

MADAGASCAR: REPORT ON A VISIT TO REVIEW PROGRESS WITH THE SYSTEM OF RICE INTENSIFICATION (SRI), SEPTEMBER 25-OCTOBER 3, 2008 – Norman Uphoff, CIIFAD

BACKGROUND: The merits of the System of Rice Intensification (SRI), developed in Madagascar some 25 years ago by Fr. Henri de Laulanié, have now been validated in over 30 countries since its methods were first demonstrated outside of Madagascar eight years ago. However, even though the application of SRI principles and practices has been raising paddy yields by 50-100% (or sometimes more) -- with less need for seeds, water, fertilizer, and often less need for labor inputs, and with a higher output of milled rice per bushel of paddy -- there has still been resistance from some quarters.

One of the objections sometimes raised against the validity of SRI methods is that they have not been widely adopted within Madagascar, the country of its origin. If SRI is as good as it is reported to be, skeptics ask, why haven't Madagascar farmers adopted it in large numbers? This is an example of what philosophers call 'the genetic fallacy' -- judging something by its origins. Does the fact that Christianity has had limited acceptance in Palestine where it originated mean that it is a failed religion? Hardly.

Some persons are inclined to dismiss innovations by resorting to *a priori* reasoning rather than engaging in empirical examination themselves. They appear unwilling to invest the effort needed to learn from the real world in open-minded ways, and to modify their understanding of how the world works in whatever ways and to whatever extent the data warrant. Rather than accept new evidence, they prefer to rely on logic and previously-received knowledge. They are disinclined to believe that the world can still contain some surprises for us, assuming instead that our present knowledge is sufficient and complete.

Already in 2005, the Minister of Agriculture **Randriarimanana Harison** estimated that 200,000 were using SRI methods in Madagascar, a large number (personal communication). However, probably less than 50,000 were using all of the recommended SRI methods, and using them all as recommended. There has been no evident increase in Madagascar's average paddy yield that could be attributed to the use of SRI practices. So this has been regarded by skeptics as proof that SRI can be dismissed as nothing very significant. However, this rationalization should soon become moot now that SRI is achieving a much higher profile in Madagascar, with accelerating support from both government and NGOs.

At the end of August, 2008, the well-known film star **Jim Carrey** visited Madagascar with **John Jolliffe** and other member of a delegation from the Better U Foundation, to acquaint themselves with SRI in the country of its origin. This visit called a lot of attention to SRI within Madagascar and got many conversations started. Carrey had learned about SRI two years before from Jolliffe, who himself had learned about SRI from friends in Southeast Asia. After studying the materials on our SRI website (<http://ciifad.cornell.edu/sri/>), Carrey arranged for me to meet with him in February 2007 in Los Angeles. Three hours of discussion solidified his interest in SRI as an innovation that can reduce hunger and poverty in the world -- and can do this in ways that are beneficial for the environment rather than adverse. Given his life experiences and values, Carrey has begun providing financial and personal support to make SRI more widely known and available, especially for poor households, and especially to communities in Africa where there is greatest need.

Last year, the **Better U Foundation**, of which Jim Carrey is the founder and president, hired two development professionals, **Winifred Fitzgerald** and **Rames Abhukara**, to lay the groundwork for and

develop institutional connections for the promotion of SRI in Madagascar and in the rest of the African region through the organization of an African SRI Summit. Winifred and Rames had recently settled in Madagascar, the original home of Rames, a Canadian national. Both had worked for a number of years in other African countries with development agencies such as the Canadian International Development Agency (CIDA), Catholic Relief Services, and U.S. Peace Corps. Carrey and his delegation visited Madagascar in August in order to further plans for the African SRI Summit and to meet partners involved in its organization. During his visit, he was graciously received by President **Marc Ravalomanana**, who provided his presidential helicopter to Carrey and a few members of the delegation in order to enable them to see more of Madagascar and more of its villages in a few days than could be reached by road vehicle.

