SRI can contribute significantly to enhancing small farmer incomes, their living standards, and the overall food security in the region

“Accelerating the scaling-up of SRI would benefit from more collective action (CA) on the part of farmers. This would enable small farmers to capture economies of scale for themselves and to shape the commercialization process for rainfed as well as irrigated agricultural production systems. SRI is already known to be a high-yielding practice, water-saving and time-saving, as well as “climate-smart.” Further, SRI has the capacity and opportunity to make progress in poverty reduction because of its economic as well as agronomic payoffs. Through farmers’ collective action, moreover, SRI can make rice production contribute more to soil health, to environmental health, and to human health” said Dr. C.M. Wijayaratna at the Second Regional Review and Planning Workshop of the SRI-LMB held on 24-25 June 2015 at Hanoi, Vietnam.

The workshop was organized by the Asian Center of Innovation for Sustainable Agriculture Intensification (ACISAi), AIT and hosted by the Plant Protection Department (PPD), Ministry of Agriculture and Rural Development (MARD) Vietnam with an objective to share the learning, jointly review the project activities undertaken since 2013, and to collect feedback from various stakeholders and feed into the next cycle of action research to strengthen the project actions. Approximately 60 persons participated that included representation from PPD, MARD Vietnam; General Directorate of Agriculture (GDA), Ministry of Agriculture Forestry and Fisheries (MAFF), Cambodia; Department of Agriculture Extension and Cooperative (DAEC), Ministry of Agriculture and Forestry (MAF), Lao PDR; Ministry of Agriculture and Cooperatives (MoAC), Thailand; representation from national universities, along with the representatives of Food and Agriculture Organization of the United Nation.

Message from Team Leader

There are two optimality models that are in play in evolutionary biology, simple optimization and competitive optimization. In the case of simple optimization, the model maximizes fitness for all individuals in the population. There are no influences due to the phenotype of other individuals. Whereas in competitive optimization, the phenotype depends on those of other organisms. Both have significant role in evolution and both are in action in SRI evaluation and evolution. Which model will accelerate the desired evolution still needs to be understood in a more informed way realizing that there are several unmeasured traits that are in play. These unmeasured traits can have significant role in deciding the direction and pace of evolution. Indeed, a general patterns or emergent properties need to deal with both the system, subcritical (limited interaction) and super critical (very high interconnections). Understanding on these issues would be critical in shaping up agriculture development in the context of climate change. SRI-LMB continues its journey to understand the evaluation and evolution better and for gaining insights into the determinants of evolution. We count on your cooperation

Dr. Abha Mishra
SRI can contribute significantly to enhancing small farmer incomes, their living standards, and the overall food security in the region

Contd....

Oxfam America, SRI-Rice Cornell University, University of Reading, UK, University of Queensland, Australia, Olam International, representative of Sustainable Rice Platform UNEP/IRRI, Rapid Asia, Thailand and Mekong Institute Thailand.

So far, as a part of SRI-LMB intervention in the Mekong region, more than 405 sets of field experiments have been carried out involving approximately 11,000 farmers from eleven provinces of Cambodia, Laos, Thailand, and Vietnam. The experiments ranged from integration of SRI principles with farmers’ local practices to full demonstrations and assessments of SRI methodology. The initial calculation of yields across the region has shown an average paddy yield of 4.7 t/ha which was 66 % more than the regional baseline yield. And this was achieved using 30 percent less energy. This confirms that SRI-like idea, especially among small-scale farmers, cannot only overcome hunger and poverty but can also address other challenges from climate change. SRI can have impact on the reduction of greenhouse gases from agriculture.

The two-day workshop was preceded by a field visit to Bac Giang province. The first day of the workshop was earmarked for learning exchange. Presentation of key learnings from SRI-LMB Project was complemented by the keynote address on how farmer organization has the potential to reach out and benefit more and more farmers and how mutually beneficial partnership between farmer organization and private sector can help farmers to profitably engage in market economy. Various agro-ecological approaches like conservation agriculture and integrated, participatory farming systems development, and their importance were discussed. Policies concerning food security and sustainable agriculture in relation to water management and climate change adaptation in all four SRI-LMB Project countries were presented. It was concluded that all countries are now-sufficient with respect to rice requirement and are even exporting. With present emphasis in all policies on enhancing productivity and profitability in a sustainable manner, crop intensification and hence, SRI, is very relevant for all countries.

