The target of the beneficiaries to be covered under the scheme distribution of goat unit are as follows :

	Likely to be Achieved in 9 th Plan	Tenth Plan	2002-03
(i) Distribution of Goatery Unit	168	480	64

(7) Feed and Fodder Development

Two existing feed mill located at Umsning and Tura will be improved to enhance their utilization capacity. The Feed Analytical Laboratory Kyrdemkulai shall be provided with all necessary equipments and Machineries for its modernisation. One new Feed Analytical Laboratory is proposed to set up in Garo Hills to facilitate quick analysis of Feed as the present Laboratory is located at a very far distance from Garo Hills.

The existing fodder farms in the State have been able to cater to the requirement of Fodder for Government Cattle Farms. The production could be augmented further with provision of Tractors and Power Tiller etc. Provision has therefore been made to provide these items. Distribution of seeds, cuttings, minikits. An outlay of Rs. 100.00 for Tenth Plan and Rs. 20.00 lakhs for 2002-03 is proposed.

(8) There is a growing demand of prospective farmers to get adequate training in modern Animal Husbandry Practices and basic knowledge about management, feeding and health care. Besides a larger number of beneficiaries under different Schemes will be covered during the Tenth Plan. Therefore the Vocational Training Centres at Kyrdemkulai and Tura shall have to be strengthened with additional training infrastructure and staff and additional Hostel accommodation for farmers trainee.

In-service Personnel shall regularly be sent for specialized training in different institution in India preferably in the subject of his specialization (Job assignment basis). Candidates would also continued to be sponsored for training in B.V.Sc Course/B.S.C (Dairy Tech) and V.F.A. Training course. An amount of Rs. 245.00 lakhs is proposed for Tenth Plan and Rs. 45.000 lakhs for 2002-03. Vety. Research Rs. 80.00 for Tenth Plan and Rs. 15.00 for 2002-03.

(9) Veterinary Council.

The State Veterinary Council is being formed 50 % grant will be made available from Government of India and 50 % from the State.

1.4.17. **The following are new schemes proposed to taken up :-**

- (i) Scheme for Assistance to Private Entrepreneurs for rearing beef cattle so as to increase the product of beef.
- (ii) Development of infrastructures for Piggery farming will be done by the Department which will be handed over to the Group or Society of educated Un-employed youth for generation of self-employment.

- (iii) 3 (three new Pig farms is proposed to be set up in those Sub-Division where there is no existing Pig Farms.
- (iv) It is proposed to provide proper training and render necessary assistance to Women to take up Poultry and Piggery farming.
- (v) Presently there are only two Diagnostic Laboratory located at Shillong in East Khasi Hills District and Tura in West Garo Hill District. In order to facilitate quick diagnosis of diseases, it is felt necessary to set up Diagnostic Laboratory in the remaining Districts.
- (vi) There has been a long felt need for qualitative Veterinary Health Care in Rural Areas, Presently the Veterinary Aid Centres located in rural areas are manned only by one Veterinary Field Assistant. It is felt necessary to provide better Veterinary Health Care by upgrading the existing Veterinary Aid Centres into Veterinary Dispensary.
- (vii) It has been our Policy to encourage people to adopt Modern Animal Husbandry practice with improved breed, balanced feed and proper Health Care. Presently there are only two Vocational Training Centres located at Kyrdemkulai and Tura. It is proposed to set up another 3 Vocational Training Centres in three Districts in order to provide training to farmers and educated Un-employed youth.
- (viii) It is proposed to provide the necessary facilities for processing and marketing of Livestock products to enable the farmers to sell their products.
- (ix) By following the norms laid down by Government of India i.e. (one Veterinary Dispensaries for every 5000 Cattle and distance of 10 Km) the Department have established 62 Veterinary Dispensaries. In view of peculiar topography of the State, it has been found that one Veterinary Dispensaries cannot cater to the requirement of 5000 Cattle. It is felt necessary that the location of Veterinary Dispensary should be distributed in such a manner, so that one Veterinary Dispensary will cater to the requirement of 3000 Cattle. Establishment of 5 more new Veterinary Dispensaries is proposed.