At the conclusion of the visit, the President and Carrey agreed on a revision of the BUF plans to support an **African SRI Summit** in Madagascar in early 2009. This idea had grown out of my discussion with Carrey the year before. Given the President's personal interest in SRI and in what it can contribute to his country's development, a broader plan was formulated. The President already knew a lot about SRI from having already used these methods successfully for several years on his own large rice farm near Lac Alaotra. Also, since 2005 he has had an SRI demonstration plot on the grounds of the Presidential 'palace' that the North Korean government built some years ago on the outskirts of the capital city for one of his more ostentatious predecessors. So President Ravalomanana knows SRI better than any other head of state in the world.

The Better U Foundation agreed to assist efforts of the President's **Madagascar Action Plan (MAP)** to spread knowledge and use of SRI within the country, focusing on SRI utilization in 'pilot' communities being designated in all 22 regions ("MAP Villages"), at the same time making Madagascar a 'showcase' for SRI for the rest of Africa. The government in turn offered to have SRI on the agenda of the African Union (AU) Summit for heads of state that it is going to host in Antananarivo next July. [Government follow-up on this initiative is reported at: http://www.french.xinhuanet.com/french/2008-09/02/content_709878.htm]

This AU Summit will provide an opportunity to communicate about SRI directly to governments throughout the continent, especially since the theme of the Summit is on food security, and delegations from the different African countries are expected to include their Ministers of Agriculture. Further, with involvement also of African and international civil-society organizations in the event, it should be possible to achieve more broad-based dissemination than by working only through governments. In every country where SRI has been taken up, it has been promoted by a **combination** of government, NGO, academic, private-sector, grassroots and other organizations. While not all are equally involved (usually leadership falls to one sector or another), it is usually a **coalition** of partners engaged with SRI that makes the utilization of this opportunity effective.

The Madagascar government wants to involve many organizational partners in the MAP effort to raise village standards of living and security, and this itself is an example for other parts of Africa. The Better U Foundation will play a facilitating role in this process. For his part, President Ravalomanana when speaking to the U.N. General Assembly on September 23, the day before I arrived in Antananarivo for this visit, during its debate on the global food crisis told the assembled delegates: "We [in Madagascar] are promoting the widespread use of the System of Rice Intensification (SRI), an eco-friendly and pro-people method developed in Madagascar in the 1980s. SRI promotion is an important part of

Madagascar's recently launched 'natural revolution'." [The President's speech is available in text and on video at: <http://www.un.org/ga/63/generaldebate/madagascar.shtml>]

This President's Madagascar Action Plan has the motto: **Madagascar, naturally!** Among other things, the MAP seeks to minimize dependence on agrochemical inputs in the country's agricultural sector, promoting organic production as much as possible. SRI thus can make more of a contribution to Madagascar's development than just ensuring food security and possibly enhancing its exports. Madagascar has some wonderful indigenous rice varieties, including a fine pink rice that should be attractive products in U.S., European and Japanese markets, especially if grown organically. Such varieties should also be a plus for the country's growing tourism industry. But success with SRI should establish the feasibility of following a less chemical-dependent pathway for agricultural productivity.

Since the next main rice-growing season starts in most parts of Madagascar at the end of October or in early November, it is urgent that this new initiative get started right away if its impact is not to be delayed by a whole year. The **MAP Secretariat** in the President's Office was launching a 'MAP Village' strategy in which one or two villages in each of the country's 22 regions will be selected for a big participatory 'push' to transform living standards in these villages within a short period of time, hopefully 18 months, achieving better health status for villagers and better education for their children, with improved water supplies and infrastructure, particularly road connections, making improvements in local governance and security, boosting agricultural production quickly (here is where SRI fits in well), and with protection and enhancement of the village's natural environment (ditto).

In early September, all of the 22 Chefs de Region plus many other officials had assembled at the National Leadership Institute of Madagascar (NLIM), housed in the Presidential Palace to learn about and discuss the overall MAP strategy. There were plans to convene a follow-up meeting to introduce the 'MAP Village' concept to everyone and to get specific implementation efforts launched in each region. Better U Foundation agreed to support a two-day 'team-building' effort to support SRI dissemination linked to the MAP Village initiative and involving a variety of civil-society partners and SRI farmers, so that the SRI campaign could spread beyond the MAP Villages focused on in the coming year.

By mid-September, a major national event was agreed on and planned, to be held at the National Leadership Institute of Madagascar (NLIM) conference center September 29 to October 2. BUF enabled me to travel to Madagascar to work with Winifred and Rames and with the MAP Secretariat and others on this initiative, and to participate in the team-building effort itself. Since I had not been in Madagascar since April 2004, I was eager to get reacquainted personally with the SRI situation in the country and to see many long-time friends there.

