

Interactive Policy Dialogue on Up-Scaling SRI

**ANGRAU Campus, Hyderabad
4th May, 2009**





**Directorate of Rice Research
Rajendranagar-Hyderabad-500 030**

Interactive Policy Dialogue on Up-Scaling SRI
Venue: ANGRAU Campus, Hyderabad
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PROGRAMME

Opening Session

- 09.30 – 09.40 : Welcome by **Dr. B.C. Viraktamath**, Director, DRR
- 09.40 – 09.50 : Objective of the meeting by **Dr. Bikshan Gujja**, Team Leader, WWF
- Views from the field – Experiences and constraints of SRI**
Facilitation by Dr. N.K. Sanghi, Advisor, WASSAN
- 09.50 – 10.50 :  Five representatives from the farming community (Annex-1.1)
 Five from Civil society groups which are implementing SRI – (Annex-1.2)
- 10.50 – 11.20 : Opening discussion on the issues emerged
- 11.20 – 11.35 : Tea break
- Views from the Institutions: Experiences and constraints from**
- 11.35 – 12.35 : Scientists (Annex-1.3). State Government functionaries (Annex-1.4) –
Facilitation by **Dr. P. Raghava Reddy, Vice Chancellor, ANGRAU**
- 12.35 – 13.00 : Open discussion
- 13.00 – 13.45 : Lunch
- 13.45 – 14.30 : **Policy support to SRI (Annex-1.5).**
Facilitation by **Prof. Abhijit Sen**, Member, Planning Commission, and
- 14.30 – 15.15 : **Technical issues and linkages of SRI (Annex-1.6)**
Facilitation by **Prof. V.L. Chopra**, Member, Planning Commission and
Dr. A.K. Singh, DDG (NRM), ICAR.
- Scaling up, targets and strategies for implementation (Annex-1.7).**
- 15.15 – 16.00 : Facilitation by **Shri L. Rynjah**, Principal Secretary, Planning Commission
- 16.00 – 16.15 : Tea
- 16.15 – 16.45 : Summing and recommendations – **Dr. Biksham Gujja**
- 16.45 – 17.00 : Concluding and way forward – **Prof. Sen.**

17.00 – 17.10 : Vote of Thanks – **Dr. P. Raghava Reddy**, VC, ANGRAU.

INTERACTIVE POLICY DIALOGUE ON UP-SCALING SRI

Points for the discussion

1.1 Feed back from representatives of farming community

1. What are the two main advantages and two main constraints?
2. What are the productivity gains (compare to traditional method)?
3. What support systems they received to adopt it and from whom?
4. What do they need do it better?
5. Why some other farmers in their own village are not adopting if it so good?

1.2 Feed back from Civil society

1. Why they got into SRI?
2. If their results are so good, why are they not expanding?
3. How are they working with the local agriculture agencies (extension, research etc)?
4. What are the incentives they are offering to farmers?
5. From whom they are getting financial and technical support?
6. What they need from Government agencies to do their work even better?

1.3 Points for the Scientists/ Researches

1. What are the merits of SRI (have they documented?)
2. What are the researches questions which needs to be further explored (do they have research programmes to do that?)
3. What are the ongoing structured research programmes on SRI?
4. What are the main technological constraints they identified through research?
5. How can they support the refinement in adoption?
6. What are their input use experiences?
7. Are they looking at the broader issues of the Climate Change, water stress etc?

1.4 Points for the State Government Functionaries

1. How are they promoting SRI in their existing programmes?
2. Their experiences (including constraints, difficulties)?
3. Do they have any state level (or district level) targets?
4. Experiences on the logistical support to the farmers (tools, fertilizers (bio also), Seeds, Irrigation??)
5. Extent of Interaction with civil society.
6. What two things need to be done to improve the implementation of SRI?

1.5 Policy support to SRI-

Facilitation by Prof. Abhijit Sen and Ms. Poonam Malakondaiah.

