

SYSTEM OF RICE INTENSIFICATION

Synthesized by Fr. Henri de Laulanie in early 1980 who came to Madagascar from France. It is a challenge to meet the rice requirement of the people of Mizoram with a limited flatland and limited irrigation.

Advantage :

SRI – ‘Too good to be true’

SRI Method increases productivity of

- i) Water : Double yield with half water
- ii) Land : 8 tons / ha – can be double or more with skill and precision.
- iii) Labour : Increase labour by 26 % in Madagascar, by 11 % in Sri Lanka but increase return by 50% to 100%. Labour requirement decreases and it may even be the same or even less than conventional method if and when the farmer master the practice.

SRI is also beneficial in

- iv) Environmental : Environmental friendly.
- v) Grain quality : Less broken and unfilled grains. Outturn recovery 67-75%
- vi) Health Benefits : No chemical residue

Larger root system – Increase micro nutrient content.

Tab : 1

Area, Production and Productivity of Paddy under WRC for last three years and estimated production with SRI

Sl. No.	Year	Area (K+R)	Production (MT)	Productivity (MT/Ha)	Estimated production with SRI	Requirement of Rice in Mizoram (MT)
1.	2006-2007	11386 (52851)	15806.00 (29464.49)	1.38 (0.55)	62851 (107340)	
2.	2007-2008	9594 (54541)	4333 (15688)	0.45 (0.28)	17269 (28624)	
3.	2008-2009	11198 (51990)	24428 (68917)	2.18 (1.32)	97647 (142136)	
4.	2009.2010	12000 (52000)	30000 (81000)	2.5 (1.55)	120000 (164000)	

Note : Fig. in parathesis is a combination of WRC and Jhum figure for the year.

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SIX BASIC PRINCIPLES OF SRI

- i) Use of less quantity of seed.
- ii) Transplanting of young seedlings.
- iii) Careful transplanting using single seedling/hill.
- iv) Planting at wider spacing.
- v) Mechanical weed control.
- vi) Judicious water management.
- vii) Use of organic manure.

SRI PRACTICES

Quite different from normal irrigated rice cultivation practices for centuries.

- i) Growing of any suitable high yielding variety (HYV):
Only HYV seeds suitable for the locality should be chosen for cultivation. Only 5 kgs is sufficient for 1 ha or 2 kgs for 1 acre. It is very suitable for Hybrid Rice cultivation where 15 kgs seeds is required for 1 ha and 1 seedling is planted per hill.
- ii) Make channels at every 2 mtr interval to facilitate standing of water to keep the soil moist.
- iii) Transplant young seedlings :
8 – 12 days old – not more than 15 days, two small leaves with seed sac in a well prepared plot. Transplanting of young seedlings with care and at wider spacing encourages tillering which may be as many as 40-118 nos. per hill.
- iv) Transplant quickly but carefully :
Allow only 15-30 minutes from uprooting to transplanting. 1-2 cm deep in the soil that is muddy but not flooded. Root should not bend but be placed horizontally. Seedling should be handled carefully.
- v) Plant in square pattern to facilitate weeding
Common spacing = 10" X 10", 12"X12" and 15"X15"
But with good soil and heavy tiller variety = 20" X 20"
Transplanting is to be done with the help of marker like rotary marker, marked wooden or bamboo stick or rope to maintain correct spacing.
- vi) Keep soil moist, not continuous flooding during veg. growth period. Alternate wetting and drying has to be done. Keep the field dry for 2 to 6 days depending on the area till there is a hair like crack on the soil. After panicle initiation, keep thin layer of water (1-2cm) until 10-15 days before harvest when the field should be drained.
- vii) Plant seedlings far apart :
One seedling / hill – relatively few plant per m² (16 Nos)
Do not exceed 2 plants per hill.

viii) Weeding : Frequent and early weeding facilitate soil aeration. Thorough ploughing and puddling also helps weeds management.

Mechanical weeding with rotary weeder is recommended. The weeder turns the soil and incorporate the weeds in the soil enhancing aeration. Weeding at 10 – 15, 25 and 35 DAT are recommended. Weeds are not thrown outside the plot. Pre emergent weedicide like butachlor and post emergent weedicide like 2,4D are used successfully though Herbicides are not recommended in SRI.

ix) Plant Protection :

Pest and diseases problems are not severe with SRI. If it is required try to use biopesticide as far as possible.