Supportive policy environment needed by the small-scale farmers, and initiatives and opportunities which could help in retaining younger generation of farmers in agriculture, and connecting them better to the markets, were also analyzed and deliberated upon.

The second day was mainly focused on review of Project activities in various countries, experience sharing by farmers and country coordinators and future planning. Higher yield and higher profits were reported from all four countries. Taking this learning forward, importance of and opportunities existing in the region for scaling up and scaling out were discussed. Each Project Country, other partners and advisors highlighted areas for action to take the Project activities forward.

Overall, the two-day deliberations revealed that the SRI-LMB Project has resulted in impressive gains for the farming community. All partners are interested in scaling up and scaling out Project activities. The workshop concluded with recommendations to continue working with SRI and conservation agriculture to sustainably intensify agriculture for quality and profitable produce, create and strengthen market opportunity for farmers and work with farmers on compliance with market standards.

Ms Ana Maria Pena Segura, from the EU Delegation, Thailand, in the Regional Review and Planning Workshop, Hanoi, Vietnam, pointed out to the relevance of SRI-LMB project for achieving Sustainable Development Goal 2, to ‘End hunger, achieve food security and improved nutrition and promote sustainable agriculture.’

Mr. Paul Nicholson of Olam pointed out the need to look beyond working with agronomic practices if the project wanted to work with market linkages and that working with inputs accepted by markets could be useful since they would not disrupt the supply chain.

Dr. Nguyen Quy Duong, DDG, PPD, acknowledged that since it began in 2014, the SRI-LMB Project contributed to the Vietnam’s food security; and that SRI had the potential to mitigate some of their key agricultural problems.

Mr. Peter Sprang of Sustainable Rice Platform (SRP) offered to link SRI-LMB farmers to existing SRP members or even collaborate directly if necessary, if they wished to evaluate SRP standards.

Mr. Peter Sprang of Sustainable Rice Platform (SRP) offered to link SRI-LMB farmers to existing SRP members or even collaborate directly if necessary, if they wished to evaluate SRP standards.
The National Review and Planning Workshop was organized on 21st April 2017, at the Mercure Hotel, Vientiane, Lao PDR. Mr. Tiene Vannasouk, Deputy Director General, Department of Agricultural Extension and Cooperatives (DAEC), Ministry of Agriculture and Forestry chaired the workshop in which about 40 participants participated.

Dr. Abha Mishra, noted that while Laos is moving towards a market based economy and modernizing the agriculture sector, it is encouraging to note that as a part of modernizing agriculture sector, the country is focusing on SMART and clean agriculture and resilient farming systems. Conservation agriculture and System of Rice Intensification both are relevant in this context. The results reported to AIT by the SRI-LMB team, have shown that the yields under SRI practices were increased more than double compared to the conventional practices. This is remarkable achievement. She hoped that many more such examples will follow in future. Finally, she thanked DAEC and FAO for their wonderful support to the project.

Dr. Stephen Rudyard, FAO Representative, Lao PDR, was positive about the SRI-LMB Project activities. He said though SRI was promoted in the country before, this project’s approach is more effective as it is led by the farmers. He expressed the need to integrate the project activities into the five-year plan of the government to take it forward.

The provincial coordinators reported that transplanting single seedlings resulted in stronger crop stand and yielded 5-6 tons/ha, compared to 3-4 tons/ha obtained through conventional practice of using multiple seedlings.

The project supported by JICA which is implementing multiple interventions in an integrated manner among the communities noted that with the use of single seedlings for transplanting, an average of 5 tons/ha was produced.

The survey done by JICA reported high rate of satisfaction and acceptance of farmers related to single seedling transplanting. It pointed out inadequate irrigation as the limiting factor for productive rice farming. The importance of selection of the right variety of rice was highlighted in the workshop. The challenges for mass promotion of SRI, especially in the light of labor outmigration from rural areas and the possibility of substituting organic manure for chemical fertilizers were also discussed during the workshop.

Oxfam America- working for women empowerment in SRI-LMB project areas

Oxfam America, SRI-LMB project partner, has engaged in policy research on various issues concerning agriculture and rural livelihoods in our project countries for evolving and advocating for pro-poor options in official policies. Women empowerment is a prominent theme in Oxfam America’s work. Their work from Cambodia provides interesting insights into the kind of work done and women farmers involved in the project. While Oxfam America provided critical inputs for policy making related to the MAFF’s Gender Mainstreaming Policy and Action Plan Development and Agricultural Extension Policy, content for this engagement came from cross-country interactions and consultations with women farmers. Among the numerous women engaged in discussions, 140 of them were those who also actively participated in the SRI-LMB project.

