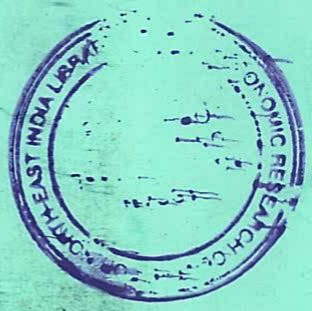
Study No. 132

STATE BUDGETARY RESOURCES AND AGRICULTURAL DEVELOPMENT -A STUDY IN ASSAM



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PREFACE

The present study on "State Budgetary Resources and Agricultural Development-A Study in Assam" was undertaken at the instance of Ministry of Agriculture, Government of India. The ADRT Bangalore was the coordinating centre for the study. The draft report of the study was submitted to the co-ordinating centre and modifications have been made as per comments and suggestions by the co-ordinator.

The study covers only the agriculture and allied sectors which include ten sub-sectors namely crop husbandry, soil and water conservation, animal husbandry, dairy development, fishery, forestry and wild life, food, storage and ware housing, agricultural research and education, cooperation and other agricultural programme.

Assam has already crossed more than five decades of economic planning since independence but state is yet to attain self sufficiency in food grain production in spite of different plans and programmes formulated by the central and state government to boost up agricultural production in Assam. The stagnation in productivity of major crops in the last few years has also added to this situation.

The budgetary expenditure in agriculture and allied sector increased by 80.99 per cent amounting to Rs.86893.00 lakh in 2007-08 from Rs.16518.00 lakh in 1986-87. But its share to total budget showed a decreasing trend from 7.57 per cent in 1991-92 to 1.19 in 2007-08.The revenue expenditure in agriculture and allied sector increased by 7.00 per cent (CGR) to Rs.84, 174.13 in 2007-08 from Rs.16517.53 in 1986-87. The Share of revenue expenditure in total agriculture and allied to the State total revenue expenditure varied in between 7.62 per cent and 14.37 per cent during 1986-87 -2007-08.

The study revealed that public sector investment from the State and Centre has been increasing over the period under observation. No significant out come was observed on the investment in terms of NSDP of the sub sectors. Inadequate investment might be one of the causes for which agriculture sector failed to achieve the desired goal.

The Study was completed with sincere help and co-operation of the Finance Department, Directorate of Agriculture and Directorate of Economics and Statistics, Government of Assam. I am thankful to all officials of the Departments for their help and co-operations.

I am thankful to Sri Jotin Bordoloi, Research Associate who completed the study under my guidance. I am also thankful to Dr.Gautam Kakaty for his sincere help in completion of the study. Like all other studies, this is also a joint product of the centre. The members of the staff associated with the study have been mentioned elsewhere in the report.

It is hoped that the report will provide first hand information on state budgetary resources and agricultural development to the planners, policy makers and researchers.

July,2009

(Dr. K.C.Talukdar)
Hony. Director
AERC, Jorhat

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CHAPTER-I
Introduction

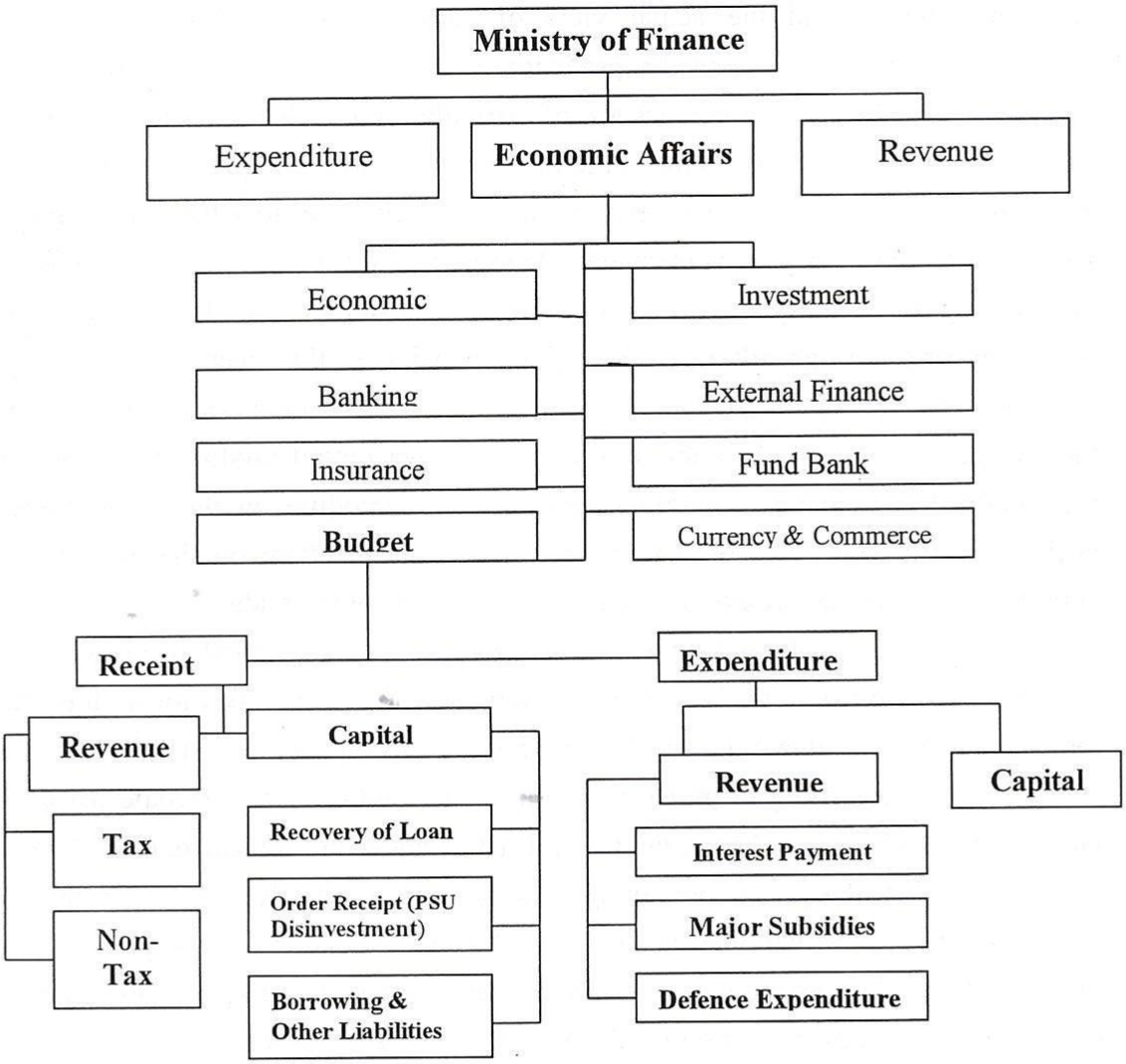
1.1. Introduction:

The Budget of a country or a State simply means an annual statement of accounts in terms of receipts and expenditure under different heads of developments. In each annual Budget, Government either at Central level or at State level gives receipts and expenditure statements through different policies initiatives adopted. It has been observed that the budgetary allocation against each development sector has been increasing in each year to reach the desired growth of economy of the country. In the receipt sides both the country and the State show better performance from the expenditure incurred. As a result of this fiscal deficit has widened further. It is also a point to be noted that inadequate financial resource allocation lead to downfall in receipt sides. So time has come to review the resource allocation against each development sector to see the impact of budgetary resource allocation in terms of production and overall growth of the economy. A flow chart of finance has been presented in the Chart-I.

India had two worst experiences in food front - one was Bengal famine during 1943 which took 6 millions of lives and another food crisis of the sixties. A full scale famine broke out in Bihar in 1967, people died from starvation and many more would have been died if it did not receive help from voluntary agencies- national and international level. These were the two turning points of the developmental stories of Indian agriculture since then agriculture sector has been receiving proper weight age in each annual budget and as a result India has attained self sufficiency in food front.

The budget of a country plays a vital role in changing policies with the demand of time. It is a fact that India has achieved a great success with the green revolution and then white revolution due to changes of budgetary allocation under the heads of development on the basis of priority area. A second green revolution is urgently needed

Chart-I: Flow Chart of Finance



to raise the growth rate of agricultural GDP at around 4 per cent. This is not an easy task since actual growth of agricultural GDP, including forestry and fishing, was only 1 per cent per annum in the first three years of 10^{th} plan. At present, India needs at least 8 percent growth rate of agriculture sector to keep both the demand and the supply side in balance.

Deceleration and stagnation in agricultural productivity growth almost all the crops across the States in the last few years is a matter of great concern of the Country

and the State as well. Four major opinions are put forwarded by the experts who are engaged in agricultural activities directly or indirectly. Firstly, there is a wide gap between potential and the actual yield of crops across the States. Secondly, the technological support to raise the productivity of crops from the present level is not sufficient. Thirdly, the policy issues of agricultural development might have some drawbacks or loop holes in implementation level. Fourthly, the public investment in the agricultural sector is at lower level as compared to other sectors for which agricultural sector is affected by capital inadequacy. Due to down ward trend of crop production and productivity, the country is not able to maintain demand and supply side in balance for which the price of agricultural commodities is rising in the recent years. As a result, inflation is increasing at an alarming rate which hurts common people and deteriorates their standard of living. As a measure to control over deficit production of food grains, the country has to import sometimes agricultural commodities in zero custom and other tariff duty. But such type of remedy has always a bad effect on the economy of the country as a whole particularly in the fiscal side of the annual budget.

The State Assam is still not self-sufficient in food front. To meet the demand, the state has to bank on imported agricultural commodities form other states of the country. As a result a large amount of money drains out from the state's exchequer.

According to Indian Constitution agriculture is in the State list but many facets of the sector are either in the Central list or under the Concurrent list. Even being on the State list, the policy pertaining to agriculture is mostly initiated at the Centre, sometimes after consultation with the State. This is a very tricky way to bring together State and Central for arriving at a general consensus on policy decisions to be adopted in formulation and implementation level. Most of the times, States have to follow the guide lines provided by the Centre.

In this context of financial support for development agriculture sector of the State, the issue of Central-State relations regarding State's agriculture needs to be reviewed. No study has been conducted by the Centre so far in the State Assam on this subject of Agriculture and Public Finance.

The allocation of resources across the States in the context of Central-State relationship, it is also felt that the allocation of resources by the Central to the State under various schemes and programmes implemented by the Central Ministry, have

failed to maintain the continuity of sustainable development after completion of the projects. As a result States and the country have to bear a huge loss of financial resources and farmers also suffer from it directly or indirectly to an intolerable limit. The country and the States have also the experiences of disparity in getting desired result from the ensuing projects. Recently, in a study conducted under the "Farmers at Millennium" it was pointed out that the resource allocation to the States does not follow strict guidelines or principles. For this reason, the allocation of resources from the Central Pool may cause differential impact across the States and this may lead to imbalance growth.

1.2. Profile of State:

Assam is situated in the far, North-East corner of India. The State is bounded by two foreign countries Bhutan in the North and Bangladesh in the West.

1.2.1. Physical Back Ground of Assam:

Assam is lying between $24^0 08'$ N and $27^0 09'$ N latitude and $89^0 42'$ E and $96^0 10'$ E longitudes. It has been divided into three physiographic divisions- the Brahmaputra Valley, the Borak Valley and the Hill region. The State has 27 numbers of districts. Of these there are 22 districts that fall under Brahmaputra valley, 3 districts under Borak Valley and 2 districts under Hill region.

The Brahmaputra valley covers 72 percent, the Borak valley covers 9 percent and the Hill region accounts for 19 per cent of the total geographical area of the State 78,438 sq. km.

1.2.2. Drainage system:

The Brahmaputra, the fifth largest river in the world and the Borak are the two international rivers and have been flowing through Assam. The length of Brahmaputra within Assam is about 720 km while the length of the Borak River is 192 km in Cachar. The Brahmaputra River divides Assam into two parts the North Bank and the South Bank. There are about 40 major tributaries in North Bank and 20 on its South Bank.

1.2.3. Climate and Soil:

Assam is situated in the sub-tropical zone characterized by hot and humid summer and mild to moderately cold in winter. The average annual maximum

temperature (July-August) is recorded at 30^0 C to 35^0 C, while minimum temperature (December-January) lies between 6^0 C and 12^0 C. The percentage of Humidity is very high recorded at 85.0 to 90.0 percent in the most of the districts. The state average annual rainfall is recorded at 25845 mm (normal) and 2262.9 mm (actual) from December 2004 to Nov, 2005. The state average normal annual rainfall is recorded at 66.2 mm in winter season (Dec, 2004 to Feb.2005) 648.9 mm in summer season (March 2005 to May 2005), 1702.00 mm in Monsoon season (June 2005 to Nov, 2005).

A great deal of variation in rainfall is also observed in the state for which the state has the experiences of both floods and draught at different point of time in some districts. Soils of Assam are broadly classified into 4 categories-

(i) New alluvial soil found near river bank

(ii) Old mountaineer alluvial soil found in flood free plain area is acidic in nature

(iii)non- laterised red soil and

(iv) laterised soil both found in the hill regions of Assam.

1.2.4. Population profile of Assam:

The population profile of Assam. As per census, the population of Assam recorded at 224.00 lakh in 1991 and increased to 267.00 lakh in 2001. The decadal growth rate was 24.24 per cent during the decade 1981-91 and 18.92 per cent during the last decade 1991-2001. A decline of 5.32 per cent of decadal growth rate was observed during the period 1991-2001.

The population density increased from 286 persons in 1991 to 340 persons in 2001. Assam ranks fourteenth among all the states of India in terms of density of population and by size of population Assam ranks thirteen among all the states.

The sex -ratio of Assam was 923 in 1991 and 935 in 2001 against 1000 male.

The rural population was significantly higher than that of urban population. The percentage of rural population was 88.90 per cent while percentage of

urban population was only 11.10 per cent in 1991. In 2001, the percentage of rural population marginally came down to 87.10 per cent against 12.90 per cent of urban population

SC and ST population stood at 7.40 percent and 12.83 per cent of the total population of the state in 1991. In 2001 Census, the SC percentage and ST population marginally came down to 6.85 percent and 12.41 per cent respectively

The rate of literacy has been increased from 52.89 per cent in 1991 to 63.25 per cent in 2001. The literacy percentage of male was 71.28 per cent against 54.61 percent of female population percentage in the same census year.

1.2.5. Status of workers

As per census of 2001, the number of total workers stood at 95.39 lakh. Of this 71.14 lakh and 24.24 lakh were recorded as Main worker constituting 74.58 per cent and Marginal workers constituting 25.42 percent respectively. Number of non-workers was 171.17 lakh which was about 64.22 percent of the total population 266.56 lakh. The percentage of cultivator was 39.11, agricultural labour 13.25, household industry workers 3.62 per cent and other workers 44.03 percent of the total workforce in the State.

1.2.6. Gross State Domestic Products

The annual growth rate of gross domestic product (GSDP) at current and constant price (1999-2000) over the period from 1985-86 to 2005-06 is presented in Table – 1.1. The compound growth rate of GSDP during the period from 1985-86 to 2005-06 grew at 11.39 per cent at current price and 3.24 per cent at constant price per annum.

The growth rate in the first half period (1985-86 to 1994-95) was at 13.16 per cent at current price and 3.72 per cent at constant price. The growth rate during second half period 1995-96 to 2005-06 came down to 9.63 per cent at current price and 3.37 per cent at constant price.

The growth rate during pre reform period from 1985-86 to 1990-91 was at 12.95 per cent at current price and 3.21 percent at constant price. In post reform period

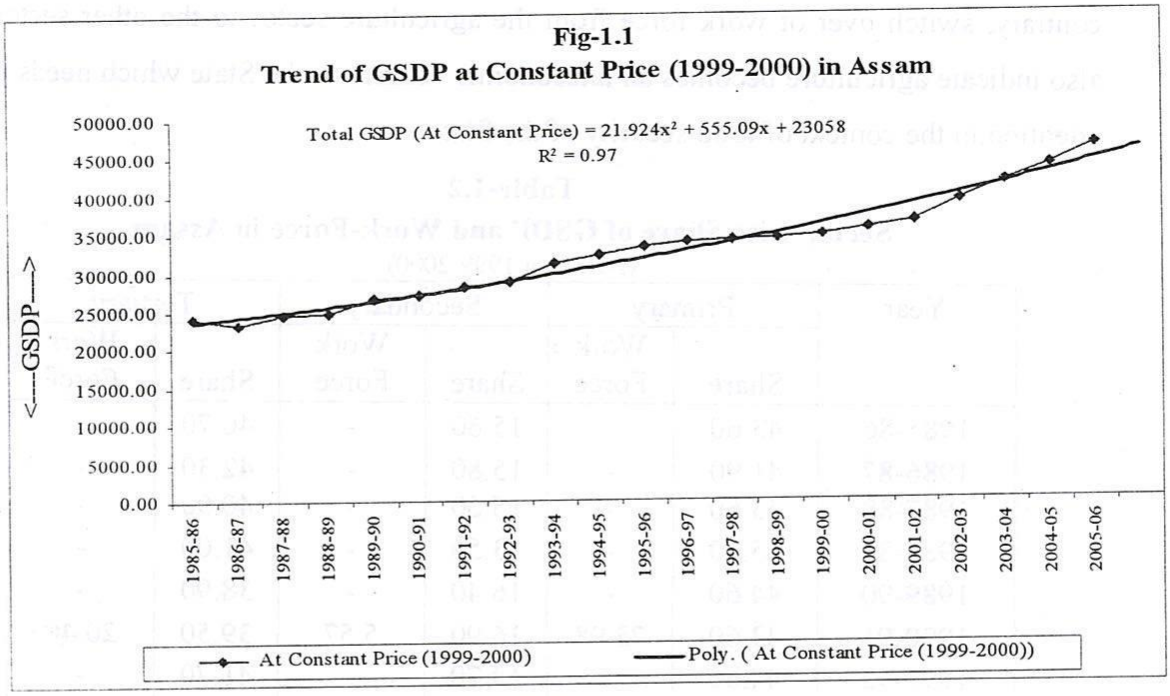
Table-1.1
Growth of GSDP at Current and Constant Price in Assam
(Based on 1999-2000 Series)

Year	GSDP			
	At Current Price	Growth over Previous Year	At Constant Price (1999-2000)	Growth over Previous Year
1985-86	6787.09	10.67	24099.75	6.91
1986-87	7417.03	9.28	23262.66	-3.47
1987-88	8340.53	12.45	24579.53	5.66
1988-89	9097.72	9.08	24812.12	0.95
1989-90	10767.22	18.35	26618.71	7.28
1990-91	12687.99	17.84	27138.02	1.95
1991-92	14300.66	12.71	28291.78	4.25
1992-93	15902.76	11.20	28785.47	1.74
1993-94	18168.62	14.25	31096.25	8.03
1994-95	21033.64	15.77	32298.50	3.87
1995-96	23402.59	11.26	33233.48	2.89
1996-97	25450.22	8.75	33994.16	2.29
1997-98	27385.65	7.60	34192.25	0.58
1998-99	31007.79	13.23	34479.67	0.84
1999-00	34769.69	12.13	34769.69	0.84
2000-01	36748.76	5.69	35715.03	2.72
2001-02	38245.53	4.07	36641.65	2.59
2002-03	43332.48	13.30	39233.28	7.07
2003-04	47191.38	8.91	41595.34	6.02
2004-05	51322.64	8.75	43806.38	5.32
2005-06	57596.96	12.23	46393.32	5.91
CGR	**11.39**	**11.31**	**3.24**	**3.54**

Source: Directorate of Economics and Statistics, Govt. of Assam.

from 1991-92 to 2005-06 was 10.66 per cent at current price and 3.66 per cent at constant price per annum.

Fig-1.1
Trend of GSDP at Constant Price (1999-2000) in Assam



1.2.8. Sector wise Share of GSDP and Work Force:

Sector wise share to GSDP and percentage share of work force in the State Assam is presented in Table-1.2. The share of primary sector to GSDP came down from 43.60 percent in 1985-86 to 34.37 percent in 2005-06. The share of secondary sector to GSDP has declined from 15.60 percent in 1985-86 to 13.50 percent in 1988-89 then it rose to 16.90 percent in 1990-91 and it came down further to its lowest at 12.60 per cent in 2000-01 then it again rose to 17.75 per cent in 2005-06. Over all it showed an increase trend over the period under observation. In tertiary sector its share to GSDP has steadily increased from 40.70 per cent in 1985-86 t0 47.89 per cent in 2005-06 per cent.

In primary sector the share of work force has declined from 73.90 per cent in 1990-91 to 52.36 per cent in 2000-01 along with decrease of share to GSDP. In secondary sector the percentage work force has also decreased from 5.57 per cent in 1990-91 to 3.62 per cent in 2000-01 along with it s decreasing share hare to GSDP. In tertiary sector, the percentage share of work force has increased from 20.40 per cent in 1990-91 to 44.05 per cent 2000-01 along with its increased share to GSDP. It may be concluded that the job opportunity in service sector is increasing in the State. On the

contrary, switch over of work force from the agriculture sector to the other sector may also indicate agriculture becomes an uneconomic venture in the State which needs proper attention in the context of food security of the State.

Table-1.2
Sector-wise Share of GSDP and Work-Force in Assam
(Base year 1999-2000)

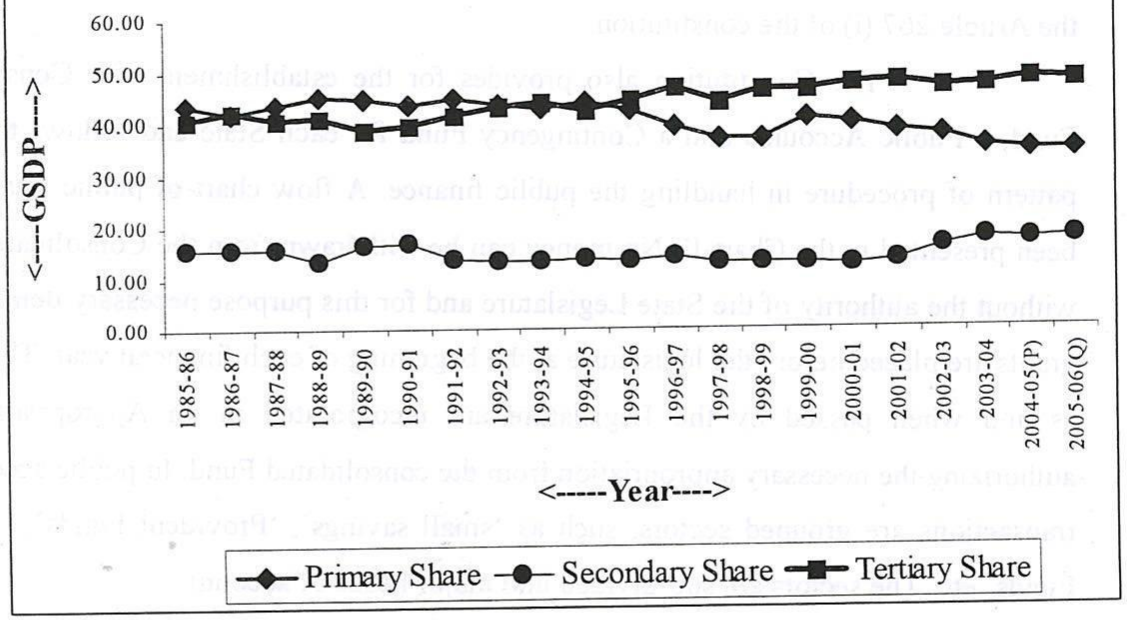
Year	Primary		Secondary		Tertiary	
	Share	Work Force	Share	Work Force	Share	Work Force
1985-86	43.60	-	15.60	-	40.70	-
1986-87	41.90	-	15.80	-	42.30	-
1987-88	43.60	-	15.60	-	40.90	-
1988-89	45.20	-	13.50	-	41.00	-
1989-90	44.60	-	16.40	-	38.90	-
1990-91	43.60	73.98	16.90	5.57	39.50	20.40
1991-92	44.60	-	13.70	-	41.70	-
1992-93	43.70	-	13.30	-	43.00	-
1993-94	42.70	-	13.40	-	43.90	-
1994-95	43.80	-	13.90	-	42.30	-
1995-96	42.40	-	13.40	-	44.20	-
1996-97	39.40	-	14.10	-	46.50	-
1997-98	36.80	-	13.10	-	44.00	-
1998-99	36.90	-	13.00	-	46.40	-
1999-00	40.80	-	12.80	-	46.40	-
2000-01	39.90	52.36	12.60	3.62	47.60	44.03
2001-02	38.60	-	13.50	-	47.90	-
2002-03	37.50	-	15.90	-	46.60	-
2003-04	35.30	-	17.70	-	47.00	-
2004-05(P)	34.49	-	17.22	-	48.29	-
2005-06(Q)	34.37	-	17.75	-	47.89	-

Source: Statistical Hand Book, Assam, Directorate of Economics and Statistics, Govt. of Assam

1.3. Agriculture and Public Finance:

The power to raise and disburse public fund has been divided under the constitution between the Centre and the States. There are thus more than one budget and more than one public treasury in the country .The sources of revenue for the centre and

Fig-1.2: Sectro wise Percentage Share of GSDP at Constant Price at 1999-2000



the states are mutually exclusive, if shareable taxes between the Centre and States are excluded.

The Constitution provides that

i) No tax can be levied or collected except by authority of law,

ii) No expenditure can be incurred from public fund except the manner provided in the constitution, and

iii) The executive authorities must spent public money only in the manner sanctioned by Parliament in the case of the Centre and the state legislature in the case of a state.

All receipts and disbursements of the union of the Union Government are kept under two separate heads- the consolidated fund and the Public Account of India. All revenue received, loans raised and money received by the Union Government in repayment of loans go to form the consolidated Fund. No money can be withdrawn from this fund except the authority of an Act of Parliament. All other receipts and

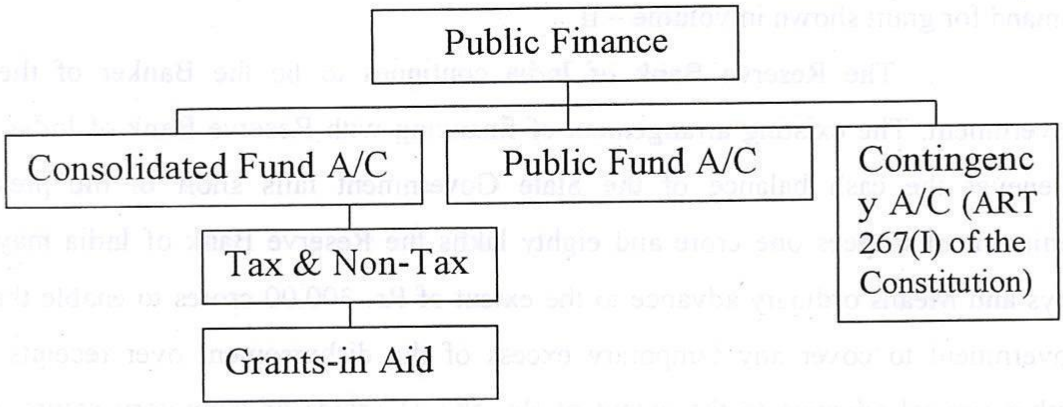
disbursements such as deposits, service funds and remittances go in to the Public Account which is not subject to the vote of Parliament. To meet unforeseen needs, not provided in Annual Appropriation Act, a Contingency Fund of India has also been established under the Article 267 (i) of the constitution.

The Constitution also provides for the establishment of a Consolidated Fund, a Public Accounts and a Contingency Fund for each State and follows the same pattern of procedure in handling the public finance. A flow chart of public finance has been presented in the Chart-II. No money can be withdrawn from the Consolidated Fund without the authority of the State Legislature and for this purpose necessary demands for grants are placed before the legislature at the beginning of each financial year. The grants as and when passed by the Legislature are incorporated in an Appropriation Act authorizing the necessary appropriation from the consolidated Fund. In public account the transactions are grouped sectors, such as 'small savings', 'Provident Funds', 'Reserve Funds' etc. The sectors are sub-divided into major heads of account.

In the course of the government administration, if occasion arises where provision made for certain items of expenditure prove inadequate, Government are empowered to meet the additional expenditure in respect of approved items of expenditure by permissible re-appropriation from savings within the same grant. In case where such savings are not forthcoming or a new item of expenditure has to be financed the expenditure is met either by Supplementary Demand with the approval of the Legislature or initially by advance from Consolidated Fund in anticipation of the approval of legislature.

In public account records are kept of all transactions relating to public moneys other than those of the Consolidated Fund and the Contingency Fund. Generally all transactions relating to various funds approved by Government including Provident Fund transactions of banking nature like the deposit of the Public in course of their dealings with Government, deposit if Local Bodies and remittance transactions between Government and between treasuries are recorded in the section.

Chart-II: Flow Chart of Public Finance



Note: 1. Expenditure of Consolidated Fund is subject to the approval of state Legislature /Parliament.
2. Contingency Fund is created from consolidated fund as per Article 267(I) of the Constitution.
3. Grants-in –Aid to the States as per Article 275 of the Constitution to meet the revenue deficit of the
States and plan assistance to meet the plan expenditure on the basis of distance of per capita income
from the Criterion recommended by the finance commission along with population of the States.
4. The share of Central Tax to State according to the Article 260 of the Indian Constitution on the basis

The State Budget is divided into three parts viz. (i) the annual financial statement showing the estimated receipts and net expenditure of the State including a summary of the Financial position (ii) detailed estimates of receipts under the Consolidated Fund of the State volumes (I) and (II) detailed estimates of gross expenditure from the Consolidated Fund including the proposed provision under the Development Plan Schemes (volume – II).

Besides the above, separate volumes of estimated receipt and expenditure in respect of the area covered by each Autonomous Council are printed separately. The

provision shown in Autonomous Council Budget are consolidated and incorporated in volume – I and II respectively. The Legislature is requested to vote the consolidated demand for grant shown in volume – II.

The Reserve Bank of India continues to be the Banker of the State Government. The existing arrangement of financing with Reserve Bank of India is that whenever the cash balance of the State Government fails short of the prescribed minimum of Rupees one crore and eighty lakhs the Reserve Bank of India may grant ways and Means ordinary advance to the extent of Rs. 300.00 crores to enable the State Government to cover any temporary excess of the disbursement over receipts and a further special advance to the extent of Rs. 587.23 crores of temporary nature against investment in Government of India's securities.

The details of transactions under the three parts are classified according to various Major, Sub-Heads and Detailed heads of accounts prescribed by the Comptroller and Auditor General of India.

Agricultural Public Finance also follows same pattern of financial transaction in terms of receipt and expenditure in each annual budget. In Consolidated Head of Account, there are 10 numbers of revenue expenditure heads under Agriculture & Allied Activities. These are:-2401 Crop Husbandry, 2402-Soil and Water conservation, 2403-Animal Husbandry, 2404-Dairy Development, 2405 –Fisheries, 2406-Forestry and Wild Life, 2408-Food, Storage and Warehousing, 2415-Agricultural Research and Education, 2425- Co-operation and 2435- Other Agricultural Programmes. In the public account head expenditure against capital account under Agriculture and Allied Sectors are 4401-Capital Outlay on Crop Husbandry,4402- Capital Outlay on Soil and Water Conservation,4403- Capital Outlay on Animal Husbandry, 4404- Capital Outlay on Dairy Development,4405- Capital Outlay on Fisheries, 4406- Capital Outlay on Forestry and Wildlife , 4408- Food, Storage and Warehousing, 4415- Agricultural Research and Education,4416- Agricultural Financial Institution and 4425- Co-operation.