1.4.18. **CENTRALLY SPONSORED AND CENTRAL SECTOR SCHEMES: -**

In addition to State Plan Schemes, a number of Central Sector Scheme & Centrally Sponsored Scheme were implemented and to be continued during the Tenth Plan. Accordingly an outlay of Rs. 93.00 lakhs was proposed during 2002-03 to meet the State's share of scheme involving financing by both State and Center. The following are the schemes to be taken up:-

- 1 Foot and Mouth Disease Control
- 2 Animal Disease Surveillance
- 3 Systematic Control of Livestock Disease of National importance
- 4 Sample Survey for estimation of Major Livestock Products.
- 5 Rinderpest Eradication and containment Vaccination Programme
- 6 Extension of Frozen Semen technology for Development of Cattle & Buffalo.
- 7 Strengthening of Pig Farms
- 8 Livestock Census

- 9 Schemes for providing training for farmers/Un-employed Youth in existing training Centre.
- 10 Assistant to grassland including grass reserve.
- 11 Strengthening of State Fodder farms
- 12 Asstt. To state for Feed & Fodder Development and enrichment of straw cellusic waste.
- 13 Establishment of Silvi Pasture system for increasing biogas production.
- 14 Slaughtered House
- 15 State Vety. Council
- 16 Establishment of Biological product Institute.
- 17 Strengthening of Sheep farm, Saitsama.
- 18 Strengthening of Poultry Farm, Bhoi/Tura
- 19 Establishment of Material Demonstration unit

1.4.18. **PROFILE OF A.H. PROGRAMMES IN MEGHALAYA:.**

The following Tables show the Profile of A.H. Programmes in Meghalaya:-

TABLE - 1.1
DENSITY OF LIVESTOCK POPULATION

The Density of Livestock population per Sq.Kms. on different species is shown in the table below in each District.

SL No.	District	Crossbred Cattle	Indigenous Cattle	Buffaloes	Pig	Sheep	Goat	Poultry	
								Fowls	Ducks
1	2	3	4	5	6	7	8	9	10
1	East Khasi Hills.	1.93	19.22	0.30	31.00	4.17	11.96	69.74	0.51
2	Ri-Bhoi.	2.75	16.52	1.83	7.72	0.03	5.46	76.21	1.22
3	West Khasi Hills.	0.10	17.75	1.23	5.82	1.69	8.37	44.38	-
4	Jaintia Hills.	0.13	26.09	0.52	9.97	0.02	5.68	54.22	0.49
5	East Garo Hills.	0.40	40.72	1.34	13.96	-	6.65	124.74	4.52
6	West Garo Hills.	1.03	54.84	4.07	18.15	0.07	13.37	131.47	8.19
7	South Garo Hills	0.04	22.64	0.75	9.45	0.01	10.10	78.00	1.16
	MEGHALAYA	0.79	28.41	1.50	13.11	1.03	8.72	79.16	2.26

TABLE - 1.2
DENSITY OF MILCH BOVINE POPULATION PER '000' HUMAN POPULATION.

SL No.	District	Milch Bovine per '000' population	
		Milch Cows	Milch Buffaloes
1	East Khasi Hills	27	0.20

2	Ri Bhoi	49	4
3	West Khasi Hills	161	6
4	Jaintia Hills	91	2
5	East Garo Hills	123	7
6	West Garo Hills	178	10
7	South Garo Hills	166	5
	Meghalaya	98	5

TABLE -1.3
DENSITY OF PIG, SHEEP, GOAT AND POULTRY PER '000' HUMAN
POPULATION.

SL No.	District	Pig	Sheep	Goat	Poultry	
					Deshi	Improved
1	2	3	4	5	6	7
1	East Khasi Hills	158	21	61	342	16
2	Ri Bhoi	148	0.6	105	1383	106
3	West Khasi Hills	139	40	199	1015	42
4	Jaintia Hills	173	0.4	97	874	73
5	East Garo Hills	192	-	83	1601	180
6	West Garo Hills	167	6	123	1230	56
7	South Garo Hills	277	0.2	242	1846	54
	Meghalaya	166	13	110	967	61

TABLE - 1.4
LIVESTOCK CENSUS POPULATION 1972-1992.(IN THOUSAND NUMBERS)

Ategory	1972	1977	1982	1988	1992
1	2	3	4	5	6
Cattle	467.7	477.3	549.8	586.2	637.4
Buffaloes	46.6	39.6	28.9	27.8	33.7
Pigs	126.7	151.3	206.5	280.5	294.0
Goats	95.9	118.9	186.3	194.4	195.6
Sheep	18.4	20.6	25.6	15.4	23.1
Horse & Ponies	5.0	6.0	7.9	5.1	2.7
Dogs	-	-	-	130.4	130.7
Poultry					
(a) Deshi	839.3	953.7	1361.2	1509.8	1717.3
(b) Improved	136	119.6	57.7	80.7	108.7
Total Poultry	975.3	1073.3	1418.9	1590.5	1826.0

TABLE - 1.5
LIVESTOCK POPULATION PER ('00') VILLAGES (Inhabited).

SL. No.	District	Crossbred Cattle	Indigenous Cattle	Buffaloes	Pig	Goat	Sheep
1	2	3	4	5	6	7	8
1	East Khasi Hills.	617	5538	95	9926	3830	1335
2	Ri-Bhoi.	1267	6349	844	3559	2518	16
3	West Khasi Hills.	37	1167	810	3827	5502	1112
4	Jaintia Hills.	112	22026	440	8484	4740	20
5	East Garo Hills.	124	12708	419	4356	1890	-
6	West Garo Hills.	267	1390	1051	4690	3456	182
7	South Garo Hills	13	7127	239	2994	3202	4
	Meghalaya	324	11606	616	5353	5879	459

TABLE - 1.6
POULTRY POPULATION PER ('00') VILLAGES.

