

Technology Mission on Sugarcane under State Plan 2013-14

Introduction:

Sugarcane is being cultivated in the State for white sugar and Gur. The area, production & productivity of sugar cane is around **40,000** hectares, **29.07** lakh MTs & **71.12** M.T per hectare respectively. There are six Nos. of sugar mills in the State having the crushing capacity of around 17 lakh M.T. But the mills are able to utilise (40-45)% of their crushing capacity.

Major sugar cane growing districts: Koraput, Cuttack, Nawarangpur, Nayagarh, Ganjam, Bolangir, Kalahandi, Khurdha, Jajpur, Bargarh, Dhenkanal & Jagatsingpur

Minor sugar cane growing districts:- Bhadrak, Balasore, Nuapada, Malkangiri, Maurbhanja, Sundergarh, Gajapati, Rayagada, Deogarh, Puri, Kendrapara, Sundergarh and others

Potential:-

State has the potential for growing sugarcane up to 2.00 lakh hectares as the Rabi irrigation potential has been created to the tune of 13.99 lakh hectares. Depending on sugar cane area potential 20 Nos. of sugar mills with the crushing capacity of 70 lakh M.T can run successfully for 150 days including the existing six numbers of sugar mills. The productivity can be enhanced to 100 MT/hectare owing to the favourable agro-climatic condition available in various regions of the state.

So it is proposed to launch a **Technology Mission on Sugarcane** in all Sugarcane growing areas of the state under State plan 2012-13 with the following objectives.

1. To enhance the area under sugarcane in all potential areas.
2. To make sufficient raw material availability to the existing sugar mills of the state for their optimum capacity utilization.
3. To popularize the micro-irrigation (drip) in sugarcane for yield maximization & Water productivity enhancement.
4. To popularize the improved planting techniques & SSI (Sustainable Sugarcane Initiatives) to reduce cost of Cultivation & economize the use of valuable seed resource.
5. To popularize the technologies for ratoon crop management for getting yield at par with that plant crop.
6. To build up the capacity of cane grower-cum-jaggery producers of non-sugar factory areas for production of Quality jaggery.

Projects proposed in the technology Mission on Sugarcane

1. New initiatives in sugarcane cultivation.
2. The sugarcane Development Package for Sugar factory Areas in PPP Mode (Ongoing)

Abstract of funds requirement for two projects

Sl No	Name of the Projects	Funds in Lakhs Rupees
1	New initiatives in sugarcane cultivation	184.80
2	Sugarcane Development package in PPP(Public Private Partnership) mode in Mode sugar factory areas of the state (ongoing)	115.20
	Total	300.00

PROJECT-I

New initiative in sugarcane cultivation.

A. Sustainable Sugarcane Initiative (SSI)

Objective

Sustainable Sugarcane Initiative (SSI) is the proven technology developed by ICRISAT for sustained yield by optimum utilization of scarce resources like seed cane, plant nutrients & water. By this Technique of sugarcane growing, more area can be covered under sugarcane in the short Planting period of our state. This planting technique can also be utilized in monsoon planting of Sugarcane for seed cane production.

Strategy:-

To popularize this technology among the cane growers, it is proposed to take up demonstration programme of **1400 Acres** with an estimated cost of **Rs 91.00 Lakhs**. The demonstration programme will be taken up in cluster of **5.00Acres**. So there will be **280** clusters covering 1400Acres. In each cluster a beneficiary should have minimum 0.5 Acre of sugarcane area. Maximum benefit to the extent of one Acre will be provided. *If any existing NGO in the locality, which is competent enough regarding this technology, the programme may be taken up through that NGO.* Rs 300/- will be provided to that NGO as administrative charges who is willing to take up this programme. ***The concerned NGO have to sign an MOU(Memorandum Of Understanding) with the concern DDA.***

For each cluster of **5 Acres** one Budd Chipper machine will be provided by the Govt. Other inputs like propagation tray for rearing settling, Coir pith/ FYM, Fertiliser (chemical & Bio) & etc will be provided on **Acre basis**. In case of unavailability of propagation tray, the provisional cost for that tray will be diverted to other inputs. In Sugar factory Areas the beneficiary should be selected by the sugar factory & the beneficiary should be a agreed cane

grower. If sugar factory agreed to execute the Programme, then the concerned sugar mill may be entrusted with the work. The cost above the Govt. provision will be born by the participating farmer.

The provisional cost structure is given below.

Sl No	Item	Cost per /Acre	Cost per 5Acre Cluster	Farmers Share if any
1	Bud chipper	Rs 300/-	Rs 1500/-	
2	Plastic tray for rearing Settling	Rs 3200/-	Rs16000/-	
3	Cost of coir pith/FYM	Rs 500/-	Rs 2500/-	
4	Fertilizer& Biofertilizer	Rs 1500/	Rs 7500/-	Balance to be Borne by farmer
5	Need based pp chem./ Weedicide/boi-agent	Rs 300/-	Rs 1500/-	
6	Field day	Rs 200/-	Rs 1000/-	
7	Misc.cont(Local transport of Input,POL,Documentation & etc	Rs 200/-	Rs 1000/-	
8	Administrative charge for program Executing NGO	Rs300/-	Rs1500/-	
	Total	Rs 6500/-	Rs 32500/-	

B. RatoonManagement :-

Objective

Ratoon crop requires intensive care for getting yield at par with that of fresh (plant) crop. Trash burning in ratoon crop creates problem for control of *Pyrrilla*, early shoot initiation from harvested crop & activity of soil Micro organisms. So ratooning operation is being delayed which results reduction in yield. Two key interventions i.e. trash **mulching** & **Gap filling** should be popularized among the cane growers to overcome these above problems.

Strategy:-

It is proposed to take up Ratoon Crop demonstration in the sugarcane growing areas of the state by giving more emphasis on the trash mulching, its' in situ incorporation & gap filling with an estimated cost of **Rs 73.50 Lakh** covering an area of **2100 Acres**. The demonstration will be taken in **5 Acre cluster**. The estimated Unit cost would be Rs 3500/- **per Acre**. In the sugar factory area the beneficiary should be selected by the sugar factory & he should be an agreed/registered cane grower. The sugar factories are to be entrusted for trash mulching & gap filling if they agreed to take up the activity. Costs provided for the purpose in the demonstration programme should be placed with the sugar factory. Extra cost above the provision will be met by the farmer in whose field the programme is to be taken up. In other areas the farmer is to

take up the work by his own means. The cost provided for the purpose will be given to the farmer in the form of account payee cheques.

The provisional cost structure per Acre & 5Acre cluster is given below.

Sl.No	Item	Cost/Acre	Cost/5Ac cluster	Farmer share
1	Trash mulching & gap filling	Rs1200/-	Rs6000/-	
3	Termite control	Rs250/-	Rs1250/-	
4	Fertilizer(125:40:24)	Rs1700/-	Rs8500/-	Balance to be borne
5	Bio agent for INB,ESB &TSB	Rs300/-	Rs1500/-	
6	Contingencies	Rs50/-	Rs250/-	
	Total	Rs3500/-	Rs17500/-	

C. Subsidy on Chemical Weedicide:- Sugarcane is wide spaced agronomic crop having high water & nutrient requirement. As the initial growth is very slow up to 45days after planting (DAP) there is heavy crop-weed competition for plant nutrient which causes problem for inter culture operations like weeding, hoeing, fertilizer application & earthling up. The cane grower spends a lot for these operations. Even in grand growth period there is infestation of weed due to wide spacing which hampers the propping operation. So chemical weed management is an alternative to reduce cost of cultivation.

Strategy:-

It is proposed to give 50% subsidy on use of chemical weedicide(**both pre emergence & post emergence**) by the cane growers of the sugarcane growing areas of the state. More importance will be given in the areas where mechanized cane cultivation is being adopted by the cane growers. The subsidy pattern will be 50% limited to **Rs400/- per Acre**. So the funds required to give subsidy for **1985Acre** of cane area will be **Rs 7.94 Lac**.

D. Training to Cane Grower- Cum- Jaggery Producer

Objective

Nearly 50% of the total cane area of the state belongs to Non Sugar Factory Zones. The cane growers of these areas produce Jaggery/Gur to meet their domestic consumption & local market demand. The gur, produce is of poor keeping quality for which the farmers bear loss. Quality of jaggery depends on the improved agronomic practices for cane cultivation, timely harvesting, proper juice extraction & "**Art & science**" involved in gur preparation. So the cane growers are be trained in a research station where research work is going on for Jaggery/gur with all state of art facilities to impart training. Further the farmers are also to be interacted with the cane grower-cum- jaggery-producers of the nearby locality of the research station for learning the art of jaggery making.

Strategy :

It is proposed to train **30 Nos** Cane growers-cum-gur/ Jaggery producers in **Regional Agricultural Research Station Anakapalli Andhrapradesh for five days**. The trainee farmers will be sent in two groups. Each team will comprise of 15 members (trainee farmers) with one team leader. The team leader should be from the concerned area. He should be well conversant in English & Telugu. So that he can play as interpreter during the interaction among the trainee farmers & the local farmers of that area of Andhrapradesh. There will be an estimated financial provision of Rs **120000/- per group**(15trainee farmers +one team leader) . The training cost will be paid to the institute as per their requisition. So the funds required for two groups (30 trainee farmers+ two team leaders) will be **Rs 2,40000/-**

The provisional cost structure is as follows

Sl No	Particulars	Rate
1	Bus/Train fair from village to dispersal center & back for 15 farmers .	Rs 4500/-
2	TA & DA of guide officer inside the state for arranging the Program before going from dispersal center.	Rs 2000/-
2	To & fro Bus/train fare for 15 farmers & 1 guide officer to training institute	Rs 11000
3	Daily allowances@Rs250 per farmer for 7days	Rs 26250
4	Daily allowance of the guide officer @Rs 330/- for 6days	Rs 1980/-
5	Cost structure provided by the host training institute i.e R.A.R.S Anakapalli Andhrapradesh	Rs 72250/-
6	Documentation, Local conveyance & other contingencies	Rs 2020/-
	Total	Rs 1,20,000/-

E. Training to Group C Extension officers (AO/VAW/LVAW):-

Objective:

The skill of grass-root level extension officers of sugarcane growing areas needs to be developed for transfer of sugarcane production technology to the cane growers.