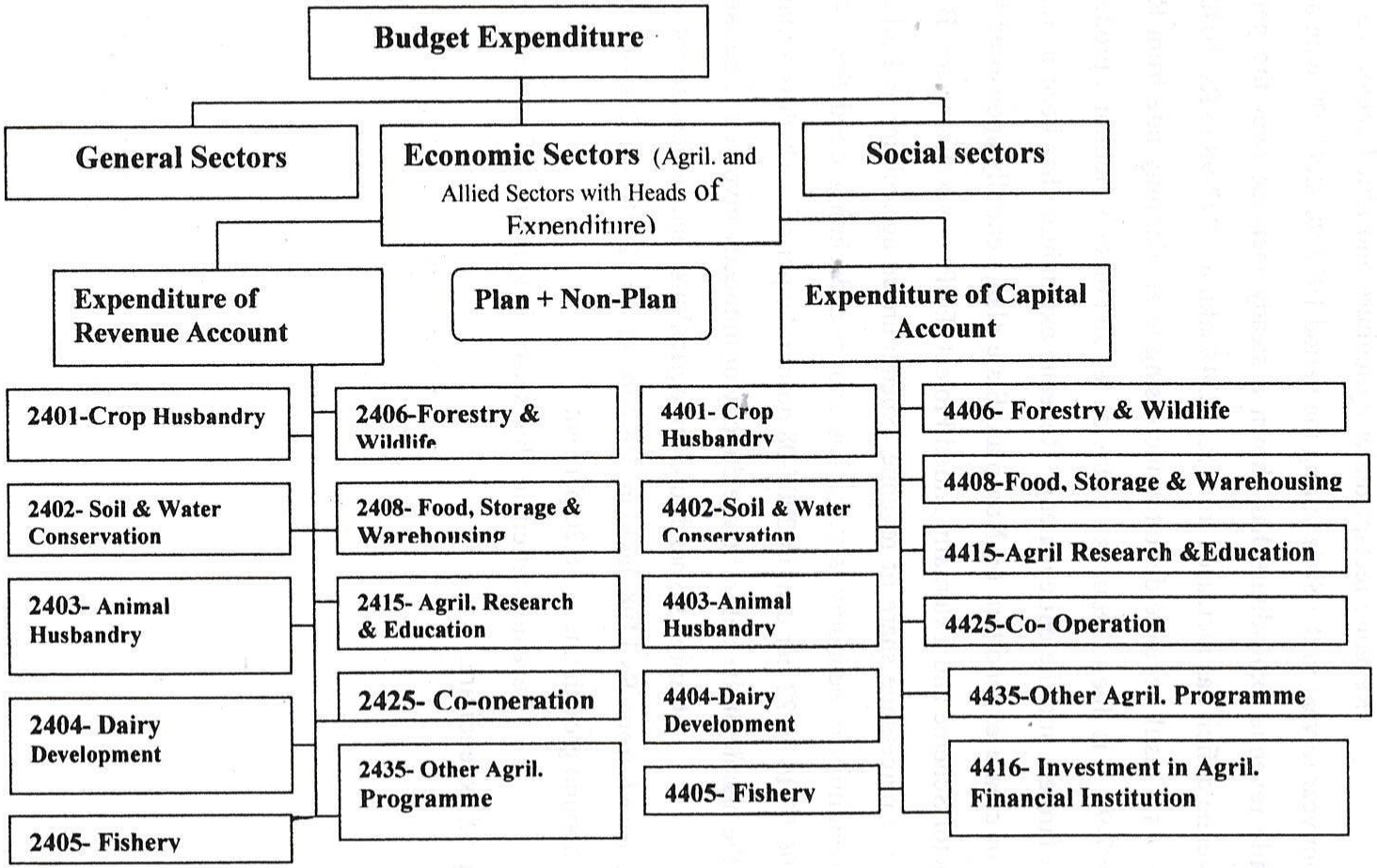
As like other heads in the annual appropriation act for unseen expenditure, a contingency fund have also been created under article 267(I) of the Constitution against Agriculture and Allied Sectors. A flow chart showing the flow of funds to different heads of development in agriculture and allied sector has been presented in Chart-III

Revenue receipt under agriculture and allied sector has a wide variation from year to year in the State during the period 1997-98 -2008-09 with a decreasing trend while revenue expenditure has shown a steady increase over the period. As a result revenue deficit has increased from Rs.22344 lakh in 1997-98 to Rs. 104072 lakh in 2008-09. As a result revenue deficit is increasing in an alarming rate from Rs. 22344 lakh in 1997-98. It is due to reduction of tax on tea and other agricultural produces to encourage the farmers and the entrepreneurs. Revenue expenditure has been increasing on account of in crease expenditure on Non-plan, State plan, centrally sponsored Schemes, Central Sector Scheme and Externally Aided Project (EAP) under this sector. But from the angle of the percentage share of revenue expenditure in agriculture and allied sector to total expenditure in economic service has shown a declining trend from 41.59 per cent in 1996-97 to 26.22 per cent in 2007-08.during the period which is a matter of concerned of the people of the state who are directly or indirectly involved in this sector.

Capital expenditure in agriculture and allied sector has significantly increased from Rs.1198 lakh in 1997-98 to Rs.121187 in 2007-08 with an over all compound growth rate at 38.20 per cent.

Revenue deficit in this sector is a matter of concern inspite increasing capital expenditure.

Chart-III : Flow Chart Showing the Flow of Funds to Different Heads of Development In Agriculture and Allied Sector



1.4. Brief Review of Agriculture Development of the State:

More than 70 per cent of the population of the State is directly or indirectly dependent on agriculture and it plays a key role in the State's economy till now. Agriculture sector contributes 26.4 per cent to Net State Domestic Product at current price during 2007-08.

1.4.1. Status of some crops in Assam:

Rice is the principal crop of Assam which is cultivated in three seasons and its rank is at one (1) in terms of area. Winter rice is dominated over Autumn Rice and Summer Rice in terms of area and production. In recent years summer rice has got a new dimension for creation irrigation facilities through Shallow Tube Well (STW) at the instance of World Bank and NABARD. Area under autumn rice is also decreasing as most of the farmers have switched over to summer rice on account of its higher productivity and inherent hazard risk ability. In quality and taste, it needs some amount of R&D support so that it can compete with winter rice.

Wheat is also cultivated in Assam and its rank in terms area is at three (3) during the period 2006-07 but the crop is yet to get the status of rice for some definite reasons. One of the reasons is that wheat is not a traditional crop of Assam.

Maize ranks at fifth, other cereal at sixth, tur at seventh, gram at eighth while sugarcane ranks at fourth and rape and mustard at second. Although rape and mustard ranks next to rice, the State is not self sufficient in oil seeds production and so is in the case of pulses and the all other crops except rice.

1.4.2. Yield Rate of Certain Crops in Assam:

Autumn and winter rice showed a negative compound growth rate of 1.31 per cent and 3.80 per cent respectively while summer rice showed a positive growth rate of 1.11 per cent during the period under observation. Wheat and total pulses showed an insignificant growth of 0.26 per cent 0.32 per cent respectively. Rape &Mustard and jute also showed a negative growth of yield i.e.-1.82 per cent for Rape &Mustard and -1.13 per cent for Jute. Low yield of crops may be interpreted as lower consumption in fertilizer, insecticides, pesticides, extension support, low profile irrigation, credit support etc.

1.4.3. Area of HYV rice in Assam:

It has been observed that the percentages of HYV area under Autumn rice increased from 46.67 per cent in 2000-01 to 54.53 percent in 2002-03, then it came down to 48.97 per cent on the preceding year 2003-04 and it rose to 50.96 per cent in 2004-05. The compound growth rate was worked out at 1.48 per cent.

The percentage of HYV Winter rice area showed a declining trend from 54.70 percent in 2000-01 to 52.78 percent in 2004-05 with a compound growth rate of -0.93 per cent. The summer rice showed an impressive growth rate of area as compared to autumn and winter rice, but the area declined from 78.72 percent in 2001 to 69.28 percent in 2003-04 and it rose to 75.14 per cent in 2004-05. The C.G.R is worked out at -2.27 per cent.

The percentage of over all HYV area against total rice area were 50.05 percent in 2000-01, 56.35 percent in 2001-02, 56.50 percent in 2002-03, 54.00 per cent in 2003-04 and 55.37 per cent with a CGR of 1.61 per sent.

The percentage of HYV rice area is increasing due to increase in area of summer rice on account of irrigation facilities created under STW schemes at instance of NABARD and World Bank Project.

1.4.4. Productivity of HYV of Rice in Assam:

The productivity HYV rice showed impressive yield rate than that over all rice productivity. The highest productivity of 2047 k/ha for autumn rice was found against the year 2000-01 then it took a down ward trend to 1642 kg /ha in 2004-05.

The productivity of winter rice also showed a declining trend from the highest yield rate of 2468 kg/ha in 2000-01 to 2303 kg/ha in 2004-05. The highest productivity of summer rice of 2440 kg/ha was found against the year 2000-01, after then it went down to 2383 kg/ha in 2001-02, 2364 kg./ha in 2002-03, 2317 kg./ha and 2296 kg/ha in 2003-04 and 2004-05 respectively.

1.4.5. Irrigation Potential Created and Utilized:

It has been observed that there was a wide gap between created and utilized i.e. too showed a declining rate of percentages during 2001-02 to 2005-06. It declined from 22.11 per cent in 2001-02 to 12.56 in 2005-06. In Assam Kharif crops are grown mostly under rain fed condition. The higher percentages of irrigation potential

have been found against Kharif crop as compared to Rabi & Pre-Kharif with a decreasing trend from 28.59 per cent in 2001-02 to 14.38 per cent in 2005-06 for kharif and in case of Rabi & Pre- Kharif came up 8.35 per cent in 2001-02 to 8.65 per cent in 2005-06.

1.5. Agricultural Productivity Growth and Stagnation across the Crops:

The state agriculture has already crossed more than 5 decades of economic planning but still it fails to lift agriculture sector of Assam from the stagnation level of productivity. There are lots of controversies among economist and agriculture scientists regarding the cause of failure of agricultural planning. One of the causes is that there is a wide gap between allocation and actual expenditure under different heads of development for which most of the developmental programmes suffer from inadequacy of plan expenditure in the State of Assam. Insufficiency in plan allocation is also one of the reasons for failure of State agriculture. Raising productivity of crops is the main goal of technological revolution of agriculture; less important is given in area expansion as it has its own limitation. The farmers of Assam are not able to adopt new technology fully for poor economic condition and lack knowledge of the farmers. In absence of one technological input or partly used of technology is the major cause in stagnation of agricultural productivity in the State. Some important input like HYV seed is not available in the right time for which the State agriculture suffers a lot. Higher productivity can be expected only when all the inputs are applied in at right proportion and at right time which is not happening in Assam. As agriculture is now –days capital intensive venture, therefore adequate credit supply to the farmers is utmost important this is still in sufficient and inadequate in the state. Be deficient in proper irrigation facilities and infrastructure is one of the major bottlenecks of agricultural stagnation in the state.

1.5.1. Growth in Production of Different Crops of Assam:

The positive compound growth rate of production were found against the crops wheat, other cereals, gram, tur, sugarcane, seasamum, rape & mustard and total oilseeds, and the negative compound growth rate of production were found against rice, maize, potato, total cereals, total pulses and total food grains. The compound growth rates were worked out at -0.83 per cent for rice , 1,26 per cent for wheat, -0.67 per cent for maize, 0.64 per cent for other cereals ,1.02 per cent for gram ,0.63 per cent for tur,-1,35 per cent for potato, 2.05 per cent for sugarcane, 0.03 per cent for Sesamum, 1.01 per cent for rape& mustard ,-0.76 per cent for total cereals, -0.33 per cent for totals pulses, -0.71

per cent for total food-grains and 0.53 per cent for total oilseeds. The highest growth rate was observed against sugarcane during the period under observation.

1.5.2. Growth in Productivity of Different Crops of Assam:

The positive compound growth rate of productivity with a very lower rate of percentages were found against the crops maize, other cereals, gram, tur, sugarcane, and seasamum, and the negative compound growth rate of productivity were found against rice, wheat, ,potato, rape & mustard ,total cereals, total pulses, total food grains and total oilseeds. The compound growth rates were worked out at -0.62 per cent for rice, -0.11 per cent for wheat, 0.50 per cent for maize, 0.03 per cent for other cereals ,0.06 per cent for gram ,0.01 per cent for tur,-0.03 per cent for potato, 0.35 per cent for sugarcane, 0.42 per cent for Sesamam, -0.06 per cent for rape& mustard ,-0.71 per cent for total cereals, -0.68 per cent for totals pulses, -0.69 per cent for total food-grains and -0.02 per cent for total oilseeds. The highest growth rate was observed against sugarcane during the period under observation.

1.5.3. Growth in Area of Different Crops of Assam:

The positive CGR of area were found against wheat (1.38), other cereal (0.61), gram (1.85), tur (0.62), sugarcane (1.70), sesamum (0.45), rape & mustard (0.68), total pulses (0.42), total food grains (0.02) and total oilseeds (0.27) while negative growth rate has been observed against rice (-0.10), maize (-0.17), potato (-0.93), total cereal (-0.05).

1.5.4. Percentage Change in the Cropping Pattern:

In the state significance changes in cropping pattern has been observed during the period from1985-86 to 2006-07. It has been observed that the rice is the still dominating crops among the cereal as it is cultivated in three seasons viz. autumn, winter and summer in the State and followed by wheat, maize and other cereals. Among the pulses, gram and tur are two major pulses grown in Assam. Among the oilseeds, rape & mustard is the dominating crop and followed by sesamum and other oil seeds such as sunflower, nizer etc. Sugarcane is also an important cash crop of Assam. But its' area is decreasing due to shifting sugarcane area to small tea gardens. The shares of percentages of area to total gross cropped area under different crops showed a little bit variation during the period of observation but the percentages of area were decreasing in all the crops except the area of potato which is matter of concerned as the State is deficit in food-grains, pulses and oilseeds.

Table-1. 3 (A)
Annual Growth Rate of Production of Different Crops in Assam

Year	Rice	Wheat	Maize	Other Cereals	Gram	Tur	Potato	Sugarcane (Cane)	Sesamum	Rape & Mustard	Total Cereals	Total Pulses	Total Food grains	Total Oilseed
1985-86	-													
1986-87	-19.34	20.11	-7.08	-0.59	-52.41	4.27	8.56	6.90	-5.90	7.56	-17.28	-9.42	-17.10	6.95
1987-88	12.17	-18.90	0.00	4.68	-2.47	-4.61	-2.71	-12.46	8.19	11.06	10.95	0.66	10.73	-8.05
1988-89	-8.92	13.49	-7.62	-2.10	4.71	-14.74	4.94	-0.99	-2.71	-8.46	-7.86	-19.18	-10.30	-13.89
1989-90	10.79	-39.77	16.00	1.13	-13.33	-11.03	-3.16	-11.88	-5.59	-14.20	9.27	-2.20	10.93	13.64
1990-91	14.54	16.51	3.10	2.58	0.00	-14.69	21.59	-9.56	2.79	14.36	14.54	-3.09	14.26	0.00
1991-92	-2.28	5.76	-9.32	9.50	25.00	2.00	9.66	-4.61	-2.57	11.29	-2.02	9.01	-1.85	10.71
1992-93	3.11	-41.30	5.60	-20.00	0.00	-25.00	-22.14	6.07	0.00	-28.99	2.05	-4.31	1.97	-26.65
1993-94	1.83	21.92	-7.76	0.00	-100.00	0.00	23.55	-12.66	0.00	-4.55	2.37	10.35	2.49	-3.46
1994-95	-1.57	2.70	7.94	0.00	0.00	0.00	10.55	8.70	12.50	12.00	-1.41	4.04	-1.31	11.61
1995-96	2.39	-8.94	3.08	16.67	0.00	0.00	-12.26	-1.01	0.00	-4.90	2.11	-4.03	2.02	-5.14
1996-97	-1.86	18.79	0.00	-20.00	0.00	20.00	12.82	-16.37	0.00	-1.42	-1.18	16.52	-0.82	2.57
1997-98	1.62	-6.36	11.56	7.24	33.77	-6.61	13.83	0.55	3.26	8.78	1.42	-6.05	1.27	8.11
1998-99	-3.93	-20.99	-5.00	1.10	-0.67	12.99	-9.97	-5.22	-0.73	-13.96	-4.39	6.52	-4.18	-15.93
1999-00	15.70	7.14	0.00	-9.00	-50.00	-7.80	12.71	-5.94	-2.63	-5.14	15.40	-7.81	15.04	-4.90
2000-01	3.45	-13.95	6.67	0.00	0.00	0.00	-3.40	-16.90	0.00	8.51	3.09	5.88	3.00	17.34
2001-02	-3.76	-1.18	11.76	-25.00	0.00	0.00	-9.02	2.27	0.00	-2.92	-3.66	4.23	-3.45	0.57
2002-03	-3.10	-8.97	-21.43	0.00	0.00	0.00	-5.25	-10.37	0.00	-5.38	-3.29	-7.58	-3.44	-20.83
2003-04	3.66	-6.85	0.00	0.00	0.00	0.00	-8.66	6.63	0.00	5.80	3.45	-4.76	3.47	5.26
2004-05	0.00	-7.35	0.00	0.00	0.00	0.00	7.81	-10.97	-14.29	-6.98	-0.13	-1.61	-11.53	-0.53
2005-06	-9.20	-25.93	0.00	20.00	0.00	0.00	-66.38	-3.27	-16.67	-32.99	-9.38	-12.73	1.69	-38.72
2006-07	-21.84	19.40	0.00	-25.00	0.00	0.00	29.90	18.86	0.00	16.38	-20.83	5.17	-20.27	14.84

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Table-1.3 (B)

Annual Growth Rate of Productivity of Different Crops in Assam

Year	Rice	Wheat	Mauze	Other Cereal	Gram	Tur	Potato	Sugarcane	Sesamum	Rape & Mustard	Total Cereals	Total Pulses	Total Foodgrains	Total Oilseed
1985-86	-													
1986-87	-10.74	-3.59	-1.12	-1.70	-5.67	7.72	4.66	8.84	0.56	1.38	-10.45	-12.41	-10.77	-39.63
1987-88	10.29	2.60	0.54	3.83	-0.22	8.37	1.49	-2.86	0.41	3.30	9.95	9.11	10.21	25.22
1988-89	-7.31	6.45	0.61	-5.33	7.65	-7.87	-1.92	1.33	3.10	-4.25	-6.65	-9.76	0.98	-7.27
1989-90	5.60	-22.42	12.02	4.54	-8.41	2.03	-3.16	-3.89	-2.75	-7.36	4.76	6.87	-2.08	15.70
1990-91	11.34	24.70	-12.18	-1.28	3.03	-14.69	19.96	-1.04	-1.35	17.09	11.69	-5.37	12.72	0.00
1991-92	-4.15	14.18	0.76	10.36	25.00	8.81	5.68	-10.49	-2.57	8.83	-3.42	6.14	-3.01	8.36
1992-93	4.97	-36.55	4.08	-7.31	3.13	-23.13	-25.90	1.13	0.68	-23.45	3.98	2.56	2.54	-21.48
1993-94	1.71	16.64	-0.92	3.23	-93.55	9.09	23.07	-3.28	-2.74	-0.58	2.13	10.34	2.25	-0.27
1994-95	1.45	0.98	0.13	0.00	0.00	0.00	-0.91	10.37	6.67	11.37	1.38	4.40	1.38	10.56
1995-96	0.28	-16.40	3.58	-1.85	0.00	0.00	-15.22	-1.01	0.00	-4.15	-0.20	-2.25	-0.15	-4.25
1996-97	-1.38	16.80	0.00	-9.09	0.00	6.67	13.76	14.69	0.00	-0.33	-0.77	6.64	-0.93	0.56
1997-98	1.69	-2.49	11.10	2.69	34.22	-1.13	11.48	-16.86	4.66	8.04	1.59	-4.57	1.52	6.78
1998-99	-2.43	-28.56	-9.38	0.54	-1.34	-0.38	-12.45	-4.24	-1.82	-23.17	-3.20	-1.30	-3.46	-23.33
1999-00	9.10	21.59	0.00	-13.65	0.00	1.49	12.71	-8.84	3.43	12.35	9.53	1.82	9.93	-5.21
2000-01	3.45	-4.96	6.67	0.00	-50.00	0.00	-8.77	0.00	0.00	0.00	3.30	1.26	3.42	22.72
2001-02	0.51	-4.07	11.76	9.09	33.33	0.00	-7.67	2.27	0.00	-2.17	0.49	-0.36	-0.21	-0.05
2002-03	-3.23	-4.43	-21.43	0.00	0.00	0.00	1.32	-2.20	6.67	-1.12	-3.29	-2.78	-2.82	-33.96
2003-04	-10.16	-8.40	0.00	0.00	0.00	0.00	-13.00	6.63	0.00	4.71	3.78	1.43	3.65	6.96
2004-05	8.25	1.85	5.00	0.00	0.00	0.00	13.72	-6.53	-6.12	0.72	5.74	3.01	-5.02	6.99
2005-06	0.79	1.62	0.00	20.00	0.00	14.29	-59.55	2.74	1.28	-15.08	-10.39	-2.69	1.18	2.88
2006-07	-21.81	19.40	0.02	-17.19	0.00	-16.67	22.11	4.45	9.09	5.85	-20.80	-0.55	-9.09	2.41

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1. 6. Land use Pattern: (Table-1.4)

Land use pattern in Assam remained same during the period 1985-86 to 1989-90 except a little bit of changes in case of total cropped area and area sown more than once. Land under non-agricultural uses during the period was 11.64 per cent, net area sown 34.46 per cent, land under miscellaneous crops 3.15 percent, barren & uncultivable land 19.63 per cent, permanent pasture & grazing land 2.34 per cent, fallow land other than current fallow 1.07 per cent, culturable waste land 1.32 per cent, current fallow 1.12 per cent and forest area 25.27 per cent. The percentages of total cropped area increased from 48.36 per cent in 1985-86 to 50.92 per cent in 1997-98and again marginally decreased to 50.24 per cent in 1998-99 and came down to 52.16 per cent in 2000-01. In brief, the total cropped area showed an increasing trend during the period due to increase in summer rice area for installation of shallow tube well irrigation at the instance of NABARD and ARIASP since 1996-97. and then to 50.79 per cent in 2001-02 where as the area sown more than once also increased from 13.91 per cent in 1985-86 to 16.55 per cent in 2000-01 and it came down to 15.42 per cent in 2001-02. During the period 1992-93 to 2001-02, there was a tendency of changing land use pattern. In 1992-93, land under non-agricultural used increased to 12.91 per cent from 11.6. per cent in 1989-90 and further increased up to 14 .13 per cent in 2000-01 and came down to 13.78 per cent in 2001-02.

In 1989- 90 net areas sown turned to an increasing trend from 1989-90 and it varied between 35.07per cent and 35.61 per cent in 2000-01.Land under miscellaneous trees/grooves, came down to 2.80 per cent in 1992-93 from preceding year1989-90 and it further went down to 2.66 per cent in 2001-02. It happens due to development of small tea gardens in these areas. Similar trends were also observed in case of Barren & Uncultivable land, Permanent pasture & Grazing Land, fallow land other than current fallow, Cultivable waste land, and Forest area while land under Current Fallow showed an increasing trend with 1.26 per cent in 2001-02 from 1.12 per cent in 1989-90.

1.6.1. Workers engaged in agriculture Sectors:

The proportion of cultivators gradually declined from 64.69 percent in 1961 census to 56.85 per cent in 1971, 50.90 per cent in 1991, and to 39.11 per cent in 2001. At present agriculture becomes capital intensive and most of the times farmers are not able to afford the required expenditure for which it becomes unsustainable for their

Table - 1.4
Land Use Pattern of Assam.

Year	Geographical area	Non agril. Uses	Net area sown	Land under Misc. tree/ groves	Barren & Uncultivable Land	Permanent pasture & Grazing Land	Fallow land other than current fallow	Culturable waste land	Current Fallow	Forest	Total Cropped area	Area sown more than once
1985-86	7852.00	914.00	2706.00	247.00	1541.00	184.00	84.00	104.00	88.00	1984.00	3797.00	1092.00
P.C.	*100.00*	*11.64*	*34.46*	*3.15*	*19.63*	*2.34*	*1.07*	*1.32*	*1.12*	*25.27*	*48.36*	*13.91*
1986-87	7852.00	914.00	2706.00	247.00	1541.00	184.00	84.00	104.00	88.00	1984.00	3646.00	940.00
P.C.	*100.00*	*11.64*	*34.46*	*3.15*	*19.63*	*2.34*	*1.07*	*1.32*	*1.12*	*25.27*	*46.43*	*11.97*
1987-88	7852.00	914.00	2706.00	247.00	1541.00	184.00	84.00	104.00	88.00	1984.00	3700.00	995.00
P.C.	*100.00*	*11.64*	*34.46*	*3.15*	*19.63*	*2.34*	*1.07*	*1.32*	*1.12*	*25.27*	*47.12*	*12.67*
1988-89	7852.00	914.00	2706.00	247.00	1541.00	184.00	84.00	104.00	88.00	1984.00	3659.00	953.00
P.C.	*100.00*	*11.64*	*34.46*	*3.15*	*19.63*	*2.34*	*1.07*	*1.32*	*1.12*	*25.27*	*46.60*	*12.14*
1989-90	7852.00	914.00	2706.00	247.00	1541.00	184.00	84.00	104.00	88.00	1984.00	3761.00	1056.00
P.C.	*100.00*	*11.64*	*34.46*	*3.15*	*19.63*	*2.34*	*1.07*	*1.32*	*1.12*	*25.27*	*47.90*	*13.45*
1992-93	7848.00	1013.00	2777.00	220.00	1460.00	163.00	70.00	89.00	72.00	1984.00	3926.00	1149.00
P.C.	*100.00*	*12.91*	*35.38*	*2.80*	*18.60*	*2.08*	*0.89*	*1.13*	*0.92*	*25.28*	*50.03*	*14.64*
1996-97	7843.80	1044.64	2744.12	243.12	1447.91	169.49	69.49	87.10	113.84	1930.29	3988.60	1244.48
P.C.	*100.00*	*13.32*	*34.98*	*3.10*	*18.46*	*2.16*	*0.89*	*1.11*	*1.45*	*24.61*	*50.85*	*15.87*
1997-98	7843.80	1044.64	2751.18	243.12	1448.42	169.49	67.42	85.92	109.54	1930.29	3993.99	1242.82
P.C.	*100.00*	*13.32*	*35.07*	*3.10*	*18.47*	*2.16*	*0.86*	*1.10*	*1.40*	*24.61*	*50.92*	*15.84*
1998-99	7843.80	1051.38	2701.05	235.79	1458.84	166.97	81.71	80.19	143.77	1930.29	3940.65	1239.59
P.C.	*100.00*	*13.40*	*34.44*	*3.01*	*18.60*	*2.13*	*1.04*	*1.02*	*1.83*	*24.61*	*50.24*	*15.80*
2000-01	7843.80	1107.95	2793.28	208.66	1452.68	159.97	67.04	76.36	79.84	1932.72	4091.70	1298.42
P.C.	*100.00*	*14.13*	*35.61*	*2.66*	*18.52*	*2.04*	*0.85*	*0.97*	*1.02*	*24.64*	*52.16*	*16.55*
2001-02	7843.80	1080.57	2774.46	208.66	1452.75	159.97	65.63	76.63	98.62	1932.72	3983.64	1209.18
P.C.	*100.00*	*13.78*	*35.37*	*2.66*	*18.52*	*2.04*	*0.84*	*0.98*	*1.26*	*24.64*	*50.79*	*15.42*

Sources : (1) Agricultural Statistics at a Glance 2002, (2) Statistical HandBook of Assam 2002, (3) Statistical Abstract India 1982, 2000.

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Total-1.5

Percentage Change in the Cropping Pattern

Year	Rice	Wheat	Maize	Other Cereals	Gram	Tur	Potato	Sugarcane	Sesamum	Rape & Mustard	Total Cereals	Total Pulses	Total Foodgrains	Total Oilseed	GCA ('000Ha.)
1985-86	64.90	2.44	0.51	0.26	0.14	0.27	1.42	1.26	0.40	7.66	68.11	3.70	71.82	8.81	3797
1986-87	62.73	3.29	0.50	0.28	0.10	0.27	1.54	1.29	0.39	8.50	66.80	3.96	70.76	13.78	3646
1987-88	63.14	2.66	0.49	0.27	0.10	0.23	1.46	1.16	0.42	9.14	66.56	3.57	70.13	9.40	3700
1988-89	62.89	2.91	0.46	0.29	0.09	0.22	1.58	1.15	0.40	8.83	66.55	3.33	69.88	8.95	3659
1989-90	64.75	2.48	0.47	0.27	0.09	0.19	1.54	1.04	0.37	8.08	67.96	3.01	71.02	8.50	3761
1990-91	63.09	2.10	0.51	0.26	0.08	0.18	1.48	0.90	0.37	7.37	65.96	2.83	67.89	7.98	4004
1991-92	67.03	1.99	0.48	0.27	0.08	0.17	1.61	0.99	0.38	7.90	69.78	3.04	71.67	8.55	3837
1992-93	64.25	1.88	0.48	0.24	0.08	0.17	1.62	1.02	0.37	7.39	66.85	2.78	69.64	8.02	3926
1993-94	66.17	2.07	0.46	0.24	0.08	0.16	1.68	0.94	0.39	7.31	68.94	2.86	71.80	7.99	*3817*
1994-95	61.32	2.01	0.48	0.23	0.08	0.15	1.81	0.90	0.40	7.03	64.04	2.72	66.76	7.72	3996
1995-96	62.66	2.15	0.48	0.28	0.08	0.15	1.85	0.90	0.40	6.98	65.56	2.68	68.25	7.66	*3995*
1996-97	62.47	2.20	0.48	0.25	0.08	0.18	1.84	0.83	0.40	6.92	65.40	3.00	68.41	7.83	3989
1997-98	62.34	2.12	0.48	0.26	0.07	0.17	1.89	0.78	0.39	6.99	65.20	2.95	68.15	7.93	3994
1998-99	62.27	2.28	0.51	0.27	0.08	0.19	1.95	0.74	0.40	7.26	65.33	3.22	68.54	8.55	3941
1999-00	66.47	1.91	0.50	0.28	0.05	0.18	1.93	0.68	0.38	6.88	69.15	2.91	72.07	8.49	3981
2000-01	64.67	1.71	0.49	0.27	0.07	0.17	1.98	0.66	0.37	6.70	67.14	2.98	69.85	7.72	4092
2001-02	63.69	1.81	0.50	0.20	0.05	0.18	2.01	0.68	0.38	6.83	66.20	2.96	69.16	7.98	3984
2002-03	64.17	1.74	0.51	0.20	0.05	0.18	1.89	0.63	0.35	6.59	66.62	2.80	69.43	19.73	*3958*
2003-04	63.94	1.77	0.51	0.20	0.05	0.18	1.97	0.63	0.35	6.67	66.41	2.91	69.32	7.86	3957
2004-05	60.03	1.61	0.48	0.20	0.05	0.18	1.84	0.60	0.33	6.17	62.32	2.72	65.06	7.30	3970
2005-06	61.16	1.26	0.48	0.20	0.05	0.15	1.77	0.58	0.28	5.36	63.10	2.53	65.63	6.42	3957
2006-07	61.42	1.27	0.48	0.19	0.05	0.18	1.98	0.69	0.25	6.04	63.36	2.72	60.48	6.62	*3940*

Source: Statistical Hand Book, Assam

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livelihood. Farmers have begun to shift from agriculture sector to other sector for their survival. For this reason, the proportion of cultivators was taking a downward trend. On the contrary, the proportion of agricultural labour increased from 3.65 per cent in 1961 to 9.58 per cent in 1971 and further went up to12.08 percent in 1991 and to 13.25 percent in 2001. Un economic land holding and landless individuals in the house holds on account of subdivision land due to increase of population are the two main reasons for increasing landless labour.

