

**TAMIL NADU IRRIGATED AGRICULTURE MODERNIZATION
AND WATER-BODIES RESTORATION AND
MANAGEMENT PROJECT**



ANNUAL REPORT

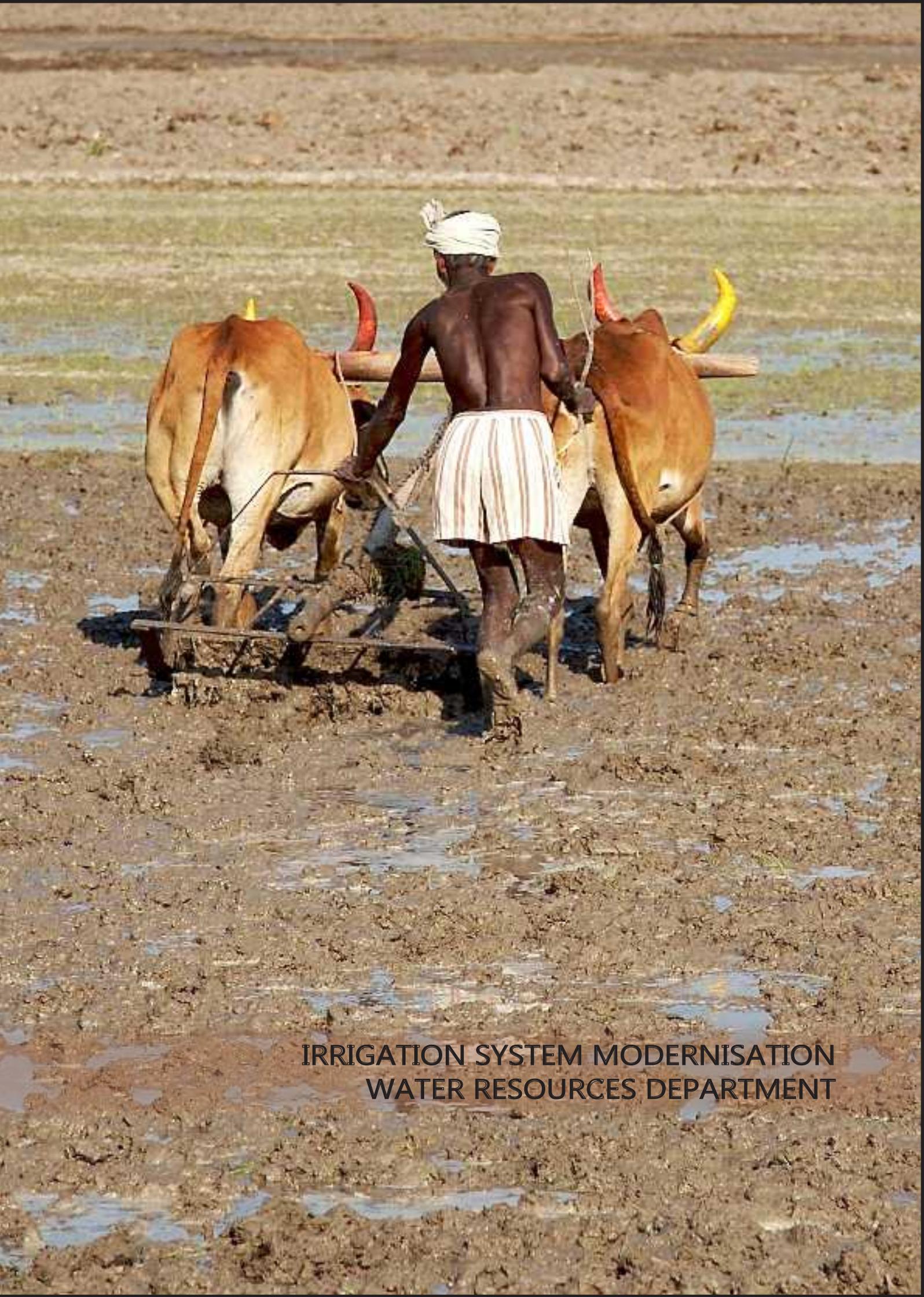
2012-2013



CONTENTS

S.No	Title	Pages
1	Introduction	07
2	Component A Irrigation System Modernisation Water Resources Department	12
3	Component B Agricultural Intensification and Diversification	18
	2.1. Agriculture	20
	2.2 Horticulture	29
	2.3 Agricultural Engineering	33
	2.4 Tamil Nadu Agricultural University	36
	2.5 Agri Marketing & Agri Business Department	38
	2.6 Animal Husbandry Department	42
	2.7 Fisheries Department	44
4	Component C Institutional Modernisation: (WRD)	48
5	Component E Project Management Support	49
6	PROJECT EXPOSURE VISIT BY OTHER COUNTRIES / STATES	54





**IRRIGATION SYSTEM MODERNISATION
WATER RESOURCES DEPARTMENT**

Tamilnadu Irrigated Agriculture Modernisation and Water-Bodies Restoration and Management - (TN-IAMWARM PROJECT)

Introduction

The TN-IAMWARM Project with an outlay of Rs.2547 crores is being implemented in four phases over a period of six years till 2013 by eight departments to benefit 6.70 Lakh hectares in the selected 61 sub basins of Tamilnadu. The irrigation infrastructures like tanks, anaicuts etc are the backbone of the irrigated areas. Project activities involve tank system modernization by restoring & repairing water bodies, improving canal irrigation system through repair and rehabilitation, besides crop diversification and improving application efficiency at farm level for increased productivity of water supplemented by livelihood improvement through livestock productivity and inland aquaculture.

Scope

The Project seeks to converge activities of eight departments dealing with the aim of "More income per drop of water". The Project covers 61 Sub Basins in 26 Districts.

Development Objective

To increase irrigated agricultural productivity in a sustainable water resources management framework in selected sub-basins. The Project aims to improve the service delivery of irrigation systems and productivity of irrigated agriculture with effective integrated water resources management involving a multi disciplinary approach.

Project Implementation

The Project was initiated in the year 2007-08 with Project closing as 31.03.2013 and now this Project period has been extended by 18 Months i.e., upto 30.09.2014.

The Project is being implemented by 8 departments under the Coordination of Water Resources Department in a sub-basin framework. The other departments are Agriculture, Horticulture, Agricultural Engineering Department, Tamilnadu Agricultural University, Agri. Marketing, Animal Husbandry and Fisheries.

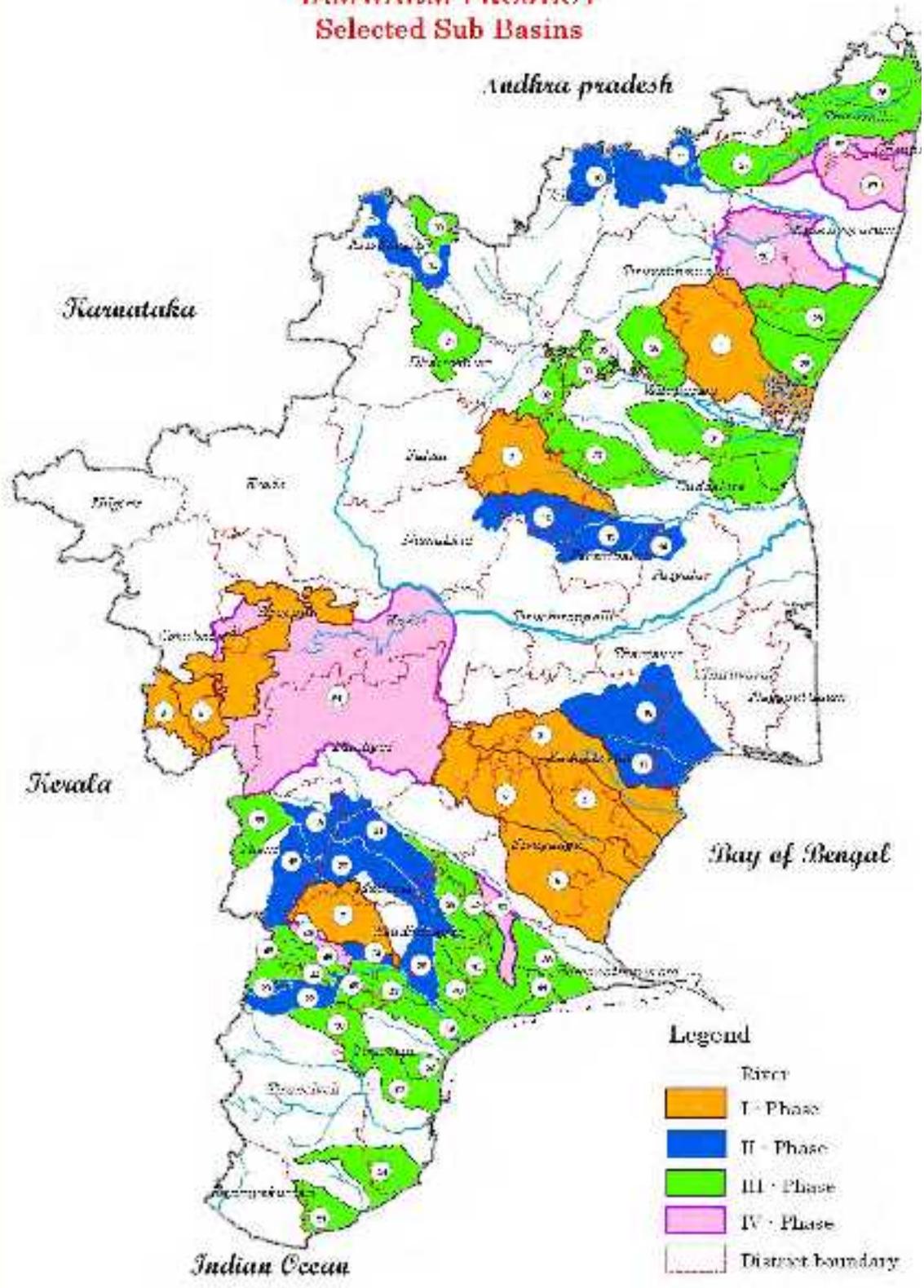
The Project is implemented in 4 phases as detailed below:

