

A Brief Report on the National SRI Network Nepal

A meeting with the main objective of sharing knowledge and exchanging ideas among the individuals from different professions interested in SRI was organized by National SRI Network Nepal on the 19th of June, 2015 (4th of Ashad, 2072) in Nepal Agricultural Research Institute (NARI) Hall, Nepal Agricultural Research Council (NARC), Khumaltar. The meeting started at 11 am with the registration of participants.

The program was chaired by Dr. Bhola Man Singh Basnet and convened by Mr. Ram B. Khadka. Mr. Rajkant Jha, Senior Plant Protection Officer welcomed the participants sharing his own experience with SRI since 2002 and highlighting the recent developments. Concerning the objectives of the meeting, he expressed his hope that the meeting would create a new momentum for disseminating SRI technology in Nepal to address the issue of food security in the country. Meeting began with short introductions of themselves by participants focusing on their interests and their activities related to SRI.

There were technical and planning sessions in the meeting. Three papers were presented in the technical session followed by general discussion. Then addresses by senior officials and well-wishers to the meeting were followed by open discussion to set future plans for SRI promotion in the planning session.

Major activities at the meeting

1) Technical Session

a. Presentations

There were three presentations delivered at the meeting, followed by discussion on the materials presented.

First presentation was by Mr. Ram Bahadur Khadka, Scientist, NARC, on the topic ‘System of Rice Intensification Research Perspectives in Nepal’. He reported the results of recent research conducted on SRI in Nepal including some historical background, a review of constraints, and future research focuses to make SRI popular among the farmers.

Second presentation was made by Mr. Rajendra Uprety, Chief Agricultural Development Officer, Morang, who in sharing his own long experience on SRI in Nepal and abroad highlighted the various SRI practices, opportunities and challenges, and the relevance of SRI in the post-earthquake situation in Nepal.

Third presentation was delivered by Mr. Khemraj Dahal, Associate Professor, Institute of Agriculture and Animal Sciences (IAAS), Tribhuvan University, who threw light on the history,

present perspectives, and future strategies of SRI furtherance in Nepal. He also highlighted what he saw as the major problems related to SRI and focused on the way forward.

b. Discussion

After a short break, the discussion session began with the questions, suggestions, curiosities, and comments from the participants. All the participants were encouraged to ask questions to or make comments on the presentations. Several hands were raised for comments and suggestions over the presented issues. To start with, comments, questions and suggestions were first mentioned sequentially. The presenters took note of them patiently until all participants had asked questions and/or made comments. Then presenters responded to the queries and comments addressed to them one by one. Comments and queries by the participants and corresponding answers by the presenters are mentioned below.

- i) Mr. Brijlal Chaudhari from Parsa asked to Rajendra Uprety and Khem Raj Dahal about how the water for SRI can be managed in severely flooded conditions. Mr Rajendra Uprety answered that Swarna Sub-1 variety (a newly released rice variety by NARC for flooded conditions) is a good option which has a submergence-tolerance gene and can withstand flooding for more than 15 days. He also added that the community can arrange canals to drain the excess water out. Mr. Khem Raj Dahal agreeing upon Mr. Uprety's answer added that early planting may help in this regard, and Chure watershed management initiatives are important for regulating water in that part of *Tarai*.
- ii) Mr. Ghanshyam Malla from Environment Division, NARC, pointed out that under aerobic soil conditions, the emission of nitrous oxide is supposed to increase and not decrease. He asked for the source of literature included in the presentation by Mr. Ram Bahadur Khadka where he mentioned that nitrous oxide emission is less in SRI. Mr. Khadka answered that there is controversy about the nitrous oxide emissions in SRI, and that the findings come from many authors who have found less emission in SRI with less chance of finding nitrogen in volatile form as compared to conventional method and hence less release of nitrous oxide. Mr. K. R. Dahal further clarified that one of the reasons may be due to low/no use of chemical fertilizers (nitrogenous) in SRI; there is less substrate for GHG emissions through microbial activity with less excess N available in the soil.¹