1.6.2. Numbers of holdings and Area Operated:

In Marginal (Below 1.00 ha.) size group ,the number of holdings was 62.22 per cent in 1995-96 against 62.65 per cent in 2001 of the total number of holdings with an increase of 1.79 per cent over the year 1995-96.

Small (1.00-2.00ha.), Semi-medium (2.00 4.00ha.), Medium (4.00-10.00 ha.) and Large (10.00 & above) size groups, exhibited an opposite picture to that of marginal group. It was observed that the percentage of number of holdings in Small size group decreased from 20.91 percent in 1995-96 to 20.69 percent in 2000-01 with a decrease of 0.01 per cent. In semi medium size group the percentage was 13.09 percent in 1995-96 against 12.09 per cent in 2000-01 with an increase of 0.08 per cent during the period 1995-96-2000-01.In medium size group the number of holdings decreased marginally from 3.59 percent in 1995-96 to 3.52 per cent in 2000-01 with a decrease of 0.95 percent in 2000-01over 1995-96 while in large size group the percentage number of holdings remained almost same during the period.

It has been observed that the percentages area to total area in marginal size group increased from 19.80 percent in 1995-96 to 21.29 percent in 2000-01 with an increase of 6.66 percent in 2000-01 over 1995-96. In small size group, the percentage of area operated marginally came down to 23.46 percent in 2000-01 from 24.52 percent in 1995-96 with a decrease of 5.09 percent in 2000-01 over 1995-96 while in semi-medium group it raised from 29.45 percent in 1995-96 to 30.77 percent in 2000-01 with an increase of 3.65 percent during the period. In medium size group, it also marginally increased from 15.76 percent in 1995-96 to 16.02 percent in 2001 with an increase of 0.84 percent during the period. In large size group , the percentage of area operated to

total area operated came down to 8.46 percent in 2000-01 from 10.47 percent in 1995-96 with a significant decrease of 19.77 percent in 200-01 over 1995-96.

The numbers of holdings and operated area as per agricultural census in Assam has been increasing from 1964376 in 1970-71 to 2253654 in 1976-77, 229788 in 1980-81, 2419156 in 1985-86, 2523379 in 1990-91, 2682997 in 1995-96 and 271137 in 2000-01. Total operated area (in thousand hectare) against no. of holdings has also increased from 2882 in 1970-71 to 3079 in 1976-77, 3121 in 1980-81, 3161 in 1985-86, 3205 in 1990-91, 3138 in 1995-96 and 3114 in 2000-01. From the table it has also been observed that the average size of holdings has decreased from 1.47 in 1970-71 to 1.37 in 1976-77, 1.36 in 1980-81, 1.31 in 1985-86, 1.27in 1990-91, 1.17 in 1995-96 and 1.15 in 2000-01 along with increased of no. of holdings.

1.7. Objectives:

In the light of the above observation, the present study has been under taken under the guide line of Co-ordinating Centre ADRT (Agricultural Development and Rural Transformation Unit). The study will focus on the following specified objectives:

1. To analyse the trend in budgetary allocation of resources to the agricultural sector as a whole and the sub-sectors of agriculture in particular in the State.
2. To document and analyse schemes under operation in the State contributing to the development of the agriculture sector.
3. To enlist and analyse the impact of Central sector schemes operating in the agricultural sector of the State.

1.8. Methodology:

The study is based on secondary level data collected from the State Budget Documents for financial resources allocated against 13 nos. sectors of Agriculture and allied sectors. These are

1. Crop Husbandry,
2. Soil and Water conservation,
3. Animal Husbandry,
4. Dairy Development,
5. Animal Husbandry,

6. Forestry & Wild life,
7. Food, storage & Warehousing,
8. Agriculture Research & Education
9. Co-operation
10. Agricultural Finance Institution.

Time series data is used as per objectives and prescribed tabulation model given by the Co-ordinating Centre.

1.9. Organization of the Study:

It is done as per guideline of the coordinating centre. Keeping in view to the objectives, the study was divided into five major Chapters. Each chapter was further divided into some sub chapters. The whole organization of the study was framed as follows:

1. Chapter- I Introduction

1.1.: Introduction

1.2: Profile of the State

1.3: Agriculture and Public Finance

1.4: Brief Review of Agriculture Development of the state

1.5: Agricultural Productivity Growth and Stagnation across Crops

1.6: Objectives

!.7: Methodology

1.8: Organization of the Study

2. Trends and Pattern of Budgetary Expenditure on Agriculture

2.1: Introduction

2.2: Trends of budgetary agricultural expenditure

a. Growth of budgetary expenditure on agriculture at constant price
b. Growth of per hector budgetary expenditure on agriculture
c. Expenditure as a share of total budget
d. Expenditure as a share of expenditure4 on economic services
e. Expenditure on agriculture as a percentage of NSDP
f. Changes in the composition of expenditure on agriculture

2.3: SAP and changing nature of expenditure on agriculture

2.4: Conclusions

3. Agricultural Development Schemes

3.1: Introduction

3.2: Centrally Sponsored Schemes

3.3: State Sector Schemes

3.4: Externally Funded Schemes

3.5: Brief Review of Available Evaluation studies by schemes

3.6: Conclusion

4. Nexus between State Intervention and Agricultural Development

4.1: Introduction

4.2: Impact of agricultural expenditure on production, NSDP and Poverty

4.3: Impact of agricultural expenditure on farm sector distress

4.4: Impact of government schemes on agriculture development

4.5: Conclusion

5. Summary and Conclusion

1.10. Reference year of the Study:

The data relates to the last 20 years commence from 1985-86 to 2005-2006.

Trends and Pattern of Budgetary Expenditure on Agriculture

2.1 Introduction:

As agriculture is a State subject, obviously, the budgetary resources for agricultural development are allocated primarily by the State in addition to the Plan resources given from the Central Pool. Over the years, the financial resource allocations by the States in agriculture sector through their budgetary resources have been shrinking specially in some of the States. This shrinkage of public investment in agriculture sector is a major cause of concern on the agricultural growth. It is also a matter of concern that while agriculture accounts for nearly a quarter of national GDP, the share of public sector outlays on agriculture and allied activities is disproportionately low and has been dwindling over time. During the first year of the Ninth Five Year Plan (1997-1998) the share of agriculture and allied activities to the total Plan outlay of the country was 4.5 per cent which came down to 3.9 per cent in 2004-2005 and further down to 3.8 per cent in 2005-2006. Similarly, the share of capital formation in agriculture in the total gross capital formation declined to 10.5 per cent in 2001 from 18.6 per cent in 1980-81.Investment in agricultural research has only 0.8 per cent as against 2 to 3 per cent in many other countries. Particularly, there is a need to strengthen research and development efforts to generates and disseminate quality seeds of all crops, especially pulses, oilseeds and other crops which merit immediate attention for agricultural diversification. (Reports of the Commission for Agricultural Costs and Prices for the crops sown during 2003-2004 season, Department of Agricultural and Co-operation, Ministry of Agriculture, Government of India New Delhi-2004 p.350)

2.2 Trends of Budgetary Agricultural Expenditure:

Budgetary revenue and capital expenditure during the period from 1987-88 to 2008-09, has been divided into three major parts on the basis of demand of the study. These are- total expenditure on revenue and capital heads of accounts as a whole in the State, the expenditure on Economic Service and the expenditure on Agriculture & allied sector respectively which has been presented in Table-2.1.

Table-2.1
Trend in Expenditure on Agriculture

(Rs. In Lakhs)

Year	Total			Economic Service			Expenditure on Agri. & Allied		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
1987-88	132548	22771	155319	35328	17418	52746	21943	1074	23017
1988-89	143542	16747	160289	34909	13976	48885	20058	1263	21321
1989-90	166878	24808	191686	46476	20581	67057	26046	1777	27823
1990-91	192040	24697	216737	53480	21152	74632	33007	2003	35010
1991-92	231330	31054	262384	62771	26950	89721	38586	2621	41207
1992-93	261529	35274	296803	77255	31439	108694	23966	2139	26105
1993-94	290117	25080	315197	63901	21721	85622	25362	2228	27590
1994-95	327071	27719	354790	73963	23402	97365	28594	2584	31178
1995-96	357576	30370	387946	88811	24501	113312	45782	1715	47497
1996-97	357131	24221	381352	69751	22102	91853	29408	8	29555
1997-98	403855	32931	436786	73508	29524	103032	30775	1198	31973
1998-99	441634	36380	478014	85060	31397	116457	32937	1859	34796
1999-00	584567	48247	632814	99959	42041	142000	40751	4308	45059
2000-01	641711	56148	697859	104583	51892	156475	40261	13514	53775
2001-02	684624	51315	735939	121522	40902	162424	42542	9626	52168
2002-03	711250	50553	761803	109475	47233	156708	36221	1824	38045
2003-04	844979	62199	907178	154683	56490	211173	47814	21397	69211
2004-05	1022914	218053	1240967	226470	210993	437463	48791	32373	81164
2005-06	1053631	108532	1162163	233671	102984	336655	45779	27545	73324
2006-07	1145653	145298	1290951	266889	127468	394357	61358	40157	101515
2007-08	1735281	310508	2045789	339168	153590	492758	86893	92347	179240
2008-09	2003932	373364	2377296	383049	309023	692072	104366	121187	225553

Source: Budget in Brief, Government of Assam

Total Revenue Expenditure = General Service + Social and community service + Economic Service + Grants in aid and contribution

General Service = Organs of State + Fiscal Service + Interest payments and Saving of Debt + Administrative Service +Pension and Miscellaneous service

Social and Community Service = Education, Art and Culture + Medical, Family Planning, Public Health and Sanitation + Others

Economic Service = General Economic Service + Agriculture & allied Service + Industrial and Mineral + Water and Power Development + Transport and Communication + Other Economic Service

The total expenditure includes expenditure under four major heads i.e. the expenditure under (i) General Services (ii) Social & Community Services (iii) Economic Services and (iv) Grants-in- Aid. Each expenditure head is further divided into sub heads as per targeted pre-fixed policy initiatives for development of the State in each Annual Budget. The expenditure on Agriculture & allied sector is a part or a sub division under Economic Services.

Expenditure under revenue heads in the state has increased from Rs. 1,32,548 lakh in 1987-88 to Rs. 20, 03,932 in 2008-09 showing a compound growth rate of 2.63 percent during the period while expenditure under capital heads it has increased from Rs.22, 771 lakh in 1987-88 to Rs.3,73,364 lakh in 2008-09 displaying a compound growth rate of 1.9 percent during the period. Combining expenditure under revenue heads and under capital heads, the compound growth rate occurred at 2.79 per cent.

Revenue Expenditure under the head of Economic Service in the State has increased from Rs. 35,328 lakh in 1987-88 to Rs. 3,83,049 in 2008-09 showing a compound growth rate of 2.58 percent during the period while expenditure under capital heads it has increased from Rs.17,148 lakh in 1987-88 to Rs.3,09,023 lakh in 2008-09 with a compound growth rate of 1.26 percent during the period. Combining expenditure in Economic Service under revenue heads and under capital heads, the compound growth rate occurred at 2.52 per cent.

Revenue Expenditure under the head of Agriculture and allied in the state has increased from Rs. 21,943 lakh in 1987-88 to Rs. 1,04,366 in 2008-09 showing a compound growth rate of 4.35 percent during the period while expenditure under capital head has increased from Rs.1,074 lakh in 1987-88 to Rs.1,21,187 lakh in 2008-09 with a compound growth rate of -3.36 percent during the period. Combined expenditure in Economic Service under revenue heads and under capital heads, exhibited a compound growth rate of 3.26 per cent.

The trend in expenditure on Agriculture of Revenue Account at Current Price is presented in Table -2.2. The expenditure has increased from Rs. 16,518.00 lakhs in 1986-87 to Rs. 38,586.00 lakhs then it has taken a downward trend to Rs. 28,594.00 lakhs in 1994-95. In 1995-96 it rose up to Rs. 45,782.00 lakhs then it again came down to Rs. 36,221 lakhs in 2002-03. The upward trend was started again from Rs 47,814.00 lakha in 2003-04 to Rs. 1,04,366.00 lakh in 2008-09.

2.2. a. Annual Growth Rate of Budgetary Expenditure on Agriculture:

Annual Growth rate of Expenditure under revenue heads and expenditure under capital heads in the State as a whole including Economic Services and agriculture and allied sectors has also been observed. A wide variation of change has been observed from year to year during the period under observation. In the State level, the highest relative

Table-2.2
Trend in Expenditure on Agriculture of Revenue Account at Current Price (Rs, in lakh)

Year	Expenditure on Agriculture of Revenue Account at Current Price
1986-87	16518
1987-88	21943
1988-89	20058
1989-90	26046
1990-91	33007
1991-92	38586
1992-93	23966
1993-94	25362
1994-95	28594
1995-96	45782
1996-97	29408
1997-98	30775
1998-99	32937
1999-00	40751
2000-01	40261
2001-02	42542
2002-03	36221
2003-04	47814
2004-05	48791
2005-06	45779
2006-07	61358
2007-08	86893
2008-09	104366

changes of percentages of 51.47 per cent appeared under revenue heads against the year 2007-08 while the lowest -0.12 per cent was found against 1996-97. An abrupt change of achievement of expenditure of 250.57 per cent under capital head was found during 2004-05 followed by a negative growth rate of -50.23 per cent in the preceding year 2005-06. The year 2004-05 could be considered as the turning point of relative changes of expenditure. The lowest negative growth rate of -92.02 per cent was observed against the year 1996-97.

The higher growth of 41.30 per cent under revenue expenditure under the head of Economic Service was observed during the year 2003-04 and the highest growth of capital expenditure of 273.51 per cent was observed during 2004-05 followed by a

negative growth of -51.19 per cent which exhibited a similar trend of capital expenditure in the State as a whole .

Table-2.3

Expenditure on Agriculture of Revenue Account as a Share of Total Budget and as a Share of Economic Service (Rs. In Lakhs)

Year	Total Budget Expenditure	Expenditure on Agri. of Revenue Account	Share of Expenditure on Agri. of Revenue Account to total budget	Expenditure on Economic Service	Share of Expenditure on Economic Service To total budget expenditure
1986-87	NA	16518	NA	31366	52.66
1987-88	NA	21943	NA	35328	62.11
1988-89	NA	20058	NA	34909	57.46
1989-90	NA	26046	NA	46476	56.04
1990-91	NA	33007	NA	53480	61.72
1991-92	509593	38586	7.57	62771	61.47
1992-93	550917	23966	4.35	77255	31.02
1993-94	614306	25362	4.13	63901	39.69
1994-95	861970	28594	3.32	73963	38.66
1995-96	795398	45782	5.76	88811	51.55
1996-97	781222	29408	3.76	69751	42.16
1997-98	759640	30775	4.05	73508	41.87
1998-99	932721	32937	3.53	85060	38.72
1999-00	1106416	40751	3.68	99959	40.77
2000-01	1280948	40261	3.14	104583	38.50
2001-02	1293384	42542	3.29	121522	35.01
2002-03	1830617	36221	1.98	109475	33.09
2003-04	2278136	47814	2.10	154683	30.91
2004-05	2763270	48791	1.77	226470	21.54
2005-06	NA	45779	NA	233671	19.59
2006-07	9024961	61358	0.68	266889	22.99
2007-08	7310095	86893	1.19	339168	25.62

Source: Assam Budget in Brief, Govt. of Assam

The revenue and capital expenditure under the head of Agriculture and allied service also exhibited a mixed trend. The highest annual growth of revenue expenditure of 60.11 per cent was found during 1995-96 followed by negative annual growth rate of -35.11 per cent in the preceding year of 1996-97. The highest capital

expenditure of 129.96 per cent stood against the year 2007-08 but it came down to 31.23 per cent in the preceding year of 2008-09.

In sum the public investment as revenue expenditure and capital expenditure was more erratic with a wide variation from year to year.

Table-2.4
Trend of per hectare budgetary expenditure in Agriculture (Rs. In lakhs)

Year	Gross Cropped Area ('000Ha.)	Agriculture	Per Hectare Expenditure
1987-88	3646	4475.5	122.75
1988-89	3700	4427.19	119.65
1989-90	3659	2939.7	80.34
1990-91	3761	5715.47	151.97
1991-92	4004	6673.85	166.68
1992-93	3837	5524.41	143.98
1993-94	3926	6972.16	177.59
1994-95	3817	10220.55	267.76
1995-96	3996	6840.89	171.19
1996-97	3995	8467.31	211.95
1997-98	3989	7221.44	181.05
1998-99	3994	8911.44	223.12
1999-2000	3941	8469.73	214.93
2000-01	3981	11871.45	298.2
2001-02	4092	11348.59	277.36
2002-03	3984	13848.33	347.63
2003-04	3958	8518.29	215.22
2004-05	3957	13237.09	334.52
2005-06	3970	12542.59	315.93
2006-07	3957	14705.03	371.62
2007-08	3940	17879.6	453.8
2008-09	3940	29169.52	740.34

The expenditure on Agriculture of Revenue Account as a share of Total Budget and as a Share of Economic Service is presented in Table 2.3.The share of total budget of expenditure on Agriculture revenue account has declined from 7.57 per cent in 1991-92 to 1.19 per cent in 2007-08. Similarly the share of expenditure on economic

service to total budget expenditure has also declined from 52.66 per cent in 1986-87 to 27.25 per cent in 2008-09. The highest percentage of expenditure 61.72 per cent has been seen in the year 1991-92.

2. b. Growth of per hectare budgetary expenditure on agriculture:

Per hectare revenue expenditure in Crop Husbandry sector has been presented in Table- 2.4. It was observed that per hectare revenue expenditure has shown an increasing trend from Rs.122.75 in 1986-87 to Rs.740.34 with compound growth at the rate of 8.52 per cent with variation from year to year. The lowest per hectare revenue expenditure of Rs.80.34 was seen in the year 1988-89.

2.2. c. Relative share of expenditure in Economic service and its' share in Agriculture and Allied sector:

The annual percentage share of revenue expenditure in Economic service under the revenue head has been decreased from 26.65 per cent in 1987-88 to 19.11 per cent in 2008-09 showing a steady declining trend while under the capital head, its relative percentage under the capital head has increased steadily from 76.40 per cent in 1987-88 to 82.77 per cent in 2008-09

The percentage share of revenue and capital expenditure in Agriculture and allied sector of the States' total have also been worked out in this table in order to high light the changes in expenditure in each year during the period from 1987-88 to 2008-09 . The percentage changes of expenditure under revenue head in Agriculture and allied sector were 16.55 in 1987-88 and declined to 13.97 per cent in 1988-89 and then it rose to 19.22 per cent in 1992-93.It came down to 8.74 per cent in 1993-94 and 1994-95. It rose to 12.80 per cent in 1995-96 and again came down to 8.23 per cent in 1996-97after this it steadily declined to 5.21 per cent in 2008-09.But incase of capital expenditure; it displayed an opposite picture to that of revenue expenditure. It was 4.72 per cent in 1987-88 and it rose up to 32.46 per cent in 2008-09.

2.2.d. Share of percentage in agriculture and allied service to Economic Service:

The percentage the share of percentage revenue expenditure in agriculture and allied service to Economic Service has been found a declining trend from 62.11 per cent in 1987-88 to 27.25 per cent in 2008-09. The highest share of 65.07 per cent was found in the year 1992-93and the lowest 21.54 per cent was seen in the year 2004-05.

On the contrary, the percentage of capital expenditure in agriculture and allied service to Economic Service has increased from 6.17 per cent in 1987-88 to 39.22

per cent in 2008-09 which was the highest during the period and the lowest 4.06 per cent was seen during 1997-98.

2.2.e. Share of Revenue Expenditure in Agriculture in NSDP:

Revenue Expenditure in Agriculture as a share to NSDP is presented in Table-2.5. Percentage share of revenue expenditure to NSDP in agriculture sector of the State has been seen very low and fluctuated below one per cent with an insignificant trend from 0.42 percent in 1986-87 to 0.45 per cent in 2007-08 which was an increase of 0.03 per cent over the period under study.

Table-2.5
Revenue Expenditure in Crop Husbandry as a percentage to NSDP

Year	NSDP at Current Price, (193-94 Series)(Rs. in Lakhs)	Agriculture (Rs. in Lakhs)	Percentage
1986-87	1064200	4475.50	0.42
1987-88	1106900	4427.19	0.40
1988-89	1118700	2939.7	0.26
1989-90	1202700	5715.47	0.48
1990-91	1232500	6673.85	0.54
1991-92	1290700	5524.41	0.43
1992-93	1295100	6972.16	0.54
1993-94	1347700	10220.55	0.76
1994-95	1379600	6840.89	0.50
1995-96	1412500	8467.31	0.60
1996-97	1446700	7221.44	0.50
1997-98	1470400	8911.44	0.61
1998-99	1457400	8469.73	0.58
1999-2000	1507800	11871.45	0.79
2000-01	1567100	11348.59	0.72
2001-02	16172.81	13848.33	85.63
2002-03	16788.37	8518.29	50.74
2003-04	17836.78	13237.09	74.21
2004-05	4672682	12542.59	0.27
2005-06	5249961	14705.03	0.28
2006-07	5827265	17879.6	0.31
2007-08	6465624	29169.52	0.45

Note: Considered the new series from 2004-05 to 2007-08 due to lack of old series data

Revenue Expenditure = Non-Plan +State Plan + CSS + CS

Source: Budget in Brief, Govt. of Assam

2.2. f. Changes in the composition of Revenue Expenditure on agriculture and allied sector:

A change in the composition of revenue expenditure on different heads of development is presented in Table -2.6. The relative changes in revenue expenditure had shown higher expenditure throughout against Crop Husbandry followed by Forestry & wild life, Animal Husbandry, Food Storage and Warehousing , Corporation, Agricultural Research & Education, Soil & Water Conservation, Fisheries, Dairy , Other Agricultural Programme Plantation and Agricultural Financial Institution during the period from 1986-87 to 2007-08. But the highest percentage of expenditure 38.98 per cent was seen against Food Storage and Warehousing in the year 1995-96. While compared between the year 1986-87 and 2007-08, the percentage changes has been seen increasing against Crop Husbandry from 27.10 per cent to 34.65 per cent, Animal Husbandry from 14.71 per cent to 16.75 per cent, Fishery from 3.21 per cent to 4.98 per cent, Forestry and Wild life from 22.12 per cent to 23.18 per cent, Agricultural Research and Education from 6.75 per cent to 8.85 per cent while it declined for Soil and Water Conservation from 3.63 per cent to 2.22 per cent, Dairy Development from 3.12 per cent to 3.00 per cent, Food Storage and Warehousing from 11.13 per cent to 1.98 per cent, Cooperation from 7.38 per cent to 4.03 per cent, Other Agricultural Programme from 0.43 per cent to 0.36 per cent . It was almost negligible for Plantation and Agriculture Finance Institution.

2.3. Compound Growth Rate of Revenue Expenditure on Agriculture and Allied Activities in different Sectors

From the Table -2.7 the Compound Growth Rates had been found on higher side during pre reform period (1986-86 to 1990-91) against Crop Husbandry, Animal Husbandry, Fishery, Forestry and Wild Life, Food Storage and Warehousing, Agriculture Research and Education; while during reform period the higher Compound Growth Rate had been found against Soil and Water Conservation, Dairy Development, Cooperation and Other Agriculture Programme only. The most remarkable observation of negative growth was observed during pre reform period against cooperation and other agriculture programme growth was also negative (-6.52%) for Food Storage and Warehousing.

Table 2.6

Changes in the Composition of revenue Expenditure on Agriculture to Total & Allied Sector Expenditure, (Rs. In Lakh)

Particulars	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Agriculture & Allied Activities										
1.Crop Husbandry	4475.50	4427.19	2939.70	5715.47	6673.85	5524.41	6972.16	10220.55	6840.89	8467.31
P.C.to Total	**27.10**	**27.67**	**22.32**	**28.67**	**30.12**	**21.03**	**28.56**	**30.86**	**25.09**	**17.27**
2.Soil and Water Conservation	600.21	653.40	484.44	552.48	773.15	898.07	853.98	757.79	904.41	1725.18
P.C.to Total	**3.63**	**4.08**	**3.68**	**2.77**	**3.49**	**3.42**	**3.50**	**2.29**	**3.32**	**3.52**
3. Animal Husbandry	2428.95	1543.78	2802.48	2609.51	2556.20	7203.45	3761.13	3790.28	3827.50	5109.69
P.C.to Total	**14.71**	**9.65**	**21.28**	**13.09**	**11.54**	**27.42**	**15.40**	**11.45**	**14.04**	**10.42**
4. Dairy Development	515.96	660.59	324.48	579.86	655.11	558.61	675.59	577.06	534.23	591.55
P.C.to Total	**3.12**	**4.13**	**2.46**	**2.91**	**2.96**	**2.13**	**2.77**	**1.74**	**1.96**	**1.21**
5. Fisheries	529.67	654.39	508.24	756.60	785.44	670.22	105.71	1189.88	1004.73	1466.71
P.C.to Total	**3.21**	**4.09**	**3.86**	**3.80**	**3.54**	**2.55**	**0.43**	**3.59**	**3.69**	**2.99**
6. Forestry & Wild Life	3653.64	3397.97	3777.01	4510.35	5368.72	5838.27	5979.02	6503.78	5933.39	7084.21
P.C.to Total	**22.12**	**21.24**	**28.68**	**22.62**	**24.23**	**22.22**	**24.49**	**19.64**	**21.76**	**14.45**
7.Plantations	0	10.00	3.84	11.00	10.20	0	12.00	12.00	12.00	14.00
P.C.to Total		**0.06**	**0.03**	**0.06**	**0.05**		**0.05**	**0.04**	**0.04**	**0.03**
8.Food ,Storage & Warehousing	1839.10	1391.83	1006.03	2386.42	2265.63	2544.34	2634.38	6000.80	5277.63	19113.84
P.C.to Total	**11.13**	**8.70**	**7.64**	**11.97**	**10.22**	**9.68**	**10.79**	**18.12**	**19.36**	**38.98**
9. Agril.Research & Education	**1115.44**	1930.75	168.99	1760.48	2212.30	1807.23	1929.50	1901.32	2093.11	2221.52
P.C.to Total	**6.75**	**12.07**	**1.28**	**8.83**	**9.98**	**6.88**	**7.90**	**5.74**	**7.68**	**4.53**
10. Agricultural Finance Institutions	0	29.25	0.48	0.50	0	0	0	0	0	0
P.C.to Total		**0.18**	**0.004**	**0.003**						
11. Co-Operation	1219.19	664.39	721.77	893.95	689.70	1092.58	1328.93	1913.90	698.33	3054.76
P.C.to Total	**7.38**	**4.15**	**5.48**	**4.48**	**3.11**	**4.16**	**5.44**	**5.78**	**2.56**	**6.23**
12. Other Agril. Programme	139.87	635.50	433.29	158.87	169.21	134.91	163.24	248.30	138.22	180.75
P.C.to Total	**0.85**	**3.97**	**3.29**	**0.80**	**0.76**	**0.51**	**0.67**	**0.75**	**0.51**	**0.37**
Total	16517.53	15999.04	13170.75	19935.49	22159.51	26272.09	24415.64	33115.66	27264.44	49029.52
P.C.to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Contd.../

Table 2.6

Changes in the Composition of revenue Expenditure on Agriculture to Total & Allied Sector Expenditure

(Rs. In Lakh)

Particulars	1996-97	1997-98	1998-99	1999-00	2000-01	2000-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Agriculture & Allied Activities												
1.Crop Husbandry	7221.74	8911.44	8469.73	11871.45	11348.59	13848.33	8518.29	13237.09	12542.59	14705.03	17879.60	29169.52
P.C.to Total	24.90	28.96	25.87	29.13	27.96	32.55	23.29	27.68	25.75	26.84	29.14	34.65
2.Soil and Water Conservation	557.07	1035.92	1308.46	1292.33	1386.94	1437.76	1471.12	1797.56	1909.44	2221.44	2330.98	1867.31
P.C.to Total	1.92	3.37	4.00	3.17	3.42	3.38	4.02	3.76	3.92	4.06	3.80	2.22
3. Animal Husbandry	4085.85	4709.02	5755.14	6429.81	6896.85	6379.60	6419.01	8600.63	8586.19	8536.24	9523.66	14098.70
P.C.to Total	14.09	15.30	17.58	15.78	16.99	15.00	17.55	17.99	17.63	15.58	15.52	16.75
4. Dairy Development	557.10	590.19	594.05	707.25	986.62	604.86	863.32	810.93	1101.58	1698.05	1027.83	2522.31
P.C.to Total	1.92	1.92	1.81	1.74	2.43	1.42	2.36	1.70	2.26	3.10	1.68	3.00
5. Fisheries	1124.01	1453.65	1112.03	1685.88	1484.02	1706.77	1309.35	1567.32	1850.95	3110.45	2331.06	4191.20
P.C.to Total	3.87	4.72	3.40	4.14	3.66	4.01	3.58	3.28	3.80	5.68	3.80	4.98
6. Forestry & Wild Life	7160.53	6979.31	8643.35	10852.09	10324.53	10223.07	9853.50	10645.36	11430.25	13532.41	15805.04	19508.93
P.C.to Total	24.68	22.68	26.40	26.63	25.43	24.03	26.94	22.26	23.47	24.70	25.76	23.18
7.Plantations	10.00	10.14	12.00	7.00	0	0	0	0	0	0	0	0
P.C.to Total	0.03	0.03	0.04	0.02								
8.Food ,Storage & Warehousing	1255.87	826.52	1597.54	1286.88	967.11	1254.32	1098.05	1457.91	1271.71	2239.92	2366.12	1670.69
P.C.to Total	4.33	2.69	4.88	3.16	2.38	2.95	3.00	3.05	2.61	4.09	3.86	1.98
9. Agril.Research & Education	2323.28	2482.43	2527.34	3172.38	4219.54	4548.74	4357.59	4798.75	4891.93	6089.17	7237.22	7451.93
P.C.to Total	8.01	8.07	7.72	7.78	10.39	10.69	11.91	10.04	10.04	11.12	11.80	8.85
10. Agricultural Finance Institutions	0	0	0	0	0	0	0	0	0	0	0	0
P.C.to Total		0.00	0.004									
11. Co-Operation	4588.07	3624.98	2564.13	3262.00	2795.86	2362.51	2416.75	4715.56	4875.00	2384.75	2556.16	3388.52
P.C.to Total	15.82	11.78	7.83	8.00	6.89	5.55	6.61	9.86	10.01	4.35	4.17	4.03
12. Other Agril. Programme	124.65	151.10	152.80	184.45	183.81	176.27	266.41	182.73	241.73	261.40	300.14	305.02
P.C.to Total	0.43	0.49	0.47	0.45	0.45	0.41	0.73	0.38	0.50	0.48	0.49	0.36
Total	29008.17	30774.70	32736.57	40751.52	40598.87	42542.22	36573.39	47813.84	48701.37	54778.86	61357.81	84174.13
P.C.to Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Assam Budget in Brief (1986-87 to 2007-08)

Table-2.7

Compound Growth Rates of Expenditure on Agriculture and Allied Activities of Revenue Account

Particulars Agriculture and Allied Activities	Pre Reform Period (1985-86 to 1990-91)	Reform Period (1991-92 to 2005-06)
1. Crop Husbandry	11.12	7.25
2. Soil and Water Conservation	3.44	6.8
3.Animal Husbandry	19.52	6.32
4.Dairy Development	3.53	7.16
5. Fisheries	9.78	7.73
6. Forestry and Wild Life	11.1	6.99
7. Plantation	-	-
8. Food Storage and Ware housing	10.04	-6.52
9. Agricultural Research and Education	13.62	9.9
10. Agricultural Finance Institutions	-	-
11. Co-operation	-8.08	5.98
12. Other Agriculture Programme	-9.57	3.82

Table-2.8 Plan Outlay on Agriculture (Rs. in Lakh)

Plan	Agriculture	Inter Plan Annual Growth Rate
First Plan (1951-56)	2800	-
Second Plan (1956-61)	6313	125.46
Third Plan (1961-66)	13224	109.47
Annual Plans (1966-69)	8712	9.80
Fourth Plan (1969-74)	19841	36.65
Fifth Plan (1974-79)	42863	116.03
Annual Plans (1979-80)	15973	86.33
Sixth Plan (1980-85)	127979	60.24
Seventh Plan (1985-1990)	248957	94.53
Annual Plan (1990-91)	59662	19.82
Annual Plan (1991-92)	69550	16.57
Eight Plan (1992-97)	496864	42.88
Ninth Plan (1997-02)	593478	19.44
Tenth Plan (2002-07)	711480	19.88

2.4. Plan outlay on Agriculture and Allied Sectors:

Table-2.8 shows plan expenditure on Agriculture and Allied Sectors from Fifth Five Year Plan to Tenth Five Year Plan. The plan expenditures on Agriculture and Allied sectors increased from Rs. 2,800 lakh in First Five Year Plan to Rs. 711,480 lakh in Tenth Five Year Plan.