Phase	Sub Basins	Year of Initiation	Irrigated Ayacut (in Hectares)
I	9	2007	289498.47
II	16	2008	67206.21
III	30	2010	182119.18
IV	6	2012	130330.56
		Total	669154.42

Project Outlay – The Project outlay has been allocated to all the 8 Departments

Department	Outlay in (Rs. Crores)
1. Water Resources Department	1570.00
2. Agriculture	98.00
3. Horticulture	73.00
4. Agri. Engineering	339.00
5. Agri-Marketing	92.50
6. TNAU	88.90
7. Animal Husbandry	39.30
8. Fisheries	17.30
Total Base cost	2318.00
Physical and Price Contingencies	229.00
Total	2547.00

**IAMWARM PROJECT
Selected Sub Basins**



I Phase

1. Varahanadhi
2. Upper Vellar
3. South Vellar
4. Pambar
5. Manimuthar
6. Kottakkarayar
7. Arjunanadhi
8. PAP - Aliyar
9. PAP – Palar

II Phase

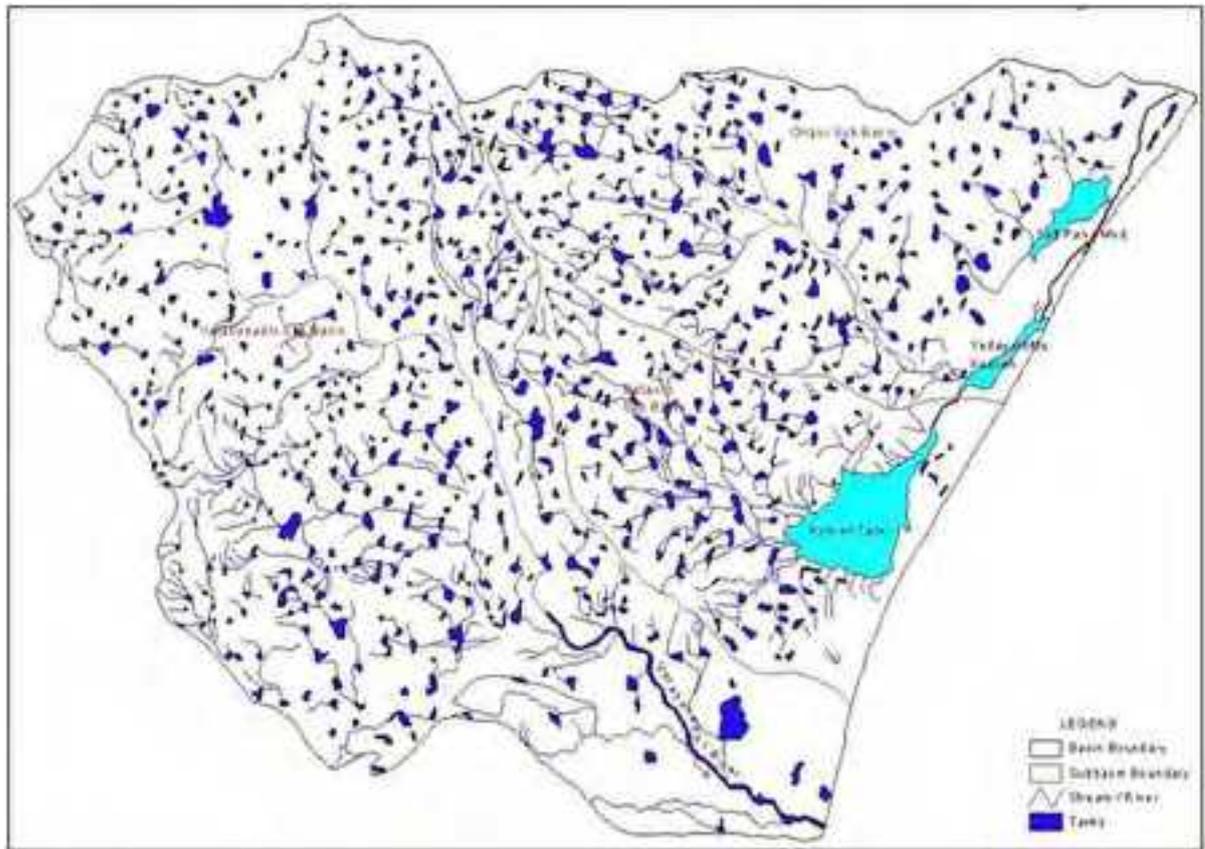
10. Koundinyanadhi
11. Poiney
12. Upto Krishnagiri (Ponniyar)
13. Swethanadhi
14. Anaivari odai
15. Chinnar
16. Agniyar
17. Ambuliyar
18. Upper Vaigai
19. Varattar - Nagalar
20. Upper Gundar
21. Therkar
22. Nichabanadhi
23. Kalingalar
24. Sindapalli Uppodai
25. Senkottariyar

III Phase

26. Araniyar
27. Kosasthalaiyar
28. Nallavur
29. Ongur
30. Markandanadhi
31. Kambainallur
32. Kovilar (Kottapattikallar)
33. Pambanar Verattar
34. Gadilam
35. Pambar to Tirukoilur
36. Thurinjalar
37. Gomukinadhi
38. Kanal odai
39. Uthirakosamangai
40. Vembar
41. Palar
42. Girdhamal
43. Lower Gundar
44. Deviar
45. Nagarier
46. Sevalaperiyar
47. Uppathur
48. Vallampatti
49. Main River(Vaippar)
50. Uppodai
51. Hanumannadhi (Nambiyar)
52. Karumeniar
53. Salikulamer
54. Korampallam Ar.
55. Theniar

IV Phase

56. Cooum
57. Adyar
58. Cheyar & Kiliyar
59. Kayalkudiyar
60. Paralaiyar
61. Amaravathi



" Using smart water management and planting practices, farmers in Tamil Nadu Project have increased rice yields between 30 and 80 per cent, reduced water use by 30 per cent, and now require significantly less fertilizer. This emerging technology not only addresses food security but also the water scarcity challenge that climate change is making all the more dangerous. These are all lessons for our world. "

Robert Zoellick, President, World Bank

Article Published in Hindustan Times, dated December, 2009

" We had very good learning experience. Thank you for all your efforts.
Very well organized and very much impressed. Very much impressed by the Project"

