



RASHTRIYA KRISHI VIKAS YOJONA



2015-16

DPR Submitted By:-

**State Forest Development Agency, Directorate of Forests,
Govt. of West Bengal**

Introduction:

The Additional Central Assistance Scheme-‘Rashtriya Krishi Vikash Yojana’ (RKVY) has been launched by the Govt. mainly to incentivize the state to attain 4% annual growth rate in agriculture & allied sectors during the 11th plan period.

RKVY is the introduction of a new Additional Central Assistance Scheme to state plan scheme but 100% grant is provided by the Govt. of India. The project is taken up for holistic development of agriculture and allied sectors in which Forest Department is a stakeholder along with some other departments.

Forestry sector is included as one of the allied sectors as it supplements to agricultural growth. Especially in South West Bengal, the agricultural lands are surrounded by forest land in most of the case. Forest Department takes up different activities such as afforestation and soil & moisture conservation works with the objective of reducing erosion of fertile top soil thereby improving soil quality, productivity and rain water harvesting.

Recently a revised operational guidelines, 2014, has been formulated by Government of India for RKVY. The present project proposal for 2015-16 has been prepared as per the revised guidelines of Government of India.

Objectives :

1. To improve the productivity of the areas under treatment.
2. To improve the ground water regime.
3. To control soil erosion and arrest the sedimentation to the extent possible.
4. To create small irrigation system for the agricultural lands in the proximity of forest areas.
5. To produce genetically improved nursery stock for plantation in different agro climatic zones.

Activities :

Based on the identified objectives, the following activities have been shortlisted in this project:

1. Plantation of trees for reforestation to improve the Forest productivity, in order to improve ground water regime and prevent soil erosion in forest areas.
2. Construction of soil conservation structures.
3. Construction of rain water harvesting structures for water conservation, ground water recharging and irrigation.
4. River or Jhora training works and slope stabilization in North Bengal.
5. Creation of nurseries for supplying good quality seedlings for plantation and reforestation.
6. Creation of soil testing laboratories for proper soil and management system in forest areas.
7. Developing production technology of vermin/farm composting in FPCs of the state for soil nutrient management system.

I. Infrastructure and Assets:

(i). Natural Resource management

a. Afforestation and Allied Works

Objectives:-

1. To take up plantation activities in the degraded forest areas in different districts of South West Bengal and in the plantation areas in North Bengal.
2. To supply fuel wood and fodder.
3. To increase the availability of timber of high economic values in the market.
4. Revenue generation and employment opportunities to the local people.
5. To ensure usufruct share to the local JFM committees and forest dwellers by revenue sharing under JFM.

Activities: Under this component reforestation activities shall be taken up in different districts of the State. The main emphasis will be on the creation of Quick Growing Species and trees of Economic importance or Economic Plantations. Under this activity the plantation of seedlings are taken up in the field. Usually 2500 seedlings are planted per hectare with a spacing of 2m x 2m. The activity includes cleaning and burning the area, digging up of pits, application of manure, fencing, watch and ward, irrigating etc. The activity is labour intensive and generates wages for the people living in and around the forest areas.

The Work Programme for this stream is shown below:-

The total outlay is 33% of the total work Programme for the year 2015-16.

Sl. No.	Item of Works	Rate	Unit	Phy	Fin (Rs)
	'Afforestation and Allied Works	Rate (Rs)	Unit	Nos.	Amount (Rs)
1	a) Advance work for planting stock for plantations QGS in 2015.	9500	Ha	602	57,19,000
	b) Creation of Plantations QGS in 2016	31,000	Ha	602	1,86,62,000
2	RDF by Coppicing	5580	Ha	3281	1,83,07,980
3	MS Cutting	4432	Ha	3980	1,76,39,360
4	Mechanical Thinning	4304	Ha	2394	1,03,03,776
5	Bamboo Pltn	30,000	Ha	1020	3,06,00,000
	Total			11879	10,12,32,116

Rupees Ten Crores twelve Lakhs Fifty Thousand Only.

Location: Bankura, Paschim Medinipur, Burdwan, Purulia & Burdwan Districts, Bhirbhum

Estimates: Annexure I, II, III, IV, V, VI

b. Soil and Moisture Conversion:

Under this component Soil and Moisture Conservation activities shall be taken and are described below in detail.

1. Contour Trenches in Forest Areas:

Objectives:

- a) Recharge ground water.
- b) To conserve soil moisture in the plantation areas in the dry seasons.

Activities:-

Under this sub component the digging of contour trenches in the plantation areas along the contour is taken up so that the soil water runoff may be prevented. This activity also helps in conserving the soil moisture which is of great help for young plantations in the dry seasons. The activity is labour intensive and generates wages in rural areas.

2. Earthen Dam:

Objectives :

1. To prevent soil erosion.
2. To harvest Rain water.
3. To recharge ground water.
4. To irrigate agricultural field in the command area down stream.
5. To use the water body for pisciculture and other house hold purpose.

Activities:

Earthen dams are constructed for the purpose of holding excess run-off water by Creating bund of suitable size with a small inner core wall. This structure slows down the run-off and water during rainy season is harvested. These have been proved very useful for South West Bengal. This work is labour intensive and generates employment for the local people.

3. Gully Plugging work/ Rock check dams:

Objectives:

1. To prevent accelerated erosion.
2. To harvest Rain water.
3. To improve soil moisture regime.
4. To recharge ground water.