During tillering period either

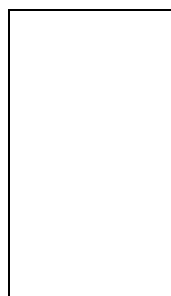
- a) Apply small amount of water daily to keep soil moist but not saturated – no standing water. Field should be left dry for short period to the point of surface cracking (2-6 days). or
- b) Flood and dry the field for alternating period 3-6 days throughout veg. growth period. Avoid air pocket – degeneration of root.

x) Add nutrients in organic form – compost or FYM @ 10 tons/ha Chemical Fertilizer is applied only as basal dose @ 20 : 20 : 20 kg NPK/ha or 50% of total nutrient requirement is supplied through organic manure and another 50% through chemical fertilizer.

Nursery Preparation

Width – 1 metre, length – as per convenience

1 metre wide



bamboo

Seed bed should be raised upto 6” from the ground with the help of pieces of bamboo or plank like a garden.

- i) Prepare as close as possible to the main field.
- ii) Soak the seed in water for 12-24 hrs. Put in gunny bags and leave for 12 hrs for incubation or germination.
- iii) Level the bed, spread thin layer of well decomposed FYM on the bed. Broadcast 2 kgs of seed in 40 sq. m for 1 acre. Apply another layer of FYM. Cover the bed with straw. Irrigate with watering cane in the morning and evening.
- iv) Early transplanting : 1-2 tillers / hill. 8-12 days old or even upto 15 days old..
- v) Take out seedlings with iron sheet of 15” X 18” size. Push the sheet beneath the plants about 3” deep and take out with soil.

How ?

Rs 10 lakhs received from Government of India under MMA (CSS) for demonstration of SRI has been distributed to all DAOs during 2008-09 as follows. Another Rs 15 lakhs is received for 2009-10. Let all of us made use of our fund and new power tillers, mini tillers and tractors to raise our production and productivity upto 5 times.

DISTRICT WISE FUND ALLOCATION FOR DEMONSTRATION ON SRI DURING 2008-2009.

Rs 2000/Unit of 0.4 ha

Sl. No.	Name of District	Area (Acre)	Amount (Rs)
1.	Kolasib	78.00	1,56,000.00
2.	Champhai	73.00	1,46,000.00
3.	Serchhip	68.00	1,36,000.00
4.	Lawngtlai	56.75	1,13,500.00
5.	Lunglei	53.00	1,06,000.00
6.	Aizawl	50.50	1,01,000.00
7.	Saiha	48.00	96,000.00
8.	Mamit	46.75	93,560.00
9.	Directorate for Thingdawl Farm	26.00	52,000.00
	Total	500.00	10,00,000.00

LEILETA BUHCHIN DAN PANGNGAI (CONVENTIONAL METHOD) LEH SRI METHOD KHAIKHINNA

Sl. No.	Conventional Method	SRI Method
1.	Hectare 1 ah buh chi kg 40-50 kui a ngai	Hectare 1 atan buhchi kg 5 kui ila a tawk.
2.	Buh chi (tiak) ni 25-30 vela upa ah phun sawn a ni.	Ni 8-12 a upa phun a ni a, ni 15 bak pelh awih a ni lo.
3.	Buh chi/tiak pawh hnu phun lovin kar 1 chuangte pawh dah a ni thin.	Buh chi/tiak te chu nursery atangin minute 15-30 ah phun fel vek tur.
4.	Buh chi(tiak) te chu a pawhin an pawta, silfaia, tel khawma, hla tak taka theh sawn emaw thiar sawna tiankhawm a ni a, buh tiak in a tuar em em a, a thi a tamin phun hlimah a than a chawl reng thin.	Pawt lovin a lawka dim taka lawk a ni a, pawh a awm lova, sil a awm bawk lova, telkhawm te, tiankhawm leh theh dawrh dawrh te a awm ve lova, buh tiak a him bika, phun hlima than chawl lailawk angte pawh a awm lo.
5.	Buh bi tawka ngaiha inhlat a phun darh vel a ni a, tlar a awm lova, bi kar pawh a mumal lo.	A tlar a phun a ni a, a tlara a a bi inkar pawh inang veka phun a ni a, buh hi square vek a phun a ni.
6.	Sq metre 1 a buh bi 33 leh a aia tam pawh phun a ni.	Sq metre 1 ah buh bi 16 emaw a awm thei a, hei aia tam pawh a ni thei.
7.	Bi khatah zai 3 te chu aia tamte pawh phun a ni.	Bi khatah 1 zel phun a nia, 2 a lo awm pawhin a bak pelh loh tur.
8.	Leitha, Chemical fertilizer (NPK) recommend a ni.	Organic Manure recommend a ni. Fertilizer chu basal application atan chauh a ni.
9.	Weedicide (Hlo tur) pawh recommend a ni.	Weedicide hman phal a ni lo.
10.	Tui chim tir reng a ni.	Leilet te chu tihhnawn (Moist condition) a ni ber.
11.	Hectare 1 ah 4 MT vel thar a record a ni.	Hectare 1 ah 8 MT thleng thar theia record a ni.