INTRODUCTION OF SRI IN AFGHANISTAN

Humayun Kabir

A Introduction

The results and performance of System of Rice Intensification (SRI) trials conducted in more than 15 rice-growing countries mostly by farmers and staff of NGOs have produced tremendous hope of raising the productivity of rice fields manyfold. With the innovative practices of SRI, which are guided by several fundamental principles of soil biology and plant physiology that allow the rice plants to express their full potentials in terms of yield and productivity, thousands of farmers are now experiencing 50, 100, 200, and even 300% increase in rice yields in many countries in Asia and Africa with appropriate adjustments of the practices to their location-specific ecological conditions.

Rice yield with SRI in Sri Lanka

The work on SRI first was begun by a French priest, Fr. Henri de Laulanié, in the early 1980s in Madagascar. Tefy Saina, an NGO in Madagascar, has continued the efforts to spread SRI after Fr. De Laulanié died in 1995. The international focus on SRI began when the Cornell International Institute for Food, Agriculture and Development (CIIFAD), particularly through its director, Professor Norman Uphoff, got involved in disseminating information on SRI and encouraging its assessment beyond Madagascar to diverse geographical areas across the globe. CIIFAD has been coordinating global efforts for conducting and evaluating SRI trials to enhance opportunities of food security through increased production in rice, the staple food of half of the world's population.

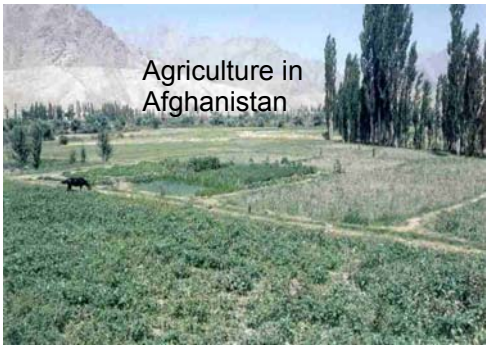
The introduction of SRI to badly-affected, war-torn Afghanistan is a current effort of CIIFAD to provide opportunities to rice-growing farmers there to enhance their production and incomes. The initiative was taken at the request of an Afghan veteran leader, Mr. Mohammed Daoud, who has been for some years employed in the U.S. as an airline pilot and is currently assisting with reconstruction and development efforts in his home area of Ajrestan. The SRI initiative has been started with a visit to Afghanistan by Humayun Kabir (myself), an agronomist who has been working in South and Southeast Asia in the field of sustainable agriculture for more than 12 years and who has been coordinating the evaluation of SRI trials in Myanmar. The purpose of the trip was to share the results of SRI with farmers, extension workers and researchers and to develop some local Afghan initiatives for experimentation. The visit took place from 15 July to 1 August 2003.

B Visit to Ajrestan

Due to limited information about flights and their availability, it took several days to arrive in Kabul; en route, due to security reasons, one flight from Islamabad to Kabul was cancelled. The visit to Ajrestan took place from 20 to 24 July. Mr. Daoud and his family accompanied me on the trip as he and his family were on their way to visit the place. When people in the area came to greet him, he introduced me to the farmers and explained the objectives of my visit. He brought me to different parts of area and showed me its resources and their potentials for development.

B.1 General situation in Ajrestan

Mainly populated by Pushtun people, Ajrestan is more than 300 kilometers southwest of capital Kabul. The area, formerly part of Uruzgun province, now belongs to Ghajni. More than 70,000 people live in the area in seven blocks, each containing 7-10 villages. The entire area of Ajrestan is a flat plain surrounded by medium to high mountains. Farming is the main profession for the communities. Farming activities include growing staple crops, vegetables. and poppies. Among the staples, wheat is grown very widely, while rice has been replaced by poppies since about two years ago. The major vegetables are potatoes, peas, and radishes. Due to favorable climatatic conditions, every household grows potatoes. In addition, many farmers are growing a variety of fruit crops.


Agriculture in Afghanistan

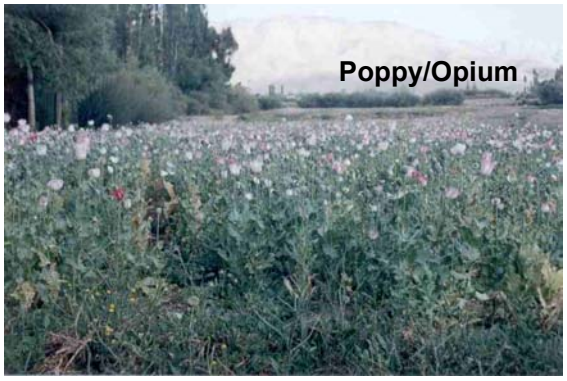

Afghan farmers

Although the general conditions of living as well as the socioeconomic situation in the area appear not very different from those in other parts of the country, all communities consider the low yields of many of the crops grown there to be an important problem, due to a lack of appropriate technologies and farmers' limited capacity in overall farm management. Although households' land size is relatively large, around 6-10 acres, low yields are an important reason for poverty. Many believe that, compared to other parts of the country, farmers' economic conditions here are very poor. During, the war many families moved to other countries. Although some have returned, many are afraid that limited opportunities for decent livelihoods and incomes will only worsen the situation over time.

