DIRECTORATE OF AGRICULTURE:: ASSAM

Development Agenda and Action plan for Sustainable Development Goals, 2030

VISION

The vision of Assam agriculture is that of a vibrant sector which is an engine of growth for the state economy, provides food and nutritional security, supports the farmers for socio-economic uplift to have a comfortable life, minimizing environmental degeneration and helps the state in the path towards food self sufficiency and poverty eradication.

MANDATE:

The mandate of the Directorate is to end hunger, poverty and provides respectable employment in agricultural sector for a decent living through sustainable manner.

POLICY

The main policy objective is to create enabling conditions for an integrated agriculture system which is self sustaining, which contributes to the optimum extent to food security, balancing rising productivity with increases in farmers' incomes. Other objectives include increasing resilience of the farming community, improving soil health, better use of water resources and conservation and appropriate use of common property resources and raising farmers' standards of living by empowering them to carry out their activities in agriculture and allied sectors in a better manner with particular focus on women and youth. At the same time the policy has the objective to diversify agriculture to raise farm incomes and meet nutritional security of the farm families with a view to make these as primary sources of livelihood.

Present status:

- Agriculture is the principal occupation of majority (60%) of the rural population in the state in terms of employment and livelihood. Agriculture sector continues to providing employment of more than 50 per cent of the total workforce and support more than 75 per cent population of the state directly or indirectly.
- Growth in the agricultural sector now stands at 4.5 % and contributes 17.89% to the State Gross Domestic Product at current price (2013-14).
- The total area under operational holding is 29.99070 ha distributed among re 27.20 lakh operational holders with an average land holding of 1.10 ha. About 85% of these holders belong to small and marginal categories.
- Agriculture sector continues to providing employment of more than 50 per cent of the total workforce and support more than 75 per cent population of the state directly or indirectly.
- The Gross cropped area has been reducing every year due to various reasons viz. soil erosion, urbanization, construction of road, population explosion, etc. The cropping intensity stands at 149% (2014-15) and the target is to raise it to 233% by 2030.

Development Agenda

A: Baselines and targets

Table -1. Baselines and targets for the state

	Indicators Baseline Target Target								
	Indicators		_		Target				
		2016-17	2019-20	2023-24	2030-31				
Α	Requirement of Rice (LMT)	43.63	45.05	47.00	50.10				
	Current Production (LMT)	58.86							
В	Requirement of Pulse (LMT)	4.81	4.96	5.18	5.52				
	Current Production (LMT)	1.43							
C	Requirement of Oilseeds (LMT)	4.32	4.46	4.66	4.97				
	Current Production (LMT)	2.48							
D	Soil Health cards requirement (Nos.)	27,20,000	Remaining	0	0				
			26,26,752						
			during						
			2017-18						
	Current Distribution made (Nos.)	93,248							
Е	Requirement certified Paddy seed (MT)	53696	55448	57848	61664				
	Current Production (MT)	55000							
F	Requirement certified Pulse seed (MT)	9816	10122	10571	11265				
	Current Production (MT)	200							
G	Requirement certified Oilseeds (MT)	3600	3717	3883	4142				
	Current Production (MT)	3800							
Н	Requirement Cropping Intensity (%)	149	167	191	233				
	Current CI achieved (%)	149							
I	Requirement Farm Power (HP/ha)	1.30	1.65	2.00	2.53				
	Current level (HP/ha)	1.30							

- 1. In case of Rice, the state is surplus in quantity till date and this trend of production will be maintained for economic benefit of the farmers.
- 2. In case of Pulses, the state is deficit in production and the major constraint of non-availability of locally produced seeds will be taken care of. The productivity trend indicates that the present production of 4.81 LMT has to be increased up to 4.97 LMT in order to feed the growing population by the end of 2030.
- 3. The state is deficit in Oil seed production primarily because of lack of adaption to new and high yielding varieties. The present production of 4.32 LMT has to be increased up to 4.97 LMT in order to feed the population by the end of 2030. This will be achieved by introduction of new HYVs of oil seeds at right time, making availability of required quantity and application of improved methods of cultivation.

