

**PROPOSED PROJECT PLAN  
FOR DEVELOPING**

**DERAS HORTICULTURE FARM  
AS  
*TECHNOLOGY DISSEMINATION CENTRE***



Under RKVY for the Year 2017-18  
**Project Cost: Rs. 154.750 Lakh.**

Submitted by:  
*Asst. Director of Horticulture, Deras*

**Directorate of Horticulture  
Odisha, Bhubaneswar**

## EXECUTIVE SUMMARY

<b>Name of the Project</b>	Proposed Project Plan for Developing Deras Horticulture Farm as Technology Dissemination Centre.		
<b>Implementing Agency</b>	Directorate of Horticulture, Odisha, Bhubaneswar		
<b>Name and address of executants</b>	Assistant Director of Horticulture, CoE, Deras, Khordha		
<b>Proposed Work</b>	<b>Qty.</b>	<b>Cost in Lakh Rs.</b>	<b>Norm followed</b>
<b>1. Establishment of New Guava Orchard. (4 Ha., high density)</b>			
i. Land Development by mechanical means	8000Cum	4.592	PWD
ii. Filling of pits (1600 nos.) with garden soil @ Rs. 310 per cum including lead, lift & transportation by mechanical means	1600 Cum	4.960	PWD
iii. New guava plantation	4 Ha.	21.690	MGNREGA
iv. Installation of drip irrigation system	4 Ha.	1.302	PMKSY
v. Application of Poly Mulching	4 Ha.	1.155	NHM
<b>Sub-Total</b>		<b>33.699</b>	
2. Installation of semi-permanent sprinkler irrigation system for nursery	1 Ha.	0.678	PMKSY
3. Intercrops for forage of honey bees & utilization of Inter spaces of mother plant block	4 Ha.	2.500	State Plan
4. Pineapple (TC) cultivation in the inter space	1 Ha. (Area coverage 0.4 Ha.)	3.755	State Plan
5. Construction of internal RCC Road of 4 m width	613 RMT	46.588	PWD
6. Construction of Boundary wall with RRC pillar & beam of an Av.ht. 1.8m	1200RMT	66.000	PWD
<b>Total</b>		<b>153.220</b>	
<b>Contingencies (1%)</b>		<b>1.530</b>	
<b>Total</b>		<b>154.750</b>	
<b>Or Say</b>		<b>154.750</b>	

**(Rupees One Crore Fifty Four Lakh and Seventy Five thousand) only.**

**Source of fund** : RKVY 2017-18

**Project cost** : Rs. 154.750 lakh

**Project duration** : 1 year

## Basic information:

Name	: Deras Horticulture Farm
Location	: Haridamada, Mendhasal, Bhubaneswar
District	: Khordha
Year of Establishment	: 1951-52
Year of Revival	: 2005-06 onwards
Source of Irrigation	: Pond & Bore-well
i. Total Land Area	: 40.29 Ac.
ii. Land in used	
a) Area under Mango Orchards, Nursery, Coconut nucleus seed garden	: 15.29 Ac.
b) Water Body	: 5.29 Ac.
c) Area under no crop (fallow)	: 20.0 Ac.
➤ Proposed for Guava orchard	: 10.0 Ac.
➤ Proposed Tissue Culture Lab	: 10.0 Ac.
iii. Total Length of periphery	: 4280 rmt.
a) Periphery under green & barbed wire fencing	: 2327 rmt.
b) Un-fenced periphery	: 1953 rmt.
iv. Total Length of Road	: 1185 rmt.
a) Length under C.C.Road	: 572 rmt.
b) Road to be developed	: 613 rmt.
v. Soil type	: Sandy loam & Clay

### INFORMATION ON ASSETS OF DERAS HORTICULTURE FARM

#### i. Buildings & Infrastructure

Name of the Item	Size	Nos.	Remarks
Building with RCC Roof	27'X21'	1	Renovated during 13-14
Building with RCC Roof	24'X20'	1	Constructed during 2014-15
Godown with Asbestos roof	30'X36'	1	Functional Condition needs repairing
Staff quarters with Asbestos roof (1-R)	23'X19'	2	Needs repairing
Building with RCC Roof (2 Suits Cottage)	30'X31'	1	Constructed during 2013-14
Watchman Tower		1	Constructed during 2013-14

