Promoting System of Rice Intensification (SRI) in India:
Experience of Sir Dorabji Tata Trust

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Introduction on SDTT

- The Sir Dorabji Tata Trust was established in 1932 by Sir Dorabji Tata with a vision for the advancement of the country.
- It is one of the oldest, non-sectarian philanthropic organizations in India.
- Today, it is a leading Indian donor, sensitive and responsive to the fast-growing needs of a developing nation.

ALLIED TRUSTS

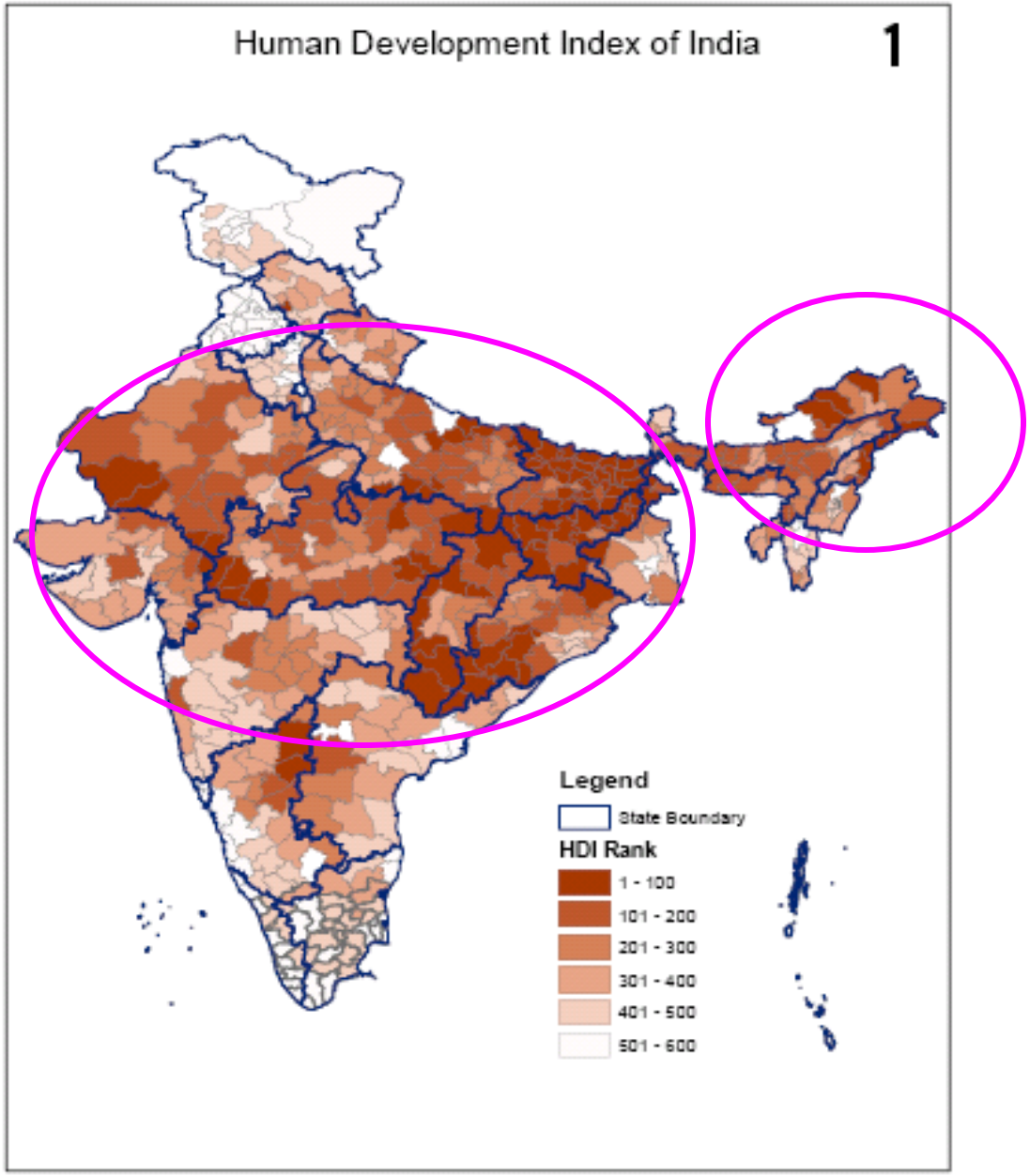
Among the trusts administered by the Sir Dorabji Tata Trust (SDTT), the following Trusts focus on overall developmental issues and on providing scholarships for higher education:

- Tata Social Welfare Trust
- R. D. Tata Trust
- Tata Education Trust
- J. R. D. Tata Trust
- J. R. D. Tata and Thelma J. Tata Trust
- Jamsetji Tata Trust
- J. N. Tata Endowment

Portfolios for SDTT

- Management of Natural Resources and Rural Livelihoods
- Urban Livelihood
- Education
- Health
- Civil Society, Governance, and Human Rights
- Media, Art and Culture

Map of Human Development Index (HDI) created by SDTT in 2007

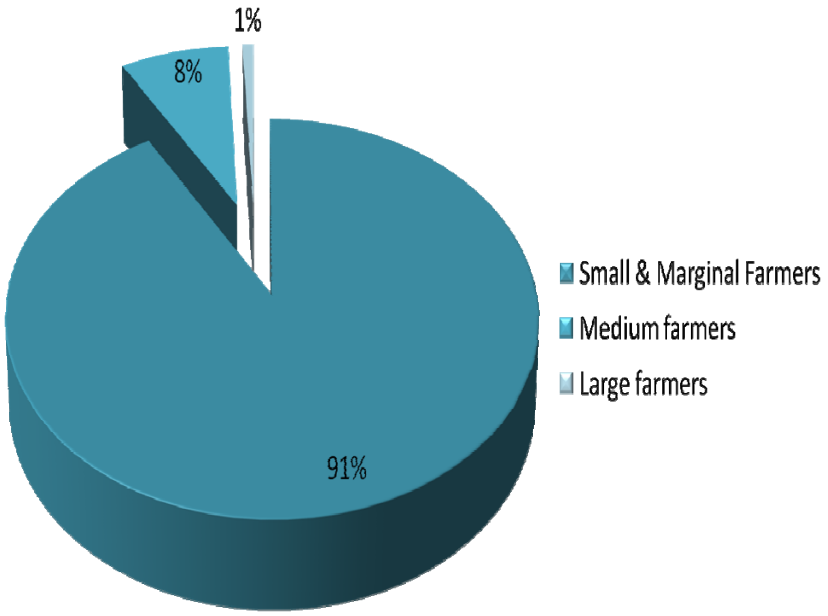


- Under Management of Natural Resources and Rural Livelihoods, the Trusts has identified **Food Security for Small and Marginal Landholders** as a focus area for 2007-2012.
- The System of Rice Intensification (SRI) which was supported by the Trust since 2006 with grants to 5 agencies in eastern India was taken up as one of the programmatic themes.
- A dedicated program on SRI promotion was taken up from January 2008 with an allocation of Rs 10.94 crore ($2.28 million) spread over three years.

Strategy adopted by the Trust

- Giving emphasis on reaching out to small and marginal farmers in mainly rainfed areas.
- Policy advocacy at state level so as to facilitate mainstreaming SRI
- Engaging with policy makers nationally
- Facilitating interaction among different players, e.g. supporting learning alliances
- Promoting innovation within SRI

Strategy I



- **Reaching out to more smaller farmers:** data here are based on 1,815 farmers in Orissa projects – almost the same pattern is seen in the other 7 project states

Strategy II

- **Human resources development for SRI:** More than 300 Master Trainers have been trained who in are training other farmers