**Simeon K. Ehui Sector Manager, SASSD, World Bank,
Washington DC During World Bank visit on 22nd April, 2010**

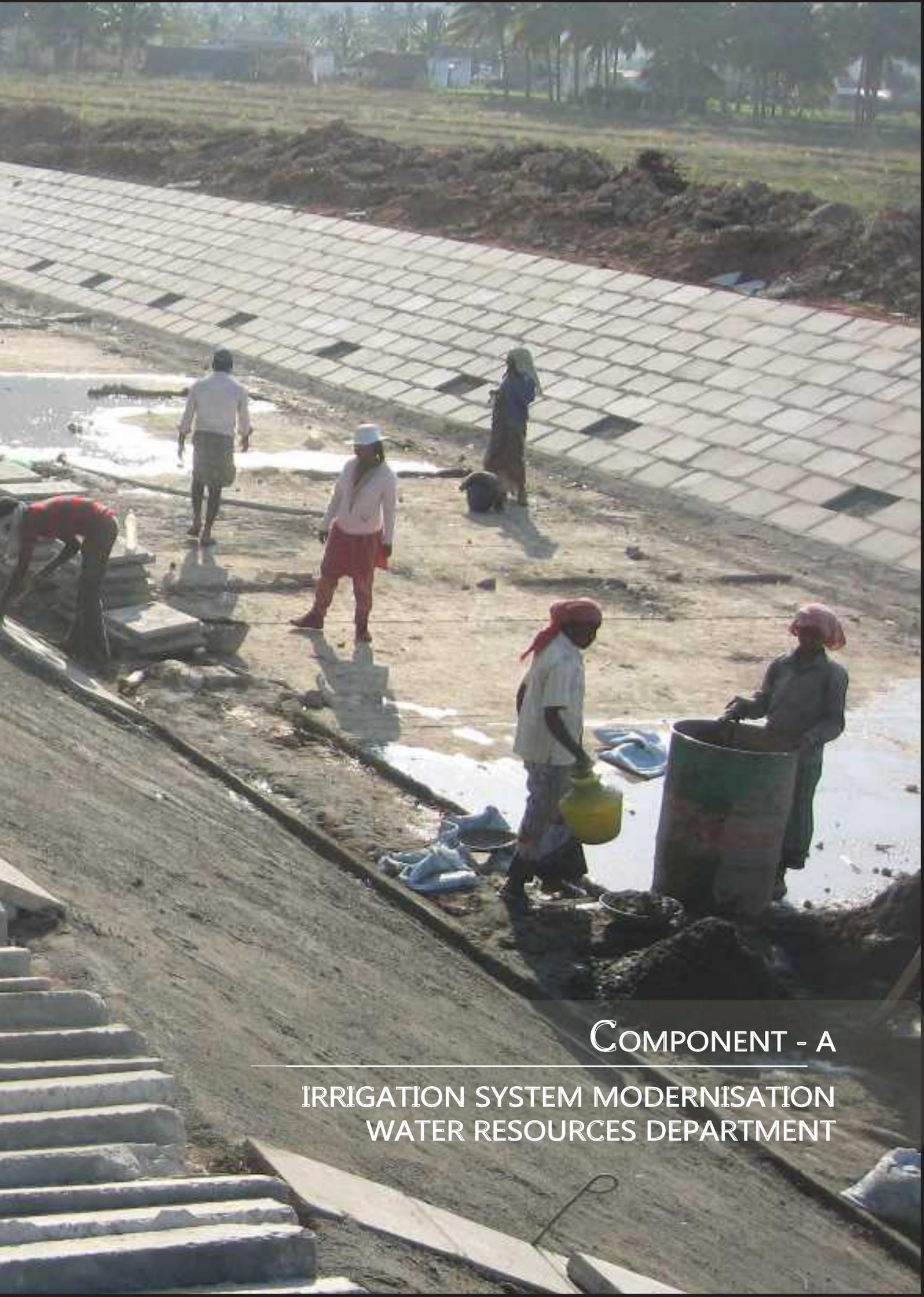
"Recently I have met IAMWARM Project officials. What amazed to me were the enthusiasm and the working spirit of government officials. The unique situation that I have witnessed in this project is the integrated working together of 7 government departments and TNAU. They have implemented SRI in 61,000 Ha. which is yielding more than double the normal productivity of rice.

**His Excellency Dr.APJ Abdul Kalam
speech on 06th Jan 2011 about IAMWARM Project**

" The Project is making good strides in achieving its objective. The trend of improved quality of tank and canal rehabilitation work observed over recent missions has been sustained. The participating line departments are continuing to make significant contributions to the Project through their work on field demonstrations and attention paid to achieving targeted impact areas"

**Extract of Aide Memoire of W.B. Mission
(September, 10th to 18th, 2012)**





COMPONENT - A

IRRIGATION SYSTEM MODERNISATION
WATER RESOURCES DEPARTMENT

Important Interventions

- Conveyance - Repair of Canals for minimizing wastage and improving efficiency.
- Storage - Rehabilitation of Tanks, Anaicuts, Channels by improving their holding capacity and flows.
- Recharge - Ground water recharge structures in over exploited sub basins.
- Management – Participatory Irrigation Management and SWaRMA.

Water Resources Salient Innovations



AFTER



AFTER



AFTER



BEFORE

WRD – Outcomes

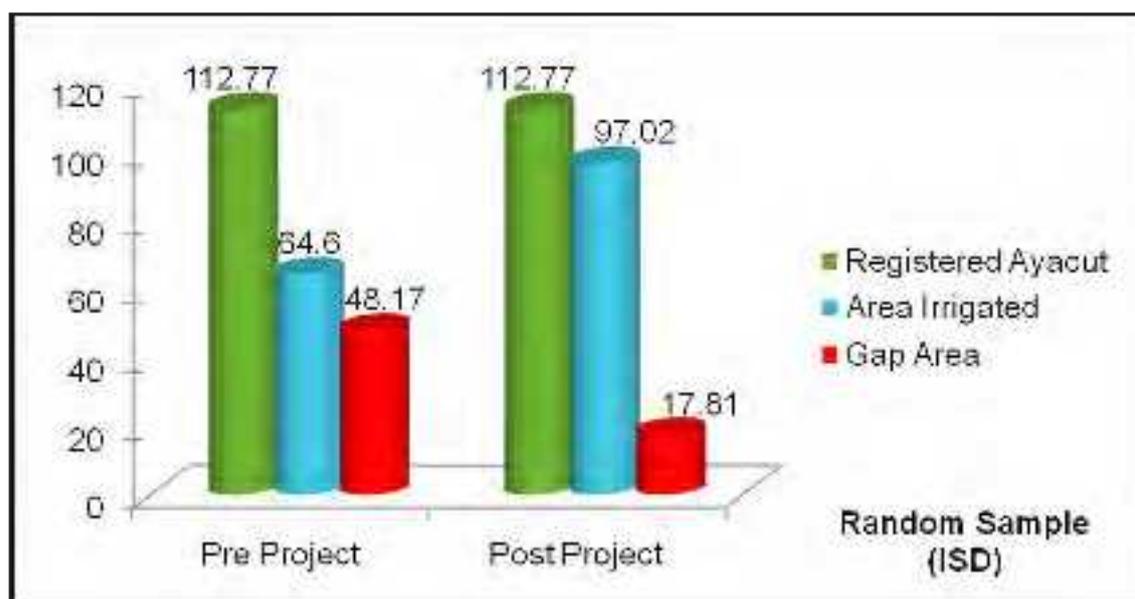
Objectives:

1. Irrigation Infrastructure Improvement

Rehabilitation works	Total	Completed
Tanks (Nos)	4910	3746
Anaicuts (Nos)	662	628
Supply Channel (Km)	8590	6824

2. Improved Water Delivery

Gap Area Change (Ha.)



WRD – Outcomes

1. Average storage capacity of tanks improved by 9%
2. Increased recharge in the Ground water 8 to 20m
3. Conveyance efficiency Improved to 97% (PAP)
4. 2344 WUAs formed.

Abinavam Tank Upper Vellar Sub Basin



Side Compaction with Plated Poiclains



Poosaripatti (PAP)



Pavers for canal Lining



WRD - Financial Progress

(Rs. in Crores)

Sl. No.	Phase	No. of Sub basins	No. of Packages	Agreement Value	Financial Progress		Total Expenditure	Percentage of Expr. against Agreement
					Exp. During the year (2007-2012)	Exp. During year (2012-2013) upto 28.02.2013		
1	I	9	76	463.64	431.96	10.55	442.51	95.44
2	II	16	43	199.95	176.35	9.54	185.89	92.97
3	III	30	136	440.91	200.37	173.37	373.74	84.77
4	IV	6	69	318.03	6.34	223.24	229.58	72.19
Total		61	324	1422.53	815.02	416.70	1231.72	86.59