Preparations for the Team-Building Event: Winifred and Rames met me at the airport Wednesday evening and had a full schedule lined up for the next day, September 25. We met at 8:30 with the Director-General for Agriculture in the **Ministry of Agriculture, Livestock and Fisheries (MAEP)**, **Mamy Andriantsoa**, who expressed his strong support for the SRI initiative, saying that the Ministry will cooperate fully in this. Although he could not participate in all four days of the event, because of a previously planned trip to Japan, he played a very active and constructive role in it during the two days that he was able to spend in the event.

Mamy arranged on the spot for us to meet with the Minister for Agriculture, Livestock and Fisheries, **Panja Ramanoelina**, whose office was on the top floor of the Ministry building. So up we went to the

top floor. While waiting for the Minister to finish his previous appointment, I was introduced to one of his advisors, **Yoshifumi Tsukii**, a JICA consultant, who introduced himself as ‘a friend of SRI’ and a member of J-SRI, the Japan Association for SRI. He knows well our Japanese colleague working in Indonesia, **Shuichi Sato**, and also about SRI activities of the Japanese Overseas Volunteer Corps (JOVC) in Southeast Asia (he is himself a former JOVC volunteer). So we had several warm welcomes in the Ministry of Agriculture.

When we met the Minister, he expressed strong support for the promotion of SRI. Before being appointed to the Cabinet, he had taught at the University of Antananarivo in the Faculty of Agriculture (ESSA), heading its food science department. So he said that he had known well our former SRI colleague at the University, **Prof. Robert Randriamiharisoa**, who between 1998 and 2004 supervised a series of thesis research projects on SRI that established a solid base of scientific knowledge about SRI that clarified the results being observed in farmers’ fields. Unfortunately for the whole SRI community, Prof. Robert’s passing away in August 2004 deprived us of one of its most outstanding scientific contributors.

Happily for us, Prof. Robert’s successor in the Department of Agronomy at the university is **Dr. Bruno Andrianaivo**, formerly a rice researcher with **FOFIFA**, the government’s agricultural research agency, and the first government researcher to take an interest in SRI. Bruno started collaborating with CIIFAD and Tefy Saina on SRI evaluation in 1999, and he wrote a PhD thesis on SRI in 2002. The Minister expressed his appreciation for Bruno’s work with us and with SRI. Because he would be doing some traveling the next week, he was not certain when he could come to the team-building event at NLIM, but he said he would make an effort to come and give his encouragement. (He made it the first day.)

We next went to the office of the **Groupe Conseil Developpement** (GCD), where we met with **Michel Simeon** and several young Malagasy staff of this NGO. GCD has been assisting Winifred and Rames in preparations, first for an African SRI summit, and then for the team-building effort to support a national SRI campaign. Michel teaches at the Catholic University in Antananarivo and took the initiative to set up GCD several years ago with several colleagues, to have a platform for improving the professional quality of development knowledge, analysis and planning in Madagascar, and also to enlarge the country’s human resource base for capable development work.

One of the tasks that the Better U Foundation had given to GCD was to inventory all the publications to date on SRI in Madagascar (thesis, reports, etc., including many things on the Cornell SRI website) and also to catalog all the efforts by NGOs and others to promote SRI in different regions of the country. This was referred to as a ‘*capitalization*’ exercise, documenting what sources of knowledge and human capital are available in Madagascar to support an SRI campaign.

After lunch, Winifred, Rames and I drove out to the edge of Tana (the colloquial name for the capital, Antananarivo), to see the facilities of the **National Leadership Institute of Madagascar** (NLIM) and meet its director **Hubert Rakotoarivony** and the director for training **Bodo Ramangason**. They were both going to play active roles in the event, not just hosting it. We also met **Paul Porteous**, a graduate of the Kennedy School at Harvard who is assisting in the operation of NLIM and advising the government on various leadership issues. I was properly impressed with the NLIM facilities, built quite lavishly by the North Korean government when it was trying to make Madagascar an ally in the early 1990s. The only drawback was that the plenary meeting room, which could accommodate the 200-250 persons we expected to attend, was relatively long and narrow, creating more of a classroom setting than we desired. A more semi-circular arrangement would have been more suitable, but that was not an option.