Activities:

Small Rock check dams are constructed for the purpose of holding excess run-off water by creating obstructions of suitable size. Generally series of such check dams are constructed. These structures slow down the run-off and water during rainy season is

harvested. These have been proved very useful for checking gully and reel erosion in South West Bengal Bengal.

The work is labour intensive and generates employment for the local people.

4. Catch water drain.

Objectives:

1. To prevent soil erosion.
2. To stabilize hill slopes & check landslide.

Activities:

Boulder packed structures with concrete grouting (where necessary) are constructed for the purpose of channelizing excess water during high rainfall by creating catch water drains of suitable size. These structures are also connected to the hilly streams to channelize the water. These structures slow down the run-off and water during rainy season is harvested. These have been proved very useful for checking landslides in the hilly areas without proper drainage of the run away water during heavy rains. The work is labour intensive, with some local materials and generates Employment for the local people.

5. Construction of irrigation channels Rainwater harvesting for storage and small Irrigation in JFM areas:

Objectives:

1. To harvest rainwater during monsoon.
2. To reduce run-off of sweet water.
3. to irrigate agricultural fields during winter.

Activities:

Rainwater harvesting structures are constructed for storage and small irrigation in JFM areas for the purpose of channelizing excess water by creating channels of suitable size and length. This structure slows down the run-off water during rainy season through harvesting of the same. These are especially effective in harvesting rain water in the Sundarban area where the rivers are all saline and river water cannot be used either for irrigation or house hold purposes. Local people are engaged for the earthwork and this also generates lot of employment. At the same time harvested rain water is used extensively in agriculture during dry season.

6. River Training Works :

Objectives:

1. To prevent stream bank erosion.
2. To check landslides and stabilization hill slopes.
3. To reduce the chance of flooding of agricultural fields by hilly torrents.

Activities :

Boulder sausage works: Upper reaches are treated with this work where bigger boulders are used to construct sausage works to stabilize the slopes.

Detailed work programme for this stream is shown below:-

	Soil and Moisture Conservation	Rate (Rs)	Unit	Nos.	Amount (Rs)
1	Contour trench in Forest Areas	4000	km	200	8,00,000.00
2	Earthern Dam	7,86,000	Unit	100	7,86,00,000.00
3	Gully Plugging/Rock check Dam	2200	Cum	10000	2,20,00,000.00
4	Catch water drain in hills to prevent landslide	11,00,000	Km	14	1,54,00,000.00
5	Construction of Irrigation Channel	885000	Km	30	2,65,50,000.00
6	River training works to prevent damage to Agricultural Fields				
	a) Boulder Sausage Wall	4200	Cum	5000	2,10,00,000.00
	Sub Total				16,43,50,000

**Location: Bankura, Paschim Medinipur, Burdwan, Purulia, Burdwan, Birbhum, Darjeeling, Jalpaiguri, Cooch Behar, Nadia, 24 Parganas South Districts.
(Rupees Sixteen crores forty three lakhs fifty thousand only)**

Estimates: ANNEXURE VII,VIII, IX, X, XI, XII.

(ii). Micro/Minor Irrigation Systems:

1. Digging Ring Wells for water facilities for the Forest Protection Committee villages

Objectives:

1. To maintain availability of water to the forest protection committee villages,

Activities:

The ring wells are rge major source of water availability to the villages on the fringes of the forests. Availability of water for drinking and household purposes ia one of the major inputs that can be given to them.

Detailed work programme for this stream is shown below:-

No.	Minor/Micro irrigation	Rate	Unit	Nos.	Amount
1	Ring wells	63,000	No.	300	1,89,00,000

(Rupees One crore, eighty nine lakhs only).

Estimates: ANNEXURE XIII.

(iii) Soil/Nutrient Management:

1. Renovation of the existing Soil Labs of Forest Directorate:

Objective:

1. Creating of scientific management of soil nutrient system,
2. Creation of infrastructure for the soil nutrient testing and management protocol.

Activities:

The two existing soil test laboratories of the forest Directorate at North & South Bengal will be renovated and put to use.

Detailed work programme for this stream is shown below:-

No.	Soil & Nutrient Management	Rate	Unit	Nos.	Amount
1	Soil Lab reestablishment		No.	2	83,58,898

(Rupees Eighty Three Lakhs, Fifty Eight Tousand, eight hundred Ninety Eight only).

Estimates: ANNEXURE XIV

II. Production & Growth

1. Vermi/ Farm Composting:

Objective:

1. Creation of units of vermin/ farm composting in forest villages and forest protection committees so that proper supplement of soil nutrients can be added to the soil.

Activities:

Vermi-compost is an improved system of decomposing the farm waste and generating manure for the soil application for soil nutrient management and for soil texture and structure improvement.

Detailed work programme for this stream is shown below:-

No.	Production & Growth	Rate	Unit	Nos.	Amount
1	Vermi/ Composting Units	40,000	No.	100	40,00,000

(Rupees Forty lakhs only).

Estimates: ANNEXURE XV.