Strategy:

It is proposed to train 100Nos Group C extension officers regarding the recent advancement in sugarcane production technology & processing. They will be trained in five batches (each batch 20 participants) at a state level training institute, i.e. Minor Irrigation & Water Use Training Institute Bhubaneswar. They are to be trained for five days. The programm is to be organized with an estimated cost of Rs2.95 lakh (Rs 59000/- for each batch)

The provisional Cost Structure (for one Batch)

Sl No	Particulars	Rate	Total
1	Training material for 20 trainees	Rs250/- per trainee	Rs5000/-
2	Honorarium to Resource persons for 12 Nos of class room lecture	Rs 500	Rs6000/
3	Honorarium to Resource Personnel during field visit(2Nos) -visit to Agril & Allied Institutions -Visit to successful farmers field	Rs500/-	Rs500
4	Lodging @Rs50/- & Boarding @Rs150/- (Total Rs200/-) per day for 5days	Rs 1000/-	Rs20000/-
5	Travelling Expenses to the participants (To & for journey with DA as per actual)	Rs500/-	Rs10000/-
6	Payment to the course Coordinator Cum Guide officer	Rs1000/-	Rs 1000/-
7	Hiring of vehicle /POL for Visit & Conveyance to the resource persons & trinees	Rs 8000/-	Rs 8000/-
8	Misc Contingencies (Reading material/Hard & Soft copy),AV- Aids Maintenance, Photographs, Banner, Telephone charge, Documentation, Consumable items etc	Rs6000/-	Rs 6000/-
9	Operational Expenses	Rs2500/-	Rs2500/-
	Total		Rs59000/-

F. Seed Replacement in non Sugar Factory Areas:

In Non sugar factory areas the cane growers are growing the old ruling varieties year after year. So the purity & vigour of the variety is being deteriorated. The seed & soil borne disease is a bottle neck for getting optimum yield. Even in some cases crop has been failed due to the ruling of a particular variety for years together. So some of the new varieties having desirable traits for good Jaggery recovery & disease & pest tolerance should be introduced in these areas to overcome the above said problems.

Strategy:- It is proposed to replace the old ruling varieties with new one like CO87A298(Viswamitra), 83V15(Kanakdurga) CO86032(Nayana). **Sabita, Nillamadhab, Bhawani(CO 86249), Uttara(Co-87044), Raghunath & other varieties** suitable to the area. Even the tissue cultured plant lets of these varieties or the ruling varieties may be used. The seed material is to be collected from the research stations/ state seed farm / sugar factory primary seed nursery(in Factories captive farm or in registered seed cane growers field) located in the state/ in the outside the state. So it is proposed to spend **Rs 4000/- per MT** to meet the cost of seed cane cost & its' transportation. 100MT of new varieties of seed cane will be introduced in sugarcane growing areas **Nawarangpur, Koraput & kalahandi district** with an estimated financial provision of **Rs 4.00Lacs** .

Abstract of Interventions

Sl No	Intervention	Unit cost in Rupees	Physical	Financial (in lakh Rs)
1	Sustainable Sugarcane Initiative	6500 per Ac	1400 Ac	91.00
2	Ratoon Mtg. Demo.	3500 per Ac	2100 Ac	73.50
3	Training to Jaggery producers	120000 per Group	2 Nos	2.40
4	Training to Group-C extension officers	59000/-	5 Gr	2.95
	Subsidy on Chemical weedicide	400 per Ac	1985Ac	7.94
	Seed replacement in non sugar factory area	4000per MT	100 MT	4.00
	Contingencies lumpsum for the Mission			3.01
	Total			180.80

**GUIDLINE FOR IMPLEMENTATION OF THE NEW INITIATIVES IN SUGAR CANE
CULTIVATION
UNDER TECHNOLOGY MISSION ON SUGARCANE STATE PLAN 2013-14**

Sustainable Sugarcane Initiative (SSI)

- The intervention will be implemented both in sugar factory & non Sugar factory areas of the state.
- The cluster size should be 5Acre patch. The minimum holding size in the pact should be 0.5Acre. In same cluster maximum benefit will be provided for Ane acre.
- For each 5 Acre patch one Bud-Chipper will be provided. The all in cost(Rs1470/- per bud chipper) of the Bud- Chippers will be drawn centrally at DA&FP(O) level & placed with Development Engineer Odisha Farm Machineries Research & development Center(OFMRDC) satyanagar. He will Supply the bud- chippers to the concerned AAEs/DDAs. The Bud-Chippers are to be supplied latest by 15th October 2013.
- The beneficiary is free to use his own sugar cane variety. Provided that that variety should be free from disease & pest having good tillering & high sugar containing traits.
- The category (SC,ST& General) of the farmer should be properly maintained.
- In sugar factory areas the participating farmer should be a registered grower. So beneficiary is to be selected by the sugar factory concerned.
- If any NGO competent enough regarding the technology of the intervention, the program may be implemented by the concerned NGO. Provided that there must be a MOU between the DDA & NGO. The NGO should agree to executive the programm within the approved cost structure & guideline. The administrative cost provided in the cost structure is to be given to the participating NGO after two months of planting.
- The same above conditions are also applicable to the sugar factories if they agree to execute the programm in their reserved area except the administrative charges as they are the main stake holder of sugarcane cultivation of their areas. They may carry out the programme with the help of NGO if they want & provide the administrative charge as in the cost structure.
- If the program is not executed by the NGO, then the administrative cost provision will be spent in other items depending on the situation.
- The propagation trays required for preparing the bud-chip seedling may be purchased from Govt/ Co-operative agencies
- In case of unavailability of propagation tray the fund provision for the purpose may the diverted to other items.
- If the NGO/ Sugar factory agree to undertake the program, the input to be used should be decide by a group of experts under the chairmanship of DDA. The DDA will purchase the input from the authorized suppliers with approved rate & distribute the same to the participating farmers through the NGO/ Sugar factory.
- The NGO/ Sugar factory may also purchase the input as per recommendation of the expert committee for distribution of the same to the farmers & submit the bills & vouchers to their concerned DDA for payment. This process may be adopted depending on the actual field situation.
- The cost structure worked out is provisional. It could be modified as per situation & availability of input by a group of experts under the chairmanship of DDA.

Ratoon Management Demonstration :

- The programme will be implemented in both factory & non factory areas.
- In factory areas the beneficiaries will be selected by the sugar factories & the beneficiary should be agreed one.
- The sugar factories are to be entrusted with the trash mulching & gap filling work in the demonstration field if they agreed to undertake the programme. Costs provided for the purpose in the demonstration programme should be placed with the sugar factory.
- The cost involved above the provision will be borne by the participating beneficiary.
- ***If sugar factory agreed to execute the complete Programme, then the concerned sugar mill may be entrusted with the work as mentioned for the component Sustainable Sugarcane Initiative.***
- In other areas the participating farmer will take up the trash mulching & gap filling by his own means & the cost provided for the purpose is to be paid to the farmer by obtaining a work done certificate from concerned field officer(AAO/AO/VAW). If the beneficiary has the bank account the fund may be placed to the account.
- The participating farmer should have minimum 0.5Acre of fresh crop harvested area in the **5Acre** cluster. Maximum benefit to the extent of one acre will be provided to the beneficiaries.
- The category (SC,ST &General) of the beneficiary should be strictly followed.
- The input for the demo will be decided as per the need of the location, availability & cost of the input by expert committee under the chairmanship of the DDA.
- ***The video clippings of each cluster are to be taken up for any stage of ratoon operation i.e. Stubble shaving, off-barring, trash mulching, gap filling, trash incorporation, top-dressing & application of Bio-agents The clipping should include the participating beneficiaries.***

Subsidy on Chemical Weedicide:

- 50% subsidy limited to Rs400/- per Acre is to be provided to the cane growers on use of both pre-emergent & post emergent weedicides for control weeds in sugarcane cultivation. Maximum benefit for **2.5Acres** will be provided per beneficiary.
- In sugar factory area the beneficiary will be selected by the sugar factory keeping in view the farmers category. The weedicide can be provided for both fresh & ratoon crop.
- The weedicide will be purchased from approved suppliers.
- The physical achievement may vary as per prevailing cost of weedicide keeping the financial provision unchanged.

Training to the Cane Growers –Cum- Jaggery producers:

- Thirty Nos of farmers will be sent to Regional Agricultural Research Station Anakapalli, Andhrapradesh in two groups.
- The objective of the training program should be widely publicized among the farmers so that real beneficiary would come forward.
- Each group of 15 farmers with one guide officer (total 16) will proceed to Anakapalli soon after getting the programme from the research station.
- The cane grower should be a traditional jaggery producer or a member of cane grower-cum- jaggery producers' family.
- The trainee farmer should have enterprising aptitude & should be below 50years of age.
- Preference should be given to young farmers having basic qualification & knowledge on traditional art of jaggery manufacturing.
- The training cost will be placed to the research station after getting the estimate from the institute.
- The adjustment of expenditure can be made within the cost structure as per actual field situation if required.
- The participating cane grower- cum- jaggery-producers have to deposit Rs 250/- as caution money with their concerned DDA. If they failed to attend the training program their caution money would be forfeited & deposited with the Govt .account .
- **The trainee farmers should be from non factory area. The programme will be executed by JDA (Information) BBSR & implemented in farmers' exposure Visit Mode.**

E. Training to Group C Extension officers (AO/VAW):-

- The training will be organized by Agronomist, Minor Irrigation & Water Use Training Institute Baramunda Bhubaneswar.
- He will prepare the course module in consultation with the scheme officer of this directorate, SAU, Sugarcane research station Nayagarh & leading sugar mills of the state. The training material should be prepared in Odiya.
- The training calendar should be prepared well in advance & be communicated to this directorate.
- Preferably Extension Officers of the Sugarcane growing pockets of the state should be trained.
- Junior Group-C- Officers are to be trained on priority basis to upgrade their skill in transfer of sugarcane production technology.
- The funds will be drawn at DA&FP(O) level & placed to Agronomist, Minor Irrigation & Water Use training Institute for conducting the training programme.
- The cost structure proposed is provisional & can be interchanged among the items keeping the total cost constant.

