

DETAIL PROJECT REPORT ON

COLD STORE CENTRIC POTATO INCENTIVIZATION PROGRAMME IN ODISHA



Submitted to:

**GOVERNMENT OF ODISHA,
AGRICULTURE DEPARTMENT
FOR ASSISTANCE UNDER
RASTRIYA KRISHI VIKAS YOJANA
2017-18**

Submitted by:

**DIRECTORATE OF HORTICULTURE,
ODISHA, BHUBANESWAR**

PROJECT SUMMARY

Name of the Project : Cold Store Centric Potato Incentivization Programme in Odisha

Proposed Work : Supply of inputs to the potato farmers to enhance production and productivity.

Site : All the districts of Odisha (Farmer's Field)

Project cost & Sourcing of Funds:

Year	Physical Target (in Ha)	Assistance per ha (Rs.) including Monitoring & Evaluation	Financial Target (Lakh Rs.)
	Rabi		Rabi
2017-18	2500	15150.00	378.75

Source of fund : **Rastriya Krishi Vikash Yojana**

2017-18: Rs.378.75 lakhs

Implementing Agency : Directorate of Horticulture,
Odisha, Bhubaneswar

COLD STORE CENTRIC POTATO INCENTIVIZATION PROGRAMME IN ODISHA

1. INTRODUCTION

Potato is one of the major vegetable crops grown in our State. Potato is being cultivated over about 15000 ha with production of about 2.5 lakh MTs per annum. The productivity of potato in Odisha is 16.48 MT/ha which is below the all India average of 22.76 MT/ha. Potato is one of the major constituents of daily diet in Odisha and its annual requirement is 10.21 lakh MTs at present as per latest NSSO survey. Odisha produces about 20% of its own requirement of potato annually. Most of the State's potato needs are met by import from neighbouring states like West Bengal. In past couple of years, due to circumstances beyond control of State Administration, acute shortage of supply has been occurring from time to time in Odisha resulting in retail prices reaching up to Rs.40-50 per Kg.

In order to combat the situation and to bring in self sufficiency in potato production, storage and distribution over next 3 years, Government in Food Supplies & Consumer Welfare Department after obtaining orders of Hon'ble Chief Minister, Odisha, constituted a Task Force vide Order No. M.I. (T) 1-62/14- 13659 dt. 19.08.2014.

The soil and climatic conditions of few districts of Odisha are very much suitable for growing of potato where as other districts can also take up potato cultivation. Although potato is being produced in our state during rabi, most of the potatoes are being sold to middlemen and transported to other states.

Potato is cultivated throughout the state during *rabi* season and as monsoon potato during *kharif* in hilly tracts of Koraput and Kandhamal since last few years with high degree of success. Major potato growing districts of Odisha are Puri, Cuttack, Kandhamal, Mayurbhanj, Balasore, Sambalpur and Koraput. July-November and November-March are the potato growing seasons of the State.

The district wise requirement of ware potatoes based on population as estimated by CS & CW Department is as follows:

POTATO REQUIREMENT IN ODISHA					
SI. No.	District	Total Population (2011)	Rate of Rural Consumption p.a. (Kg)	Rate of Urban Consumption p.a. (Kg)	Total Consumption p.a. (in MT.) 2017-18

