

SRI Advocacy in the Philippines: A Case Study

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On behalf of the participants from the Philippines, I would like to greet everyone in this conference on the system of rice intensification (SRI). In this paper, I will be sharing with you the experiences of SRI Pilipinas in promoting the method in the Philippines.

The slow spread of SRI in the Philippines

As you may have realized, the Philippines is somewhat behind among the rice-growing countries in the world as far as the spread of SRI among farmers is concerned. Today, we count maybe a few thousand SRI practitioners in the country, many of them still in the trial stages.

Our group SRI Pilipinas was set up in 2002, after Prof. Norman Uphoff visited the country and gave a seminar on the method before a small assembly of NGOs and farmers' groups. We have since then been promoting the method among farmers and in the government. We didn't have regular funding at all, however, until 2007. In that year, we managed to raise P875,000 (about \$20,000) from the Department of Agriculture (DA) during the term of Secretary Arthur Yap, thanks to the persistent nagging of former DA Undersecretary Ernesto Ordonez. From this fund, we managed to do 50 one-day SRI trainings in 49 provinces (twice in one province; our original target was 50 provinces). Out of these trainings emerged the national network of SRI Pilipinas. Our next funding was in 2009 (about \$6,000), to hold a national trainers' conference, to evaluate the results of the earlier nationwide trainings, and to make plans for the future. Since then, we have been running on an average budget of roughly P750,000 (\$17,000) per year, conducting an average of 75 one-day trainings per year, nationwide, each training attended by 20-25 farmers on the average. We have also distributed more than ten thousand of our SRI primers, a few thousand SRI videos, and about a thousand SRI books.

Why do we only have a few thousand farmers to show for this?

We do not discount the possibility that we might have chosen a poor strategy. We have focused on nationwide coverage from the beginning, even when we had little funds. So our adopters are thinly spread throughout the country, like seeds broadcast very sparsely throughout the field instead of being sowed carefully on a seedbed, to be transplanted later. It is possible, as some have suggested to us, that we could have concentrated our funds better in a few season-long trainings in a few areas and spent more on proper scientific documentation to convince the government quickly and thereby invite substantial government funds for rapid expansion. This is a matter of continuing debate even internally, among us.

Another reason is that we only count those farmers who are in touch with us. It is possible that a few thousand more are trying SRI under the radar, so to speak. Also, we count only those who implement most of the SRI practices. Those who do only early transplanting, or only wider spacing, or only alternate wetting and drying (AWD), we do not count. They might be on their way to becoming SRI adopters, but they are not there yet.

And because we teach SRI the organic way (we believe that chemicals damage the soil and kill soil organisms, and are therefore inconsistent with SRI principles), we cannot discount the powerful agrochemical lobby either. Many gatekeepers in the agriculture establishment have close ties with agrochemical firms.

A big reason for the slow spread, in my opinion, is that the perceived gatekeepers of rice knowhow, the International Rice Research Institute (IRRI) and the Philippine Rice Research Institute (Philrice), expressed very early on a knee-jerk negative reaction against SRI. Highly negative, even insulting, IRRI articles about the method were published in scientific journals, while early unsuccessful attempts by Philrice researchers were published in local journals and regularly cited in media. IRRI and Philrice are of course very prestigious institutions. They are supposedly *the* experts in rice, and our agriculturists and policy-makers listen to them. The anti-SRI arguments in these early articles have unfortunately stuck in the minds of many Filipino agriculturists at the national, provincial and lower levels. Whenever we talk to a municipal or a provincial agriculturist, we often hear echoes of IRRI's early attacks on SRI. In the national government, we hear things like "you might get your proposal approved, as long as you don't call it SRI". Or "call it anything but SRI." The anti-SRI bias in the agriculture establishment is so strong that our agriculture secretary today, Secretary Proceso Alcala although a strong proponent of organic farming, ignored SRI for a long time and only last November 2014 did he order some lower officials to "settle this matter once and for all."

IRRI has not published negative SRI pieces for several years now. They must have reevaluated their position and realized that they reacted too soon, without having done any trials themselves. It must have dawned upon them eventually that the millions of farmers now practising SRI throughout the world must be seeing something that they haven't. Yet, they have neither retracted those early anti-SRI articles nor apologized for their insulting remarks. So our agriculturists who go back and review old journals still come across these articles, and they still use the old IRRI arguments against us.

