

# SRI Adaptation and Diffusion Issues

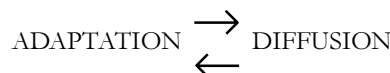
## Orienting Observations

Several premises were formulated at the outset of this group discussion to characterize the task of making SRI more broadly available and getting it utilized:

- SRI should be understood as a **complex system**, *even if its principles are simple*. One is not trying just to diffuse a few specific practices but rather to spread a more holistic understanding of how rice plants can be grown more effectively.
- SRI needs **adaptation** to local conditions according to farmers' preferences, observations and innovation. *Farmer experimentation* is an essential part of any strategy for the dissemination of SRI.
- Farmers' ways of practicing agriculture are as a rule **not easy to change**. There are many reasons, real or imagined, for what they are presently doing. Efforts to disseminate SRI must *fit within existing farming systems and within existing systems of thought*.
- SRI methods make **some drastic changes** in what has been the conventional system of irrigated rice cultivation. While the changes themselves seem simple enough, they are altering or even reversing some *long-standing practices*.
- Change always entails some **risk**. Given the small margin of resources that most rural households have to live on, they cannot afford to engage in risky behavior. So concerns about the possibility of crop failure and other problems must be addressed.
- There is much **diversity** in the conditions under which farmers operate in terms of socio-economic factors, soil capabilities, opportunity costs, etc. SRI needs to be varied not just to suit local biophysical conditions, but also to adapt to farmers' labor availability, tenure status, etc.

## A Dynamic Process with Multiple Actors

It is important to understand that there are **feedback mechanisms** between adaptation and diffusion so that this process should be seen as *a single, continuous process of transformation* rather than as something linear:



The success of SRI **diffusion** will depend on making appropriate adaptations, which in turn will make diffusion easier as SRI fits into various environments more productively and sustainably. The process should always be seen as one of *adaptation rather than adoption*.

The three main sets of actors who need to interact in SRI adaptation and diffusion are:

- **Farmers** as users of the methodology and as innovators who modify SRI in an ongoing process of change and evolution;
- **Extensionists and promoters** who provide knowledge about SRI to farmers and facilitate the process of adaptation and diffusion; and
- **Researchers** who provide knowledge to extensionists and promoters as well as to farmers, and who are building up a better understanding of SRI, both through their own experimentation and by learning from practice in the field.

Conventional R&D approaches are not likely to be well suited to SRI dissemination, but experience is still limited on this. Effective linkage among these actors will be crucial, rather than follow the usual *linear strategy* of transmitting information from researchers to extensionists to farmers, with farmers as “recipients” of new technology rather than as innovators and partners in this process of technological change.

## Operational Issues

Several key issues related to *adaptation* were identified during group discussion:

- Correct identification of the **limitations** of SRI under various conditions is important — where is it more likely to be productive, and where not? For what reasons?
- Farmers should be offered **options** for their very different biophysical conditions and socio-economic endowments, letting them experiment, evaluate and choose.
- Established institutions need to learn to work with **more flexibility** as they become engaged with SRI, being open to new ideas and approaches.
- Successful adaptations require more knowledge about how the SRI system works and why. We should not rely just on *trial-and-error methods* as these are risky and have their costs. They can sometimes add useful insights and practices, but as much as possible SRI should be advanced with *systematic understanding* developed by scientists, **extensionists and farmers**.
- **Participation** of farmers is crucial in this process, as farmers experiment, modify and observe all the time. Provision should be made for researchers and promoters to engage with farmers in these activities, and together they should construct their shared learning into something systematic.

Additional issues highlighted relating to *diffusion*:

- **Credibility** for the diffusion process needs to be created and maintained:
  - The **limitations** of current extension systems must be recognized by all. Farmers probably know these better than anybody else so they will have to be persuaded that the source of new information is credible.
  - Most extension systems have **limited manpower**, and they have limited knowledge about SRI, so there are very real constraints on what formal institutions for diffusion can do.
  - Physical mobility** of personnel is a major constraint for extension efforts in many countries. Too often, promoters are not able to spend much time in the field due to logistical and financial problems. SRI diffusion requires much direct contact with farmers.
  - Farmer-to-farmer approaches** generally have more credibility with farmers. There need to be improvements in extension-to-farmer relations. As much as possible, the process of SRI diffusion should be carried out on a *farmer-to-farmer* basis.