At 6 that evening we then met with the leadership of the Secretariat for the Madagascar Action Plan (MAP). Its office is located in the Office of the President at the Ambohitsirohitra Palace in the center of Tana. The MAP Secretary General **Andry Ralijaona** welcomed us, as did MAP advisors **Rolland Radasy Randrianarivony** and **Alain Pierre Randrianjohary** and other staff. There was some confusion about the schedule, how much time would be devoted to SRI discussions and which days these would occur on, but these questions were quickly and amicably worked out. We all agreed that the program should begin with the MAP Village concept and strategy as the overall framework, with the SRI campaign fitting within that framework but not being limited to just the MAP villages. That was the reason for having NGO partner organizations participating in the team-building effort and not just national and local government representatives.

Planning Meeting: The next morning at 9, all of the principals met at the Ministry of Agriculture: Andry, Rolland, Alain Pierre, Mamy and a dozen staff of both the MAP Secretariat and the Ministry. We were joined by the Secretary General (permanent secretary) of the Agriculture Ministry, **Philibert Rakotoson**, who oversees the work of all three branches, agriculture, livestock and fisheries.

Philibert and I had met previously at the International Year of Rice conference held in Rome in February 2004. At that time he held the position Mamy now holds. At that large international meeting at FAO, I had not been able to get SRI onto the agenda of the IYR conference, but the organizers gave me a chance to make a lunch-time presentation during the second day, for anyone interested in attending. After I had finished my powerpoint slides and invited questions, Philibert, stood and introduced himself to everyone, saying that he wanted to support what I had just reported, based on his own experience with SRI in Madagascar. He said that he had known Fr. de Laulanié personally and greatly appreciated all that the priest had done for Madagascar farmers.

This was an ‘atmosphere-changer,’ making the discussion that ensued more positive than it might have been otherwise. Having now a knowledgeable friend of SRI at the top of the Agriculture Ministry was itself quite a change from four years ago. Then Philibert’s predecessor had transferred out of Tana the Ministry’s director for regional development, in part because of that person’s enthusiasm for promoting SRI.

The rest of the day was unprogrammed for me, while Winifred and Rames worked on logistical matters for the team-building event. Among other things, they were getting several hundred copies made on compact discs of training videos and DVDs prepared by different organizations or programs: CIIFAD, CRS, ADRA, the World Bank Institute. These CDs were to be distributed to government representatives, NGOs and farmers from all the regions who would attend the event next week. Then in the evening, we had dinner together so Winifred and Rames could brief me on what had been happening over the past year.

Planned and Chance Meetings: Saturday morning Winifred, Rames and I met with **Mme. Edline Ravelomirina**, at a coffee shop in central Tana. Edline was one of the leading farmer-proponents of SRI, having used the methods for over 10 years, very successfully. More important, she has been actively and continuously engaged in SRI training at the grassroots, and she had even been invited to visit several other countries to train farmers in the new techniques. Edline had been invited, as had I, to participate in the World Economic Forum for Social and Environmental Responsibility in Lille, France, October 9-11. So we talked not only about her role in the upcoming team-building exercise, but also how to give

complementary presentations in three weeks' time in Europe, to jointly inform people there about SRI opportunities.

During this visit to Madagascar, I had hoped to meet **Joeli Barison**, who did the first scientific research on the agronomics of SRI, for his baccalaureate degree thesis (*mémoire fin d'études*) ten years ago. On the basis of this and his academic record, Joeli was awarded the Laureate de Madagascar that year, the prize going to the top-ranking graduate from the whole national university system. Joeli subsequently did a M.S. in crop and soil sciences at Cornell University with a fellowship from USAID, writing a master's thesis on SRI of practically PhD quality. This is still the most detailed scientific evaluation and explanation of SRI practices to date. Unfortunately, I had lost email contact with him since his assignment with a USAID project (BAMEX) finished in June.