Strategy III

Awareness building and reaching out to farmers

Strategy IV: Ensuring cross-learning among practitioners and SRI advocacy

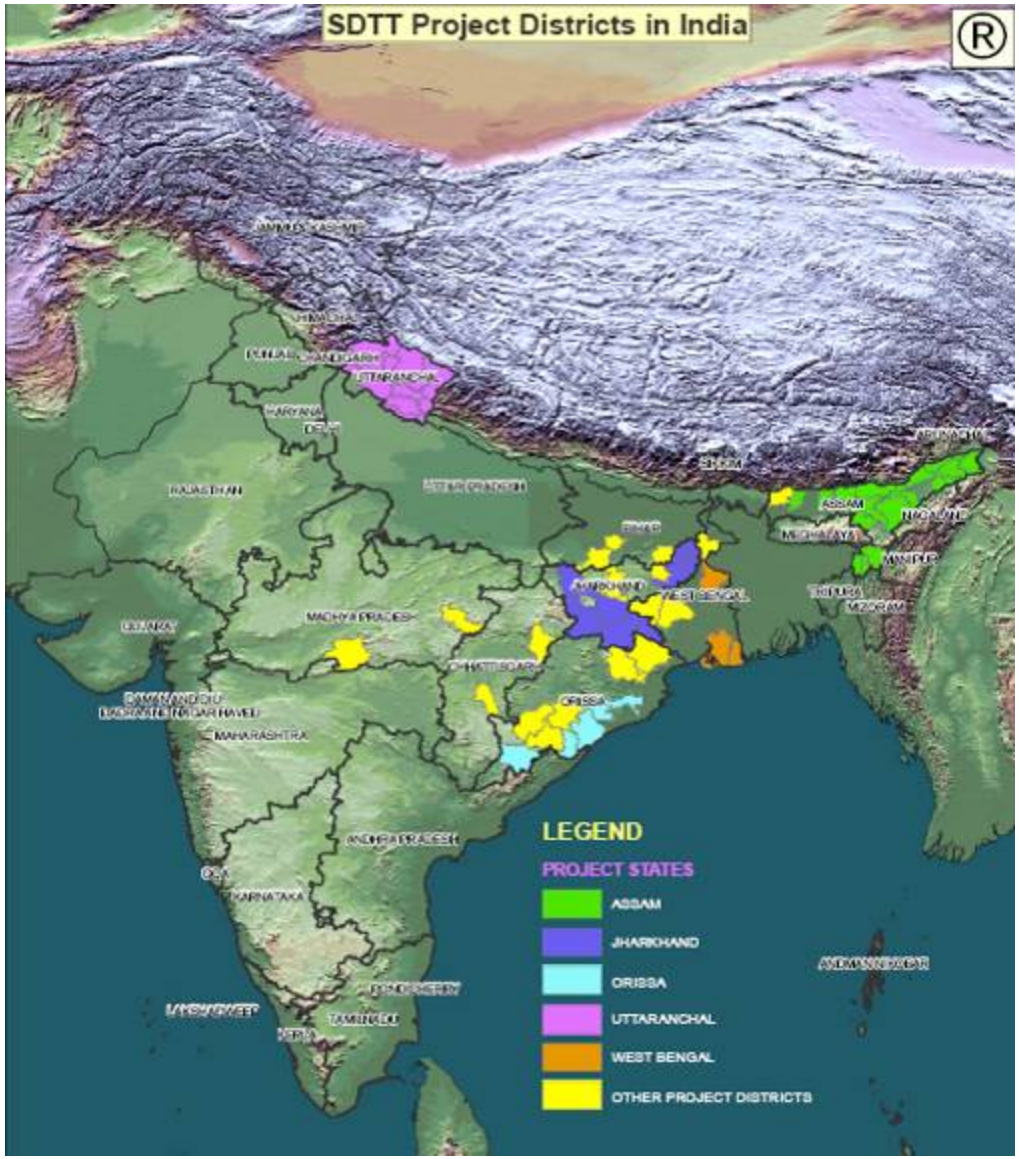
Strategy V

- Promoting innovation within SRI, e.g. appli-cation to other crops

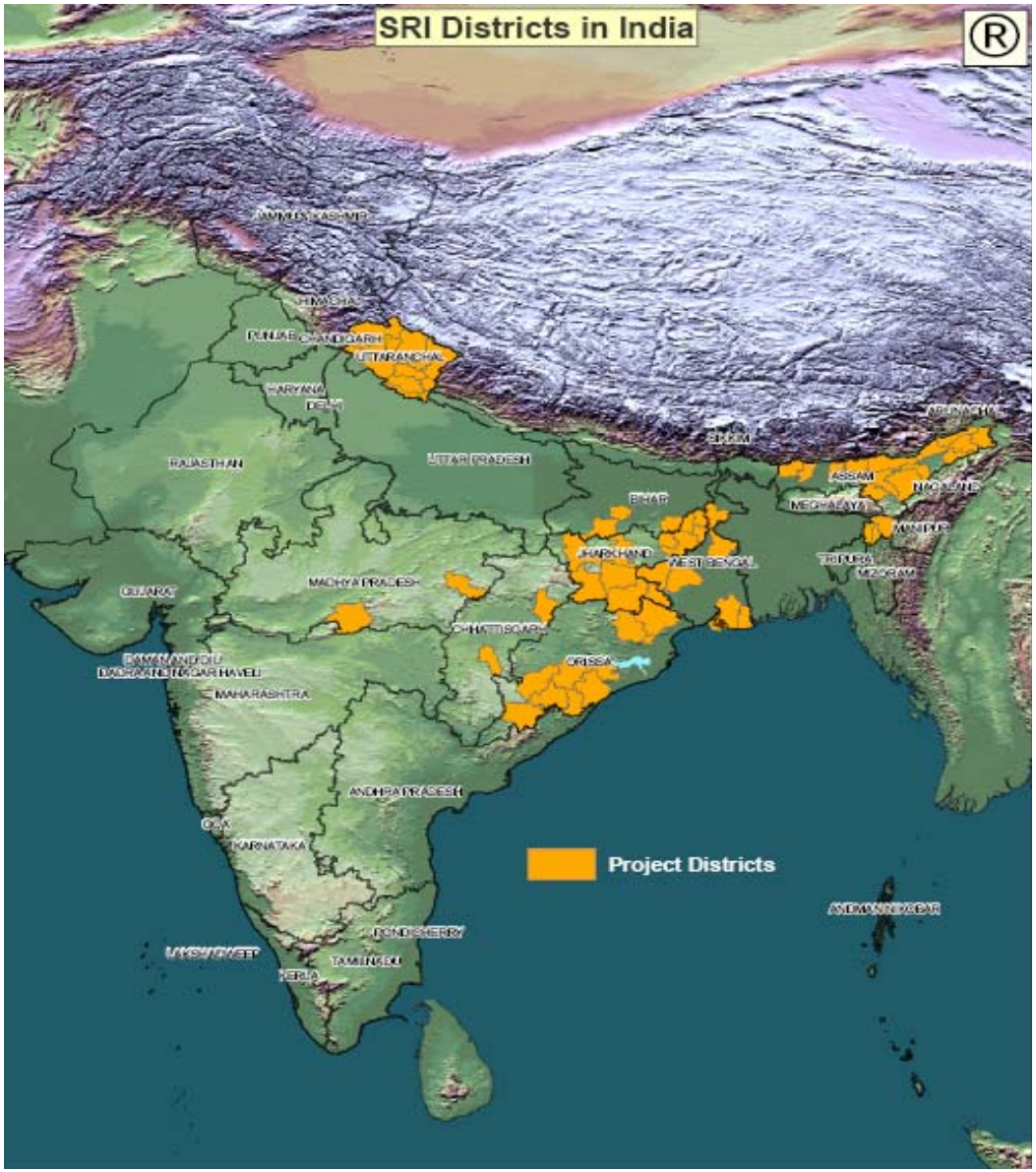
Major Achievements

- The Trust is currently working with 107 partners in Uttarakhand, Assam, Bihar, West Bengal, Jharkhand, Orissa, Chhattisgarh, and Madhya Pradesh, covering 76 districts
- SRI promotion with 30,198 farmers covering an area of 6635 acres during *kharif* season 2008
- Mainstreaming SRI in Orissa, Uttarakhand and Assam, where the Governments are supporting
- The Trust runs an e-group which already has 250 members with 731 messages exchanged between October 2007 to September 2008
- Hundreds of trainers and farmers have been capacitated to act as local cadres to spread SRI