#### ii. Poly House & Shade net house

Name of the Item	Size	Nos.	Remarks
Poly House	66'X17'	1	Polythene roof & side wall damaged
Poly House	40'X17'	1	Fully Damaged (Not Repairable)
Shed Net House	40'X32'	1	Fully Damaged (Not Repairable)
Poly House	40'X14'	1	Fully Damaged (Not Repairable)

#### iii. Source of Water

Name of the Item	Size	Nos.	Remarks
Bore well with submersible pump with pump house	6" dia	1	Working condition
Bore well with submersible pump	6" dia	1	Working condition
Bore well with submersible pump (At Cottage Campus)	6" dia	1	Working condition
Farm Pond		1	Needs increasing of depth

#### iv. Vermi-compost pit

Name of the Item	Size	Nos.	Remarks
Vermi-compost Pit without roof	3X1X1 m <sup>3</sup>	1	Not in Functioning Condition, needs renovation

v. Mother plants

Crop	Variety	No of Plants planted during		Total Plants	Total Existing Plants in Nos.
		2005-06 (Age-11 yrs)	2008-09 (Age-8 Yrs)		
a. Mango	Amrapalli	1268	320	1588	1588
	Mallika	53	8	61	61
	Neelum	54		54	54
	Gulabkhas	58	5	63	63
	Bombay Green	49		49	49
	H-10	14		14	14
	H-13	6		6	6
	Banganapalli	63	16	79	79
	Subarnarkha	7		7	7
	Latsundari	18		18	18
	Hemasagar	77	16	93	93
	Ratna	9		9	9
	Pairi	20		20	20
	Dasheri	51	32	83	83
	Cherukrasm	14		14	14
	Langra	14	16	30	30
	MehmoodBahar		5	5	5
	Keshar		5	5	5
	Neel Kiran		5	5	5
	Pravashankar		5	5	5
Arkapuneet		8	8	8	
NeelachalKesari		10	10	10	
Imam Pasand		48	48	48	
Sundarlangra		16	16	16	
	<b>Sub Total</b>			<b>2290</b>	<b>2290</b>
<b>b. Others</b>					
Sapota	Kalipati	65	384	449	21
	China		16	16	
		<b>Sub Total</b>			<b>465</b>
Cashew	H-1608	100		100	103
	H-2/16	220		220	
		<b>Sub Total</b>			<b>320</b>
Kagzi Lime	(Intercrop)	400		400	117
		<b>Sub Total</b>		<b>400</b>	<b>117</b>
Guava	Allhabadsafed	187	16	203	101
	Lucknow-49	45	16	61	
	ArkaMridula	20	176	196	
	ArkaAmulya	20	192	212	
		<b>Sub Total</b>			<b>672</b>
Pineapple (Intercrop)	Queen	40000		40000	0
	Kew	60000		60000	0
		<b>Sub Total</b>			<b>100000</b>
NMMP Nursery	Ashoka		2016-17	100	100
	Bael			100	100

## 1. Context / Back ground

The Deras Agriculture farm was established in the year 1951-52. The Farm is situated near Deras M.I. Project in Villages such as Haridamada, Barhapita & Kalajhar of Mendhasal G.P. of Bhubaneswar Block in Khordha District and is at a distance of 30 Km from State Capital.

Out of the total area of 203 ha of Deras Agriculture Farm, 71.09 Ac. comprising 3 blocks (Block IV, VI & VIII) were handed over to the Director of Horticulture, Odisha, Bhubaneswar during the year 1984 for taking up various Horticultural activities. Since then various Horticultural programmes like cultivation of short terms fruits such as Banana, Pineapple and vegetables were carried out till the year 1994-95.