Sl No.	District	Fowls		Ducks		Total Poultry Deshi & Improved
		Deshi	Improved	Deshi	Improved	
1	2	3	4	5	6	7
1	East Khasi Hills.	21315	1021	143	21	22501
2	Ri-Bhoi.	32602	2534	562	-	35698
3	West Khasi Hills.	28016	1164	-	-	29170
4	Jaintia Hills.	42458	1921	387	25	46431
5	East Garo Hills.	35137	3797	1128	283	40345
6	West Garo Hills.	32532	1448	1989	317	36098
7	South Garo Hills	23989	719	367	-	25076
	Meghalaya	30430	1897	7786	82	36217

TABLE - 1.7
GROWTH PATTERN OF LIVESTOCK & POULTRY POPULATION (1972-1992)

Category of Livestock and Poultry	1977 Over 1972	1982 over 1977	1988 over 1982	1992 over 1988	1997 over 1992	Remarks
1	2	3	4	5	6	7
<u>CROSSBRED CATTLE</u>						Census for Cross bred Cattle was started in the year 1982, hence Comparative analysis in
(a) Male	-	-	+ 16.25	- 44.61	(-) 29.89	

(b) Female	-	-	- 1.95	+ 10.79	(+) 0.14	column (2) & (3) could not be shown.
INDIGENOUS CATTLE						
(a) Male	+ 2.98	+ 2.50	+ 17.94	+ 6.78	(+) 18.75	
(b) Female	+ 1.23	+19.25	- 1.76	+ 11.36	(+) 19.50	
BUFFALOES						
(a) Male	- 9.99	- 22.95	+ 29.25	+ 22.43	(-) 103.01	
(b) Female	- 16.38	- 29.43	- 28.01	+ 20.39	(-) 45.19	
PIGS	+ 19.42	+ 36.48	+ 35.84	+ 4.38	(+) 19.32	
GOAT	+ 23.98	+ 56.69	- 4.35	+ 0.63	(+) 43.35	
SHEEP	+ 11.96	+ 24.27	- 39.84	+ 43.98	(-) 25.84	
POULTRY						
(i) Deshi	+ 13.63	+ 42.72	+ 7.61	+ 13.74	(+) 32.23	
(ii) Improved	- 2.06	- 51.76	+ 32.76	+ 34.71		

TABLE - 1.8
DISTRICT-WISE LIVESTOCK INFRASTRUCTURE AS ON 1999-2000.

SL No	Particulars	East Khasi Hills	Ri Bhoi	West Khasi Hills	Jaintia Hills	East Garo Hills	West Garo Hills	South Garo Hills	Meghal aya
1	2	3	4	5	6	7	8	9	10
1	Vety. Hospitals	1	-	1	1	-	1	-	4
2	Vety. Dispensaries	10	9	9	8	7	13	3	59
3	Vety. Aid Centres	13	3	13	13	8	9	5	64
4	Mobile Vety Dispensaries	2	1	3	3	2	3	1	15
5	Intensive Cattle Development Project	1	-	-	-	-	1	-	2
6	Stockman Centres	14	22	6	10	9	21	4	86
7	Vigilance Unit	1	-	-	1	-	1	-	3
8	Vaccine Depot	1	-	-	-	-	-	-	1
9	Cattle Breeding Farm	1	1	-	1	-	1	-	4
10	Poultry Farm	1	2	2	1	1	2	1	10
11	Pig Farm	2	1	2	1	1	2	1	10
12	Sheep & Goat farm	-	-	1	1	-	-	-	2
13	Buffalo Farm	-	-	-	-	1	-	-	1
14	Fodder Seed Production farm	-	1	-	-	-	1	-	2
15	Fodder Demonstration farm	1	-	-	1	-	1	-	3
16	Feed Mill	-	1	-	-	-	1	-	2
17	Rabbit Farm	1	-	-	-	-	-	-	1
18	Check posts	-	1	1	1	1	-	-	4
19	Clinical Laboratory	1	-	-	-	-	1	-	2
20	Vocational Training Institute	-	1	-	-	-	1	-	2

21	Pasteurisation Plant	1	-	-	1	-	1	-	3
22	Chilling Centre	-	-	1	1	1	-	-	3
23	Creamery & Ghee making Centre	-	-	-	-	-	1	-	1

1.5. DAIRY DEVELOPMENT

1.5.1. Review of the Ninth Plan:

Financial-The approved outlay for the Ninth Plan is Rs.1000.00 lakhs. Out of which, about Rs.446.46 lakhs will be utilised during the corresponding period.