SDTT Project Districts in India

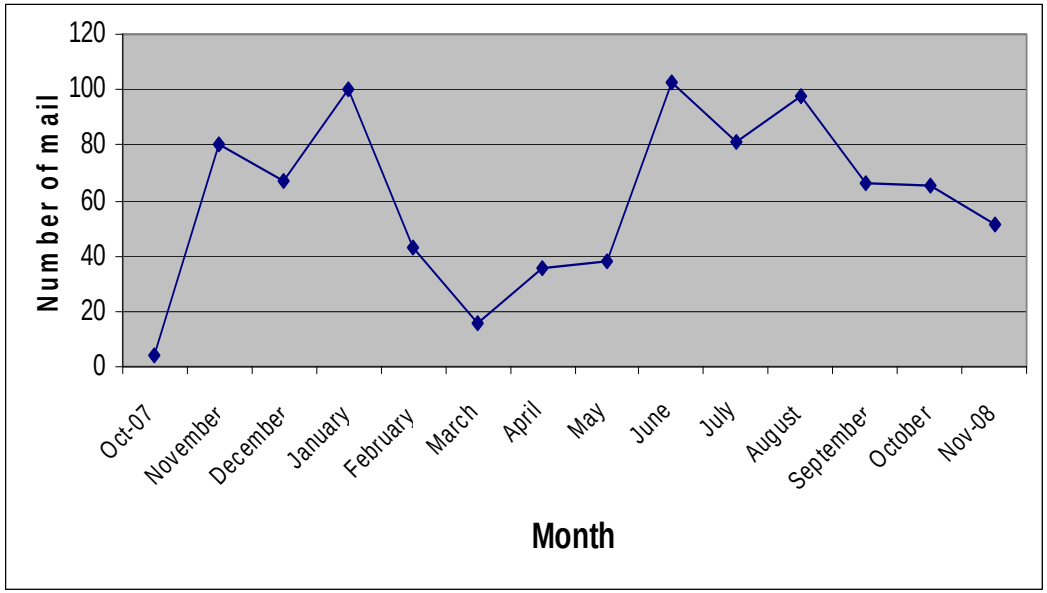


SRI Districts in India

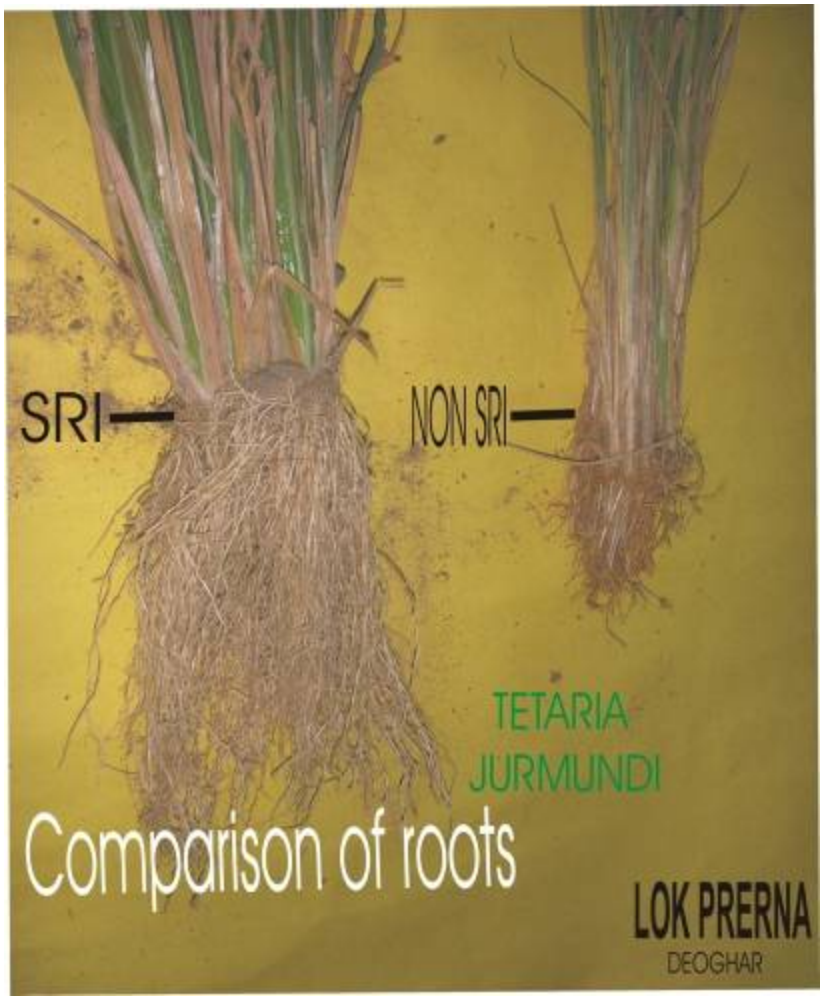


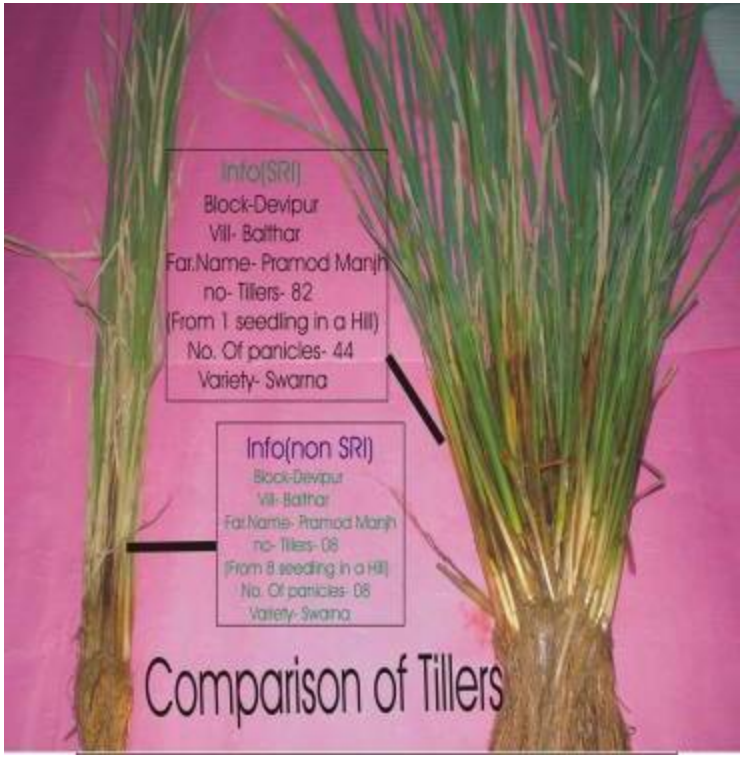
Starting an SRI e-group: sriindia@googlegroups.com