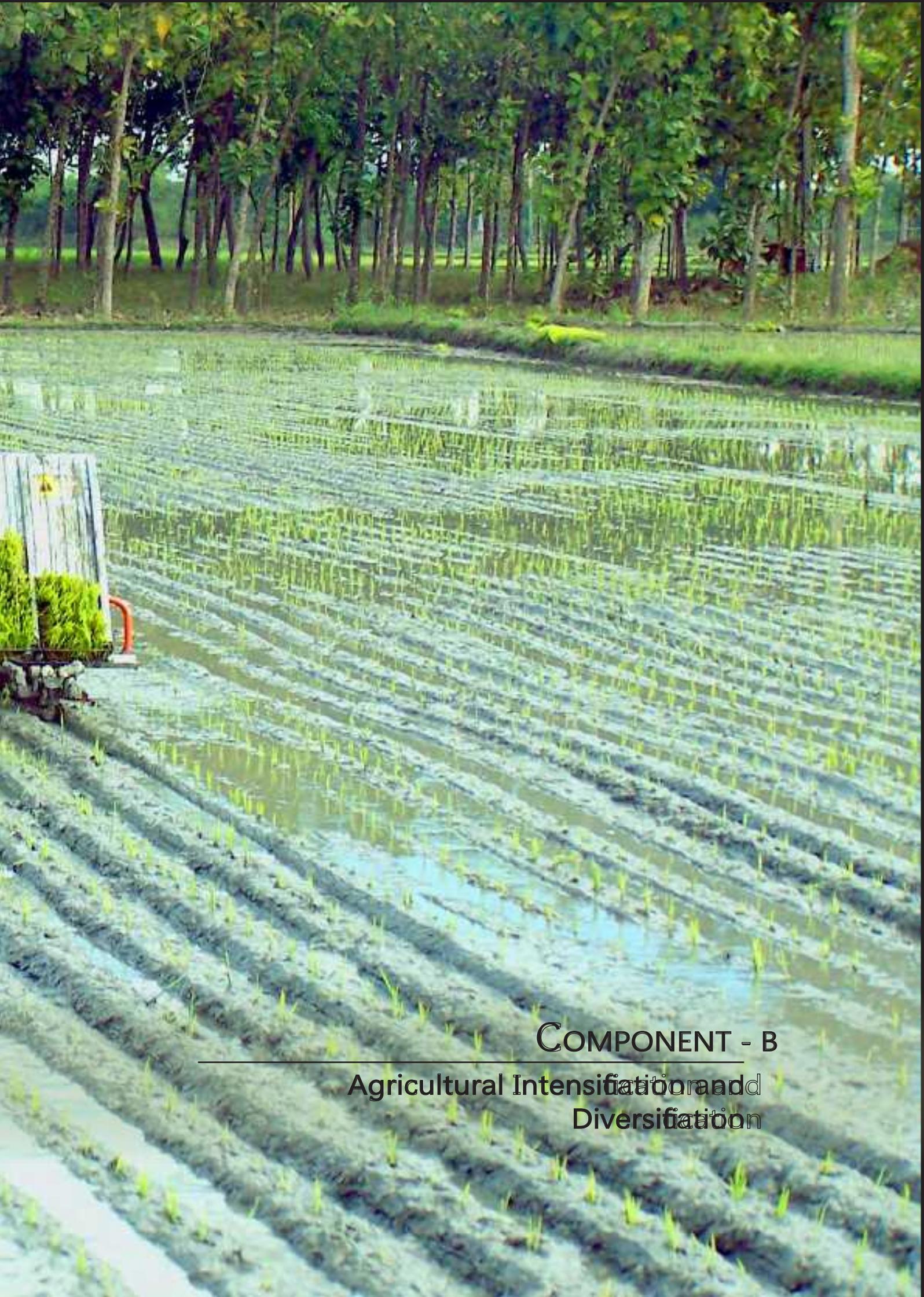
WRD - Procurement Status **(Rs. in Crores)**

Sl. No.	Phase	Total Packages		Works Awarded		Works Completed		Works in Progress	
		Nos.	(Rs. in Crores)	Nos.	(Rs. in Crores)	Nos.	(Rs. in Crores)	Nos.	(Rs. in Crores)
1	Phase-I	76	449.308	76	449.308	76	449.308	-	-
2	Phase-II	43	189.053	43	189.053	43	189.053	-	-
3	Phase-III	136	451.615	136	451.615	101	292.104	35	159.511
4	Phase-IV	69	310.921	69	310.921	8	24.245	61	286.676
	Total	324	1400.897	324	1400.897	228	954.710	96	446.187

Note:

1. Lining of Channels etc. at a cost of Rs.71.50 Crores (21 Packages) procurement under progress.
2. G.O. for an Amount of Rs.236.45 Crores towards additional works in 25 Sub Basins for rehabilitating Tanks, Anicuts and Supply Channel is obtained and Procurement under process.
3. Administrative Sanction for additional works in Paralaiyar Sub Basin for Rs.22.28 Crores is in process.





COMPONENT - B

Agricultural Intensification and Diversification

Agriculture

Based on the improved bulk water delivery anticipated through irrigation systems, increase in productivity of agriculture through agricultural intensification and diversification, was programmed. Major activities under different Departments are as follows.

2.1. Agriculture

Salient Activities and Achievements

Agriculture Department focuses on increasing the productivity of agricultural crops through improved Agricultural intensification and diversification. It was programmed by sustaining soil health and transfer of technology from lab to land by laying out crop demonstrations in the farmers' fields. Crop Demonstrations are of strategic importance and are conducted in clusters on Farmers Field School (FFS) mode and spread throughout the sub-basins.

Objectives

- Agricultural intensification
- Improved productivity

Special Innovations

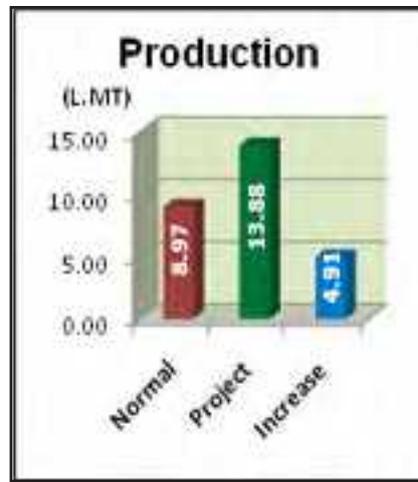
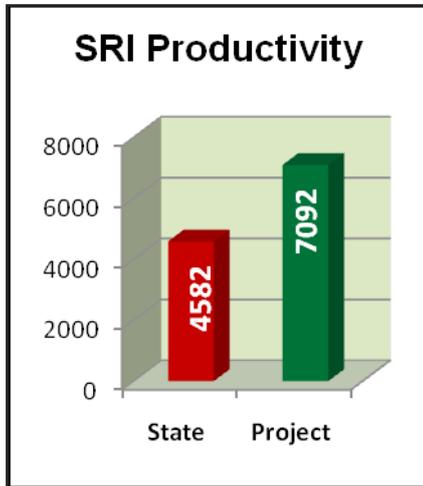
- New cropping cycle Green Manure - SRI – Pulses is introduced to enrich soil fertility and increase productivity
- Better Innovation

Crop	Intervention (Ha.)		Impact (Ha.)
	Target	Achmt.	Achmt.
SRI	35164	35164	143956
MAIZE Mission	10479	10479	54851
PULSES Mission	15833	14902	54928
Others	12632	12551	58118
Total	74108	73096	311853

S.R.I Mission

Project Success

Cropped Area (Ha.)			Productivity (kg./Ha.)		Production (L.MT.)		
Demo.	Impact	Total	State	Project	Normal	Project	Increase
53042	201085	254127	4582	7092	11.644	18.023	6.378



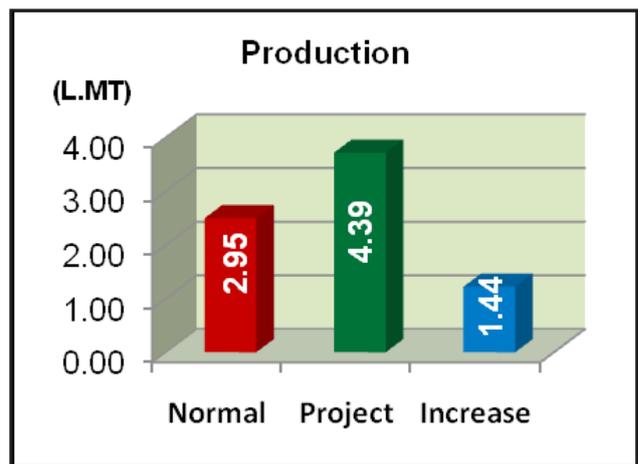
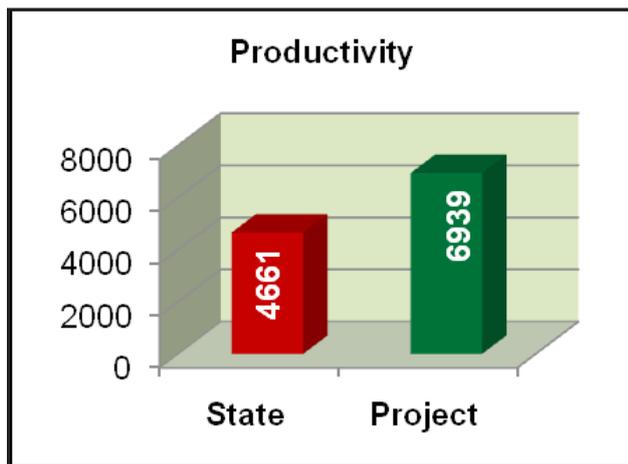
Agriculture, TNAU & Agri. Marketing



Crop Diversification with Hybrid Maize

Project Success

Cropped Area (Ha.)			Productivity (kg./Ha.)		Production (L.MT.)		
Demo.	Impact	Total	State	Project	Normal	Project	Increase
11953	61535	73488	4661	6939	3.425	5.099	1.675