1. In spite of adequate emphasis on SRI in the exiting schemes (e.g. NFSM???) why SRI has not been spreading fast?
2. Are there special funds for SRI in the states? (Crop specific schemes)?
3. Does it require a special SRI mission?
4. Can SRI be part of the RKVY? (Special state specific projects)?
5. Linkage with NREGA (Labor component)
6. International experiences (Can India learn any success stories or can India contribute to the other countries)?

1.6 Technical issues and linkages of SRI

Facilitation by Prof. VL. Chopra and Dr. A.K. Singh.

1. Is there a common understanding about SRI Technology (or methodology)
2. Do we have adequate linkages between SAU's, ICAR system, State department and civil society? (Are we doing it in isolation?)
3. Are there proper and adequate tools for adopting SRI? (weeders, markers, mechanization, planters etc)?
4. Is there enough documentation on advantages of the SRI (productivity gain, water saving, fertility improvement, input saving, pests and diseases management, gains to ecosystem etc...)
5. Is there enough scientific validation based on the field experiences and field trials?

1.7 Scaling up, targets and strategies for implementation

Facilitation by Shri. L. Rynjah and NB Singh

1. Why some states succeeded in scaling-up? - Lessons from them?
2. Constraints for the states which are not moving fast enough?
3. Specific targets for each state- will that help?
4. Is there need for common guidelines for the states to scale up?
5. Is there enough and dedicated financial support?
6. Is the institutional (trained human resources, Clear administrative support, etc.) mechanism available to meet the targets?

Interactive Policy Dialogue on Up-Scaling SRI

I. Opening Session

An interactive policy dialogue on Upscaling SRI was held on 4th May, 09 at Acharya NG Ranga Agricultural University (ANGRAU), Hyderabad. Around 50 delegates including Members and three Senior Officers of Planning Commission, ICAR scientists, Vice Chancellors of SAUs, Directors of Agriculture, Directors of Research from SAUs, Agriculture Commissioner, DAC, NGOs, Scientists from ICAR institutes/SAUs, Progressive farmers, WWF-ICRISAT representatives and others participated in the meeting.

Dr. B.C. Viraktamath, Project Director, DRR welcomed the participants and said that SRI is one of the potential water saving and yield enhancing methods. He said that this meeting would help learn from the experiences of various stakeholders and the pros and cons of SRI for its wider adoption.

In his opening remarks, Dr. Biksham Gujja, team leader, WWF –ICRISAT opined that this is a unique meeting in several fronts wherein Planning Commission members, advisers, scientists, farmers, policy makers, extension departments, and civil society organizations are sitting together and discussing matters related to SRI. He also emphasized that the conflicts of water are going to surpass all other conflicts. Even if 20% of area is converted to SRI, it can save enough water. He outlined the objectives of the meeting as follows

Main Objectives:

- To evolve a framework for up-scaling the SRI
- To identify the scientific and technical issues for further improving the SRI adoption which includes design and production of tools, research issues on varietal response to SRI, suitability in different climatic zones, etc.
- To draw timeline on policy framework and instruments for up-scaling of SRI.

II. Views from the field – Experiences and constraints of SRI Facilitation by Dr. N.K. Sanghi, Advisor, WASSAN

The first session on “Views from field – Experiences and constraints of SRI” was facilitated by Dr. N. K. Sanghi, Advisor, WASSAN. Three representatives from the farming community, three from civil society groups shared their views on points given in Annexure 1.1 and 1.2.

Views from farmers

Mr. Prabhakar Reddy, Mr. Nagaratnam Naidu and Mr. K.V. Rao, farmers from Andhra Pradesh shared their views which are as follows:

- Farmers opined that the main advantages in adopting SRI are considerable saving in seed, water saving up to 50%, improved soil health and yield increase in the range of 20-30%. The major constraints experienced by them were, lack of trained labour, difficulties in planting young seedlings, water management in low-lying areas and greater difficulties in weeding.
- The productivity gains varied from farm to farm and were in the range of 20-30%.
- The farmers got the technical support from DATT centres, WWF-ICRISAT project, DRR, CRIDA etc. Though there was no financial support, the farmers got the Cono-weeders from different agencies.
- For better adoption of SRI, the farmers requested for training , cheaper disposable products for nursery raising, efficient mechanized weeders, supply of organics especially the wormi-compost and laser levelers on custom hiring.
- The reasons why other farmers are not adopting SRI are lack of awareness and knowledge and non availability appropriate and good quality machinery.