¹ A 2013 GIZ-IFAD publication on SRI introduction in Vietnam reported from evaluations there that there was a significant reduction in CH₄ (20%) and a (statistically) non-significant decrease (1.4%) in N₂O. Published evaluations from Korea and India have found significant decreases in CH₄ accompanied by small increases in N₂O that did not offset the effects of reductions in methane, so there were significant reductions in global warming potential (GWP) with SRI. The one study done in Nepal (Sudeep Karki, MS thesis, 2010) found significant reductions in both

- iii) Mrs. Shova Shrestha, Scientists, Soil Science Division, NARC, requested Rajendra Uprety to clarify about the nutrient management in SRI. Mr. Uprety clarified that soil rich in organic matter is one of the elements of SRI. He further added that if compost/ FYM is available in sufficient amounts, it can replace the chemical fertilizers significantly, even without the need for top dressing and thereby reducing the costs of production.
- iv) Mr. Lekhnath Adhikari, a Government Official, addressing to Mr. Uprety, narrated his bitter experiences of unavailability of weeders in the market. Mr Uprety suggested him to use a locally-fabricated weeder, or if required, weeders can be imported from India.
- v) Mr. Janmajaya Tripathi, Senior Scientist, NARC, commented that the DSR is shown to be interlinked with SRI in the presentation of Rajendra Uprety. Mr Uprety explained that direct-seeded SRI is different from DSR in terms of weeding, spacing and seed consumption. The techniques could be useful in the uplands where transplanting is not possible.
- vi) Dr. Krishna Timsina highlighted the need to identify potential areas for SRI in Nepal based on their suitability (suitable area for wetting, drying, cropping season) and scaling up through intensive program via institutional innovation. He also emphasized the desirability of mechanization in the context of labor shortage in rural areas.

2. Planning session

a. Address by seniors and Government officials

i. Mr. Sher Bahadur Basnet, Chairperson, FAYA-Nepal

He reported the appreciable performance of SRI in Far Western Nepal. He noted that SRI is working very well in farmers' fields, and the farmers are also fully convinced with SRI. However, national policy is not properly addressing the constraints to the promotion of SRI like weeders, irrigation, etc. He recalled the failure of the advocacy campaign that was initiated in 2011 and a meeting with the Minister of Agriculture in the presence of the key stakeholders. He highlighted the need for seriousness and sincerity on the side of policymakers.

CH₄ and N₂O. This a subject on which much more research is still needed before conclusions are drawn, and results will in any case vary considerably. The best that can be determined will be ranges of effect, rather than single values, and tradeoffs need to be considered. The India study done by Oxford and NIRD researchers, which was a 'life-cycle analysis' that calculated effects for CO₂, NH₄ and N₂O, concluded that with SRI crop management the reduction in GWP was >25% per hectare and, because of the higher yields, >60% per kg of paddy produced.

ii. Mr. Janmajaya Tripathi, Senior Scientist, NARC

Mr. Tripathi shared his experience with SRI experimentation in early 2000 at National Wheat Research Programme, Bhairahawa. He stressed the importance of higher spacing, single seedling and weeding in SRI. But he showed skepticism about why the technology is not crossing into the farmers' field widely. He emphasized that it is time to search the hidden causes that are impeding the technology to reach the farmers and that the scientists should focus their work on making this techniques more simple and affordable by general farmers. He also emphasized on the need for the mechanization in SRI.

iii. Mr. Mohan Bahadur Thapa, Retired Senior Government Official

He shared his experience of working with Mr. Rajendra Uperty at Morang District long back and mentioned his role to make SRI popular in Morang and Dhankuta. He expressed the thought that although everything is going better with SRI for farmers in the field, the government is not taking it seriously. He remembered the high-level meeting at Ministry of Agriculture in 2011 when he was Deputy Director-General of Department of Agriculture. He said that there was a good initiation, but it could not be continued because of political instability.

iv. Mrs. Neeru Dahal Pandey, Program Director of Directorate of Agriculture Extension, Department of Agriculture and Chief Guest

Mrs. Niru Dahal (Pandey), Chief Guest of the program, spoke about the Mega Rice Mission project going to be implemented from the coming fiscal year by the Department of Agriculture. She expressed her satisfaction about SRI's capacity to increase yields efficiently and said that the technology could be included as one of the integral components in the Mega Rice Mission program. She pinpointed that the research, demonstrations, and extension of this highly efficient technology should be no more delayed but be promoted among the farmers without waiting for further evaluation.

b. Discussion on the issues and planning of future activities

Discussion among the participants was conducted with the following agenda items for focus.