1	Angul	1271703	24.48	23.58	32416.50
2	Balasore	2317419	24.48	23.58	59188.45
3	Bargarh	1478833	24.48	23.58	37781.50
4	Bhadrak	1506522	24.48	23.58	38457.56
5	Bolangir	1648574	24.48	23.58	42089.54
6	Boudh	439917	24.48	23.58	11261.80
7	Cuttack	2618708	24.48	23.58	66463.27
8	Deogarh	312164	24.48	23.58	7983.95
9	Dhenkanal	1192948	24.48	23.58	30480.99
10	Gajapati	575880	24.48	23.58	14701.16
11	Ganjam	3520151	24.48	23.58	89546.75
12	J.S.Pur	1136604	24.48	23.58	29037.39
13	Jajapur	1826275	24.48	23.58	46705.03
14	Jharsuguda	579499	24.48	23.58	14642.52
15	Kalahandi	1573054	24.48	23.58	40223.87
16	Kandhamal	731952	24.48	23.58	18701.87
17	Kendrapara	1439891	24.48	23.58	36845.27
18	Keonjhar	1802777	24.48	23.58	45991.12
19	Khariar	606490	24.48	23.58	15520.55
20	Khurda	2246341	24.48	23.58	56585.45
21	Koraput	1376934	24.48	23.58	35097.08
22	Malkangiri	612727	24.48	23.58	15666.50
23	Mayurbhanj	2513895	24.48	23.58	64283.62
24	N.W.Pur	1218762	24.48	23.58	31170.79
25	Nayagarh	962215	24.48	23.58	24599.52
26	Puri	1697983	24.48	23.58	43292.19
27	Rayagada	961959	24.48	23.58	24528.82
28	Sambalpur	1044410	24.48	23.58	26488.89
29	Sonepur	652107	24.48	23.58	16675.32
30	Sundargarh	2080664	24.48	23.58	52659.41
	Total	41947358			1069086.69

Source: CS & CW Department, Odisha

The Task Force submitted its report on 27.12.2014 and the approval of the same has been communicated vide Food Supplies and Consumer Welfare Department Notification No: 2051 dt. 29.11.2015 with an instruction to take necessary follow up action.

Objectives

The basic objectives of the incentivization programme are as follows:-

- ❖ The incentive assistance would be provided on crop coverage basis by farmers.
- ❖ This would promote use of good quality seeds.
- ❖ To acquaint the farmers with Good Agricultural Practices (GAP), Integrated Nutrient Management (INM), Integrated Pest Management (IPM), mechanisation, harvesting and post-harvest management of potato.

- ❖ To utilize the capacity of the functional cold storages in the State.
- ❖ To promote cluster production of potato and link the clusters to cold stores.
- ❖ To increase the income of the farmers out of potato cultivation by proper guidance and support.
- ❖ To create buffer stock inside the State and to stabilize market price.

Funding and Monitoring

- ❖ The expenditure will be made out of RKVY (100% assistance).
- ❖ One farmer would get incentive assistance for one year and upto one hectare only.
- ❖ The programme will be monitored by Directorate of Horticulture.

Year	Physical Target (in Ha)	Assistance per ha (Rs.) including engagement of facilitator and Contingencies	Financial Target (Lakh Rs.)
	Rabi		Rabi
2017-18	2500	15150.00	378.75

- Financial target includes 1% of engagement of facilitator and Contingencies charges above the assistance.

Potato varieties

The most widely acceptable varieties in Odisha are K.Jyoti and K.Lalima. Now the K. Surya is gaining popularity due to its early maturity, heat tolerance, high yielding, producing high marketable and processing grade tubers.

Group	Duration (days)	Variety
Early	70-80	K.Chandramukhi, K.Ashoka, K.Surya
Medium	85-95	K.Jyoti, K.Pukhraj, K.Badshah, K.Sutlej, K.Lalima, K.Arun, K. Chipsona-1, K.Chipsona-3, K. Pushkar, K. Frysona
Late	>100	K. Sindhuri

Potato seasons

The main growing season of potato in Odisha ranges from November to February *i.e.* in *rabi*. In very few pockets in Kandhamal and Koraput, the crop is grown in *Kharif* under hilly slopes where planting starts from June/July coinciding with onset of rain. The potato seasons can be divided to

- a. Kharif /Late Kharif
- b. Rabi

2. MODALITIES OF IMPLEMENTATION

Procurement of seeds

- ❖ Advertisement should be made for agency, source of seed potatoes, quantity available, variety, type of seed, rate and operating district.
- ❖ District wise supplier has to be selected. If no supplier applied for a district, the suppliers of nearby districts will be allowed to sale in that district.