The Director-General of Agriculture, Mamy, when I asked him about Joeli, gave me a phone number to contact him. But there was some misunderstanding, and the person with whom we made arrangements to meet on Saturday morning in the Hotel Colbert lobby was **Theodore Barison**. He was mystified by our invitation to meet, but showed up anyway to meet Rames, Winifred and me. We had some awkward moments sorting out the misunderstanding, but it turned out that this Barison was also working with SRI through an NGO called Rice and Water. This is why our invitation 'to talk about SRI' had made some sense to him. We had an interesting discussion even though this was a kind of random encounter.

While talking with Barison in the hotel lobby, **Soava Rakotoarison** walked by, purely by coincidence. Soave had done a master's degree at Cornell in natural resources, and we got reacquainted after no contact since 2004. At that time, he had left his position in the National Environment Office (ONE) to work more directly on resource conservation than he could in a bureaucratic position. He had an idea for growing eels under semi-wild conditions. This could take pressure off the wild populations of this endemic species, increasingly endangered by over-extraction from Madagascar's rivers.

Local eel species are relatively lower in fat content than other countries' varieties, so if eels can be produced in Madagascar without reducing natural populations -- and maybe even enhancing these by reducing wild capture -- there should be strong export markets for them in Europe, U.S. and Japan. Soava is now director of a company called Ripple Fish International Ltd., which is attracting foreign investment partners, he reported. Certain technical issues that we discussed in 2004 have been resolved for growing cultivated eels, stocked in rivers. This is a multiply beneficial initiative which is occupying Soava so fully and productively that I gave up my thought of trying to get him engaged in the national SRI campaign, where his organizational skills could be very beneficial.

Association Tefy Saina: Later that morning, Rames and I met **Sebastien Rafaralahy** in the hotel lobby to talk. Together with Fr. de Laulanié and Justin Rabenandrasana, Sebastien was one of the founders of **Association Tefy Saina** in 1990. This is the NGO that became the initial platform for SRI promotion. Sebastien and Justin gave up their government jobs to work full-time on SRI demonstrations and training, and throughout the '90s, they were the most active and tireless proponents of SRI in the country, gradually drawing more and more organizations, and more and more farmers, into the network for SRI. In 1994, CIIFAD began working with Tefy Saina to introduce SRI around Ranomafana National Park under the USAID-funded project that Cornell faculty, staff and students were involved with, with the objective of integrated conservation and development.

My own understanding and appreciation of SRI was for the first half dozen years based entirely on the work and explanations of Sebastien and Justin, who provided copies of Fr. de Laulanié's writings, mostly unpublished. For the last two years, unfortunately, there has been some dissension within the NGO, and whether Sebastien is currently its president is contested, a general assembly having been convened without his knowledge and participation, electing a new president, based in Fianarantsoa rather than Antananarivo. Such internal fissures are unfortunate, although not uncommon in Madagascar (nor in other countries). Sebastien explained to us how the controversy has now been taken to the courts, and he expects some decision by the end of October. It was good to see him again and to appreciate the energy and passion that he has brought and continues to bring to the SRI endeavor.

Meanwhile, the work of Tefy Saina has continued, proceeding in a relatively decentralized way with four foci of activity and management, one of them being in Tana. Tefy Saina is composed of affiliated organizations as well as individuals, and they are conducting training programs around the country, being most involved with SRI and rice but also promoting rural development more generally, as advised by Fr. de Laulanié. While Sebastien has stepped back from organizational affairs, Tefy Saina's previous secretary, **Justin Rabenandrasana** has continued to be involved with the Tana branch of the NGO, and he is also a part-time advisor with GCD, the NGO that I met with on Friday, providing it with expertise on SRI. Justin told me later that he is also now president of a newly-formed NGO which is a constituent of Tefy Saina, **Association Tontolomiana (TOM)**. Tefy Saina has always been a loosely structured consortium for rural development, so both membership and boundaries are somewhat fluid.

Additional Discussions: Saturday afternoon, Rames and I went to the home of **Josh Poole** for a late lunch with Josh's family and some Malagasy friends (while Winifred did some administrative and organizational backstopping for the team-building exercise). Because of previous travel commitments, Josh, who has been one of the most active supporters of SRI in Madagascar, was not going to be able to attend the big event the following week. So we did our 'catching up' over tasty Malagasy food. Josh's 'SRI career' began when he was a Peace Corps Volunteer doing SRI extension in the Moramanga region. Then while an intern in the U.S. Embassy, he continued SRI promotion, getting the Embassy to establish and maintain an SRI demonstration plot at the President's palace, in cooperation with Tefy Saina. Josh even got the U.S. Ambassador to transplant the first SRI seedling. Now as Josh is program director for the NGO the **Adventist Development and Relief Association**, known as **ADRA**, and continues to extend SRI through its rural development programs.