B. Assam Vision relating to Agriculture:

The Assam Vision 2030 under Goals 1 & 2 envisions that the Government will aim at adopting all steps to end poverty in all forms in the state, end hunger by achieving food security through sustainable agriculture.

The above goals can be achieved through the following activities:

- 1. Development of better infrastructure facilities like irrigation and creation of farm power assets
- 2. Sustainable management of Soil health
- 3. Provisioning inputs for higher production.
- 4. Commercialization of agriculture

C. Major issues in Assam's Agriculture sector:

The major issues are:

- **a.1.** Expanding access to services: Lack of adequate manpower for transfer of improved technologies of production has affected the Agriculture Extension Service in the state thereby delaying the process of technological improvisation in agriculture. The Department at present has only about 70% of requisite filed level functionaries.
 - Therefore, all vacant posts at field levels will be filled up so that the objective of the SDG could be fulfilled in the specific time frame.
 - More numbers of licences for opening Agencies for agri-inputs will be issued in village level
- **a.2.** Smaller size of land holding: Absence of consolidation of agricultural land in a state with fragmented land holding and is a major hurdle for use of improved machineries, etc. The average agricultural land holding in the state shows a decreasing trend over the years as evident from the table shown in Table-2.

Table-2

Average size of operational holdings										
Agriculture census	Average size (ha)									
1990-91	1.27									
1995-96	1.17									
2000-01	1.15									
2005-06	1.11									
2010-11	1.10									

Source: A Report on Change in economic condition of operational holders since 1970-71 to 2010-11, page14, Directorate of Economics & Statistics

- Therefore, a farm approach will be adopted for consolidation of agricultural land in order to efficiently inject all inputs of higher production in order to achieve desired productivity and production.
- **a.3.** <u>Lack of certified seeds</u>: While the state is self sufficient in the production of certified Paddy and Oil seeds, it deficit in Pulse seeds.
 - Under the Vision 2030, a seed production plan for Paddy, Pulses & Oil seeds to cater the need up to 2030 will be developed.
 - Helps of AAU will be taken for development of new varieties & special Pulse Seed Storage facilities.
- **a.4.** <u>Inadequate marketing facilities</u>: Farmers of the state are not good businessman and hence always depends on the middleman. Therefore, when they fetch good price of a commodity in a particular year, they naturally go for more production of that commodity in the following year and the principle of Demand & Supply affects them during the subsequent years. With such experience, they are disheartened and lose faith in agriculture.
 - The aforesaid constraint will be removed through a well devised strategy so that they produce according to the market demand.
 - Govt. intervention for procurement of marketable surplus will be made.
- b. Improving efficiency and quality of public service delivery: The current level of efficiency in transferring improved methods of production needs up-gradation. The knowledge level of modern agriculture has shoot up tremendously among those who have been exposed to such information. Agricultural field level functionaries also require regular refreshing courses and workshops for improvement of knowledge. This will be done through introduction of regular refreshing courses in collaboration with the AAU/other national institutes.

- **c.** Expanding participation: Rural farmers are financially not so sound to adapt agrientreprenureship activities on their own. For this reason, a substantial portion of their produces are wasted in the farm gate. Therefore, private sector entrepreneurs will be encouraged to participate in the agricultural marketing through value addition, etc.
- d. <u>Fostering technological innovation</u>: Everyday innovation is taking place in the field of agriculture all over the country for better production and economic return by farmers.
 - Therefore, innovative practices adopted in other states which are feasible to our conditions will be introduced in the state.
 - Mapping of soil nutrient status of each farmer will be completed. Farmers will be able to get their status of soil through Mobile Phone messages.
- e. <u>Policy and institutional changes to facilitate service delivery</u>: The state of Assam is in much need of an Agricultural Policy for implementation of various agricultural activities. Main elements of the policy will be land, water, seed, pesticides, marketing, climate change, etc.
 - Works on the Agricultural Policy has already been started in association with Assam Agricultural University
 - The process of amending the APMC Act, in order to resolve the issue of collection of cess /tax by P & RD and Assam State Agricultural Marketing Board has started.