- The **message** being communicated to farmers has to be intelligible and effective:
  - Much effort should be made to ensure that the **quality and content** of the message is very well conceived and well presented.
  - Means and methodologies** for communication need to be developed that are appropriate, taking into account that lack of literacy can be a limitation in some places as well as the frequent fact that there are limited resources for dissemination.
  - Bad news travels fast** — often faster than good news. Care must be taken to proceed with a solid foundation of knowledge and experience so as to minimize failures. Also, there must be scrupulous reporting of information and experience, since bad news, especially if true, has a way of getting disseminated one way or another.
  - Conflicting messages** can be a problem when several agencies work in the same area and say different things. Efforts must be made to have consistency in SRI communications.
  - Since SRI is not a ‘fixed system’ but rather a **set of options**, farmers need to understand the principles, not just practices. The SRI message is of a different nature than most extension messages conveyed in the past.

## Strategic Issues

Various elements of a strategy for SRI diffusion seem most promising:

- Seeking **step-by-step adoption**, rather than promoting a mass campaign. Select entry points carefully, identifying niches, and starting with areas that are most suitable for SRI practice, to build up solid impressive performance and farmer knowledge that can be disseminated.
- Starting on a **small scale** to be sure of the program’s ability to deliver success, remembering that bad news travels fast.
- Understanding the **socio-economic conditions** of farmers and what constraints these may introduce, to adjust messages and techniques to suit different locations.
- Working wherever possible with **farmer groups** that are already organized and functioning.
- Showing **respect** for farmers’ knowledge and responsibility, avoiding any paternalistic approaches.
- Using demonstrations as much as possible. Often farmers need to see in order to believe, especially with something as unusual as SRI.

## Group Reports

—**Field days** have been a good method for dissemination, as well as

—**Demonstration plots** on farmers' fields or in villages.

—**Mass communication** methods can also be important in dissemination efforts.

- Paying attention to the **input requirements** for SRI, particularly labor, as these are often a barrier to experimentation and adoption. Farmers need to have a full understanding of the costs involved with SRI.
- Considering **gender issues**. Although initial feedback from farmers in several countries has suggested that women find SRI a more satisfactory method for various reasons, continuing assessments need to be made of gender impacts so that SRI contributes to gender equity rather than worsens inequity.

Institutional issues as part of this strategic approach include:

- Conflicts and problems of **inter-institutional coordination** among agencies and donors need to be avoided, and if they occur, they should be resolved quickly.
- **Greater training capacity** for SRI dissemination, particularly for the training of trainers.
- **Monitoring capacity** has also to be created and maintained, to be able to correct any mistakes and build upon opportunities.

## Experience with Adaptation and Diffusion

Several participants reported on how the process of diffusion has proceeded thus far in their countries. These experiences differed considerably from one country to the next:

- In **Madagascar**, SRI was introduced first by an NGO, Association Tefy Saina, doing training and farmer-to-farmer extension, supplemented by booklets and radio (see pages 90-93). Subsequently there was also involvement from the university and government research agency, but most farmers have still been hesitant, and spread has been still slow. It is accelerating now that a larger and better funded and equipped NGO, Catholic Relief Services, is involved in SRI dissemination, with more donor support.
- In **Indonesia**, dissemination is now starting after three years of evaluation by government researchers (see pages 58-63). It has been incorporated into a new official strategy for increasing rice production (Integrated Crop and Resource Management, ICM) being spread now on a national basis, expecting to

make local adaptations as appropriate. This country's IPM program is also starting to work with SRI as this methodology is very consistent with the approach of that program's Farmer Field Schools.