Seed Replacement in non Sugar Factory Areas:

- The intervention will be implemented in Sugarcane growing areas of Koraput, Nawarangpur & Kalahandi.
- The beneficiary should be selected before September 2013 by maintaining the farmer's category.
- The selected farmers are to be clubbed into groups so that the seed procurement & delivery could be easy.
- Before procurement the seed source should be contacted in the month on September-2013.
- The seed cane supply slab should be ensured depending on the planting time of the area.
- Before giving harvesting order to the seed source, the farmer's field should be ready for planting to avoid the drying of seed material.
- The seed material will be supplied with trash.
- The seed cane grower should have assured irrigation & suitable land for early planting during the month of November to January.
- After negotiating the cost of seed cane, harvesting charge & actual transport charge per ton of seed material the excess cost if any should be borne by the farmer. The excess cost should be collected in advance before putting supply order to the seed source.
- Before harvesting of seed cane from the source this should be closely inspected by the PPO(either Range PPO/ PPO O/o DAO) of the concerned area regarding the disease & pest freeness of the seed material.
- Preferably the state seed farms, sugarcane research station Nayagarh & sugar factories of the state may be entrusted with supply of seed cane.
- If it is required to procure the seed cane from outside state then that state authority may be requested through Director of Agriculture & Food Production(o) BBSR. After getting the permission from the other state authority the seed material would be drawn from the sources located in that state.
- ***This is a flag ship programme for these areas. If funds remain unutilized the concern scheme officer will be held responsible.***

Project -II(Ongoing)

The sugarcane Development Package for Sugar factory Areas PPP (Public-Private- Partnerships) Mode

1. Back Ground:

Sugarcane is the main agro industry based commercial crop of the state. Six nos. sugar factories are in operation. Three are in cooperative sector and another three are in private sector. The sugar factories have a total daily crushing capacity of 11,250 MT, having seasonal requirement of around 17 lakh MT of sugarcane for economic utilization of their crushing capacity. In the present context, the factories are able to utilise only 30 to 35% of their crushing capacity. Sugar factory wise crushing capacity, capacity utilization, & average crushing period are given below.

Sl. No	Name of the factory	Crushing capacity MTs/Day	Cane Requirement for 150days in"000"MTs	Average crushing days of last 5years	Average cane crushed "000"MTs	Percentage of Capacity utilization
1	Aska Co op sugar Ind	2500	375.000	90	124.80	33.28
2	Baragarh Co-op Sugar mills	1250	187.500	57	65.11	34.72
3	Bijayananda Co-op Sugar mills	2500	375.000	37	32.50	8.66
4	Nayagarh sugar complex	1250	187.500	80	62.68	33.42
5	Sakti sugars Ltd	2500	375.000	135	204.66	54.58
6	Balajee sugars Ltd	1250	187.500	30	35.26	18.80
	Total	11250	1687.500		525.01	31.11

2. Opportunity for Cane Development in the sugar factory areas of the State:

1. Favourable soil and agro-ecological condition of Sugar Factories for sugar cane cultivation.
2. Large demand- supply (production) gap of raw material, hence greater scope for horizontal & vertical expansion.
3. Well-developed rural connectivity favouring smooth cane transport.
4. Ample scope for utilization of ground & surface water for irrigation (natural resources & irrigation policy)
5. Assured market for crushable sugar cane
6. Wide gap between production & domestic requirement of sugar in the state.
7. Traditional expertise in cane cultivation, rich network of extension personnel and research-extension-farmer linkage.

3. Issues & Challenges:-

1. Low productivity and low sugar recovery.
2. Inadequate irrigation facilities at critical growth stages
3. Adhering to the age-old low sugar yielding cultivars.
4. Traditional & unscientific method of planting.
5. Inadequate crop care and management practices.
6. Un-arrested crop- weed competition (from planting to grand growth phase).
7. Unplanned crop cycle resulting delayed planting.
8. Need for up-scaling techno-managerial skills of extension personnel and farmers

4. Objectives:

- To enhance area under HSV (high sucrose containing varieties)
- To encourage and ensure early planting in the month of Nov. to Dec.
- Ensuring supply of required tonnage of raw materials and make the sugar mills of the State economically viable.
- Expansion of cane area leading to multiplier effect through employment generation.
- To achieve the goal of 50 thousand acres cane area and 40 MT per acre productivity from present levels of 20 thousand acres with 28.8 MT per acre productivity.
- To ensure reduced cost of cultivation by modifying the planting geometry for easy mechanization and harvesting depending upon soil and climatic conditions.
- To enhance the net farm income by introducing inter/ multi-tier cropping and IPM measures and judicious use of chemical control

5. Strategy:

Sugarcane development by the sugar factories is an urgent need to face the current challenges. The project-based approach in “**Technology Mission on Sugarcane**” under State Plan is proposed to be implemented surrounding the factory areas in **public- private partnership (PPP)** mode in sugar season **2013-14**. The fund sharing between the Govt. & Sugar factory would be **90:10** for implementation of the project. Two interventions (**Seed Replacement & Incentive for early planting**) in the project are proposed to be implemented in the coming season 2013-14. Techno-financial support is to be rendered to the sugar cane growers by both Govt. and sugar factory authorities for sustainable sugarcane development.

5.1. Seed Replacement: The existing varieties are to be replaced with HSVs (High sucrose containing varieties) like 83V15, 86V96, 83R23, CO 87044, 93A145, 87A298 & other recent new as per different agro- climatic situations of the state and on a participative mode. For sugarcane seed nursery the sugar factories are to procure location specific HSV (High sucrose containing varieties) from ICAR / SAU's / Sugarcane Research Stations located inside / outside the state. In case required quantity of seed cane is not available in ICAR/SAU research stations; that can be procured from sugar factory seed nursery & registered seed cane growers of sugar factories located inside/outside the state. As the cost of seed cane and its transportation charge is high, it is proposed to allocate an amount of **Rs 8.00 Lakh for 200 MT @ 4000/- per MT** of seed cane to be procured from research Institutes/sugar factory nursery/registered seed cane growers. The

sugar factories are to bear **10%** of cost for seed material & transportation. Seed cane produced in captive nursery will be used for secondary multiplication purpose.

Year	Area to be covered in Hectare	HSV to be procured in MTs	Cost involved in lakh Rs	Govt. share (90%) in lakh Rs	Factory share(10%) in lakh Rs
2013-14	20	200	8.00	7.20	0.80

Sugar factory wise out lay in Lakh Rupees is as follows.

Year	ACSI, Aska			SSL, Dhenkanal		
	Area in Ha	Govt share	Factory share	Area in Ha	Govt share	Factory share
2013-14	9.00	3.24	0.36	11.00	3.96	0.44

5.2. Incentive for early planting. : Normally, sugarcane growers of the state take up planting from Mid January to March. So the sugar factories are not able to start crushing in the month of November. Delay in start of crushing leads to less sugar recovery. As the cane growers have to sacrifice the second short duration crops like oil seed, pulse and vegetables in the autumn paddy land, they are reluctant towards early planting of sugarcane crop. Hence, to get early sugarcane crop, incentive is proposed to be provided to the sugarcane growers at an estimated cost of **Rs. 3000/-** per Acre. The total funds proposed to spend for the purpose is **Rs120.00lakh (Rs 108.00 50lakh Govt.share +Rs12.00lakh factory share)**. The incentives will be provided in the shape of critical inputs to the registered cane growers only. The fund sharing will be on **90:10 (Govt: factory)** basis.

Area wise programme is as follows;

	Area to be covered in Ac.	Total cost in lakh Rs	Govt. share(90%) in lakh Rs	Factory share(10%) in lakh Rs
2013-14	4000	120.00	108.00	12.00

Sugar factory wise out lay in Lakh Rupees is as follows

Year	ACSI, Aska			BCSM, Baragarh			BCSM ,Bolangir		
	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share
2013-14	900	24.30	2.70	500	13.50	1.50	550	14.85	1.65

Year	NSCL, Nayagarh			SSL, Dhenkanal		
	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share
2013-14	750	20.25	2.25	1300	35.10	3.90

PROJECTED OUTCOME & DELIVERABLES: Following milestones are envisaged with the adoption and grounding of the programme.

1. By adopting primary nursery programme the state will acquire 2000 MT of quality seed cane for secondary seed multiplication programme for the next planting season 2013-14.
2. By giving incentives for early planting, there will be yield enhancement of 10 MT per ac. over the present yield level. So additional production of 40000 MT of cane will be available for crushing. The cane growers will earn excess income of Rs.8.00crore excluding harvest & transportation for the next crushing season 2013-14
3. There will be multiplier effect of the investment in the form of enhanced employment generation, productivity and marketing.

Operational Guidelines for execution of Sugarcane Development package for Sugar Factory areas of the State in Public – Private Partnership mode in “Technology Mission on Sugarcane” State Plan 2013-14

1. The Sugarcane Development package for Sugar Factory areas of the State in Public – Private Partnership mode in “Technology Mission on Sugarcane” State Plan 2013-14 will operate in reserved areas of sugar factories located in the State. The project will be executed in **Public – Private - Partnership mode** and the sugar factories are to bear their financial share of the project for successful implementation.
2. The following Deputy Directors are declared as nodal officer for the respective sugar factories.

