



**REBUILDING KUTTANAD
SUSTAINABLE AGRICULTURAL
DEVELOPMENT AND ECO-RESTORATION**

KUTTANAD PACKAGE II

DRAFT PROPOSAL

(Prepared by IRTCBSF, Kuttanad)

**DEPARTMENT OF AGRICULTURE AND
FARMERS WELFARE**

OCTOBER 2019

A.FLOOD MANAGEMENT/WATER MANAGEMENT

Environmental flow Management

- 1 Improving Drainage-Flow Augmentation in Blocked Water Ways (1500kr)
Desilting of water bodies-Vembanad lake**
- 2 Establishment/ Formation/ of Bye Pass Canals for Flood amelioration**
- 3 Flawless maintenance of TSW (Thottappally Spill Way):-
a.Widening of sea mouth at Thottappally, removing sand bar and Vegetat
b.Widening and deepening of TS canal up to Veeyapuram
c. Renovation of Thottappally Spillway Shutters_(TSW) shutter-Rectifica
of the Mechanical defects**
- 4 Formation of break water ‘groynes’ *Pulimuttu* at bar mouth TSW**
- 5 Construction of additional culverts and tunnels**
- 6 River bank protection ,Vegetating banks of rivers and rivulets**
- 7 Establishing flood forewarning system; at CWC on line monitoring**
- 8 Land/Waterscape management Flood season land use interventions in fl
plains**
- 9 Ring bunds Protection and bio bunding for Kuttanad padsekharms**
- 10 Padasekharams as flowthrough structures: provision for sluices ,
hydraulic shutter mechanism**
- 11 Derelict padasekharams as Fresh water reservoirs- flow augmenta
against salinity intrusion**
- 12 Renovation of Azhies & Pozhies: establishing connectivity to coastal seas**

B.SALINITY MANAGEMENT

- 13 Enhancing operational efficiency of TMB- limiting closures period to essential periods
- 14 Establishment of people participatory management body for coordination of TMB operations
- 15 Construction / of fish passes/fish ladders – managing TMB as fish friendly structures
- 16 Establishing regulators at orumuttu points
- 17 Salinity management though lean flow augmentation;
- 18 Developing /Enforcing crop calendar for Kuttanad rice farming –Establishment of inter departmental set up
- 19 Strengthening of Registered Seed Growers Program (RSGP)
- 20 Project support for seed multiplication& Certified seeds production

C.ENVIRONMENTAL MANAGEMENT

- 21 Development of STP facilities in Kuttanad
- 22 Utilization of derelict/ uncultivated wetlands as rain water harvesting freshwater storage structure
- 23 Declaration & management of Ecotone around open Vembanad lake
- 24 Establishing a continuous Environmental surveillance system for continuous monitoring, documentation
- 25 Control and utilization of aquatic weeds;
 - a.Mechanical and manual weed harvesting
 - b. Mobile composting units
 - c. Animal & Fish feed

	d. Handicrafts, souvenirs, , semi-industrial products, bio plastics,/bio gas etc
	e. Floating Raft Agriculture
26	Revitalization of biodiversity of Kuttanad in tune with GIAHS for achieving nutrition and livelihood security

D.LIVELIHOOD ENHANCEMENT PROGRAMME

Agriculture

27	Continuous program for soil health monitoring, physicochemical quality and biological monitoring of soil flora and fauna
28	Development of GIS based soil monitoring information system
29	Promoting slow release fertilizers
30	Production and distribution of bio control agents / bio fertilizers
31	River silt based organic manure development programme
32	Conservation of prioritized Agro biodiversity components ; crops, livestock & fish etc
33	Germplasm inventory, evaluation ,gene banking of endemic biodiversity establishment of National Germ plasm Centre in Kuttanad
34	Establishment pest forecasting centers, UAV system for Aerial pest survey plant health clinic
35	Strengthening Research and Extension (R& D Centres)
36	Demonstrations on -precision farming or poly house farming
37	Promoting sugar cane farming in flood plains and river belts or promoting GI products, Integrated vegetable farming in riverine flood Plains
38	Agro machinery Service Centre , Custom Hiring Centre, Establishment of karshika karmasena
39	Dewatering Operation – Increasing efficiency of pumping device
40	Developing coconut based integrated farming models– bio enterprise initiatives coconut based bio village , aqua parks reviving coconut along bund , dykes etc

41	Infrastructure for IFS development(Multi commodity farming rice-fish-duck-buffalo farming system)
42	Declaration -Special Agricultural Zone(SAZ)- Kuttanad
43	Enlarge Markets for Kuttanadan Food and Agricultural products –Establishment of rice park ,GIAHS branded products
	Fisheries
44	Project support for popularization of <i>One paddy one fish and</i> Pen culture in seasonal paddy lands
45	Development and popularization of open water aquaculture systems-fish culture, Cage enclosures
46	Waste management at source – waste utilization in agriculture / aquaculture waste to food fish and animal based integrated farming systems
47	Projects support of fish ranching , fish seed – fishery enhancement
48	Establishment of Fish Sanctuary
49	Establishment of Fish hatcheries
50	Ecological protection of clam beds , relaying of clam, in lakes and paddy fields ,clam meat processing and products developments
51	Livelihood support during forbidden fishing season, credit facilities for fishers
	Animal Husbandry
52	Project support of elevated cattle sheds in Kuttanad
53	Establishment of duck hatchery and avian disease surveillance centre in kuttanad
E. Tourism	
54	Promoting model agro tourism units
55	Centre for Kuttanad Heritage and GIAHS Development