2.5. Conclusion:

Budgetary resources for Agricultural Development in Assam has been increasing but it is felt that amounts of expenditure is less which is one of the major causes of stagnation in both production, productivity and crop diversification.

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CHAPTER-III

Agricultural Development Schemes

3.1. Introduction:

It has already been mentioned that agriculture is a State subject, where State has to play a dominant role for development of agriculture & allied sector. However, the Ministry of Agriculture adopted some strategic developmental programmes to feed back the State agriculture since 1966-67 to meet the needs of the farmers. Different schemes have been implemented in the States under Agriculture & allied sector as a whole. The major objectives of the Schemes are to raise production and productivity of crops through supply of HYV seeds, supply of inputs and institutional credit etc. to the farmers. Efforts are also being made to bring science and technology closer to the farmers. Special programmes for the benefit of small farmers, marginal farmers and agricultural labourers have also been introduced at the instance of Ministry. These programmes are initiated as Centrally Sponsored Schemes (CSS), Central Sector Schemes and Externally Aided Project. Centrally Sponsored Schemes (CSS) are on 50:50 basis shares between the State and Centre. Later on, it was shifted to 75:25 as per demand of the States. In case of CS scheme the share of Central is 100 per cent.

A major initiative was started under CSS by the launching of "Technology Mission for Integrated Development of Horticulture in the N.E. Region." In Assam the project was initiated in the year 2001-02. There are four mini mission (MM), Viz. MM-I, MM-II, MM-III and MM-IV to look after (a) research, (b) production (c) post harvest management & marketing and (d) processing respectively.

Macro-Management Mode of Agriculture (MMMA) is a policy decision of Government of India is to transfer Centrally Sponsored and Central Sector Schemes except the scheme under the Technology Mission to the State Government for implementation of the schemes as per State's requirements. This necessitated to identify the requirement of the State and to initiate implementation of the programme from the year 2000-01.

Macro Management Mode of Agriculture (MMMA) is comprehensive and encompasses all activities associated with the development of agriculture in the state. The Government of India sponsored this scheme to the state as per state's requirement since 2000-2001.

The pattern of assistance has been modified as 100 p.c. assistance with 80 p.c. in the form of grant and 20 p.c. in the form of loan. The entire process of transfer has been termed as Macro Management Mode of Agriculture (MMMA) under centrally sponsored scheme.

During 2007-08 a good numbers of programmes/components have been approved for implementation against GOI's release of Rs.1594.64 lakh against the proposed allocation of Rs. 3500.00 lakh.

Major programmes/components included under MMMA 2007-08 are

1. Argil. Mechanization
2. NWDPRA
3. Integrated Pest Management
4. Integrated Nutrient Management
5. Strengthening of Field Trial Stations
6. Diversification of crops
7. Development of Char areas
8. Rodent pest management
9. Empowerment of women.

Externally Aided Project actually initiated in the State Assam at the instance of World Bank at the end of Fifth Five Year Plan i.e. in 1978-79. Under this programme Extensive Training Programmes i.e. Training and Visit Programme (T&V) were taken up to disseminate modern agricultural technology among the farmers. It's success was confined only on administrative net work and brought agriculture extension service under single line command of Agriculture Department. But it could not show

effective result in production and productivity of crops as desired. This programme is still going on at instance of the State Government.

Another World Bank support EAP programme name as Assam Rural Infrastructure and Agriculture Service Project (ARIASP) was lunched in 1995-96 which continued up to 2008. It was a multi sector project involving Agriculture, Animal Husbandry and Veterinary, Fishery, Irrigation, P.W.D and the AAU. The board objectives of this project were (a) poverty alleviation, (b) improvement of nutrition of the rural poor (c) growth of the farm sector (d) capacity building of state Govt. for project planning and implementation (e) community participation and (f) commitment to the liberalization process. The major contribution of this project towards the state is creation of micro irrigation through installation of about 75,000 Shallow Tube Wells. STWs have encouraged farmers to cultivate summer rice. Second phase of the project known as Assam Agricultural Competitiveness Project (AACP) has been in operation in the State since 2004-05.

In addition to EAP another major STW programme was undertaken at the instance of RIDF (Rural Infrastructure Development Fund) by Agriculture Department in 1999-2000 with loan from the National Bank for Agriculture and Rural Development (NABARD). Under the programme, another 99,000 STWs have already been installed. STWs installed under both ARIASP and NABARD programme have created assured irrigation potential in about three lakh hectares. Irrigation potential created thus has enabled the State to be self sufficient in rice production. However, due to absence of MSP administration, low prices and quality of paddy have dampened the spirit of farmers. Therefore, the Agriculture Department has adopted the strategy of diversification of Agriculture.

3.2. Centrally Sponsored and Central Sector Scheme:

Major Initiatives of these programmes under different heads of Agriculture and allied sector with the names of schemes has been given below from Fifth Five Year Plan (1974-79) to mid of Eleventh Five Year Plan.

3.2.1 Crop Husbandry:-

1.Small Farmer Development Agency (S.F.D.A)

2. Marginal Farmers and Agricultural Labours (MFAL) Development Agency

3. Intensive Jute Development Programme

4. Pulse Development Programme

5. Prime Minister Programme

6. Special Rice Production Programme (included in 1985-86)

7. National Oil Seed Development Programme (included in 1985-86)

8. Char Area Development Programme (included in 1985-86)

9. Agricultural Mechanization.

10. NWDPRA.

11. Tribal Sub Plan

12. Scheduled Cast Component Plan.

13. Integrated Pest Management.

14. Integrated Nutrient Management.

The State Government implemented the following schemes under the head of 'Macro Management' from Eight Five Year Plan for which the Govt. of India released an amount of Rs. 409.47lakh in 2000-01 and 523.50 lakh in 2001-02. (1) Mechanization of Agriculture (2) NWDPRA,(3) Horticulture,(4) Integrated Pest Management,(5) Certified Seed Production Programme ,(6) Agricultural Extension,(7) Information Technology,(8) Balanced and Integrated use of Fertilizer ,(9) Integrated Cereal Development Programme, (10) Jute Development Programme,(11) Soil Conservation Programmes which includes (a) State Land Use Board (b)Soil Conservation Department

3.2.2 Soil Conservation:

1. Soil Conservation in the Catchments area of River Valley Project(RVP).

2. Soil Conservation in Catchments Flood Prone River(FPR):

A. Singla FPR:

This project has been started in the State from 2001-02.The project is implemented in Karimganj district. At present project works are being taken up in Singla –cherra and Paglacherra sub –watersheds located about 30 km. from Karimgang town.

B. Dhansiri FPR:

The project proposal of Soil Conservation in Catchment of Dhansiri Flood Prone River (FPR)has also been Technically approved by Govt.of India in 2004-05 and preliminary works like Creation of Nursery and Sediment Monitoring works has been started. The project site is located in Golaghat district and located at about 20 kms. from Golaghat town. At present works are being taken up in Dugrong sub-watershed.

C. Jia Bharali FPR:

The project proposal has been approved by Govt. of India. At present Survey and Data collection works are going on for preparation of Detailed Project Report for Sub-watersheds.

D. New Schemes under Flood Prone River:

In addition to above schemes, the following projects proposals have been approved by Govt. of India under Centrally Sponsored Scheme Flood Prone River (FPR) from Natural Resource Management Division (NRM) under department of Agriculture & Cooperation, Ministry of Agriculture.

1. Kapili river in Nagaon district,
2. Longai river in Karimganj district
3. Dhaleswari river in Karimganj district.

3.2.3 Animal Husbandry:

1. Bovine Contiguous Pleura Pneumonia Scheme
2. Rinderpest Eradication Scheme
3. Progency testing of Bulls
4. Integrated Cattle Development Project (I.C.D.P)

3.2.4 Dairy:

1. Operation Flood II Covering Kamrup, Nagaon and Borpeta districts.
2. Special Dairy Development Project (SDDP) were implemented covering Goalpara, Dhubri and Kokrajhar districts.
3. Integrated Dairy Development Project (IDDP),phase-1 (100% GOI funded)

The project : This is a centrally sponsored scheme for development of infrastructure in milk processing and marketing and organizing the dispersed dairy farmers in to Dairy Cooperative Society (DCS).

Area of implementation:

Barpeta, Dhubri, Bongaigaon, Darrang, Sonitpur, North-Lakhimpur, N.C.Hills, Cachar, Karimganj and Hailakandi districts

Total project cost : Rs. 1260.76 lakhs

Funding Pattern : 100% grant from Deptt/. of Animal Husbandry and Dairying, Ministry of Agriculture, Govt. of India.

3.2.5 Fishery:

1. Fresh Water Aquaculture under Fish Farmer Development Agency (FFDA) started from Sixth Plan onward.

2.Fishermen Insurance Scheme (FIS)

3. National welfare fund for fishermen (NWFF)
4. Saving cum Relief

3.2.6 Forestry And Wildlife:

1. Development and management of Assam state Zoo (50:50).
2. Project Tiger (50:50).
3. Integrated Forest Protection (90:10).

The following Central Sector Scheme (100%) are proposed :

1.Project Elephant.

2. Development of National Parks & Sanctuaries.
3. Management Action Plan on Biosphere Reserve for Manas Tiger and Dibru Saikhowa

Wildlife Sanctuary.

4. Project Tiger (Non-Recurring)& Manas Tiger Reserve.

5.Raising of Plantation of NTFP Medicinal Plant and Bamboo Plantation Scheme.

6. Implementation of Project to bridge the infrastructure gap in forestry sector under integrated forest protection Scheme.

7. Assistance to Botanical Garden.

3.2.7 Food Storage and Ware Housing:

There is no central sector scheme under this head. The government of Assam and the Central Warehousing Corporation work together as 50:50 share basis.

3.2.8. Co-operation:

1. National Co-operative Development Co-operation (NCDC).

3.3 State Sector Schemes:

3.3.1. Crop Husbandry:

1. Direction and Administration:- Head Quarter staff, subordinate staff, extension services
2. Extension and Farmers Training:- On use of Agriculture Implements and Farm Machineries, NAEP and Agricultural Information Schemes
3. Multiplication and Distribution of Seeds: - Inputs distribution in flood prone areas, seed testing and certification, development of Seed Farm and Nurseries, Incentive to small farmers for production of certified seed.
4. HYV Programme: - Spread of HYV seeds of Paddy, Wheat, Maize etc.
5. Horticulture &Vegetable crops. - Development of Progency Orchard for Citrus and Pineapple, Integrated
   Horticulture and Community canning and training in Fruits Preservation.
6. Manures and fertilizer.
7. Plant Protection: - Pest Surveillance, Plant protection campaign and quality control.
8. Crop Insurance.
9. Extension and farmers' training Programme.

10.Agricutural Engineering: Agricultural Mechanization, Distribution of agricultural Implements, Development of Micro-Watershed ,land reclamation ,STW irrigation ,etc.

11.Agricultural Economics and Statistics.

12. The Agricultural Farming Corporation.

13.Other agricultural Programme which includes marketing of agricultural produces along with quality aspects of the agricultural product.

3.3.2. Soil Conservation:

1. Direction and Administration
2. Land Development Project.
3. Gully Control Project.
4. Land Reclamation & Water Distribution Project.
5. Protective Forestation.
6. Protection of Riverine Land.
7. Cash Crop Development.
8. Nature Conservation Works.
9. Erosion Control in Hill around Guwahati City.
10. Soil Survey and Testing
11. Building and Approach Road
12. Machinery & Equipment
13. Plantation
14. State Land Use Board
15. Research and Education
16. Centrally Sponsored Scheme: Following Projects are being implemented under the Scheme:-

(A) Singla FPR (B) Dhansiri FPR (C) Jia-Bharali FPR

In addition to these schemes, the following project proposals have been approved by Government of India under Centrally Sponsored Scheme Flood Prone River from Natural Resources Management Division (NRM) under Department of Agriculture & Co-operation, Ministry of Agriculture.

(a) Kapili River in Nagaon District (b) Longai River in Karimganj District

(c) Dhaleswari River in Karimganj District.

3.3.3. Animal Husbandry:

1. Direction and Administration.
2. Cattle Development.
3. Poultry Development.
4. Piggery Development.
5. Goat Development.
6. Fodder Development.
7. Health Coverage.

3.3.4. Dairy:

1. Direction and Administration.
2. Milk Village Scheme(State Plan).
3. Model Milk Village Scheme(State Plan & NEDFi funded).
4. Town Milk Supply Scheme.
5. Establishment of local dairy unit in rural areas(New Scheme proposed during 2007- 08).

3.3.5. Fishery:

1. **Direction and Administration:**

(i) Headquarter Establishment. (ii) District Administration.

2. Inland Fisheries:

(i)Fish Seed Farming (ii) Reclamation of Derelict Water Bodies.

3. Extension and Training:

(i) Extension Service (ii) Training

4. Survey and Research:

(i)Survey of Fisheries and Collection of Statistics

(ii)Fishery Research and Investigation

5. Marketing and Transport of Fish

6. Establishment of Fishery College

7. Tribal Sub-Plan (TSP)

8. Scheduled Caste Component Plan (SCCP)

3.3.6. Forestry and Wild life:

1. Direction and Administration.

(i) Headquarter Establishment. (ii) District Administration

2. Forest Conservation & Development
3. Forest produce, Natural Regeneration and plantation
4. Monitoring and Evaluation
5. Communication & Building
6. Botanical Garden
7. Agricultural Research and Education
8. Social Forestry
9. Environment forestry and Wildlife:

(a) Other Wildlife Areas, (b) Improvement of Wildlife Organisation

3.3.7. Co-operation

1. Direction and Administration and Audit of Co-operatives.
2. Education.
3. Co-operative Training.
4. Reasearch and Evaluation.
5. Information of Publicity.
6. Multipurpose Rural Co-operatives. (Strengthening of Primary Agriculture Credit Co- operatives) G.P.S.S.
7. Credit Co-operative (Bank and GPSS)
8. Processing Co-operatives .
9. Consumer co-operatives.
10. Other expenditure:

(a). Fishery Co-operatives

(b) Housing Co-operatives

(c) Dairy Co-operatives

(d) Woman Co-operatives

(e) Other Co-operatives

3.3.8. Agricultural Research and Education: Directorate of Agriculture sanctioned allocation to Assam Agricultural University (AAU) for Agricultural Research and Education.

3.4. Externally Aided Project:

(1) Externally Aided Projects were actually initiated in the State Assam at the instance of World Bank at the end of Fifth Five Year Plan i.e. in 1978-79. Under this programme Extensive Training Programmes i.e. Training and Visit Programme (T&V) were taken up to disseminate modern agricultural technology among the farmers.

(2)The Externally Aided project called Assam Rural Infrastructure and Agriculture Service Project (ARIASP) is one of the major schemes implemented during 9th Plan. This scheme has a project period of 8 years, starting from 1995-96. This World Bank Aided Schemes supports (a) The Department of Agriculture's work programme including the extension services for Agriculture as well as Horticulture among poor rural communities aimed at increasing their production, (b) Institutional Development (Technology Generation and Extension, Seed Multiplication) and (c) Infrastructure Development (Minor Irrigation). This project was launched involving six development departments besides Agriculture. The other departments are Animal Husbandry and Veterinary, Fishery, Irrigation, P.W D. and Land Revenue. The total project cost under Agriculture Department is Rs. 14000.00 lakh.

(3) Assam Agricultural Competitiveness Project (AACP):

The Externally Aided Project called Assam Agricultural Competitiveness Project (AACP) is one of the major schemes started in the year 2004 during 10th Plan for a period of six years. Earlier this scheme has a project period of 8 years starting from 1995-96 as Assam Rural Infrastructure and Agriculture Service Project (ARIASP) and closed during 2002-03. This World Bank Aided scheme supports (a) The Department of Agriculture's work programme including the extension services for Agriculture as well as Horticulture among poor rural communities aimed at increasing their production, (b) Institutional Development (Technology Generation and Extension) (c) Infrastructural

Development (Minor irrigation and Agricultural Mechanization). This project is launched involving six departments besides Agriculture. The other Departments are Animal Husbandry, Veterinary, Fishery, Irrigation, P.W.D. and Land Revenue.

3.4. 1 Components under Crop Husbandry at the instance of EAP (ARIASP)

i. Horticulture

a. Development of Progeny Orchards

b. Demonstration

c. Training.

ii. Education & Training

a. Monthly Cluster Training b. Workshop (Bi-monthly)

iii.. Extension

a. SDAO's Office b. Demonstration

iv. Irrigation (STW)

3.4.2 Animal Husbandry and Veterinary:

1. Swarna Dhenu Project.
2. National Cattle and Buffalo Breeding Project (NCBBP).
3. ALPCO.

3.4.3 Fishery:

1. Seed Production in Departmental Farms.
2. Creation of nursery tanks.
3. Creation of rearing tanks.
4. Existing pond development.
5. Community pond development.
6. Extension of existing pond.
7. Creation of new pond.
8. Fish culture with horticulture.
9. Pig cum fish culture.
10. Beel fisheries development.
11. Training of farmers.
12. Eco-hatchery complex.
13. Modernization of terminal fish markets.

3.4.4 Assam Agricultural Competitiveness Project (AACP):

(i)Crop Husbandry:-

(a) STW (Shallow Tube Well) Irrigation

(b) LLP (Low Lift Pump) Irrigation

(c) Tractors

(d) Power tillers

5. Micro-Watershed Drainage

6. Market Development

(a) Rural Hats

(b) Rural Wholesale Market

7. ATMA (Agricultural Technology Management Agency) Societies

(ii) Fisheries:

1. Development of Water Area

3.5 Expenditure incurred in Centrally Sponsored Scheme:

Expenditure incurred under Centrally Sponsored Scheme from the year 1986-87 to 2007-08 in Agricultural & allied sector is presented in Table -3.1.a. The highest percentage of expenditure had been seen against Crop Husbandry during the period from 1986-87 to 1997-98 and followed by Forestry & Wild Life, Soil & Water Conservation and Fishery, Animal Husbandry with up and down in position in terms of percentage of expenditure to total expenditure in some years. No expenditure had been seen against other sectors such as Dairy Development, Plantation, Agricultural Research and Education, Agricultural Finance Institutions and Co-operation. Same pattern of expenditure had also been found in the year 2001-02, 2002-03and from 2004-05 to 2007-08. Incase of Other Agriculture Programme, the percentage of expenditure i.e. 27.32 per cent, 0.50 per cent and 0.20 per cent had been seen in the year 1987-88 and 1993-94 and 2007-08 respectively. Similarly, only 10.62 per cent was found in 2002-03 against Food

Table -3.1 (a)

Centrally Sponsored Schemes on Agriculture and Allied sector in Assam

(Rs. In Lakh)

Name of the Head	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Crop Husbandry	1164.43	579.46	571.55	834.57	1146.62	1711.70	708.72	1473.00	743.75	1404.00	543.71
P.C. to Total	**74.60**	**44.77**	**70.04**	**74.80**	**72.92**	**96.30**	**67.78**	**81.16**	**75.99**	**82.92**	**55.82**
2. Soil & Water Conservation	22.16	17.17	20.16	24.00	45.66	62.06	13.70	50.00	10.08	14.00	10.30
P.C. to Total	**1.42**	**1.33**	**2.47**	**2.15**	**2.90**	**3.49**	**1.31**	**2.75**	**1.03**	**0.83**	**1.06**
3.Animal Husbandry	10.58	7.48	3.18	18.50	9.03	3.75	75.25	25.00	149.58	7.10	0
P.C. to Total	**0.68**	**0.58**	**0.39**	**1.66**	**0.57**	**0.21**	**7.20**	**1.38**	**15.28**	**0.42**	
4. Dairy Development	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
5. Fisheries	41.22	41.54	54.44	45.72	63.23	0	247.89	75.00	0	90.00	193.36
P.C. to Total	**2.64**	**3.21**	**6.67**	**4.10**	**4.02**		**23.71**	**4.13**		**5.32**	**19.85**
6. Forestry & Wild Life	322.59	294.98	166.73	193.00	307.96	0	0	183.00	75.28	178.00	226.60
P.C. to Total	**20.67**	**22.79**	**20.43**	**17.30**	**19.58**			**10.08**	**7.69**	**10.51**	**23.27**
7.Plantation	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
8.Food,Storage & Warehousing	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
9. Agril. Research & Education	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
10. Agril. Finance Institutions	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
11. Co-operation	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
12. Other Agril. Programme	0	353.76	0	0	0	0	0	9	0	0	0
P.C. to Total		**27.33**									
Total	1560.98	1294.39	816.06	1115.79	1572.50	1777.51	1045.56	1815.00	978.69	1693.10	973.97
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

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Contd.---> Table-3.1(a)

(Rs. In Lakh)

Name of the Head	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	1006-07	2007-08
1. Crop Husbandry	673.58	41.71	0	63.96	1159.85	516.08	1.59	716.73	964.29	1956.42	3600.00
P.C. to Total	**68.23**	**7.58**		**10.21**	**73.91**	**54.83**	**0.50**	**66.23**	**79.91**	**93.31**	**72.95**
2. Soil & Water Conservation	33.70	18.38	14.43	13.44	0	0	0	4.43	0	0	285.00
P.C. to Total	**3.41**	**3.34**	**4.90**	**2.15**				**0.41**			**5.77**
3.Animal Husbandry	10.4	0	0	0	5.68	5.12	0.47	0	105.24	26.45	0
P.C. to Total	**1.05**				**0.36**	**0.54**	**0.15**		**8.72**	**1.26**	
4. Dairy Development	0	0	0	0	0	0	0	0	0	0	550.16
P.C. to Total											**11.15**
5. Fisheries	155.19	4.31	39.66	139.16	139.10	105.80	145.58	148.23	106.29	7.70	390.00
P.C. to Total	**15.72**	**0.78**	**13.46**	**22.22**	**8.86**	**11.24**	**45.74**	**13.70**	**8.81**	**0.37**	**7.90**
6. Forestry & Wild Life	114.34	132.1	240.46	409.77	264.57	214.19	170.67	203.75	30.85	106.07	100.00
P.C. to Total	**11.58**	**24.01**	**81.64**	**65.42**	**16.86**	**22.76**	**53.62**	**18.83**	**2.56**	**5.06**	**2.03**
7.Plantation	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
8.Food,Storage & Warehousing	0	0	0	0	0	100	0	0	0	0	0
P.C. to Total											
9. Agril. Research & Education	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
10. Agril. Finance Institutions	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
11. Co-operation	0	0	0	0	0	0	0	0	0	0	10
P.C. to Total											
12. Other Agril. Programme	0	353.76	0	0	0	0	0	9	0	0	0
P.C. to Total		**64.29**									
Total	987.21	550.26	294.55	626.33	1569.2	941.19	318.31	1082.14	1206.67	2096.64	4935.16
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source : Assam Budget in Brief, Relevant Years

Storage and Ware housing. During the period from 1986-87 to 2007-08, the percentages of expenditure varied between 0.50 percent in 2003-04and 96.30 percent in 1991-92 against Crop Husbandry, 0.41 percent in 2004-05 and 9.35 percent in 1998-99 against Soil and Water Conservation,0.15 percent in 2003-04 and 15.28 percent in 1994-95 against Animal Husbandry,0.37 percent in 2006-07 and 45.74 percent in 2003-04 against Fisheries,2.56 percent in 2005-06 and81.64 percent in 1999-00 against Forestry and Wild Life, only 10.62 percent in 2002-03 against Food Storage and Ware Housing, only 0.20 percent in 2007-08 against Co-operation and 0.50 percent in 1993-94 and 27.32 percent in 1987-88 against Other Agriculture Programme.

3.5.a. Compound Growth Rate of Expenditure Under Centrally Sponsored Schemes in Agriculture &Allied Activities:

Compound growth rate of expenditure incurred under Centrally Sponsored Scheme from the year 1986-87 to 2007-08 in some of the important heads under Agricultural & allied sector is presented in Table -3.1.b.

Table-3.1.b
Compound Growth Rate of Expenditure Under Centrally Sponsored Schemes

Name of the Heads	Compound Growth Rates (1986-87 to 2007-08)
1. Crop Husbandry	5.26
2. Soil & Water Conservation	12.31
3. Animal Husbandry	4.46
4. Dairy Development	-
5. Fisheries	10.76
6. Forestry & Wildlife	-5.18
7. Plantation	-
8.Food Storage & warehousing	-
9. Agril. Research & Education	-
10. Agril. Finance & Institutions	-
11. Cooperation	-
12. Other Agriculture Programme	-
Total (over all)	-0.13

Note: Compound Growth Rates of other heads could not be worked out as no expenditures were recorded in most of the years under observation.

Table -3.2 (a)

Central Sector Schemes on Agriculture in Assam

(Rs. In Lakh)

Name of the Head	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Crop Husbandry	44.95	77.92	135.90	177.75	21.71	12.72	150.23	711.13	73.34	260.00	0
P.C. to Total	**21.78**	**20.60**	**55.27**	**34.01**	**6.79**	**24.65**	**74.57**	**55.34**	**19.21**	**11.95**	
2. Soil & Water Conservation	0	0	0	2.50	0	0	0	20.00	0	1132.36	0
P.C. to Total				**0.48**				**1.56**		**52.03**	
3.Animal Husbandry	88.58	1.96	7.22	32.73	43.65	35.10	0	49.00	49.50	265.00	0
P.C. to Total	**42.92**	**0.52**	**2.94**	**6.26**	**13.66**	**68.01**		**3.81**	**12.96**	**12.18**	
4. Dairy Development	0	0	0	5.00	0	0	0	3.00	0	3.00	97.81
P.C. to Total				**0.96**				**0.23**		**0.14**	**20.10**
5. Fisheries	10.50	1.15	1.45	11.50	1.13	0	2.22	6.00	0	6.00	2.71
P.C. to Total	**5.09**	**0.30**	**0.59**	**2.20**	**0.35**		**1.10**	**0.47**		**0.28**	**0.56**
6. Forestry & Wild Life	0	91.59	101.30	233.11	189.22	0	0	361.00	256.16	344.80	385.98
P.C. to Total		**24.21**	**41.20**	**44.61**	**59.20**			**28.09**	**67.08**	**15.84**	**79.34**
7.Plantation	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
8.Food,Storage & Warehousing	0	131.79	0	10.00	63.92	3.79	1.24	50.00	2.87	100.00	0
P.C. to Total		**34.84**		**1.91**	**20.00**	**7.34**	**0.62**	**3.89**	**0.75**	**4.60**	
9. Agril. Research & Education	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
10. Agril. Finance Institutions	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
11. Co-operation	62.37	73.87	0	50.00	0	0	47.68	60.00	0	65.00	0
P.C. to Total	**30.22**	**19.53**		**9.57**			**23.67**	**4.67**		**2.99**	
12. Other Agril. Programme	0	0	0	0	0	0	0.10	25.00	0	0	0
P.C. to Total							**0.05**	**1.95**			
Total	206.40	378.28	245.87	522.59	319.63	51.61	201.47	1285.13	381.87	2176.16	486.50
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Contd.--->

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Contd.---> Table-3.2(a)

(Rs. In Lakh)

Name of the Head	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	1006-07	2007-08
1. Crop Husbandry	0	106.63	0	0	84.29	0	0	8.00	0	48.00	130.00
P.C. to Total		**26.78**			**13.24**			**1.38**		**5.84**	**2.76**
2. Soil & Water Conservation	0	0	0	0	0	0	0	2.20	2.17	2.92	0
P.C. to Total								**0.38**	**0.20**	**0.36**	
3.Animal Husbandry	26.77	10.6	0	0	6.59	21.45	0	0	0	0	1175.00
P.C. to Total	**11.16**	**2.66**			**1.04**	**5.15**					**24.92**
4. Dairy Development	167.52	22.28	8.47	250.00	0	0	0	110.17	0	0	0
P.C. to Total	**69.83**	**5.60**	**3.30**	**20.98**				**19.02**			
5. Fisheries	1.68	3.00	3.99	2.55	0.92	0.23	1.70	8.50	5.07	9.61	20.00
P.C. to Total	**0.70**	**0.75**	**1.56**	**0.21**	**0.14**	**0.06**	**0.34**	**1.47**	**0.47**	**1.17**	**0.42**
6. Forestry & Wild Life	42.84	255.66	243.84	938.78	544.80	394.90	497.20	450.45	1078.90	761.06	3310.00
P.C. to Total	**17.86**	**64.21**	**95.14**	**78.80**	**85.58**	**94.80**	**99.66**	**77.75**	**99.33**	**92.63**	**70.20**
7.Plantation	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
8.Food,Storage & Warehousing	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
9. Agril. Research & Education	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
10. Agril. Finance Institutions	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
11. Co-operation	0	0	0	0	0	0	0	0	0	0	80.00
P.C. to Total											**1.70**
12. Other Agril. Programme	1.08	0	0	0	0	0	0	0	0	0	0
P.C. to Total	**0.45**										
Total	239.89	398.17	256.30	1191.33	636.60	416.58	498.90	579.32	1086.14	821.59	4715.00
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source : Assam Budget in Brief, Relevant Years

3.6 Expenditure incurred under Central Sector Schemes in Assam:

Expenditure incurred under Central Sector Scheme from the year 1986-87 to 2007-08 in Agricultural & allied sector is presented in Table -3.2.a. During this period, the percentages of expenditure against Crop Husbandry varied between 1.38 percent in2004-05 and 55.34 percent in1993-94.Similarly expenditure against Soil and Water Conservation varied between 0.20 percent per cent in 2005-06 and 52.03 percent in 1995-96, Animal Husbandry between 0.52 percent in 1987-88 and 68.01 percent in1991-92, Dairy Development between 0.14 percent in 1995-96 and 69.83 percent in 1997-98,Fisheries between 0.14 percent in 2001-02 and 5.09 percent in 1986-87, Forestry and Wild life 15.84 percent in 1995-96 and 99.66 percent in 2003-04, Food Storage and Ware Housing 0.62 percent in 1992-93 and 34.84 percent in 1987-88, Co-operation 1.70 percent in 2007-08 and 30.22 percent in1986-87 percent and Other Agricultural Programme 0.05 percent in 1992-93 and 1.95 percent in 1993-94. On the other hand, during this period no expenditure had been seen against Plantation, Agricultural Research and Education and Agricultural Finance Institutions.