Sl. No	Name of the DDA	Name of the factory
1	DDA, Ganjam, Berhampur	Aska Coop. Sugar factories.
2	DDA, Bargarh	Baragarh Coop. Sugar Mill, Baragarh
3	DDA, Bolangir	Bijayananda Coop. Sugar mill ,Bolangir
4	DDA, Nayagarh	Nayagarh Sugar Complex, Nayagarh
5	DDA, Dhenkanal	Sakthi Sugars Ltd. Dhenkanal
6	DDA, Cuttack	Balaji Sugars & Distilleries Ltd., Baramba.

3. Both DDA and concerned Sugar Factory will decide the critical inputs to be supplied to the beneficiaries as incentive for early planting by a team of experts under the chairmanship DDA& submit same to this Directorate.
4. The sugar factory has to deposit its share with the concerned Nodal Officer (DDA) after sanction of Govt. share.
5. A Memorandum of Understanding (MOU) between DDA and concerned sugar mill is to be signed before execution of the programme. The content of the MOU will same for the year 2013--14 with some changes regarding physical & financial program.
6. The Sugar Factories are to maintain separate books of account for the above said project.
7. The project will be implemented by the sugar factory. The sugar factory is to position required no. of regular Sugar-cane Development Extension Personnel for success full implementation of the project.
8. The respective DDA have to utilize the services of the officers of Sugarcane Development scheme stationed at different DAOs / DDAs offices for project implementation and monitoring.
9. In exigency of funds remains unutilized (in any intervention) due to circumstances beyond control, that amount can be utilized in other intervention of the project/other project of the scheme with due approval of DA&FP(O).

10. The funds should be fully utilized as it is a state plan project. Monthly Progress report to the directorate should be furnished by DDA concern without fail.

Procurement of High Sugar Containing Varieties (HSV)

The procurement of seed cane from SAU / ICAR research institutes/ nurseries of Sugar factories / registered seed cane growers of factories located within the state or outside the state will be decided jointly by sugar factories and concerned DDA by constituting a **team of experts**. The Scientists from KVK / SAU, Specialist from department and extension officers of cane development wing of the sugar factories will be the members of the expert team. After selection of variety to be multiplied, it is to be communicated to DA & FP (O), so that the concerned State Govt. can be requested for permission to draw the seed cane. After getting due permission from other states, the sugar factories will procure the seed cane with proper phytosanitary certificate from the appropriate authority. The factory will intimate the date of receipt of seed material to DDA. After utilization of seed material the factory will submit bills against seed materials & transportation charge. The transportation charge will be paid as per the transportation charge fixed by the factory management for crushing cane & seed cane of cane growers for different distance slabs in the reserved area.

If this seed material is supplied to register seed cane grower the excess cost if any may be realized by the sugar factory. **The tissue culture planting materials may be utilized through this program(the primary seed nursery program)**. The cost of the tissue cultured planting material is to be accommodated within the cost provision. The excess cost if any will be borne by sugar factory.

The primary seed nursery will be taken up in sugar factory nursery on priority. In case it is not possible, the nursery programme can be taken up in the field of registered seed cane growers. The seed cane to be produced from primary nursery taken in the factory nursery/ registered seed growers field should be utilized for secondary multiplication purpose only. Every seed plot will be inspected by the specialist of Agriculture Department / Scientist of KVK/SAU from time to time. The sugar factory is to intimate the performance of new varieties to the concerned ATMA and DA&FP (O) from time to time.

Incentives for early planting:

The sugar factories are to select participating farmers willing to take up early planting of sugarcane during **November to Mid January**. The cane growers must be registered / agreed with the sugar factories. The incentives in the form of inputs will be given to those cane growers who have taken up early planting. The cane growers covered under seed nursery programme should not be taken under the above programme. The inputs to be given to the growers will be decided by concerned DDA and sugar factories. The sugar factories will purchase the inputs from approved suppliers at approved rate fixed by the price fixation committee of DA&FP(O). Sugar factory will submit all accounts (invoice, bills etc.) relating to purchase of inputs to DDA for scrutiny. The funds will be released by DDA as per progress of work. Finally, the factory will submit utilization certificate to concerned DDA which will transmit to higher quarter.

ACTION PLAN FOR TECHNOLOGY MISSION ON SUGARCANE

Under State Plan
2013-14

DIRECTORATE OF AGRICULTURE & FOOD PRODUCTION, ODISHA, BHUBANESWAR

CONTENTS

- 1. Project wise Intervention wise & Sub-Plan wise fund requirement for Implementation of “Technology Mission on Sugarcane” for the year 2013-14.**
- 2. District wise fund requirement of Project- I & II**
- 3. Sugar factory wise fund requirement of the Project –II**
- 4. Project wise strategy & Guide line**

Certain changes proposed in the action plan & guideline of

“Technology Mission on Sugarcane”- 2013-14

Sl.No	Existing in 2012-13	Change proposed in 2013-14	Reason
1	Action plan of project -I		
	Cost of Pro- tray Rs3000/Acre	Rs3200/-	It is proposed due to price escalation
	Administrative charge for NGO Rs500/-	Rs300/-	To keep the Unit Cost unchanged at Rs6500/-
	Training cost for Cane growers-Cum- Jaggery producers Rs100000/-	Training cost for Cane growers-Cum- Jaggery producers Rs120000/-	Anticipation of cost escalation in transport & institutional charge & D.A.
	Guideline of Project-I		
	<i>SSI</i>		
	Cost of Bud-Chipper was placed to DDAs	Cost of Budd- Chippers is proposed to placed with D.E. OFMRDC by drawing the fund centrally at H/Q level	To speed up the supply of Bud- chipper before October - 2013.
	Farmer was free to purchase the pro-try and claim cost from DDA	DDA are advised to purchase the Pro-Tray from Govt/ Co- Operative Agencies	Pro- trays are essential for raising seedling. Farmers facing difficulty for purchasing the same. To facilitate quick purchase & delivery Govt/ Co- Operative agencies are proposed to supply.
	<i>Ratoon management</i>		
	Trash mulching & incorporation by Machine	Trash Mulching & in situ incorporation at the time of earthling up.	Trash incorporation machine is not available at each sugar factory
	<i>Training to AOs/VAWs</i>		
	Fund was being placed to Agronomist Minor Irrigation & WU	Fund proposed to drawn at H/Q & placed to Agronomist Minor Irrigation & WU	Due recent changes in Treasury rules regarding Drawl & expenditure
	Action Plan-Project- II		
	<i>Seed replacement</i>		
	Target was 500MT.The seed cane transportation charge was as per Gov.t Norm	Reduced Target of 200MT proposed. The seed cane transportation charge proposed as per the charge fixed by sugar factory for crushing cane & seed cane for different distance slabs in its reserved area.	The target reduced as per progress of the seed replacement by the sugar factories. The farmers are giving more T.C. towards S.cane transport in the reserved area.
	All factories are involved in the programme	Only Two mills are proposed to be involved in the program.	As the performance of other mills in not encouraging.
	<i>Early planting</i>		
	M/S Balaji sugar was involved in the program	The said mills is proposed to be dropped .	As the performance is not satisfactory during 2012-13 as reported by DDA, Cuttack.
	Planting time Oct- Dec	Planting time Nov-Mid Jan	Changed due to delay in Autumn paddy harvest

Assistance on production of sugarcane settling from bud-Chippis

Objective:-

The demand of sugar cane settlings produced from sugarcane Bud-Chips have gained popularity in the sugarcane growing pockets of the state to grow sugarcane in SSI (Sustainable Sugarcane Initiative) technique during recent years for saving the critical inputs like irrigation water & seed cane. So an additional source of income can be generated for the progressive sugarcane growers/ Krusak sathis/ SHGs(preferably women) during the planting period of sugarcane by production of sugarcane settling from bud-chips & selling that among the nearby cane growers.

Strategy:- The assistance is proposed to be provided to progressive sugarcane growers/ Krusak sathis/ SHGs to start the Sugarcane settling nursery by adopting the SSI technique. This assistance is proposed to be provided on fixed cost by spreading over three years @ of 70% on first year, 15% on second year & 15% on third year. The estimated expenditure for production of settling for **five acres** of sugarcane planting.

SI No	Expenditure head	1 st year	2 nd year	3 rd year	Remark
	<i>Fixed Cost</i>				
	Bud chipper	Rs 1500/-	0	0	
	Pro- trays 500Nos @ Rs 32/- per tray	Rs 16000/-	0	0	
	Rose cane	Rs 500/-	0	0	
	Sub-Total	Rs19000/-	0	0	
	<i>Variable Cost</i>				
	Coir pith	Rs 1500/-	Rs1500/-	Rs1500/-	2000
	Buds	Rs 2500/-	Rs2500/-	Rs2500/-	2000
	Saw dust/ vermi-compost	Rs2500/-	Rs2500/-	Rs2500/-	1000
	PP chemical	Rs 500/-	Rs500/-	Rs500/-	
	Nursery site preparation ,shade arrangement	Rs 3000/-	Rs3000/-	Rs3000/-	
	Nursery raising, watch ward irrigation	To be fulfilled from imputed family labour	To be fulfilled from imputed family labour	To be fulfilled from imputed family labour	
	Sub- Total	Rs10000	Rs10000/-	Rs10000/-	
A	Grant Total	Rs29000/-	Rs10000/-	Rs10000/-	
	Out put of seedling by deducting 1% mortality	28000	28000	28000	
B	Selling price of seedling @ Rs1.25	35000	35000	35000	
	Net profit = (B-A)	6000	25000	25000	

The nursery program will be continued for three years for generating a stable income. The program will be taken to produce settling for **300Acres** of sugarcane planting. The beneficiary is to produce settling required for **5 Acres** of sugarcane planting. So **60Nos** of beneficiary will be involved in the program. The fund requirement for giving the assistance to the beneficiaries for the year 2013-14 is estimated to be **Rs7.98 Lakhs @** rate of **Rs 13300/-** per beneficiary.

