

Cases of large scale adoption

System of Rice Intensification – A success in Thiruvannamalai district

Thiruvannamalai district was formed on 30th September 1989 after bifurcation of North Arcod district. Agriculture is the main occupation of the district. The net area cultivated is about 67.6 %. The principle crops grown in the district are Paddy, Sugarcane and Groundnut Tanks and dug wells are the major source of irrigation in the district followed by canals. There are no perennial rivers in the district. Thiruvannamalai is one of the under developed districts with more than 50 % of the workers engaged in the non agricultural activities.

Among all the crops, the predominantly cultivated crop is paddy. Paddy is cultivated over an area of 108140 ha with an average yield of 5107 kg/ha. The predominant soil type is red. Red series loam is found in all the taluks. Red series sand is found in all taluks, but predominantly in Thiruvannamalai, Chengam and Vandavasi taluks. Ferruginous loam and sandy loam is seen extensively throughout the district and black series loam is found in tank and river bed areas of Vandavasi and Cheyyar taluks. The mean annual rainfall of the district is 1067.0 mm.

Important Problems in paddy cultivation in Thiruvannamalai District

1. Low productivity
2. Improper planting method
3. Improper nursery management
4. Indiscriminate use of chemicals
5. Availability and cost of labour

SRI as a potential solution to the problems of paddy farmers

Despite fluctuation in paddy yield in the Thiruvannamalai District, the farmers have been continuing the paddy cultivation as there is no suitable alternate crop to replace the paddy. In this context the system of Rice Intensification (SRI) came as a boom to increase the productivity of paddy. The progressive development in paddy cultivation is given below.

System of Rice Intensification – Time line

SRI is a method of increasing the yield of paddy production by using less water, low seed rate, wider spacing and younger seedlings. It was developed in 1983 by the French Jesuit father Hendri de Laulanie in Madagascar and not known outside Madagascar until 1997. Its potential is under testing China, Indonesia, Cambodia, Thailand, Bangladesh, Srilanka and India.

In Tamilnadu, SRI was taken up in both seasons in 2003. TNAU conducted 100 adaptive trials in Thambarabarani river basin. At the same time in Pondicherry under tank rehabilitation programme in Katterikuppam village SRI was undertaken in 4 acres and highest yield of 10 tonnes per hectare was obtained. In 2003-04 TRRI of Adudurai conducted 94 adaptive trials in 50 villages.

In August 2004 scaling up of SRI outside the research system begun in Tamilnadu for the first time through Department of Agriculture. SRI is promoted under ICDP –Rice with a target of 9000 acres.

Spread of SRI Technology

The KVK has implemented various programme to popularize SRI technology among the farmers of Thiruvannamalai district.

Advantage of SRI

SRI has the potential to increase the productivity of paddy with less water requirement and encourages rice plant to grow healthy with

- Large root volume
- Profuse and strong tillers
- Non lodging
- Big panicle
- More and well – filled spike lets and higher grain weight
- Resists insects and allows rice to grow naturally

The Actual benefits of SRI are

- Higher yield of both grain and straw
- Reduced duration (by 10 days)
- Lesser chemical inputs
- Less water requirement
- Less chaffy grain
- Increase in grain weight without changing grain size
- Soil health improves through biological activities

SRI demonstration at KVK farm



In KVK we started our experiment on SRI in an area of 5 acres during Kharif 2004. Seedlings of different ages ranging from 12 to 20 days were transplanted with different spacing i.e. 25 x 25, 20 x 20, 40 x 40 cm on test basis. At the beginning planting was done with ropes. Transplanting of 12 days seedlings at 25 x 25 spacing was found to be the best with an yield of 8.25 tonnes/ha.

Steps taken by KVK to disseminate SRI technology

After several experiments conducted in our KVK farm, our scientists made various modifications in the SRI cultivation to suit the local condition. Instead of rope, rotary marker has been suggested for square planting which is more suited for SRI method. Trainings and field days have been conducted in our farm for its popularization.



During the Rabi 2005-06, KVK conducted SRI technology demonstrations in 10 farmers' fields. KVK scientists provided technical guidance and conducted regular field visits, training programmes, video shows and field days. The result was satisfactory for the farmers.

In Rabi 2006-07, another 10 demonstrations have been conducted in Kayanallur village of Vandavasi block, KVK distributed Cono weeders and Rotary markers to the farmers. KVK is the pioneer in introducing Rotary marker in the district with a view to popularize the SRI technology. KVK has been conducting several demonstrations, training programmes and various extension activities on SRI as detailed below.

Details of demonstrations conducted by the KVK

Year	Season	Type of demo.	Area (ha)	No. of farmers covered	Block	Village
2005-06	Rabi	OFT	1	10	Arni	Kannamangalam
2006-07	Rabi	FLD	5	10	Vandavasi	Kayanallur
2007-08	Kharif	FLD	5	25	Vandavasi	Avanavadi
2007-08	Rabi	FLD	20	20	Vandavasi	Kaveribakkam, Maruthadu, Jannamedu, Kavedu
2008-09	Kharif	FLD	3	15	Pernamallur	Semmampadi
2009-10	Kharif	FFS	25	25	Arni	S.V. Nagaram
2010-11	Rabi	FFS	25	25	West Arni	Vannankulam
2012-13	Kharif	FFS	1	25	Polur	Kuppam

Details of training programmes conducted by the KVK

Year	No. of trainings	Beneficiaries	No. of participants			No. of Villages covered
			Male	Female	Total	
2004-05	5	Farmers	63	22	85	10
2005-06	9	Farmers	87	66	153	32
	2	RSVY members	65	35	100	21
2006-07	8	Farmers	120	25	125	7
	1	AAO's	9	0	9	0
	2	Farmers club	34	0	34	2
2007-08	11	Farmers	221	36	257	15
	3	Farmers club	45	0	45	3
2008-09	13	Farmers	216	49	265	16
	10	Farmers club	200	15	215	10
	2	AAO's & PLF member	11	21	32	6
2009-10	12	Farmers	212	26	238	26
	15	Farmers club	220	20	240	30
	1	AAO's	18	1	19	0
2010-11	5	Farmers	90	18	108	12
2011-12	7	Farmers	115	28	143	14
2013-14	1	Farmers	12	0	0	0

Details of Extension activities

* **Farm advisory services**

a.	Field visits	:	1196		
b.	Telephone	:	1774		
*	Field day	:	6	No. of participants	: 342
*	Exposure visit	:	13	No.of participants	: 264

* **Extension literatures distributed** :

a.	News letter	:	3500 Nos
b.	Booklets	:	3700 Nos
c.	Pamphlets	:	5500 Nos
d.	Leaflets	:	7000 Nos

Apart from KVK's own activities, KVK scientists are regularly participating in various activities conducted by the line departments i.e. seminars, farmers interest group meetings, ATMA activities, FFS etc., and encouraging the adoption of SRI technology.

Summary

The KVK Thiruvannamalai has played a major role in popularizing SRI technology through various extension methods like trainings, demonstrations and exposure visits etc., in Thiruvannamalai district of Tamil Nadu. Overall the paddy is cultivated in SRI method in an area of 61,150 ha in the district. The productivity of the paddy has been increased to 7.75 t/ha instead of 5.56 t/ha compared to the conventional method. The paddy cultivation has become more remunerative for many of the farmers in the district.