3.6.a Compound Growth Rate of Expenditure Under Central Sector Schemes in Agriculture &Allied Activities:

Table-3.2.b

Compound Growth Rate of Expenditure Under Central Sector Schemes

Name of the Heads	Compound Growth Rates (1986-87 to 2007-08)
1. Crop Husbandry	4.95
2. Soil & Water Conservation	0.87
3. Animal Husbandry	12.45
4. Dairy Development	21.32
5. Fisheries	2.97
6. Forestry & Wildlife	12.71
7. Plantation	-
8.Food Storage & warehousing	-3.02
9. Agril. Research & Education	-
10. Agril. Finance & Institutions	-
11. Cooperation	1.14
12. Other Agriculture Programme	-
Total (over all)	3.97

Note: Compound Growth Rates of some heads could not be worked out as no expenditure were recorded in most of the years under observation.

Compound growth rate of expenditure incurred under Central Sector Scheme from the year 1986-87 to 2007-08 in some of the important heads under Agricultural & allied sector is presented in Table -3.2.b.

3.7 Expenditure incurred under State Sector Schemes in Assam:

Expenditure incurred under State Sector Scheme from the year 1986-87 to 2007-08 in Agricultural & allied sector is presented in Table -3.3.a. During this period, the percentages of expenditure against Crop Husbandry varied between 21.55 percent in1988-89 and 63.16 percent in 2007-08.Similarly expenditure against Soil and Water Conservation varied between 0.54 per cent in 2007-08 and 4.81 percent in 1986-87, Animal Husbandry between 3.10 percent in 2006-07 and 17.83 percent in1991-92, Dairy Development between 1.07 percent in 1997-98 and 6.87 percent in 2005-06, Fisheries between 2.64 percent in 2003-04 and 12.91 percent in 2005-06, Forestry and Wild life 12.11 percent in 2007-08 and 34.61 percent in 1988-89, Plantation 0.04 percent in 1999-00 and 0.11 percent in 1987-88, Food, Storage & Ware Housing 0.26 percent in 1987-88 and 4.01 percent in 2003-04, Agricultural Research and Education 1.56 percent in 1988-89 and 18.35 percent in 2004-05 , Agricultural Finance Institutions only 0.01 percent in 1989-90 and 0.32 percent in1987-88 percent, Co-operation 0.23 percent in 1990-91 and 8.55 percent in1986-87 and Other Agricultural Programme 0.03 percent in 2007-08 and 7.80 percent in 1988-89.

3.7.a. Compound Growth Rate of Expenditure Under State Sector Schemes in Agriculture &Allied Activities:

Compound growth rate of expenditure incurred under State Sector Scheme from the year 1986-87 to 2007-08 in some of the important heads under Agricultural & allied sector is presented in Table -3.3.b.

Table -3.3 (a)

State Sector Schemes on Agriculture in Assam

(Rs. In Lakh)

Name of the Head	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Crop Husbandry	2302.89	2770.40	1082.77	3418.40	3652.70	2944.65	3688.81	5797.00	3850.28	4166.00	3307.84
P.C. to Total	**29.68**	**30.29**	**21.55**	**34.92**	**36.97**	**27.45**	**33.90**	**42.77**	**33.74**	**33.16**	
2. Soil & Water Conservation	373.13	357.78	229.61	305.47	434.18	465.29	385.87	450.74	411.78	135.00	296.57
P.C. to Total	**4.81**	**3.91**	**4.57**	**3.12**	**4.39**	**4.34**	**3.55**	**3.33**	**3.61**	**1.07**	**2.93**
3.Animal Husbandry	1113.83	1341.13	856.47	1103.80	1416.02	1913.03	1204.39	1244.85	1110.92	1659.00	934.53
P.C. to Total	**14.36**	**14.66**	**17.05**	**11.28**	**14.33**	**17.83**	**11.07**	**9.18**	**9.73**	**13.20**	**9.22**
4. Dairy Development	296.84	355.23	97.57	396.10	205.70	219.43	359.77	296.50	279.57	276.00	230.64
P.C. to Total		**3.88**	**1.94**	**4.05**	**2.08**	**2.05**	**3.31**	**2.19**	**2.45**	**2.20**	**2.28**
5. Fisheries	359.65	467.32	300.91	529.36	529.90	349.42	499.90	809.10	713.74	1030.00	429.21
P.C. to Total	**4.64**	**5.11**	**5.99**	**5.41**	**5.36**	**3.26**	**4.59**	**5.97**	**6.25**	**8.20**	**4.24**
6. Forestry & Wild Life	1839.99	1825.55	1738.60	2267.00	2281.41	3229.42	2825.02	2944.00	2749.37	2883.00	2740.26
P.C. to Total	**23.72**	**19.96**	**34.61**	**23.16**	**23.09**	**30.10**	**25.96**	**21.72**	**24.09**	**22.95**	**27.04**
7.Plantation	0	10.00	3.84	11.00	10.20	0	12.00	12.00	12.00	14.00	10.00
P.C. to Total		**0.11**	**0.08**	**0.11**	**0.10**		**0.11**	**0.09**	**0.11**	**0.11**	**0.10**
8.Food,Storage & Warehousing	67.78	23.00	69.14	93.59	56.78	82.15	55.46	0.00	89.99	146.50	71.00
P.C. to Total	**0.87**	**0.25**	**1.38**	**0.96**	**0.57**	**0.77**	**0.51**	**0.00**	**0.79**	**1.17**	**0.70**
9. Agril. Research & Education	632.73	1654.13	78.49	1273.67	1156.66	1172.73	1429.28	1345.86	1547.15	1588.08	1626.49
P.C. to Total	**8.16**	**18.08**	**1.56**	**13.01**	**11.71**	**10.93**	**13.13**	**9.93**	**13.56**	**12.64**	**16.05**
10. Agril. Finance Institutions	0	29.25	0	0.50	0	0	0	0	0	0	0
P.C. to Total		**0.32**		**0.01**							
11. Co-operation	663.45	110.35	174.56	270.43	22.80	277.63	320.02	513.60	549.98	568.70	421.23
P.C. to Total	**8.55**	**1.21**	**3.47**	**2.76**	**0.23**	**2.59**	**2.94**	**3.79**	**4.82**	**4.53**	**4.16**
12. Other Agril. Programme	107.70	202.87	391.86	120	114.54	74.18	101.11	140.00	97.05	98.00	65.86
P.C. to Total	**1.39**	**2.22**	**7.80**	**1.23**	**1.16**	**0.69**	**0.93**	**1.03**	**0.85**	**0.78**	**0.65**
Total	7757.99	9147.01	5023.82	9789.32	9880.89	10727.93	10881.63	13553.65	11411.83	12564.28	10133.63
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Contd.--->

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Contd.---> Table-3.3(a)

(Rs. In Lakh)

Name of the Head	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	1006-07	2007-08
1. Crop Husbandry	3873.45	3442.13	7207.36	5027.76	7652.64	3302	6746.29	3808.06	5646.39	5854.43	13911.00
P.C. to Total	**29.20**	**32.00**	**42.28**	**35.56**	**45.41**	**23.96**	**46.47**	**41.26**	**41.01**	**42.38**	**56.34**
2. Soil & Water Conservation	284.57	292.22	241.39	251.44	226.48	200.29	205.98	227.64	491.02	392.49	120.00
P.C. to Total	**2.15**	**2.72**	**1.42**	**1.78**	**1.34**	**1.45**	**1.42**	**2.47**	**3.57**	**2.84**	**0.49**
3.Animal Husbandry	1298.03	1389.41	1746.79	1413.75	1379.93	1153.88	1429.71	597.85	650.51	427.91	1081.00
P.C. to Total	**9.79**	**12.92**	**10.25**	**10.00**	**8.19**	**8.37**	**9.85**	**6.48**	**4.72**	**3.10**	**4.38**
4. Dairy Development	141.79	168.62	263.03	272.66	218.91	264.06	458.86	349.13	945.53	155.24	885.00
P.C. to Total	**1.07**	**1.57**	**1.54**	**1.93**	**1.30**	**1.92**	**3.16**	**3.78**	**6.87**	**1.12**	**3.58**
5. Fisheries	908.43	623.22	1053.55	739.12	930.22	370.97	383.94	256.64	1777.28	968.70	2255.00
P.C. to Total	**6.85**	**5.79**	**6.18**	**5.23**	**5.52**	**2.69**	**2.64**	**2.78**	**12.91**	**7.01**	**9.13**
6. Forestry & Wild Life	4046.27	2575.42	3936.33	3536.27	3336.93	5706.81	2446.98	2032.08	2560.64	3660.30	2667.00
P.C. to Total	**30.51**	**23.95**	**23.09**	**25.01**	**19.80**	**41.42**	**16.85**	**22.02**	**18.60**	**26.50**	**10.80**
7.Plantation	10.14	12.00	7.00	0	0	0	0	0	0	0	0
P.C. to Total	**0.08**	**0.11**	**0.04**								
8.Food,Storage & Warehousing	112.28	123.76	71.85	92.13	96.67	134.06	581.77	95.83	58.72	232.65	198.00
P.C. to Total	**0.85**	**1.15**	**0.42**	**0.65**	**0.57**	**0.97**	**4.01**	**1.04**	**0.43**	**1.68**	**0.80**
9. Agril. Research & Education	1936.46	1795.24	1797.24	2211.17	2302.89	2197.15	2070.71	1693.51	1565.68	1928.14	3030.00
P.C. to Total	**14.60**	**16.69**	**10.54**	**15.64**	**13.67**	**15.95**	**14.26**	**18.35**	**11.37**	**13.96**	**12.27**
10. Agril. Finance Institutions	0	0	0	0	0	0	0	0	0	0	0
P.C. to Total											
11. Co-operation	592.45	282.81	645.59	520.38	642.56	385.27	146.39	116.35	44.92	139.21	540.00
P.C. to Total	**4.47**	**2.63**	**3.79**	**3.68**	**3.81**	**2.80**	**1.01**	**1.26**	**0.33**	**1.01**	**2.19**
12. Other Agril. Programme	60.10	50.36	74.90	73.84	63.30	64.55	48.40	52.26	27.52	54.32	6.00
P.C. to Total	**0.45**	**0.47**	**0.44**	**0.52**	**0.38**	**0.47**	**0.33**	**0.57**	**0.20**	**0.39**	**0.02**
Total	13263.97	10755.19	17045.03	14138.52	16850.53	13779.04	14519.03	9229.35	13768.21	13813.39	24693.00
P.C. to Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source : Assam Budget in Brief,Relevent Years

Table-3.3.b

Compound Growth Rate of Expenditure Under State Sector Schemes

Name of the Heads	Compound Growth Rates (1986-87 to 2007-08)
1. Crop Husbandry	2.84
2. Soil & Water Conservation	-1.17
3. Animal Husbandry	-1.05
4. Dairy Development	1.39
5. Fisheries	2.12
6. Forestry & Wildlife	1.07
7. Plantation	-2.71
8.Food Storage & warehousing	3.88
9. Agril. Research & Education	3.29
10. Agril. Finance & Institutions	-
11. Cooperation	-0.07
12. Other Agriculture Programme	-4.64
Total (over all)	1.70

Note: Compound Growth Rates of Some heads could not be Worked out as no expenditures were recorded in most of the years under observation.

3.8 Expenditure incurred under Externally Aided Project (EAP) in Assam :

The externally aided project called Assam Rural Infrastructure and Agricultural Service Project (ARIASP) was one of the major schemes implemented during 9th & 10th plan in Assam. The Scheme had a project period of 8 years starting from 1995-96. The scheme was a World Bank Aided Project. There were 4 main components of the scheme.

1. Horticulture: (a) Development of Progeny Orchards
   (b) Demonstration
   (c) Training
2. Education & Training: (a) Monthly Cluster Training
   (b) Workshop (bi-monthly)
3. Extension: (a) SDAO's Office
   (b) Demonstration
4. Irrigation (STW)

This comprehensive project had a major rule towards the development of infrastructure to boost up agriculture as well as horticulture in the State. Installation of Shallow Tube Well irrigation through Farm Management Committee (FMC) was a very successful programmer to boost summer paddy production in the State.

After closing of ARIASP in the year 2002-03 another World Bank Aided Project (externally aided project) called Assam Agricultural Competitiveness Project (AACP) started in the year 2004 during 10th plan. This project supports the Departmental Agricultural work programme including the extension services for agriculture as well as horticulture among poor communities aimed at increasing their production. Major thrushes of the programme are installation of STW, LLP, distribution Tractors, Power tiller, Micro-watershed drainage, Market development including Rural Huts and rural Wholesale Market etc.

Approved allocation under EAP was Rs. 6602.00 lakh during 9th plan and Rs.10000.00 for 10th plan period and actual expenditure stood at Rs. 22007.00 in 9th plan against anticipated expenditure of Rs. 13377.66 in 10th plan. The percentages of approved allocation to total State's plan under the head of EAP were 13.63 per cent in 9th plan and 33.48 per cent in 10th plan while the percentages of actual expenditure to total State's plan increased to 33.92 per cent in 9th plan and 42.49 per cent (anticipated) in 10th plan against approved allocation in both the plan periods.

Table- 3.4

The share of Externally Aided Project (EAP) of Approved allocation and Expenditure to total Crop Husbandry including Argil. Research & Education and Argil. Marketing

EAP	5th Plan	6th Plan	7th Plan	8th Plan	9th Plan	10th Plan
Approved allocation	0.00	0.00	0.00	0.00	6602.00	10000.00
P.C. to total AA	0.00	0.00	0.00	0.00	13.63	33.48
Actual Expenditure	0.00	0.00	0.00	0.00	12007.00	13377.66
P.C. to total AE	0.00	0.00	0.00	0.00	33.92	42.49
Total Approved allocation	3240.00	5550.00	18025.00	22588.00	48429.00	29870.00
Total Actual Expenditure	3148.70	5829.11	13034.90	23224.37	35399.64	31482.63

*AA = Approved Allocation *AE = Actual Expenditure

Source: 5th, 6th, 7th, 8th, 9th, 10th and 11th Draft Five Year Plan.

3.9. Brief Review of Available Evaluation Studies by Schemes :

An evaluation study, named 'Economic Appraisal of Command Area Development Programmes Under Jamuna Irrigation Project in Assam', conducted in 1993,has found that the project made a significant productivity break through in the field of agriculture so far as production of paddy is concerned .Cultivation of traditional variety of Ahu paddy has been totally replaced by HYV. The average Yield of regular Ahu in irrigated farm was 3457 kg. per hectare as against 3020 kg. in un irrigated fields. The yield of this crop has gone up to even 4595 kg. in irrigated farms of the marginal holding. Yield of early Ahu which was cultivated only in irrigated fields went up to 6439 kg. in the field of the large farmers with an overall aggregate of 4913 kg. A considerable volume of marketable surplus of paddy is noticeable. Other crops like rabi crops and vegetables, sugarcane and other crops although at a low key are produced and marketed. This indicated that the Jamuna CAD Project is a viable one.

The project Evaluation Study 'Centrally Sponsored Scheme on Special Jute Development Programme in Assam 1990-91', conducted in 1993, has found that implementation of the project has some encouraging impacts in production and productivity of jute/mesta per unit of land. In spite of various constraints at different stages of jute/mesta cultivation, the overall average yield (kg./ha.) increased considerably .The yield (kg./ha.) of both jute and mesta obtained were found to be higher for jute and mesta for triennium ending 1990-91.However the implementation of S.J.D.P. was not without drowbacks at the administrative levels. The way by which the programme brought awareness of the rural farming community was no doubt emphasized but not without having loopholes in channels of publicity and communication.

An evaluation study 'Implementation of Central Sector Scheme on Promotion of Agriculture Mechanization Through Small Tractors', conducted in 1995, found that in areas with assured irrigation facility, mechanization of farming operation and adoption of new technology achieved a breakthrough. But, mechanization through small tractors has not so far got the expected response from the farmers. Some of the reasons behind the

poor response are, publicity in this regard is inadequate and use of tractor in some areas is not feasible due to prevailing crop production process under existing soil condition. High cost of tractor is also a point of disincentive among the poor farmers. However, to achieve a breakthrough in this regard a few steps are felt necessary. These felt needs are based on the opinions of the respondents as well as concerned officials associated with the implementation of the scheme. The study sufficiently established that mechanization alone can not bring any perceptible change in cropping pattern and crop production. Technology intensity has also remained almost static in the preceding and reference years. However, after acquiring tractors there was an upward trend so far productivity of principal crop i.e. Kharif paddy, although it is not due to use of tractor alone. Normal distribution of rainfall and other factors also played significant roles. Inference may be drawn that with adequate irrigation facilities and sound input delivery system there is scope of increasing productivity of crop with the help of small tractors.

The project evaluation study 'Agro-Economic Evaluation of National Watershed Development Project for Rain-fed Areas' in 1995 found that the project emphasized on developing the watershed with the basic promises which is a technical and difficult problem. Watershed is related to hydrology, natural resource management along with sediment reduction measures, protection of natural resources and sustainable farming system. So, adequate research knowledge and practical experience is necessary on the matters involving effectiveness of watershed protection, rehabilitation and management. The transformation of research knowledge into practices is a necessary pre-condition for effective implementation of the programmes. For each watershed, perspective plan based on studies of ecology, hydrology, soil properties and soil run of annual precipitation, sociological factors, etc. is necessary. Whatever efforts have been taken up so far, are not based on any research studies. However, the soil moisture congestions, soil run-off management structures, agro forestry, dry land horticulture etc. are expected to control surface run-off and may prevent watershed deterioration of various natures. The programme requires well-trained personnel like, watershed

management specialist, hydrologist, agronomist, sociologist and person from many other related disciplines. It was further felt that some new administrative machinery needs to be evolved for implementation of the schemes with clear understanding. The application of current knowledge on regeneration requirements etc. will prevent many kinds of watershed deterioration. It only requires decision making technique for resources management. Establishing rapport and convincing the rural people through the Mitra-Kisans and the Gopals about the utility and benefit of the watershed programmes should be the basic and primary motto of the training. The training should be exhaustive and follow up action should be taken after course of training.

A study, conducted in 1997, named 'Evaluation of Fish Farmers' Development Agencies in Assam' found that due to certain technical and administrative reasons the promising occupation of pisciculture has not been proved viable. It is neither employment generating nor income generating. The capital input and output is not at all encouraging. Lack of motivation or gap in communication of the scientific technology to the fish farmers or the inability on the parts of the farmers to follow the scientific cultural practices may be possible reasons of the hitherto unsatisfactory results from the pond/tank fisheries in the state. On the other hand, lack of motivation on the part of fisheries extension personnel to motivate the fish farming in also equally responsible for the poor state of affairs. So motivation of the extension personnel as well as the farmers needs utmost attention. In order to over come the problems inherent in the fisheries economy as well as in the implementation of development schemes, the State Government must intervene and take the challenges of bringing changes through some positive programme. For this purpose the Govt. may constitute a committee consisting of experts in fisheries science and fisheries economics, policy makers, personnel from fisheries industry and progressive fish farmers to study in detail the various aspects of fisheries and suggest ways and means for efficient utilization of the available resources.

Another evaluation study conducted in 2004,named 'Impact of Shallow Tube Well Irrigation on Crop Production in Assam' found that installation of STWs under World Bank and NABARD projects have been successful in creating irrigation potential to cover 294 thousand hectares. Involvement of FMCs has certain visible impact in achieving this milestone. The Expansion of assured irrigation facility has significantly increased the cropping intensity particularly of rice. The farmers gradually are becoming more interested in summer paddy cultivation as the yield of summer paddy is higher. The increase in area under HYV Summer paddy coupled with increase in consumption of fertilizers have led to a noticeable increase in production of rice in Assam. Winter rice however enjoys a preferential advantage in Assam, but its production has been constrained mainly by floods and practices of traditional methods of production. It is however, evident from the analysis that the STW programme launched by the Government has positive impact on production of principal crops and paddy in particular. The irrigation potentials have been utilized by all the farmers for production of summer rice like Ahu and Boro. If the area is flood prone then STW beneficiaries are interested more in production of summer paddy. The user of STWs has some basic knowledge on the use of chemical fertilizers, HYV seed, pesticides, adoption of new farm technology etc. It was observed that in some of the selected FMCs the members do not have their own STWs but, get their land irrigation with the help of their fallow farmers who have been provided with the STWs under the programme. It is hoped that better water management, timely supply of credit and inputs effective agricultural support services, conjunctive use of water, co-ordination of all the development departments/ agencies, technological support etc. would accelerate the STW irrigation project in a significant way. To achieve this institutional reforms are necessary for a qualitative breakthrough in the field of Agriculture and the rural sector.

The financial and physical Target and Achievement of various programmes under Macro Management Scheme of Agriculture in Assam is given in appendix Tables.

CHAPTER-IV

NEXUS BETWEEN STATE INTERVENTION AND AGRICULTURAL DEVELOPMENT

4.1 Introduction:

Agriculture is a large private sector economy of the State. It still plays a significant role in the State economy. The contribution of Agriculture Sector to the NSDP is found as 36.81 per cent in 2005-06 at current price and 34.37 per cent at constant price of 1999-00. As the country and the state follow a socialistic pattern of economy and so both the private sector and the public sector co-exist here. That is why state intervention is a must and also essential as agriculture sector is becoming a capital intensive venture. The persons who are directly engaged in this sector cannot afford required capital from their own. It has already been discussed in earlier chapters that how the state government intervenes for development of agriculture and allied sectors through various schemes at state level and central level and external support (EAP). Here an attempt has been made in order to highlight the state and central governments intervention in terms of financial support. To present a vivid picture of state intervention in agricultural development of the state,Table-4.1 is made to focus State's intervention as revenue expenditure in agriculture & allied sector in the years from 1986-87 to 2007-08 under Non-plan and State's plan along with expenditure in CSS and CS. It has been observed from the Table 4.1 that the percentages to total revenue expenditure in agriculture & allied sector under non –Plan head varied between 6.59 per cent and 3.10 per cent during the year 1991-92 and 2007-08. The CGR view at 4.58 per cent. Under the head of State plan, it also exhibited a down ward trend which varied between 6.90 per cent and 0.90 per cent during the year 1987-88 and 2004-05 .The CGR at 1.78 per cent during the period. The proportion of expenditure under CSS varied between 1.36 per cent and 0.04 per cent during the period of 1986-87 and 1998-99 with the

Table- 4.1

Share of Percentage to total Revenue Expenditure in Non-plan,Plan,Centrally Sponsored and Central Sector Heads Under Agril. & Allied

(Rs. In Lakh)

Year	Non-Plan	State Plan	CSS	CS	Total Agril & Allied	Total Rev.Exp.
1986-87	6,992.16	7,757.99	1,560.98	206.40	16,517.53	114,936.23
%	6.08	6.75	1.36	0.18	14.37	
1987-88	5,178.22	9,147.61	1,294.93	378.28	15,999.04	132,547.43
%	3.91	6.90	0.98	0.29	12.07	
1988-89	7,085.00	5,023.82	816.06	245.87	13,170.75	143,541.83
%	4.94	3.50	0.57	0.17	9.18	
1989-90	8,507.79	9,789.32	1,115.79	522.59	19,935.49	166,718.83
%	5.10	5.87	0.67	0.31	11.96	
1990-91	12,386.53	9,880.89	1,572.50	319.59	24,159.51	192,040.15
%	6.45	5.15	0.82	0.17	12.58	
1991-92	15,255.57	10,727.93	1,777.51	51.61	27,812.62	231,330.00
%	6.59	4.64	0.77	0.02	12.02	
1992-93	13,232.98	10,881.63	1,045.56	201.47	25,361.64	290,117.73
%	4.56	3.75	0.36	0.07	8.74	
1993-94	16,461.88	13,553.65	1,815.00	1,285.13	33,115.66	324,188.31
%	5.08	4.18	0.56	0.40	10.21	
1994-95	14,492.05	11,411.83	978.69	381.87	27,264.44	331,768.39
%	4.37	3.44	0.29	0.12	8.22	
1995-96	32,596.48	12,563.78	1,693.10	2,176.16	49,029.52	397,480.46
%	8.20	3.16	0.43	0.55	12.34	
1996-97	17,413.77	10,133.63	973.97	486.50	29,007.87	357,130.35
%	4.88	2.84	0.27	0.14	8.12	
1997-98	16,283.63	13,263.97	987.21	239.89	30,774.70	403,858.15
%	4.03	3.28	0.24	0.06	7.62	

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Table- 4.1

Share of Percentage to total Revenue Expenditure in Non-plan,Plan,Centrally Sponsored and Central Sector Heads Under Agril. & Allied

(Rs. In Lakh)

Year	Non-Plan	State Plan	CSS	CS	Total Agril & Allied	Total Rev.Exp.
1998-99	21,386.71	10755.19	196.50	398.17	32,736.57	441,634.01
%	6.08	6.75	1.36	0.18	14.37	
1999-00	23,155.64	17,045.03	294.55	256.30	40,751.52	584,566.63
%	3.91	6.90	0.98	0.29	12.07	
2000-01	24,637.69	14,138.52	626.33	1,191.33	40,593.87	641,711.87
%	4.94	3.50	0.57	0.17	9.18	
2001-02	23,485.89	16,850.53	1,569.20	636.60	42,542.22	684,624.21
%	5.10	5.87	0.67	0.31	11.96	
2002-03	21,066.58	13,779.04	941.19	416.58	36,203.39	711,249.94
%	6.45	5.15	0.82	0.17	12.58	
2003-04	32,477.40	14,519.23	318.31	498.90	47,813.84	844,979.24
%	6.59	4.64	0.77	0.02	12.02	
2004-05	37,819.56	9,229.35	1,073.14	579.32	48,701.37	1,022,914.50
%	4.56	3.75	0.36	0.07	8.74	
2005-06	38,717.84	13,768.21	1,206.67	1,086.14	54,778.86	1,053,631.04
%	5.08	4.18	0.56	0.40	10.21	
2006-07	44,626.19	13,813.39	2,096.64	821.59	61,357.81	1,145,653.00
%	4.37	3.44	0.29	0.12	8.22	
2007-08	49,830.97	24,693.00	4,935.16	4,715.00	84,174.13	1,609,081.04
%	8.20	3.16	0.43	0.55	12.34	

Source: 1. Memorandum of the Budget Estimates,Govt. of Assam,1986-87 to 2007-08.

2. Assam Budget in Brief (1986-87 to 2007-08)

negative CGR at - 0.13 per cent during the period 1986-87 to 2007-08 while under CS the highest proportion of expenditure of 0.29 per cent was seen against the year 2007-08 and the lowest 0.02 per cent is seen against the year 1991-92 with the CGR at 3.97 per cent during the period 1986-87 -2007-08. Combining all, the highest percentage i.e.14.37 per cent of total revenue expenditure under agriculture & allied was in 1986-87 followed by 12.58%, 12.34%, 12.07%, 12.02%, 11.96%, 10.21%, 9.18%, 8.74%, 8.22%, 8.12%, 7.62%, 7.41%, 6.97%, 6.33%, 6.21%, 5.66%,5.38%, 5.23%, 5.20%, 5.09% and 4.76% against the years 1990-91, 1995-96, 1987-88, 1991-92, 1989-90, 1993-94, 1988-89, 1992-93, 1994-95, 1996-97, 1997-98, 1998-99, 1999-00, 2000-01, 2001-02, 2003-04, 2006-07, 2007-08, 2005-06, 2002-03 and 2004-05 respectively. The calculated Compound Growth Rate (CGR) of revenue expenditure during this period from 1986-87 to 2007-08 has been found as 4.58 per cent against Non- Plan expenditure, 1.70 percent against State Plan, -0.13 percent against Central Sponsored Scheme and 3.33 percent against Central Sector Scheme.

4.2. a. Revenue Expenditure as per cent of NSDP:

In order to see the contribution of revenue expenditure to NSDP of the State has been worked out here for crop husbandry, animal husbandry &dairy, fishery and forestry & wild life. From this analysis two opinions can be made. Firstly the lower percentage ratio has a positive impact of revenue expenditure on the growth of NSDP and secondly it may also have negative impact on the growth of targeted NSDP if revenue expenditure does not maintain requisite amount of expenditure.

Table 4.2, 4.3, 4.4, and 4.5 give revenue expenditure as per cent of NSDP of crop husbandry, animal husbandry & dairy, fishery and forestry & wild life respectively. In case of crop husbandry the percentage ratios have declined from 2.82 per cent in 1986-97 to 1.61 per cent in 2006-07 with a fractional variation from year to year. The percentage ratios against animal husbandry &dairy has come down from 4.87 per cent in 1986-97 to 2.10 per cent in 2006-07, the percentage ratios against fishery have come down from 5.26 per cent in 1986-97 to 2.45 per cent in 2006-07 showing a little bit of

variation over the period under observation while these ratios have been seen very high against forestry &wild life as compared to other sectors but it has also shown a declining trend from 36.40 per cent per cent in 1986-97 to 26.07 per cent in 2006-0707with an over all decline of around 10 percent per cent during the period 1986-87-2006-07.