Guideline:-

The program will be taken up in Kalahandi & Baragarh district on pilot basis. All the technical Support will be rendered by the Scheme Officer of the Concerned DDA. The beneficiaries should be selected through Gram Krusak Manch by end of October 2013. The final beneficiary list is to be submitted to this directorate by 2nd fortnight of November-2013.

The beneficiary is to deposit his share for purchase of Bud Chipper, Propagation Trays, Rose cane & Coir pith with DDA. After getting the beneficiary share the DDA will purchase the same & supply it the beneficiary. If beneficiary agrees to purchase the above items from his own resources, then DDA will disburse the Govt assistance to the beneficiary by verifying the success of nursery program. They will produce the settling & sell to their fellow sugarcane growers or the sugar factories. The scheme officer will act as a facilitator in selling of settling to the growers. The success of the intervention for each beneficiary should be communicated to this office by 15th April positively, so that the fund arrangement for the balance Govt assistance to the above beneficiaries will be made for the next year.

Revised on 26.04.2013

Technology Mission on Sugarcane under State Plan 2013-14

Introduction:

Sugarcane is being cultivated in the State for white sugar and Gur .The area, production& productivity of sugar cane is around **40,000** hecets, **29.07** lakh MTs & **71.12** M.T per hectare respectively. There are six Nos. of sugar mills in the State having the crushing capacity of around 17 lakh M.T. But the mills are able to utilise (40-45)% of their crushing capacity.

Major sugar cane growing districts: Koraput,Cuttack ,Nawarangpur, Nayagarh, Ganjam , Bolangir , Kalahandi, Khurdha , jajpur Bargarh , Dhenkanal&,Jagatsingpur

Minor sugar cane growing districts:- Bhadrak, Balasore , Nuapada , Malkangiri Maurbhanja Sundergarh, Gajapati,Rayagada Deogarh , Puri , Kendrapara,sundergarh and others

Potential:-

State has the potential for growing sugarcane up to 2.00 lakh hecets as the Rabi irrigation potential has been created to the tune of 13.99lakh hecets. Depending on sugar cane area potential 20 Nos. of sugar mills with the crushing capacity of 70 lakh M.T can run successfully for 150 days including the existing six numbers of sugar mills. The productivity can be enhanced to100MT/hect owing to the favourable agro-climatic condition available in various regions of the state.

So it is proposed to launch a **Technology Mission on Sugarcane** in all Sugarcane growing areas of the state under State plan 2012-13 with the following objectives.

3. To enhance the area under sugarcane in all potential areas.
4. To make sufficient raw material availability to the existing sugar mills of the state for their optimum capacity utilization.
3. To popularize the micro- irrigation (drip) in sugar cane for yield maximization & Water productivity enhancement.
4. To popularize the improved planting techniques & SSI (Sustainable Sugarcane Initiatives) to reduce cost of Cultivation & economize the use of valuable seed resource.
7. To popularize the technologies for ratoon crop management for getting yield at par with that plant crop.
8. To build up the capacity of cane grower-cum- jaggery producers of non sugar factory areas for production of Quality jaggery.

Projects proposed in the technology Mission on Sugarcane

3. New initiatives in sugarcane cultivation.
4. The sugarcane Development Package for Sugar factory Areas in PPP Mode (Ongoing)

Abstract of funds requirement for two projects

Sl No	Name of the Projects	Funds in Lakhs Rupees
1	New initiatives in sugarcane cultivation	184.80
2	Sugarcane Development package in PPP(Public Private Partnership) mode in Mode sugar factory areas of the state (ongoing)	115.20
	Total	300.00

PROJECT-I

New initiative in sugarcane cultivation.

A. Sustainable Sugarcane Initiative (SSI)

Objective

Sustainable Sugarcane Initiative (SSI) is the proven technology developed by ICRISAT for sustained yield by optimum utilization of scarce resources like seed cane, plant nutrients & water. By this Technique of sugarcane growing, more area can be covered under sugarcane in the short Planting period of our state. This planting technique can also be utilized in monsoon planting of Sugarcane for seed cane production.

Strategy:-

To popularize this technology among the cane growers, it is proposed to take up demonstration programme of **1400 Acres** with an estimated cost of **Rs 91.00 Lakhs**. The demonstration programme will be taken up in cluster of **5.00Acres**. So there will be **280** clusters covering 1400Acres. In each cluster a beneficiary should have minimum 0.5 Acre of sugarcane area. Maximum benefit to the extent of one Acre will be provided. *If any existing NGO in the locality, which is competent enough regarding this technology, the programme may be taken up through that NGO.* Rs 300/- will be provided to that NGO as administrative charges who is willing to take up this programme. ***The concerned NGO have to sign an MOU(Memorandum Of Understanding) with the concern DDA.***

For each cluster of **5 Acres** one Budd Chipper machine will be provided by the Govt. Other inputs like propagation tray for rearing settling, Coir pith/ FYM, Fertiliser (chemical & Bio) & etc will be provided on **Acre basis**. In case of unavailability of propagation tray, the provisional cost for that tray will be diverted to other inputs. In Sugar factory Areas the

beneficiary should be selected by the sugar factory & the beneficiary should be a agreed cane grower. *If sugar factory agreed to execute the Programme, then the concerned sugar mill may be entrusted with the work.* The cost above the Govt. provision will be born by the participating farmer.

The provisional cost structure is given below.

Sl No	Item	Cost per /Acre	Cost per 5Acre Cluster	Farmers Share if any
1	Bud chipper	Rs 300/-	Rs 1500/-	
2	Plastic tray for rearing Settling	Rs 3200/-	Rs16000/-	
3	Cost of coir pith/FYM	Rs 500/-	Rs 2500/-	
4	Fertilizer& Biofertilizer	Rs 1500/-	Rs 7500/-	Balance to be Borne by farmer
5	Need based pp chem./ Weedicide/boi-agent	Rs 300/-	Rs 1500/-	
6	Field day	Rs 200/-	Rs 1000/-	
7	Misc.cont(Local transport of Input,POL,Documentation & etc	Rs 200/-	Rs 1000/-	
8	Administrative charge for program Executing NGO	Rs300/-	Rs1500/-	
	Total	Rs 6500/-	Rs 32500/-	

B. RatoonManagement :-

Objective:-

Ratoon crop requires intensive care for getting yield at par with that of fresh (plant) crop. Trash burning in ratoon crop creates problem for control of *Pyrrilla*, early shoot initiation from harvested crop & activity of soil Micro organisms. So ratooning operation is being delayed which results reduction in yield. Two key interventions i.e. trash **mulching** & **Gap filling** should be popularized among the cane growers to overcome these above problems.

Strategy:-

It is proposed to take up Ratoon Crop demonstration in the sugarcane growing areas of the state by giving more emphasis on the trash mulching, its' in situ incorporation & gap filling with an estimated cost of **Rs 73.50 Lakh** covering an area of **2100 Acres**. The demonstration will be taken in **5 Acre cluster**. The estimated Unit cost would be Rs 3500/- **per Acre**. In the sugar factory area the beneficiary should be selected by the sugar factory & he should be an agreed/registered cane grower. The sugar factories are to be entrusted for trash mulching & gap filling if they agreed to take up the activity. Costs provided for the purpose in the demonstration programme should be placed with the sugar factory. Extra cost above the provision will be met by the farmer in whose field the programme is to be taken up. In other areas the farmer is to

take up the work by his own means. The cost provided for the purpose will be given to the farmer in the form of account payee cheques.

The provisional cost structure per Acre & 5Acre cluster is given below.

Sl.No	Item	Cost/Acre	Cost/5Ac cluster	Farmer share
1	Trash mulching & gap filling	Rs1200/-	Rs6000/-	
3	Termite control	Rs250/-	Rs1250/-	
4	Fertilizer(125:40:24)	Rs1700/-	Rs8500/-	Balance to be borne
5	Bio agent for INB,ESB &TSB	Rs300/	Rs1500/-	
6	Contingencies	Rs50/-	Rs250/-	
	Total	Rs3500/-	Rs17500/-	

C. Subsidy on Chemical Weedicide:- Sugarcane is wide spaced agronomic crop having high water & nutrient requirement. As the initial growth is very slow up to 45days after planting (DAP) there is heavy crop-weed competition for plant nutrient which causes problem for inter culture operations like weeding, hoeing, fertilizer application & earthling up. The cane grower spends a lot for these operations. Even in grand growth period there is infestation of weed due to wide spacing which hampers the propping operation. So chemical weed management is an alternative to reduce cost of cultivation.

Strategy:-

It is proposed to give 50% subsidy on use of chemical weedicide(**both pre emergence & post emergence**) by the cane growers of the sugarcane growing areas of the state. More importance will be given in the areas where mechanized cane cultivation is being adopted by the cane growers. The subsidy pattern will be 50% limited to **Rs400/- per Acre**. So the funds required to give subsidy for **1985Acre** of cane area will be **Rs 7.94 Lac**.

D. Assistance on production of sugarcane seedling from bud-Chippis

Objective:-

The demand of sugar cane seedlings produced from sugarcane Bud-Chips have gained popularity in the sugarcane growing pockets of the state to grow sugarcane in SSI (Sustainable Sugarcane Initiative) technique during recent years for saving the critical inputs like irrigation water & seed cane. So an additional source of income can be generated for the progressive sugarcane growers/ Krusak sathis/ SHGs(Preferably Women) during the planting period of sugarcane by production of sugarcane seedling from bud-chips & selling that among the nearby cane growers.

