Farmers Experiences on SRI & Drum seeder Method of Paddy Cultivation in Cauvery Tail End and Rainfed Tank Irrigation (2005 -2009)

M.S. Swaminathan Research Foundation
Illuppur, Pudukkottai

Participatory Demonstration on SRI in Cauvery Tail End 2005-2006 in partnership with GRI

- Sethiyathope Anaicut Farmers Welfare Association
- Athivaraganatham Farmers Welfare Association
- Manikollai Small Farmers Lift Irrigation Federation

Objectives

1. To create awareness on SRI in the Cauvery delta tail end farmers (Grass Root Institutions).
2. To study and compare SRI with Conventional Method

- Various agronomic practices
- Water Management,
- Cost of cultivation
- Cost Benefit Ratio.

Comparison of Water Management

Up to vegetative growth stage

Two irrigation

SRI –Paddy cultivation

Four Irrigation

C.M. Paddy cultivation

Comparison of Various Stages of Growth

Drought tolerant and Less water utilization

tillers per hill was 34 after 4 weeks

18 tillers Per hill after 4th weeks

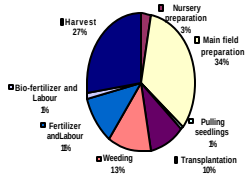
No lodging charter

Pre Harvested Stage

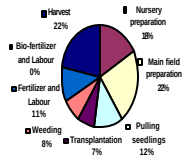
Pre Harvested Stage

Comparison of Cost –SRI & CM Method of Paddy Cultivation

Cost of cultivation for Ponni in SRI - Percentage per acre



Cost of cultivation for Convensional method in ponni - percentage per acre



comparison of economics in SRI and conventional method (CO-43)

Particulars	Total cost	Gross income	Net income	CBR	Productivity kg/acre	One kg Paddy production cost
SRI	7570.00	14531.00	6961.00	1.92	2442	3.01
Conventional	9225.00	10800.00	1575.00	1.17	1800	5.13

Grass Roots institution Presumptions on SRI (Advantages)

- Reduced seed rate from 50 kg to 3 kg
- Reduced nursery period 35 days to 15 days
- Reduced nursery area, so reduced the nursery preparation cost
- Reduced fertilizer usage
- Early maturity
- Reduced Pest and rodent and disease because of spacing and aeration
- Application of Bio-Fertilizer in seedling is effetely (small tray is enough for seedlings treatment
- More yield

Farmers Presumptions cond...
(Disadvantages)

- Nursery bed preparation was costly by using polyethylene sheet and not timely availability the required thickness.
- Land leveling is essential
- The manual operating of cono- weeder is very difficult in the heavy soil.

Farmers Presumptions cond...
(Disadvantages)

- Difficult to give training on SRI transplantation to labourers .

- During the transplantation, the labourers could not adopt the required spacing.
- Cono weeder was used only in-between rows

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- In- between plants manual weeding adopted, leads high weed cost

SRI Principles, issues and farming community's strategies on adoption of SRI method of paddy cultivation

SRI Packages.		Issues	Overcome issues by the Farmers for the following practices
Agricultural Operation	**Practices**		
Nursery Preparation	Polythene sheet using for nursery	Canal irrigation it couldn't be possible (irregular supply). Not available required quality sheet. It has involved cost	Raised bed without polythene sheet. If couldn't irrigate, it can survival even up to four days.
	Recommended 15 days seedlings for transplantation	But not enough grown seedlings with in 15 days (at least require 10 cm length of seedlings)	Transplanted 18 to 20 days old seedlings

SRI Principles, issues and farming community's strategies on adoption of SRI method of paddy cultivation contd...

SRI Packages.		Issues	Overcome issues by the Farmers for the following practices
Agricultural Operation	Practices		
Mainfield preparation	Maintains the field in wax condition	If ploughing tractor the depth of the ploughing is more depth .So difficult to leveling the land and maintain the wax condition,so thatthe Using marker and cono weeder and maintain thin coatof water level are the issues.	Using power tiller for ploughing and leveling the mainfield preparation
Transplantation	Using marker for transplantation	Butat the same time 80 %t of the farmers could not adopt this practice due to unable to maintain the wax level and rainy days	Farmers are being used rope marker for transplantation So that the weeding by cono weeder is only opts for 20th days of planting and 30th days. During the 40th days it couldn't possible because the tillers reduced the space.
Weeding	As per the packages of practices every 10 days once using the cono weeder	Butin practice in clay soil using the cono weeder during the first weeding, seedlings uprooted and displays	

Participatory Demonstration Drum Seeder Method of paddy Cultivation-2006-2007

- Sethiyathope Anaicut Farmers Welfare Association
- Athivaraganatham Farmers Welfare Association
- Manikollai Small Farmers Lift Irrigation Federation

Economics of Paddy cultivation under SRI, DS and CM-2006-2007

Sl.No.	Method of cultivation	Yield in held (kg)	Cost of cultivation	Gross Income	Net Income	B.C.R
1	SRI	2880	6960.00	18648.00	12038.00	2.68
2	Direct Sowing	2756	5945.00	18373.00	12588.00	3.10
3	Conventional method	1800	8315.00	11988.00	3903.00	1.44

Drum Seeder Method of Paddy Cultivation (Advantages)

- Reduced the seed rate 5 to 8 kg /acre depends on variety
- Sowing the seeds in Rows with the spacing of 23 cm
- Cono weeder would be using for weeding
- No nursery period and reduced the duration
- More or less good yield
- Reduced the cost (no transplantation cost, plucking cost and so on)
- Reduced the water dependency