ANNEXURE II* duly filled up as per format provided by Dept. of Agriculture attached in PAGE No. 18

Principal Chief Conservator of Forests

General

RKVY: Work Programme for 2015-16					
I. Infrastructure & Assets					
Natural Resource Management					
A) Plantation					
		Unit	Physical	Rate	Financial
I	Advance works for Pltn.2015	Ha	602	9,500.00	57,19,000.00
II	Creation works for Pltn 2016	Ha	602	31,000.00	1,86,62,000.00
III	RDF by Coppicing	Ha	3281	5,580.00	1,83,07,980.00
IV	MS Cutting	Ha	3980	4,432.00	1,76,39,360.00
V	Mechanical Thinning	Ha	2394	4,304.00	1,03,03,776.00
VI	Bamboo Pltn	Ha	1020	30,000.00	3,06,00,000.00
B) Soil & Moisture conservation					
VII	Contour trench	Km	200	4,000.00	8,00,000.00
VIII	E.D	Unit	100	7,86,000.00	7,86,00,000.00
IX	Gully Plugging	cum	10000	2,200.00	2,20,00,000.00
X	Catchwater drain	Km	14	11,00,000.00	1,54,00,000.00
XI	Irrigation Channel	Km	30	8,85,000.00	2,65,50,000.00
XII	River training	cum	5000	4,200.00	2,10,00,000.00
Minor /Micro irrigation					
XIII	Ringwell	No.	300	63,000.00	1,89,00,000.00
Soil/Nutrient Management					
XIV	Soil labs	No.	2	41,79,449.00	83,58,898.00
II. Production Growth					
XV	Vermicompost	No.	100	40,000.00	40,00,000.00
PROJECT TOTAL OUT LAY					29,68,41,014.00

ANNEXURE - I

ESTIMATE FOR Q.G.S. -Advance (Unit 1.0 ha area)

Nature of work :- Raising Quick Growing Species (**QGS Advance works**) for the year 2015-16.

Spacing :- 2.5mt x 2.5mt

Sl.	Particulars of Work	No.of MD	Mat.in unit	Rate in Rs.	Amount in Rs.
A	Advance Work.(NT)				
a)	Cost of cleaning levelling, dressing nursery site.	0.2		216	43.20
b)	Making nursery fencing.	1		216	216.00
c)	Preparation of mother bed for misc. seeds.	1		216	216.00
d)	Sowing of seeds in mother bed.	0.8		216	172.80
e)	Preparation of tube beds.	1		216	216.00
f)	Filling up polythene tubes with earth & manure.	4		216	864.00
g)	Dibbling of seeds.	1		216	216.00
h)	Pricking out seedlings.	2		216	432.00
i)	Making nursery shed.	0.5		216	108.00
j)	Making of nursery hut.	0.5		216	108.00
k)	Digging planting pits of size (0.6+0.4)/2 x 0.45 x 0.45mt over 1.0 ha.	12		216	2592.00
l)	Watering of seedlings in nursery.	1		216	216.00
TOTAL		25			5400.00
m)	Cost of cowdung manure over 1cum, sand & good earth.		L.S.		1000.00
n)	Cost of seeds.		L.S.		312.00
o)	Cost of insecticides		L.S.		300.00
p)	Cost of Polythene tube(in kg)		1.5	325	488.00
q)	Cost of fencing materials.		L.S.		400.00
r)	Cost of fertilizer.		L.S.		1600.00
TOTAL					4100.00
GRAND TOTAL (for 1.0 ha)					9500

**Cost of Advance work for 602 Ha @Rs 9500/- = Rs. 57,19,000.00
(Rupees Fifty Seven Lakhs Nineteen Thousand Only)**

ANNEXURE II
MODEL ESTIMATE FOR CREATION OF (QGS) QUICK GROWING SPECIES PLANTATION

Description	Unit	Quantity		Unit Price (Rs)		Cost(Rs./ha)		
		Labour	Material	Labour	Material	Labour	Material	Total
1. survey and demarcation of the plantation area	man-day	1		216		216	0	216
2. advance soil works by digging planting pits of sizes(0.60+0.45)/2*0.45*0.45m ³ including site cleaning	man-day	14		216		3024	0	3024
3. cost of insecticide fertilizer incl. carriage	L.S		1		300	0	300	300
4. cost of rope/tin/watering can /bamboo/thatch etc.	L.S		1		400	0	400	400
5. contingencies	L.S		1		160	0	160	160
Sub Total of - I		19				3240	860	4100
III. CREATION WORKS-- Miscellaneous Plantation	man-day							
6. Diging of pits of size (0.6+0.45)/2x0.45x0.45	man-day	19		216		4104	0	4104
7. filling up of planting pits with dug pulverized soil	man-day	13		216		2808	0	2808
8. Cleaning the plantation area before planting	man-day	4		216		864	0	864
9. Transplanting of potted seeding including carriage from field nursery to planting site & staking	man-day	23		216		4968	0	4968
10. Infilling of vacancy created due to field mortality including carriage	man-day	4		216		864	0	864
11. First mulching by digging earth around pits and cleaning ,weeding and application of fertilizer	man-day	12		216		2592	0	2592
12. Second mulching cleaning ,weeding including application of second dose of fertilizer	man-day	10		216		2160	0	2160
13. Cutting fire lines 3m wide to prevent accidental fire	man-day	4		216		864	0	864
14. Cutting trenches of sizes (0.60mx0.45m) inside the plantation area and boundary where necessary @100m/ha.	man-day	8		216		1728	0	1728
15. Watering of seedlings & watch and ward	man-day	8		216		1728	0	1728
16. Making livehedge fencing	man-day	3		216		648	0	648
17. cost of insecticide fertilizer incl. carriage	L.S		1		2000	0	2000	2000
18. Cost of materials like Ipomea sp for livehedge fencing	L.S		1		500	0	500	500
19. Cost of bamboo for live hedge fencing-3nos.	nos		3		60	0	180	180
20. Contingencies rope/tin/watering can /thatch&carriage of seedling etc.	L.S		1		892	0	892	892
Sub Total of - II		108				23328	3572	26900
Total of - I+II		127				26568	4432	31000