Views from civil society groups

- The Civil society groups got into SRI because of water shortage that is affecting rice cultivation and low productivity in the areas they are operating.
- Most of these organizations are implementing SRI for the past 2-3 years. Need of resource person at village level and availability of weeders and suitable modifications for different situations were felt by them.
- Even though there are few dropouts due to various reasons , the area and number of farmers who are adopting SRI are expanding year after year.
- Dr Ravindra of WASSAN mentioned that systems improvement is the motivating factor for SRI. They are providing labour subsidy for 2-3 seasons from the ATMA funds as cushion. The drop out rate is meager 5-10% not because of technology but due to other reasons such as labour availability. Block level approach rather than individual demonstrations will help to spread SRI faster.
- All of them felt that there is a need for training the rural youth and farmers and farm laborers on different aspects of SRI.

- Dr Shambu Prasad XIM, Buvaneshwar felt the need for different type of extension mechanism where in researchers and CSG should work together by learning from each others experiences. He also felt the need for having a common platform for technical support at the state, district and also village levels.

Suggestions given by the Civil Society members for promoting SRI are as follows:

- New institutional alliances may be constituted at state, district and project levels to upscale SRI. This may consist of autonomous organizations under governmental set-up (like ATMA, DRDA), experienced NGOs, sustainable community based organizations (like SHGs and federations), successful farmers, cadre of trained labourers, etc.
- SRI requires a change in the mind set of the people. Hence the conventional approach of extension (which usually includes one acre demonstration in a scattered manner for one year) should be re-designed to move towards compact block mode.
- The existing guidelines of SRI under NFSM may be modified keeping in view the field experiences on SRI. Particularly attention may be paid on the following aspects:
 - Demonstrations may be organized on a compact area basis for at least 3 years at a particular location with technical as well as input support on tapering basis.
 - There should be flexibility in choice of inputs under the demonstration programme within the overall allocation of fund per unit area.
 - Labourers, both men and woman may be trained in nursery raising, planting, use of weeding equipments etc.
 - At the village level, new equipments (namely weeder, marker etc.) may be provided to a sustainable CBO for using them on a custom hiring basis (in place of giving these equipments on individual basis).
 - A special provision may be created to carry out leveling of paddy land through laser leveler particularly in the fields where compact block demonstrations are to be laid out.
- To begin with, priority may be given to upscale SRI in areas/situation which are most suitable for the above system. This may include paddy area as under -
 - i) well/bore well during Rabi/Summer season
 - ii) tanks where salinity problem is low
 - iii) medium and major irrigation projects in red soils, etc.
- a. SRI may also be up scaled through financial support under RKVY particularly in districts where facilitating NGOs as well as experienced farmers are available.

Dr.N.K.Sanghi summarized the proceedings and put forward the following recommendations based on the open discussion that followed:

- Long term contact of the extension personnel with SRI practicing farmer is essential for SRI to go a long way.
- Training for extension personnel is necessary for up scaling
- The house felt that integrated nutrient management (conjunctive use of organic and inorganic) rather than only organic, may be followed in adoption of SRI.
- Existing support system need to be re-looked for up scaling SRI
- SRI, if reflected in District Agriculture Plans – be promoted through RKVY support.

