

Case Study – 2: Mr. A.Vellaichamy

Total farm income enhanced by more than one and half times.



Mr. A.Vellichamy from Jeyanaickenpatti village in Kadavakurichi watershed

	Before Intervention	After Intervention
Area Irrigated	2 acre	3 acre
Crop 1	Millet & Pulses – 1 ac	Millet & Pulses – 1 acre
Yield- Crop 1	345 kg	365 kg
Net Income – Crop 1	Rs. 10,025	Rs. 11,410
Crop 2	Brinjal – 1ac	Tomato – 1 acre
Yield- Crop 2	3000 kg	9000 kg
Net Income – Crop 2	Rs. 30,000	Rs. 1,08,000
Crop -3	Jasmine – 0.5 ac	Jasmine – 0.5 ac
Yield – Crop 3	-	50 kg
Net Income– Crop 3	-	Rs. 5,000
Crop -4	Lemon – 0.5 ac	Lemon – 1 ac
Yield – Crop 4	600 Kg	850 kg
Net Income– Crop 4	Rs.12,000	Rs. 34,000
Total Farm income	Rs. 52,025	Rs. 1,58,410

Case Study – 3: Mr. M.Benjamin with drip irrigation

Total farm income enhanced by more than two times.



Mr. M.Benjamin - Kamatchipuram village in Kadavakurichi Watershed - 5 ac land

	Before Intervention	After Intervention
Area Irrigated	1 acre	2 acre
Crop 1	Millet & Pulses – 3 ac	Millet & Pulses – 3 ac
Yield- Crop 1	800 Kg	1030 kg
Net Income – Crop 1	Rs. 25,500	Rs. 32,540
Crop 2	Teak Agro Forestry – 0.5 ac	Teak Agro Forestry – 0.5 ac
Yield- Crop 2	-	-
Net Income – Crop 2	-	-
Crop -3	Jasmine – 1 ac	Jasmine – 1 ac
Field – Crop 3	1100 Kg	1800 kg
Net Income – Crop 3	Rs.5500	Rs. 1,35,000
Total Farm income	Rs. 80,500	Rs. 1,67,540

Case Study4: Mr. A.Vengadajalapthy with drip irrigation

Total farm income enhanced nearly by two times.



Mr. A.Vengadajalapthy Veelinaickenpatti village in Kadavakurichi Watershed – 3 ac land

	Before Intervention	After Intervention
Area Irrigated	2.5 acre	2.5 acre
Crop 1	Jasmine – 1 ac	Jasmine – 1 ac
Yield- Crop 1	1750 kg	2200 kg
Net Income – Crop 1	Rs. 87,500	Rs. 1,65,000
Crop 2	Drumstick – 0.5 ac	Drumstick – 0.5 ac
Yield- Crop 2	1800 kg	2000 kg
Net Income – Crop 2	Rs. 13,000	Rs. 20,000
Crop -3	Millet & Pulses – 0.5 ac	Millet & Pulses – 0.5 ac
Field – Crop 3	160 Kg	170 kg
Net Income – Crop 3	Rs.4700	Rs. 3,350
Total farm Income	Rs. 1,05,200	Rs, 1,90,850

Case Study – 5: Mr. S.Thavamani from Veelinaickenpatti village in Kadavakurichi Watershed - 3 acres of land



	Before Intervention	After Intervention
Area Irrigated	1 acre	1 acre
Crop 1	Onion – 0.5 ac	Ladies' finger – 0.5 ac
Yield- Crop 1	550 kg	3500 kg
Net Income – Crop 1	Rs. 16,500	Rs. 28,000
Crop 2	Avarai – 0.5 ac	Avarai – 0.5 ac
Yield- Crop 2	300 kg	300 kg
Net Income – Crop 2	Rs. 4500	Rs. 6,000
Crop -3	Papaya 0.5 ac	Millet & Pulses – 0.5 ac
Yield – Crop 3	30,000 Kg	160 kg
Net Income – Crop 3	90,000	Rs. 4900
Total farm income	Rs. 1,11,000	Rs. 38,900

Case Study - 6: Mr. A.Paraman

Total farm income enhanced nearly by two times.