Cost of species Plantation of 602 Ha @ Rs.31000/- = Rs. 1,86,62,000.00
(Rupees One Crore Eighty Six Lakhs Sixty Two Thousand Only)

Annexure- III
Estimate for R.D.F with Fencing in degraded sal areas

Unit - 1 ha.				Wage Rate - Rs. 216.00	
Sl No.	Particulars of Works	Man Days	Rate	Amount (Rs.)	
1	Survey and demarcation including clearing bushes	2	216.00	432.00	
2	Cutting of degenerated sal shoots flush to ground level for generation of fresh healthy shoots	16	216.00	3456.00	
4	Supply of bamboo sticks, ipomea, local brush wood babui rope etc. For vegetative fencing	L.S		1500.00	
5	Contingencies i.e signboard, xerox, photograph, bucket, rope, polythene sheet, etc.	L.S		192.00	
		1 Ha	TOTAL	5580.00	

Cost of RDF with Coppicing 3281 Ha @ 5,580.00 = Rs

1,83,07,980.00

(Rupees One Crore Eighty Three Lakhs Seven Thousand Nine Hundred and Eighty only)

Annexure- IV

ESTIMATE OF MULTIPLE SHOOT CUTTING OF 3-4 YEARS PLANTS IN SAL AREAS				
UNIT :1.00 HA				
Sl. No.	Particulars of Works	No of MD	Rate (Rs.)	Amount (Rs.)
1	Suravey and demarcation the area including clearing bushes	2	216	432.00
2	Coaltaring the leading shoots to be retained 2-3 in Nos. per stump	3	216	648.00
3	Cutting dead, dying , moribund trees retaining 2-3 Nos. per stump to produce healthy and better quality crops	15	216	3240.00
4	Contingencies, i.e price of coal tar etc.			112.00
		1 Ha	TOTAL	4432.00

Cost of MS Cutting 3980 Ha @ 4,432.00 = Rs.1,76,39,360.00

(Rupees One Crore Seventy Six Lakhs Thirty Nine Thousand Three Hundred and Sixty only)

Annexure- V

ESTIMATE FOR MECHANICAL THINNING OF 7-8 YEARS OLD SAL TREES				
Unit : 1.00 Ha				
SI No	Particulars of works	No. of MD	Rate (Rs.)	Amount(Rs.)
1	Survey and demarcation the area including clearing bushes	2	216.00	432.00
2	Marking the poles with coaltar to be retained 1-2 Nos. per stump	3	216.00	648.00
3	thinning the area by removing dead, dying, moribund, bend trees retaining 1-2 trees per stump	14	216.00	3024.00
4	Contingencies, i.e price of paint, brush etc			200.00
		1 Ha	TOTAL	4304.00

Cost of Mechanical Thinning 2394 ha @ 4,304.00 = Rs. 1,03,03,776.00
 (Rupees One Crore Three lakhs Three Thousand Seven hundred and Seventy Six only)

Annexure-VI					
Estimate for Advance Work of Bamboo Plantaion (Per Ha) during 2015-16					
	ADVANCE WORK				
Sl No	Nursery				
1	Cleaning & levelling of nursery site	1.0	216.00	216.00	
2	Preparation of mother bed & tube beds : BED Size :	3.0	216.00	648.00	
3	Placing double nodded cuttings in nursery beds	1.0	216.00	216.00	
4	Making nursery fencing	3.0	216.00	648.00	
5	Digging 90cm Dia. Kuccha Well for water supply	10.0	216.00	2160.00	
6	Making nursery shed with thatch etc	2.0	216.00	432.00	
7	Watering & tending of seedlings upto 31/03/2016	5.0	216.00	1080.00	
8	Making Nursery hut with bamboo. Thatch, Mud wall etc	2.0	216.00	432.00	
	Sub Total	27	216.00	5832.00	5832.00
9	Price for collection of double nodded cutting (LS)			1900.00	
10	Price of water can, rope, basket etc			50.00	
11	Price of cow dung manure 0.5 cmt/ha			300.00	
12	Price of oil cake & insecticide for nursery			82.00	
13	Price of thatch for hut, shed etc			60.00	
14	Price of materials for fencing			60.00	
	Sub Total			2452.00	2452.00
	Plantation				
1	Survey, Demarcation & Preparation of Map	1	216.00	216.00	216.00
	Sub Total				
	Grand Total				8500.00

Estimate for Creation Work of Bamboo Plantation (Per Ha) during 2015-16				
A	NURSERY WORK			
1	Watering, cleaing weeds, application of insecticides etc over 110 days	36	216	7776
	Sub Total	36	216	7776
B	PLANTATION WORK			
1	Cost of allignment of planting pits & inspection path	1	216	216
2	Cost of digging planting Pits[(0.6m+0.4m)/2x0.45mx0.45m 416 Nos of spacing 6.0x4.0 mt	12	216	2592
3	Cost of filling planting pit with application of coddung mannure	6	216	1296
4	Cost of carriage of bamboo rhizome from nursery to planting site including cutting of rhizome by using hand saw	2	216	432
5	Cost of planting bamboo fhizome/double noded cutting in plantation site over 417 numbers	8	216	1728
6	Cost of 1st mulching including application of fertilizer	6	216	1296
7	Cost of 2nd mulching	5	216	1080
8	Cutting fireline	4	216	864
	Sub Total	80	216	17280
C	MATERIALS			
1	Coddung mannure	LS	1500	
2	Fertilizer @ 50gm/pit	LS	600	
3	Insecticides	LS	300	
4	Carriage of double cutting/ rizoms from	LS	1500	
5	Carriage of fertilizer, etc	LS	320	
			4220	4220
	Total			21500
	Grand Total			21500