Table-4.2

Rev. Expe.(Non-plan + State Plan +CSS+CS) on Crop Husbandry and Estimated NSDP of Crop Husbandry in Assam

(Rs. in Lakhs)

Year	Rev. Expe. on Crop Husbandry	NSDP of Crop Husbandry	Rev. Expenditure as per cent of NSDP
1986-87	4475.50	158796.79	2.82
1987-88	4427.19	183495.94	2.41
1988-89	2939.70	210090.12	1.40
1989-90	5715.47	242869.12	2.35
1990-91	6673.85	299277.06	2.23
1991-92	5524.41	368307.14	1.50
1992-93	6672.16	399400.56	1.67
1993-94	10220.55	431563.17	2.37
1994-95	6840.89	556747.81	1.23
1995-96	8467.31	598206.41	1.42
1996-97	7221.44	591198.12	1.22
1997-98	8911.44	691134.63	1.29
1998-99	8469.73	793825.80	1.07
1999-00	11871.45	837622.55	1.42
2000-01	11348.59	832728.76	1.36
2001-02	13848.33	810024.91	1.71
2002-03	8618.29	786423.19	1.10
2003-04	13237.09	800904.61	1.65
2004-05	12542.59	861375.03	1.46
2005-06	14705.03	1024843.51	1.43
2006-07	17879.60	1108950.02	1.61

Source: Directorate of Economics and Statistics, Govt. of Assam

Table-4.3

Rev. Exp. (Non Plan + Plan + CSS + CS) On Animal Husbandry & Dairy and Estimated NSDP of Animal Husbandry & Dairy in Assam

(Rs. In Lakhs.)

Year	Exp. on Animal Husbandry & Dairy Development	Estimated NSDP Animal Husb & Dairy	Rev. Exp.as per cent of NSDP
1986-87	2944.91	60504	4.87
1987-88	2204.37	65997	3.34
1988-89	3126.96	77327	4.04
1989-90	3189.37	91620	3.48
1990-91	5211.31	103597	5.03
1991-92	7762.06	114097	6.80
1992-93	4436.72	130133	3.41
1993-94	4367.34	149967	2.91
1994-95	4361.73	165551	2.63
1995-96	5701.24	178608	3.19
1996-97	4642.95	191692	2.42
1997-98	5299.21	219251	2.42
1998-99	6349.19	248467	2.56
1999-00	7137.06	262186	2.72
2000-01	7883.47	272482	2.89
2001-02	6984.46	306116	2.28
2002-03	7282.33	333445	2.18
2003-04	9411.56	363067	2.59
2004-05	9687.77	407922	2.37
2005-06	10234.29	452778	2.26
2006-07	10551.49	502379	2.10

Source: Directorate of Economics and Statistics, Govt. of Assam

Table-4.4

Rev. Exp. (Non Plan + Plan + CSS + CS)On Fishery and Estimated NSDP of Fishery in Assam

(Rs. In Lakhs.)

Year	Exp. On Fisheries	NSDP Fishing	Rev. Exp. as per cent of NSDP
1986-87	529.67	10071	5.26
1987-88	654.39	11314	5.78
1988-89	508.24	11551	4.40
1989-90	756.60	11530	6.56
1990-91	785.44	11963	6.57
1991-92	670.22	14584	4.60
1992-93	1051.71	16200	6.49
1993-94	1189.88	17135	6.94
1994-95	1004.73	37114	2.71
1995-96	1466.71	36917	3.97
1996-97	1124.01	47288	2.38
1997-98	1453.65	46552	3.12
1998-99	1112.03	46037	2.42
1999-00	1685.88	45083	3.74
2000-01	1484.02	51530	2.88
2001-02	1706.77	51739	3.30
2002-03	1309.35	53352	2.45
2003-04	1567.32	61316	2.56
2004-05	1850.95	73102	2.53
2005-06	3110.45	75065	4.14
2006-07	2331.06	95124	2.45

Source: Directorate of Economics and Statistics, Govt. of Assam

Table-4.5

Rev. Exp. (Non Plan + Plan + CSS + CS) On Forestry and Estimated NSDP of Forestry in Assam

(Rs. In Lakhs.)

Year	Forestry & Wild Life	NSDP Forestry	Rev. Exp. as per cent of NSDP
1986-87	3653.64	10037	36.40
1987-88	3397.97	10322	32.92
1988-89	3777.01	11373	33.21
1989-90	4510.35	14616	30.86
1990-91	5368.72	15674	34.25
1991-92	5838.27	24783	23.56
1992-93	5979.02	27532	21.72
1993-94	6503.78	29155	22.31
1994-95	5933.39	29740	19.95
1995-96	7084.21	30414	23.29
1996-97	7160.53	30355	23.59
1997-98	6979.31	32933	21.19
1998-99	8643.35	35570	24.30
1999-00	10852.09	38185	28.42
2000-01	10324.53	45756	22.56
2001-02	10223.07	44364	23.04
2002-03	9583.50	52679	18.19
2003-04	10645.36	53938	19.74
2004-05	11430.25	54892	20.82
2005-06	13532.41	57510	23.53
2006-07	15805.04	60632	26.07

Source: Directorate of Economics and Statistics, Govt. of Assam

4.2.b Impact of agriculture revenue expenditure on Production and NSDP of the State:

An attempt has also been made here to see the impact of agricultural revenue expenditure on production and NSDP with the help of a simple linear regression functions where food–grains production, NSDP of time series data from 1986-87 to 2006-07 of current year based on new series of 1999-00 published by Directorate of Economics and Statistics, Govt. of Assam as dependent variables and time series data of revenue expenditure for current year as independent variable. Sector wise observations are as follows:

1. Food grain production and Revenue expenditure in agricultural & allied sector:

Revenue Expenditure on Crop Husbandry and Production of Food-grains is presented in Table 4.6.

Table-4.6

Rev. Expe.(Non-plan + State Plan + CSS + CS) on Crop Husbandry and Prod. of Food grains in Assam

Year	Rev. Expe. on Crop Husbandry (Rs. In Lakhs)	Prod. of Food grains (Th. Tonne)
1986-87	4475.50	2,588
1987-88	4427.19	2,899
1988-89	2939.70	2,628
1989-90	5715.47	2,951
1990-91	6673.85	3,442
1991-92	5524.41	3,379
1992-93	6672.16	3,447
1993-94	10220.55	3,535
1994-95	6840.89	3,489
1995-96	8467.31	3,561
1996-97	7221.44	3,532
1997-98	8911.44	3,578
1998-99	8469.73	3,434
1999-00	11871.45	4,042
2000-01	11348.59	4,167
2001-02	13848.33	4,028
2002-03	8618.29	3,894
2003-04	13237.09	4,034
2004-05	12542.59	3,617
2005-06	14705.03	3,680
2006-07	17879.60	3,067

Source: Directorate of Economics and Statistics, Govt. of Assam

For examining the impact of food grain production in Assam on revenue expenditure in crop husbandry (Table 4.6) the following linear function was considered-

$$Y = f(X_1, e)$$

Where, Y = Food grain production in thousand M. Tonnes

X_1= Revenue expenditure on crop husbandry, Rupees in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y=2870.31+.06671\ X_1 \text{---------- (1)}$$

(3.1097)

$$R^2=0.34$$

Figures in parentheses calculated "t" value which was found significant at all probability levels. It indicated that revenue expenditure on crop husbandry had a positive impact on food grains production. One per cent increase in X_1 will increase 7 per cent in food grains production. However, low R^2 value indicated that the food-grains production in the State might also be affected by some other exogenous factors beside revenue expenditure during the period of observation. The estimated equation also showed a positive but very insignificant linear growth rate of food-grains production. The elasticity of revenue expenditure worked out at 0.17 percent with a very insignificant linear growth i.e. 0.002 percent.

2. NSDP and Revenue expenditure in Crop Husbandry: (Table-4.2)

For examining the impact of NSDP of Crop Husbandry in Assam on its revenue expenditure, the following linear equation was considered-

$$Y = f(X_1, e)$$

Where, Y = NSDP of Crop husbandry, Rs. in Lakhs

X_1=Revenue expenditure on Crop husbandry, Rs.in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y= -6917.34 + 66.80\ X_1 \text{---------- (1)}$$

(9.171)

$$R^2=0.82$$

Figures in parentheses present calculated t value which was found significant at all probability level. It indicates that revenue expenditure in Crop husbandry has a high positive impact on NSDP of this sector. The negative value of intercept also suggests the present amount of revenue expenditure is needed to rise for better development of the sector. The estimated equation also showed a negative linear

growth rate of NSDP of –0.97 per cent. The elasticity of revenue expenditure worked out at 1.01 percent. The linear growth rate is found -0.97 percent.

3. NSDP and Revenue expenditure in Animal Husbandry & Dairy: (Table-4.3)

For examining the impact of NSDP of Animal Husbandry & Dairy in Assam on its revenue expenditure, the following linear equation was considered-

$$Y = f(X_1, e)$$

Where, Y = NSDP of animal husbandry and dairy development, Rs. in Lakhs

X_1=Revenue expenditure on animal husbandry and dairy development, Rs.in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y = -69439.40 + 47.8017\ X_1 \text{---------- (1)}$$

$$(9.603)$$

$$R^2=0.83$$

Figures in parentheses present calculated t value which was found significant at all probability level. It indicates that revenue expenditure in animal husbandry and dairy has a high positive impact on NSDP of animal husbandry and dairy. The negative value of intercept also suggests the present amount of revenue expenditure is needed to raise for better development of the sector. The estimated equation also showed a negative linear growth rate of NSDP of -0.07 per cent. The elasticity of revenue expenditure worked out at 1.31 percent and the linear growth rate is -0.07 percent.

4. NSDP and Revenue expenditure in Fishery: (Table-4.4)

For examining the impact of NSDP of fishery as a whole in Assam on its revenue expenditure, the following linear function was considered-

$$Y = f(X_1, e)$$

Where, Y = NSDP of Fishery in Rs. in Lakhs

X_1=Revenue expenditure on Fishery in Rs. in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y = -5151.58 + 34.1003X_1 \text{---------- (1)}$$

(7.566)

$R^2=0.75$

Figures in parentheses present calculated t value which is found significant at all probability level. It indicates that revenue expenditure in fishery has a positive impact on NSDP of fishery. The negative value of intercept also suggests the present amount of revenue expenditure is needed to rise for better development of the sector. The estimated equation also showed a negative linear growth rate of NSDP of -0.66 per cent. The elasticity of revenue expenditure worked out at 1.13 percent. The linear growth rate is -0.66 percent.

5. NSDP and Revenue expenditure in Forestry and wild life: (Table-4.5)

For examining the impact of NSDP of Forestry in Assam on its revenue expenditure, the following linear equation was considered-

$$Y = f(X_1, e)$$

Where, Y = NSDP of Forestry, Rs. in Lakhs

X_1=Revenue expenditure on Forestry, Rs. in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y = -2592.48 + 4.5741X_1 \text{---------- (1)}$$

(13.099)

$R^2=0.90$

Figures in parentheses present calculated 't" value which was found highly significant at all probability level. It indicated that revenue expenditure in Forestry and wild life had a positive impact on food grains production. The negative value of intercept also indicated the growth of NSDP of Forestry has not attained stability. The amount of revenue expenditure is needed to be raised for better development of the sector. The estimated equation also showed a negative linear growth rate of NSDP of -0.18 per cent.

The elasticity of revenue expenditure worked out at 1.08 percent. The linear growth rate is found -0.18 percent.

6. NSDP and Revenue expenditure in Agricultural & Allied Sector: (Table-4.7)

For examining the impact of NSDP in Agricultural & Allied Sector as a whole in Assam on its revenue expenditure, the following linear equation was considered-

Table-4.7
Rev. Exp. On Agril. & Allied and NSDP (Rs. In Lakhs.)
(Non Plan+Plan+CSS+CS)

Year	Rev. Exp. On Agril. & Allide	NSDP (Rs. In Lakhs)
1987-88	21943	231232
1988-89	20058	240938
1989-90	26046	272416
1990-91	33007	313562
1991-92	38586	362125
1992-93	23966	442242
1993-94	25362	526137
1994-95	28594	575823
1995-96	45782	718384
1996-97	29408	789630
1997-98	30775	854457
1998-99	32937	862434
1999-00	40751	991994
2000-01	40621	1125561
2001-02	42542	1197095
2002-03	36221	1201314
2003-04	47814	1222172
2004-05	48791	1235122
2005-06	54779	1291966
2006-07	61358	1401873
2007-08	86893	1633378

$$Y = f(X_1, e)$$

Where, Y = NSDP as a whole Rs. in Lakhs

X_1= Revenue expenditure on Agriculture and Allied, Rs. in Lakhs

e = Random variable

The estimated linear equation has been found out as-

$$Y= -53210.94 +22.80\ X_1 \text{---------- (1)}$$

(6.348)

$$R^2=0.68$$

Figures in parentheses shown calculated "t" value which was found significant at all probability level. It indicated that the revenue expenditure on agriculture and allied sector as a whole showed a positive impact on NSDP on agriculture and allied. The negative value of intercept also viewed that the present amount of revenue expenditure in Agriculture & allied sector was not adequate enough to boost the NSDP of agriculture and allied sector of the State .If revenue expenditure is withdrawn i.e X=0, NSDP will drastically go down to Rs.53210.94.It can be concluded from the estimated equation that the impact of revenue expenditure on NSDP of Agricultural & Allied Sector have not attained stability in growth. The estimated equation also showed a negative linear growth rate of NSDP of -0.04 per cent. The elasticity of revenue expenditure worked out at 1.06 percent and the linear growth rate is -0.04 percent.

4.3.1.a. Comparative scenario of Poverty between Assam and all India:

Poverty reduction goal is a major policy issue in the annual budget of the State Government and the Central Government as well. The state agriculture sector is still playing a major role for achieving poverty reduction goal mainly in rural areas of the State. Poverty is also considered mostly as a rural phenomenon. Therefore in poor agriculture economy, poverty reduction goal will remain in a slogan only. Agriculture has direct effects on farmers' income whose population is more than 75 per cent of the total population of the State. It also provides employment to a large section of the rural

rural people from inadequate calories consumption. The growth of agriculture has a multiple effect on the non-farm economy of the State. Considering these all multiple effects of agriculture sector on reduction of poverty, due care has been given in each annual budget of revenue expenditure under different heads of development in agriculture & allied sector to reduce the number of persons under BPL. In this regard economy of Social Sector plays major role through various poverty alleviation programmes. There is no as such programmes under agricultural & allied sector except some special program has been taken up for marginal and small farmers. Special emphasis has also been given in Tribal Sub Plan (TSP) and Scheduled Cast Component Plan (SCCP) as poverty reduction goal. But it is a fact that down fall of agriculture sector may push down more persons under poverty line. As there is no time series data on poverty in the available sources in the centre, actual impact of revenue expenditure in agriculture sector on poverty could not be incorporated here.

Table-4.8

Population below Poverty Line in Assam and India

(Nos. of persons in lakhs)

Year	State/ Country	Rural		Urban		Combined	
		No. of persons	% of Persons	No. of persons	% of Persons	No. of persons	% of Persons
*1999-2000	Assam	92.17	40.04	2.38	7.47	94.55	36.09
	India	1932.43	27.09	670.07	23.62	2602.50	26.10
*2004-2005	Assam	54.50	22.30	1.28	3.30	55.78	19.70
	India	2212.24	28.30	807.96	25.70	3017.20	27.50

Note: Poverty line:

* (1) The task force, constituted by the Planning Commission, defined the poverty line as per capita consumption expenditure level, which meets the average per capita daily calorie requirement of 2400 calorie in rural areas and 2100 calorie in urban along with a minimum of non-food expenditure.

(2) The poverty line in 1999-2000 at all India level as estimated by the Planning Commission is Rs. 327.56 per capita per month for rural areas and Rs. 454.11 per capita per month for urban areas

** **URP:** Uniform Recall period consumption in which the consumer expenditure data for all the items are collected from 30 day recall period

A comparative scenario of population below poverty line by three divisions- rural, urban and combined in Assam and India is presented in Table-4.8. The percentages of population below poverty in Assam were 40.04 per cent in rural ,7.47 per cent in urban and 36.09 per cent combing both rural and urban against 27.09 rural, 23.62 per cent urban and 26.10 per cent combining both rural and urban in all India in the year 1999-2000.

In 2004-05 the percentage of population below poverty line has shown a decreasing trend as compared to the year 1999-2000. While in case of all India it has shown an increasing trend. The percentages of population below poverty in Assam were 22.30 per cent in rural ,3.30 per cent in urban and 19.70 per cent combining both rural and urban against 28.30 rural, 25.70 per cent urban and 27.50 per cent combining both rural and urban in all India in the year 1999-2000.

4.3.2. Population with and without requisite calorie:

An attempt has also been made on time series data on population and food-grains production to estimate the population in per cent with requisite and without requisite calories along with per capita availability of food grains in terms gram/calorie /per day from 1986-87 to 2006-07 which is presented in Table-4.9.The conversion food – grains to calorie was done on the basis of information collected from the Department of Home Science, AAU. Estimation of requisite calorie per person per day has been calculated as per note given in the Table-4.9. From the table, the percentages of population with having requisite calorie varied between 65.62 per cent and 44.37 per cent against the population without having requisite calorie lied between 55.63 per cent and 34.38 per cent during the period 1986-87 to 2006-07. The highest per capita availability in terms of calorie was 1478.27/day in 2000-01 where as the lowest was 999.63 /day in 2006-07. The availability of requisite calories was found in deficit against each year under observation.

4.4. Impact of Agricultural Expenditure on Farm Sector Distress:

The impact of Agricultural Expenditure on Farm Sector Distress with some of the major constraints has been discussed here by sector wise.

4.4.1. Crop Husbandry Sector:

(1) Sinking of Land –man-ratio due to excessive dependence on agriculture:

The land is the basic resource for agricultural growth and development. But the expansion of net cropped area has not been able to match with the growth of population dependent on agriculture. This has resulted substantial decrease in land-man-ratio from 0.52 in 1970-71 to 0.35 in 1990-91 and further to 0.29 in 2000-2001.

(2) Low per Capita Income:

The Net State Domestic Product and Per Capita Income are very low in Assam as compared to National average. It is considered as one of the basic features of undeveloped area. The per capita income of Assam is lower by 57.51 per cent of national per capita income.

Moreover, the low level of capital formation is due to low propensity and capacity to save. There are wide-spread rural adversities, which have not come into focus. The agriculture is being discriminated at every step and it has been a practice since ages.

The State's economy in terms of the NSDP has registered an annual growth of 6.15 per cent at constant (1999-00) prices during 2003-2004 as against 6.06 per cent growth in the previous year 2002-2003. At current prices the NSDP recorded a growth of 8.93 per cent in 2003-2004 as against 12.34 per cent growth in the previous year 2002-2003. The annual growth rate of GDP at constant (1999-00) prices was at 6.02 per cent in 2003-2004 as compared to growth rate of 7.07 per cent in 2002-2003, and it was at 8.91 per cent in 2003-2004 at current price over the annual growth rate of 13.30 per cent in 2002-03. This shows that the growth of the State economy is not favourable in 2003-04 as compared to the year 2002-03.

(3) Size of Operational Holdings:

The agricultural economy of Assam is characterized by a large number of small holdings. According to the latest Agricultural Census (1995-96) nearly 83.0 per cent of holdings are small and marginal holdings and covered 43.0 per cent of the total area. The average size of holdings decreased from 1.47 hectares in 1970-71 to 1.27 hectares in 1990-91 and further to 1.15 hectares in 2000-01. These small land holdings also scattered into 3 to 5 plots.

(4) Traditional Cropping Pattern:

So far the cropping pattern is concerned; food crops dominate the cropping pattern. As the major sections of farmers are illiterate and tradition ridden, there is little scope of changing the traditional cropping pattern to rapid modernization. The major crops grown by the farmers in Assam are rice, rapeseed & mustard, jute & mesta, potato, sweet potato and other horticultural crops.

Regarding the cropping pattern, there is no crop substitution in favour of more remunerative crops; only some varietals changes have taken place in some potential areas. The rice crop dominates the cropping pattern and about 65% of rice production comes from winter rice which is susceptible to floods and less sun-shine hours in winter season affect the yield rate.

(5) Low Productivity of Crops and Low Income:

The productivity of major crops are much lower than the agriculturally advanced States of the country and the national average even though Assam is a significant producer of rice, rapeseed and mustard, jute and mesta in the country. But the yield rates of these principal crops are lower by 15 to 20 per cent than the national average.

The lower achievement in respect of agricultural production in Assam is mainly due to lack of modernization of agriculture. Above all, in Kharif season Assam witnesses overcast sky resulted short duration sun-light hours which reduces the photosynthetic efficiency of paddy crop more particularly in case of HYV paddy.

Moreover, due to high humidity condition, spread of pests and diseases are common which also resulted in crop loss.

(6) Dearth of Draught Power:

Non-availability of adequate draught animal is one of the major problems. The cattle populations of the State are of inferior breed and occurrence of animal diseases in Kharif season is too high because of humid condition. During the peak ploughing season efficient tillage with poor breed of indigenous bullock is not possible. The farmers also cannot afford to buy better breed for bullock due to higher prices. Under such situation most of the farmers used to grow crops without proper tillage which resulted lower yield rate.

(7) Low Availability of Farm Power:

The power availability to the farmers in the State is barely 0.3 H.P. per hectare against 1.0 H.P in advanced States. Low availability of farm power has become one of the major constraints for double/multiple cropping. The machinery like power tillers beyond the reach of average farmers of the State for their poor economic condition. The semi-medium and medium farm holders own power tillers and tractors. But the proportion of such machine power holders is negligible.

(8) Problems of Floods and Soil Erosion:

Floods and soil erosion continued to be two major problems faced by the agriculture sector of Assam. Out of 23 districts 19 districts (13.61 lakh hectares) of the State are suffered from floods causing enormous damages to crops, livestock and property which brings untold miseries to the people. The Kharif season crops are prone to flood. Under such situation of uncertainty the farmers do not like to invest on HYV seed, fertilizer etc. and have adopted risk advert strategy in crop cultivation. The floods in successive waves almost every year have been damaging the State's rural economy of Assam.

(9) Adoption of Low Level of Technology:

Adoption of low level of technology is one of the characteristics of agriculture of Assam. Since eighties only modern farm technology have been started with HYV seed, use of chemical fertilizer, prophylactic measures in a limited scale .Assam still stands as a marginal player in the field of adoption of new farm technology. In case of major crop paddy, area under HYV was only 55.37 per cent in 2004-2005. Fertilizer consumption in 2004-05 was only 42.55 kg/ha 2004-05 while it was 89.80 kg/ha. in all India level. .

The capital scarcity and assured irrigation are the two major factors which limit the adoption of modern technologies. The small and marginal farmers in particular face severe capital constraints for which the adoption of new farm technology has tended to slacken.

(10) Unfavorable Land Policy:

The land policy of the State is not conducive for increasing productivity. The policy of land reform was conceived in a proper perspective, but the reform measures brought little justice to the rural people as the policy is riddled with loopholes. The land reform measures of ceiling on holdings led to a melafide transfer and in many cases even if transfer has not been registered under legal action. So, the reform measures without legal right may be treated as a failure.

The implementation of tenancy reform measures has also been disappointing under 'Assam Adhiars Protection and Regulation (amendment) Act, 1955 and 1971 could not provide legal protection to the tenants. In most of the cases the terms of lease has been oral deal which is legally not enforceable. The tenancy reform measures have been found ridiculous mainly due to lack of political will and determination in implementation of land reform policies.

(11) Lack of Institutional Credit & Banking Services:

Assam has poor banking services although numbers of banks are in creasing. The service performance is not adequate in Assam. The credit deposit ratio is of Scheduled Commercial Banks in Assam was at 38.68 per cent as on March 1995 and

31.40 percent as on March, 2002 which are quite unsatisfactory as compared to All- India ratio of 62.3 per cent.

The role of Co-operative bank and RRBs are not to the level of satisfaction in disbursing agricultural credit to the farmers. The performance of RRBs in the rural sector is yet to become a vehicle of agricultural development. The farm sector needs institutional credit for investment in working capital and fixed capital. The farm sector cannot make progress without credit support for investment in modern inputs. The bank transactions are largely confined to urban and sub-urban areas.

(12) Lack of Irrigation:

Due importance has not been given in creation of irrigation potential in the State. In 1980-81 irrigation potential was created only for 2.37 lakh hect. Further to 5.04 lakh hectares in 2000-2001 of which potential utilized is as 22.76 p.c. Assam is blessed with huge irrigation potential but remained untapped on the ground that it falls under heavy rainfall zones. In case of lift irrigation, sand siltation is very high for which farmers do not like to use irrigated water in their crop field. In case of rice, the proportion of irrigated area varied from 23.14 per cent to 24.5 per cent during the period 1980-81 to 2000-01 whereas in All-India it varied from 40.7 per cent to 51.8 per cent and in case of Punjab it was 98.2 per cent to 100.0 per cent during the period.

The World Bank under ARIASP and NABARD programme undertook installation of 1.47 lakh STW during the period 1995-96 to 2002-2003 which is expected to provide assured irrigation to 2.33 lakh hectares. The status of surface water and ground water irrigation remains at a very low key.

(13) Non Adoption of HYV Seeds:

The farmers of Assam are not adopting scientific cropping pattern with modern inputs and HYV seed. For the major crop like paddy, jute and mustard HYV seed covered 42 per cent, 53 per cent and 36 per cent respectively. In advanced States use of HYV seed are 85 per cent to 96 per cent and the all-India average of use of HYV seed is about 76 p.c. The research studies conducted in Assam revealed that use of HYV seed of

major crop covered 30 to 40 per cent of area. The proportion of use of HYV seed in irrigated areas is nearly 70 per cent and in rain fed areas it varied from 15 per cent to 20 per cent. The notable reasons of low use of HYV seed is mainly due to non-availability of needed and trusted varieties in time. Above all major section of farmers also cannot afford to purchase of HYV seed. For HYV seed the State is dependent on other States, in many cases the seeds are not reached in time. So, the use of HYV seed remained at a very low key.

(14) Inadequate Fertilizer Use:

The farmers of Assam are not applying recommended doses of fertilizers due to poor economic condition and also due to lack of irrigation. Apprehension of floods damage is also discouraging fertilizer use. Fertilizer consumption is very low in Assam. In 1980-81 only 2.9 kg/ha was the consumption rate of fertilizer, while at all-India it was 39.10 kg/ha and in Punjab it was 111.90 kg/ha at all-India level and 159.7 kg/ha in Punjab, 133.30 kg/ha in Andhra Pradesh, 114.30 kg/ha in Haryana. In 2001-2002 it has gone upto 37.4 kg/ha in Assam, 137.40 kg/ha in Punjab, 143.50 kg/ha in Andhra Pradesh, 155.70 kg/ha in Haryana and for all-India upto 95.30 kg/ha.

The research studies conducted in the State revealed that in irrigated areas fertilizer consumption varied from 40.5 kg/ha to 70.0 kg/ha, in rainfed areas it varied from 12.0 kg/ha to 20.5 kg/ha in flood prone area it is negligible.

(15) Inadequate Marketing & Storage Facilities:

Efficient marketing net work along with storage facilities is very essential for the farmers to dispose the marketable surplus as it encourages them to produce more for market. The basic marketing facilities are not developed in Assam as the crop production process is remained at subsistence level, market oriented commercial crop cultivation are limited. In Assam there are 34 regulated markets in 23 districts and there are 172 wholesale assembly markets.

A Study conducted by the Agro-Economic Research Centre is 2003 highlighted that the marketed surplus of food grain (paddy) varied from 4.86 per cent to

73.50 per cent depending upon the farm size and consumption requirement of the family. The study also revealed that marketed surplus of cash crops like jute varied from 90.0 per cent to 95.82 per cent. The basic facilities for agricultural marketing is virtually absent in rural areas due to poor road transport communication. It is also observed that in the regulated markets even the minimum requirement of storage facilities are lacking. The price spread between the producer and consumer is too wide. The price spread analysis of perishable commodity producers share of consumers rupee varied from 28 to 30 per cent, in case of food-grains like paddy producer's share is 79 to 85 per cent, in case of cash crops it varied from 75 to 83 per cent depending upon the road communication and marketing facilities.

(16) Lack of Orientation and Awareness Campaign:

Due to lack of effective communication net work the farmers are not aware about the government programmes and policies. The provisions made for the small and marginal farmers, SC/ST farmers in the field of agriculture, horticulture, fisheries, dairy, livestock farming and in other allied activities are not known to them because of lack of awareness campaign. Coming to the benefit side, it is the rural elite having political linkage are enjoying all the benefits meant for the rural poor. The rural poor is being discriminated at every step, mainly doe to illiteracy and lack of awareness.

(17) Lack of Post Harvest Technology:

The post harvest handling of summer rice i.e. thrashing, drying and milling is a problem as the harvesting period of summer rice coincides with high rainfall period. The post harvest technology would continue to be a problem till some innovative measures are introduced. The processing of pulses, non-traditional oil seeds like Sunflower, Say flower, groundnut is also crated some problems. In horticultural sector there is huge post harvest loss due to lack of cold storage and processing industries.

4.4.2Constraints in Fishery Sector:

The major constraints in the fishery sector as per comments/opinions of the fishery experts, department officials and the fish farmers are:

1. Non-availability of standard quality of seed in right season, scarcity of balanced fish feed and inadequacy of technology transfer.
2. In most of the water bodies, fast growth of water hyacinth and other weeds and heavy siltation year after year have destroyed the ecology and affected the fish production.
3. The river system and other water bodies are critically short for stocking of fish and deficient of nutrients which affected the growth of fish. The feeding channels of most of the beels are lost due to construction of dam and embankments, which connected the beels from the rivers.
4. Indiscrimination killing of broad fish and juveniles by using prohibited nets and poisoning in river, beels and other natural sources.
5. Scarcity of balanced fish feed and unscientific management.
6. Inadequate allocation of fund to the fishery sector which affected the development activities.
7. There are no efforts on the part of Govt. agencies to reclaim water bodies to make any improvement for scientific rearing of fish.
8. The problem is further aggravated by the low temperature regime and acidic soil where breeding and rearing is actually difficult.
9. Under utilization of aquatic resources in low lying water areas, insufficient rearing tank area for raising fingerlings from the fry stage. Moreover floods and fish diseases in cultured fisheries have caused financial loss to the farmers.

