3. Department of Horticulture and Plantation Crops
TNIAMWARM
Phase-II (Horticulture Activities)

Kalingalaru Sub Basin

3. Department of Horticulture and Plantation Crops

Pennaiyar upto Krishnagiri Sub-Basin

3.1. Objective

- To increase the income of ayacut farmers' per unit land / per unit of irrigation water
- Increase horticulture area substantially to utilize < water & realize > prices
- To adopt crops utilizing less water in place of crops that demand high water requirement
- Varietal upgradation
- Synchronise with market linkages

3.2. Introduction

- Kalingalar sub-basin is one among the sub-basins for implementation of TN IAMWARM Project under World Bank Assistance
- District : Tirunelveli
- Blocks : Vasudevanallur & Sankarankoil
- Total Registered Ayacut area of Kalingalar sub-basin is 2257.0 Ha. The 6 Years' average rainfall in this division is 969.9 mm. The important crops grown in this sub-basin are Paddy, Millets, Maize, Pulses, Sugarcane and Sunflower etc.

3.3. Plan

- Diversification of high water-requiring crop with low income to low-water requiring crop with high income
- Gap area coverage with irrigated horticultural crops
- Transfer of latest production technologies to increase productivity
- Laying out of demonstrations and Area Expansion Programme for the impact area under horticulture
- Support of input supply in appropriate time
- Information / Education / Communication & Capacity Building inculcation
- Advertising & publicity activities to popularize IAMWARM concept
- Documenting the progress & successes

3.4. Existing Horticulture Crop Scenario

The following horticulture crops are grown in the sub basin

S.No	Crop	Varieties	Without Project Area (Ha)	Production (M.T)	Productivity (M.T) / Ha
A.	Fruits Plants				
1	Banana	Robesta, Monthan, Rasthali, Nendran	25	825	33
	Total		25	825	

3.5. Existing Irrigation Potential

Sl No	Irrigation Potential	Area Ha
1	Fully irrigated	1334
2	Partially irrigated	484
3	Gap Area	439
Total		**2257**

3.6. Irrigation

- Irrigation is by open well and borewell.
- Mostly farmers are using ridges and furrow irrigation system. Only less than 10 % of the farmers are using drip irrigation.
- Mainly farmers are raising crops under rainfed condition.Micro-irrigation with Fertigation will be implemented by Agri. Engg. Dept.

3.7. Major Crops grown & crops diverted

- From some of the areas under Cotton & Paddy to vegetables like, Tomato, Bhendi & Brinjal

3.8. Infra-structure available

Actual extension service available for TOT – government / private

- For transfer of latest farming techniques, many extension methods are being adopted. Besides distribution of inputs, required technical advice essential for the increased productivity are also given to the farmers
- As per the Training and Visit program norms, there must be one Village Extension worker (VEW) for every 800 to 1000 farm families. But such norms are not followed in reality due to vacancies at all levels of extension staff
- In view of the above, it is proposed to outsourcing Technical Input Provider – one person for the sub-basin for 3 years
- Need for more extension personnel are required

3.9. Stakeholders Demands

- Instead of local varieties hybrid vegetables
- Switch from low-yielding high water-demanding field crops to high-return low-water-requiring horticultural crops

- Micro irrigation.
- Latest technology transfer
- Production technology and post harvest technology.
- Credit facilities
- Processing for preserving vegetables and fruits.
- Market information system.