Today, IRRI continues its prideful stance, grudgingly acknowledging that SRI involves some good practices but that it should lead farmers towards IRRI's best management practices for rice. They continue to delude themselves that the IRRI management practices are the "best." If I may be so bold as to correct them: *the best set of rice management practices today is SRI*. Sumant Kumar of Bihar, India proved it, when he exceeded 20 tons/hectare using SRI, a record which was recognized by the State of Bihar and published in the Indian journal *Agriculture Today*. The IRRI management practices can rightfully claim the title of "best" *only* if they break Sumant Kumar's record.

Philrice did some SRI trials, but their results have not shown the dramatic results that farmers often get. I offer the following explanation why SRI tends to perform better in farmers' fields compared to research stations:

A minimum set of skills is needed to practice SRI successfully, and it takes time to acquire these skills. Our experience in SRI trials is that roughly one in three farmers will show dramatic results, another one will show slight or no improvement in yield (although the costs have gone down), and the third gets a lower yield, for one reason or another. If farmers are willing to learn from their mistakes, the odds get better on the second try, and more so on the third. I have not heard any farmer fail in for three consecutive trials. Sooner or later, farmers acquire sufficient knowledge and learn to consistently produce many tillers per rice plant, the obvious mark of the SRI method.

Learning SRI is like learning how to ride a bicycle (or to swim). One must pick up a set of skills. We believe that some researchers doing SRI research did so without the humility of learning the skill set first. They are like researchers evaluating the energy efficiency of a bicycle by test-riding one, without first having learned how to ride a bicycle properly. We have on several occasions asked Philrice to include us in their SRI research so that our farmer-trainers may help them learn SRI better, but no cooperation with Philrice has materialized so far, despite our occasional followups.

Thus, today, we promote SRI in the Philippines against a background of indifference by our department of agriculture and the established rice experts, spiced by occasional derogatory comments. A lead researcher in a recent World Bank funded economic study by the Department of Agriculture on Philippine rice self-sufficiency and the impact of ASEAN trade liberalization, for instance, told me that the study did not refer to SRI even once because “they have not come across it.”

Making inroads in government agencies

Let me hasten to note, however, that this might change in 2015, given DA Secretary Proceso Alcala's instruction to his subordinates to settle the SRI matter once and for all. Let me further note that for two years now one national agency, the Agricultural Training Institute, has been printing for us our SRI primers; another national agency, the National Irrigation Administration, has invited us several times in the assemblies of irrigators' associations; a third national agency, the Department of Agrarian Reform, has started to sponsor season-long SRI trainings itself; and a fourth agency, the Bureau of Soils and Water Management, has shown enough interest that its director has asked us to train farmers in his hometown. So, we are in fact making inroads into the national government although at a very slow pace, and then in the periphery, rather than the government's central decision-making bodies on rice policy.

Unlike other countries, therefore, where governments were drawn early towards supporting efforts to promote SRI among farmers, we have done it from below, working upwards.

For years, we trained farmers and some farmers organizations, working at the same time with local governments at the village level, whenever they showed interest in working with us. Then, since 2013, we reached the municipal level, when the municipalities of Mercedes, Camarines Norte (in the Bicol region); Molave, Zamboanga del Sur (in western Mindanao), and Aringay, La Union (in northern Luzon) conducted their own season-long SRI trainings. We made another major breakthrough when the entire province of Davao del Norte (also in Mindanao), through the efforts of its rice program coordinator Edgar Cabrera and its IPM coordinator Marilou Runas, launched province-wide season-long SRI trainings. (We have 81 provinces in the Philippines.) This year, they are planning to do similar season-long trainings, but throughout Region 11, which Davao del Norte is part of. (We have 16 regions in the country.) We are now working on a second region to follow Region 11's footsteps.

By the way, not yet included in this report are the efforts of other organizations which are also promoting SRI. One of the most successful is the Rice Watch Action Network (RWAN), which includes SRI training as part of its 16-week climate resiliency field school (CRFS) directed at municipalities. Our colleague from RWAN can tell you more about it. Through their efforts, more than 30 municipalities have now conducted official season-long trainings on SRI. And because adaptation to

climate change has become a top government priority, more municipalities are queuing up for the trainings. The Pambansang Kilusan ng mga Samahang Magsasaka (PAKISAMA, or National Movement of Farmers' Organizations), also includes SRI in its sustainable agriculture program, with a national scope. Another NGO, PASALI, has been active in parts of Mindanao. Finally, the oldest NGO in the Philippines, and still one of the largest, continues to promote SRI among rice farmers it reaches.

SRI champions in government

We have realized that the key to mainstreaming SRI in government is to find champions within government. We need government champions who will stick their necks out and push for the promotion of SRI, against the objections of nay-sayers, of which there are many inside the government. Without these champions, a strong objection – or even a casual negative comment – from one nay-sayer is enough to delay decision or kill a pro-SRI proposal. An SRI champion will respond to the objector and debate with him, present all the supporting evidence, and convince other committee members to approve a proposal. A champion will not stop but will find ways within the byzantine government bureaucracy to get an SRI project approved, funded and implemented. Gradually, we are drawing such champions from inside the government into our network.