Strategy:- The Govt. assistance is proposed to be provided to progressive sugarcane growers/ Krusak sathis/ SHGs(preferably women) to start the Sugarcane settling nursery by adopting the SSI technique. This assistance is proposed to be provided on fixed cost by spreading over

three years @ of 70% on first year, 15% on second year & 15% on third year. The estimated expenditure for production of seedling for **five acres** of sugarcane planting.

SI No	Expenditure head	1 st year	2 nd year	3 rd year	Remark
	Fixed Cost				
	Bud chipper	Rs 1500/-	0	0	
	Pro- trays 500Nos @ Rs 32/- per tray	Rs 16000/-	0	0	
	Rose cane	Rs 500/-	0	0	
	Sub-Total	Rs19000/-	0	0	
	Variable Cost				
	Coir pith	Rs 1500/-	Rs1500/-	Rs1500/-	
	Buds	Rs 2500/-	Rs2500/-	Rs2500/-	
	Saw dust/ vermi- compost	Rs2500/-	Rs2500/-	Rs2500/-	
	PP chemical	Rs 500/-	Rs500/-	Rs500/-	
	Nursery site preparation ,shade arrangement	Rs 3000/-	Rs3000/-	Rs3000/-	
	Nursery raising, watch ward irrigation	To be fulfilled from imputed family labour	To be fulfilled from imputed family labour	To be fulfilled from imputed family labour	
	Sub- Total	Rs10000	Rs10000/-	Rs10000/-	
A	Grant Total	Rs29000/-	Rs10000/-	Rs10000/-	
	Out put of settling by deducting 1% mortality	28000	28000	28000	
B	Selling price of settling @ Rs1.25	35000	35000	35000	
	Net profit = (B-A)	6000	25000	25000	

The nursery program will be continued for three years for generating a stable income. The program will be taken to produce seedling for **300Acres** of sugarcane planting. The beneficiary/SHG(preferably women) is to produce seedling required for **5 Acres** of sugarcane planting. So **60Nos** of beneficiary/ SHG(preferably women) will be involved in the program. The fund requirement for giving the assistance to the beneficiaries/ SHG(preferably women) for the year 2013-14 is estimated to be **Rs7.98 Lakhs** @ rate of **Rs 13300/-** per beneficiary.

E. Training to Cane Grower- Cum- Jaggery Producer

Objective

Nearly 50% of the total cane area of the state belongs to Non Sugar Factory Zones. The cane growers of these areas produce Jaggery/Gur to meet their domestic consumption & local market demand. The gur, produce is of poor keeping quality for which the farmers bear loss. Quality of jaggery depends on the improved agronomic practices for cane cultivation, timely harvesting, proper juice extraction & "**Art & science**" involved in gur preparation. So the cane growers are to be trained in a research station where research work is going on for Jaggery/gur with all state-of-art facilities to impart training. Further the farmers are also to be interacted with

the cane grower-cum- jaggery-producers of the nearby locality of the research station for learning the art of jaggery making.

Strategy :

It is proposed to train **30 Nos** Cane growers-cum-gur/ Jaggery producers in **Regional Agricultural Research Station Anakapalli Andhrapradesh for five days**. The trainee farmers will be sent in two groups. Each team will comprise of 15 members (trainee farmers) with one team leader. The team leader should be from the concerned area. He should be well conversant in English & Telugu. So that he can play as interpreter during the interaction among the trainee farmers & the local farmers of that area of Andhrapradesh. There will be an estimated financial provision of Rs **120000/- per group**(15trainee farmers +one team leader) . The training cost will be paid to the institute as per their requisition. So the funds required for two groups (30 trainee farmers+ two team leaders) will be **Rs 2,40000/-**

The provisional cost structure is as follows

Sl No	Particulars	Rate
1	Bus/Train fair from village to dispersal center & back for 15 farmers .	Rs 4500/-
2	TA & DA of guide officer inside the state for arranging the Program before going from dispersal center.	Rs 2000/-
2	To & fro Bus/train fare for 15 farmers & 1 guide officer to training institute	Rs 11000
3	Daily allowances@Rs250 per farmer for 7days	Rs 26250
4	Daily allowance of the guide officer @Rs 330/- for 6days	Rs 1980/-
5	Cost structure provided by the host training institute i.e R.A.R.S Anakapalli Andhrapradesh	Rs 72250/-
6	Documentation, Local conveyance & other contingencies	Rs 2020/-
	Total	Rs 1,20,000/-

F . Training to Group C Extension officers (AO/VAW/LVAW):-

Objective:-

The skill of grass-root level extension officers of sugarcane growing areas needs to be developed for transfer of sugarcane production technology to the cane growers.

Strategy:-

It is proposed to train 100Nos Group C extension officers regarding the recent advancement in sugarcane production technology & processing. They will be trained in five batches (each batch 20 participants) at a state level training institute, i.e. Minor Irrigation & Water Use Training Institute Bhubaneswar. They are to be trained for five

days. The program is to be organized with an estimated cost of Rs2.95 lakh (Rs 59000/- for each batch)

The provisional Cost Structure (for one Batch)

Sl No	Particulars	Rate	Total
1	Training material for 20 trainees	Rs250/- per trainee	Rs5000/-
2	Honorarium to Resource persons for 12 Nos of class room lecture	Rs 500	Rs6000/-
3	Honorarium to Resource Personnel during field visit(2Nos) -visit to Agril & Allied Institutions -Visit to successful farmers field	Rs500/-	Rs500
4	Lodging @Rs50/- & Boarding @Rs150/- (Total Rs200/-) per day for 5days	Rs 1000/-	Rs20000/-
5	Travelling Expenses to the participants (To & for journey with DA as per actual)	Rs500/-	Rs10000/-
6	Payment to the course Coordinator Cum Guide officer	Rs1000/-	Rs 1000/-
7	Hiring of vehicle /POL for Visit & Conveyance to the resource persons & trinees	Rs 8000/-	Rs 8000/-
8	Misc Contingencies (Reading material/Hard & Soft copy),AV- Aids Maintenance, Photographs, Banner, Telephone charge, Documentation, Consumable items etc	Rs6000/-	Rs 6000/-
9	Operational Expenses	Rs2500/-	Rs2500/-
	Total		Rs59000/-

G. Seed Replacement in non Sugar Factory Areas:

In Non sugar factory areas the cane growers are growing the old ruling varieties year after year. So the purity & vigour of the variety is being deteriorated. The seed & soil borne disease is a bottle neck for getting optimum yield. Even in some cases crop has been failed due to the ruling of a particular variety for years together. So some of the new varieties having desirable traits for good Jaggery recovery & disease & pest tolerance should be introduced in these areas to overcome the above said problems.

Strategy:- It is proposed to replace the old ruling varieties with new one like CO87A298(Viswamitra), 83V15(Kanakdurga) CO86032(Nayana). **Sabita, Nillamadhab, Bhawani(CO 86249), Uttara(Co-87044), Raghunath & other varieties** suitable to the area. Even the tissue cultured plant lets of these varieties or the ruling varieties may be used. The seed material is to be collected from the research stations/ state seed farm / sugar factory primary seed nursery(in Factories captive farm or in registered seed cane growers field) located in the state/ in the outside the state. So it is proposed to spend **Rs 4000/- per MT** to meet the cost of seed cane cost & its' transportation. 100MT of new varieties of seed cane will be introduced in sugarcane growing areas **Nawarangpur, Koraput & kalahandi district** with an estimated financial provision of **Rs 4.00Lacs** .

Abstract of Interventions

Sl No	Intervention	Unit cost in Rupees	Physical	Financial (in lakh Rs)
1	Sustainable Sugarcane Initiative	6500 per Ac	1400 Ac	91.00
2	Ratoon Mtg. Demo.	3500 per Ac	1872 Ac	65.52
3	Subsidy on Chemical weedicide	400 per Ac	1985Ac	7.94
4	Assistance to beneficiary for production of sugarcane settling from bud-Chipps	13300 per beneficiary	60	7.98
4	Training to Jaggery producers	120000 per Group	2 Nos	2.40
	Training to Group-C extension officers	59000/-	5 Gr	2.95
	Seed replacement in non sugar factory area	4000per MT	100 MT	4.00
	Contingencies lumpsum for the Mission			3.01
	Total			180.80

**GUIDLINE FOR IMPLEMENTATION OF THE NEW INITIATIVES IN SUGAR CANE
CULTIVATION
UNDER TECHNOLOGY MISSION ON SUGARCANE STATE PLAN 2013-14**

Sustainable Sugarcane Initiative (SSI)

- The intervention will be implemented both in sugar factory & non Sugar factory areas of the state.
- The cluster size should be 5Acre patch. The minimum holding size in the pact should be 0.5Acre. In same cluster maximum benefit will be provided for Ane acre.
- For each 5 Acre patch one Bud-Chipper will be provided. The all in cost(Rs1470/- per bud chipper) of the Bud- Chippers will be drawn centrally at DA&FP(O) level & placed with Development Engineer Odisha Farm Machineries Research & development Center(OFMRDC) satyanagar. He will Supply the bud- chippers to the concerned AAEs/DDAs. The Bud-Chippers are to be supplied latest by 15th October 2013.
- The beneficiary is free to use his own sugar cane variety. Provided that that variety should be free from disease & pest having good tillering & high sugar containing traits.
- The category (SC,ST& General) of the farmer should be properly maintained.
- In sugar factory areas the participating farmer should be a registered grower. So beneficiary is to be selected by the sugar factory concerned.
- If any NGO competent enough regarding the technology of the intervention, the program may be implemented by the concerned NGO. Provided that there must be a MOU between the DDA & NGO. The NGO should agree to executive the programm within the approved cost structure & guideline. The administrative cost provided in the cost structure is to be given to the participating NGO after two months of planting.
- The same above conditions are also applicable to the sugar factories if they agree to execute the programm in their reserved area except the administrative charges as they are the main stake holder of sugarcane cultivation of their areas. They may carry out the programme with the help of NGO if they want & provide the administrative charge as in the cost structure.
- If the program is not executed by the NGO, then the administrative cost provision will be spent in other items depending on the situation.
- The propagation trays required for preparing the bud-chip seedling may be purchased from Govt/ Co-operative agencies
- In case of unavailability of propagation tray the fund provision for the purpose may the diverted to other items.
- If the NGO/ Sugar factory agree to undertake the program, the input to be used should be decide by a group of experts under the chairmanship of DDA. The DDA will purchase the input from the authorized suppliers with approved rate & distribute the same to the participating farmers through the NGO/ Sugar factory.
- The NGO/ Sugar factory may also purchase the input as per recommendation of the expert committee for distribution of the same to the farmers & submit the bills & vouchers to their concerned DDA for payment. This process may be adopted depending on the actual field situation.
- The cost structure worked out is provisional. It could be modified as per situation & availability of input by a group of experts under the chairmanship of DDA.