Agenda Item 1: Secretariat Office

Agenda Item 2: Formation of the Network Executive Committee

Agenda Item 3: Demonstrations, trials and training whatever and wherever possible for visible Effect

Agenda Item 4: Formation of discussion group e-network platform

Agenda Item 5: Regular meeting of the Network

Agenda Item 6: Organize a National SRI Conference

Agenda Item 7: Advocacy campaign

Discussion and decision

Agenda 1: Secretariat Office

While discussing the agenda item1, it was proposed that the Secretariat Office should be established at NARI Building in the Socio-economic and Agricultural Policy Research Division (SARPOD), NARC. If Dr. Krishna can manage a cupboard for keeping documents, SRI publications, documentaries and extension materials could be kept there. If anybody is interested to manage the office in some other suitable place, he/she can contact him and request to take responsibility for the same.

Agenda Item 2: Formation of the Network Executive Committee

While discussing the agenda item no. 2, it was decided to form an Executive Committee of the National SRI Network Nepal consisting of the following individuals and responsibility.

Executive Committee

Coordinator: Mr. Khem Raj Dahal, Associate Professor, IAAS, TU

Members:

1. Mr. Rajendra Uperty, Senior Agriculture Development Officer, DADO, Morang
2. Mr. Ram Bahadur Khadka, Scientist, NARC/RARS-Khajura
3. Dr. Krishna Prasad Timsina, Scientist, NARC/SARPOD
4. Mr. Raj Kant Jha, Senior Plant Protection Officer, Silk Development Farm, Sunsari
5. Ms. Mona Aditya, Individual Consultant, SanoPaila
6. Mr. Krishna Dhital, Extension Officer, DADO, Kabre
7. Mr. Sharad Pandey, Agriculture Extension Officer, Department of Agriculture
8. Mr. Bhoj Raj Sapkota, Senior Crop Development Officer, Crop Development Directorate, Department of Agriculture, Hariharbhawan
9. Mr. Scott Jusitce, CIMMYT
10. Mr. Shalik Ram Gautam, Seed specialist, Seed quality Control Center, Hariharbhawan
11. Mr. Arjun Prakash Poudel, Scientist, Outreach Research Division, NARC
12. Mr. Ujjawal Kumar Singh Kushawa, Technical Officer, Agriculture Botany Division, NARC

Advisory Committee

Advisors

1. Prof. Dr. Prachanda Pradhan
2. Mr. Basudev Lohani, Director General, Department of Irrigation
3. Dr. Bholaman Singh Basnet, Former Principal Scientist-NARC
4. Mr. Mohan Bahadur Thapa, Former Deputy Director General, DoA
5. Mr. Shreekrishna Upadhyaya, Former DG of Agriculture Development Bank/ SAPPROS-Nepal
6. Mr. Janmajay Tripathi, Senior Scientist, NARC
7. Mr. Kailash Prasad Bhurer, Regional Director, NARC/RARS, Parwanipur

The committee will organize tri-monthly meeting for sharing the recent advances; developmental issues and progress that SRI would achieve. The committee also will form Research, Advocacy, Communication and other subcommittees as per the need by assigning the suitable SRI scientist/researcher/farmer as coordinator.

Agenda Item 3: Demonstrations, trials and training whatever and wherever possible for visible effect

The participants of the meeting decided to mobilize themselves for demonstrations, trials and training in a large scale at their respective places to create the visible effect of SRI in rice cultivation. The socio-economists will mobilize their own resources to identify the pertinent issues related to the low adoption of SRI and will propose required policy changes in research, extension, education and at ministry level. Mr. Rajendra Uprety, DADO, Morang, promised that he even can channelize some small funds, if needed, for SRI activities through his fellow friends in the respective districts for which one should have the plan.