For the record, our earliest champion in government was the director of Agricultural Training Institute (ATI), the late Atty. Edwin Acoba. It was he who urged all ATI researchers to try SRI. Only one of them, Noe Ysulat of ATI Region 12 (Central Mindanao), responded to Atty. Acoba's call and started his SRI research in 2000, with spectacular results. There are more SRI champions in government now, but not as many as we would want. Still, we already have enough government champions to feel confident that SRI will be spreading more rapidly in the Philippines in the future. One of our colleagues in this conference, is retired regional director Adelberto Baniqued of the Department of Agrarian Reform in western Mindanao. Although he learned about SRI and adopted it only after retirement, having turned into a farmer himself, he has enough government contacts and seniority to wield significant influence with the government. Another colleague here, Dr. Carmelita Cervantes, heads the extension work of a regional government university for agriculture, and has played a key role in her region in promoting SRI within the government.

We will have our presidential elections in May 2016. Thus, starting on the second half of 2016, we will have a new set of elected officials, from the President down to the town mayor, as well as their legislative counterparts. SRI Pilipinas intends to work very hard to get more champions in government, so that in the next six years of the new administration, we can tap more government funds and other resources for nationwide SRI promotion.

Promoting SRI from below

Thus, even if we have been slower than other countries, we hope to reach a similar level too in the future, based on our own approach of starting from the bottom, going up`.

Let me explain in more detail how we do this bottom-up approach at SRI Pilipinas.

From our government-funded trainings in 2007-2008, we built a core network of more than a dozen

farmer-trainers spread throughout the Philippines. Based on this core, we publicly announced our commitment to give a one-day training to any group of 20 or more farmers, anywhere in the Philippines, who request SRI training. Thus, when we get requests for training, the trainer usually comes from the same, or a nearby region, reducing our travel costs. We only do one-day trainings, to stretch our funds. Internally, we have a continuing debate between one-day trainings and the more expensive but more effective season-long trainings. So far, we do only season-long trainings if a local government or another NGO is willing to shoulder a larger part of the cost.

Aside from our own one-day trainings and the season-long trainings done together with local governments or other NGOs, we also do long-distance one-on-one trainings. Our platform for doing this is the SRI Hotline, three mobile phones connected to a netbook, through which we communicate by text/SMS with all contacts. We announce the mobile phone numbers in radio interviews, during news coverage, and in magazine articles we write ourselves. For a year, we even advertised the number in a nationally-distributed local-language tabloid, inviting readers to text us their name and address, to receive a free SRI primer, which we send via postal mail.

Since our postal system is not very efficient, we have also reformulated the printed primer into 45 batches of text lessons, in the local language, of course. One batch, consists of 6-15 text messages, explaining a specific topics. The 45 topics of text-based lessons cover not only SRI but related topics like making organic fertilizers and sprays, composting, vermiculture, and so on. The modules are sent once (sometimes twice) a day, over a period of at most 45 days. Within this period, the printed SRI primer would have hopefully arrived from the post office, supplementing the text lessons with pictures.

Although we have been doing this SMS-based distance education with farmers for a long time, our first experience doing it in cooperation with the government occurred during the second cropping season last year, when SRI Pilipinas and the City of Antipolo, Rizal (site of the famous Hinulugang Taktak waterfalls) and less than an hour east of Manila, ran a 45-day SMS-based SRI training with Antipolo farmers.

We have also managed to get access to a radio program. Every Saturday from 4am to 6am, two of our SRI trainers host a radio program on organic farming, half of which is devoted to vegetables, and the other half exclusively to SRI. The radio program regularly announces our training offers, and has been a consistent source of recruits for SRI trials. As far as we know, this is the only radio program in the country that specifically covers SRI regularly.

At the end of the lessons, we encourage the farmer to do a 100 to 500-square meter SRI trial. At the end of the trial, if farmers decide to use SRI again in the next season, we send them a copy of our SRI book. Many of our farmers learned SRI this way, rather than through face-to-face trainings. Those who do not try (they may just have been curious non-farmers), can still help us, if they agree to distribute our SRI primer. Then we send them a dozen copies by courier, which turns out to be cheaper than postal mail. We currently have more than 5,000 contacts registered on the SRI Hotline. Because we already have their numbers, we can send them updates, news, and other materials. Our core network still relies on face-to-face meetings and workshops, but a significant portion of our expansion is due to these long-distance SMS-based contacts.