- ❖ Cold store owners (or persons with valid agreement with cold store owner upto December, 2017 or more) inside Odisha having agreement with seed producers outside state and with buy back arrangement with farmers will also be able to sale seed potatoes.
- ❖ The supplier should be a potato seed producer having certification in his name.
- ❖ Tissue Culture raised seed potato suppliers should have own DBT accredited TC laboratory or submit authentic document of receipt of parent seed stock from a DBT accredited TC Laboratory.

Eligibility of Cold Store owner

- ❖ Running cold store owners inside Odisha.
- ❖ Persons with valid agreement with running cold store owner upto December, 2017 or more inside Odisha.
- ❖ Cold stores under construction and likely to be completed by 1st March, 2018 inside Odisha. Such cold store owners should give an undertaking that they will install the cold store by 1st March, 2018.
- ❖ He / She should have agreement with seed producers outside state for procurement of seed potatoes.
- ❖ He should have buy back arrangement with farmers / agreed to make buy back of seed potatoes.
- ❖ He will give an undertaking that he will procure at least 75% of the potatoes to be produced (Maximum production of 20MT/Ha) by the farmers to whom he has supplied the seed potatoes.
- ❖ Each cold store can sale seed potatoes up to 1400 quintals per 1000 MT capacity of the cold store to cover 70 ha area in his catchment area.
- ❖ He will deposit Rs.5.00 lakhs as caution money, which will be returned after March, 2018 in case no complaint received or violation of any preconditions.
- ❖ He will agree to bear the verification cost of the seed source and stock.

Seed quality maintenance

- ❖ A Technical Committee has to be formed at district level for verification of the stock with the following members:
 - DDH / ADH of the district
 - DDA / DAO of the district
 - Scientist from KVK
- ❖ The Committee will verify the stock at source or after arrival in the district.
- ❖ The AHO will verify the stock at block level.
- ❖ The Technical Committee will also make surprise check of the seed stores.

Seed Cost

- ❖ The cold store owner / agencies have to sell their seed potatoes at their offered price.
- ❖ The agencies have to display the cost of seed potatoes in their sale counters in a visible place duly signed by the DDH / ADH.

Target

- ❖ The DDH / ADH will be given district target for Government sponsored programme. He has to indicate the block target to the AHO / HO in charge of the blocks.
- ❖ Exceeding of target should be done only after approval of Director of Horticulture.

The process

- ❖ Advertisement will be made by Director of Horticulture for registration of farmers and empanelment of seed suppliers.

- ❖ The farmer has to register at DDH/ADH/AHO Office indicating area coverage and requirement of seed potatoes.
- ❖ The AHO /HO has to maintain a register of farmers of his block.
- ❖ Any farmer having own land (or ancestral) / tenant can get the benefit under the programme. However in case of tenant farmer a written permission from the land owner / PRI member regarding tenancy has to be furnished by the farmer.
- ❖ This process should be completed by the month of September.
- ❖ Verification of seed source has to be completed by 15th October, 2018.
- ❖ A farmer can avail subsidy for a minimum of 0.1 ha to maximum of 2.0 ha. Small plot adjacent to large patches can also be accommodated.
- ❖ The same beneficiary over same plot of land should not be allowed to avail the subsidy for next 2 years.
- ❖ The list of seed suppliers of the district and cost of seed potatoes has to be displayed in the Office of the DDH/ADH/AHO in a visible location.
- ❖ The AHO has to send a list of registered farmers along with quantity of seed materials to be purchased to the seed supplier.
- ❖ The farmer has to procure the seed potatoes from among the approved seed suppliers and variety as per his choice with proper acknowledgement.
- ❖ The farmer has to complete the planting of the seed potatoes and apply for release of subsidy in the specified format along with acknowledgement of seed potatoes (to ensure that good quality seed potatoes have been used), identity proof and land particulars.