C. Planning for resource requirements

I. Financial resources.

- Financial requirement has been calculated taking various scales of finances and guidelines received from time to time.
- In case of Central sector scheme, the fund ration has been kept at 90:10 for central and state shares. In case of state plan schemes, it has been kept as 100 % grants in aid. In case of PPP mode of implementation, the ration has been kept as 50:50.

The Department will achieve Assam vision for Agriculture in the state by financial management as follows:

- Sharing cost in between the govt. (in cash) and the beneficiaries (in kinds)
- Inviting private players for infrastructure and capacity building and then to run on pay and use system (e.g. Soil Testing laboratories, small processing,/packaging unit, transportation vans, etc.)
- Cutting costs through technological innovations (use of solar power, low cost machineries, ITK, etc.)
- Accepting Financial assistance from NABARD, NEC and other such institutions.
- Securing additional resources from outside the state/country (Additional Central Assistance, IFAD, World Bank, and other International funding).

II. Human Resources

- 1. Agricultural technologies changes every day and it is more pertinent in view of the climate change effects. Therefore, a strategy for developing human resources is necessary to achieve Assam Vision 2030 for Agricultural sector. Again considering the reducing land holding trend, the future batches of producers need to be more technologically knowledgeable and commercially sensitive for planned agriculture. Therefore, in addition to increasing the technological knowhow of the departmental personnel, capacity building of producers and entrepreneurs too will be taken up effectively to deal with all situations for maintaining sustainability of productivity and production.
- 2. The placement of employees will be reorganized for efficient functioning of the department.

III. Infrastructure requirements.

- 1. The Govt. has recently created some administrative districts in the state. At present, District Agricultural Officers, Sub-Divisional Agricultural Officers, Agricultural Development Officers and Agricultural Extension Assistants have to cover a large geographical area. As per norm, an AEA (earlier known as VLEW) has to cater the need of about 1000 farmers but this number has been almost doubled over the years. Again, added by continuously increasing number of schemes, concerned officials have not been able to effectively supervise and monitor the departmental activities which are a big constraint for sustainable agriculture. Therefore, the area of jurisdiction will be reduced at each level by creation of new Agricultural Districts, Sub-divisions and AEA elekas out of the existing areas. Considering the increasing need of Agricultural mechanization, there is also a need for creation of new offices of Executive Engineer (Agri) and Assistant Executive Engineer. Thus, new offices are to be established for effective administration and extension services.
- 2. Soil Testing Laboratories: Establishment of new and up gradation of departmental Soil Testing Laboratories (STL).

	2016-17	2019-2020	2023-24	2029-30
	(actual)	(cumulative)	(cumulative)	(cumulative)
District Agriculture Office	26	35	35	38
Executive Engineer's Office	13	18	25	33
Sub-Divisional Agriculture	62	80	80	86
Office				
Soil Testing Laboratories	10	15	26	26

Action Plan to help in reducing poverty & hunger

Benchmarking and collection of data:

• The Directorate of Agriculture conducts statistical survey including production of crops by taking up crop cutting experiments with Revenue department at field levels and these are taken as forecast data for the current year. However, the Directorate of Economics & Statistics finally analyse the data and publishes it as official document.

Soil Health Management: Setting up of new STL, Up gradation of existing STL Distribution of SHC

- Farmers at present are applying plant nutrients without knowing the actual requirement and very often a major part of nutrients are wasted in the soil. Therefore, the cost of cultivation gets increased.
- The SHC provides the exact requirement of plant nutrient and therefore it will cut the cost of plant nutrient up to 30% thereby decreasing the cost of cultivation. This means there will be an increase by 30% of income of farmers.