Ratoon Management Demonstration :

- The programme will be implemented in both factory & non factory areas.
- In factory areas the beneficiaries will be selected by the sugar factories & the beneficiary should be agreed one.
- The sugar factories are to be entrusted with the trash mulching & gap filling work in the demonstration field if they agreed to undertake the programme. Costs provided for the purpose in the demonstration programme should be placed with the sugar factory.
- The cost involved above the provision will be borne by the participating beneficiary.
- ***If sugar factory agreed to execute the complete Programme, then the concerned sugar mill may be entrusted with the work as mentioned for the component Sustainable Sugarcane Initiative.***
- In other areas the participating farmer will take up the trash mulching & gap filling by his own means & the cost provided for the purpose is to be paid to the farmer by obtaining a work done certificate from concerned field officer(AAO/AO/VAW). If the beneficiary has the bank account the fund may be placed to the account.
- The participating farmer should have minimum 0.5Acre of fresh crop harvested area in the **5Acre** cluster. Maximum benefit to the extent of one acre will be provided to the beneficiaries.
- The category (SC,ST &General) of the beneficiary should be strictly followed.
- The input for the demo will be decided as per the need of the location, availability & cost of the input by expert committee under the chairmanship of the DDA.
- ***The video clippings of each cluster are to be taken up for any stage of ratoon operation i.e. Stubble shaving, off-barring, trash mulching, gap filling, trash incorporation, top-dressing & application of Bio-agents The clipping should include the participating beneficiaries.***

Subsidy on Chemical Weedicide:

- 50% subsidy limited to Rs400/- per Acre is to be provided to the cane growers on use of both pre-emergent & post emergent weedicides for control weeds in sugarcane cultivation. Maximum benefit for **2.5Acres** will be provided per beneficiary.
- In sugar factory area the beneficiary will be selected by the sugar factory keeping in view the farmers category. The weedicide can be provided for both fresh & ratoon crop.
- The weedicide will be purchased from approved suppliers.
- The physical achievement may vary as per prevailing cost of weedicide keeping the financial provision unchanged.

Assistance on production of sugarcane seedling from bud- Chippis

The program will be taken up in **Kalahandi & Baragarh** district on pilot basis. All the technical Support will be rendered by the Scheme Officer of the Concerned DDA. The beneficiaries should be selected through Gram Krusak Manch by end of October 2013. The final beneficiary list long with their Voter ID card No & Bank Account Nos is to be submitted to this directorate by 2nd fortnight of November-2013.

The beneficiary is to deposit his share for purchase of Bud Chipper, Propagation Trays, Rose cane & Coir pith with DDA. After getting the beneficiary share the DDA will purchase the same & supply it to the beneficiary. If beneficiary/SHG agrees to purchase the above items from his own resources, then DDA will disburse the Govt assistance in the shape of A/C payee cheque to the beneficiary/SHG by verifying the success of nursery program. They will produce the seedling & sell to their fellow sugarcane growers or the sugar factories. The scheme officer will act as a facilitator in selling of seedling to the growers. The success of the intervention for each beneficiary/SHG should be communicated to this office by 15th April positively. So that the fund arrangement for the balance Govt assistance to the above beneficiaries will be made for the next year.

Training to the Cane Growers –Cum- Jaggery producers:

- Thirty Nos of farmers will be sent to Regional Agricultural Research Station Anakapalli, Andhrapradesh in two groups.
- The objective of the training program should be widely publicized among the farmers so that real beneficiary would come forward.
- Each group of 15 farmers with one guide officer (total 16) will proceed to Anakapalli soon after getting the programme from the research station.
- The cane grower should be a traditional jaggery producer or a member of cane grower-cum- jaggery producers' family.
- The trainee farmer should have enterprising aptitude & should be below 50years of age.
- Preference should be given to young farmers having basic qualification & knowledge on traditional art of jaggery manufacturing.
- The training cost will be placed to the research station after getting the estimate from the institute.
- The adjustment of expenditure can be made within the cost structure as per actual field situation if required.
- The participating cane grower- cum- jaggery-producers have to deposit Rs 250/- as caution money with their concerned DDA. If they failed to attend the training program their caution money would be forfeited & deposited with the Govt .account .
- **The trainee farmers should be from non factory area. The programme will be executed by JDA (Information) BBSR & implemented in farmers' exposure Visit Mode.**

Training to Group C Extension officers (AO/VAW):-

- The training will be organized by Agronomist, Minor Irrigation & Water Use Training Institute Baramunda Bhubaneswar.
- He will prepare the course module in consultation with the scheme officer of this directorate, SAU, Sugarcane research station Nayagarh & leading sugar mills of the state. The training material should be prepared in Odiya.
- The training calendar should be prepared well in advance & be communicated to this directorate.
- Preferably Extension Officers of the Sugarcane growing pockets of the state should be trained.
- Junior Group-C- Officers are to be trained on priority basis to upgrade their skill in transfer of sugarcane production technology.

- The funds will be drawn at DA&FP(O) level & placed to Agronomist, Minor Irrigation & Water Use training Institute for conducting the training programme.
- The cost structure proposed is provisional & can be interchanged among the items keeping the total cost constant.

Seed Replacement in non Sugar Factory Areas:

- The intervention will be implemented in Sugarcane growing areas of Koraput, Nawarangpur & Kalahandi.
- The beneficiary should be selected before September 2013 by maintaining the farmer's category.
- The selected farmers are to be clubbed into groups so that the seed procurement & delivery could be easy.
- Before procurement the seed source should be contacted in the month on September-2013.
- The seed cane supply slab should be ensured depending on the planting time of the area.
- Before giving harvesting order to the seed source, the farmer's field should be ready for planting to avoid the drying of seed material.
- The seed material will be supplied with trash.
- The seed cane grower should have assured irrigation & suitable land for early planting during the month of November to January.
- After negotiating the cost of seed cane, harvesting charge & actual transport charge per ton of seed material the excess cost if any should be borne by the farmer. The excess cost should be collected in advance before putting supply order to the seed source.
- Before harvesting of seed cane from the source this should be closely inspected by the PPO(either Range PPO/ PPO O/o DAO) of the concerned area regarding the disease & pest freeness of the seed material.
- Preferably the state seed farms, sugarcane research station Nayagarh & sugar factories of the state may be entrusted with supply of seed cane.
- If it is required to procure the seed cane from outside state then that state authority may be requested through Director of Agriculture & Food Production(o) BBSR. After getting the permission from the other state authority the seed material would be drawn from the sources located in that state.
- ***This is a flag ship programme for these areas. If funds remain unutilized the concern scheme officer will be held responsible.***

Project -II(Ongoing)

The sugarcane Development Package for Sugar factory Areas PPP (Public-Private- Partnerships) Mode

1. Back Ground:

Sugarcane is the main agro industry based commercial crop of the state. Six nos. sugar factories are in operation. Three are in cooperative sector and another three are in private sector. The sugar factories have a total daily crushing capacity of 11,250 MT, having seasonal requirement of around 17 lakh MT of sugarcane for economic utilization of their crushing capacity. In the present context, the factories are able to utilise only 30 to 35% of their crushing capacity. Sugar factory wise crushing capacity, capacity utilization, & average crushing period are given below.

Sl. No	Name of the factory	Crushing capacity MTs/Day	Cane Requirement for 150days in"000"MTs	Average crushing days of last 5years	Average cane crushed "000"MTs	Percentage of Capacity utilization
1	Aska Co op sugar Ind	2500	375.000	90	124.80	33.28
2	Baragarh Co-op Sugar mills	1250	187.500	57	65.11	34.72
3	Bijayananda Co-op Sugar mills	2500	375.000	37	32.50	8.66
4	Nayagarh sugar complex	1250	187.500	80	62.68	33.42
5	Sakti sugars Ltd	2500	375.000	135	204.66	54.58
6	Balajee sugars Ltd	1250	187.500	30	35.26	18.80
	Total	11250	1687.500		525.01	31.11

2. Opportunity for Cane Development in the sugar factory areas of the State:

8. Favourable soil and agro-ecological condition of Sugar Factories for sugar cane cultivation.
9. Large demand- supply (production) gap of raw material, hence greater scope for horizontal & vertical expansion.
10. Well-developed rural connectivity favouring smooth cane transport.
11. Ample scope for utilization of ground & surface water for irrigation (natural resources & irrigation policy)
12. Assured market for crushable sugar cane
13. Wide gap between production & domestic requirement of sugar in the state.
14. Traditional expertise in cane cultivation, rich network of extension personnel and research-extension-farmer linkage.