Through these face-to-face and long-distance trainings, we have gradually spread news and knowledge about SRI. Through our contacts and adopters, we have reached into village councils and subsequently

municipal governments. This is how we made connections with our SRI champions in government who initiated municipal-level season-long trainings and, later, province-wide trainings season-long trainings. The following details will give an idea of the extent of our ground work.

Of the 81 provinces in the Philippines, we have at least one contact in every province. There are:

7 provinces with at least one contact in every town (100% coverage):

Metro Mla, Aurora, Bataan, Zambales, Nueva Ecija, Bulacan, Tarlac

3 provinces with one town remaining unreached:

Marinduque, Rizal, Oriental Mindoro

6 provinces with two towns remaining unreached:

Laguna, Davao Del Norte, Pampanga, Pangasinan, Aklan, Occidental Mindoro

65 provinces with three or more towns remaining unreached:

Of the 1,633 towns (cities or municipalities) in the Philippines, 872 towns (53.4%) have at least one Hotline contact, while 761 towns (46.6%) have no Hotline contacts.

Of the 872 towns where we have contacts,

378 have 4 or more Hotline contacts.

105 have exactly 3 Hotline contacts.

175 have exactly 2 Hotline contacts.

214 have exactly 1 Hotline contact.

Note how we define contacts: individuals who have requested the SRI primer through SMS (thus, we have their phone numbers for further contact) and have given us their full name and address (thus, we can send them more printed materials). Through these contacts, we have a foothold in their area for further extending our reach.

That is the SRI Pilipinas experience: from the ground up. Today, knowledge of SRI is diffusing – almost invisibly, slowly but surely – in all provinces of the country. With this bottom-up approach, we are certain that we will eventually reach every rice farmer too, faster with government support, more slowly without it.

Talking to farmers

None of this would happen, if we were promoting a method that does not work. SRI does work, farmer after farmer, season after season. It is a robust method, and the plants grown under SRI are resilient to long dry periods, flooding, and typhoons. So far, as I said earlier, our batting average is two out of three. Of the two successes, one involves dramatic yield improvements that impress everyone, and the other is a slight yield improvement, but nothing to really get excited about. In this instance, the main benefit is in the cost reduction.

In terms of yields, we are very confident in assuring farmers of at least a 20% increase once they have learned SRI properly, as long as no disastrous factors like typhoons, long droughts or pest/disease attacks occur. In trials, yield increases in fact often exceed 20%.

In terms of costs, we can confidently claim the following results: around 70-80% reduction in seed costs; around 40-50% reduction in irrigation costs; and more than 50% reduction in pesticide/herbicide

costs.

Note that most of us at SRI Pilipinas were already organic advocates before we adopted SRI. Thus, we teach SRI the organic way. To us, it is a tool for helping farmers shift from chemical to organic farming.

Fertilizer costs are about the same during the organic conversion process, which can take several seasons. This is because we suggest to farmers that they initially spend all their fertilizer budget on compost instead, resulting in a massive application of compost. But the adopters' fertilizer costs will go down steadily as natural soil fertility and soil organisms return, and as they learn to make their own compost and organic sprays using natural fermentation methods.

Labor costs may go up 20-30% initially (but not always), but will also go down eventually as farmers learn or innovate with labor-saving approaches under SRI. At the initial stages of adoption, labor costs are sensitive to local labor practices and payment methods for various transplanting and weeding jobs. Overall, farmers still usually spend less under SRI, even at the initial stages of adoption.

But to be convinced to adopt, farmers have to try the method first. So the issue among farmers is how do we get them to try. How do we convince them to make that first step of setting aside 100-500 square meters for their first SRI trial?

In our experience, this involves a mix of convincing arguments and minimizing the risk of failure.

To get the farmers' attention, we truly need convincing arguments. We have used the following:

1. We cite Sumant Kumar's experience to open up farmers' minds about possibilities. We make it clear that they should not expect to reach that level of yield themselves, just as no one should expect to win a world boxing championship in eight weight divisions, even if they learn the boxing style of Filipino boxing great Manny Pacquiao (who holds such a world record). But we do assure them of at least 20% higher yields, based on Philippine experience.
2. We show them pictures of high tillering rice plants, also to open up farmers' minds about possibilities. They usually admit having seen such high number of tillers, but only on rare occasions and certainly not as an average throughout the field. Once they are told that SRI makes 20 or more tillers per plants possible *on the average*, they sit up and start to listen.
3. We inform farmers when the first tiller starts to form (on the emergence of the fourth leaf, 16-20 days after sowing in the Philippine experience). Although farmers would be expected to know this, few apparently make the connection between this vulnerable period and the time of transplanting (18-21 days after sowing). Once we tell them that the timing is completely wrong, and that the best time to transplant is before the first tiller starts to form (hence, on the second leaf, 8-12 days after sowing), one can see their faces light up, as they see the connection for the first time. It would be very helpful to us if rice experts can actually tell us, based on their own observations at the microscopic level, at what stage of the plant's growth (emergence of the 4th leaf? the 5th leaf?) the proto-tiller within the rice plant starts its growth, before it is visually observable. It would be much better if we can actually get microphotographs of the process.