Production of certified seeds:

Certified seeds produced from Breeder and Foundation seeds bear the quality of producing true type of grains in field and such seeds can be used for three consecutive years after which famers should use again new certified seeds. Lack of HYV seeds and their distribution at right time at farmer's doorsteps are main reasons for low production of many crops in the state. The Govt. has taken up massive production programme of such seeds in the state. Use of certified seeds (Seed Replacement Rate expressed inn%) will increase about 40% yield of crops thereby bringing 40% more income to farmers. Farmers will also be benefited by selling their own certified seeds in the markets.

Enhancing production of Paddy, Pulses and Oil seeds.

• The Department has been showcasing different improved techniques of crop production to farmers since many years but all farmers are yet to adopt such practices. Crop demonstration is continuous practice with introduction of new crop varieties and techniques with the passage of time. There is a gap between the prescribed and adopted methods of crop cultivation in the field. If this gap is eliminated, there will be at least 40% more production of crops. Therefore, improved demonstrations will be conducted in farmers' field by the department. These will invariably associated with incorporation of new HYVs, distribution of machineries and other inputs. Thus, enhancement of production will increase the income of farmers as well as empower them to buy other food items to end hunger.

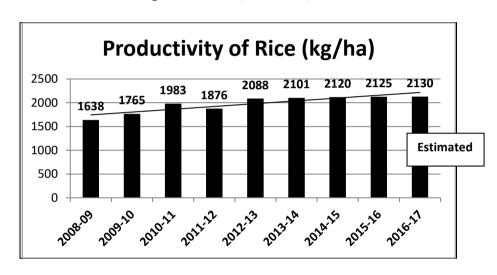


Fig.: Productivity of Rice (kg/ha)

New technologies, innovations, etc. to reduce fuel cost and increasing income

Installation of Solar powered Shallow Tube Wells has been stated in the state. This has helped the farmers to save fuel cost thereby saving money.

Marketing of surplus Paddy:

- Paddy being the staple crop always results in marketable surplus. Instead of
 discouraging the surplus production, a way for disposal of the same has been worked
 out for increase of farmer's income. The Department has initiated procurement of
 surplus paddy through Assam State Agricultural Marketing Board (ASAMB) and FCI
 helping them to earn from their produce.
- The Govt., as a land mark initiative, has taken up to implement a market linked project-Assam Project on Agri-business for Rural Transformation (APART) for production of many commodities in an organized way under FPO, value addition and marketing in the state. This will add to the other steps taken for ending poverty and hunger in the state.

Digitisation of soil health status:

• The locations of crop fields of farmers have been digitized under GPS system. Soil Health Cards are now available in the website and farmers can download it in concerned CSC for knowing the status of their soil nutrients.

Seven Years Strategic Plan (2017-18 to2023-24)

The year wise requirements of different interventions have been calculated and a seven year strategy has been evolved as follows:

Strategy-1: Increasing productivity and production:

A-Soil Health (productivity) Management:

- 1-Improvement and up gradation of existing Soil Testing Laboratories (STLs) to cater the need of testing different soil parameters.
- 2-Installation of ICP-Optical Emission Spectroscopy machine in STLs. for proper functioning of the laboratories.
- 3-Distribution of Soil Health Cards

B-Production of certified seeds:

- Maintaining self sufficiency of certified Paddy and Oil seed production
- Utilisation of full potentiality of Departmental as well as ASC Ltd.'s seed farms are producing farms.
- Reorganizing of existing manpower in seed farms.
- Expansion of Seed production programmes to famer's field in PPP mode at least to produce 30% of the total requirement by facilitating the farmers for such production.
- Making provisions for selling farmer's seeds through ASC sales counters distributed all over the state.
- Developing/designing special seed storage bins for Pulse seeds inordee to avoid the storage of pulse seed created by high humidity condition during the rainy season with the help of AAU
- Increasing cropping Intensity
- Strengthening the Assam State Seed Certification Agency