சென்னை மாநகராட்சி
செயல்பாட்டு அலுவலகம்
சென்னை

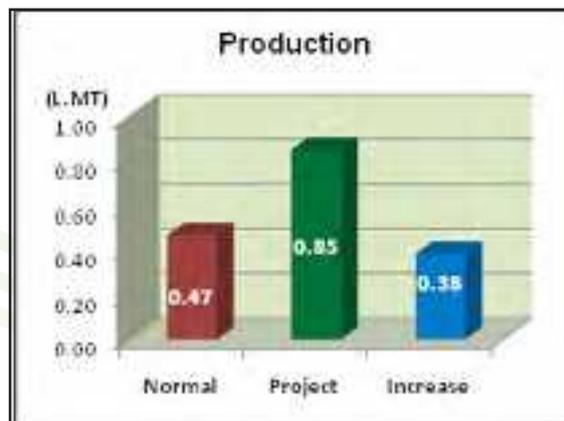
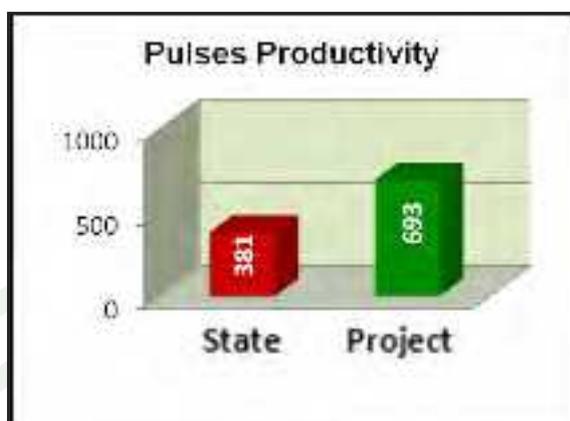
Agriculture, TNAU & Agri. Marketing



P. P. P. - Pulses Mission

Outcome

Cropped Area (Ha.)			Productivity (kg./Ha.)		Production (L.MT.)			Value (in Crores)
Demo.	Impact	Total	State	Project	Normal	Project	Increase	
28005	94668	122673	381	693	0.467	0.850	0.383	133.959



Converged Pulses Mission

Objectives

- To Increase Productivity of Pulses.
- To offer Increased Returns to the Farmers and also Fair Price to the Consumers.
- To Utilize the Efficient Practices of Private Sector ie. M/s. TATA Sons for Increased Production and Marketing of Pulses.

Agriculture, TNAU & Agri. Marketing



Glimpses from the field

SRI – Crop Demonstration

SRI – Crop Demonstration:

- Mrs. T. Amalarani is a Demo Farmer during 2008-09 living in Ramanadapuram Village of Vasudevanallur Block, now sustained and planted TRY(R) -2 variety in Phase II - Kalingalar Sub-basin of Tirunelveli District.
- By following the guidance of Project Officials, she has obtained an yield of 18144 kg/Ha. as against the normal yield of 9650 kg/Ha.
- This is 188% more than the conventional methods.
- Adaption of SRI cultivation practices including usage of improved variety has helped her to achieve this increased yield.
- She was awarded for Best Female Farmer from the President, GOI, during the "Krishi Karman Award" in New Delhi on 15.01.2013.
- District Collector honoured her, as she had won the National Award for achieving the recorded yield as "Woman Farmer" from the district.





Financial

(Rs. in Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
56.78	29.48	10.26	67.03

Incremental Yield and Income

(M&E External evaluation)

Activity	Number of Farmers	Area (Ha)	Incremental Yield (Kg/Ha)	Value of Incremental Yield (Rs/Ha)
SRI	463	427	1034	8781
Pulses	212	179	170	6000
Ground Nut	71	78	674	1971



2.2. Horticulture

Objectives

Area expansion by way of diversification to high value Horticulture crops

Salient Activities and Achievements

Area Expansion is done by diversification of high water, low income crops to low water, high income horticulture crops. Farmers are encouraged and guided to take up fruits, vegetables, flowers, spices, medicinal plants and plantation crops under the project.

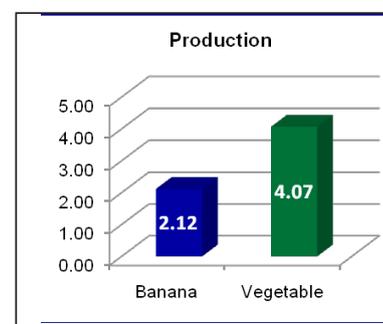
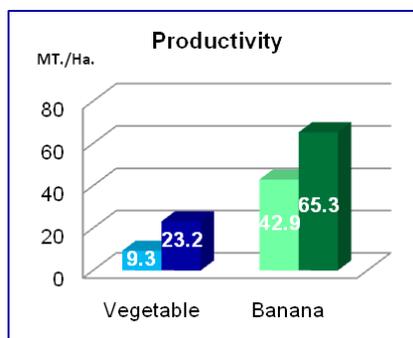
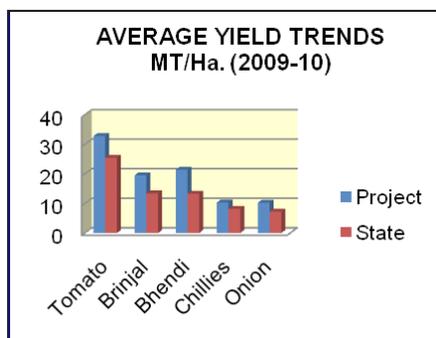
Required hybrid seeds, quality grafts and other inputs are supplied to the farmers at free of cost well before each season. Crop specific trainings are imparted to the farmers well before each season covering the latest crop production technologies so as to get higher yield and income.

The stakeholders are also encouraged to take up the crops again and again and guided technically without any financial assistance so as to sustain the crops. Farmers are also guided and encouraged to take up micro irrigation for horticulture crops through Horticulture Department as well as Agriculture Engineering Department and assisted to form commodity groups for the focus crops of the area in co-ordination with the Agriculture Marketing Department to get better price for the produce.

Outcome

Activity	Target	Achmt.
1. TC Banana (Ha.)	4188	4174
2. Vegetables (Ha.)	23956	21941
3. Others (Ha.)	18928	15790
Total (Ha.)	47072	42123





Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
52.87	13.23	11.05	63.92

Incremental Yield and Income (M&E External evaluation)

Activity	Number of Farmers	Area (Ha)	Incremental Yield (Kg/Ha)	Value of Incremental Yield (Rs/Ha)
Bhendi - Hybrid	60	31	2435	25000
Tomato - Hybrid	4	2	20000	100000
Banana - TC	4	4	19000	150000

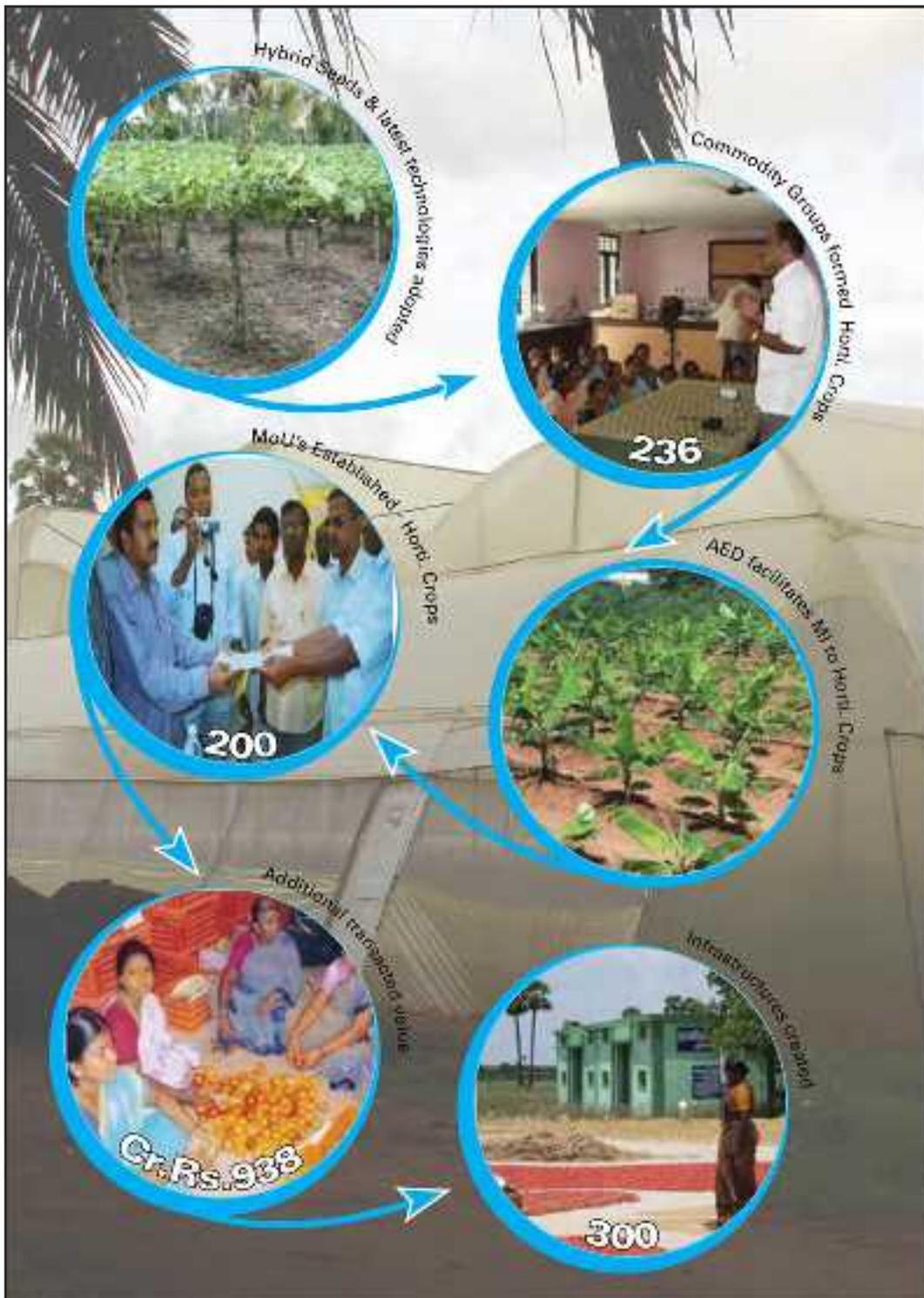
Sustainability of Major Interventions External Evaluation