Mr. A.Paraman from Veelinaickenpatti village in Kadavakurichi Watershed - 1.5 acres of land

	Before Intervention	After Intervention
Area Irrigated	1.1 acres	1.1 acres
Crops cultivates	Mullai – 0.4 ac	Mullai – 0.4 ac
Yield- Crop 1	640 Kg	820 Kg
Net Income – Crop 1	Rs. 64,000	Rs. 82,000
Crop 2	Pitchi – 0.2 ac	Pitchi – 0.2 ac
Yield- Crop 2	420 Kg	630 kg
Net Income – Crop 2	Rs. 33,600	Rs. 94,500
Crop -3	Brinjal – 0.4 ac	Ladies' finger 0.4 ac
Yield- Crop 2	640 Kg	700 Kg
Net Income – Crop 2	Rs. 4,800	Rs. 8,400
Total farm income	Rs. 1,24,000	Rs. 1,84,900

SECTION 5

Impact of interventions on Natural Resources – Soil health

Following activities undertaken as a part of watershed development programme improved the soil health by improving the organic matter content.

A. Interventions undertaken in the individual farmers fields

a. Vermi compost

B. Farmers initiatives

a. Tank silt / Farmyard manure Application

Following activities controlled the soil erosion and conserved the soil nutrient status by conserving the surface soil.

A. Common activities undertaken

a. Sunken pond

B. Interventions undertaken in the individual farmers fields

a. Summer ploughing

b. Deep Ploughing

c. climate resilient farming, (Alternate verity- demo, Alternate crops ,Inter cropping , Crop rotation, Kitchen garden, Poultry units, seed treatment , Bio fertilizer , Bio control agent, Green manure application, Egg cards, Pheromone traps etc)

d. Agro forestry activities

A. Interventions undertaken in the individual farmers fields



Vermi compost



Honey Bee Box



Tank silt Application

Table 20: Extent of establishment of Vermi compost and Azolla and Tank silt application in Kadavakurichi watershed

Watershed	Village	Vermi-compost units	Honey Bee Box	Tank silt application (ha)	
Kadavakurichi	VNP	6	1	26	79
	JNP	2	1	-	-
	PNP	14	1	25	83
	MNR	3	-	17	26
	KMP	3	1	3	12
	DMP	2	-	-	-
Total		30	4	71	200

Nutrient content in the bare soil, Vermicompost were analysed and the results are presented in the Table 25.

Table 21: Alternate verities demo, Alternate crops and Inter cropping undertaken in Kadavakurichi watershed

Watershed	Village	Alternate verities demo		Alternate crops		Inter cropping	
		Beneficiaries	No. of ha	Beneficiaries	No. of ha	Units	beneficiaries
Kadavakurichi	VNP	43	43	61	61	67	67
	JNP	11	11	10	10	9	9
	PNP	32	32	20	20	45	45
	MNR	9	9	4	4	-	-
	KMP	1	1	5	5	7	7
	DMP	4	4	0	0	1	1
Total		100	100	100	100	129	129



Alternate Verities Demo



Inter Crop



Alternate Crop

Table 22: Crop rotation, Seed treatment and Kitchen garden undertaken in Kadavakurichi watershed

Watershed	Village	Crop rotation		Seed treatment		Kitchen garden	
		Beneficiaries	No. of ha	Beneficiaries	No. of ha	Units	beneficiaries
Kadavakurichi	VNP	37	37	102	102	132	132
	JNP	8	8	47	47	27	27
	PNP	47	47	112	112	69	69
	MNR	7	7	30	30	14	14
	KMP	1	1	4	4	5	5
	DMP	-	-	5	5	4	4
Total		100	100	300	300	250	250



Kitchen Garden



Seed Treatment



Crop Rotation

Table 23: Bio fertilizer, Bio control agent and Poultry units undertaken in Kadavakurichi watershed

Watershed	Village	Bio fertilizer		Bio control agent		Poultry units	
		Beneficiaries	No .of ha	Beneficiaries	No. of ha	Units	beneficiaries
Kadavakurichi	VNP	35	35	64	64	131	131
	JNP	3	3	6	6	7	7
	PNP	49	49	20	20	69	69
	MNR	25	25	24	24	-	-
	KMP	2	2	4	4	4	4
	DMP	7	7	2	2	4	4
Total		121	121	120	120	215	215



Bio Fertilizer



Bio Control Agent



Poultry Units

Table 24: Egg cards, Pheromone traps and Green manure cultivation undertaken in Kadavakurichi watershed