Cost of Bamboo Plantation Adv cum creation 1020 Ha @ (8,500.00+21,500.00) = Rs 3,06,00,000.00
(Rs Three Crores Six Lakhs only)

ANNEXURE VII
Estimate for Making/Digging Contour Trench as Soil & Moisture Conservation

Component of the Scheme :

B. Soil & Moisture Conservation

Unit = 1 km.

SL. No.	Particulars Of Works	Unit	Qty.	Rate	Amount
1	Cost of Surveying, mazdoor engaged	No.	1	216	216.00
2	Supply of bamboo peg, rope, lime etc for necessary alignment	LS			49.90
3	Cost of excavation of earth for making/digging contour trench around 1 KM area where necessary over 5.00mtx0.45mtx0.30mt=0.675m ³ x60nos=40.5m ³	m ³	40.5	92.2	3734.10
TOTAL(Rs)					4000.00

Physical	Rate		Amount (Rs.)
200 km	4000.00	/km =	800000.00

(Rupees Eight Lakhs) only

ANNEXURE VIII

Estimate for Construction of Earthen Dam as Soil & Moisture Conservation

Component of the Scheme :

Soil & Moisture Conservation

Sl. No.	Particular of Works	Mandays (md) / Qnty.	Rate	Labour Cost	Material Cost	Total Cost
	Cost of doing the following works in connection with construction of an E.D. in forest area as follows :					
1	Survey, demarcation & cleaning of the site	5 md	216.00 /md			1080.00
2	Digging key trench in mixed medium hard soil with morrum over : - Length - 50mt.; Top width - 2.5mt.; Bottom width - 2mt.; Depth - 90cm. = $(2.5+2.0)/2 \times 0.9\text{mt.} \times 50\text{mt.} = 101.25 \text{ m}^3 = 3543.75\text{cft.}$ Or say 3544cft. by engaging daily labour	70 md	216.00 /md	14420.00		15120.00
3	Making core wall including rain water depression of mud and placing layer after layer (layer not excluding 30cm. Height) by ordinary mixed soil to be excavated over : 1) $(2.5+2.0)/2 \times 0.9\text{mt.} \times 50\text{mt.} = 101.25\text{m}^3$ 2) $(2.0+0.6)/2 \times 1.5 \text{ mt.} \times 50\text{mt.} = 97.50\text{m}^3 = 198.75 \text{ m}^3$	75 md	216.00 /md	15450.00		16200.00
4	Digging earth and depositing the same layer after layer not excluding 15cm. Including breaking of clodes and rough dressing in mixed medium hard soil with morrum over : 950 m ³ + (add) 10% for settlement i.e. 95 m ³ = 1045 m ³ - (less volume of earth excavation for spill way and core wall) 112.25 m ³ = 932.75 m ³ (a) Spill way - 30mt. x 0.90cm. x $(2.0+1.5)/2$ and (b) Core wall 47.25 m ³ + 65.00 m ³ = 32646 cft. Lead upto 80 ft. and lift upto 3 ft., 55% of earth = 17955 cft. by engaging daily labour	245 md	216.00 /md	50470.00		52920.00
	Lead upto 80 ft. and lift from 3 ft. to 6 ft. 45% of earth = 14691 cft. by engaging daily labour	190 md	216.00 /md	39140.00		41040.00
5	Digging spill way to drain out excess water over 47.25 m ³ = 1654 cft. by engaging daily labour	21 md	216.00 /md	4326.00		4536.00
	Total :	606 md	216.00 /md	123806.00	0.00	130896.00
7	Overhead Expenditure		L.S.		104.00	104.00
	Estimate for 50 mt. length					131000.00
	Estimate for 300 mt length of E.D					7,86,000.00

Cost of 100 units of 300mt E.D @ Rs. 7,86,000=Rs.7,86,00,000/- [Rupees Seven Crores Eighty Six Lakhs only]

ANNEXURE IX
Estimate for Gully Plugging as Soil & Moisture Conservation

Component of the Scheme :

B. Soil & Moisture Conservation

Sl. No.	Item of work	UNIT =	1 M ³		
		Man days in Nos.	Material in unit.	Rate (in Rs.)	Amount (in Rs.)
	Cost of doing the following works in connection with treatment of gully for protection of gully & soil and moisture conservation works over 1 m ³ . (Size 1mt. X 1m. X 1mt.)				
1	Making structural works for protection of gully by using of morrum blocks, fitting fixing including foundation trench & supplying of all materials over 1 mt.	6.5		216	1404
2	Cost of morrum blocks (1mt. X 1mt. X 1mt. = 1m ³) Bamboo Posts, Bushes etc. including carriage		L.S.	796	796
	Total				2200