4.4.3 Constraints in Livestock Sector:

The major constraints that are hindering the development of animal husbandry in Assam are:

1. Lack of proper policy on animal breeding and plan strategies for livestock development in Assam.

2. Absence of quality breeds on animals; all the animals are not descript indigenous type which resulted poor animal productivity, milk production per animal is estimated at only 0.87 kg on an average.
3. Shortage of balance feed and feed concentrates and green fodder is another root cause of poor performance in animal husbandry sector. The small size of land holding limiting the cultivation of fodder. There has been a sharp decline in area under pasture and grazing land because of encroachment of grazing land for crop cultivation. The genetic potentiality of animals cannot be exploited properly in absence of proper nutrition.
4. Lack of adequate research on animal husbandry, and training of farmers in animal management and also poor research focus amongst the farmers. Inadequate monitoring regarding adoption of scientific know how, inadequate feed back from the field is a major constraints to reorient the activities.
5. Poor perception of farmers towards livestock enterprise not as a viable proposition for generation of employment and income and hence not coming forward to accept such occupations.
6. Recurrence of flood causes high incidence of parasitic diseases to animals. Inadequate surveillance and monitoring of infectious and contagious diseases due to lack of transport and laboratory facilities in veterinary dispensaries and hospitals.
7. There is no worth mentioning balanced animal feed manufacturer in the entire N.E. region for which non-conventional feed resources could not be maximize.
8. Pigs and poultry birds are not reared by the Caste Hindu families because of social and religious taboos. Pigs and poultry birds are usually reared by the tribal community in a most unscientific manner and not take up commercially although such livestock farming has great potential.
9. Goat and Sheep farming are not taken up scientifically; practically no attention has been given to these non-bovine animals.

4.4.4. Constraints in Forestry & wild life:

Forests are renewable source and contribute substantially to economic development of the State. They also play a major role in enhancing the quality of environment. Some of the constraints based on eye observation are given below:

1. Wild life is complement to forestry. Therefore existence of wild life depends on availability of forest area. But rapid growth of population is a major constraint as it creates much pressure on forest land and its resources, which in turn becomes a great threatening not only to the wild life but also to the natural environment.
2. Ruthless destruction of forest for timber and fuels, some plants are facing extinctions.
3. Illegal occupying of forest area by the land less migrated people is another major threatening to the forestry and wild life.
4. Although forestation programme has been taken by the forest department of the State in open area of the forest ,it is felt that the post plantation care was found insufficient.
5. Shortage of valuable seedling is also a one of the constraints of proper development of forest area.
6. The experts on environmental study opined that high population growth rate is the main reason behind environmental degradation and deceleration. The environmental scientists opined that due to high growth of population, deforestation is going on an alarming proportion for which man-elephant conflict is appearing as an event in the State. Killing of people by wild elephant is becoming common news in the daily papers.

4.5 Conclusion:

It is fact that there is a wide gap between approved revenue allocation and actual expenditure in the State of Assam .As a result of this the development of agriculture sector as a whole is still far behind as compared to other developed States of the country. Form the above analysis, it has been established that the role of revenue expenditure on the growth in terms of NSDP of crop husbandry, animal husbandry & dairy, fishery and forestry were found very slow. Therefore it needs a proper review to find out the reasons behind.

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CHAPTER-V

SUMMARY AND CONCLUSION

The Budget of a country or a State simply means an annual statement of accounts in terms of receipts and expenditure under different heads of developments. In each annual Budget, Government either at Central level or at State level gives receipts and expenditure statements through different policy initiatives adopted. It has been observed that the budgetary allocation against each development sector has been increasing in an alarming rate on account of increasing population growth and it is changing the life style of the people. Both the country and the State show less receipt then the expenditure incurred. As a result of this fiscal deficit has widened further. It is also seen that inadequate financial resource allocation leads to downfall in receipt sides.

Budgetary resources are inevitable to stimulate the desired growth. It has been observed from the study that the budgetary allocation in Agricultural Sector has been increasing in the State, but still the State is deficit in Food front. It is also observed that there is stagnancy in productivity of crops per hectare during last few years. As a result, poor farmers have to bear the pain for their livelihood. It is a fact that much pressure was imposed on farmers to produce more and more but least care was taken for economic development of the farmers. Input cost of agriculture is raising and agriculture has become capital intensive venture. It is not possible to speed up the agriculture sector reform and better management of food economy of the State without intervention of Centre and State in terms of budgetary allocation under the different heads of development. If it is not taken care of agriculture sector properly, the State will remain at the fear of food crises.

From the study, it reveals that the present level of revenue expenditure did not show any significant impact on NSDP, Crops economy, Fishery, Animal husbandry and Dairy and Forestry. The tendency of cyclical variation is seen in the growth of above sectors. . Therefore it needs a proper review to find out the reasons behind despite increasing revenue expenditure in each year.

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Appendix

Financial Target and Achievement of Macro Management of Agriculture in Assam

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
1	**Agricultural Extention**	**15.16**	**15.16 (I.P.)**	**5.84**	**5.84**	-	-	-	-	-	-
	a. Broadcasting of Agricultural Programme through Doordarshan	√	√	x	x			-	-	-	-
	b. Agricultural Extension through Publicity Cell	x	x	5.84	5.84			-	-	-	-
2	**Agricultural Information and Publicity**			**24.956**	**24.000**	-	-	**5.75**	**5.75**	**10.62**	**10.62**
	a. Production T.V. Serial on Agriculture			√	√			x	x	x	x
	b. Quickies for AIR, Guwahati			√	√			x	x	x	x
	c. Kishan Mela			√	√			x	x	x	x
	d. Exibition			√	√			x	x	x	x
	e. Printing of Booklets, Leaflets etc.			√	√			x	x	x	x
	f. Orgenizing Exhibition / Kishan Melas and Technical Bulletiens etc.			x	x			5.75	5.75	x	x
	g. Publishing Agril. News Letter (copies)			x	x			x	x	√	1.40
	h. Publishing Agriculture at a Glance (copies)			x	x			x	x	√	1.20
	i. Publishing Agriculture Schemes in Boucher format (copies)			x	x			x	x	√	1.20
	j. Publishing Improved packages of practices for cultivation along with Economic Cultivation (copies)			x	x			x	x	√	2.50
	k. Crop Statistics (Book Format) (Copies)			x	x			x	x	√	0.20
	l. Advertisement and Publicity			x	x			x	x	√	4.12
3	**Agricultural Marketing**					-	-	**31.50**	**31.50**	-	-
	a. Transport Assistance through Auto Van @ 25% Subsidy for markting of perishables (Nos)							31.50	31.50		
4	**Agricultural Mechanization**	**56.00**	**56.00**	**109.37**	**91.32**	**30.00**	**NA**	**24.95**	**18.00**	**65.00**	**60.00**
	a. Distribution of Power Tillers	√	√	√	√			√	18.00	x	x
	b. Power Tiller with Subsidy @ Rs. 30,000/- each (nos)	x	x	x	x			x	x	60.00	60.00
	b. Distribution of Wheat Thresher	√	√	x	x			x	x	x	x
	c. Production of Small Agril. Implements	√	√	√	√			x	x	x	x
	d. Training	√	√	x	x			x	x	x	x
	e. Self Propelled Reaper @ 5 nos. in each district	x	x	√	√			x	x	x	x
	f. Rice Transplanter	x	x	√	√			x	x	x	x
	g. Zero Tillage Planter	x	x	√	√			x	x	x	x
	h. Power Paddy Thresher (Nos.)	x	x	x	x			√	x	x	x
	i. Oil Expeller (nos.) @ Rs.20,000/- Subsidy (nos)	x	x	x	x			√	x	5.00	-
	j. O.E.	x	x	x	x			x	x	x	x
5	**Agricultural Training Programme & Farmers Conference**			**39.043**	**13.800**						
6	**Computerisation of State Land Use Board**			**5.00**	**N.S.**						

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
7	**Certified Seed Production Programme**	**60.92**	**63.92 (I.P.)**	**34.00**	**N.S.**	**35.00**	**NA**	**24.20**	**20.25**	**89.63**	**5.60**
	a. Production of Certified Seed- Paddy	√	√	-	-			√	12.00	x	x
	b. Infrastructure Development of Departmantal Seed Farm	√	√	-	-			-	-	x	x
	c. Purchase of Breeder Seeds of Cereal Crops	√	√	-	-			-	-	x	x
	d. Production of Foundation Seeds	√	√	-	-			√	8.25	x	x
	e. Director of ASSCA for G.O.T.	√	√	-	-			-	-	x	x
	f. Strengthing of Seed Testing Laboratory under ASSCA	√	√	-	-			-	-	x	x
	g. Cost of Breeder Seed (Ha.)	x	x	-	-			√	-	x	x
	h. Mobility etc.	x	x	-	-			-	-	x	x
	i. Cost of Breeder Seed (qtl.)									x	x
	1. Paddy	x	x	-	-			-	-	√	0.9840
	2. Oil Seed	x	x	-	-			-	-	√	0.2852
	3. Pulses	x	x	-	-			-	-	√	0.2820
	4. Fiber Crop (Jute)	x	x	-	-			-	-	√	0.0450
	J. Cultivation Cost of Foundation seed to Certified Seed (ha.)	x	x	-	-			-	-	√	-
	k. Two days Workshop (State Level) for both Kharif & Rabi (nos.)	x	x	-	-			-	-	√	-
	l. Two days Training Programme for Seed Growers (30 Farmers in each batch) (no of batches)	x	x	-	-			-	-	√	4.00
	m. Exposure Visit of Seed Growers outside State (20 farmer in each batch) (No. of batches)	x	x	-	-			-	-	√	-
8	**Co-operation Development**	**15.84**	**15.84**	**10.00**	**10.00**	-	-	-	-	-	-
	a. Assistance to Women Co-operative Society	√	√							x	x
	b. Incentives to the West Assam Milk Producers, Co-op. Union Ltd.	x	x							x	x
9	**Crop Acreage & Production Estimation Survey**			**6.00**	**4.70**	-	-			**x**	**x**
10	**Crop Divercification Programme**			**67.500**	**20.016**	-	-	**130.60**	**66.45**	**89.99**	-
	A. Field Demonstration with Wheat, Oilseed and Fodder Crops										
	1. Field Demonstration with Sunflower (5 Bighas), Mustard, Oat and Berseem (each in 1 bigha area) @ Rs. 1,800/- per Demo.			√	√					x	x
	2. Two days Training of farmers @ Rs.50/- per day/ Farmer			√	√			x	x	x	x
	3. Contingency for District H.Q.			√	√					x	x
	B. Crop Development										
	1. Crop Sequence Demonstration. Of 1 Ha. Size Kharif Paddy Variety- Lachit/ Luit/ IR50 (nos)			-	-			√	13.50	x	x
	2. Rape & Mustard, Variety- M-27/ TS-36/ TS-38 (Ha.)			x	x			√	-	x	x
	3. Black Grame Variety- T-9/Pu-19 (Ha.)			x	x			√	-	x	x
	4. Nizer Variety- GA-10 (Ha.)			x	x			√	-	x	x

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	4. Jasmin, Mosanda Demonstration	-	-								
	5. Rose Demonestration	√	√								
	c. Development of Root & Tuber Crops	4.63	I.P.								
	1. T.P.S. Demonstration	√	√								
	d. Production & Supply of Vegetable Seeds (Minikit Demo.)	2.00	2.00								
	e. Development of Cashewnut	13.40	13.40								
	1. Area Expansion	√	√								
	2. Farmers Training	√	√								
	f. Betelvine Cultivation	2.58	2.58								
	1. Demonstration on Betelvine Cultivation	√	√								
	2. Training	√	√								
14	**ICDP - Rice**	**70.00**	**70.00**	**15.00**	**15.00**	-	-			**32.00**	-
	a. Technology Demonstration	√	√	x	x					-	-
	b. Distribution of Power Tillers	√	√	x	x					-	-
	c. Demo on Hybrid Rice	x	x	√	√					-	-
	d. Demo on HYV	x	x	√	√					-	-
	e. Distribution of Rice Seed @ Rs. 200/- per Qtl.	x	x	x	x					√	-
	f. Contingency: Office Expense	x	x							-	-
15	**ICDP - Wheat**	**50.00**	**30.00**			-	-				
	a. One acre size Technology Demonstration	√	√								
	b. Distribution of Wheat seeds	√	√								
	c. Conducting of Farmers' Training	√	√								
16	**Information Technology**	**13.00**	**13.00**	**44.00**	**44.00**	**45.00**	**N.A.**				
	a. Installation of Computers in the branches/cells of the Directorate of Agriculture	√	√	x	x						
	b. Installation of Computers, Software etc. in Agril.Sub-Div.	x	x	30.00	30.00						
	c. Installation of Computers with all accessories at Zonal and Dist. office	x	x	14.00	14.00						
17	**INM**			**56.185**	**20.00**	-	-	**30.89**	**15.97**	**48.67**	**33.39**
	A. Pilot Scheme on Orgenic Farming (Joha Rice)			**20.00**	**20.00**	-	-				
	1. Exposure Visit (outside the State)							x	x		
	a. For Officers (20 nos.)			√	√					x	x
	b. For Farmers (40 nos. with 4 officers)			√	√					x	x
	2. Exposure Visit (inside the State) for farmers to Maruachowki vill.			√	√			x	x	x	x
	3. Farmers Training (2 days) on INM (batch)			√	√			x	x	-	-
	4. Allowances to experienced farmers of Maruachowki vill. for training to other FMCs (2 days)			√	√			x	x	x	x

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	5. Summer Paddy (Hybrid) Variety PAC-832 (Ha.)			x	x			√	-	x	x
	6. 25% Subsidy Sale of Bio-fertilizer (Ha.)			x	x			√	2.50	x	x
	7. 25% Subsidy Sale of Micro Nutrient (Ha.)			x	x			√	17.45	x	x
	8. Summer Paddy HYV demonstration (Ha.)			x	x			√	21.00	x	x
	8. Summer Paddy Hybrid demonstration (Ha.)			x	x			√	12.00	x	x
	9. Black Gram demonstration (Ha.)			x	x			√	-	x	x
	10. Nizer demonstration (Ha.)			x	x			√	-	x	x
	11. Technology Demonstration (Ha.)			x	x			x	x		
	a. Wheat			-	-					√	-
	b. Rape and Mustard Seed			-	-					√	-
	c. Black Gram			-	-					√	-
	d. Green Gram			-	-					√	-
	12. Micronutrients for Pulses, Oilseeds and Wheat @ 25% Subsidy Limited to Rs. 200/- per Hectare.			x	x			x	x	√	-
	13. Soil Ameliorants i.e. Agril. Limes at 100% subsidy (Ha)			x	x			x	x	√	-
	14. Office Expense			x	x			x	x	x	-
11	**Development of Sugarcane**			**16.48**	**16.48**	-	-	**19.20**	**4.50**	**1.60**	-
	a. Demonstration 1 Ha. Size			√	√			√	-	x	x
	b. Farmers' Training (2 days duration) (50 Farmers per batch)			√	√			√	4.50	x	x
	c. Bullock Drown Cane Crusher			√	√			x	x	x	x
	d. Bullock Drown Implements			√	√			x	x	x	x
	e. Mobility etc.			x	x			x	x	x	x
	f. Hand Sprayer/ other implements with Subsidy @ Rs. 800/- each(nos)			x	x			x	x	1.60	-
12	**Empowerment of Women in Agriculture**							**31.11**	**7.91**	-	-
	a. Vermi Compost Unit (no) including Horticulture Crop / Duckary / Poultry in different Districts.							√	-		
	b. Exposure Visit within the State (30 nos./batch)							√	4.80		
	c. Training Programme (30 nos./batch)							√	1.40		
	d. 2 days training Programme for farm Women 30 farmers per batch							√	1.57		
	e. Misc. including Mobility etc.							√	0.13		
13	**Horticulture Development**	**28.21**	**25.43**			-	-	-	-		
	a. Development of Spices (Training)	0.10	0.10								
	b. Commercial Floriculture	5.50	7.35								
	1.Gladiolus Demonstration	√	√								
	2. Gerbera (Hybrid) Demonstration	√	√								
	3. Iris Demonestration	√	√								

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
24	**Soil Conservation**	**46.74**	**46.74**	**103.00**	**10.00**	**65.00**	**N.A.**	**88.40**	-		
	a. Pagladia RVP			x	x						
	b. Singla FPR			x	x						
	c. State Land Use Board			x	x						
	d. Soil Conservation measures in Singla FPR			√	√						
	e. River Velly Project as per GOI approved Schemes			x	x			√	-		
	f. Flood Prone River as per GOI approved Schemes			x	x			√	-		
	g. FPR Project			x	x			√	-		
25	**Special Jute Development Programme**					**25.85**	**N.A.**	-	-	**19.00**	**7.99**
	a. Constraction of Pucca Retting Tank (Cost Limited to Rs.20,000/- per tank) (nos)									√	4.00
	b. Distribution of Fungal Culture @ Rs.12/- per Packet (nos)									√	-
	c. Farmers Training (one day) 30 farmers in each batch									√	2.49
	d. Distribution of Hand Sparyer @ Rs.700/- Subsidy (nos)									√	1.50
	e. Office Expenses including Transportation									-	-
	f. Subsidy Sale of Jute Seed @ Rs. 800/- per qtl.									√	-
26	**Strengthening of AGMARK Laboratory**			**10.200**	**10.200**	-	-			-	-
	a. Renovation and repairing of existing buildings used for AGMARK Laboratories			√	√					x	x
	b. Repairing of Laboratory furnitures @ Rs. 2,500/- for each lab.			√	√					x	x
	c. Purchase of Furniture for Laboratories			√	√					x	x
	d. Purchase of Chamicals for Laboratories yearly requirment			√	√					x	x
	e. Purchase of Glass Wares for Laboratories			√	√					x	x
	f. Cost of Electrical arrangement @ Rs. 500/- for each Lab.			√	√					x	x
	g. Cost of Water Supply arrangement @ Rs. 30,000/- fer each			√	√					x	x
	h. Officer training and Farmers Training on AGMARK & Grading			-	-	-	-			x	x
	i. On going expenditure for Laboratory @ Rs. 30,000/- per month / lab.			√	√					x	x
27	**Strengthening of Field Trial Stations & Seed Farms**					-	-	-	-	**1.78**	**1.38**
	a. Purchase of Farm Bullock (Pairs)									√	0.80
	b. Mobility & Contingencies for FTS & HQ									√	0.58
28	**Strengthening of (Four) Seed Testing Laboratory**			**3.16**	**3.16**	-	-	-	-	-	-
	a. Seed Germinator			√	√					x	x
	b. Bag Closing Machine			√	√					x	x
	c. Illuminated working Table			√	√					x	x
29	**Strengthening of Fruit Preservation Training Centre**			**15.00**	**15.00**	-	-	-	-	-	-
	a. Machineries and Equipments			√	√					x	x
	b. Chamicals and Preservatives			√	√					x	x

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	c. Bottle	X	X	-	-	-	-	-	-	-	-
	2. Trichoderma @ Rs.220/- per Kg.	X	X	√	√					X	X
	3. Bicillus Thurengenisis @ Rs. 1,320/- per Kg.	X	X	√	√					X	X
	4. NPV (Spodo) @ Rs.2,000/- per lit.	X	X	√	√					X	X
	5. NAV (Heli) @ Rs.2,000/- per lit.	X	X	√	√					X	X
	6. Naeuveria bassiana @ Rs. 210/- per Kg.	X	X	√	√					X	X
	7. Neem based Pesticides @ 270/- per lit.	X	X	√	√					X	X
	8. Recurring expenditure of State Bio-control Laboratory	X	X	√	√					√	1.50
	9. Recurring expenditure of State Pesticide Testing Laboratory	X	X	X	X					√	1.00
	C. Distribution of Maha Neem Seedlings, LS	X	X	X	X					X	X
	D. Rodent Control Measures	X	X	X	X					X	X
19	**IPNM**					**244.00**	**N.A.**	**76.75**	**76.75**		
	a. Demonstration (Early Ahu Seeds & Other implements)							√	√		
	b. Farmers Field School & Field Day (nos.)							√	√		
	c. Village Level 1 day Training on Rice & Vegetable (batch)							√	√		
	d. Village Level 1 day Training on Rodent Pest Management (batch)							√	√		
	e. Subsidy Sale of HC Sprayer (nos.)							√	√		
	f. Recurring Expenditure of State Bio-control Lab. (nos.)							√	√		
	g. Recurring Expenditure of State Pesticide Testing Lab. (nos.)							√	√		
	h. Transportation Charges for carrying IPM materials to Districts.(nos.)							√	√		
	i. Administrative Expenditure							√	√		
20	**Jute / Ramie Development Programme**			**52.00**	**14.198**	-	-	-	-		
	a. Technology Demonstration			√	√						
	b. Farmers' Training			√	√						
21	**Modern Fresh Fruit, Vegetable & Dairy Products Outlets**			**15.90**	**15.90**	-	-	-	-		
	a. Premises (Approx. 400 Sq. ft.)			X	X						
	b. Equiptments-			X	X						
	1. Refrigerated Stainless Steel Counters			√	√						
	2. Air Conditioner (1.5 ton X 1)			X	X						
	3. Weighing Scales (Digital Table Top)			X	X						
	4. Utensils for Sorting & Washing			X	X						
	5. Electric Heat Sealing Machine			X	X						
	6. Diesel Generator (5 KVA with accessories)			X	X						
22	**New Initiative**									**155.88**	**20.86**
	1. Subsidy Sale of Micronutrients for maintaining Soil Health with assistance to farmers at 25% subsidy limited to Rs. 200/-										

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	5. Payments to consultant							x	x	x	x
	6. Payment to Inspectors for 2 visit to Assam			√	√			x	x	x	x
	7. Meterials and Supplies-							x	x	x	x
	a. Seed 32 qtls. @ Rs. 1,500/- per qtl.			√	√					-	-
	b. Bio-dynamic preparations									-	-
	c. Expenditure for compost making by bio-dynamic method			√	√					-	-
	8. Marketing Support							x	x	x	x
	B. Strenthening of Soil Testing Laboratory (nos)			**36.185**	-	-	-	√	√	√	**16.49**
	C. Strenthening of Quality Control Laboratory (nos)			x	x			√	√	√	-
	D. Distribution of Polythene Bag for collection of Soil Sample (qtl)			x	x			√	√	√	-
	E. Distribution of Information Sheet (nos.)			x	x			x	x	x	-
	F. Sali Paddy Demonstration 1 Ha. Size (nos)			x	x			√	√	x	x
	G. Orientation Training for Officers (2 Days) in INM (nos)			x	x			√	x	√	√
	H. Orientation Training of Soil Testing Staff (2 Days) (nos)			x	x			√	x	√	√
	I. Training Programme			x	x			x	x	-	-
	J. Distribution of Booklets/Leaflets for Publicity/Awareness on INM & Orgenic Farming			x	x			x	x	√	-
	K. Distribution of Agricultural Lime for amelioration of acid Soil.			x	x			x	x	√	**9.10**
	L. Distribution of Bio-fertilizer (Biozyme) for Sali Paddy (qtl.)			x	x			x	x	√	**7.80**
18	**IPM**	**24.10**	**24.10**	**70.30**	**20.00**	-	-			**46.05**	**45.12**
	A. Training and Demonstration										
	1. Conducting FFS Training	√	√	x	x					x	x
	2. Conducting Farmers' Training for Awareness Creation	√	√	x	x					x	x
	3. Follow-up Training of FFS	√	√	x	x					x	x
	4. Trainers Training Programme on Rice and Vegetable IPM	x	x	√	√					x	x
	5. Village Level one day Training for Creating Awareness	x	x	√	√					√	4.37
	6. Training of Pesticide Agent, Dealers etc. one in each sub-Div.	x	x	√	√					√	0.60
	7. State Level Workshop (nos.)	x	x	x	x					√	-
	8. State Level Trainners' Training Programme on Rice & Veg. IPM	x	x	x	x					√	1.29
	9. State Level VLEWs" Training Programme on Rice & Veg. IPM	x	x	x	x					√	0.86
	10. Farmers Field School and Field Day (batches)	x	x	x	x					√	25.50
	B. Popularising of Bio-pesticides, Bio Agent for demonstrative use in FFS & Non-FFS Farmers									√	10.00
	1. Distribution of Bio-pesticides			x	x						
	a. Kg	√	√	-	-	-	-	-	-	-	-
	b. Lit	x	x	-	-	-	-	-	-	-	-

Physical Target and Achievement of Macro Management of Agriculture in Assam

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
1	**Agricultural Extantion**	**As per Scheme**	**I.P.**	**As per Scheme**	√						
	a. Broadcasting of Agricultural Programme through Doordarshan	50 Episides	I.P.	-	-					-	-
	b. Agricultural Extension through Publicity Cell	-	-	1 No.	1 No.					-	-
2	**Agricultural Information and Publicity**			**As per Scheme**	**I.P.**			**As per Scheme**	√	**As per Scheme**	-
	a. Production T.V. Serial on Agriculture	-	-	6 Nos.(1 Yr.)	6 Nos.					-	-
	b. Quickies for AIR, Guwahati	-	-	40 Nos.	I.P.					-	-
	c. Kishan Mela	-	-	23 Nos.	I.P.					-	-
	d. Exibition	-	-	5 Nos.	I.P.					-	-
	e. Printing of Booklets, Leaflets etc.	-	-	65,000 Nos.	I.P.					-	-
	f. Orgenizing Exhibition / Kishan Melas and Technical Bulletiens etc.	-	-	-	-			√	√	-	-
	g. Publishing Agril. News Letter (copies)	-	-	-	-					20,000 Nos.	20,000 Nos.
	h. Publishing Agriculture at a Glance (copies)	-	-	-	-					5,000 Nos.	5,000 Nos.
	i. Publishing Agriculture Schemes in Boucher format (copies)	-	-	-	-					10,000 Nos.	10,000 Nos.
	j. Publishing Improved packages of practices for cultivation along with Economic Cultivation (copies)	-	-	-	-					50,000 Nos.	50,000 Nos.
	k. Crop Statistics (Book Format) (Copies)	-	-	-	-					2,000 Nos.	2,000 Nos.
	l. Advertisement and Publicity	-	-	-	-					√	√
3	**Agricultural Marketing**							**As per Scheme**	√		
	a. Transport Assistance through Auto Van @ 25% Subsidy for markting of perishables (Nos)	-	-	-	-			100 Nos.	100 Nos.	-	-
4	**Agricultural Mechanization**	**As per Scheme**	**I.P.**	**As per Scheme**	**I.P.**			**As per scheme**	√	**As per Scheme**	-
	a. Distribution of Power Tillers	70 Nos	70 Nos	84 Nos.	84 Nos.			60 Nos	60 Nos.		
	b. Power Tiller with Subsidy @ Rs. 30,000/- each (nos)	-	-	-	-					200.00	200.00
	b. Distribution of Wheat Thresher	150 Nos.	I.P.	-	-					-	-
	c. Production of Small Agril. Implements	4,500 Nos.	4,500 Nos	2,400 Nos.	I.P.					-	-
	d. Training	800 Nos.	800 Nos.	-	-					-	-
	e. Self Propelled Reaper @ 5 nos. in each district	-	-	115 Nos.	I.P.					-	-
	f. Rice Transplanter	-	-	21 Nos.	I.P.					-	-
	g. Zero Tillage Planter	-	-	280 Nos.	160 Nos.					-	-
	h. Power Paddy Thresher (Nos.)	-	-	-	-			10 Nos	-	-	-
	i. Oil Expeller (nos.) @ Rs.20,000/- Subsidy (nos)	-	-	-	-			13 Nos.	-	25.00	-
	j. O.E.	-	-	-	-			-	-	-	-
5	**Agril. Training Programme & Farmers Conference (no of Farmers)**	-	-	**2,11,600 Nos.**	**I.P.**					-	-
6	**Computerisation of State Land Use Board**	-	-	**1 No.**	**1 No.**					-	-

(Rupees in Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	per Hactere (ha.)					-	-	-	-	**18.00**	-
	2. Exposure visit (outside the State) on orgenic farming (30 farmers, 3 VLEWs & 3 Officers)					-	-	-	-	**2.02**	-
	3. Empowerment of Women:									**22.20**	**9.60**
	a. Costruction of Vermi Compost Pit (SHG)									-	-
	b. Exposure visit with in the State (nos.)									√	6.90
	c. Training Programme (nos.)									√	2.70
	4. Agricultural Development in Char Areas					-	-	-	-	**29.36**	**1.30**
	a. Crop Demonstration : 1. Oil Seeds (nos.)									√	-
	2. Black Gram (nos.)									√	-
	3. Lentil (nos.)									√	-
	4. Crop Production training of farmers (nos)									√	1.30
	5. Rodent Pest Management					-	-	-	-	**9.96**	**9.96**
	a. Three days Training Programme of Officres on Rodent Control (nos)									0.86	0.86
	b. Village Level One day Farmers Training Programe (nos)									1.20	1.20
	c. Surveillance of Rodent in Jhum field, foothills, Crop field near by forest									5.40	5.40
	d. Distribution of Rodenticides									2.50	2.50
	6. Strengthening of Workshop Machinery (modernization) including purchage of Raw materials for production and distribution of improved Small implements (nos workshop)					-	-	-	-	**65.50**	-
	7. Exebition and Kishan Mela									**8.85**	-
	a. National Level Exhibition (nos)									√	-
	b. State Level Exhibition (nos)									√	-
	c. Kishan Mela / Training for 23 districts (nos)									√	-
23	**NWDPRA**	**100.00**	**100 (I.P.)**	**90.00**	**45.00**	**125.00**	**N.A.**	**287.80**	**287.80**	**341.47**	**341.47**
	A. Management Component										
	1. Administrative Cost									√	22.50
	2. Community Organisation									√	5.00
	3. Training									√	22.50
	B. Development Component										
	1. Natural Resource Development									√	256.47
	2. Land Based Enterprise									√	20.00
	3. Non Land Based Enterprise									√	10.00

(Rupees In Lakh)

Sl. No.	Schemes	2002-03 (as on 26st July'2004)		2003-04 (as on 26st July'2004)		2004-05 (as on)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
30	**TSP & SCCP Scheme**	**30.00**	**30.00**	**49.766**	**20.284**	**105.00**	**N.A.**	**68.70**	**13.20**	**98.30**	**98.30**
	a. Vegetable Cultivation in Poly House	√	√	x	x			x	x	x	x
	b. Four Auto Van to the ST and Three Auto Van to the SC group/ FMC/ SHG at the rate of 25% subsidy, Rs. 30,600/-	x	x	x	x			x	x	x	x
	c. 92 TSP and 69 group of farmers	x	x	√	√			x	x	x	x
	d. Contingencies	x	x	x	x			x	x	x	x
	e. TSP- 1. Oil Seed Demonstration (Nos)	x	x	x	x			√	3.03849	x	x
	2. Pulse Demonstration (Nos)	x	x					√	3.55446	x	x
	f. SCCP- 1.Oil Seed Demonstration (Nos)	x	x	x	x			√	3.03849	x	x
	2. Pulse Demonstration (Nos)	x	x					√	3.55446	x	x
	g. Minor Flow Irrigation Project (Ha.)	x	x	x	x			√	-	x	x
	h. Misc. Expenditure	x	x	x	x			√	0.01410	x	x
	i. Distribution of Powtertiller at 25% subsidy (nos)	x	x	x	x			x	x	√	71.50
	j. Distribution of Hand Sprayer at 25% subsidy limited to Rs.800/- in each	x	x	x	x			x	x	√	26.80
31	**Waste Land Development Programme**			**51.10**	**51.10**	**22.00**	**N.A.**	**40.15**	**N.S.**		
	a. Pub-na-bhanga water harvest cum gully control project (Nagaon)									x	x
	b. Gopal Pathar land Development Project (Dist.-Kamrup)									x	x
	c. Tihu Nala Development Project, Patacharkuchi (Borpeta)									x	x
	d. Puthimari land Development Project, Sorbhog (Borpeta)									x	x
	e. Sandhya Paikarkuchi Project, Kamarkuchi (Nalbari)									x	x
	f. Project at Hojai and Tamulpur									x	x
	g. Land development (Hact.)									x	x
Total		**509.97**	**490.19**	**862.49**	**449.98**	**696.85**	**N.A.**	**860.00**	**548.08**	**1,000.00**	**624.72**

Note: √ indicates expenditure incurred , x indicates no expenditure incurred in the particular heads.