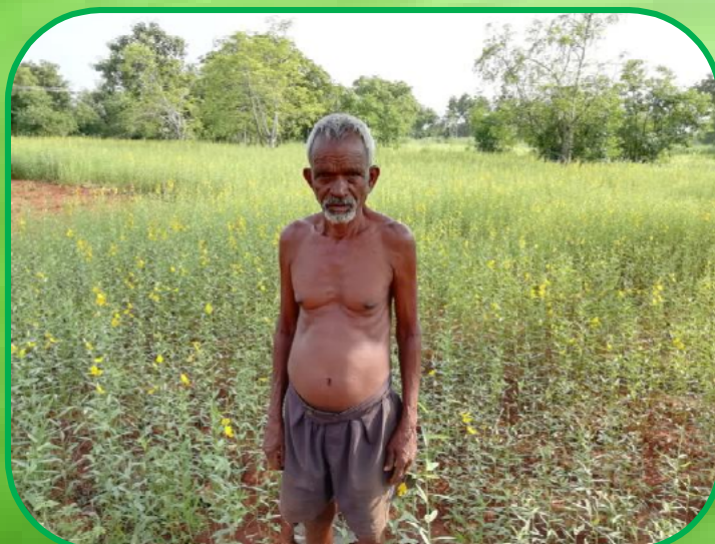
Watershed	Village	Egg cards		Pheromone traps		Green manure cultivation	
		Beneficiaries	No. of cards	Beneficiaries	No. of ha	Units	beneficiaries
Kadavakurichi	VNP	53	265	37	37	2	2
	JNP	17	85	3	3	1	1
	PNP	38	190	51	51	-	-
	MNR	3	15	7	7	1	1
	KMP	5	25	9	9	3	3
	DMP	4	20	13	13	1	1
Total		120	600	120	120	8	8



Egg Card



Pheromone trap



Green Manure

Case study - Vermicompost

Problem identification: Agriculture is the main occupation in the Kadavakurichi panchayat. Farmers are rearing milch animal and livestock. The dung of livestock is not optimally used in the village. To increase the productivity of lands, the farmers use chemical fertilizer. Input costs for cultivation is on the rise without substantial increase in farm incomes. Soil fertility is an important issue. Chemical fertilizers have compacted the soils and have many detrimental effects on the health of people and the environment. Farmers in the village were not aware of Vermicomposting as a means of producing organic manure with low input costs.

Table 25: Lessons learnt from Farmer on the application of vermin-compost

Farmer's opinion	Reason
Vermicompost applied crops have exhibited better plant growth, yield better quality produce.	Vermicompost is rich in all essential plant nutrients and Provides excellent effect on overall plant growth, encourages the growth of new shoots / leaves and improves the quality and shelf life of the produce.
Vermicompost was applied to Bhendi, Tomato, Chillies, drumstick, and has increased the yield	Keeping quality if tomato and Bhendi has increased by 7 – 10 days compared to normal fertilizer applied produces.
Application of Vermicompost is very easy	Vermicompost is free flowing, easy to apply, handle and store and does not have bad odour
Vermicompost applied fields soil quality is better than other fields	It improves soil structure, texture, aeration, and water holding capacity and prevents soil erosion
In the Vermicompost applied fields, earthworms are seen in good numbers	Vermicompost contains earthworm cocoons and increases the population and activity of earthworm in the soil
Application of small quantity of chemical fertilizer in the Vermicompost applied field shows better results in terms of growth and yield.	It neutralizes the soil, prevents nutrient losses and increases the use efficiency of chemical fertilizers.
Vermicompost minimizes the incidence of pest and diseases	Vermicompost is free from pathogens, toxic elements, weed seeds etc.
Vermicomposting activities have proved to be beneficial for farmers for reducing their input costs for cultivation and enhancing soil fertility	Reduction in fertilizer has reduced the cultivation cost. Increase in yield has improved their net profit

Lessons learnt, opportunities and model for scale up/replication:

Vermi compost units are beneficial for producing organic manure on small farms by resource-poor farmers. This is a specific climate proofing initiative in rain fed areas/ dry lands for protecting the land and improving soil quality even during extreme climate stress conditions. There is a good demand for Vermi compost in the market. Farmers can sell additional vermin compost for better prices in the open market and enhance their household incomes.