Abundant water and good quality soils are easily noticeable and the most important resources found in every corner of the area. The main sources of water are large numbers of free-flowing natural springs, very active with enough volume even in driest period of the year. Many said that this year the water flow in the springs is very good due to heavy snowfall last year. Most of the soils in the area are sandy loam to loamy type, which are considered as very fertile for any type of field crops. The agro-climate is characterized by cool temperatures from September to February with medium to heavy snowfall in December and January. March to August is the main season of field crops with the majority of crop planting done in early March to April.

B.2 *Poppy cultivation*

Poppy cultivation entered into the area only two years ago. Irrespective of category, each and every household in the area is now involved in poppy cultivation. The average income from poppy compare to other crops is very high and thus the major source of income for farmers. This year's production, however, is comparatively very poor. Many farmers believe that an American airplane has sprayed some chemicals (which is not true) on the area and thus the production is not going well. No attempts are seen to stop the cultivation of this dangerous crop from any quarters.



It is hard to believe poppy cultivation prevails under the presence of UN forces. Many argue that unless farmers are given appropriate alternatives, it is unethical to force them to stop growing poppy. Due to easy income from poppy, farmers are losing interest in growing other crops. One example is the extinction of the rice crop from the area. Although the incomes from poppy look very attractive, it is very labor-intensive. The major income from opium, however, goes to middlemen and traders. Appropriate cropping systems with improved methods of cultivations could provide other crops as effective alternatives of poppy. Development of initiatives to provide farmers such knowledge and skills is urgently needed in the area.

C Potentials of SRI

Farmers used to grow rice in the area under continuously flooded conditions, which required them to maintain huge amount of water on their fields. Therefore, only lands close to the main channels of the streams were considered good for growing rice. Compared to rice, growing opium requires much less water, and it produces more income. Ultimately, farmers have replaced all their rice fields with opium. Another important reason why farmers abandoned rice cultivation is its very poor yield. Although there is plenty of water, the average yield of rice was only around 1.8 tons per hectare, and hence, wheat cultivation has come to dominate the entire area as the major staple crop, though both wheat and rice are equally consumed in every meal by the Afghan villagers. Farmers buy rice from other parts of the country or from abroad.

When talking to farmers about SRI, they seemed very interested. Many farmers, after listening to the experiences of other countries feel that growing rice would be much more profitable than growing wheat. Although every household is engaged in wheat cultivation, its yields are also very poor. The major problems as observed are very poor management, lack of quality seeds and good varieties. These are the common problems in every crop sector. After explaining the importance of good management, most importantly why SRI is performing better with the same planting materials farmers got very excited to learn not only the new methods of SRI but the better management practices of other crops as well.

Due to so many years of war, farmers in general have not had the benefit of any extension services, and there are no such services currently reaching the communities at all. Farmers farm just as they have been farming for many years. They seem resigned to their situation and do not express any desire to change and do not think of any plan for improvement. They have experienced only fighting and disruption for years, and now opium has taken over. There is no social or religious obligation to stop opium or poppy cultivation. Due to the very low level of education, even on the local religious site, leaders have given sermons to justify the production of opium.

In such a situation, after understanding the potentials of the new SRI methods for growing rice, farmers could see new hope of development for themselves. The most interesting part about SRI they found to be its requiring less water, which goes against their present beliefs about growing rice (beliefs that prevail almost everywhere in the world). SRI methods could make it possible for them to spread

available water farther and they now believe that they can grow rice in every part of their fields as there is always water enough for intermittent irrigation which they practice for wheat or other vegetable crops. The introduction of SRI, therefore, could be seen in the area as an entry point for development, particularly to provide farmers a better sense of understanding for their own development.

D What has been done

After visiting different sites and meeting with farmers in a big gathering, four farmers were selected from among them for basic training on SRI. Among the four, two are from the western side while the other two are from the eastern side of the area. These four comprise the trial team to carry out experiments and share results with other farmers.