Agenda Item 4: Formation of discussion group e-network platform

While discussing on the agenda, it was decided, in the context of the old SRI discussion group not functioning properly, to make communication effective within the SRI community in Nepal, to group all the email and contact addresses together, and social media like Face book, What's App, etc. and use them to share the information and ideas.

Agenda Item 5: Regular meeting of the network

While discussing on the agenda, it was decided to organize tri-monthly meetings regularly among the available members in Kathmandu or in the place where SRI is practiced most

Agenda Item 6: Organize a National SRI Conference

The meeting decided to organize the First National SRI Conference within March, 2016 so that the sharing of this season's results, and planning and implementation of the activities for the spring season, will be possible. All the rights and responsibilities to organize the conference are given to the Executive Committee to identify the thematic areas and logistics of preparation for the conference: form sub-committees for raising funds; coordination, communication, and logistics management.

Agenda Item 7: Advocacy campaign

All the members accepted that the advocacy is necessary to change the government policy in favor of SRI in research, teaching, and extension. A meeting with the Parliamentary Agriculture and Natural Resource Committee will be organized in November. Regular field visits will be organized for the people holding positions at policy level to make them convinced on the fact that SRI is the best alternative to increase rice production. The meeting also decided to organize

another such meeting with executives of the upcoming Mega Rice Mission program to identify how SRI technology can be incorporated in the Mission.

At the end, Dr. Bholu Man Singh Basnet, Chair Person, delivering the closing speech, pointed out that recommendation for rice cultivation should be in a package including variety, with its recommended methods of cultivation, and SRI is one of such technology to boost the production. He further added that SRI has more positive aspects than some people who criticize it understand. He took an example of the Indian National Food Security Mission where SRI has been given high priority as early as 2007: one of three major technologies for food security. He questioned why Nepalese policy-makers are quiet about this efficient technology? He also stated the importance of seed sorting through brine and solarization together with SRI methods. To conclude, he stated that the meeting was very helpful to understand the new progress in SRI and that it will help to create a new momentum in SRI research, advocacy and promotion.

Program schedule

National SRI Network Meeting
4th Ashar, 2072 (19th June, 2015)

Venue: National Agricultural Research Institute (NARI), Khumaltar

Workshop Program

10:30-11:00 AM	Registration	Mr. K. Dhital, B. Acharya/N. Pathak
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Chairperson: Dr. Bhola Man Singh Basnet, Former Principal Scientist-NARC

Chief Guest: Mrs. Neeru Dahal Pandey, Director, Directorate of Agriculture Extension, DoA.

Convener: Mr. Ram Bahadur Khadka

Rapporteurs: Dr. Krishna Timsina and Mr. Netra Bhatta

Time	Programme	Lead and Responsibility
11:00-11:10 AM	Taking seat by chairperson, guests and participants	
11:10-11:20 AM	Welcome and objectives of the meeting	Mr. Rajkanta Jha
11:20-11:30 AM	Introduction	All
11:30-12:00 PM	Presentation I: SRI from Research Perspectives in Nepal	Mr. Ram Bahadur Khadka
12:00-12:30 PM	Presentation II: SRI in post-earthquake scenario in Nepal	Mr. Rajendra Uprety
12:30- 1:00 PM	Presentation III: SRI history, present perspectives, and future strategies	Mr. Khem Raj Dahal
1:00-1:15 PM	Discussion over the presentation	All
1:00-1:30 PM	Guest note	Mr. Ser Bahadur Basnet, Chairperson, FAYA-Nepal
1:30-1:40 PM	Guest note	Mr. Mohan Bahadur Thapa, Former DDG, Department of Agriculture
1:40-1:50 PM	Guest note	Mr. Janmjaya Tripathi, Senior Scientist and Chief of Training and Scholarship Division, NARC
1:50-2:00 PM	Chief Guest Speech	Mrs. Neeru Dahal Pandey, Director, Directorate of Agriculture Extension, DoA.
2:00-2:15 PM	Chair person's speech and closing	Dr Bhola Man Singh Basnet, Former Principal Scientist of NARC
2:15-2:45 PM	Tea Break	
2:45-3:30 PM	Group work and discussion	
3:30-4:00 PM	Nomination of Nepal SRI Network Committee members and discussion	