Case study – Tank silt application

Tank Silt Application: Application of tank silt will help for *insitu* soil moisture conservation by improving the soil structure, texture, and infiltration rate. It will also improve the available soil nutrient status that would lead to increased crop yields.

Table 26: Impact of Tank silt application on crop yield

Sl. No	Applied to	% increase in yield	Scientific reasons
1.	Bhendi	39.00	- The clay content of the tank silt ranged from 60 % to 80% - Its application to the field reduced the bulk density of the soil, improved CEC. - It improved the available water content in the soil - All the farmers are in agreement that the moisture retention has gone up by 4 to 7 days, which play an important role during the period of prolonged dry spells. - Farmers do believe that once applied the impact on crop yield will remain for three years but the invisible aspect is the permanent change in soil physical and chemical properties - Increase in available N, P and K - Most of the farmers interviewed reported savings on fertilizers ranging from Rs. 2500/- to Rs. 3750/- per ha.
2.	Bitter gourd	37.00	
3.	Black gram	22.00	
4.	Brinjal	40.88	
5.	Chillies	34.60	
6.	Drumstick	31.77	
7.	Cluster Bean	28.80	
8.	Sorghum	23.50	
9.	Cowpea	30.00	
10.	Green gram	29.00	
11.	Maize	35.71	
12.	Ground Nut	34.11	
13.	Onion	39.00	
14.	Tomato	40.23	

Details on the impact of tank silt application to individual farmers field is given in Annexure 3

Impact Assessment- Soil erosion

Table 27: Impact of watershed development programme on Soil erosion control

Scenario before 2017	Current scenario	Reason
a. Major part of the selected watersheds was affected by heavy soil erosion. b. Lack of soil conservation measures c. Reduction in natural vegetative cover d. Inappropriate agriculture practices	a. The farmers are stating that the soil erosion is completely controlled as the soil removed from the field gets accumulated near the field bund. b. During rainy days both the rainwater and the eroded soil gets collected along the field bund and the farmers are replacing the soils after the cropping season is over with in the field boundary	a. Change in Land use pattern and arid climatic conditions have contributed to the removal of topsoil cover b. Field bunds created almost throughout the watershed has helped in controlling the soil erosion to a greater extent c. Grass seeding done on the field bunds have stabilized the bunds and hence effective soil and water harvesting could be done,
a. Soil was taken from the upper watershed area when there was a rainfall along the water ways	a. From the head region of the watershed the soils are eroded and come along the water during rainy season. These soils are conserved in the mid region and tail region of the watershed and all the soils are conserved within the watershed itself.	a. Stone gully plugs Structure aerated along the water ways conserved the soil that comes along the channel.
a. Soils from the agriculture land got washed away during the first rain in the monsoon season	a. Runoff and soil erosion is completely controlled and the water and the soil are conserved within the individual farmers field itself.	a. Summer ploughing and deep ploughing opened up the soil and all the rain water gets infiltrated and conserved within the soil layers and hence there is no runoff as well as soil erosion b. Bund planting and agro horticulture have contributed in conserving the soil by obstructing them during erosion.