Role of seed supplier

- He has to apply as per advertisement indicating variety, source, authenticity of source, quantity available, type of seed and offered price.
- He has to arrange the source verification of the stock before sell to the farmers.
- He has to give an undertaking that he will sell seed potatoes duly verified by the Technical Committee for Govt sponsored programme at approved price.
- He has to display the sell price duly approved by DDH / ADH of the district in the sell counter in a visible place from 15th October to 31st December.
- He has to keep seed potatoes during planting time.
- He has to maintain stock register indicating stock received, stock sold out, name of the farmer etc.
- He has to issue Money receipt for each sale of seed potatoes and obtain the signature of the farmer.
- Seed supplier is responsible for seed quality. Any complaint will be resolved by him (with compensation if any).

Role of farmer

- ❖ The farmer has to register his name with DDH/ADH/AHO.
- ❖ He has to purchase the seed potatoes @15-20 quintals/ha (depending on size of seed tubers) from the authorized seed sellers / suppliers.
- ❖ He has the choice to select the seed supplier.
- ❖ He has to procure the seed materials with proper acknowledgement.
- ❖ He has to plant seed potatoes and apply for release of subsidy.
- ❖ He has to sign an agreement with the cold store owner to sell potatoes to the cold store owner up to 75% of his production potential (@20 MT/ha) @20% of the seed cost.

However, he has the option to sell outside, but he has to inform the cold store owner in written by end of February.

Role of cold store owner

- ❖ He has to apply as per advertisement for seed supply along with necessary enclosures.
- ❖ He has to make agreement with one or more seed producers for seed supply.
- ❖ He may convince the farmers in his catchment area / other areas for potato cultivation.
- ❖ He has to verify his seed materials with the expert team.
- ❖ He has to keep the stock of seeds during planting season.
- ❖ He has to sale seed potatoes to the farmers and provide proper acknowledgement.
- ❖ He has to maintain the list of farmers, quantity of seed supplied, area to be covered etc.
- ❖ Ha has to procure ware potatoes from the farmers to whom he has supplied seed potatoes under agreement and others.

Monitoring

- The programme will be taken up in all districts of the state.
- Preference will be given for clusters and in the vicinity of cold stores.
- The DDH / ADH / AHO and field functionaries of Directorate of Horticulture have to visit the crop area and give advice on agro techniques.
- The Technical Committee can also make surprise check of the seed stores.
- The AHO / HO have to take the GPS enabled photograph after getting the application from the farmer and recommend for release of Govt assistance.
- Arrangement for trainings will be made through ATMA and KVKs.
- Selection of area and progress of work will be regularly monitored by the ADH/DDH.
- The AHO/HO in charge of Block has to visit all the patches while DDH/ADH to visit at least 50% of the patches.
- Facilitator may be engaged within the administrative charges.

Fund management

- Funds will be made available under RKVY to the DDH/ADH.
- Director of Horticulture will allocate the fund to the ADH/DDH concerned basing on the targeted area coverage.
- The farmer has to produce the acknowledgement for purchase of seed potatoes. He has also to give an undertaking that he has utilized all other required inputs in his potato crop.
- The HEW have to collect the bills for payment and deposit the same in the office of the AHO who after verification will forward to DDH/ADH. During verification the GPS reading, Khata No, Plot No, and area of the plot have to be mentioned.
- The extent of subsidy shall be limited to Rs.15, 000 per ha during 2017-18.
- The Govt assistance should be released within one month from receipt of proposal from the farmer. However he / she may verify the crop / claims and give sufficient reasons for non payment.
- The DDH / ADH will release the Govt assistance in a single phase through DBT.
- In case of credit linked proposals, the Govt assistance will be transferred to the loan account of the beneficiary maintained in the FI after getting written consent from the farmer.
- In case of convergence with other departments, the Govt assistance will be paid to the farmer / deposited with the coordinating department after getting written consent from the farmer.

- In case of seed supply through cold store owners with buy back agreement, the Govt assistance will be paid to the farmer / deposited with the cold store owner after getting written consent from the farmer.
- All payments shall be made through DBT.
- The documentation, GPS recording of cultivated areas, literature and advertisement will be met out of the monitoring and evaluation component.
- DDH /ADH have to furnish the UC on expenditure as per financial guideline.