Physical Achievements- Dairying is one of the Enterprise which has potential for gainful and productive employment to the people. A rational approach to Dairy Development has been evolved by setting up a number of Milk Chilling Plants in different districts to provide remunerative market for the milk producers for sale of their products and also to ensure supply of quality milk to consumer. A Dairy Farming Scheme for Educated Unemployed Youth was taken up from Ninth Plan and anticipated beneficiaries unemployed youth to be assisted is 139.

1.5.2. Programme For Tenth Plan (2002-2007) And Annual Plan 2002-03:-

Dairy Development will be given priority mainly for creating a ready market of milk in encouraged rural areas, processing as pasteurised milk and/or milk products for sale in cities and towns in Meghalaya and adjoining States preferable through Co-operative efforts. Private entrepreneurs willing to establish milk plants within the State upto 40,000 LPD capacity will be encouraged.

The three tier Dairy Co-operatives will be constituted of : (i) A number of PRIMARY MILK PRODUCERS' CO-OPERATIVE SOCIETY LTD., (ii) One district level DISTRICT MILK PRODUCERS' CO-OPERATIVE UNION LTD. For each district. all the Primary Societies in a given district will be affiliated to the District Union concerned as Members of the Union. The District Union will, however, come into being if at least 6 Primary Societies of the concerned district are registered and opt to form the Union, and (iii) One state level MEGHALAYA MILK PRODUCERS' CO-OPERATIVE FEDERATION LTD. All the District Milk Producers' Co-operative Unions will be Members of this Federation.

1.5.3. **The outlay proposed for Dairy Development Sector for the Tenth Plan is Rs.800.00 Lakhs and for 2002-03 Rs.125.00 Lakhs. The Target for milk production is fixed at 93.17 thousand tonnes for Tenth Plan and 71.08 thousand tonnes for 2002-03.**

1.5.4. There are 5 (five) Milk Chilling Plants and one Creamery and Ghee making centre in the State. The installed capacity and present utilization is shown in table below :

Sl. No	Name of the Plant	Installed capacity	Present utilization per day.
1	Central Dairy Shillong.	10,000 ltrs.	4,000 Ltrs.
2.	Town Milk Supply Scheme, Tura.	2,000 "	600 "
3.	Rural Dairy Extension Centre, Jowai.	2,000 "	500 "
4.	Chilling Plant Nongstoin	2,000 "	100 "
5.	Chilling Plant Gangdubi.	2,000 "	50 "

It appears that their present utilization is too low for economic viability of the plants. This is more so because of :-

- (i) fund provided under Non-Plan Budget for procurement of Milk from producers is too meagre. In certain milk shed areas, sufficient milk is available but only small quantity could be Procured for want of funds.
- (ii) Difficulties in collection of milk produced in distantly located areas for want milk insulated vans.

The performance of milk plants is extremely critical as only limited fund is available under Non-Plan budget for procurement of milk. Since the objectives is to promote the growth of Dairy Farming in rural areas and semi urban areas and also to generate employment for educated un-employed youth, adequate plan funds shall be provided for procurement of milk during the Tenth Plan.

The Dairy Sector is to strengthen its present activities and expand the utilization capacity through provision of Equipments, Machineries and Milk insulated Vans for collection and distribution of milk. With the support from Plan fund for procurement of milk from producers, the targetted enhancement of utilization capacity of milk plants is projected as follows:-

- | | | |
|---------------------------------------|---|--------------|
| (1) Central Dairy Shillong | - | 10,000 Ltrs. |
| (2) Town Milk Supply Schemes
Tura. | - | 2,000 " |
| (3) R.D.D.C Jowai | - | 2,000 " |
| (4) Chilling Plant Nongstoin | - | 2,000 " |

B. Inland Fisheries:

(a) **Fishseed production and Demonstration Centre** :- This is a continuing scheme which aims at producing fishseeds and also to serve as Demonstration Centres . A Pilot project is also proposed to set up in each sub-divisional office area /Block areas for providing experimental Technique towards breeding of Major Carps and also to serve as distribution /transitional project for the acclimatization of the exotic hybrid varieties/ Major Carps fishseeds.The Chinese Hatchery i.e.,Digrichiring, West Garo Hills and Jamge , East Garo Hills,Williamnagar will be improvised to meet the target of 17.5 millions of fishseeds fixed for the Tenth Plan. The proposed amount for the scheme for the Tenth Plan is Rs.87.00 lakhs and Rs. 15.50 lakhs for the Annual Plan 2002-03

(b) **Development of Reservoir, lakes and bheels etc**:- This is a continuing scheme which aims at producing marketable fish from the natural water resources /man-made resources which at present the Kyrdemkulai and Nongmahir Reservoirs were taken up by the Department as leased by the MeSEB on payment of annual rent of Rs.0.05 lakhs. An amount of Rs.40.00 lakhs is proposed for the Tenth Plan and Rs. 10.00 lakhs is proposed for the 2002-03.