BUDGET

SI No	ECORESTORATION AND RECONSTRUCTION OF KUTTANAD Kuttanad Package- Phase II- Proposal	Outlay (Rs. in Cr)
A	Water Management	
1	Improving Drainage-Flow Augmentation in Blocked Water Ways (1500km) Desilting of water bodies-Vembanad lake	80.00
2	Establishment/ Formation/ of Bye Pass Canals for Flood amelioration	150.00
3	Flawless maintenance of TSW (Thottappally Spill Way):- a.Widening of sea mouth at Thottappally, removing sand bar and Vegetation b.Widening and deepening of TS canal up to Veeyapuram c. Renovation of Thottappally Spillway Shutters_(TSW) shutter-rectification of the Mechanical defects	200.00
4	Formation of break water 'groynes' <i>Pulimuttu</i> at bar mouth TSW	10.00
5	Construction of additional culverts and tunnels	24.80
6	River bank protection ,Vegetating banks of rivers and rivulets	30.00
7	Establishing flood forewarning system; at CWC on line monitoring	4.00
8	Land/Waterscape management Flood season land use interventions in flood plains	100.00
9	Ring bunds Protection by appropriate meand including bio bunding for Kuttanad padsekharms	700.00
10	Padasekharams as flowthrough structures: provision for sluices with hydraulic shutter mechanism	86.80
11	Derelict padasekharams as Fresh water reservoirs- flow augmentation against salinity intrusion	7.50
12	Renovation of Azhies & Pozhies: establishing connectivity to coastal seas	100.00
Subtotal		1493.1

B	Salinity Management	
13	Enhancing operational efficiency of TMB- limiting closures period to essential periods	5.00
14	Establishment of people participatory management body for coordination of TMB operations	0.50
15	Construction / of fish passes/fish ladders – managing TMB as fish friendly structures	15.00
16	Establishing regulators at orumuttu points	10.00
17	Salinity management through lean flow augmentation;	30.00
18	Developing /Enforcing crop calendar for Kuttanad rice farming – Establishment of inter departmental set up	10.00
19	Strengthening of Registered Seed Growers Program (RSGP)	7.50
20	Project support for seed multiplication & Certified seeds production	5.00
Subtotal		83.00
C	Environmental Management	
21	Development of STP facilities in Kuttanad	50.00
22	Utilization of derelict/ uncultivated wetlands as rain water harvesting freshwater storage structure	50.00
23	Declaration & management of Ecotone around open Vembanad lake	5.00
24	Establishing a continuous Environmental surveillance system for continuous monitoring, documentation	3.00
25	Control and utilization of aquatic weeds; a. Mechanical and manual weed harvesting b. Mobile composting units c. Animal & Fish feed d. Handicrafts, souvenirs, semi-industrial products, bio plastics/ biogas etc e. Floating Raft Agriculture	32.00
26	Revitalization of biodiversity of Kuttanad in tune with GIAHS for achieving nutrition and livelihood security	2.00
Subtotal		142.00
D	Livelihood Enhancement Programmes	
	Agriculture	

27	Continuous program for soil health monitoring, physicochemical quality and biological monitoring of soil flora and fauna	5.00
28	Development of GIS based soil monitoring information system	3.00
29	Promoting slow release fertilizers	7.50
30	Production and distribution of bio control agents / bio fertilizers	3.00
31	River silt based organic manure development programme	5.00
32	Conservation of prioritized Agro biodiversity components ; crops, livestock & fish etc	5.00
33	Germplasm inventory, evaluation ,gene banking of endemic biodiversity establishment of National Germ plasm Centre in Kuttanad	5.00
34	Establishment pest forecasting centers, UAV system for Aerial pest survey plant health clinic	3.00
35	Strengthening Research and Extension (R& D Centres)	5.00
36	Demonstrations on -precision farming or poly house farming	2.00
37	Promoting sugar cane farming in flood plains and river belts or promoting GI products, Integrated vegetable farming in riverine flood Plains	2.00
38	Agro machinery Service Centre , Custom Hiring Centre, Establishment of karshika karmasena	50.00
39	Dewatering Operation – Increasing efficiency of pumping device	60.00
40	Developing coconut based integrated farming models– bio enterprise initiatives coconut based bio village , aqua parks reviving coconut along bund , dykes etc	30.00
41	Infrastructure for IFS development(Multi commodity farming rice-fish-duck-buffalo farming system)	10.00
42	Declaration -Special Agricultural Zone(SAZ)- Kuttanad	5.00
43	Enlarge Markets for Kuttanadan Food and Agricultural products – Establishment of rice park ,GIAHS branded products	30.00
Subtotal		230.5
	Fisheries	
44	Project support for popularization of <i>One paddy one fish and</i> Pen culture in seasonal paddy fields	15.00
45	Development and popularization of open water aquaculture systems-fish	10.00

	culture, Cage enclosures	
46	Waste management at source – waste utilization in agriculture / aquaculture waste to food fish and animal based integrated farming systems	5.00
47	Projects support of fish ranching , fish seed – fishery enhancement	10.00
48	Strengthening and maintenance of established Fish Sanctuary	03.00
49	Establishment of Fish hatcheries	07.00
50	Ecological protection of clam beds , relaying of clam, in lakes and paddy fields ,clam meat processing and products developments	5.00
51	Livelihood support during forbidden fishing season, credit facilities for fishers	10.00
Subtotal		65.00
	Animal Husbandry	
52	Project support of elevated cattle sheds in Kuttanad	10.00
53	Establishment of duck hatchery and avian disease surveillance centre in kuttanad	15.00
Subtotal		25.00
	Tourism	
54	Promoting model agro tourism units	10.00
55	Centre for Kuttanad Heritage and GIAHS Development	5.00
		15.00
Total		2053.60