3.10. Conditions favourable

- Sub-basin area shows substantial enthusiasm towards new horticulture techniques
- Since the crop cultivation is programmed in clusters Impact could be felt effectively
- Micro-climate of sub-basin locale especially conducive to horticulture
- Diversification – is thus, expected to be quick
- Market linkages planned – will deter middle-men's exploitation

3.11. Approaches

- > knowledge base of ayacut farmer
- > exposure to modern & uptodate cultivation techniques
- > opimal utilization of irrigated water (micro-irrigation)
- > productivity through hybrid varieties
- > diversification to horticulture ensured through demonstrations
- > support to growers through area expansion programmes

3.12. Soil

- Mostly the soil nature is Clay and Black loamy soil with pH ranging from 7 to 8
- Soil is tested by soil testing laboratory at Assistant Soil Chemist, Department of Agriculture, at STL Kovilpatti
- Climate mainly tropical with temperature ranging from 30°C and relative humidity from 80%
- In view of the large number of soil samples to be tested in the intensive cropping pattern, private sources like Agri. Clinic, MFL services also will be utilized in collaborative understanding with Agriculture Department

3.13. Ground realities

- Ridges & furrow system is followed for vegetables and Basin irrigation is followed for fruits

3.14. Labour Issues

- Availability of labor is very scarce.
- Labor availability is a problem due to migration of labors to urban area to get more wages by doing non agricultural works.
- Many farmers use family labour in addition to hired labour by paying exorbitant wages
- Migration of farm families are very common due to prevailing non favorable condition for farming

3.15. Current Status

- Farming System is predominantly conventional; non-technological and highly unproductive at that

3.16. Implementation Strategy

- Out of total ayacut area of 2257 Ha, horticultural crops would fill in 565 Ha – the break-up is : i. Fruits 225 ii. Vegetables 340

A. Demonstrations

- Demonstrations would play the ‘cause’ for the inspiration
- Impact would be in a ratio of 1:50
- High-tech demonstrations like Poly house, Shed net, Plastic malching, INM, IPM, Organic farming, Vermi compost etc. will be organized with assistance from NHM scheme and this effort will be supportive to the impact area expansion targeted under IAMWARM.
- Minimum one demonstration under each category will be organized in the sub-basins area.
- Cluster approach will be followed for organizing community nurseries under high-tech demonstration.

B. Area Expansion Programme

- A.E.P, aims sustaining the interest of ayacut farmer until a time the ayacut farmer reaches a threshold when he no longer needs the project support
- A.E.P is planned to run from I year, (15%), II Year of the project viz., 2009 – 10 from where it can pick up the impact spread
- A.E.P is programmed for III year of the project also, viz., 2010 – 11

- A.E.P is partially subsidized, i.e., 50 % subsidy for vegetables & 75 % for fruits & spices & medicinal crops to the total package
- Impact area expansion in the sub-basin area with the assistance of on going central and state sector scheme will be covered as follows;

Sl. No.	Name of the Crop	Impact area to be covered
I Fruit Crops		
1	Sapota	50 Ha
2	Aonla	50 Ha
3	Acid lime	50 Ha
II Medicinal Crops		
1	Vasambu	20 Ha
2	Senna	20 Ha
3	Vinca	10 Ha
III Flower Crops		
1	Jasmine & others	50 Ha
IV Spices Crop		
1	Chillies	140 Ha
Total		**390 Ha**

3.17. Constraints

3.17.1. Seed

- Certified seeds & traditional low-yielding varieties of vegetable seeds are used by farmers at present. Many farmers use their own seeds & also exchange seeds among themselves
- Few innovative farmers get required seeds from private sources
- Hybrid seeds will be procured through local shopping procedures from reputed & quality seed corporate firms on World Bank guidelines

3.17.2. Contract Farming

- Contract farming is not followed in command area. Farmers are reluctant to adopt contract farming practice due to fluctuation in produce prices and for want of legal guarantee.
- Steps may be suggested to convince the farmers in coordination with Agriculture Marketing Department to take up contract farming at least for commercial crops .
- They will be exposed to the contract farming area during exposure visit

3.17.3. Pre & post harvest practices adopted

- Adopted –None

3.17.4. Intervention Suggested

Proposed Irrigation Facilities

- 150 Ha under Horticulture Crops is suggested to be covered under micro irrigation with fertigation by the Agricultural Engineering Department
- Crop Intervention Suggested to be Taken up by Agriculture Marketing

Vegetables

- Grading
- Processing
- Packing
- Refrigerated vans for transport.
- Market Intelligence

Awareness would be created among the farmers in pre and post harvest techniques by giving training to the farmers.