Sl. No.	Intervention	No. of Farmers Adopted	Sustainability	No. of Farmers Impacted
1	SRI	450	379 (84.2)	969 (215.3)
2	Pulses	176	164 (93.2)	330 (187.5)
3	Vegetables	74	59 (79.7)	115 (155.4)

Note: Figures in Parentheses are in percentage

Converged Horticulture Program

DoH, TNAU, AED & Agri. Marketing



Glimpses from the field

MULCHING AND DRIP ENHANCES YIELD IN VEGETABLES

**Farmer**

Thiru. Baskar

Village

Keelmaruvathur

Sub Basin

Ongur

Area

50 Cent

Yield

20 MT

Gross Income

Rs.2,00,000/-

Total Expenditure

Rs.40,000/-

Net Income

Rs.1,60,000

Conventional method**Yield (50 cents)**

6 MT

Gross income

Rs. 60,000/-

Expenditure

Rs. 15,000/-

Net income

Rs. 45,000/-

Increased net income

Rs. 1,15,000/-

2.3. Agricultural Engineering

Objective

- Water Productivity

Salient Activities and Achievements

Micro Irrigation Systems have been installed in 28198 ha. 2117 farm ponds have been constructed, 800 Farm Machineries have been procured and distributed to the Water Users' Associations, 681 numbers of Water Harvesting Structures have been constructed and 12 packages of Improved water conveyance using PVC pipes have been laid in Phase-I, II and III sub-basins.

Activity	Target	Achmt.
Micro Irrigation (Ha.)	34429	31893
Farm pond (Nos.)	2167	2138
Farm Mechanisation (Nos.)	800	800

Financial:

(Rs. in Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
70.22	82.02	38.02	108.24



Glimpses from the field



MICRO IRRIGATION SYSTEMS (MIS):

(a.) Drip Irrigation Systems (DIS):

Tmt. Mylathal, of Palar sub basin in Coimbatore district, in 1 Ha of land, was able to grow Chillies as second crop, in addition to first crop of Onion, with the saving in available water and thereby realizing an additional income of Rs 1.75 lakhs due to adoption of Drip irrigation system.

(b.) Sprinkler Irrigation Systems (SIS):

Thiru. Palani of Kariamangalam block of Kambainallur sub basin in Dharmapuri district, by adopting sprinkler irrigation system could irrigate 1 Ha of Tapioca & Groundnut with just 15 feet of water in the well, prior to which, he was only able to irrigate only 0.2 to 0.3 Ha by surface method.

CONSTRUCTION OF FARM PONDS:

Thiru. Gurunathan of Upper Vellar sub-basin in Salem district got an additional income by selling fish to a tune of Rs.1.05 lakhs through fish culture in Farm Ponds constructed by the project.





WATER CONVEYANCE THROUGH BURIED PIPE LINE SYSTEM

(a.) Viruvidampalayam distributory

A Water Trading Concept:-Irrigation water saved during canal period by group of farmers of one sluice can be traded to the other group of farmers in the alternate sluice of non-canal period in the same command for increasing the cropping area.

Benefits:

- Farmers of both the sluices 5(R) and 7(R) get irrigation water every year.
- The number of irrigations was limited to '3' against the regular release of '6' irrigations.
- The off period which is usually 15 days was extended to even 25 days.
- The conveyance loss is almost "nil".
- The conjunctive use of ground water and canal water is being practiced successfully by inter connecting sump and well through inter linked NRVs.
- There is a considerable saving in energy by using stored water through Drip Irrigation distributed for 20 days.
- The intermediate uplands of 2.5 acre are irrigated first time with canal water.
- Around 15 acres of land as fallow in 2010 in 5R and 6 acres in 7R were brought under cultivation
- Cropped area is increased - almost doubled – 50 to 100 acres
- Productivity per unit volume of water is increased by approximately 3 times.
- Per capita income increased by approximately 2.5 times.

(b.) Deevanur Tank Ayacut:

By installing Buried PVC pipeline for water conveyance in Deevanur tank ayacut, in Varahanadhi sub basin in Villupuram district , there is operational synchronization between head and tail reach farmers in water distribution along with substantial savings in water, labour & electricit

2.4 Tamil Nadu Agricultural University

Objectives

- Promote Water Saving Technologies
- Promote Precision Farming
- Productivity Enhancement

Special Innovations

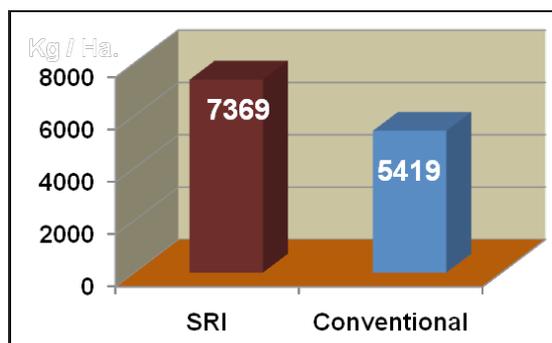
- SRI Mechanization
- e-Agri- Touch Screen, Market information.

Salient Activities and Achievements

The TNAU's main focus is on promoting water saving technology, Precision farming, diversification options and technology transfer. Successful SRI demonstrations were conducted in 17161 Ha and spread in 53533 Ha as impact area. 25 – 30 percent increase in yield was achieved through the SRI method. Under crop diversification, Improved Production Technology in Pulses demonstrations were laid in 20536 Ha and spread was achieved in another 43277 Ha.

Activity	Target	Achmt.
SRI (Ha.)	18647	18647
Pulses (Ha.)	20536	19899
Precision Farming (Ha.)	3677	3386
Others (Ha.)	8928	8481
Total	51788	50413

SRI Productivity (Kg/Ha)



Financial

(Rs. in Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
50.82	10.12	10.13	60.94

SSI - Doubling the productivity in Sugarcane

System of cultivation	Yield (t/ha)	Yield increase (%)	Water used (mm)	Water saving (%)
SSI	265	96.3	1750	27.0
Conventional	135	-	2400	-

Water Productivity

SSI - 0.66; Conventional - 1.78



e-Velanmai:

Sub Basins : 19 Nos
Phase I & II

Membership

Male : 4043
Female : 513
Total : 4556

Contribution: Rs. 2.833 Lakh.

Queries Raised /
Advices Rendered: 11,000

2.5 Agri Marketing & Agri Business Department

Objectives

- Market Orientation and Value addition.
- Market information and intelligence
- Strategise market linkages

Special Innovations:

- Pulses Mission PPP with M/S TATA
- Value addition in agricultural commodities

Salient Activities and Achievements:

To support farmers with Infrastructure and Technology, thereby enabling them to earn more income. This is being done by building Drying yards (158 Nos), Storage sheds (96 Nos), Collection Centres (18 Nos) and Agri Business Centres.

(23 Nos), Pack house-1 No, and Additional Infrastructure in ABCs-4 Nos.). Farmers are provided with Marketing Information through latest technologies. Farmers are grouped into Commodity Groups and facilitated by signing Memorandum of Understanding (MoU) with private companies for specific diversified crops.

Activity	Target	Achmt.
Storage shed, Drying yards etc (Nos.)	651	341
Commodity Groups (Nos.)	2500	2221
Turn Over (M.T)	-	214964
MoU (Nos.)	-	1688



Key Interventions

- Facilitating Post harvest technology, Storage, Reduction of post harvest losses and Avoidance of distress sale.
- Marketing activities which includes Aggregation of produce, Grading & Transportation aiding better returns.
- Providing linkages between Farmer groups & Agro entrepreneurs by facilitating MoUs.
- Ensuring holistic approach by addressing farmers' concerns through convergence with other line departments.