- The Trust initiated an e-group dedicated for sharing SRI-related issues October 2007
- The group has 269 members as of 1st December, 2008.
- A total of 848 mails were exchanged during October 07-November 08.



Some results of SRI projects -Jharkhand





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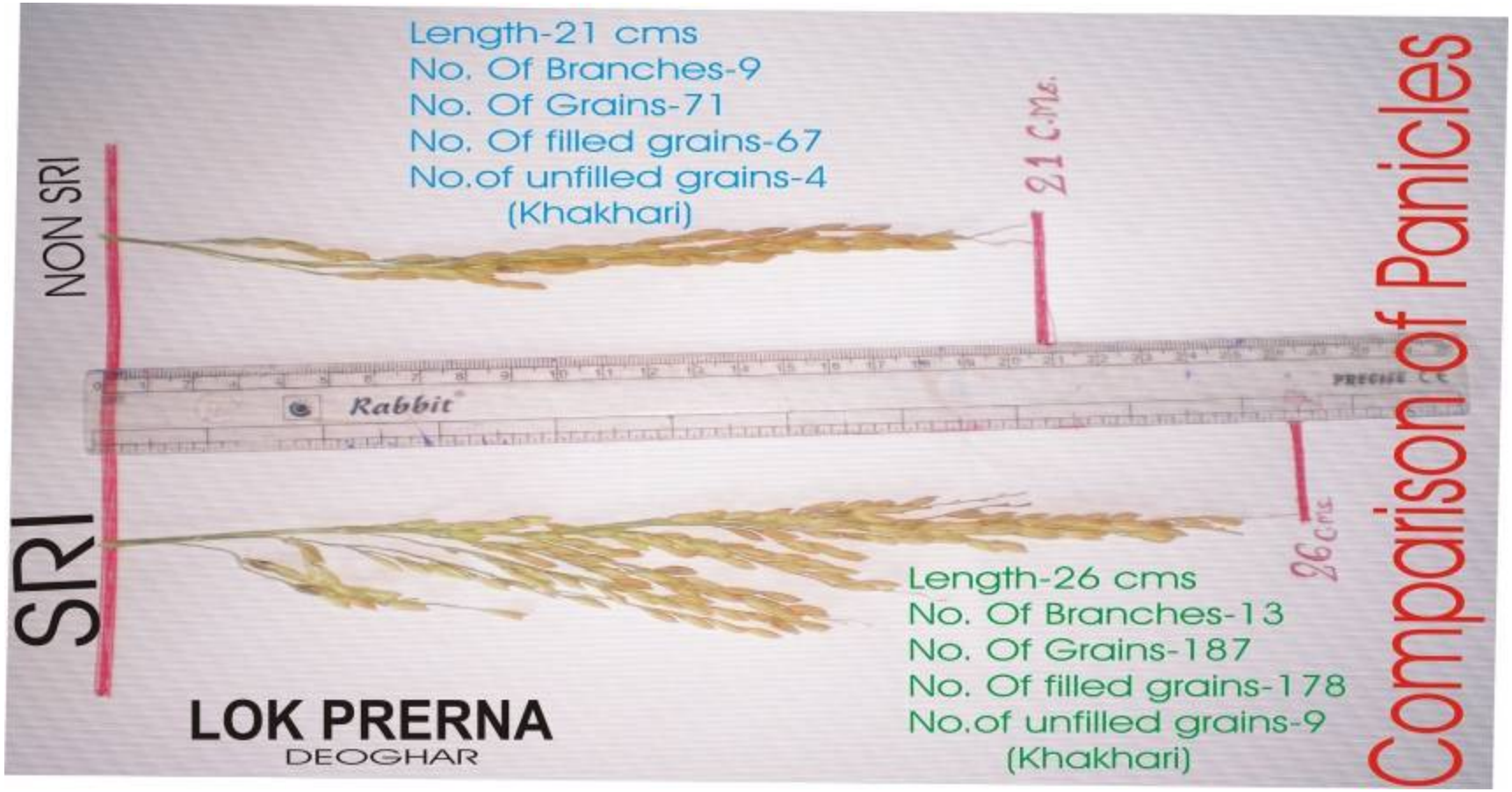