III. Views from the Institutions:

Experiences and constraints - Scientists & State Government Functionaries

Views from Scientists/researchers

Scientists from different institutions expressed their views pertaining to the merits of SRI, researchable issues, technological constraints, ongoing research, addressing issue on account of climate change etc. The views expressed are as follows:

- The merits of SRI have been well documented by the scientists, The saving in water (25-30%) saving in seed (60-70%) improved microbial activity and enhanced yields (15-20%) were reported by the scientists.
- The researchable issues to be addressed included identification of most suitable varieties/hybrids for SRI, development of efficient machines for planting and weeding. Quantification of saving in water under different soil types, SRI vis-à-vis pests and diseases, nutrient dynamics and role of SRI in mitigating problems posed by climate change.
- Structured research programme on SRI is being organized by DRR under the All India Coordinated Rice Improvement Project (AICRIP) and this will be further strengthened to address the emerging issues.
- Proper land levelling is a critical factor in enhancing water use efficiency under SRI. Therefore, laser levelers should be made available for custom hiring.
- On-station-research may be initiated through a coordinated project on the following aspects under SRI

- a. Screening of existing varieties for suitability under SRI and development of new varieties
 - b. Integrated Nutrient Management in SRI cultivation
 - c. Non-pesticidal methods of pest management
 - d. Development of improved cono weeders and
 - e. Relative merits and demerits of weed control through herbicides and mechanical methods with specific focus on cost of weeding, root growth enhancement of microbial population etc.
- On farm trials on SRI may focus on the following aspects:
 - a. Water management particularly under tank and canal where irrigation is usually given through field and field method
 - b. Performance of weeders (motorized as well as manual) under varied field situations
 - c. Use of organic inputs in a gradual manner.

In conclusion, the Chairman Dr. P. Raghava Reddy suggested that DRR may develop a multilocational research program on SRI to address the above issues and adequate financial support needed to be provided for this purpose. Areas most suitable for SRI adoption need to be delineated.

Session III - Technical issues and Linkages:

Prof. V.L. Chopra, Member-Planning Commission, and Dr. A.K. Singh, DDG (NRM) ICAR listed the following technical issues:

- Popular high yielding varieties/hybrids may be evaluated for their performance under SRI by DRR and its cooperating centres.
- Seedling age at the time of transplanting should be based on the number of leaves (2-3 leaf stage) rather than number of days which varies from location to location and season to season.
- CIAE Regional Centre, Coimbatore to critically evaluate the performance and efficiency of both manual and mechanized Cono weeders developed by different agencies in A.P., Tamil Nadu and other states.
- The Project Director, DRR to give “inescapable essentials of SRI” for evaluation and validation. DRR should also supplement the result/performance of SRI technique when followed continuously for considerable period on any particular site.
- ICAR may prepare guidelines based on which the state universities will evaluate SRI and give suitable location-specific recommendations.

Session IV – Policy Support :

- Dr. Abhijit Sen, Member (Agriculture), Planning Commission said that there is a need to agree on the minimum principles of SRI that can go as essential components.
- He emphasized for a language common to all states regarding SRI for its validation and adoption.
- Efforts may be made to bring SRI activities under RKVY which has broader objectives and emphasizes district level planning.
- Based on the mid term assessment of SRI performance under NFSM further plans can be put in place to promote SRI in other states.

Policy consideration:

- Possibility of providing labour incentives to SRI farmers under NREGA may be explored. Convergence between different projects is needed to promote SRI.
- There is also a need to modify the guidelines for SRI under NFSM based on recent developments.
- Delineation of areas that are most suitable for adoption of SRI so that efforts could be focused in such areas/ States..
- The funds for promotion of SRI may be enhanced if it reflects so in C-DAPS to have visible impact
- If possible, and practically feasible, this system may be extended to other crops such as wheat, finger millet, sugarcane etc – the SAUs & ICAR system may take up pilots for this purpose.

Dr. Biksham Gujja, WWF summarized and presented the following points

- Guidelines of NFSM for SRI to be modified for more effective participation of stakeholder and promotion of SRI.
- State specific SRI programmes based on C-DAPS be considered under RKVY.
- DRR may take up National level multilocation evaluation and validation of SRI for drawing clear cut guidelines for its adoption.

- Mid term assessment of XI Five year Plan to get a view on performance in Tripura and Tamil Nadu and to cover more area in other states.