Strategy -2: Enhancement of production:

1-Production of Paddy:

- Maintaining the status of Paddy production
- Popularisation of Hybrid paddy in limited areas of small and marginal farmers in the light of reducing area of cultivation year by year.
- Bringing 10% under Hybrid and 90% under HYV of the total Winter Paddy area. In case of Summer Paddy, it will be in the ration of 20: 80.
- Integrated Nutrient Management based on soil test data.
- Integrated Pest Management
- Organizing front line demonstrations for maximizing profitability of rice.
- Thrust on increased mechanization
- Providing assured means of irrigation.
- Expansion of low cost irrigation machineries.

2-Production of Pulses:

- Area expansion under Pulse crop in areas of Rice fallow areas and Kharif pulses.
- The existing 1.3 lakh ha area of pulses will be increased to 3.0 lakh ha
- Introduction of new HYVs of pulses.

3-Production of Oil seeds:

- Expansion of oil seed crop.
- Bringing The existing 2.8 lakh ha area of Oil seeds will be increased to 4.0 lakh ha
- Introduction of new HYVs of oil seed crops.

• Critical and life saving irrigation practices in oil seed crops.

Strategy-3: Marketing:

Marketing of surplus Paddy:

- Efforts had been made by the Department of Agriculture since 2013-14 for procurement of marketable surplus of paddy. The Assam Agricultural Marketing Board and FCI are procuring surplus paddy from farmers at selected locations. The number of collection centers will be increased for the ease of delivery by farmers.
- A World Bank aided project in the name & style of Assam Project on Agri-business for Rural Transformation (APART) has been started for development of an efficient marketing system in the state.
- Creating awareness of improving the quality of stored paddy

Strategy-4: Capacity building (T & V):

- Introduction of Training & Visit system of extension education.
- Refresher's course for extension functionaries
- Training of producers

Strategy-5: Human resource and Infrastructure development:

- Establishment of new District and Sub-divisional Agriculture offices
- New offices of Executive Engineer (Agri.) and Assistant Agricultural Engineer

Assessment of existing programs and rationalization of schemes and programs

1. The Department proposes to undertake an immediate review of all current schemes to assess their usefulness. Third party assessments will also be encouraged. The programs that are required only for one or two times will be phased out. There will be need for discarding some programs and schemes and rationalizing and integrating others.

(Details of Three Year Action plan placed in Annexure-A)

ANNEXURE-A

<u>Three-Year Action Plan (2017-18 to 2019-20)</u>

- **1.** The three-Year Action Plan is based on the Seven-year Strategic Agenda described above. The Action Plan, however, focus on immediate actions needed in the three-year period 2016-17 to 2019-20.
- 2. Baseline (2016), Medium Term Target (2019)
- 3. The baselines on major indicators and the targets have been presented in Table-1
- 4. Action plan for 3 years is shown below.

These interventions are necessary to fulfill the mandate of End Poverty and reach Zero Hunger.

			3 years Ac	tion plan	under S	SDG, 20	030					
							Year v	wise requi	rement			
Goal	Strategies	Outcome indicators	Activity	Unit	2016- 17 2017-18		2018-19		2019-20		Resource management	
					Phy	Phy	Fin	Phy	Fin	Phy	Fin	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>
Goal- ove ure	he through nowing ictivity	(1) Each farmers	(1)Setting up new Soil Testing Laboratories	No.	9	6	300.00	6	300.00	5	650.00	RIDF, RKVY
ywhere ty, impr agricult	ining t of soil and k	receive Soil Health Cards	2-Upgradation of existing STL with installation of IPC-Optical Emission Spectroscopy machines	No.	3	6	18.00	Maintenance as required			RIDF, RKVY	
na eve secu	Sus ivit roar		3-Provision for Mini Soil Testing laboratory	No.	214	200	80.00	200	80.00	200	80.00	NMSA: Soil Health Management
	1. 9 producti proper the stat		4-Issuing soil health cards to all farm families	Lakh	0.93	13.13	1050.48	13.140	1051.20	Conti renewal	nuous process	NMSA: Soil Health Card
poverty in al nger, achieve nnd promote	ncing	1-Total Hp/ha	1-Use of big machineries (tractors) for tillage operation									CMSGUY, NMAET-SMAM
End j	2-Enhancing farm powers	to 1.51	2-Use of small machineries (power tillerstractors) for tillage operation in fragmented land	HP	1.30	1.37		1.44		1.51		NMAET-SMAM
Goal-1: 2: Er nutri	Enha ncing irriga tion	1-Area under	1-Increased area coverage by Solar powered STW	ha	20	40	59.60	60	89.40	80	119.20	RKVY, RIDF, PPP endeavor