धान - 202
धान - हाइब्रिड
परम्परागत विधि
धान -332
धान - सिक्की नान्हि
राजेन्द्र गिल्ड
S.R.I

Crop-Cutting Results of 2008 - Uttarakhand

Districts	No. of tillers/ plant (Avg.)		Average Plant Height (cm.)		Average Panicle length (cm)		Average no. of grains/ panicle		Average grain yield (Q/Ha)		Average straw yield (Q/Ha)	
	Con.	SRI	Con.	SRI	Con.	SRI	Con.	SRI	Con.	SRI	Con.	SRI
Nainital	8	27	114	123	23	24	144	154	25	41	90	200
U.S. Nagar	8	26	89	108	23	26	126	171	65	90	144	176
Bageshwar	7	14	98	133	13	21	65	194	38	71	273	400
Almora	6	16	68	110	20	23	68	110	36	73	176	200
Pithoragarh	17	42	76	108	15	20	87	148	38	67	130	150
Champawat	5	12	101	135	16	22	69	192	36	63	126	194
Kumaon	**9**	**23**	**91**	**120**	**18**	**23**	**93**	**162**	**40**	**68**	**157**	**220**
T. Garhwal	5	9	143	170	18	21	132	237	46	72	300	400
P. Garhwal	4	21	62	94	14	20	92	175	23	43	55	72
Dehra Doon	5	12	137	146	18	25	118	288	38	100	100	300
Haridwar	9	28	98	109	23	27	130	166	37	65	135	195
R. Prayag	7	16	128	160	16	20	55	140	42	80	100	120
Chamoli	8	21	76	95	19	24	95	177	51	75	210	260
Uttarkashi	6	23	92	100	16	25	54	124	40	68	100	160
Garhwal	**6**	**19**	**105**	**125**	**18**	**23**	**97**	**187**	**40**	**72**	**143**	**215**

Average Increase in Grain Yield = 76 %, in Straw Yield = 46 %

SRI Yield Reports from 5 NGOs in Assam-Kharif 2008

Name of NGO	Previous Yield with Non-SRI (Q/Acre)	Tillers per Hill with SRI (Ave.)	Effective Tillers with SRI	Ave. Yield with SRI (Q/Acre)	Grains per Panicle (Ave.)
RVC	15	85	55	34.43	390
Manure = Cow dung , Irrigation = Rainfed, Variety = Nilanjana & Ranjit					
ABITA GKUP	12	56	42	24.62	303
Manure = Cow dung & Bio-fertilizer, Irrigation = Rainfed, Variety = Ranjit					
Discovery Club	10	55	40	22.16	280
Manure = 25 % Chem. Fertilizer, Irrigation = Rainfed, V= Sarna Mahsuri					
Manav Shakti Jagaran	12	44	37	22.06	297
Manure = Cow dung & Bio Fertilizer, Irrigation = Dong, V= Ranjit					
SRDC	12	47	38	21.67	310
Manure = Nil, Irrigation = Rainfed, V= Ranjit					

Comparative analysis of the promotion in Godda's field (Jharkhand)

				SRI Method				Conventional		
Sl. no	**Farmers name**	**Village**	**Seed variety**	**No. of tillers**	**No. of pannicles**		**No of grains**	No. of tillers	No. of pani-cles	No. of grains
					Fertile tillers	**Unfertile tiller**				
1	Babula soren	Bada sinni	Lal	33	24	9	245	15	7	105
2	Jeevan soren	Bada sinni	Swarna	30	25	5	225	18	12	125
3	Marangmay murmu J	Bada sinni	Swarna	20	12	8	280	15	13	108
4	Munsi hansda	Telo	Swarna	30	22	4	260	17	14	125
5	Manika marandi	Telo	Swarna	20	18	2	280	18	15	130
6	Yugal madaya	Agaya		35	30	5	270	16	14	134
7	Hiragni murmu	Bada amarpur	Lal	25	20	5	197	18	15	105
8	Patwari marandi	Bada malbitha	sans	34	24	10	195	15	13	110
9	Parmeswar marandi	Dumaria	lal	35	30	5	196	16	14	80
10	Talamay murmu	Asanbon a	lal	31	25	6	205	20	15	105