Impact Assessment - Soil fertility

Table 28: Impact of watershed development programme on Soil fertility

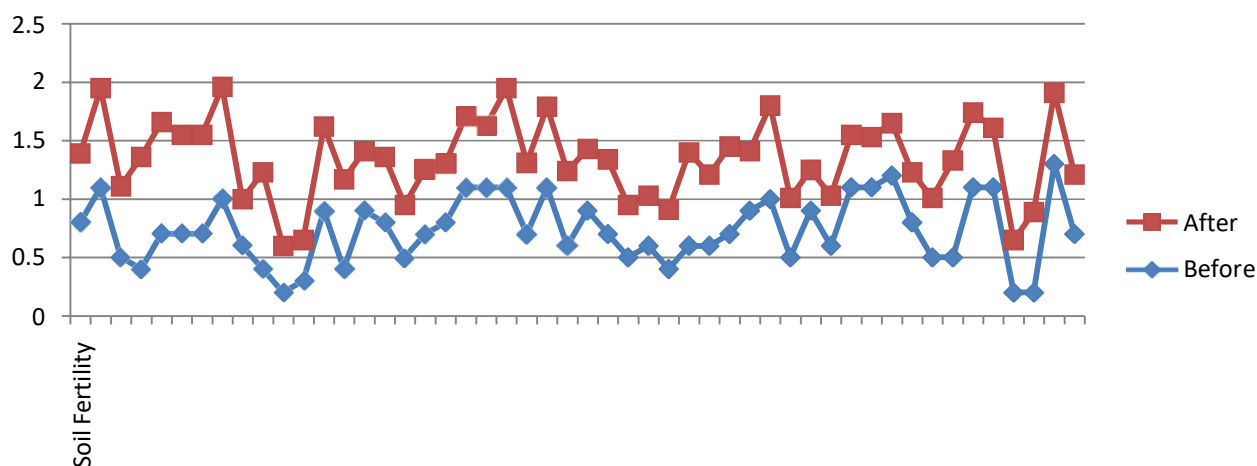
Scenario before 2012	Current scenario	Reason
a. The soil was highly eroded b. Low organic matter content c. Low nutrient status d. Low water holding capacity	a. Soil conservation measures have taken and hence erosion is completely controlled b. Organic matter content of the soil is improved c. Water holding capacity of the soil is improved d. Crop productivity got enhanced	a. Application of vermin compost and tank silt has increased the soil nutrient status and water holding capacity.

Table 29: Soil Analysis Kadavakurichi Watershed

S. No	Farmer Name	Father Name	Village Name	Soil Fertility	
				Before	After
1	Benjamin	Michle	Muthuraiyarnagar	0.8	0.59
2	Arockiyammal	Mariya Soosairaj	Muthuraiyarnagar	1.1	0.85
3	Veerasingam	Kuruvan	Kamatchipuram	0.5	0.61
4	Nagaraj	Duraisamy	Pappinackenpatti	0.4	0.96
5	Pandi	Nagappan	Pappinackenpatti	0.7	0.96
6	Mani	Poochi Naicker	Pappinackenpatti	0.7	0.85
7	Raman	Nagappan	Pappinackenpatti	0.7	0.85
8	Ponnusamy	Nagappan	Pappinackenpatti	1	0.96
9	Moorthy	Seenisakarai	Pappinackenpatti	0.6	0.4
10	Murugan	Perumal	Pappinackenpatti	0.4	0.83
11	Chinna Perumal	Subba Naicker	Pappinackenpatti	0.2	0.4
12	Perinba Muthu	Perumal	Pappinackenpatti	0.3	0.35
13	Alagarsamy	Subbanaicker	Pappinackenpatti	0.9	0.72
14	Soundirapandi	Ramunacker	Pappinackenpatti	0.4	0.77
15	Muthaih	Subbanaicker	Pappinackenpatti	0.9	0.51
16	P.T.Rajan	Perumal	Pappinackenpatti	0.8	0.56
17	Perumal	Mookamanaicker	Pappinackenpatti	0.5	0.45
18	Chellapandi	Poosu	Pappinackenpatti	0.7	0.56
19	Dhanapandi	Duraipandi	Pappinackenpatti	0.8	0.51
20	Manivel	Perumal	Pappinackenpatti	1.1	0.61
21	Ponram	Manivel	Pappinackenpatti	1.1	0.53
22	Lakshmi	Santhanam	Pappinackenpatti	1.1	0.85
23	Thangapandi	Subbanaicker	Pappinackenpatti	0.7	0.61
24	Murugesan	Duraisamy	Pappinackenpatti	1.1	0.69
25	Katturaja	Ammavasai	Pappinackenpatti	0.6	0.64
26	Ammavasai	Andi Chettiar	Pappinackenpatti	0.9	0.53
27	Alagarsamy	Veeran	Muthuraiyarnagar	0.7	0.64
28	Ramaraj	Sethupathi	Muthuraiyarnagar	0.5	0.45