During 2005-06, various Horticultural activities like barbed wire / green fencing, repair of existing quarters and planting of permanent fruit plants like Mango, Cashew & Sapota, setting up of Nursery activities under Non-Plan Programme were taken up to meet the ever growing demand of quality planting materials of different fruit crops by developing different infrastructure facilities. During 2008-09, a Model Nursery for fruit plants under National Horticulture Mission & a Small Nursery for Medicinal Plants under NMMP were developed. The farm was further strengthened by development of other infrastructures like construction of CC road, construction of Office-cum-sale centre, creation of water bodies along with beautification of the surrounding under Rashtriya Krishi Vikash Yojana. A Coconut Nucleus Seed Garden & Honey bee nursery were established under R.K.V.Y. during the year 2015-16. Apart from existing infrastructure and mother plant block a project sanctioned during 2016-17 amounting to Rs. 24.24 Lakh towards erection of Shade net House, Poly greenhouse etc. is under progress.

The overall development of the farm as proposed will not only increase the QPM production into many folds but also make the farm as a **Technology Dissemination Centre** (Model farm) for educating the farmers during their visit. Besides the farm will find a place in the **eco-tourism map** of the State as the farm is coming under Bhubaneswar tourist corridor.

The proposed project envisage Establishment of New High density Guava Orchard in an area of 4ha. @ 400 plants/ha, installation of Micro Sprinklers for mango nursery in an area of 1 Ha., Intercrops for forage of honey bees & utilization of Inter spaces of mother plant block in an area of 4 Ha. Pineapple cultivation in the inter space of Mango Mother Plants in an area of 1 Ha., Construction of internal RCC road 613Rmt. and Construction of boundary wall along the main road with provision of RCC pillar, plinth band, RCC tie band and fly ash brick masonry 1200 Rmt. will complete the farm as a Technology Dissemination Center.

## 2. Problems

In the present situation, in Deras Horticulture Farm only 80000 nos. mango grafts are produced. It has been decided to produce quality planting materials of Guava VNR BIHI No. 1 variety as it is of high market demand. Further, the inter space of the mother block can be utilized for raising Pineapple and short duration crops for providing feed to the bees of established Bee nursery. To overcome the entry of trespassers and stray animals permanent barrier like boundary wall has been proposed. Complete Modern demonstration facilities are not present at site.

### 3. Aim and objective

- To educate the farmers, trainees, entrepreneurs etc. for capacity building on production of quality planting materials, orchard management, Micro Irrigation, nursery business management etc.
- To increase the quality & quantity of planting materials of Mango and Guava crops to meet the increased demand of the State.
- To protect the farm and mother plants by construction of compound wall.
- To increase the farm revenue receipts.
- To provide employment to the rural labourers and to discourage migration.

### 4. Strategy

There is a high demand of Guava particularly KG Guava (VNR BIHI - 1) variety in the State. For this a mother block of 4ha. is proposed to meet the QPM requirement by the farmers of the State. Further, Central Horticultural Experiment Station (CHES) is situated in Bhubaneswar, 30Km from the project area from where proper guidance can be obtained. The tentative production of Guava Scion year wise will be as follows;

<b>Year</b>	<b>No. of Scions</b>
2017-18 (1 <sup>st</sup> Year)	Nil
2018-19 (2 <sup>nd</sup> Year)	Nil
2019-20 (3 <sup>rd</sup> Year @50/plant)	80,000
2020-21(4 <sup>th</sup> year @100/plant)	1, 60,000
2021-22 (5 <sup>th</sup> year @ 150/plant)	2, 40,000

### 5. Target Beneficiaries

The farmers, trainees, entrepreneurs etc. will be educated for capacity building on production of quality planting materials, orchard management, Micro Irrigation, mulching application, nursery business management etc. Farmers of the State particularly tribal farmers covered under MGNREGA scheme will be benefited much from this project by getting QPM of Guava and Mango.

### 6. Management

The farm is managed by one Asst. Director of Horticulture and One Asst. Horticulture Officer. Other man powers include One Horticulture Overseer and Casual Labourers under the administrative control of Director of Horticulture, Odisha, Bhubaneswar.