List of the participants

S. N.	Name	Address	Designation	Organization	Email	Contact Number
1	Dr. Bhola Man Singh Basnet	Battisputali	Principal Scientist	NARC Retired	Contact SRI Network Nepal for addresses	
2	Mr. Khem Raj Dahal	IAAS Rampur	Associate Professor	IAAS		
3	Dr. Yug Nath Ghimire	NARC	Chief	SARPOD/NARC		
4	Mr. Mukunda Bhusal	Crop Development Directorate	Crop Development Officer	Crop Development Directorate		
5	Mrs. Niru Dahal Pandey	Kathmandu	Programme Director	Directorate of Agric. Extension		
6	Mr. Bhoj Raj Sapkota	CDD, DOA, Lalitpur	Senior Crop Development Officer	Directorate of Crop Development		
7	Mrs. Padma Pokhrel	Khumaltar	Technical Officer	SARPOD/NARC		
8	Mr. Sher Bahadur Basnet	Dhangadi	Chair Person	FAYA		
9	Mr. Rajendra Uprety	Biratnagar	Senior Agriculture Development Officer	DADO, Morang		
10	Mr. Raj Kant Jha	Ithari	Senior Plant Protection Officer	Silk Processing Centre Ithari, DOA		
11	Mr. Sharad Pandey	Kirtipur	Agriculture Extension Officer	DOA		
12	Mr. Krishna Dhital	Kavrepalanchowk	Agriculture Extension Officer	DADO, Kavre, DOA		
13	Mr. Netra Bhatta	Kirtipur	Student M.Sc.AG	IAAS		
14	Mr. Ghansgyam Kandel	Khumaltar	Technical Officer	SARPOD/NARC		
15	Mr. Lekhnath Adhikari	Chitwan	Senior Plant Protection Officer	Directorate of Agriculture Training		
16	Mrs. Shrinkhala Manandhar	NARC	Scientist	NARC		
17	Mrs. Shova Shrestha	NARC	Scientist	NARC		
18	Mr. Arjun Prakash Poudel	ORD Khumaltar	Scientist	NARC		
19	Mr. Ghanashyam Malla	AERD NARC	Scientist	NARC		

20	Mr. Narayan Prasad Pathak	Kirtipur	Student M.Sc. AG	IAAS		
21	Ms. Mona Aditya	Lalitpur	Consultant	Sano Paila		
22	Mr. Brijlal Chaudhari	Birjung Parsa	D. CEO	Sano Paila		
23	Mr. Nayana Shrestha	Lalitpur	Student			
24	Ms. Shova Poudel	Bhaktapur	Agric. Extension Officer	DADO Bhaktapur		
25	Mr. Dinesh Thapa Magar	NARC	Scientist	SAPROD/NARC		
26	Mr. Basistha Acharya	Kapurkot Salyan	Technical Officer	NARC Kapurkot		
27	Mr. Ujjawal Kumar Singh Kushawa	Khumaltar	Technical Officer	NARC		
28	Mr. Rishiram Bhandari	Kashki	Student M.Sc. Ag	IAAS		
29	Mr. Milan Acharya	Baglung	Student M.Sc. Ag	IAAS		
30	Mr. Suman Sharma	Baglung	Student M.Sc. Ag	IAAS		
31	Mr. Sanjok Poudel	Chitwan	Student M.Sc. Ag	IAAS		
32	Mr. Sushil Neupane	Nawalparasi	Student M.Sc. Ag	AFU Rampur		
33	Mr. Mohan Bahadur Thapa	Kirtipur	President	Nepal Horticulture Society		
34	Mr. Janmejaya Tripathi	NARC	Sr. Scientist	NARC		