29	Gopal	Vairavan	Muthuraiyarnagar	0.6	0.43
30	Pitchaimani	Perumal	Pappinackenpatti	0.4	0.51
31	Raman	Perumal	Pappinackenpatti	0.6	0.8
32	Justin	Thevaraj	Veelinaickenpatti	0.6	0.61
33	Santhiyagu	Sirumani	Muthuraiyarnagar	0.7	0.75
34	Perumal	Subban	Muthuraiyarnagar	0.9	0.51
35	Vellaisamy	Algarsamy	Jeyanaickenpatti	1	0.8
36	Radhakrishnan	Nallaya	Jeyanaickenpatti	0.5	0.51
37	Alagumalai	Alagarmy	Jeyanaickenpatti	0.9	0.35
38	Alagarsamy	Raminaicker	Jeyanaickenpatti	0.6	0.43
39	Sundarraaj	Alagarmy	Jeyanaickenpatti	1.1	0.45
40	Arockiyamary	Benjamin	Muthuraiyarnagar	1.1	0.43
41	Pal Pandi	Chinna Suruli	Veelinaickenpatti	1.2	0.45
42	Kamala	Pitchai	Veelinaickenpatti	0.8	0.43
43	Paraman	Ayyanan	Veelinaickenpatti	0.5	0.51
44	Ramesh	Pitchai	Veelinaickenpatti	0.5	0.83
45	Manikam	Vembulu	Veelinaickenpatti	1.1	0.64
46	Alagar	Pitchaian	Veelinaickenpatti	1.1	0.51
47	Subramani	Irulandi	Veelinaickenpatti	0.2	0.45
48	Ramakrishanan	Muniyandi	Veelinaickenpatti	0.2	0.69
49	Shanmugavalli	Muniyandi	Veelinaickenpatti	1.3	0.61
50	Prasanna Kumari	Muthu Kumar	Veelinaickenpatti	0.7	0.51

Figure 11: Soil Fertility to Kadavakurichi Watershed



SECTION 6

Impact of interventions on Natural Resources – Change in vegetative cover

Following activities undertaken as a part of watershed development programme improved the greenness

A. Interventions undertaken in the individual farmers fields

- Bund planting
- Agro horticulture



Bund Planting



Agro Horticulture

Table 30: Increase in tree cover - Agro horticulture intervention

Watershed	Village	Total number of beneficiaries	Saplings Planted (Numbers)										Total Plants
			Mango	Guava	Lemon	Amla	Tamarind	Sathukudi	Seetha	Pomegranate	Jack	Naval	
Kadavakurichi	VNP	86	162	420	427	13	20	178	6	416	8	9	1659
	JNP	15	44	287	191	-	-	-	-	61	1	1	585
	PNP	18	65	153	201	-	20	-	-	66	-	-	505
	MNR	12	18	61	38	-	-	-	-	42	-	-	159
	KMP	7	6	88	41	-	-	-	-	23	-	-	158
	DMP	7	7	391	14	-	-	-	-	22	-	-	434
Total		145	302	1400	912	13	40	178	6	630	9	10	3500

Table 31: Increase in Tree cover – Bund planting intervention

Watershed	Village	Total No. of beneficiaries	Teak	Kumul	Peenari	Vembu	Elavam	Total plants
Kadavakurichi	VNP	28	211	166	32	138	20	567
	JNP	5	150	30	10	-	-	185
	PNP	4	60	-	-	20	30	110
	MNR	1	10	5	-	-	-	15
	KMP	1	-	55	-	-	-	55
	DMP	4	38	20	5	-	-	63
Total		43	469	276	47	158	50	1000

Change in Green cover

The greenness of the entire watershed has increased due to vast plantation of forestry seedlings and fruit trees. Totally, 18235 horticulture trees and 45707 forest trees in Kadavakurichi are maintained by the farmers in their own farmland. In long run these trees will serve in enhancing the ecological conditions of the watershed and will help in reducing the soil erosion and improving the micro climate of the region.



Additional income

Fruit trees planted in the farmers field have started producing fruits. As the trees are just two to three years old, the economic production has not yet started, However, mango, Guava, Amla, Lemon and pomegranate trees are yielding for family consumption and the farmers are also sharing the fruits to fellow farmers and relatives. These trees will give good return in another 2 – 3 years time.



Off-season employment

The farmers have employment for the family labours throughout the year.