3.18. Commodity Groups

Commodity Groups will be formed covering the fruits, vegetables, spices and condiments.

- The Groups will be trained in cultivation, transport, storage and marketing activities through trainings, Exposure visits etc.
- The assets created through Marketing Department and other agencies will be maintained by these groups along with Water Users' Associations.

Table – 1

Current Status of Horticulture / Projection & Additional Area to be covered

Sl.No.	Crop	Kalingalaru		
		Diversification Area (Ha)	Without Project Ha)	With Project (Ha)
A	Total Ayacut Area			2257 Ha
1.	Banana	60	25	85
2.	Sapota	50	-	50
3.	Amla	50	-	50

Sl.No.	Crop	Kalingalaru		
		Diversification Area (Ha)	Without Project Ha)	With Project (Ha)
4.	Acid lime	50	-	50
5.	Tomato	25	-	25
6.	Brinjal	25	-	25
7.	Bhendi	40	-	40
8.	Medicinal	50	-	50
9.	Flowers	50	-	50
10.	Chillies	140	-	140
	Total	**540**	**25**	**565**

Table – II

Area Expansion Programme with assistance from IAMWARM Project

S. No	Crop	Extent Proposed (Ha)				Subsidy Cost/Ha	Total Amount Proposed (Rs.in Lakhs)			
		2008-09	2009-10	2010-11	Total		2008-09	2009-10	2010-11	Total
I Fruits										
1	T. C. Banana	20	20	20	60	0.250	5.000	5.000	5.000	15.000
II Hybrid Vegetables/Spices										
1	Tomoto	10	10	5	25	0.150	1.500	1.500	0.750	3.750
2	Brinjal	5	10	10	25	0.150	0.750	1.500	1.500	3.750
3	Bhendi	15	15	10	40	0.150	2.250	2.250	1.500	6.000
III IEC/CB (includes Team Building and Change Management Training)							0.600	0.600	0.580	1.780
	Total	**50**	**55**	**45**	**150**		**10.100**	**10.850**	**9.330**	**30.280**

Total fund requirement from IAMWARM scheme

2008-09 10.100 lakhs
2009-10 10.850 lakhs
2010-11 9.330 lakhs

Total 30.280 lakhs

6.3. Department of Horticulture and Plantation Crops

6.3.1. Objective

- Increase horticulture area substantially to utilize < water & realize > prices
- Varietal upgradation
- Synchronise with market linkages

6.3.2. Stakeholders Demands (List)

- Instead of local varieties hybrid vegetables
- Switch from low-yielding high water-demanding field crops to high-return low-water-requiring horticultural crops
- Micro irrigation.
- Latest technology transfer
- Production technology and post harvest technology.
- Credit facilities
- Processing for preserving vegetables and fruits.
- Market information system.

6.3.3. Conditions favourable

- Sub-basin area shows substantial enthusiasm towards new horticulture techniques
- Since the crop cultivation is programmed in clusters Impact could be felt effectively
- Micro-climate of sub-basin locale especially conducive to horticulture
- Diversification – is thus, expected to be quick
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6.3.4. Approaches

- > knowledge base of ayacut farmer
- > exposure to modern & uptodate cultivation techniques
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- > productivity through hybrid varieties
- > diversification to horticulture ensured through demonstrations
- > support to growers through area expansion programmes

Sl No	Particulars	Area (Ha)	Finance (Rs in Lakhs
1	Area Expansion	150	28.500
2	IEC/CB		1.780
	Total		**30.280**

6.3.5. Outcome Indicators

- > area 25 %
- > productivity 30 – 40 %
- > diversification 70 %
- > private sector partnership