- In **Sri Lanka**, SRI is spreading fast, with about 4,000 farmers using it. Dissemination started with an article on SRI experience in Madagascar printed in the Ministry of Agriculture's extension magazine (30,000 copies were distributed). This was after a researcher from Madagascar, Joeli Barison, came to Sri Lanka in January 2000 to share knowledge about SRI. Those agricultural officers and extensionists who tried SRI on their own accord got good results. TV and radio became interested, creating a process of dissemination that could not be stopped any more.

Unfortunately, some researchers in Sri Lanka have been opposed to SRI, and it has not yet gotten official approval for dissemination from the Ministry of Agriculture. The Minister of Agriculture and a previous Deputy Minister have been very supportive, however, so efforts to disseminate SRI have proceeded without formal endorsement. The current Minister is interested to try SRI on his own farm, and the former Deputy Minister has used SRI on his own farm for three years with much success (see pages 26-28). **Rotary weeders, introduced some years ago**, have been reintroduced to support SRI dissemination, with information on how to fabricate them spread to local blacksmiths. A green light from the government is expected once more research confirmation is in hand. Opportunities to *export* organically-grown rice that uses SRI methods (as "eco-rice") have helped to raise interest in SRI among farmers and officials.

- In **Laos**, there has been some small-scale NGO experimentation and evaluation with farmers to begin with (see pages 86-89). The IRRI program in Laos has now taken initiative to launch a national evaluation effort starting in June 2002. It expects three seasons of testing will be needed before recommendations are made, but some farmers are likely to start using it more quickly if the initial results are good. Possibly donor funding can be obtained for a national dissemination project if SRI proves to be successful in the evaluations.
- In **Cuba**, some top-level officials became convinced about SRI's potential at an early stage. Dissemination can go very fast here because of farmers' literacy and because of their need to find ways to raise rice production without requiring expensive inputs based on petrochemicals. Initial results have been very good (pages 52-55).

## Recommendations

- It is very important to convince **top-level** people and where possible to get policy-level promotion of SRI. This has been very helpful in Sri Lanka, where, for example, even the President has become interested in SRI after the farmer cultivating her land using SRI methods got a much higher yield.
- There should be special strategies to convince **professionals**, who often find it hard to accept this new methodology. The mention of super-yields attained with SRI (e.g., 21 t/ha) is often not believed by researchers even when yield component information is provided, so it may be best to put more stress on *average yields*, not those that are attainable with best SRI practices.
- As long as SRI is not accepted by government, there is need for alternative strategies of dissemination. Even where there is government acceptance, these can be complementary.
  - NGOs** offer many opportunities for SRI dissemination work, and they are likely to be attracted to SRI for its pro-poor, environmentally-friendly features.
  - Farmer groups** if they can be informed about SRI can also experiment with its methods and help these to spread. A farmer NGO in the Philippines, MASIPAG, is currently evaluating SRI methods.
- **Practical training** should be provided and communicated by farmers who have personal experience with SRI methods and principles.
  - Farmer-to-farmer** training is likely to be most successful. Conversely, the Training and Visit (T&V) system of extension is not likely to be suitable.
  - Wherever possible, SRI should be linked with **Farmer Field School** (FFS) programs on rice which give IPM training. The FFS approach and philosophy are very well suited for SRI. We should try to get FAO and its IPM programs around the world interested in SRI.
- There may be need for **credit facilities** for tools, in particular, for purchasing the rotary weeder. These weeders can be very cheap, but poor farmers can find even small expenditures like this a barrier to use of SRI methods. Otherwise, SRI has no credit requirements.
- All available information should be made accessible on a **homepage** on the Internet. The use of electronic communication is spreading rapidly. Year by year, more government researchers, NGOs and others, even farmers, in developing countries are gaining access.
- **Donor interest** in supporting SRI dissemination should be explored and increased. Funding is needed for getting more rapid spread of these opportunities to farmers around the world.