## 7. (A) Finance

Sl. No.	Proposed Item of work	Unit	Size	Rate per unit (Rs.)	Total amount(Rs)	Cost Norm Adopted
1	<b>Establishment of New Guava Orchard in an area of 4 Ha.</b>					
	a) Land development by mechanical means	Cum	8000	57.40	459200	PWD
	b) Filling of pits (1600 nos.) with garden soil @ Rs. 310 per cum including lead, lift & transportation by mechanical means	Cum	1600	310.00	496000	PWD
	c) Micro Irrigation –Drip for Guava orchard Cost: 4 ha = Rs. 1,13,200 Vat : 5% = Rs.5660/- Transportation and Installation : 10% = Rs. 11320/- Total : Rs. 1,30,180/- or say Rs. 130200/-	Ha.	4	32550.00	130200	PMKSY
	d) New plantation of Guava (Var.VNR Bihi-1) Orchard with 2 yrs. Maint.	Ha.	4	542250.00	2169000	MGNREGS
	e) Application of Poly Mulching (100Micron) 1.5m x 1.5m (size) x 1600nos = 3600Sqmt. @ 93gm/Sq.Mt. = 334.8Kg. Add cutting (5%) = 15.2Kg. Total: 350 Kg. Cost: Rs. 300/Kg. Total cost : 350 x 300 = Rs.1,05,000/- Wastage: 10% = Rs. 10,500/- Total = Rs. 1,15,500/-	Ha.	4	28875.00	115500	NHM
	<b>Sub-Total</b>				<b>3369900</b>	
2	Micro Irrigation- Semi permanent Sprinkler for mango nursery @ Rs. 58,900/- Vat : 5% = Rs.2945/- Transportation and Installation 10%= Rs. 5890/- Total : Rs. 67,735/- or say Rs. 67800/-	Ha.	1	67800.00	67800	PMKSY
3	Intercrops for forage of honey bees with Sesamum, Sunflower, Niger, Mustard etc. utilization of Inter spaces of mother plant blocks @ Rs. 25,000/Ac, or Rs. 62500/ha	Ha.	4	62500	250000	Tentative
4	Pineapple (TC) cultivation in the inter space	Ha.	1	375500.00	375500	State Plan
5	Construction of internal RCC road of length 613m & width of 4m	Sqm	2452	1900.00	4658800	PWD
6	Construction of boundary wall along the main road with provision of RCC pillar, plinth band, RCC tie band and fly ash brick masonry of Avg. ht. of 1.8m	RMT	1200	5500.00	6600000	PWD
	<b>Total</b>				<b>15322000</b>	
	<b>Contingency (1%)</b>				<b>153000</b>	
	<b>G. Total</b>				<b>15475000</b>	

**(Rupees One Crore Fifty Four Lakh and Seventy Five thousand) only**

### 7.(B) Year wise Expenditure

Sl. No.	Proposed Item of work	Total amount(Rs)	2017-18	2018-19	2019-20
1	<b>Establishment of New Guava Orchard in an area of 4 Ha.</b>				
	i) Land development by mechanical means	459200	459200		
	j) Filling of pits (1600 nos.) with garden soil @ Rs. 310 per cum including lead, lift & transportation by mechanical means	496000	496000		
	c) Micro Irrigation –Drip for Guava orchard Cost: 4 ha = Rs. 1,13,200 Vat : 5% = Rs.5660/- Transportation and Installation : 10% = Rs. 11320/- Total : Rs. 1,30,180/- or say Rs. 130200/-	130200	130200		
	d) New plantation of Guava (Var.VNR Bihi-1) Orchard with 2 yrs. Maint.	2169000	1641000	304000	224000
	f) Application of Poly Mulching (100Micron) 1.5m x 1.5m (size) x 1600nos = 3600Sqmt. @ 93gm/Sq.Mt. = 334.8Kg. Add cutting (5%) = 15.2Kg. Total: 350 Kg. Cost: Rs. 300/Kg. Total cost : 350 x 300 = Rs.1,05,000/- Wastage: 10% = Rs. 10,500/- Total = Rs. 1,15,500/-	115500	115500		
	<b>Sub-Total</b>	<b>3369900</b>	<b>2841900</b>	<b>304000</b>	<b>224000</b>
2	Micro Irrigation- Semi permanent Sprinkler for mango nursery @ Rs. 58,900/- Vat : 5% = Rs.2945/- Transportation and Installation 10%= Rs. 5890/- Total : Rs. 67,735/- or say Rs. 67800/-	67800	67800		
3	Intercrops for forage of honey bees with Sesamum, Sunflower, Niger, Mustard etc. utilization of Inter spaces of mother plant blocks @ Rs. 25,000/Ac or Rs. 62500/ha	250000	250000		
4	Pineapple (TC) cultivation in the inter space	375500	375500		
5	Construction of internal RCC road of length 613m & width of 4m	4658800	4658800		
6	Construction of boundary wall along the main road with provision of RCC pillar, plinth band, RCC tie band and fly ash brick masonry of Avg. ht. of 1.8m	6600000	6600000		
	<b>Total</b>	<b>15322000</b>			
	<b>Contingency (1%)</b>	153000	14740	3040	2220
	<b>G. Total</b>	<b>15475000</b>	<b>14941740</b>	<b>307040</b>	<b>226220</b>