	assured irrigation	2-Substantial increase in area coverage by POL used STW	ha	0.081	0.331	0.02	0.581	0.03	0.831	0.05	RKVY, RIDF, PPP endeavor
	increases	3-Creation of Major, Minor & medium irrigation potential for Paddy and Rabi crops	ha	7.577	8.800		10.022		11.245		Irrigation Departrment, PPP endeavor
	2-Irrigation water loss reduces upto 90%	1-About 10% of paddy cultivation under SRI system	Lha	0.08	0.12		0.16		0.20		Under normal schemes of RKVY, NFSM, Targeting Rice Fallow Area
		2-Use of Drip & Sprinkler systems fro critical irrigation in oilseeds & pulses	ha	0	200	80.00	200	80.00	200	80.00	PMKSY, RKVY
	1-State becomes	1-Revival of seed farms	No. MT	5 55000	5 54280	4.00 868.48	5 54856	4.00 877.70	5	4.00 887.17	State Plan
seeds	self	2-Production of normal season certified Paddy seeds (seed village)	IVI I	33000	34280	000.40	34630	8//./0	55448	00/.1/	Seed Village Programme
rtified s	sufficient in production	3-Production of submergence & Drought tolerant Paddy seeds	МТ	8.00	10.00	0.16	12.00	0.19	14.00	0.22	Seed Village Programme
ı of ce	of quality seeds.	4-Production of certified Pulse seeds	MT	200	1051	63.07	1902	114.14	2753	165.21	Seed Village Programme
lbutior		5-Production of certified Oil seeds	MT	3800	3826	191.32	3853	192.63	3879	193.95	Seed Village Programme
4-Production and distribution of certified seeds	2-Quality seeds becomes available at farmer's doorsteps	1-Establishing ASC's sale centre in each block HQ	No.	0	50		50		50		Bt ASC Ltd.
4-Pro	3-SRR increases to 166%	1-Intensive use of certified seeds	%	149	155		160		166		Farmer's own

5-Converting at least 25% of the food grain area into inorganic based cultivation	1- Productivity of soil sustained	1-Shifting from Inorganic cultivation: Expansion of cultivated area using organic manure, Vermicompost, Biofertilisers & organic/herbal pesticides.	Lha	0.122	1.267		2.412		3.557	Farmer's own
-irgri-	1-Capacity of Extension officials and	1-Reintroducing Cluster & ADO meets at field level 2-Introduction of Training & visit		NIL		Continuous To b	State Plan No fund is required			
mce for 8	Farmers increased	system for extension officials 3-Regular refresher's training for Extension Officials	Persons		70		90		120	By AAU
viding assistan pment	entrepreneurship development	4-Exclusion of Agricultural extension officials from Election/Census duty for regular monitoring and assistance to farmers			To be completed					No fund is required
ering and pro eurship devel		5-Training to farmers	Farmers	200	500		2500		5000	By AAU, NMAET (SAMETI), Assam Rural Livehood Mission
g, Empowe entreprenc		6-Training to rural youths on Maintenance & operation of machineries	Trainings		200		200		200	By FMTC- Biswanath Chariali, AAU, NMAET
6-Capacity building, Empowering and providing assistance for agri- entrepreneurship development	2- Farmer's access to use, maintain and reparire machineries at the nearest	1-Assistance for establishment of Custom Hiring Centers in each Dev. Blocks	No.	80	40		40		40	State Plan