3. THE PROPOSAL:

Since about 68% of the farming community are small and marginal in the state and most of them are unable to procure seed potatoes as per their requirement due to non availability of adequate funds. Thus it has been proposed to provide assistance on material components and assist the farmers for growing potato crop in their own fields. The cost of inputs for cultivation of potato is as follows:

COMPONENTS OF INPUTS IN POTATO CULTIVATION					
Sl No	Area- 1 ha	Unit	Density: 90000		
	Components of cost		Spacing:45X22.5cm		
	A. MATERIAL		Nos	Rate (Rs.)	Cost (Rs.)
1	Cost of seed materials	Qtl	20	3000	60000
2	Seed treating chemical @ 40g/Qtl	g	800	0.8	640
3	Manure / Compost	MT	10	500	5000
4	Biofertilizers (Azotobactor+PSB)	Kg	10	80	800
5	Fertilizers				
6	Nitrogen	Kg	120	12.37	1484
7	Phosphorus	Kg	60	47.8	2868
8	Potassium	Kg	120	27	3240
9	Micronutrients	Kg	3	250	750
10	PP chemicals	Nos	3	600	1800
11	Irrigation charges	Hr	35	75	2625
12	Miscellaneous expenses	LS			793
	SUB TOTAL – B				80000

*NPK shall not be subsidised under this programme.

It has been proposed to provide assistance per ha of potato crop coverage of 5,000 ha with assistance of Rs.15, 000 per ha during 2017-18. Further, the farmer has to bear the rest amount of material component and labour as well. The potatoes after production will be stored inside the state cold stores as well as maintenance of Buffer Stock of potato.

Year	Material component of cultivation (Rs. per Ha)	Assistance from RKVY (Rs. per ha)	Farmers share (Rs. per ha)
2017-18	80000	15000	65000

The project cost is Rs.378.75 Lakhs during 2017-18 as follows:-

Year	Physical Target (in Ha)	Assistance per ha (Rs.) including Monitoring & Evaluation	Financial Target (Lakh Rs.)
	Rabi		Rabi
2017-18	2500	15150.00	378.75

RKVY ASSISTANCE REQUIRED:

The year wise requirement of funds under RKVY is as follows:

Year	Total amount in Lakh Rs.
2017-18	378.75

Expected Outcome

- Higher production of Potato.
- Productivity improvement of Potato due to use of quality seeds having higher production capacity.
- Increased income of the farmer per unit area.
- Increase the production of storable potato inside the state for creation of buffer stock.
- Mobilization of farmers to store potatoes in the cold store.
- The production of potatoes out of the crop coverage will be as follows:-

Year	Physical Target (Area in Ha)	Expected production (MT)
2017-18	2500	37500

**APPLICATION FORM FOR COLD STROE CENTRIC POTATO
INCENTIVISATION PROGRAMME IN ODISHA DURING 2017-18
UNDER RKVY**

1. Name of the Beneficiary* :
2. Father's Name :
3. a) Village b) G.P
c) Block d) District
4. a) Caste : SC/ST/OBC/OC
b) Sex : Male/Female
5. Category : Small/Marginal/Other
6. BPL status : BPL -Yes/ No. BPL Card
- No.
7. Plot No :
8. Patta/ Khata No. :
9. Bank A/c details : Name of the
Bank.....
A/c
No.....
IFS Code
.....
Branch:.....
.....
10. Source of Irrigation :a)Tank b)Canal c)Lift Irrigation
e)Open Well d) Deep BW
11. Area to be covered in ha :
12. Quantity of Seed Potato to be used :
13. Linking to (Name of the cold store):

I do here by undertake to be totally responsible for success of the potato cultivation and use the inputs in the field for potato cultivation for which subsidy is meant for.

Signature of the Farmer

HEW/Gardener

HO/AHO

Countersigned by
DDH/ADH

* In case of tenant farmer he has to produce a certificate from the PRI member / land owner.