Financial

(Rs. in Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
28.22	21.82	17.44	45.66

A close-up photograph of a hand holding a groundnut plant. The plant has green leaves and a cluster of brown, textured groundnut pods attached to its roots. The background is a blurred green field.

Glimpses from the field

Gridhamal Sub Basin

Activities

- Ground nut commodity group formation.
- Post harvest trainings, grading, interface workshop, dissemination of market information and intelligence.
- MoU signed between CGs and M/S Chandrasekaran Oil mills, Aruppukottai

Benefits

CG Farmer : Mr. Angusamy & others

Total Groundnut Produce – 56 MT

Local Market Rate : Rs. 36000 per MT

MoU Rate : Rs. 38000 per MT

Additional income per MT : Rs. 2000

Additional income realized & shared by 20 farmers for 56 MT : Rs. 112000



Name of the Project	:	TN IAMWARM, PHASE-II
Name of the Sub Basin	:	Upper Gundar
Name of the Farmer	:	Thiru. Ramalinganagaiyasamy, S/o. Sundaralinganagaiyasamy, Saptur, Periaiyur Taluk, Madurai District.
Name of the Commodity Group	:	Pulses
Commodity Group	:	President
Total Land	:	2.50 Acre
Trader's Name	:	Gowmari Trading Company Melathirumanickam
Transaction through MOU (2011-2012)	:	800 Kg Green Gram Km.2
Local Market rate	:	Rs. 40/- Kg
Through MOU Rate	:	Rs. 42/- Kg
Total Transaction Value	:	Rs. 33600/-
Additional Profit	:	Rs. 1600/-
Farmer Feed Back	:	I have attended the post Harvest Technology Training at Mangalrev conducted by Marketing Department.

It was very useful to me particularly MOU Transaction method, Latest marketing systems, value addition use fullness & post harvest Technology.

2.6 Animal Husbandry Department

Objective

Livestock Health & Productivity

Salient Activities and Achievements:

For improving the production potential of livestock, 17.51 Lakh number of Artificial Insemination were done through the Project. Fodder cultivation was promoted in 12681 Ha to increase milk yield and reduce production cost.

Activity	Target	Achmt.
Artificial insemination (Lakh Nos.)	1814	18.14
Fodder cultivation (Ha.)	12711	12711

Financial:

(Rs. In Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
25.08	6.31	3.17	28.25

Key Interventions

- Upgrading cattle population and to produce quality cross bred calves
- Improving the health and Milk production of livestock through fodder development.
- Engaging unemployed veterinary graduates for door step service delivery.
- Improving awareness and knowledge levels of farmers through outreach programmes



Glimpses from the field

FERTILITY CAMPS & FOLLOW UP VISITS

Mr. Raja, S/o. Periyasamy, Thanneerpandal, Sengunam brought his Jersey Cross milch animal which was not conceived for the past 7 months inspite of repeated Artificial Insemination to IAMWARM Camp at Sengunam village, Chinnar Sub basin on 17.07.11. After treatment for infertility, his animal conceived and delivered female calf on 28.04.12 and it gives 10 litres of milk per day.

Now he is happy that his animal's value has increased substantially after calving. The care exercised by the Animal Husbandry Department under the IAMWARM Project has resulted in calving and raising the value of my animal to Rs.30000/-. Otherwise, He would have sold that animal for mere Rs.6000/- only. This has improved his house hold income by sale of milk and he is getting additional income by way of female calf.



2.7 Fisheries Department

Objective

Promoting Inland Aquaculture

Salient Activities and Achievements:

Aquaculture has been promoted in Farm Ponds as an additional income generating activity in 808 Ponds. Farmers were able to get a net revenue of about Rs.15,000/- per Pond (0.1ha) per crop. To meet the fish seed requirement, 227 seed rearing cages and 12 Fish seed banks have been established

Activity	Target	Achmt.
Aquaculture in Farm ponds (Nos.)	901	815
Seed Rearing in Cages (Nos.)	227	227

Financial

(Rs. in Crores)

Expr. for 2007-12	B.E. for 2012-13	Expr. for 2012-13 (upto 28.02.2013)	Cummulative Expr.
8.53	7.84	2.55	11.08

Key Interventions

- Timely availability of quality carp seeds when the irrigation tanks receive water by providing rearing and storing space for seeds.
- Additional income to agriculture farmers through aquaculture in irrigation tanks and farm ponds.
- Increase in overall fish production and water spread area under aquaculture.
- Hygienic fish marketing and better price to producer.

Glimpses from the field

Aqua Culture in Farm Pond

Sub Basin - South Vellar

- Name of the Farmer - Thiru. P. Palanivel,
- Fish seed stocked - Catla, Rohu, Mrigal & Grass Carp
Culture period - 8 Months

Harvest Details

- Total Kg of Fish harvested - 510
- Production per Ha - 5.10 tonnes
- Max. weight recorded - 2.5 Kg (Catla)
- Gross Revenue - Rs.38,250/-
- Net Profit - Rs.21,300/-
- Profit per Ha. - Rs.2.13 Lakhs

The Farmer is continuing the Aqua culture with his own investment.







COMPONENT - C, D, E

Institutional Modernisation
Water Resources Management (WRD)
Project Management Support

3.1. Formation of WUAs

Under Participatory Irrigation Management in Phase-I and II, out of 1333 elections for 1324 WUAs were conducted and in Phase-III, out of 1028 WUAs, elections for 1020Nos. were conducted. For the remaining Associations, elections are to be conducted by WRD shortly.

3.2. WUA Training

Training for 18610 Nos WUA Presidents/ Farmers/Officers/Staffs conducted through Irrigation Management Training Institute (IMTI).



State Water Resources Management Agency (SWRMA)

For environmentally and socially multidisciplinary Sustainable inter sector efficient Water Management & optimal water resources development in a river basin / sub basin framework, SWaRMA is functioning from 06.07.2012 vide G.O. Ms.No.58 dated 13.04.2009.

TOR for multidisciplinary consultancy and to develop a web enabled GIS based database prepared.

For pilot study in Vaippar River Basin, training imparted & GIS based thematic sub basin maps of Vaippar prepared.

Collection of data under process.

The rapid analysis of the various indicators is given in the following Tables.t

Rapid Assessment by M/s. SMEC Intervention-wise Incremental Income

Intervention by the Line Departments	Incremental Income (Rs/Ha/Beneficiary)
Agriculture	9,150 / ha
Horticulture	20,439 / ha
TNAU	25,744 / ha
AED	Drip 15,539 / ha Sprinkler 8,814/ ha Drip 15,539 / ha Sprinkler 8,814/ ha
DAH	4,860 / beneficiary
Agricultural Marketing	Rs.100 to 300 / qtl of Paddy / Maize Rs.2 to 7 / Kg Vegetables Rs.5 / tender Coconut
Fisheries	Rs.12,000 / Pond /Year



WATER RESOURCES MANAGEMENT

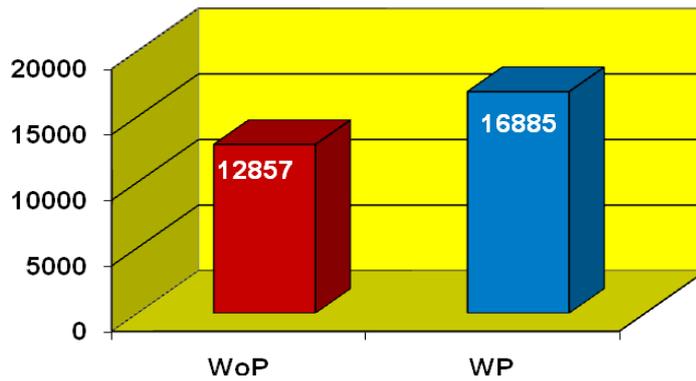
Incremental Yield and Net Value of Output – Per Ha.

Crops	Incremental Yield (Kg)	Value of incremental yield (Rs)
SRI	1045	10026
Maize	1890	14346
Pulses	420	13455
Vegetables	1518	13986
Sugarcane	21171	42343
Banana	11420	57602
Turmeric	359	18267
Tapioca	10690	23578
Coconut-nuts	2377	11374

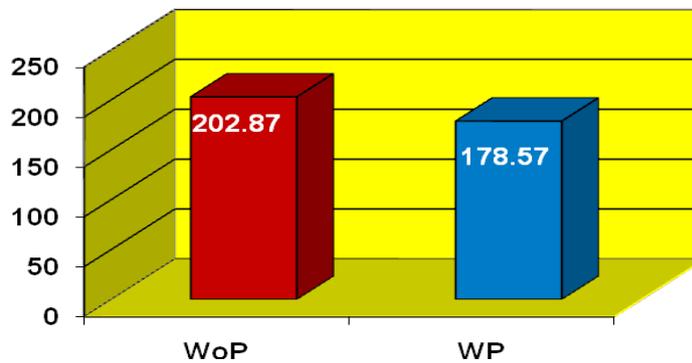


Project Development Impacts
Upper Vellar Sub Basin

Crop Area Coverage (Ha.)



