

Incremental farm income gain

through good agricultural practices

Akila N*, Sharmila Bharathi C, Murugan P, Sathya S, Pushpanathan K R, Paulpandi S and Jothilakshmi M

Krishi Vigyan Kendra, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Chennai 637 002

Production and productivity of agricultural crops increased many folds to achieve the food security, but farmers' income from agriculture remains very low and often fluctuate because of this, most of the farm families left agriculture as their occupation and entered into non-farm jobs. To overcome such problems, focused efforts on better farm practices; improving soil health, creating rural infrastructure; ensuring timely delivery of climate resilient and improved technologies; marketing opportunities in agriculture, horticulture, fisheries and animal husbandry sector were taken by KVK Namakkal in three DEI i.e. villages, Ganapathipalayam, Ondikadai and Moolakkadu through its main activities and different schemes of ICAR like Schedule Caste Sub plan and National Innovations on Climate Resilient Agriculture (NICRA) in Vadavathur since 2018. It was found that the interventions provided good yield and a decent income to the farmers compared to their conventional farming.

Keywords: Farmers' welfare, Good agricultural practice, Namakkal district

PAST strategy for the development of agriculture sector in India has focused primarily on raising agricultural output and improving food security. The net result has been a 45% increase in per person food production, which has made India not only food self-sufficient at aggregate level, but also a net food exporting country. The strategy did not explicitly recognise the need to raise farmers' income and did not mention any direct measure to

promote farmers' welfare. The net result has been that farmers income remained low and agriculture considered as less remunerative job.

With a view to increase the production and productivity for doubling the farmers' income in agriculture and socio-economic

About the district

Geographical area	3,36,821 ha (3,368.21 km ²)
Area under cultivation	1,55,885 ha
Area under irrigation	66,375 ha (43 %)
Rainfed area	89,510 ha (57%)
Rainfall (mm)	Average rainfall 853 mm 2018 - 581.3 mm
Soil type	Red, black, alluvial & laterite soil

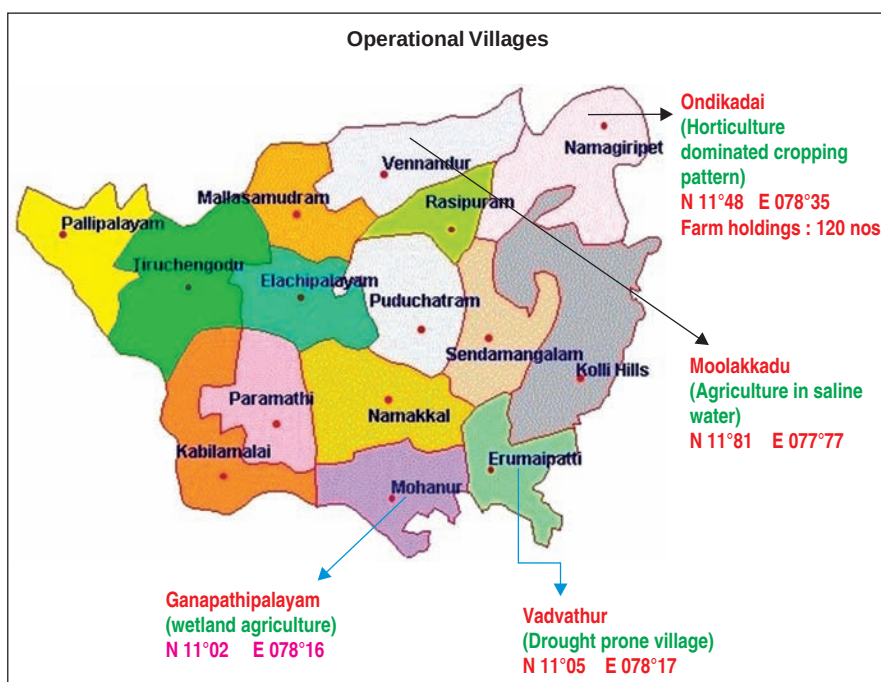


Table 1. Major crops (Agriculture and Horticulture crops) 2017-18

Crops	Area (ha)	Production	Productivity	
			Namakkal	Tamil Nadu
Paddy	1847	386,804	52.9	100.68
Sorghum	80,308	363,042	7.61	91.71
Maize	7490	473963	80.36	591.59
Groundnut	27450	178489	6.54	145.16
Red gram	584	3528	3.0	143.77
Green gram	6581	55400	7.92	78.25
Black gram	3276	7261	5.15	78.37
Sugarcane	10152	9481600	800	96.62
Onion	2632	141327	70	120.42
Tapioca	16023	6154434	38.4	98.47
Banana	1374.0	488174	32	134.72
Mango	2347	237217	93.5	80.93