The shared concerns and demands of these women were reflected in the national policy joint statement presented during the National Women Farmers Forum. Ten women farmers from the project were also invited as delegates to participate in this Forum. The profiles of two of these strong women Ms. Nhem Sovannary and Ms. Phy Phol, provided by Oxfam America is presented in next page. They are the champion farmers.
Ms. Rampeung Sorathaworn is from Surin province, Thailand. She participated in the Farmer Participatory Action Research (FPAR) for last 3 consecutive years. She cut down her production costs by lowering the seed, fertilizer and pesticide application rates. Even though she has reduced the input usage, her yields are not different from those obtained from conventional practices. SRI practices have increased her coping capacity against drought, made weed control easier and eliminated crop lodging. She is happy with the changes.

Mr. Tep Khen from Takeo province, Cambodia participated in the 2015 FPAR and started applying what he learned on his own field in 2016. These practices included leveling his field, increasing usage of organic fertilizers and transplanting in rows. He explained that proper levelling enables correct drainage, easier management of irrigation water and facilitates better weed and pest control. The organic fertilizer loosens the soil and provides good environment for beneficial microorganisms that help rice grow well.

Ms. Mee Yang from Vientiane province, Lao PDR, attended the Central Farmer Participatory Action Research where she learned the SRI practice and its advantages. During the training, she observed yields from plots where SRI practices were applied were better than other plots which followed conventional practices. She then started to demonstrate these practices through the FPAR in her village. She said that the results from the SRI were so prominent that other farmers has also adopted it.
Vertical Farming for making cities green: An idea for the future

Urbanization is a global issue and the growth of cities is inevitable. By 2050, it is estimated that 64% of the Asian population will be living in cities. To ensure food security for all, it is now essential to develop urban agriculture in addition to rural farming.

Farming requires a lot of land. It is not considered feasible in cities where land is a scarce and expensive resource. However, a step ahead of the conventional horizontal farming is the vertical farming. This has the potential to significantly increase production per unit area making it plausible and financially viable for producing vegetables in the cities. In addition, there lies greater environmental and social co-benefits in terms of job creation and resource efficiency.

Vertical farming grows plants in many vertical layers in a controlled environment. Growing under a controlled environment has many advantages and one of the biggest advantage is to automate the system targeting minimization of resources (water, fertilizers, pesticides, electricity, etc.) and maximization of yield. Indeed, it provides an opportunity for closed loop irrigation system as the excess water can be reused back into the system. Since the food can be produced within the cities, it reduces the carbon emission by avoiding transportation emission which in a conventional food supply chain occurs during the transportation of food from rural areas to cities. Additionally, consumers get to consume fresh food with a lower carbon footprint.

Transitioning cities to sustainable cities would require innovative technology and vertical farming could be a technology to be considered.

Source: [http://www.uncrd.or.jp/content/documents/44985-P2-Prof.%20Visvanathan.pdf](http://www.uncrd.or.jp/content/documents/44985-P2-Prof.%20Visvanathan.pdf)
“The European Union is committed to the achievement of SDG’s and the eradication of extreme poverty and in particular to SDG 2: end hunger, achieve food security, improved nutrition and promote sustainable agriculture that can change people’s lives. This project is helping small scale holders, women in particular, in Lower Mekong Basin countries such as Thailand, Cambodia, Lao PDR and Vietnam to have sustainable livelihoods by being trained in using innovative techniques which will allow rice farmers to increase their productivity and generate more income for their households. So, we are very proud to be the part of this project.”

H.E. Jesús Miguel SANZ ESCORIHUELA
The Ambassador and Head of the European Union Delegation to Thailand

Important Links

Regional Review and Planning Workshop, Hanoi, Vietnam
Pictures: https://goo.gl/photos/dNpjVeJ5WKpP4ker9
Slides: https://www.slideshare.net/srilmb/presentations
Video: https://youtu.be/gu4fJXOT9c

National Review and Planning Workshop Lao PDR
Pictures: https://goo.gl/photos/MHaJYMrcHQekczRh9

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