**SUBSIDY RELEASE FORM FOR AVAILING SUBSIDY UNDER COLD
STROE CENTRIC POTATO INCENTIVISATION PROGRAMME IN
ODISHA UNDER RKVY**

4. Name of the Beneficiary* :
 5. Father's Name :
 6. a) Village : b) G.P
 c) Block : d) District
4. a) Caste : SC/ST/OBC/OC
 b) Sex : Male/Female
 5. Category : Small/Marginal/Other
 6. BPL status : BPL -Yes/ No. BPL Card
- No.
 7. Plot No :
 8. Patta/ Khata No. :
 9. Bank A/c details : Name of the
 Bank.....
 A/c
 No.....
 IFS Code

 Branch:.....

10. Quantity of Seed Potato used :
 11. Area covered in ha :
 12. Bill amount :

Certified that I have purchased the seed potato and inputs mentioned above at my own choice and utilized in my above mentioned plot.

Signature of the Farmer

For Office use only

Certified that the above farmer has cultivated potato over ha as the GPS reading. The longitude of the plot is and latitude is and submitted bill amount of Rs. The above farmer is eligible for Rs.....

HEW/Gardener

HO/AHO

Countersigned by
DDH/ADH

District wise target of area under cold store centric potato incentivization programme under RKVY for 2017-18 and requirement of seed potatoes				
Sl. No.	Name of the District	Name of the ADH/DDH	Area (Ha)	Seed Quantity (MT)
1	Angul	DDH Angul	25	50
2		ADH Athamalik	20	40
3		ADH Talcher	5	10
4		ADH Palahara	10	20
5	Balasore	DDH Balasore	50	100
6		ADH Nilagiri	20	40
7	Baragarh	ADH Baragarh	30	60
8		ADH Padmapur	10	20
9	Bhadrak	ADH Bhadrak	15	30
10	Bolangir	DDH Bolangir	50	100
11		ADH Titlagarh	20	40
12		ADH Patnagarh	15	30
13	Boudh	ADH Boudh	125	250
14	Cuttack	ADH Cuttack	100	200
15		ADH Banki	25	50
16		ADH Athagarh	100	200
17	Deogarh	ADH Deogarh	25	50
18	Dhenkanal	DDH Dhenkanal	25	50
19		ADH Kamakhyanager	25	50
20		ADH Hindol	15	30
21	Gajapati	DDH Gajapati	10	20
22	Ganjam	DDH Ganjam	70	140
23		ADH Chatrapur	25	50
24		ADH Bhanjanagar	25	50
25	Jagatsinghpur	ADH Jagatsinghpur	10	20
26	Jajpur	ADH Jajpur	30	60
27	Jharsuguda	ADH Jharsuguda	20	40
28	Kalahandi	DDH Kalahandi	15	30
29		ADH Dharmagarh	10	20
30	Kandhamal	DDH Kandhamal	35	70
31		ADH Baliguda	75	150
32	Kendrapara	ADH Kendrapada	60	120
33	Keonjhar	DDH Keonjhar	50	100
34		ADH Anandpur	15	30
35		ADH Champua	10	20
36	Khurda	ADH Khurda	25	50
37		ADH Bhubaneswar	20	40
38	Koraput	DDH Koraput	300	600
39		ADH Jeypore	50	100
40	Malkangiri	DDH Malkangiri	25	50
41	Mayurbhanj	DDH Mayurbhanj	100	200
42		ADH Rairangpur	50	100
43		ADH Kaptipada	50	100
44		ADH Panchapir(Karnajia)	50	100
45	Nawarangpur	DDH Nawarnagpur	50	100
46	Nayagarh	DDH Nayagarh	40	80
47	Nuapara	ADH Nuapada	25	50
48	Puri	DDH Puri	75	150
49	Rayagada	DDH Rayagada	75	150
50		ADH Gunupur	35	70
51	Sambalpur	DDH Sambalpur	25	50
52		ADH Kuchinda	35	70
53		ADH Rairakhol	25	50

54	Sonepur	ADH Sonepur	25	50
55		ADH Birmaharajpur	25	50
56	Sundargarh	DDH Sundargarh	75	150
57		ADH Panposh	75	150
58		ADH Bonai	75	150
	Total		2500	5000