transformation among the villages in a sustained manner in Namakkal district, focused efforts on better farm practices, improving soil health, creating rural infrastructure, ensuring timely delivery of climate resilient technologies and improved employment and marketing opportunities in agriculture, horticulture, fisheries and animal husbandry sector were taken by KVK Namakkal through its main activities and different schemes of ICAR like Schedule Caste Sub plan, Tribal Sub plan and National Innovations on Climate Resilient Agriculture (NICRA) since 2018.

Namakkal district is a rainfed district with the geographical area of 3368.21 sq.kms which lies between 11.00-11.360 North latitude and 77.280-77.300 East Longitude. Trimodal system of rainfall is prevailing in Namakkal district. Average summer rainfall (March-May) is 81.6 mm, South-West monsoon is (June-September) 187.4 mm and North-East monsoon (October-December) is 199.3 mm.

CROPPED AREA (MAJOR CROPS)

Kharif season

Sorghum, sugarcane, groundnut, pulses, maize, tapioca, banana, turmeric

Rabi Season

Rice, maize, pulses, groundnut, sugarcane, small onion, gourds

Major perennial crops

Coconut, mango and arecanut

Methodology

To achieve the incremental gain in farm income, three villages,

Ganapathipalayam, Ondikadai and Moolakadu were selected from Mohanur, Namagiripettai and Vennandhur blocks based on the cropping pattern. A baseline survey was conducted along with Focus Group Discussion with the farmers of those villages. Village level Benchmark survey was conducted by use of secondary data collected from the Village Administrative Officer. The staff of KVK, Namakkal formed a team and accomplished the work in May 2018. Focus Group Discussion and one to one survey by direct interview with farmers was conducted to collect the data on farmers and village profile, agriculture and animal husbandry scenario. An interview

Table 2. Analysis of Farms problem in Namakkal, Tamil Nadu

Cause	Issue	Possibilities
Refusal of discussion by agri officials	Improper supply of inputs not getting needed inputs	Making awareness towards Govt, schemes
Pest and diseases	Low production, loss in yield	Training and demonstration on IPM practices
Weeds	Yield reduction, high input cost	Introduction of weeder and management practices
Damage due to wind	Crop loss and reduction in yield	Suitable compensation
Poor monsoon, Decreasing rainfall	Water scarcity	Rain water storage
Infertility in dairy animals	Increase cost of rearing, low yield	Proper training in breeding and feeding dairy animals
Drainage problem	Water stagnation	—
Water scarcity and depleting ground water	Crop failure	Introduction of water conservation technologies
Demand for agri labourer	Delayed operation, low performance, yield reduction	Conversion of 100 days workers into agriculture, mechanization in agriculture
Low market price-price fluctuation	Low return	Vegetable procurement in village value addition, IFS
Low net return	Poor economic status	IFS, reduction in cost of cultivation by subsidies for inputs, cottage industries based on agriculture, new varieties and new technologies
Traditional varieties and conventional practices	Low yield and low return	Scientific agriculture
Soil infertility	Poor yield	Soil test based fertilizer application, green manure application
Post harvest loss	Low return	Introduction of storage unit
No employment during off season/monsoon failure	No income and no sustenance in livelihood	Introduction of small unit of desi chicken and goats for alternate income, training for income generation through livestock farming, sewing machine, educational loan
		Based on the possibilities, the needs were prioritised and the following interventions were implemented in villages