3. Issues & Challenges:-

9. Low productivity and low sugar recovery.
10. Inadequate irrigation facilities at critical growth stages
11. Adhering to the age-old low sugar yielding cultivars.
12. Traditional & unscientific method of planting.
13. Inadequate crop care and management practices.
14. Un-arrested crop- weed competition (from planting to grand growth phase).
15. Unplanned crop cycle resulting delayed planting.
16. Need for up-scaling techno-managerial skills of extension personnel and farmers

4. Objectives:

- To enhance area under HSV (high sucrose containing varieties)
- To encourage and ensure early planting in the month of Nov. to Dec.
- Ensuring supply of required tonnage of raw materials and make the sugar mills of the State economically viable.
- Expansion of cane area leading to multiplier effect through employment generation.
- To achieve the goal of 50 thousand acres cane area and 40 MT per acre productivity from present levels of 20 thousand acres with 28.8 MT per acre productivity.
- To ensure reduced cost of cultivation by modifying the planting geometry for easy mechanization and harvesting depending upon soil and climatic conditions.
- To enhance the net farm income by introducing inter/ multi-tier cropping and IPM measures and judicious use of chemical control

5. Strategy:

Sugarcane development by the sugar factories is an urgent need to face the current challenges. The project-based approach in “**Technology Mission on Sugarcane**” under State Plan is proposed to be implemented surrounding the factory areas in **public- private partnership (PPP)** mode in sugar season **2013-14**. The fund sharing between the Govt. & Sugar factory would be **90:10** for implementation of the project. Two interventions (**Seed Replacement & Incentive for early planting**) in the project are proposed to be implemented in the coming season 2013-14. Techno-financial support is to be rendered to the sugar cane growers by both Govt. and sugar factory authorities for sustainable sugarcane development.

5.1. Seed Replacement: The existing varieties are to be replaced with HSVs (High sucrose containing varieties) like 83V15, 86V96, 83R23, CO 87044, 93A145, 87A298 & other recent new as per different agro- climatic situations of the state and on a participative mode. For sugarcane seed nursery the sugar factories are to procure location specific HSV (High sucrose containing varieties) from ICAR / SAU's / Sugarcane Research Stations located inside / outside the state. In case required quantity of seed cane is not available in ICAR/SAU research stations; that can be procured from sugar factory seed nursery & registered seed cane growers of sugar factories located inside/outside the state. As the cost of seed cane and its transportation charge is high, it is proposed to allocate an amount of **Rs 8.00 Lakh for 200 MT @ 4000/- per MT** of seed cane to be procured from research Institutes/sugar factory

nursery/registered seed cane growers. The sugar factories are to bear **10%** of cost for seed material & transportation. Seed cane produced in captive nursery will be used for secondary multiplication purpose.

Year	Area to be covered in Hectare	HSV to be procured in MTs	Cost involved in lakh Rs	Govt. share (90%) in lakh Rs	Factory share(10%) in lakh Rs
2013-14	20	200	8.00	7.20	0.80

Sugar factory wise out lay in Lakh Rupees is as follows.

Year	ACSI, Aska			SSL, Dhenkanal		
	Area in Ha	Govt share	Factory share	Area in Ha	Govt share	Factory share
2013-14	9.00	3.24	0.36	11.00	3.96	0.44

5.2. Incentive for early planting. : Normally, sugarcane growers of the state take up planting from Mid January to March. So the sugar factories are not able to start crushing in the month of November. Delay in start of crushing leads to less sugar recovery. As the cane growers have to sacrifice the second short duration crops like oil seed, pulse and vegetables in the autumn paddy land, they are reluctant towards early planting of sugarcane crop. Hence, to get early sugarcane crop, incentive is proposed to be provided to the sugarcane growers at an estimated cost of **Rs. 3000/-** per Acre. The total funds proposed to spend for the purpose is **Rs120.00lakh (Rs 108.00 50lakh Govt.share +Rs12.00lakh factory share)**. The incentives will be provided in the shape of critical inputs to the registered cane growers only. The fund sharing will be on **90:10 (Govt: factory)** basis.

Area wise programme is as follows;

	Area to be covered in Ac.	Total cost in lakh Rs	Govt. share(90%) in lakh Rs	Factory share(10%) in lakh Rs
2013-14	4000	120.00	108.00	12.00

Sugar factory wise out lay in Lakh Rupees is as follows

Year	ACSI, Aska			BCSM, Baragarh			BCSM ,Bolangir		
	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share
2013-14	900	24.30	2.70	500	13.50	1.50	550	14.85	1.65

Year	NSCL, Nayagarh			SSL, Dhenkanal		
	Area in Acre	Govt share	Factory share	Area in Acre	Govt share	Factory share
2013-14	750	20.25	2.25	1300	35.10	3.90

PROJECTED OUTCOME & DELIVERABLES: Following milestones are envisaged with the adoption and grounding of the programme.

4. By adopting primary nursery programme the state will acquire 2000 MT of quality seed cane for secondary seed multiplication programme for the next planting season 2013-14.
5. By giving incentives for early planting, there will be yield enhancement of 10 MT per ac. over the present yield level. So additional production of 40000 MT of cane will be available for crushing. The cane growers will earn excess income of Rs.8.00crore excluding harvest & transportation for the next crushing season 2013-14
6. There will be multiplier effect of the investment in the form of enhanced employment generation, productivity and marketing.

Operational Guidelines for execution of Sugarcane Development package for Sugar Factory areas of the State in Public – Private Partnership mode in “Technology Mission on Sugarcane” State Plan 2013-14

1. The Sugarcane Development package for Sugar Factory areas of the State in Public – Private Partnership mode in “Technology Mission on Sugarcane” State Plan 2013-14 will operate in reserved areas of sugar factories located in the State. The project will be executed in **Public – Private - Partnership mode** and the sugar factories are to bear their financial share of the project for successful implementation.
2. The following Deputy Directors are declared as nodal officer for the respective sugar factories.

Sl. No	Name of the DDA	Name of the factory
1	DDA, Ganjam, Berhampur	Aska Coop. Sugar factories.
2	DDA, Bargarh	Baragarh Coop. Sugar Mill, Baragarh
3	DDA, Bolangir	Bijayananda Coop. Sugar mill ,Bolangir
4	DDA, Nayagarh	Nayagarh Sugar Complex, Nayagarh
5	DDA, Dhenkanal	Sakthi Sugars Ltd. Dhenkanal
6	DDA, Cuttack	Balaji Sugars & Distilleries Ltd., Baramba.

3. Both DDA and concerned Sugar Factory will decide the critical inputs to be supplied to the beneficiaries as incentive for early planting by a team of experts under the chairmanship DDA& submit same to this Directorate.
4. The sugar factory has to deposit its share with the concerned Nodal Officer (DDA) after sanction of Govt. share.
5. A Memorandum of Understanding (MOU) between DDA and concerned sugar mill is to be signed before execution of the programme. The content of the MOU will same for the year 2013--14 with some changes regarding physical & financial program.
6. The Sugar Factories are to maintain separate books of account for the above said project.
7. The project will be implemented by the sugar factory. The sugar factory is to position required no. of regular Sugar-cane Development Extension Personnel for success full implementation of the project.
8. The respective DDA have to utilize the services of the officers of Sugarcane Development scheme stationed at different DAOs / DDAs offices for project implementation and monitoring.
9. In exigency of funds remains unutilized (in any intervention) due to circumstances beyond control, that amount can be utilized in other intervention of the project/other project of the scheme with due approval of DA&FP(O).

10. The funds should be fully utilized as it is a state plan project. Monthly Progress report to the directorate should be furnished by DDA concern without fail.

Procurement of High Sugar Containing Varieties (HSV)

The procurement of seed cane from SAU / ICAR research institutes/ nurseries of Sugar factories / registered seed cane growers of factories located within the state or outside the state will be decided jointly by sugar factories and concerned DDA by constituting a **team of experts**. The Scientists from KVK / SAU, Specialist from department and extension officers of cane development wing of the sugar factories will be the members of the expert team. After selection of variety to be multiplied, it is to be communicated to DA & FP (O), so that the concerned State Govt. can be requested for permission to draw the seed cane. After getting due permission from other states, the sugar factories will procure the seed cane with proper phytosanitary certificate from the appropriate authority. The factory will intimate the date of receipt of seed material to DDA. After utilization of seed material the factory will submit bills against seed materials & transportation charge. The transportation charge will be paid as per the transportation charge fixed by the factory management for crushing cane & seed cane of cane growers for different distance slabs in the reserved area.

If this seed material is supplied to register seed cane grower the excess cost if any may be realized by the sugar factory. **The tissue culture planting materials may be utilized through this program(the primary seed nursery program)**. The cost of the tissue cultured planting material is to be accommodated within the cost provision. The excess cost if any will be borne by sugar factory.

The primary seed nursery will be taken up in sugar factory nursery on priority. In case it is not possible, the nursery programme can be taken up in the field of registered seed cane growers. The seed cane to be produced from primary nursery taken in the factory nursery/ registered seed growers field should be utilized for secondary multiplication purpose only. Every seed plot will be inspected by the specialist of Agriculture Department / Scientist of KVK/SAU from time to time. The sugar factory is to intimate the performance of new varieties to the concerned ATMA and DA&FP (O) from time to time.

Incentives for early planting:

The sugar factories are to select participating farmers willing to take up early planting of sugarcane during **November to Mid January**. The cane growers must be registered / agreed with the sugar factories. The incentives in the form of inputs will be given to those cane growers who have taken up early planting. The cane growers covered under seed nursery programme should not be taken under the above programme. The inputs to be given to the growers will be decided by concerned DDA and sugar factories. The sugar factories will purchase the inputs from approved suppliers at approved rate fixed by the price fixation committee of DA&FP(O). Sugar factory will submit all accounts (invoice, bills etc.) relating to purchase of inputs to DDA for scrutiny. The funds will be released by DDA as per progress of work. Finally, the factory will submit utilization certificate to concerned DDA which will transmit to higher quarter.