The trial team

Farmers	Section
Mohammed Kabir	Dangola
Kudrat Ullah	Manar
Zalmai Hakim	Dhahbirka
Golam Habib	Dangola

The trial team was provided training on a variety of subjects in rice production. In addition to the general practices of SRI, the training covered many other important issues of rice production as farmers have abandoned rice cultivation for the last two years and there are so many production constraints. The important topics covered in the training were: selection of good quality seeds, seed soaking and seed priming, preparation of seedbed, management of seedbed, preparation of rice field, importance and application of compost and manure, transplanting methods and practices, seedling uprooting methods, alternating irrigation, use of rotary weeder and other methods of cultivating soils, and gap filling. During the training some important guidelines on SRI were prepared in both Dari and Pushto languages. Each member was given copies of the guidelines.

Trial team

After the discussions and the theoretical part of the training, the trial team prepared salt solution. Using the solution they learned how to screen the solid and heavy grains from the seed lot for starting with better quality seeds. They prepared a small portion of land to learn the transplanting methods of young seedlings in line. They prepared a rake like what is being used in Sri Lanka to practice how to make lines for planting in squares.

The team, at the end, made an action plan for practicing SRI from the next week. It needs to be mentioned here that rice is grown in the area only from March to August, as after September cold temperatures are a big problem for growing rice. This means that this year's season for rice is already gone. But the trial team agreed as SRI involves a number of new and careful practices that it would be good to practice the planting this year even though they would not be able to make any harvest. This would allow them to adjust any possible mistakes and have good preparation for the coming season in the next year. The action plan includes that:

Trial team prepares salt solution

- Each member will organize trials with at least 10 farmers in his village.
- The trials will be organized in 2 different locations.
- The area of a trial plot would be around 150 square meters.
- The results of the trials will be widely shared all across the farmers in the communities.
- They should record some basic data or information about the trials (a simple data collection format was prepared with the team, and each member was given adequate copies).
- Next year each person will grow SRI rice on least in a half-acre area (the team, however, is interested to grow in some areas at least in one acre).

E Future prospects

Although there are so many problems when listing one by one, the basic problem in Ajrestan is the lack of availability of any services to the communities, such as health, social, agriculture, etc. The other, more challenging problem is the very limited scope at present for income-generating activities. All these constraints have badly frustrated the entire communities. The situation is worsening day by day as no attempts have been made so far from any quarters to help the communities. My visit to the area is perhaps the first attempt to talk about problems and opportunities for development.

Although my mission was very much specific -- to share the results of SRI from other countries and develop some local initiatives with farmers there for testing the potentials of improving rice production using SRI practices -- I was requested by Mr. Daoud to highlight some of the important opportunities and prospects of development in the area. As such, while visiting different sections and villages, I found the area has tremendous potentials for development; in fact it has some very good and unique resources which are unusual and sometimes scarce in other parts of the country. Such important resources, as mentioned earlier, are the abundance of free-flowing water and some of the best quality soils in Afghanistan.

The better use of this water with appropriate cropping systems, particularly with high-value cash crops, would be important for generating cash incomes for farm households. Demonstrations of such opportunities could be, as seen in other parts of the world, even lead to replacement of opium cultivation – an important factor damaging to the society. Development and promotion of orchard farming with vegetables and other field crops intercropped in the initial years of orchards would make more effective use of soils and water. Marketing of such crops should not be a problem as the area has enough road links to several major cities. The only problem might be one of distance. However, Mr. Daoud said several locations of the area

could be used as airstrips as now air shipment is sometimes cheaper than road shipment. The distance could also be reduced by making a diversion link from the area through the mountain. Building only two kilometers of diversion road across the mountain would reduce the travel time to Kabul by at least four hours.

Another potential way to use the water better would be to build a dam. Considering the substantial flow in the stream, the dam could provide electricity to the entire area, which could add new life to communities. To start all these, however, requires development of some initiatives. Many with whom I talked see the introduction of SRI to the area as a way to get people to start thinking more actively about such development.

F NGO Visits in Kabul

After returning from Ajrestan, I spent several days in Kabul. I tried very hard to visit Jalalabad, where I was told most of Afghanistan's rice is grown in Jalalabad, not very far from Kabul, only about three hours ride by taxi. But inquiries about security suggested that the villages there are still not safe for foreigners, so I had to drop the idea. With the help of my interpreter I gathered information about NGOs in Kabul and learned about Cooperation for Afghan Relief (CoAR), one of the largest NGO operations in Afghanistan with a good agriculture program. Also, Bangladeshi friends whom I met in Islamabad airport told me that the Bangladesh Rural Advancement Committee (BRAC), a pioneering Bangladeshi NGO, has also operations in Afghanistan.

F.1 Meeting with BRAC

BRAC has been operating in Afghanistan for almost two years now. A courtesy call to its office provided some good information about the country, particularly the situation in the rural areas. Unlike in Bangladesh where BRAC has become much involved with SRI promotion, here the NGO has no major activities in agriculture. Most of its activities are related to microcredit, health and education programs. Since BRAC has a program in Jalalabad, I was interested to get its assistance to reach some of the rice farmers there. However, most of the beneficiaries of its program in Afghanistan are female, as is the majority of the staff, and they are not involved in rice production.