Cost of Gully plugging of 10,000mt @ Rs.2200/-= Rs.22000000.00

ANNEXURE X

ESTIMATE FOR CATCH WATER DRAIN IN HILLS TO PREVENT LANDSLIDE

Item No.	Particulars of works	Md	Labour (Rs)	Material (Rs)	Amount(Rs)
1	Cost of doing following works in c/w making Catch water drain in Hill area to prevent landslide @ per 1m Mazdoors engaged for doing following works in connection with making Catch Water Drain of internal size 60 cm X 60 cm. a) Earthwork in excavation. b) Hand packed stone soling 150 mm thick. c) Hand packed stone wall 40 cm wide 30 cm deep in both side. <u>Abstract:</u> Mason - 1. nos. @ Rs. 400.00 Each Ordinary - 3.00 nos. @ Rs. 216.00 Each d) Contingency	1.50 1.00 0.50 <u>1.00</u> 4.00	1048.00	52.00	
	Cost per mt		1048.00	52.00	1100.00
	Cost per Km				11,00,000.00

Cost of Catch Water Drain 14 KM @ Rs.11,00,000/- = Rs.1,54,00,000/-

(Rupees One crore fifty four lacs only).

ANNEXURE XI

Estimate for Construction of Irrigation Channel under Micro/Minor Irrigation Channels

Estimate of Works

Sl. No.	Particulars of Work	Unit	Quantity	Rate (in Rs.)	Amount(Rs)	
1	Earth work in excavation of foundation trenches or drains in all soils including lateritor sand - soil.....etc.					
	a) Depth of excavation not exceeding 1.5 mtr.					
	1.0 x 0.45X.45 =	0.202	m3	0.202m3	92.21	92.41
2	Sand Filling in foundation -					
	1.0X0.45X0.10=	0.045	m3	0.045m3	505.64	22.75
3	Brick flat soling in foundation -					
	1.0x0.30m	0.3	m2	0.30m2	321.3	96.39
4	Cement Concrete (1:2:4) in foundation - 1x0.30x0.075	0.0225	m3	0.0225	4718.11	106.16
5	Brick Work 3" with (6:1) cement mortar					
	1x2x0.45	0.9	m2	0.90m2	400	360
6	Plastering 20mm thick					
	1x1.35	1.35	m2	1.350m2	129.37	174.65
7	Neat Cement Punning over					
	1.35m2	1.35	m2	1.35m2	31.36	32.71
Total -					885.07	
Cost per 1 mtr					885	
Cost per 1 Km					8,85,000	

**Cost of Irrigation Channel 30 Km @ Rs.8,85,000/- =
Rs.2,65,50,000/-**

(Rupees Two crores sixty five lacs fifty thousand only)

ANNEXUREXII

ESTIMATE FOR BOULDER SAUSAGE WALL AS SOIL & MOISTURE CONSERVATION

Item No.	Particulars of works	Md	Labour (Rs)	Material (Rs)	Total (Rs)
1.	<p><u>Making Boulder Sausage wall (@1m³)</u> Mazdoors engaged for making Hand packed wall with Sausage wire net :</p> <p>a) Collection of stones boulders, carriage up to road site & stacking 3.00</p> <p>b) Carriage of stones boulders from road site to Work site. 2.00</p> <p>c) Excavation of earth in all sorts of soil. 1.00</p> <p>d) Cutting of sausage wire netting to require Sizes rolling the same & making bundles. 1.50</p> <p>e) Carriage of sausage from road side to working site by head load. 2.00</p> <p>f) Making sausage wall with stone boulders by way of handpacking including laying with G.I. wire stretching and tightening complete. Skilled mazdoor - 1.00 no 1.00 Mason - 1.00 no 1.00 Ordinary - 2.00 no 2.00</p> <p>g) Filling the gap with stone boulders including collection & carriage of stone boulders, dressing etc. 2.00</p> <p><u>Abstract of mazdoor P/m³</u> Mason- 1 nos @ Rs.400.00 Each = Rs400.00 Skilled - 2 nos@ Rs. 235.00 Each = Rs470.00 Ordinary-12.50 nos@ Rs.216.00Eac =<u>Rs 2700.00</u> Rs.3570.00</p> <p>h) Supplying of 8 gauge sausage wire netting mesh of 15 cm X 15 cm including carriage up to road site. (4.50m² per/m³) @ Rs. 120.00 per m² including Vat 540.00</p> <p>i) Supplying of 8 gauge G.I. Wire for ties 0.5 kg/per m³ @ Rs.80.00/kg including Vat 40.0</p> <p>j) Contingencies for threads, etc. 50.50</p>		3570.00		
	Cost per m³		3570.00	630.50	4200.00

Cost of River draining works 5000 mt @ Rs.4200/- = Rs.2,10,00,000/-

(Rupees Two crores ten lacs only)