Drum Seeder Method of Paddy Cultivation 2008-2009

S.No	Name of the SHGs/ SMLI/AWFWA	Drum Seeder Holders	Extent (acre)
1	Thenkoodu Federation	1	18.70
2	Sethiyathop Anaicut Farmers Welfare Association	3	76.30
3	IIFS Farmers	2	56.10
4	Athivarahanatham Farmers Welfare Association	-	11.90
	Total	**6**	**163.00**

Farmers Experiences on SRI and Drum Seeder method of Paddy cultivation in Rainfed Tank Irrigation in

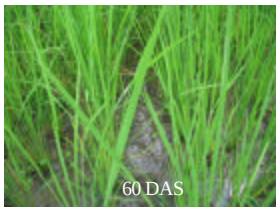
Illuppur , Pudukkottai

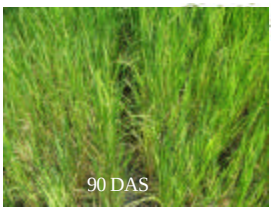
Participatory Demonstration On Drum Seeder Method of Paddy Cultivation 2007-2008

- Initiated through Sethiyathope Anaicut Farmers Welfare Association
- Participatory Demonstration conducted with Thalinji Village Development Federation

Participatory Experiment on Drum Seeder Method of Paddy cultivation

D/S : 09.08.2007
Extent : 0.75 acre
Irrigation : Well
Village : Thalinji





Yield : 1.75t/ac
BCR : 1.82: 1

Drum Seeder Method of Paddy cultivation – 2007-2008




29 farmers - 26.42 acre

Drum Seeder Method of Cultivation issues and Farmers strategies on adoption of Drum Seeder method of paddy cultivation

Drum seeder Method of paddy cultivation	Drum Seeder packages	Issues	Overcome issues by the Farmers for the following practices
Nursery preparation	No	No	No
Mainfield preparation	Maintains the field in wax condition	Timely rain has needed	Line sowing method adopted
Seed sowing	Treated seeds with 12hrs soaking in water and 12 hrs keep in cunny bags	No	Adopted
Watering	Every 7 to 10 days interval	No	No
Weeding	3nos Weeding by cono weeder	One time only possible (15 to 20th days)	One time cono weeder and second time manual

Direct Seeded Rice– Replication 2008-2009




52 farmers – 43.27 acres

Training and Capacity Building
Farmers Field School

- Facilitated (SRI) Farmers Field School with Agriculture Department (Under National Food Security Mission Scheme),
- No. of classes - 12
- Place - Thalinji village
- No. of farmers - 30 farmers of both genders
- Rice Intensification has been highlighted in the thrust area.


Community Managed SRI Paddy Nursery

- **Community managed paddy nursery for SRI to 15 farmers with an acre of 17.00**
- **Due to failure of rainfall only 5 farmers involved in SRI paddy cultivation with an acre of 5.50**

SRI Principles, issues and farming community's strategies on adoption of SRI method of paddy cultivation

SRI Packages. (well irrigation)		Issues	Overcome issues by the Farmers for the following practices
Agri.Op	**Practices**		
N.Pre	Polythene sheet using for nursery	Observed the heat, so that affect root zone and seedlings got yellow colour	Conventional method of nursery preparation. But more FYM and less seeds.
	Recommended 15 days seedlings for transplantation	But not enough grown seedlings with in 15 days (at least require 10 cm length of seedlings)	Transplanted 18 to 22 days old seedlings
M.Pre	Maintains the field in wax condition	If made wax condition, the field has hardening. It leads to difficult transplanting	The same day drain the water and do the transplantation with rope marker. Using power tiller for ploughing and levelling the mainfield preparation.
T. plant	Using marker for transplantation (25 x25)	If adopted 25 cm in between rows ,difficult to operate cono weeder (dislocate the crop)	In between rows 30cm and in between plants 25 cm.
Weeding	As per the packages of practices every 10 days once using the cono weeder in between rows and plants up to forty days.	If adopted 25x 25 cm , three weeding	Three weeding have done with in 50 days.

Farmers Observation on SRI

- Getting knowledge on seed rate reduction
- Line planting method of paddy cultivation
- Using cono weeder for weeding and reduced weeding cost
- Flood irrigation is not required

Constraint for adoption of SRI & Drum Seeder method of paddy cultivation

- Rainfed Tank Purely depend on Rainfall
- North East Monsoon is Required for Rainfall
- If it is get rainfall during month of October, farmers will have adopted Drum seeder method of cultivation and SRI method of paddy cultivation
- Otherwise will go on Conventional Method of Paddy cultivation
- The current year (2009-2010) delay monsoon Majority of the farmers adopted Conventional Method of Paddy cultivation and Line Planting

Farmers Presumptions on Line Planting Method of Paddy cultivation

- Even delay and uneven rain fall also suitable for this method of cultivation
- Reduced the seed rate and reduced the transplantation cost
- Cono weeder has been used for weeding
- Not involved high technology
- Less rat disturbance
- Farmers have more confidence on good yield
- This method has highly flexible
- This method has similar to conventional method

Line Planting

Variety –ADT-39

Rainfed Tank Irrigation

Impact on SRI method of paddy cultivation

Line Planting

S.No	**Line Planting method** **Agricultural operations**	**Activities**
1	Nursery	Convention method of nursery . But the seed rate 20 kg/acre Transplanted 25 to 30 days old seedling. Few of them transplanted even 35 days after.
2	Mainfield preparation	Like Conventional method
3	Transplantation	Farmers are being used rope for maintaining the line. Between rows 30 cm and plants may vary (15 to20)
4	Weeding	Using cono weeder by two members in two times (first weeding 15 to 25 days and second weeding 35 to 40 days)