After talking to some of the senior-level BRAC staff in Kabul about SRI and about the NGO's involvement with SRI in Bangladesh, they asked me to talk with their policy-making staff in Dhaka. Some mentioned that if there were some instructions from the Dhaka office, they would be agreeable to undertaking activities with SRI in Afghanistan. In this regard, I plan when back in Dhaka to talk with Professor Muazzem Hussain who is overseeing BRAC's agriculture program in Bangladesh and also coordinating SRI activities across the country.

F.2 Meeting with CoAR

Established in 1989, Cooperation for Afghan Relief (CoAR) has been working in 10 provinces of Afghanistan and has programs in agriculture and water supply, livestock, health, engineering, women's development, and education. Agriculture is one of its largest programs, and in each province 3-5 staff are working purely on agriculture. Major agricultural activities include seed multiplication, demonstration plots, and extension work. Mr. Naeem Salimi, the director of CoAR, is a very nice person. While meeting with him one day in a picnic spot, he became so keen about SRI that he invited me to make a presentation to their staff.

The next day, Mr. Naeem introduced me in CoAR's agricultural program coordinator and horticultural program coordinator. Both of them are senior staff and have diverse experience. Mr. M. A. Haidari, agricultural program coordinator, formerly a

government staff member, got a graduate degree from India. He is very enthusiastic and instantly showed a keen desire to organize trials with SRI while listening to some of the impressive yield gains in other parts of the word.

I spent the whole day in CoAR office providing various presentations from my laptop and discussing the potentials and limitations of SRI. I provided them with two CDs full of SRI materials. After the discussions, Mr. Haidari invited me to visit some of their possible sites in different provinces for testing SRI. Though I was very keen to travel, I could not make the trip as by now I had come to the end of my visit and was about to leave. However, I promised him that next time if there is a possibility to come again, I will definitely travel with him to visit some of the rice-growing sites in Afghanistan.

F.2.1 CoAR's plan for SRI

As mentioned earlier for most of Afghanistan, rice season had already begun. Therefore, in this season no trials will be possible to establish in farmer fields. However, after my discussion with Mr. Haidari, he agreed that it would be a good idea to try SRI methods with trials in some specific locations to learn about the particular practices. Although there might not be any harvest, the learning as well the mistakes would provide room for improvement before the start of the next rice season. This would in fact minimize the time required for learning.

Accordingly, Mr. Haidari said that he would organize soon some orientation training for CoAR provincial staff to share the concepts and results of SRI. He will provide some guidelines to those staff to set up trials this year in small areas in several provinces so that the staff can be fully capable of establishing trials next year in farmer fields. Mr. Haidari also told me that he would prepare some brochures and leaflets about SRI and distribute them to farmers as well as interested staff of CoAR and of other NGOs working in Afghanistan, which would be useful for sharing the results and practices.

CoAR feels that integrating SRI into its core agriculture program would provide a very good advantage to its seed multiplication program since the seeds produced through SRI methods are very pure and solid. As mentioned earlier, unavailability of quality seed is a serious problem in every sector in Afghanistan. Introduction of SRI could at least help to strengthen seed provision in the rice sector.

G Conclusion

There are three specific things to be noted as specific outcomes of this preliminary trip: (a) the sharing of SRI results directly with the farmers in Ajrestan and the commitment of the local team to try SRI in their own areas, (b) the sharing of ideas with CoAR for developing their own initiative to organize trials across different parts of Afghanistan, and (c) the obtaining of a better understanding of the working conditions in Afghanistan, with development of contacts within the NGO community.

It should be noted that in addition to CoAR, there is another NGO named CHA that has also program in substantial agriculture. Due to limited time it was not possible to have a meeting with them. In addition, Catholic Relief Service (CRS), an international NGO, is also supporting agricultural activities of different local NGOs in Afghanistan. A close friend and colleague is turns out is working at present with CRS-Afghanistan (he was formerly the program manager of CRS-Cambodia). He has experience with SRI already in Cambodia and is interested to support SRI activities in Afghanistan. Only on the last day of my visit did I come to know about his being in Afghanistan from Mr. Haidari. He was not in Kabul at the time, and Mr. Haidari kindly offered his personal cell phone for me to speak with him (thanks to Mr. Haidari).

Although the visit was a good start for sharing results and developing some ideas and plans for SRI trials, it remains to be seen how things finally take shape in farmers' fields. Therefore, a further visit particularly just before the beginning of next rice season would be very useful in translating some of the learning from the off-season into effective work in the real season of rice. A further visit would also be help to develop and expand the network for wider sharing of SRI knowledge with other partners in Afghanistan.