4. We show them a picture of four emaciated children sharing a plateful of food, a telling argument for giving each rice plant “its own plate,” Based on this argument, we do not count “two seedlings per hill” as SRI practice. We insist, as Henri de Laulanie also did, that each plant should have its own space, without having to compete for sunlight and nutrients. Competition for food, even within a litter, always results in winners and losers, and at least one runt. And the runt is usually sickly, more vulnerable to pest and disease. In rice too.

5. It will be hard for a rice plant to grow many tillers if it has few roots. And the secret of dense, deep roots is for the rice plant to experience dryness occasionally. Dryness will make the rice plant search for water by sending out more roots. If dryness is somewhat prolonged, a moisture gradient will establish itself in the soil (drier nearer the surface, wetter as you go deeper). Since all roots grow towards the water, the prolonged dryness will make them grow deeper, towards greater moisture. Again, it will be helpful for us to actually cite scientific studies and show photographic evidence about this.

We have developed similar down-to-earth arguments for each SRI practice, which farmers quickly understand, leading them towards a decision to try SRI, to see for themselves.

At this point, once farmers are willing to try, we also need to curb their enthusiasm. Some want to try it immediately in one hectare. We dissuade them. In our approach, we give importance to maximizing the probability of success on first try. This is a priority for us.

Thus, we recommend that a first trial should be done on 100-500 square meters first. We explain that it is like learning how to swim. You should not jump immediately into the ocean in your first attempt to learn how to swim. Most of SRI failures in the Philippines are due to farmers doing it on one-half or one hectare, on their first try. Even those who did succeed would have had a much better chance of success (and a less worrisome growing season too), if they had started on a smaller scale.

Raising the chances of success on first try

With our approach, we get a “two in three” success rate and “one in three” dramatic results at this time. We continually wrack our brains what else can be done to improve the chances of “success on first try” (SOFT). Here are a few more measures we advocate to stack the probabilities in our favor:

1. Do as many of the SRI practices as possible. Do not leave out the early transplanting, single seedling per hill, alternate wetting and drying, and the weeding. This is about the synergy between the practices.

2. Instead of trying it alone, convince other neighbors to do trials too. The more trials, the greater the chances that at least one will show dramatic results. A single trial has 33% chances of at least one dramatic result. Two trials raise the chances to 56%. Three trials to 70%; five trials to 87%; ten trials to 98%. Our trials usually involve 20 or more farmers. If they all had a 100-500 sqm trial plot, the chances of at least one dramatic success among 20 trials is practically 100% (99.97%), the chances of at least two dramatic results, 99.7%; of at least three dramatic results, 98.2%; of at least four, 94%; of at least five, 85%. This is also the reason why we do not believe in a single demonstration plot for 20-30 trainees, which is in effect a single trial only, with a 33% chance of showing dramatic results. We insist that each trainee in our season-long trainings, set up their own 100 to 500-square meter trial plot.

These probabilities of course assume that the trials are independent. This assumption breaks down for weather events and major disease or pest outbreaks.

3. In their first trial, farmers should put as much compost as they can afford. We normally suggest one 50-kg bag per 100 square meters of trial plot, applied at the land preparation stage. (It can be less subsequently, especially when doing SRI on a large-scale.)

4. Instead of using only one variety, divide the trial plot into several sections and use different varieties for each. Often, some varieties respond to SRI treatment better than other varieties.

5. Do not let the weeds gain momentum. Failure to control weeds is another common source of failure.

In the SRI Pilipinas network, we continue to fine-tune these guidelines, so that we may keep raising the chances that our new adopters, even if they are trying SRI with only our primer as their guide, can succeed on their first try.

Dear friends in the international and local Malaysian networks, I hope I was able to give you a good picture of the status of our SRI advocacy in the Philippines. This is not to say that our experiences are all applicable to your own situations. Pick up what is useful; shelve the rest.

Thank you very much.

[This paper will be presented at the Southeast Asia Regional Conference on SRI 2015, held in Alor Setar, Malaysia on May 26-28, 2015.]