Reduction in input cost	Out put
- Issue of soil and water health cards – 85 farmers - Composting the crop residues – 10 farmers - Enriched poultry compost preparation - 10 farmers) - Intercropping in banana fields – 15 farmers - Use of bio energy – 6 farmers	25% inorganic fertilizer cost saved by including biofertilizers - Reduction in expenditure by ₹ 7500 acre/annum by recycling of farm waste - N - 22 kg/ha; OC- 0.03% - Saved Gas cylinder cost ₹ 800/month
Increase in income	Out put
- Ethno veterinary deworming practices – 20 farmers - Prevention of mastitis by mastiguard – 10 farmers - Alternate fodder to livestock – 30 farmers - By pass fat supplementation to cattle – 10 farmers - EDP on Desi chicken rearing- Three farm women group with 32 members were formed and EDP activity started on desi chicken and goat rearing	- Deworming efficacy was good in terms of total egg count that was reflected in increased body weight gain - Marginal increase in milk yield (0.5-1 litre) noticed & somatic cell count was reduced that ensured clean milk production - Mulberry leaves has excellent protein source (22-26%) and resulted in increased body weight gain in goats and 0.5 lt to 1lt increase in milk production - Additional income of ₹ 1000–₹1500 earned by the members from eggs, birds. Goat gave birth to kids and in growing stage
- Introduction of high Value crops - French bean var. Arka Sharath - 15 farmers - CFLD-high yielding groundnut varieties Var. GJG9, CO-7 & Dharani (91 farmers), short duration Blackgram variety (VBN-8) – (21 farmers), Green gram variety (CO-8) – (20 farmers), High yielding Castor hybrids (YRCH-1) – (58 farmers) - row intercropping system in Tapioca (32 farmers) - ICM in tomato (10 farmers) - Nitrate poisoning in fodder identified & by suitable management practices – 35 farmers	- Received ₹ 24,000/ 5 cent/3 months from cluster bean - Received ₹ 46,388/ha & BCR:2.29 as Net income from groundnut and ₹ 26,400 to ₹ 32,000 from pulses/ha - From row intercropping in tapioca the farmers got ₹ 42,000/ha as net income - By adopting ICM in tomato, ₹ 1.75 lakhs obtained by the farmers - High Nitrate level found out. Suitable measures taken. Goat farms revived from closure
Sustenance in Income	Out put
- Established garden land IFS Model comprising Crops + dairy + Poultry + Vermicompost + Fodder crops + Honey bee rearing (convergence) + Panchagavya 2 farmers - Shadenet unit (500 sq m) - Bower system for gourds	- Daily average milk yield of 0.5 lt/animal is increased due to regular feeding of green fodder with leguminous. - Increase of ₹ 1.07 lakhs by IFS - The farmers earned ₹ 3.80 lakhs as the annual income from IFS - Earned upto ₹ 7,000/cultivation of coriander in 35 days - Farmers received ₹ 51,340/season - Destoning & Grinding - 50 kg/week enabled the FPO in value addition of millets - Get an additional income of ₹ 2,500/month from wet grinders given to landless women - Conserve water utility - By sale of milk earning ₹ 900/month
- Support to FPO - Supply of millet processing machineries & training - Livelihood support for five land less women - Grinding machines - Rain hose micro irrigation system - Dairy animal	

schedule was prepared and pre-tested with the farmers before data collection. Also a questionnaire was prepared to collect secondary data of the villages.

The collected data were analysed with simple statistical tools of

percentage analysis and standard deviation. Based on the results causes, issues and possibilities were analysed (Table 2).

Based on the possibilities, the needs were prioritised and the following interventions were

implemented in the villages as shown in the Box.

Interventions introduced in the adopted villages – 2018-2020

Outcome

By introducing different interventions with 335 farmers in two years and in three villages in agriculture, horticulture and animal husbandry the farmers could earn more income compared to the income assessed in baseline survey. The increase in average annual income of farm families was from ₹ 0.90 to ₹ 1.35 lakhs with marginal farmers, ₹ 2.22 to ₹ 2.84 lakhs and ₹ 3.52 to ₹ 4.24 lakhs with medium farmers respectively.

Conclusion

Though the interventions introduced in the three villages yielded a good result and increased the farm income of different categories of farmers, reduction in market price especially for tapioca, tomato and banana caused overall reduction in net income from agriculture. Also poor rainfall or unseasonal rainfall affected the standing crops in the field that reduced the net return. Fluctuation in market price, monsoon failure, low procurement price, pest and diseases etc., are a major source of agrarian distress. To avoid this, adequate attention needs to be given to improve the welfare of farmers and raise agricultural income. The interventions with high yielding variety seeds, protected agriculture, integrated pest and disease management practices, integrated farming systems, common market to sell the produce to be introduced in large scale to cover the entire farm families should be facilitated to get a decent income from agriculture. This not only increases the farm income but also attracts youth towards farming profession and ease the pressure on non-farm jobs.

*Corresponding author email: akila2528@gmail.com

Authors!

Upload your article for *Indian Farming* and visit <http://epubs.icar.org.in/ejournal>