(c) **Conservation and Legislation for Protection of Fisheries**:- This is a continuing scheme which aims at conserving and protecting of the indigenous fish fauna .The organization like the Fishing Association etc. shows keen interest in conserving fisheries which the deptt. also proposed to introduce and release the cold water species to enrich and propagate the fish population. An amount of Rs.38.00 lakhs is proposed for the Tenth Plan and Rs.6.00 lakhs is earmarked for 2002-03.

(d) **Construction of Check dam /mini barrage** :- This is an on going scheme proposed to intensify piscicultural activities by creating artificial ponds /tanks by means of construction of check dam /mini barrage across shallow gorge/ridges to create additional water area of 205 hect. An amount of Rs.60.00 lakhs is proposed for the Tenth plan and Rs 12.00 lakhs is earmarked for the Annual Plan 2002-03.

(e) **Fish Farmers Development Agency (FFDA)**:- This is a centrally sponsored scheme which envisages 40% grant and 60% bank loan or own contribution of the beneficiaries @ of Rs.1.00 lakh per hect for the construction of fishponds, etc. Recently, the Govt. of India had revised the pattern of assistance at 25% grant and 75% loan or own contribution at the revised rate of Rs.3.00lakhs per hect. for the construction of fish ponds ,by utilizing all wasteland etc., unfit for agricultural purpose .An amount of Rs.145.00 lakhs is proposed during the tenth plan to create additional water area of 300 hect. and benefiting about 1800 farmers and Rs. 25.00 lakhs for the Annual Plan 2002-03 to cover 50 hect. of addl. water area benefiting 175 farmers to produce 55 MT of marketable fish.

(f) **Subsidised cost of fishseeds, pig feed for integrated fish farming development**:- The scheme has gained popularity to farmers in the rural areas in which the deptt. proposes to assist the farmers @ 50% subsidy of the cost of the fishseeds etc. An amount of Rs. 30.00 Lakhs is proposed during the tenth plan to provide 50% subsidy i.e. fishseeds ,feeds etc. to 800 numbers

of farmers .An amount of Rs. 5.00 Lakhs is proposed for the Annual Plan 2002-03 to benefit 65 farmers and to contribute 35 MT of marketable fish.

(g) **Community Fishery Development Project** :- This is an on going scheme which is meant for construction of community ponds .An amount of Rs.31.00 Lakhs is proposed to create 250 nos. of Community Fishery ponds and Rs.5.50 Lakhs for the Annual Plan 2002-03 to create 36 nos of Com. Fishery Projects to produce 31.5MT of fishes.

1.6.5 Extension and Training :

This is a continuing scheme which deals with dissemination of modern techniques of fish culture where extension services and training programmes were conducted. An amount of Rs.20.00 Lakhs is proposed for the Tenth Plan where it is expected to cover 1000 nos of progressive farmers and 4.00 lakhs for the Annual Plan 2002-03.

1.6.6 Research in Fisheries :

For research in Fisheries development an Outlay of Rs.15.00 Lakhs is proposed for the 10th Plan period and an Outlay of Rs. 2.50 lakhs only is proposed for the Annual Plan 2002-03.

1.6.7 Construction and Improvement of Departmental Non residential Building :

This is a continuing scheme which involves construction and improvement of office buildings .An amount of Rs.32.00 lakhs is proposed for the Tenth plan and Rs.6.50 lakhs is earmarked for 2002-03.

1.6.8 New Schemes :

The following schemes are proposed to be taken up during the 10th Plan for which an outlay of Rs.80.00 Lakhs is also proposed for the Plan period and Rs.10.00 Lakhs only for the Annual Plan 2002-03 :-

(1) **Setting up of Fish seed hatchery in the private sector** : This schemes aims at providing employment generation to the educated youth particularly those who have qualified Fishery course in BFSC etc. An amount of Rs.28.00 lakhs is proposed for the Tenth Plan and Rs.5.00 Lakhs for the Annual Plan 2002-03.