ANNEXURE- XIII

MODEL ESTIMATE OF RING WELL

SI No.	Description of item of works	Total Cost		
		Vol/Unit	Rate	Amount
Cost of earth digging including mixed, morrum soil and any other stone including spreading spoils within a lead of 75 mtr including bailling out of water up to 1mtr depth if required and back filling with medium sand including cost of sand as follows :				
1	a)Up to 3 miter below G.L =3Mtr.@Rs.331.00/m	3	331	993
2	b)3 Meter to 6 Meter =3 Mtr. @Rs.331.00/m	3	331	993
3	c)6Meter to 9 Meter =3 Mtr @Rs.404.00/m	3	404	1212
4	d)9 Meter to 12 Meter =3 Mtr.@ Rs.468.00/m	3	468	1404
5	e) 12 Meter to 15 Meter =3 Mtr.@Rs.607.00/m	3	607	1821
6	f)15 Meter to 18 Meter =3 Mtr.@Rs.787.00/m	3	787	2361
7	g)18 Meter to 20 Meter= 3 Mter@Rs.865.00/m	2	865	1730
8	Cost of supply of prccast R.C.C Well ring made with cement concrete (4:2:1) with stone chips and 0.8% reinforcement fitted fixed in position true to plumb in the well including jointing with cement Mortar 2:1 complete as per direction:	20	1500	30000
9	Cost of supply of Iron Angle and making hole at the centre including fitting fixing in position properly complete. 10 Kg @ Rs.45.50.Kg.	10	45.5	455
10	Supplying and fitting in position 15 cm dia Pullcy Ino @ Rs.235.00 E	1	235	235
11	Construction of Platform:-			
	Consolidation work over 14.766m2			
	a) Sand packing over 14.766m2×0.15 Mtr =2.215 m3@ 214.71/m3	2.215	214.71	475.58
	b) Boulder soling over 14.766m2×0.30 mtr =4.430 m3 @750.00/m3	4.43	750	3322.5
	c)Single brick flat soling over 14.766m2 @114.00/m2	14.766	114	1683.32
	d)C.C Work (4:2:1) with Chandil chips over 14.766m2×0.10=1.4766 m3 @2707.00/m3	1.4766	3654.45	5396.16
	e)Brick work of parapet wall in the platform 2.331 m3 @ 2070.00/m3	2.331	2898	6755.24
	f) Pillar 0.25×0.25× 1Metre × 2 Nos = 0.125m3 @2070.00/m3	0.125	2898	362.25
	Cost of cement plastering 20 mm thick (6:1) with cement mortar Platform = 14.766m2,Pillar=2.000m2 Parapet=8.925m2, Total=25.691 m2 @62.00/m2	25.691	83.7	2150.34
	Neat cement punning over (15 mm thick) 25.691 m2@ 16.00/m2	25.691	17.6	452.16
	Colour washing with "ELLA" with a coat of white wash priming including cleaning and smoothening surface thoroughly (two coats) over 25.691 m2 @ 4.80/m2	25.691	4.8	123.32
	Cleaning washing and removing rubbish and silt from the site	5	88.27	441.35
				62366.22
Contingency			633.78	
Total			63000	

Cost of 300 Ring wells @ 63,000/- = Rs.1,89,00,000/- (Rupees One Crore Eighty nine Lakhs only)

ANNEXURE XIV - A
ESTIMATE FOR SOIL TEST LAB AT NORTH BENGAL

Sl. No.	Name of Equipment	Model No.	Quantity	Amount
1.	P.C. based double beam spectrometer with printer	LA 2800	01	5,50,000.00
2.	Flame Photo Meter	128	01	65,613.00
3.	Micro controller based pH system with electrodes	PH510	01	36,280.00
	Micro controller based conductivity meter	CON 510	01	43,000.00
4.	Salinity Meter	Salt 6+	01	40,000.00
5.	Moisture Meter	MX-50	01	1,50,000.00
6.	Chemical Balance	ER-200A	01	60,000.00
7.	Electronic Balance	FX-300G	01	33,000.00
8.	Rough Balance	VIK 03HL	01	10,000.00
9.	Autoclave	SNS-VAC-1422	01	60,000.00
10.	De-ionising Water Plant	20 Litre per day	01	30,000.00
11.	Quartz Distillation Set	LQD-1	01	75,000.00
12.	Kjeldhal Auto Nitrogen	PELICAN	01	5,00,000.00
13.	Microscope	CROWN	01	1,50,000.00
14.	Laminar Flow	SNS-HFD-3- WB	01	55,000.00
15.	Shaker	SNS – Reciprocating Shaking Machine	01	40,000.00
16.	BOD incubator with shaker	SNS-CRSI-6	01	75,000.00
17.	Handheld chlorophyll Meter	SPAD 502 Plus	01	1,90,000.00
18.	Atomic absorption spectrophotometer (AAS)			15,00,000.00
19.	Hot Plate	SNS-HP-1016	01	10,000.00
20.	Hot Air Oven	SNS-HAO-18	01	25,000.00
21.	Incubator	SNS-INC-15		25,000.00
22.	Centrifuge	R-8C with R-83 and R-84 Head	1 Set	40,000.00
23.	Magnetic Stirrer	2 ML	01	7,000.00
24.	Micropipette	Different size	05	22,500.00
25.	Soil Grinder	SNS-Soil Grinder	01	35,000.00
26.	Sieve Shaker with Test Sieves and Pan	SNS make	1 Set	45,000.00
27.	Soil Thermometer		01	15,000.00
28.	Digital Soil Moisture Meter	PMS-714	01	15,000.00
29.	Servo Controlled Voltage Stabilizer	10KVA		40,000.00
30.	Bottle top Dispenser			10,000.00
31.	Calorimeter			35,000.00
		TOTAL		39,92,393.00