Recommendations

- ❖ System of Rice Intensification (SRI) is a proven method which saves seed, water and other inputs and results in enhanced yields. This method has become popular in Tripura and Tamil Nadu and concerted efforts should be made to promote SRI in other states wherever there is a feasibility
- ❖ Areas most suitable for adoption of SRI need to be identified across the country and efforts to be focused to promote SRI in such areas.
- ❖ SRI has been already included as a component under NFSM. During the mid term evaluation, performance of SRI component may be critically reviewed and appropriate corrective measures and modifications if any, may be brought about to realize the expected goals.
- ❖ Rashtriya Krishi Vikas Yojana (RKVY) is one of the important programmes of Government of India with broader objectives which functions with bottom up approach involving district level planning. Efforts may be made to support SRI under RKVY based on the C-DAP priorities.
- ❖ Capacity building at village level is quite critical for the success of SRI. Training programmes should be organized for the farmers, farm labourers and others who are involved in promoting SRI. Inter state farmers visits may also be organized under ATMA to educate the farmers.
- ❖ Mechanization holds the key for successful adoption of SRI especially the weeders, transplanters, threshers etc. to overcome the labour shortage. Efforts should be made to develop appropriate machinery. The weeders (both manual and mechanized) developed so far by different agencies/farmers need to be critically evaluated for their suitability and efficiency by CIAE Regional Centre, Coimbatore. This could be done by respective states, through SAU system.
- ❖ SRI promotion work should be taken up in close collaboration with the Irrigation Department which controls the flow of water. Unless this collaboration is established, it would be difficult to adopt SRI in command areas.
- ❖ Differential responses of varieties to SRI have been observed. Therefore, the existing high yielding varieties/hybrids may be evaluated by DRR to identify the most suitable varieties for SRI cultivation so that farmers can

get higher returns. However, for the time being, farmers can use any suitable variety for growing under SRI.

- ❖ Multilocation trials on SRI under AICRP may be intensified to study the specific effects of different components and to come out with location-specific recommendations. Further studies are needed to document the impact of SRI on pest and disease incidence, nutrient dynamics and eventual effects of climate change.
- ❖ For most practical purpose, seedling age at the time of planting could be 15 days. However, a criteria of 2-3 leaves would be better as it is not influenced by location or the season. Integrated nutrient management (both organics + inorganics) could be followed in SRI. Those who can manage complete organic SRI are most welcome. However, the issue of controlling weeds through herbicides needs further investigation.
- ❖ Possibilities of direct seeding of sprouted seeds may be explored for SRI as this would avoid nursery raising and transplanting leading to further saving in water.
- ❖ Special efforts should be made to empower the farmers to produce their own organic matter (compost, vermicompost) and green manures. This should be built in the overall programme to assist the farmers.
- ❖ Land leveling is a critical component for the success of SRI. Custom hiring facility for such implements and the motorized weeders has to be created in villages.
- ❖ The Ministry of Rural Development may be approached to avail incentives for labour for SRI under NREGA as labour shortage is becoming a serious problem in rural areas.
- ❖ Experience sharing amongst all the stakeholders such as State Governments, Researchers and Civil Society groups be promoted at National, State and District levels.

List of Participants:

S.No.	Name & Designation
I. Planning Commission	
1.	Prof. Abhijit Sen, Member (Agriculture)
2.	Prof. V.L. chopra, Member (Science)
3.	Shri L. Rynjah, Principal Adviser (Agriculture)
4.	Dr. V.V. Sadamate, Adviser (Agriculture)
5.	Dr. Vandana Dwivedi, Joint Adviser (Agriculture)
II. ICAR Officials	
6.	Dr. A.K. Singh, DDG (NRM)
III. Vice Chancellors, SAUs	
7.	Dr. P. Raghava Reddy, VC, ANGRAU, Hyderabad, A.P.
8.	The Vice Chancellor, TNAU, Coimbatore
9.	Dr. M.P. Pandey, VC, IGAU, Chattisgarh
10.	Dr. A.R. Pathak, DR,AAU, Jorhat
IV. APCs/Chief Secretaries of major rice growing states	
11.	Sri P. Bhattacharya, Director of Agriculture, West Bengal
12.	Sri T. Gopalakrishnan, Jt. Director of Agriculture, Tamil Nadu
13.	Sri B.S. Sindhu, Director of Agriculture, Punjab
14.	Sri D.K.Dharmarajan, Additional Director of Agriculture, Karnataka
15.	Mrs Manjula, Directorate of Agriculture, A.P
V. DAC, NFSM & NFSM Program Mission Directors of different states	
16.	Dr.N.B.Singh, Agriculture Commissioner, DAC, Government of India
17.	Dr. M.C. Diwakar, Directorate of Rice Development, Patna
18.	Dr.C.L.Jain, Director , NFSM, Raipur
19.	Dr.D.N.Singh, National Consultant-NFSM
VI. Scientists concerned from Research Institutes	
20.	Dr. Biksham Gujja, Senior Policy Advisor, WWF, Hyderabad
21.	Dr. V. Vinod Goud,W WF, Hyderabad
22.	Dr. B. C. Viraktamath, Project Director, DRR, Hyderabad
23.	Dr. R. Mahender Kumar, Principal Scientist, DRR, Hyderabad
24.	Dr. S. P. Singh, Head, Agronomy, DRR, Hyderabad
25.	Dr. K.S.Rao, Head, Agronomy, CRRI, Cuttack
26.	Dr.B.C.Barah, Principal Scientist, NCAP. N Delhi
27.	Dr Annamalai SJK, Project Co-ordinator, CIAE
28.	Dr. B.Venkateswarlu, Director, CRIDA, Hyderabad
29.	Dr.K.V.Rao, Senior Scientist , CRIDA, Hyderabad
30.	Dr. B.J. Pandian, Prof.(Agronomy), TNAU

	ANGRAU, Hyderabad
31.	Dr. G. Lakshmi Kanth Reddy, Director of Research
32.	Dr. L.G. Giri Rao, Director of Extension
33.	Dr. Jalapathi Rao, Registrar
34.	Dr. P. Punnarao, DDA
35.	Dr. Samba Shiva Reddy, Professor (Agronomy)
36.	Dr. Devender Reddy, WTC
37.	Dr. Anand Singh, DDA
VII. SRI Implementers	
38.	Dr. Baharul Majumdar, Agartala, Tripura
39.	Dr. Amrik Singh, Director-ATMA, Gurdaspur, Punjab
VIII Special Invitees	
40.	Mr. B Sinha, SDTT
IX. Farmers & NGOs	
41.	Dr. N.K. Sanghi, WASSAN, Hyderabad
42.	Mr. Ravindra, Director, WASSAN, Hyderabad
43.	Mr. D. Sen, PSU, Uttaranchal
44.	Dr. Shambu Prasad, XIMB, Bhubaneswar
45.	Dr. K. V. Rao, Farmer, Guntur, A.P.
46.	Mr. N. Naidu, SRI Lead farmer & Consultant
47.	Mr. Prabhakar Reddy, President, Federation of Farmers Associations, A.P.
Others	
48.	Dr. Shailaja Hittalmani, Prof. & Head, UAS, Bangalore
49.	Dr. M.T. Sanjay, Associate Professor, UAS, Bangalore
50.	Dr. B.V. Ingale, ADR, Sakoli
51.	Dr. P.V. Shinde, Scientist, Sakoli
52.	Dr. J.S. Prasad, Principal Scientist and Head Crop Protection, DRR
53.	Dr. T.C. Kumble, Associate Professor, Agronomy
54.	Dr. K. Surekha, Senior Scientist, Soil Science, DRR
55.	Dr. Ch. Padmavathi, Senior Scientist, Entomology
56.	Dr. M. Sreenivas Prasad, Senior Scientist, Pathology
57.	Dr. L.V. Subbarao, Principal Scientist, Plant Breeding, DRR
58.	Dr. V. Ravindra Babu, Principal Scientist, Plant Breeding
59.	Dr. P. Muthu Raman, Senior Scientist, CTC, DRR
60.	Dr. Lokanadhan, WWF –ICRISAT