(2) **Setting up of fish seed(feed mill) in the Private sector:-** The average production of fish from 1ha. Of water area is 750kg. Which is very low compared to the production of other neighbouring States i.e 1500 to 2000 kg/Ha/year. The main factors responsible for this poor growth is due to the facts that many farmers do not provide proper feeding to the fishes. So also the procurement of feed and the cost of transport from the main center etc, supplied in the district headquarters made it quite inconvenient and expensive for the farmer in hiring of transport to reach their destination. As such most of the fish farmers neglected to pay importance to this aspect which actually determines the success of the project. Hence, the Department proposes to

set up feed mill in the private sector to create employment to the un-employed youth, and to raise the economic condition of the fish farmers by supplementing the feeds requirement in certain centres of Block Headquarter etc. nearest to them. In the 10th Plan period an amount of Rs.32.00 (lakhs) is proposed under the scheme to cover 15 (fifteen) units and during the Annual Plan 2002-2003 Rs.6.00 (lakhs) to cover 3 (three) units. It is also proposed to assist the private entrepreneurs in the field by way of rendering financial assistance in the form of subsidy, standard norms according to the NEC schemes i.e. 75:25 (75% loan /25% subsidy or self contribution).

1.7 FORESTRY & WILDLIFE

1.7.1 The Ninth Plan Outlay for Forestry & Wildlife is Rs.10050.00 Lakhs. The actual expenditure during the Annual Plans 1997-98,1998-99,1999-2000 and 2000-01 were Rs.535.35 Lakhs, Rs.488.88 Lakhs, Rs.642.60 Lakhs and Rs.754.73 Lakhs respectively .The approved outlay during 2001-2002 being Rs.850.00 Lakhs,the total anticipated expenditure during the Plan period comes to Rs.3271.56 Lakhs. **The proposed Tenth Plan Outlay is Rs.8300.00 Lakhs and the outlay proposed for the Annual Plan 2002-03 is Rs.950.00 Lakhs .**

1.7.2 Achievements made during the Ninth Plan Period:-

(i). During the Ninth Plan Period, plantations were taken up in the blank areas of the Reserved Forests, covering an area of 1188 ha. The plantation area raised in the barren and degraded land outside the Reserved Forests was 3755 ha. Tending operation were also carried out by way of weeding, fire protection etc. up to the Fifth Year of the Plantation.

(ii). The number of seedlings raised under forest nurseries were 5414 beds and a total of 157.15 lakhs nos. of seedlings were distributed to the public.

(iii). Under the communication and buildings programme, 100 Kms. of forest roads were maintained through construction of bridges, culverts, retaining walls etc. A total of 25 (twenty five) buildings was also constructed for accommodation of staff

(iv). Under the Wildlife Programme, acquisition of 23.55 Km² of land was made towards the extension of the Nongkhyllam Wildlife Sanctuary and 1.46 Km² were acquired for setting up of a State Botanical Garden-cum-Biodiversity Centre .

(v). In the Training Programme, a total number of 50(fifty) Forester-I and 74 (seventy four) Forest Guards were imparted with basic training in the Forest Guard Training School at Darugiri and Advance Training Course was also imparted to Forester – I at Conservation Training Institute, Byrnihat.

(vi). To offer more protection to the Reserved and Protected Forests, the Patrolling Force was strengthened by the development of 50 (fifty) numbers of Home Guards and 25 (twenty five) numbers of Village Forest Protection Force to prevent felling of trees/smuggling of timber and to strictly implement the Hon'ble Supreme Court's orders.

(vii). Grants-in-aid to the three District Councils to the tune of Rs. 102.98 lakhs were also made to carry out their plantation activities, strengthening of staff, Forest protection scheme. A total of 151 ha of plantation was raised by the District Councils. Grant-in-aid to the tune of Rs. 119.61 lakhs was also made to the Eco-Development Society, which undertook Eco-Development works such as creation of orchards, improvement of school buildings, footpaths etc.

(viii). Under the Scheme "Survey of Forest Resources", Survey of indigenous Medicinal Plants was carried out in West Khasi Hills, Jaintia Hills and Ri-Bhoi district. Survey and demarcation of 524.13 Kms Reserve Forest boundary was carried out in all the Reserve Forests in Garo Hills. Sample plot survey of 1250 ha is of area under the Khasi Hills Autonomous District Councils and 5000 Sq.kms of area under the Garo Hills Autonomous District Councils was also conducted.

(ix). For the protection of rare and endangered species, germ plasm banks were created in the East Khasi, Ri-Bhoi and East Garo Hills.

(x). **Centrally sponsored schemes** :- During the Ninth plan period an amount of Rs 443.54 Lakhs was availed of as assistance for the Centrally Sponsored schemes under the Social Forestry sector. An amount of Rs. 300.00 Lakhs is proposed during 2001-02. For the Wildlife Sector an amount of Rs 362.46 lakhs was availed of during the Ninth Plan. An amount of Rs 189.04 lakhs is proposed for 2001-02

The allocation in the Social Forestry sector was for raising plantations under AOFFP, NTFP and IAEOP programmes. For the wildlife sector, the allocation was for the purpose of ex-gratia payments, elephant census, anti poaching camps, maintenance of Parks and sanctuaries etc.