	location									
	3-At least 72000 youths and women take	1-Training to youth & women on food processing	Person	200	1000	2000		3000		Horticulture Directorate, Assam Rural Livehood Mission
	up to fruits & vegetable processing business	2-Assistance for establishment of mini food processing units	Person		30	50		70		State Plan
	1-Farmer get optimum production	1-Regular publication of Package of Practices with inclusion of Organic crop production practices	Last durir	ng 2009	3000	3000	4.50	3000	4.50	State Plan
ductio	from their crops	2-Maintaining production target of paddy (in terms of Rice)	LMT	43.63	44.10	44.57		45.05		Farmer's own
7-Enhancement of production		3-Expansion of Pulse area from the current level of 1.3 Lha	Lha	1.3	1.48	1.66		1.84		Farmer's own
cement		4-Expansion of Oilseeds area from the current level of 2.8 Lha	Lha	2.8	2.93	3.06		3.19		Farmer's own
Enhan		5-Increasing area under Double cropping	Lha	14.48	15.33	16.18		17.03		Farmer's own
7		6-Awareness Programme on Demand driven production system	No.		1000	1000		1000		No fund is required
		7-Facilitating KCC	No.	2.818	7.108	8.000		9.000		No fund is required

ment of	1-Regulated and rural markets becomes the	1-Amending the APMC Act to facilitate expansion and effectiveness of rural markets	Under pr	rocess		To be complet	To revie periodica	, i				
8- Establishment & improvement of Marketing system	hub of active transaction by producers								No fund is required			
ablishı Ma	2-Market led	1-Consolidated land use system by formation of FPO		A continuous process								
8- Est	production system popularised	2-Awareness programme for increasing grain quality for selling to FCI, ASAMB		A continuous process								
		3-Establishing linkage with e-NAM project for exports							By ASAMB			
9-Policy initiative	1-Shrinkage agricultural land checked	1-Restricting the Agricultural land to be sold/ for non-agricultural uses				To b	Revenue Department					
Climate change related hallenges	1-Farmer's income becomes	1-Assessing the vulnerability to climate change				First phase	e to be compl	eted	Forest & Environment department			
nange 1	sustainable and	2-Coverage by climate resilient crop varieties	ha	600	5000	1000	00	10000	No fund is required			
Climate ch	Agriculture remain a	3-Adjustment of sowing seasons of crops as feasible	All crops						No fund is required			
Clir	respectable profession.	4-Establishment of Seed bank	No.	0	10	30		40	By ASC Ltd.			
10-Combating	profession.	5-Introduction of climate resilient varieties	Works go	oing on		To b	No fund is required					
omf		6-Integrated production system	Lha	0.56	0.90	1.24	1	1.58	Farmer's own			
)-C		7-Insurance of crops	Farmers						Farmer's own			
<u> </u>	2-Reduction	1-Expanding SRI	ha	2578	6995	1141	2	15829	Farmer's own			

	in GHG									
ırce nt	Deficit of manpower	ADO (Total required =449, current strength=309, Vacant=140)	No.	309	140				State plan	
esol	overcame	AEE	No.		3	3		3		State plan
ı R Iop		AAE	No.		12	12		12		State plan
mai		JE (Agri)	No.		14	14		14		State plan
Hun		AEA(Total strength=2884) vacant=1286	No.	1598	1286	Continuous process				State plan
ı- ent	All districts	Establishment of new DAO office	No.	27	6					State plan
frastrı cture elopm	covered by	Establishment of new SDAO office	No.	64	6					State plan
Infra ctı develo	required govt. offices	Establishment of new EE (Agri) office	No.	10	5	8		10		State plan