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
7	**Certified Seed Production Programme**	As per Scheme	I.P.	As per Scheme	I.P.			As per Scheme	-	As per Scheme	-
	a. Production of Certified Seed (through RSG)- Paddy	7,500 qtls.	1048.88 qtls.					6,000 qtls.	6,000 qtls.	-	-
	b. Infrastructure Development of Departmantal Seed Farm	8 Nos.	I.P.							-	-
	c. Purchase of Breeder Seeds of Cereal Crops	40 qtls.	30.6 qtls.							-	-
	d. Production of Foundation Seeds	80 Ha.	38.50					175 Ha.	175 Ha.	-	-
	e. Director of ASSCA for G.O.T.	1 No.	1 No.							-	-
	f. Strengthing of Seed Testing Laboratory under ASSCA	1 No.	1 No.							-	-
	g. Cost of Breeder Seed (Ha.)	-	-					55 qtls.	-	-	-
	h. Mobility etc.	-	-					-	-	-	-
	i. Cost of Breeder Seed (qtl.)	-	-							-	-
	1. Paddy	-	-	-	-					41.0 qtls.	41.0 qtls.
	2. Oil Seed	-	-	-	-					6.2 qtls.	6.2 qtls.
	3. Pulses	-	-	-	-					5.7 qtls.	5.7 qtls.
	4. Fiber Crop (Jute)	-	-	-	-					0.3 qtls.	0.3 qtls.
	J. Cultivation Cost of Foundation seed to Certified Seed (ha.)	-	-	-	-					515.5 Ha.	-
	k. Two days Workshop (State Level) for both Kharif & Rabi (nos.)	-	-	-	-					2 Nos.	-
	l. Two days Training Programme for Seed Growers (30 Farmers in each batch) (no of batches)	-	-	-	-	-	-	-	-	2 Nos.	2 Nos.
	m. Exposure Visit of Seed Growers outside State (20 farmer in each batch) (No. of batches)	-	-	-	-	-	-	-	-	6 Nos.	-
8	**Co-operation Development**	As per Scheme	√	As per Scheme	I.P.						
	a. Assistance to Women Co-operative Society	48 Nos.	48 Nos.	-	-			450 Ha.	-	-	-
	b. Incentives to the West Assam Milk Producers, Co-op. Union Ltd.	-	-	-	-			450 Ha.	-	-	-
9	**Crop Acreage & Production Estimation Survey**	-	-	-	-			**450 Ha.**	-	-	-
10	**Crop Divercification Programme**	-	-	As per Scheme	I.P.			As per scheme	I.P.	As per Scheme	-
	A. Field Demonstration with Wheat, Oilseed and Fodder Crops			**1112 Nos.**	I.P.						
	1. Field Demonstration with Sunflower (5 Bighas), Mustard, Oat and Berseem (each in 1 bigha area) @ Rs. 1,800/- per Demo.	-	-	3112 Nos.	I.P.			-	-	-	-
	2. Two days Training of farmers @ Rs.50/- per day/ Farmer	-	-	9819 Nos.	I.P.			-	-	-	-
	3. Contingency for District H.Q.	-	-	23 Nos.	I.P.			-	-	-	-
	B. Crop Development										
	1. Crop Sequence Demonstration. Of 1 Ha. Size Kharif Paddy Variety- Lachit/ Luit/ IR50 (nos)	-	-	-	-	-	-	450 Nos.	450 Nos.	-	-
	2. Rape & Mustard, Variety- M-27/ TS-36/ TS-38 (Ha.)	-	-	-	-			450 Ha.	-	-	-
	3. Black Grame Variety- T-9/Pu-19 (Ha.)	-	-	-	-			200 Ha.	-	-	-
	4. Nizer Variety- GA-10 (Ha.)	-	-	-	-			100 Ha.	-	-	-

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
24	**Soil Conservation**	As per Scheme	√	As per Scheme	**I.P.**			As per Scheme	-		
	a. Pagladia RVP	-	-	-	-	-	-	-	-	-	-
	b. Singla FPR	-	-	-	-	-	-	-	-	-	-
	c. State Land Use Board	-	-	-	-	-	-	-	-	-	-
	d. Soil Conservation measures in Singla FPR	-	-	1412 Ha.	I.P.	-	-	-	-	-	-
	e. River Velly Project as per GOI approved Schemes	-	-	-	-	-	-	-	-	-	-
	f. Flood Prone River as per GOI approved Schemes	-	-	-	-	-	-	-	-	-	-
	g. FPR Project	-	-	-	-	-	-	-	-	-	-
25	**Special Jute Development Programme**									As per Scheme	**I.P.**
	a. Constraction of Pucca Retting Tank (Cost Limited to Rs.20,000/- per tank) (nos)	-	-							20 Nos.	20 Nos.
	b. Distribution of Fungal Culture @ Rs.12/- per Packet (nos)	-	-	-	-					20000 Pkts.	-
	c. Farmers Training (one day) 30 farmers in each batch	-	-	-	-					100 Nos.	83 Nos.
	d. Distribution of Hand Sparyer @ Rs.700/- Subsidy (nos)	-	-	-	-					444 Nos.	214 Nos.
	e. Office Expenses including Transportation	-	-	-	-					-	-
	f. Subsidy Sale of Jute Seed @ Rs. 800/- per qtl.	-	-	-	-					750 qtls.	-
26	**Strengthening of AGMARK Laboratory**			As per Scheme	**I.P.**						
	a. Renovation and repairing of existing buildings used for AGMARK Laboratories	-	-	6 Labs	I.P.	-	-	-	-	-	-
	b. Repairing of Laboratory furnitures @ Rs. 2,500/- for each lab.	-	-	7 Nos.	do	-	-	-	-	-	-
	c. Purchase of Furniture for Laboratories	-	-	7 Nos.	do	-	-	-	-	-	-
	d. Purchase of Chamicals for Laboratories yearly requirment	-	-	7 Nos.	do	-	-	-	-	-	-
	e. Purchase of Glass Wares for Laboratories	-	-	7 Nos.	do	-	-	-	-	-	-
	f. Cost of Electrical arrangement @ Rs. 500/- for each Lab.	-	-	7 Nos.	do	-	-	-	-	-	-
	g. Cost of Water Supply arrangement @ Rs. 30,000/- fer each	-	-	7 Nos.	do	-	-	-	-	-	-
	h. Officer training and Farmers Training on AGMARK & Grading	-	-	-	-	-	-	-	-	-	-
	i. On going expenditure for Laboratory @ Rs. 30,000/- per month / lab.	-	-	7 Nos.	I.P.	-	-	-	-	-	-
27	**Strengthening of Field Trial Stations & Seed Farms**	-	-	-	-					As per Scheme	√
	a. Purchase of Farm Bullock (Pairs)	-	-							4.00	4.00
	b. Mobility & Contingencies for FTS & HQ	-	-							√	√
28	**Strengthening of (Four) Seed Testing Laboratory**			As per Scheme	√						
	a. Seed Germinator	-	-	2 Nos.	2 Nos.	-	-	-	-	-	-
	b. Bag Closing Machine	-	-	5 Nos.	5 Nos.	-	-	-	-	-	-
	c. Illuminated working Table	-	-	2 Nos.	2 Nos.	-	-	-	-	-	-

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	per Hactere (ha.)	-	-	-	-	-	-	-	-	**9,000 Ha.**	-
	2. Exposure visit (outside the State) on orgenic farming (30 farmers, 3 VLEWs & 3 Officers)	-	-	-	-	-	-	-	-	**36 Nos.**	-
	3. Empowerment of Women:	-	-	-	-					√	√
	a. Costruction of Vermi Compost Pit (SHG)	-	-							200 Nos.	-
	b. Exposure visit with in the State (nos.)	-	-							30 Nos.	30 Nos.
	c. Training Programme (nos.)	-	-							30 Nos.	30 Nos.
	4. Agricultural Development in Char Areas	-	-	-	-					As per Scheme	-
	a. Crop Demonstration : 1. Oil Seeds (nos.)	-	-							300 Nos.	-
	2. Black Gram (nos.)	-	-							400 Nos.	-
	3. Lentil (nos.)	-	-							400 Nos.	-
	4. Crop Production training of farmers (nos)	-	-							50 Nos.	50 Nos.
	5. Rodent Pest Management	-	-	-	-					As per Scheme	-
	a. Three days Training Programme of Officres on Rodent Control (nos)	-	-							80 Nos.	80 Nos.
	b. Village Level One day Farmers Training Programe (nos)	-	-							40 Nos.	40 Nos.
	c. Surveillance of Rodent in Jhum field, foothills, Crop field near by forest	-	-							√	√
	d. Distribution of Rodenticides	-	-							√	√
	6. Strengthening of Workshop Machinery (modernization) including purchage of Raw materials for production and distribution of improved Small implements (nos workshop)	-	-	-	-	-	-	-	-	**24 Nos**	-
	7. Exebition and Kishan Mela	-	-	-	-						
	a. National Level Exhibition (nos)	-	-							2 Nos.	-
	b. State Level Exhibition (nos)	-	-							3 Nos.	-
	c. Kishan Mela / Training for 23 districts (nos)	-	-							23 Nos.	-
23	**NWDPRA**	**103 Projects**	**I.P.**	**103 Projects**	**I.P.**			**35 Projects**	**35 Projects**	As per Scheme	-
	A. Management Component										
	1. Administrative Cost	-	-	-	-					√	√
	2. Community Organisation	-	-	-	-					√	√
	3. Training	-	-	-	-					√	√
	B. Development Component										
	1. Natural Resource Development	-	-	-	-					√	√
	2. Land Based Enterprise	-	-	-	-					√	√
	3. Non Land Based Enterprise	-	-	-	-					√	√

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	4. Jasmin, Mosanda Demonstration	-	the planting	-	-	-	-	-	-	-	-
	5. Rose Demonestration	1500 Nos.	Meterials	-	-	-	-	-	-	-	-
	c. Development of Root & Tuber Crops										
	1. T.P.S. Demonstration	105 Ha.	do	-	-	-	-	-	-	-	-
	d. Production & Supply of Vegetable Seeds (Minikit Demo.)	1333 Nos.	1333 Nos.	-	-	-	-	-	-	-	-
	e. Development of Cashewnut	-	-	-	-	-	-	-	-	-	-
	1. Area Expansion	100 Ha.	100 Ha.	-	-	-	-	-	-	-	-
	2. Farmers Training	200 Nos.	200 Nos.	-	-	-	-	-	-	-	-
	f. Betelvine Cultivation										
	1. Demonstration on Betelvine Cultivation	30 Units.	30 Units.	-	-	-	-	-	-	-	-
	2. Training	30 Nos.	30 Nos.	-	-	-	-	-	-	-	-
14	**ICDP - Rice**	As per Sgheme	√	As per Sgheme	I.P.					As per Scheme	-
	a. Technology Demonstration	2,500 Nos.	2,500 Nos.	-	-	-	-	-	-	-	-
	b. Distribution of Power Tillers	150 Nos.	150 Nos.	-	-	-	-	-	-	-	-
	c. Demo on Hybrid Rice	-	-	1,000 Nos.	I.P.	-	-	-	-	-	-
	d. Demo on HYV	-	-	250 Nos.	do	-	-	-	-	-	-
	e. Distribution of Rice Seed @ Rs. 200/- per Qtl.	-	-	-	-					15,875 qtls	-
	f. Contingency: Office Expense	-	-	-	-	-	-	-	-	-	-
15	**ICDP - Wheat**	As per Scheme	√								
	a. One acre size Technology Demonstration	2,000 Nos.	2,000 Nos.	-	-	-	-	-	-	-	-
	b. Distribution of Wheat seeds	10,000 qtls.	I.P.	-	-	-	-	-	-	-	-
	c. Conducting of Farmers' Training	100 Nos.	100 Nos.	-	-	-	-	-	-	-	-
16	**Information Technology**	As per Scheme	√	As per Scheme	I.P.						
	a. Installation of Computers in the branches/cells of the Directorate of Agriculture	10 Nos.	10 Nos	-	-	-	-	-	-	-	-
	b. Installation of Computers, Software etc. in Agril.Sub-Div.	-	-	-	-	-	-	-	-	-	-
	c. Installation of Computers with all accessories at Zonal and Dist. office	-	-	10 Nos.	10 Nos.	-	-	-	-	-	-
17	INM							As per Scheme	√	As per Scheme	-
	A. Pilot Scheme on Orgenic Farming (Joha Rice)			1 in each District							
	1. Exposure Visit (outside the State)										
	a. For Officers (20 nos.)	-	-	1 Team	I.P.	-	-	-	-	-	-
	b. For Farmers (40 nos. with 4 officers)	-	-	2 Teams	~ do ~	-	-	-	-	-	-
	2. Exposure Visit (inside the State) for farmers to Maruachowki vill.	-	-	280 Nos.	~ do ~	-	-	-	-	-	-
	3. Farmers Training (2 days) on INM (batch)	-	-	50 Nos.	~ do ~					20 Nos.	-
	4. Allowances to experienced farmers of Maruachowki vill. for training to other FMCs (2 days)	-	-	20 Nos.	~ do ~	-	-	-	-	-	-

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	5. Summer Paddy (Hybrid) Variety PAC-832 (Ha.)	-	-	-	-			300 Ha.	-	-	-
	6. 25% Subsidy Sale of Bio-fertilizer (Ha.)	-	-	-	-			5,000 Ha.	5,000 Ha.	-	-
	7. 25% Subsidy Sale of Micro Nutrient (Ha.)	-	-	-	-			8,725 Ha.	8,725 Ha.	-	-
	8. Summer Paddy HYV demonstration (Ha.)	-	-	-	-			750 Ha.	750 Ha.	-	-
	8. Summer Paddy Hybrid demonstration (Ha.)	-	-	-	-			500 Ha.	500 Ha.	-	-
	9. Black Gram demonstration (Ha.)	-	-	-	-			500 Ha.	-	-	-
	10. Nizer demonstration (Ha.)	-	-	-	-			500 Ha.	-	-	-
	11. Technology Demonstration (Ha.)										
	a. Wheat	-	-	-	-					600 Ha.	-
	b. Rape and Mustard Seed	-	-	-	-					750 Ha.	-
	c. Black Gram	-	-	-	-					600 Ha.	-
	d. Green Gram	-	-	-	-					400 Ha.	-
	12. Micronutrients for Pulses, Oilseeds and Wheat @ 25% Subsidy Limited to Rs. 200/- per Hectare.	-	-	-	-					5000 Ha.	-
	13. Soil Ameliorants i.e. Agril. Limes at 100% subsidy (Ha)	-	-	-	-					570 Ha.	-
	14. Office Expense	-	-							-	-
11	**Development of Sugarcane**			As per Scheme	I.P.			As per scheme	I.P.	As per Scheme	-
	a. Demonstration of Newly Released Variety 1 Ha. Size	-	-	70 Nos.	I.P.			90 Nos.	-	-	-
	b. Farmers' Training (2 days duration) (50 Farmers per batch)	-	-	15 Nos.	~ do ~			30 Nos.	30 Nos.	-	-
	c. Bullock Drown Cane Crusher	-	-	100 Nos.	~ do ~					-	-
	d. Bullock Drown Implements	-	-	100 Nos.	~ do ~					-	-
	e. Mobility etc.	-	-	-	-	-	-	-	-	-	-
	f. Hand Sprayer/ other implements with Subsidy @ Rs. 800/- each(nos)	-	-							200 Nos.	-
12	**Empowerment of Women in Agriculture**			-	-			As per scheme	I.P.		
	a. Vermi Compost Unit (no) including Horticulture Crop / Duckary / Poultry in different Districts.	-	-	-	-	-	-	46.00 127 Nos.	-	-	-
	b. Exposure Visit within the State (30 nos./batch)	-	-	-	-	-	-	46 batch	46 batch	-	-
	c. Training Programme (30 nos./batch)	-	-	-	-	-	-	26 batch	26 batch	-	-
	d. 2 days training Programme for farm Women 30 farmers per batch	-	-	-	-	-	-	29 Nos.	29 Nos.	-	-
	e. Misc. including Mobility etc.	-	-	-	-	-	-	-	-	-	-
13	**Horticulture Development**	As per Sgheme	I.P.								
	a. Development of Spices (Training)	1 No.	1 No.	-	-	-	-	-	-	-	-
	b. Commercial Floriculture			-	-	-	-	-	-	-	-
	1.Gladiolus Demonstration	0.3 Ha.	0.3 Ha.	-	-	-	-	-	-	-	-
	2. Gerbera (Hybrid) Demonstration	6 Units.	ASC fails	-	-	-	-	-	-	-	-
	3. Iris Demonestration	2 Units.	to Supply	-	-	-	-	-	-	-	-

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	c. Bottle	-	-	-	-					1300 bottles	1300 bottles
	2. Trichoderma @ Rs.220/- per Kg.	-	-	1000 Kg.	I.P.	-	-	-	-	-	-
	3. Bicillus Thurengenisis @ Rs. 1,320/- per Kg.	-	-	150 Kg.	~ do ~	-	-	-	-	-	-
	4. NPV (Spodo) @ Rs.2,000/- per lit.	-	-	75 Lit.	~ do ~	-	-	-	-	-	-
	5. NAV (Heli) @ Rs.2,000/- per lit.	-	-	75 Lit.	~ do ~	-	-	-	-	-	-
	6. Naeuveria bassiana @ Rs. 210/- per Kg.	-	-	750 Kg.	~ do ~	-	-	-	-	-	-
	7. Neem based Pesticides @ 270/- per lit.	-	-	750 Lit.	~ do ~	-	-	-	-	-	-
	8. Recurring expenditure of State Bio-control Laboratory	-	-	-	-					√	√
	9. Recurring expenditure of State Pesticide Testing Laboratory	-	-	-	-					√	√
	C. Distribution of Maha Neem Seedlings, LS	-	-	10,000 Nos.	~ do ~	-	-	-	-	-	-
	D. Rodent Control Measures	-	-	-	-	-	-	-	-	-	-
19	**IPNM**							As per Scheme	√		
	a. Demonstration (Early Ahu Seeds & Other implements)	-	-	-	-	-	-	100 Nos.	100 Nos.	-	-
	b. Farmers Field School & Field Day (nos.)	-	-	-	-	-	-	276 Nos.	276 Nos.	-	-
	c. Village Level 1 day Training on Rice & Vegetable (batch)	-	-	-	-	-	-	230 batch	230 batch	-	-
	d. Village Level 1 day Training on Rodent Pest Management (batch)	-	-	-	-	-	-	150 batch	150 batch	-	-
	e. Subsidy Sale of HC Sprayer (nos.)	-	-	-	-	-	-	3,000 Nos.	3,000 Nos.	-	-
	f. Recurring Expenditure of State Bio-control Lab. (nos.)	-	-	-	-	-	-	1 No.	1 No.	-	-
	g. Recurring Expenditure of State Pesticide Testing Lab. (nos.)	-	-	-	-	-	-	1 No.	1 No.	-	-
	h. Transportation Charges for carrying IPM materials to Districts.(nos.)	-	-	-	-	-	-	26 Nos.	26 Nos.	-	-
	i. Administrative Expenditure	-	-	-	-	-	-	-	-	-	-
20	**Jute / Ramie Development Programme**			As per Scheme	I.P.						
	a. Technology Demonstration (2 Ha. Size)	-	-	200 Nos.	I.P.	-	-	-	-	-	-
	b. Farmers' Training	-	-	200 Nos.	do	-	-	-	-	-	-
21	**Modern Fresh Fruit, Vegetable & Dairy Products Outlets**			As per Scheme	I.P.						
	a. Premises (Approx. 400 Sq. ft.)	-	-	-	-	-	-	-	-	-	-
	b. Equiptments-	-	-	-	-	-	-	-	-	-	-
	1. Refrigerated Stainless Steel Counters	-	-	2 Nos.	I.P.					-	-
	2. Air Conditioner (1.5 ton x 1)	-	-	-	-					-	-
	3. Weighing Scales (Digital Table Top)	-	-	-	-					-	-
	4. Utensils for Sorting & Washing	-	-	-	-					-	-
	5. Electric Heat Sealing Machine	-	-	-	-					-	-
	6. Diesel Generator (5 KVA with accessories)	-	-	-	-					-	-
22	**New Initiative**										
	1. Subsidy Sale of Micronutrients for maintaining Soil Health with assistance to farmers at 25% subsidy limited to Rs. 200/										

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
	5. Payments to consultant	-	-	LS	-	-	-	-	-	-	-
	6. Payment to Inspectors for 2 visit to Assam	-	-	4 Nos.	~ do ~	-	-	-	-	-	-
	7. Meterials and Supplies-										
	a. Seed 32 qtls. @ Rs. 1,500/- per qtl.	-	-	32 qtls.	~ do ~	-	-	-	-	-	-
	b. Bio-dynamic preparations	-	-	-	-	-	-	-	-	-	-
	c. Expenditure for compost making by bio-dynamic method	-	-	160 Nos.	~ do ~	-	-	-	-	-	-
	8. Marketing Support	-	-	LS	-	-	-	-	-	-	-
	B. Strenthening of Soil Testing Laboratory (nos)	-	-	**2 Nos.**	**2 Nos.**			**7 Nos.**	**7 Nos.**	**14 Nos.**	**14 Nos.**
	C. Strenthening of Quality Control Laboratory (nos)	-	-	-	-			**1 Nos.**	**1 Nos.**	**2 Nos.**	**2 Nos.**
	D. Distribution of Polythene Bag for collection of Soil Sample (qtl)	-	-	-	-			**10 qtls.**	-	8 qtls.	-
	E. Distribution of Information Sheet (nos.)	-	-	-	-					100,000 Nos.	-
	F. Sali Paddy Demonstration 1 Ha. Size (nos)	-	-	-	-	-	-	**110 Nos.**	**110 Nos.**	-	-
	G. Orientation Training for Officers (2 Days) in INM (nos)	-	-	-	-			**50 Nos.**	-	**50 Nos.**	-
	H. Orientation Training of Soil Testing Staff (2 Days) (nos)	-	-	-	-			**25 Nos.**	-	**25 Nos.**	-
	I. Training Programme	-	-	-	-					-	-
	J. Distribution of Booklets/Leaflets for Publicity/Awareness on INM & Orgenic Farming	-	-	-	-					**25,000 Nos.**	-
	K. Distribution of Agricultural Lime for amelioration of acid Soil.	-	-	-	-					**260 MT**	**260 MT**
	L. Distribution of Bio-fertilizer (Biozyme) for Sali Paddy (qtl.)	-	-	-	-					**120 qtls.**	**120 qtls.**
18	**IPM**	**As per Scheme**	√	**As per Scheme**	**I.P.**					**As per Scheme**	-
	A. Training and Demonstration										
	1. Conducting FFS Training	30 Nos	30 Nos	-	-	-	-	-	-	-	-
	2. Conducting Farmers' Training for Awareness Creation	20 Nos.	20 Nos.	-	-	-	-	-	-	-	-
	3. Follow-up Training of FFS	60 Nos.	60 Nos.	-	-	-	-	-	-	-	-
	4. Trainers Training Programme on Rice and Vegetable IPM	-	-	4 Nos.	I.P.	-	-	-	-	-	-
	5. Village Level one day Training for Creating Awareness	-	-	230 Nos.	~ do ~					115 Nos.	115 Nos.
	6. Training of Pesticide Agent, Dealers etc. one in each sub-Div.	-	-	62 Nos.	~ do ~					120 Nos.	120 Nos.
	7. State Level Workshop (nos.)	-	-	-	-					2 Nos.	-
	8. State Level Trainners' Training Programme on Rice & Veg. IPM	-	-	-	-					3 Nos.	3 Nos.
	9. State Level VLEWs" Training Programme on Rice & Veg. IPM	-	-	-	-					2 Nos.	2 Nos.
	10. Farmers Field School and Field Day (batches)	-	-	-	-					150 Nos.	150 Nos.
	B. Popularising of Bio-pesticides, Bio Agent for demonstrative use in FFS & Non-FFS Farmers									-	-
	1. Distribution of Bio-pesticides	-	-	-	-						
	a. Kg	320 Kg.	320 Kg.	-	-					1490 kg.	1490 kg.
	b. Lit	-	-	-	-					1008 lits.	1008 lits.

Sl. No.	Schemes	2002-03 (as on 21st July'2007)		2003-04 (as on 21st July'2007)		2004-05 (as on 21st July'2007)		2005-06 (as on 21st July'2007)		2006-07 (as on 21st July'2007)	
		Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement	Target	Achivement
29	**Strengthening of Fruit Preservation Trainig Centre**			As per Scheme	I.P.						
	a. Machineries and Equipments	-	-	-	-	-	-	-	-	-	-
	b. Chamicals and Preservatives	-	-	-	-	-	-	-	-	-	-
30	**TSP & SCCP Scheme**	As per Scheme	√	As per Scheme	I.P.			As per Scheme	I.P.	As per Scheme	√
	a. Vegetable Cultivation in Poly House (No. of beneficiary)	55 Nos.	55 Nos.	-	-	-	-	-	-	-	-
	b. Four Auto Van to the ST and Three Auto Van to the SC group/ FMC/ SHG at the rate of 25% subsidy, Rs. 30,600/-	-	-	-	-	-	-	-	-	-	-
	c. 92 TSP and 69 group of farmers	-	-	161 Nos.	66 Nos.	-	-	-	-	-	-
	d. Contingencies	-	-	-	-	-	-	-	-	-	-
	e. TSP- 1. Oil Seed Demonstration (Nos)	-	-	-	-	-	-	4,920 Nos	1,170 Nos.	-	-
	2. Pulse Demonstration (Nos)	-	-		-	-	-	4,218 Nos	1,170 Nos.	-	-
	f. SCCP- 1.Oil Seed Demonstration (Nos)	-	-	-	-	-	-	4,920 Nos	1,170 Nos.	-	-
	2. Pulse Demonstration (Nos)	-	-	-	-	-	-	4,218 Nos	1,170 Nos.	-	-
	g. Minor Flow Irrigation Project (Ha.)	-	-	-	-	-	-	1,200 Ha.	-	-	-
	h. Misc. Expenditure	-	-	-	-	-	-	-	-	-	-
	i. Distribution of Powtertiller at 25% subsidy (nos)	-	-	-	-					286 Nos.	286 Nos.
	j. Distribution of Hand Sprayer at 25% subsidy limited to Rs.800/- in each	-	-	-	-					3350 Nos.	3350 Nos.
31	**Waste Land Development Programme**			As per Scheme	I.P.			As per Scheme	-		
	a. Pub-na-bhanga water harvest cum gully control project (Nagaon)	-	-	-	-	-	-	-	-	-	-
	b. Gopal Pathar land Development Project (Dist.-Kamrup)	-	-	-	-	-	-	-	-	-	-
	c. Tihu Nala Development Project, Patacharkuchi (Borpeta)	-	-	-	-	-	-	-	-	-	-
	d. Puthimari land Development Project, Sorbhog (Borpeta)	-	-	-	-	-	-	-	-	-	-
	e. Sandhya Paikarkuchi Project, Kamarkuchi (Nalbari)	-	-	-	-	-	-	-	-	-	-
	f. Project at Hojai and Tamulpur	-	-	-	-	-	-	-	-	-	-
	g. Land development (Hact.)	-	-	-	-	-	-	1147 Ha.	-	-	-

Note: I.P indicates Schemes in Progress , √ indicates expenditure incured in that particular heads

Appendix-1.1

Comments from Co-ordinating Centre, ADRT, Bangalore

1. Please follow the table format which we have been sent. Clearly mention the Methodology you have adopted. Explain the organization of the study in brief. Otherwise it would be difficult for us to make consolidated study. Please remove all unnecessary tables.
2. Table 1.1 should be "Growth of GSDP at Constant Prices (1993 - 94 prices)" according to our table format. Make use of graph for this table. You can use table 1.1, 1.2 and 1.3 of your report are not necessary.
3. Table 1.2 should be sector-wise share of GSDP and workforce and Table1.3 should be growth in Production and Productivity . Make analytical study of production and productivity of crops.
4. Table 1.5, 1.6 and 1.7 of your report may be included in Annexure Tables.
5. According to our table format Table 1.5 should be percentage change in the cropping Pattern.
6. Table 2.2 should be Trend in Per Hectare Expenditure Agriculture of Revenue Account and Table 2.3 should be Expenditure on Agriculture of Revenue Account As a share of Total Budget and as a Share of Economic Services and Table 2.4 Should be Expenditure on Agriculture of Revenue Account as a Percentage of NSDP (constant prices 1993-94).Make use of graphs and growth rates for Table 2.1 and 2.2. Follow our table format for Table 2.4.
7. According to our table format Table 2.5 should be Change in the Composition of Expenditure on Agriculture of Revenue Account as a share of Agricultural Expenditure. Table 2.5 of your report should be 2.7 as per our table format. Include conclusion part for Chapter II.
8. Table in Chapter III should be as per our table format. All the other extra tables are not necessary. It is important to analyze schemes implemented by year, objectives, targets, type of beneficiaries, operational area, year wise expenditure and achievements in a systematic manner.

9. In the fourth chapter, you can use simple correlation or regression tools, using expenditure as independent variable to know the impact of budgetary expenditure on state income and poverty. This is also applicable for the section 'Farm sector distresses'. Make it as simple as to understand.
10. You can make use of graphs where ever it is necessary (for Table 1.1, 1.2, 2.2, 2.3, 2.4, 2.7).

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Appendix-1.2

Action Taken on the Comments from Co-ordinating Centre, ADRT, Bangalore

1. Necessary modification has been made as per suggestion.
2. Table 1.1 and its' graph has been incorporated in the report at proper place and the table 1.1, 1.2 and 1.3 report were dropped as per suggestion
3. Table 1.2 sector-wise share of GSDP and workforce is incorporated in proper place and table 1.3 made as Production and Productivity of crops.
4. Table 1.5, 1.6 and 1.7 of draft has been dropped..
5. Table 1.5 made as Percentage Change in the cropping Pattern.
6. Tables have been arranged as per suggestion.
7. Necessary arrangement has been made.
8. In Chapter III the table of different schemes under Macro Management of Agriculture in Assam with Financial target and achievement is incorporated in appendix .
9. Here only simple linear equation of two variable is adopted where NSDP as dependent variable and revenue expenditure as independent variable.
10. Graphs are given where it is felt necessary.

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