SECTION 7

Impact of interventions on Livelihood – Agriculture sector

Following activities undertaken as a part of watershed development programme improved the crops productivity

- A. Interventions undertaken in the individual farmers fields
 - a. Soil erosion control measures
 - b. Water conservation and enhancing water use efficiency
 - c. Creating better micro climate
 - i. Bund planting
 - ii. Agro horticulture
- B. Enhancing knowledge on crop production techniques
 - a. Capacity building programmes
 - b. Exposure visits
 - c. Weather based agro Advisory Services
 - i. Mobile voice messages
 - d. Linking the farmers with Iffco Kissan Call Centres

Impact Assessment - Change in area under cultivation

Table 32: Impact of watershed development programme on agriculture sector

Scenario before 2017	Current scenario	Reason
Top soil erosion, very low water availability for agriculture and high risk on crop production rendered agriculture non-remunerative	More water available for cultivation has enhanced the area under cultivation	Water and soil conservation measures undertaken in the watershed resulted in bringing more area under cultivation

Table 33: Change in area under cultivation due to watershed activities

Watershed	Village	Area cultivated in 2017 (Ha)	Area cultivated in 2020 (Ha)	Change in cultivated area (Ha)	% change
Kadavakurichi	VNP	185	207	22	89.4
	JNP	95	104	9	91.3
	PNP	105	115	10	91.3
	MNR	22	26	4	84.6
	KMP	43	47	4	91.5
	DMP	25	27	2	92.6
Total		475	526	51	90.3

Impact of interventions on Livelihood – Livestock sector

Following activities undertaken as a part of watershed development programme improved the fodder availability and livestock production

- A. Interventions undertaken in the individual farmers fields
 - a. Growing fodder crops
 - b. Grass seeds on the field buds and on the banks of the farm pond
 - c. Dry fodder availability as crop residue

- B. Enhancing livestock productivity
 - a. Increasing the population
 - b. Best management of livestock

Figure 11 : Interventions improving fodder availability

Growing fodder crops

Azolla was promoted as alternate fodder which doubled its biomass in 10 days with very less water requirement. It also increases omega fatty acid content in the animal products. Azolla 20 was cultivated in private agricultural lands (Each farmers 1 unit). Increased availability of green fodder for livestock. Increased availability of biomass, increased availability of green fodder and milk yields. Conserved soil and water and minimised climate variation

Azolla units



Table 34: Azolla unit intervention

Watershed	Village	No. of beneficiaries	No. of units
Kadavakurichi	VNP	12	12
	JNP	1	1
	PNP	2	2
	MNR	1	1
	KMP	4	4
Total		20	20

Impact Assessment - Livestock status

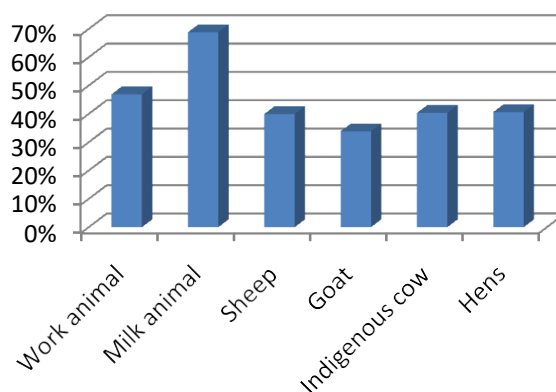
Table 35: Change in livestock status in watersheds

Watershed	Animal	2017	2018	2019	2020
Kadavakurichi	Work Animals	34	32	28	16
	Buffaloes	2	2	2	0
	Cross bred cows	324	362	410	470
	Indigenous cows	70	85	135	173
	Sheep	180	220	360	450
	Goat	124	160	275	365
	Others (Hens)	6079	5450	5985	14900
Total		6813	6311	7195	16374

Animal Details: 2017 - 2020

Work Animals	-	34	16
Buffalo	-	2	0
Milk Animals	-	324	470
Sheep	-	180	450
Goat	-	124	365
Indigenous cow	-	70	173
Hens	-	6079	14900

TOTAL = 6813 16374



Impact Assessment - Milk production

Table 36: Change in milk production in watersheds

Watershed	Animal	2017	2018	2019	2020
Kadavakurichi	Cross bred cows	112	90	140	482
	Average Milk yield /day	3.5	4	5	5.5
	Total milk yield/ year	143080	131400	255500	967615
	Rate per lit	16	16	22	26
	Average Gross Income from milk production	2289280	2102400	5621000	25157990
	Average Maintenance cost per year	10000	11000	13000	15000
	Net income	2279280	2091400	5608000	25142990
	Income per animal per year	20351	23238	40057	52164