Total Water Requirement (Mcm)



Returns per Kilo Litre (Rs.)

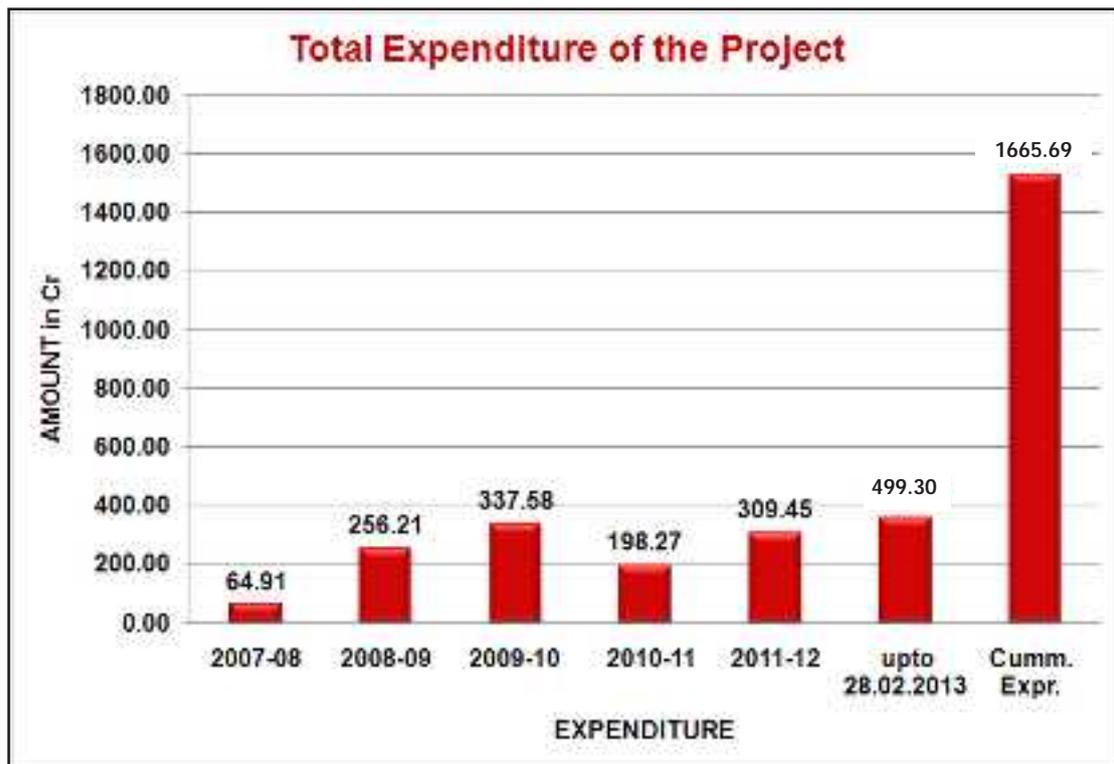


WoP – Without Project

WP – With Project

5.0 Project Management Support

This component will support the management and coordination efforts related to this project.



(Rs. In Crores)

Details of Expenditure as on 28.02.2013

Sl. No.	Department	Expr. for 2007-08	Expr. for 2008-09	Expr. for 2009-10	Expr. for 2010-11	Expr. For 2011-12	BE 2012-13	Expr. details upto 28.02.2013	Cumulative Expr. for the Project
		3	4	5	6	7	8	9	10
1	Water Resources Department								
1	Component A	34.08	183.96	287.45	116.76	194.11	551.35	394.48	1210.84
	Component C	0.53	14.21	4.97	4.05	12.35	59.07	5.86	41.96
	Component D	0.00	0.00	0.00	0.01	0.37	1.44	1.18	1.56
	Total (WRD)	34.61	198.17	292.42	120.82	206.83	611.86	401.52	1254.36
	Component B								
2	Agriculture Department	4.29	3.86	7.04	15.77	25.82	29.48	10.26	67.03
3	Agriculture Engineering Dept.	4.39	12.43	1.88	18.82	32.70	82.02	38.02	108.24
4	Agri. Marketing & Agri Business Dept.	3.89	5.83	9.33	5.33	3.84	21.82	17.44	45.66
5	Tamil Nadu Agriculture University	4.25	10.65	9.24	12.65	14.03	10.12	10.13	60.94
6	Horticulture Department	6.33	15.53	7.96	12.99	10.06	13.23	11.05	63.92
7	Animal Husbandry Department	2.39	3.53	4.34	5.12	9.70	6.31	3.17	28.25
8	Fisheries Department	1.43	3.21	0.69	1.58	1.61	7.84	2.55	11.08
	Total (Component B)	26.97	55.04	40.48	72.26	97.76	170.81	92.62	385.12
	Component E	3.33	3.00	4.68	5.19	4.86	8.15	5.16	26.22
	Total	64.91	256.21	337.58	198.27	309.45	790.82	499.30	1665.69





**Project Exposure Visits by
Other Countries / States**

TN IAMWARM PROJECT PROJECT EXPOSURE VISIT BY OTHER COUNTRY / STATES

A Delegation of 16 Members from Bangladesh World Bank Project "Integrated Agricultural Productivity Project" (IAPP) visited Tamilnadu to have an exposure of IAMWARM Project on 22.11.2012 and 23.11.2012. It has been showcased the converged activities of the 8 Departments in Ongur Sub Basin covering Keelmaruvathur, Indalur and Kancheepuram Districts.

Glimpses of Field visit to Ongur Sub-Basin by Bangladesh Delegates on 23.11.2012



Interactive Session at Karunguzhi Inspection Bungalow
with Participation of all Line Departments



Field visit INM to Coconut Trees in
Keel Maruvathur



Explaining by President on
Water Budgeting at Keelmaruvathur



Display of Interventions in
Keelmaruvathur and
President Garlanding the Delegates



Single Window Information Center at Keelmaruvathur



Interactive Session and Showcasing Community Participation in Indalur



Tree Planting by Delegates in Indalur School



Concluding Session with Response from Bangladesh Delegates

Project Exposure Visit by Officials of Odisha Community Tank Management Project (OCTMP), Department of Water Resources

Comprising of Team 1 (38 Nos) from 21.01.2013 to 26.01.2013 visited Chennai and Team 2 (28 Nos) from 22.01.2013 to 26.01.2013 visited Madurai

The Team 1 Delegation of 38 Members from Odhisha Community Tank Management Project (OCTMP), Department of Water Resources visited Tamilnadu to have an exposure of IAMWARM Project on 24.01.2013 in two model villages in Ongur sub basin viz. 1. Kilmaruvathur and 2.Perumperkandigai of Kancheepuram Dist.

Glimpses of Field Visit to Ongur Sub-Basin by Odisha Delegates on 24.01.2013



Interactive Session at Vilachery Community Hall



Delegates Viewing the Displays in SWIKC & Welcome Address by AEE WRD



Interaction with Farmers & Line Department Officers



Presentations by Officers and Interaction with Farmers

The Team 2 Delegation of 25 Members from Odisha Community Tank Management Project (OCTMP), Department of Water Resources visited Tamilnadu to have an exposure of IAMWARM Project on 23.01.2013 to 25.01.2013. It has been showcased the converged activities of the 8 Departments in Therkar, Manimuthar and Senkottaiyar Sub Basins.

Glimpses of Field Visit to Therkar, Manimuthar & Senkottaiyar by Odisha Delegates on 24.01.2013



Interactive Session in Chidambarapuram
SWIKC
with Officers & Farmers



Project Exposure Visit by Officials of Odisha Community Tank Management Project (OCTMP), Department of Water Resources

II Batch Comprising of Two Teams from 01.03.2013 to 05.03.2013 visited Coimbatore, Madurai and Chennai

The Madurai Team made field visit to Amaravathy Sub Basin area of Coimbatore Region and Uthirakosamangai Sub Basin area of Madurai Region

Glimpses of Field Visit to Amaravathy and Uthirakosamangaiyar Sub Basins by Odisha Delegates Madurai Team from 01.03.2013 to 04.03.2013



Welcome address by Chief Engineer WRD, Coimbatore and presenting Mementoes



PPT Presentation of OCTMP by Mr. Debi Prasad Nayak, Economist



Odisha Delegates viewing the PPT of Overview of the Project by WRM Specialist



Slip Form Steel gantry Girder in operation in Lining of Distributary



Bed Lining with Pavers and side lining with Precast slabs in Amaravathy Canal



Field Visit to Onion Field with Drip by TNAU



Display of Interventions of Line Departments at Govindhapuram



Sadaiyakulam in Amaravathy sub-basin – Bund Strengthening and QC Check with Nuclear Density Testing Equipment



Field Visit to S.Kavanur Tank in Uthirakosamangaiyar



Line Departments Officers explaining the Convergence and the Response from Odisha Team Member



Interactive session at Athur and display of Interventions by Line Departments