ANNEXURE XIV B

Estimates regarding operation of Midnapore(S.Bengal) Soil Laboratory

Sl.No.	Item of Works	Amount
A	Infrastructure Development :- (Engagement of Technical Personal)	
(i)	Engagement of Soil Chemist for doing laboratory works for 36 th months, wages for per month Rs.- 35000/- on contract X 36 months.	1260000.00
(ii)	Engagement of Assistant Soil Chemist for doing laboratory works including helping Soil Chemist for 36 th months, wages for per month Rs.- 25000/- on contract X 36 months.	900000.00
(iii)	Engagement of laboratory Attendant for doing laboratory works including helping Soil Chemist and Assistant Soil Chemist for 36 th months, wages for per month Rs.- 12000/- on contract X 36 months.	432000.00
(iv)	Engagement of Computer Operator for recording Soil analysis data and related matters in laboratory works including helping Soil Chemist and Assistant Soil Chemist for 36 th months, wages for per month Rs.- 14000/- on contract X 36 months.	504000.00
B	Other Infrastructure development:- (Materials)	
(i)	Purchase of minor instrument including glassware as per requirement by the technical personal	200000.00
(ii)	Supply of various chemicals related to Soil Testing	200000.00
(iii)	Purchase of One (1) Computer set including printer, scanner etc. for storing data, preparation of report etc.	50000.00
(iv)	Purchase of Two nos. Steel Almira for storing records and valuable papers/ Register etc.	32000.00
(v)	Cost of supply of Office chair 3 (Three) nos. Including one (1) nos. Computer Chair.	30000.00
C	Infrastructure development by servicing and minor repairing of old Instrument / Machinery :-	
(i)	Maintenance and servicing charges of old instrument lying in Laboratory before initiation of work.	160000.00
D	Infrastructure development by repairing and maintenance of existing Laboratory building :-	
(i)	Painting including minor repairing of three phase electric line, water pipe line etc. before initiation of Laboratory works.	260000.00
E	Contingent expenditure if any	201400.00
	Total Rs.	4229400.00

Cost of Soil Test Labs (2No) North & South Bengal(41,29,498+ 42,29,400)= Rs 83,58,898/-

(Rupees Eighty Three Lakhs, Fifty eight Thousand, Eight Hundred Ninety Eight Only).

Annexure-XV
Estimate for 1 unit of Vermicompost/Compost

Sl no	Particulars	Qty	Rate	Amount(Rs)
1	Capacity building to FPC/EDC members on Pisciculture/Vermicompost & others for self employment	1		38000
2	Contingency	LS		2000
	Total			40000

Cost of Vermicompost 100 units @ Rs.40000/= Rs4000000
[Rupees Forty Lakhs Only]

Project proposals for consideration under RKVY 2015-16 including Multi years Projects -(Forest Deptt.)

Sl. No.	Name of the Project/ Scheme	RKVY Stream	Project duration (in year)	Total Project Outlay (in lakh Rs.)	Target of 2015-16 [in lakh]		Project area/ operational area	Objectives	Expected outcome/ deliverables	Name of PIA	Remarks
					Physical	Financial (Rs)					
1	Afforestation and Allied works	Infrastructure and Assets'	2015-16	1012.32	I. Advance work for Pltn.- 602 Ha.	57,19,000	Forest Land	To take up plantations on Forest Areas harvested during 15-16 and degraded forest areas in South Bengal	Increasing the Green Cover of the state to meet the objectives of National Forest Policy, improving habitats for wildlife, generating livelihood opportunities for vilagers, improving opportunities for agriculture, providing fule wood etc	State Forest Development Agency	Will increase soil moisture conservation which will benefit agriculture. Increase the water table in the areas for better irrigation to crops.
					II. Creation of Pltn.- 602 Ha	1,86,62,000					
					III.RDF by Coppicing- 3281 Ha	1,83,07,980					
					IV. MS Cutting 3980 Ha	1,76,39,360					
					V. Mechanical Thinning- 2394 Ha.	1,03,03,776					
					VI. Bamboo Pltn.- 1020 Ha.	3,06,00,000					
2	Soil and Moisture Conservation	Infrastructure and Assets'	2015-16	1643.5	VII.Contour trench-200 km	8,00,000	Forest Land	To take up soil conservation to prevent top soil erosion and landslides	Increase soil and moisture conservation, prevent soil erosion, better irrigation in agricultural fields in agricultural land outside forest areas, prevent landslide etc.	State Forest Development Agency	Will increase soil moisture conservation which will benefit agriculture. Increase the water table in the areas for better irrigation to crops.
					VIII. Earthen Dam - 100 Unit	7,86,00,000					
					IX. Gully Plugging - 10000 Cum	2,20,00,000					
					X. Catch water drain-14Km	1,54,00,000					
					XI. Irrigation Channel-30 Km	2,65,50,000					
					XII. River training works-	2,10,00,000					
3	Minor micro / irrigator	Infrastructure and Assets'	2015-16	189.00	XIII. Ring wells	1,89,00,000	J.F.M villages	To maintain availability of water for J.F.M villages	Increased water availability to J.F.M villages	State Forest Development Agency	Benefit local population forest Ranges
4	Soil Nutrient Management	Infrastructure and Assets'	2015-16	83.59	XIV. Soil Test Labs	83,58,898	Forest Land	To increase soil nutrient Management system	Increase soil productivity	State Forest Development Agency	Increase soil productivity
5	Vermicompost	Production Growth	2015-16	40.00	XV. Vermicompost	40,00,000.00	J.F.M villages	To increase soil nutrient Management system	Increase soil productivity	State Forest Development Agency	Increase soil productivity