Major Concerns

- Weeders and markers need to be available
- Non-availability of total organic alternatives
- In the target areas, paddy cultivation is still dependent on rainfall, and many areas are vulnerable to floods (Assam, Orissa) or to drought (northern Jharkhand) or to landslides (Uttarakhand)
- Limited labour supply during peak period of demand for labour during transplantation

- Where to give more emphasis? Deepen SRI in the selected areas, or spread more thinly? Can some better estimates be made on unit cost?
- How do we ensure human resource development for SRI promotion?
- How collectively can we address the opportunities available outside this SDTT Program, e.g., under NFSM program, etc.

Future Plans

- Address the issue of markers and weeders
- Address the issue of organic manure and soil nutrient supplementation
- Reach out to another 50,000 small and marginal farmers by next *kharif*
- Initiate SRI in 4 new states: Maharashtra, Manipur, Nagaland and Meghalaya
- Conduct soil nutrient studies in fields where SRI has been practiced for over 5 years

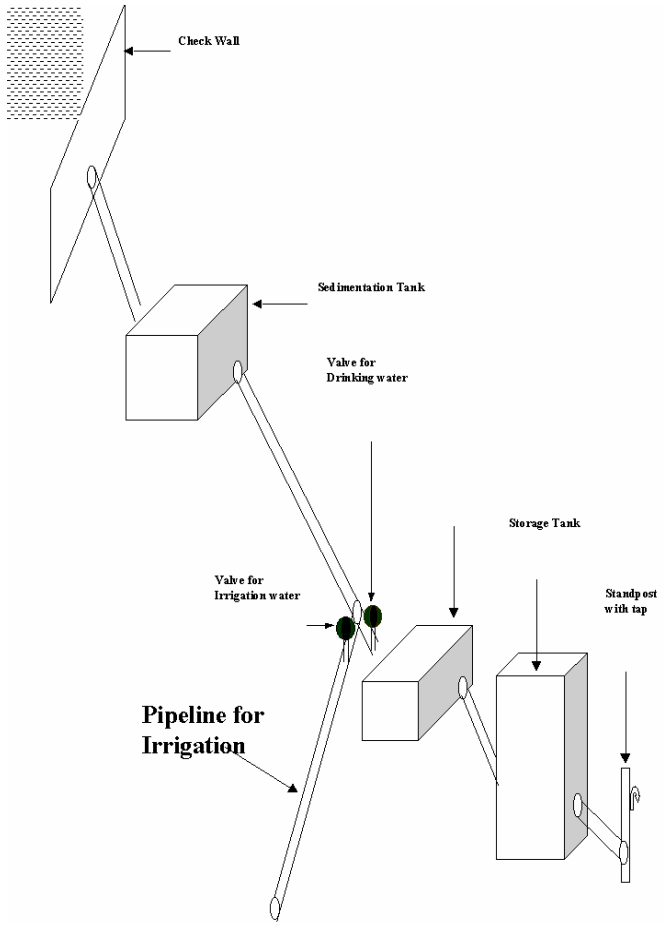
What to do in rainfed areas with SRI?

(Irrigation coverage in Project states)

State	**Irrigation coverage (%)**
West Bengal	25.9
Bihar (including Jharkhand)	40.4
Orissa	36.2
Uttarakhand	19
Madhya Pradesh (including Chhattisgarh)	23.6

Mounting a Program on Diversion-Based Irrigation (DBI)

- SDTT has initiated a program on DBI to complement SRI with allocation of Rs. 15 crore (150 million) over 3 years



Various DBI systems on which intervention is suggested

A. Schemes which tap **small mountainous streams** to irrigate up to 40 ha of land (including gravity-flow irrigation, *phads, pukhars, tar bandhs*, etc.)
B. Schemes based on **small rivers** that can -- with or without intermediate storage -- irrigate larger areas that belong to a single village (small *Ahar Pyne* schemes, small *Dongs,* and small *Guls*)
C. Schemes based on **rivers** with intermediate storage that can irrigate lands in several villages (large *Ahar Pyne* schemes or *Guls*). While most *Dongs* do not involve storage, larger *Dongs* may be included in this category.
D. Small schemes which essentially divert **surface run-off water** in low rainfall areas for small-scale storage and subsequent use by marginal land holders (e.g., *Tankas* of Rajasthan)

THANK YOU

Biswanath Sinha, SDTT