1.7.3 **Proposals For The 10th Five Year Plan (2002-2007):**

A. Objectives.

- (i) To maintain tree cover in the State for conserving water, preventing soil run-off and maintaining a healthy ecological system in the State.
- (ii) On serving the rich bio-diversity of the State.
- (iii) Spreading, public awareness about the benefits of conservation of flora and fauna and environmental protection.
- (iv) Managing the forest on the principle of sustainable yield to provide major and minor forest produce for fulfilling the needs of the society.
- (v) To develop the system for effective implementation Monitoring and Evaluation of the plans and programmes of the Department.

B. Thrust Area :

- (i) Strengthening of the Central administrative unit of the department and providing more officers for monitoring the works being carried out by Forest Divisions.
- (ii) Afforestation of catchment areas denuded by jhuming.

- (iii) Strengthening of wildlife preservation net work and creating more protected areas for conservation of bio-diversity.

C. Plan And Action :

(i) Protection and improvement of Government Forests :

Steps will be taken to consolidate Government Forests and enriching the stock in them by planting trees of economically viable species.

(ii) Increasing the area under Forest cover:

The activities of the Forest and Environment Department will be spread over areas in the State to create Forest in waste lands. Steps will be taken to acquire more areas to increase the area of Government forests.

(iii) Improving management practice of wildlife Sanctuary:

More improvement shall be provided for scientific management of protected area for bio-diversity conservation areas and extending such management to newly acquired areas.

(iv) Protection of wild animals and plants:

Special measures are envisaged for prevention of poaching of wild animals and smuggling of parts of wild animals and wild plants.

(v) Training of staff:

As Forestry, wildlife and environment are technical subjects, training of newly acquired staff and refresher courses for executive staff and technical staff are very important. Therefore a great emphasis will be laid on Human Resource Development.

(vi) Technical Plans and Research:

Regular survey will be required to prepare management plans, assess the effect of the past management practices. The work of the existing Research Wing of the Departments to study the growth trees pertaining regeneration tactic etc. shall be continued.

(vii) Eco-Development:

In order to ensure the co-operation of the forest dwellers living around the protected areas, it is proposed that the eco-friendly development of such population shall be enhanced.

(viii) Public awareness:

Cooperation of the public for conservation of flora and fauna and environment protection shall be sought by field publicity and improvement in the existing geological gardens.

(ix) Strengthening of administration:

The existing administrative set-up shall be strengthened by proposing more executive and technical officers in the Central Administrative Unit and providing more such Officers or Planning Monitoring works.

New Scheme :

A new scheme on Bamboo Project sponsored by IFAD is in the final stage of negotiation and likely to take shape in the course of the Tenth Plan. A provision of Rs.500.00 Lakhs during the Tenth Plan and Rs.10.00 Lakhs during the Annual Plan 2002-2003 is being made under EAP component.

1.8. FOOD, STORAGE AND WAREHOUSING

1.8.1. The approved outlay for the Ninth Five Year Plan is Rs.150.00 lakhs. No expenditure has so far been incurred upto 2000-2001 due to non-receipt of the prior concurrence of the Central Warehousing Corporation as required under Section 19(I) of the Central Warehousing Act,1962. The amount earmarked for the current year (2001-2002) is Rs.3.00 lakhs and the same will be utilized provided that concurrence is received from the Central Warehousing Corporation.

1.8.2 **An outlay of Rs.150.00 lakhs is proposed for the Tenth Five Year Plan** for implementation of programmes for construction of new Warehouses in places like Khanapara, Nongstoin, Mawlai, Byrnihat etc. where additional storage spaces are required for buffer stocking of foodgrains. The FCI is not interested to construct own godowns for storage of foodgrains, rather it prefers to have hired godowns. **The Proposed Outlay for the Annual Plan 2002-03 is Rs.30.00 lakhs.**

1.8.3. **The Corporation has so far constructed a total capacity of 13200 M.T. During the Tenth Five Year Plan additional capacity proposed to be created is at 0.10 lakhs Metric Tonnes while during the Annual Plan 2002-2003 the target is at 0.025 M.T.** The achievement of the projected capacity is solely depended on timely release of equity share both by the Central Warehousing and the State Government.

1.9 COOPERATION

1.9.1. The approved outlay for Cooperation Sector for the Ninth Plan is Rs.2400 lakhs and the anticipated expenditure during the plan period is Rs.1247.46 lakhs. The expenditure during 1997-98, 1998-99, 1999-2000 and 2000-2001 being Rs.183.49 Lakhs, Rs.250.00 Lakhs, Rs.191.17 Lakhs and Rs.322.80 Lakhs respectively and the approved outlay during 2001-2002 being Rs.300.00 Lakhs. **The proposed outlay for the Tenth Plan is Rs.1700.00 lakhs and the proposed outlay for the Annual Plan 2002-03 is Rs.340.00 lakhs.**

1.9.2 Keeping in view the market competition in the liberalized economy, the approach towards co-operative development during the 10th Plan period has to be more pro-active and new

strategies and initiatives have to be evolved. It is imperative that all Cooperative Societies be treated as micro business enterprises and any assistance given to them would have to be item based during the course of the 10th Plan period. This project based approach would ensure that only viable and feasible projects are taken up on a sustainable basis.