## 8. Time Frame

Sl. No	Item of work	Phases of execution of work		
		Apr-Jun	Jul-Sept	Oct-Dec
1	<b>Establishment of New Guava Orchard in an area of 10 Ac</b>			
	<i>Land development,</i>	Yes		
	<i>Filling of pits with garden Soil</i>	Yes		
	<i>Micro Irrigation –Drip for Guava orchard</i>	Yes		
	<i>New plantation of Guava (Var. VNR Bihi) Orchard with 2 yrs Maint</i>		Yes	
	<i>Application of Poly Mulching</i>			Yes
2.	Micro Irrigation- Sprinkler for mango nursery.	Yes		
3.	Intercrops for forage of honey bees & utilization of Inter spaces of mother plant block.		Yes	Yes
4.	Pineapple cultivation in the inter space	Yes		
5.	Construction of internal RCC road	Yes		
6.	Construction of boundary wall along the main road from CoE boundary to farm main gate with provision of RCC pillar, plinth band, RCC tie band and fly ash brick masonry.	Yes		

## 9. Cost benefit analysis

The farm will act as a Technology Dissemination Centre for the farmers, trainees, entrepreneurs etc. for capacity building on production of quality planting materials, orchard management, Micro Irrigation, nursery business management etc. Further the graft / gootee produced will be sold to the farmers as per approved cost norm. Year wise tentative graft production and self-proceed will be as follows;

Year	Scion available	Nos. of graft to be produce	Expenditure @ Rs. 18/graft (in Lakh Rs)	Sell proceed @ Rs. 24/graft (in Lakh Rs)	Net Profit (in Lakh Rs)
2019-20	80000	52000	9.36	12.48	3.12
2020-21	160000	104000	18.72	24.96	6.24
2021-22	240000	156000	28.08	37.44	9.36

## 10. Risk Analysis

### i) Legal / Contractual Risks

Contractual labourers shall submit undertaking to avoid claims beyond their term of engagement.

### ii) Environmental Risks

Insurance to be made against the Environmental Risks.

### iii) Project Management Risks

Any risk on management shall be monitored by the Director of Horticulture, Odisha, Bhubaneswar

### 11. Outcomes

The farm being a Technology Dissemination Centre will educate the farmers, trainees, entrepreneurs etc. for capacity building on production of quality planting materials, orchard management, Micro Irrigation, nursery business management etc. Further, the QPM will be provided to the farmers of the State for multiplication of such highly demand Guava variety throughout the State.

### 12. Evaluation

Success of scheme deliverables / outcomes shall be evaluated by the third party i.e. any other body directed / instructed by Govt.

### 13. Check list

- a. Funds available under other schemes of the State / Govt. of India for the proposed projects have been accessed and utilized before it is proposed under RKVY.
- b. There will be no duplication or overlapping of assistance / area coverage through other State / Central Govt. Schemes.
- c. The funds under the project is not proposed as additional or top-up subsidy to other ongoing schemes/programmes of State / Central Govt.
- d. DPRs includes contingency.

  
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