1.9.3 **Programmes for The Tenth Plan (2002-2007) & Annual Plan 2002-03:**

The programmes for the Tenth Five Year Plan (2002-07) and Annual Plan 2002-03 are worked out keeping in view the need for balanced development of the Cooperative Movement in the State as a self reliant and vibrant instrument of socio-economic service in the given period .The details of the programmes are as follows;-

001- Direction & Administration :

During the Tenth Plan period, 36 nos. of new posts of different categories is required to be created for 3(three) Sub-Divisional Offices at Resubelpara ,Mairang and khliehriat for bringing the administration closer to the people. An outlay of Rs.246.00 lakhs for the Tenth Plan and Rs.60.00 lakhs for the Annual Plan 2002-03 is proposed for the above programmes.

003- Training :

Departmental Officers and Executive Level Officers of State Level Cooperative Societies are proposed to be exposed to training outside the State for skill upgradation and for familiarising them with new technique of development. It is also proposed to upgrade and improve the training facilities of the Meghalaya Cooperative Training Institute. An outlay of Rs.35.00 lakhs is proposed for the Tenth Plan and Rs.3.00 lakhs for the Annual Plan 2002-03 for the programme.

004- Research & Evaluation :

An outlay of Rs.8.00 lakhs is proposed for the Tenth Plan and Rs.0.50 Lakhs for the Annual Plan 2002-03. It is necessary to help cooperative societies to hire consultancy services as they do not have the resources to meet the cost on their own.

105- Information & Publicity :

In order to make the common people aware of the cooperative principles and ideals ,it is proposed to intensify the existing publicity programmes and start motivational programmes right upto village level. An outlay of Rs.25.00 Lakhs is proposed for the Tenth Plan and Rs.4.00 Lakhs for the Annual Plan 2002-03 to carry out the programme.

106- Assistance To Multi-Purpose Rural Cooperatives :

The main thrust of the scheme is to revitalize the Service Societies (PACS) which form the backbone of Cooperative credit structure at the grass roots level by giving new orientation to their activities. An outlay of Rs.90.00 lakhs is proposed for the Tenth Plan and Rs.20.00 Lakhs for the Annual Plan 2002-03 to support the on-going schemes.

107- Assistance To Credit Cooperatives:

The computerization of Cooperative Banks is very important and essential for its survival and smooth efficient functioning. Provision has been made under the new scheme. It is also proposed to revise the pay scale of Cadre Secretaries and raise the minimum qualification for filling up the posts of Cadre Secretaries to graduation level, so that right type of persons are selected to run the affairs of Primary Agricultural Credit Cooperative Societies (PACS) and Handloom Societies which are the two very important structures of the Cooperative Movement. An additional implication of Rs.20.00 lakhs is estimated for revision of pay scale. An outlay of Rs.234.50 lakhs is proposed for the Tenth Plan and Rs.72.00 lakhs for the Annual Plan 2002-03.

108- Assistance To Other Cooperatives:

The scheme involves Marketing, Processing, Consumer and Livestock Cooperatives Sector Cooperatives which have a very vital role to play. An outlay of Rs.555.00 lakhs is proposed for the Tenth Plan and Rs.76.00 lakhs for the Annual Plan 2002-03.

800- Other Expenditure:

The Handloom activity has a vast potential for development in the State for income and employment generation in the rural sector. The scheme for meeting of salary cost of Cadre Secretaries posted to Handloom Weavers Cooperatives is also included in the group. The scope and potentials are available in the State for development of activities allied to Agriculture like Dairy, Poultry, Piggery, Fishery etc. An outlay of Rs.310.00 lakhs is proposed for the Tenth Plan and Rs.60.00 lakhs for the Annual Plan 2002-03.

109- Agricultural Credit Stabilisation:

An outlay of Rs.15.00 lakhs is proposed during the Tenth Plan and Rs.2.00 lakhs during the Annual Plan 2002-03 for the release of State's Share of Contribution to the Agricultural Credit Stabilisation Fund of the State Cooperative Bank in order to strengthen the fund and maintain its optimum level.

277- Education:

The Meghalaya State Cooperative Union Ltd. is the frontal organization to take up and fulfil the task. The Cooperative Development Fund has been activated and a no. of promotional and training programmes have been funded and the performance is satisfactory. An outlay of Rs.95.00 lakhs is projected for the Tenth Plan and Rs.20.00 lakhs for the Annual Plan 2002-03 for continuation of the programmes.