Later that afternoon, John Jolliffe, international health and development advisor for the Better U Foundation, arrived in Antananarivo. That evening, Rames, Winifred and I had dinner with John to brief him on the preparations for the team-building event. At noon on Sunday, we met again for lunch at John's hotel to continue the discussions. Then that afternoon, we all met again with the MAP team and with the cadre of NLIM facilitators who were going to assist in the group work that was planned for the four-day MAP event. We wanted this event to be more participatory than most large meetings (hence our use of the term 'team-building' rather than 'training'). The strategy of spending considerable time in small group discussions, either with heterogeneous participants or with persons from the same region (or regions), worked out very well.

Participation in the event itself was quite diverse, with top government officials and Chefs de Région (regional administrators) interacting freely with technicians and NGO personnel and with farmers who were attending either as representatives of MAP Village residents who would soon begin using SRI

methods, or as SRI experts, many of them having won regional or national prizes for their rice-producing proficiency.

National Rice-Growing Competition: For several years, the President and the MAEP have sponsored an annual competition which recognizes and rewards the farmers achieving the highest paddy yields in their respective regions, and then it identifies the farmer with the highest yield in the country. In the first three years, I was told, all 66 regional prizes and 3 national prizes were won by farmers who used SRI methods. This confirmed SRI's merit in eyes of the President. In 2005, the top yield as measured by department technicians was 17.2 tons/hectare, according to the Minister of Agriculture. The amount of money given as the first prize, over \$13,000, is an almost unimaginable windfall for any farmer. But such a yield is more than eight times the national average and points the way to transformation of the rice sector.

MAP Team-Building Event

Monday morning, there were at least 200 persons assembled at NLIM by 9 o'clock. We arrived a little early, and I met **Dr. Dean Williams**, a lecturer in the Kennedy School at Harvard who served as a part-time advisor to the President, particularly involved with the Madagascar Action Plan (MAP). He assisted in the arrangements for Jim Carrey's visit in August and helped get decisions made quickly so that this SRI 'launch' could occur before the start of the next rice-growing season.

Also before the event started, I was pleased to meet again **Fanantenana (Fana) Andrianaivotiana**, who had worked with our Cornell team for four years under the Landscape Development Initiatives (LDI) project. (CIIFAD partnered with the consulting firm Chemonics in implementing this USAID project for conservation and development in the Tamatave-Moramanga region of eastern Madagascar between 1998 and 2004.) Fana was the very capable manager of the LDI demonstration farm at Beforona, which was a base from which SRI use was promoted through the Koloharena farmer organizations that were established under the project. Now Fana continues to support SRI dissemination as a sustainable livelihoods specialist for **Catholic Relief Services/Madagascar (CRS)**.

The following report from the team-building conference does not attempt to reflect the whole event. That would require something approaching book-length. Given that the purpose of my visit was to assist in launching a national SRI initiative in association with the Madagascar Action Plan, what follows is more SRI-focused than the event as a whole. However, as was made repeatedly clear in the conference, given the aims of the MAP with its motto of **Madagascar, naturellement**, and given SRI's socio-economic orientation, including human resource development, the 'marriage' of MAP and SRI is a natural one.

The Secretary-General of the MAP, **Andry Ralijaona**, opened the meeting with a discussion of the MAP Village concept and strategy. This aims to demonstrate (quickly) that there can be significant and rapid economic and social progress at village level, provided that communities assume greater responsibility for their own advancement, with willingness to change and committed local leadership, and that government agencies concurrently give appropriate and coordinated support.

I had previously suggested to Andry and others in the Secretariat a concept that I had developed from working with the Rural Development Committee at Cornell for many years. Given the way that the MAP goal and mode of operation are described, it seems relevant: *assisted self-reliance*. On first hearing, this sounds like an oxymoron, a contradiction in terms. But governments and NGOs can and should fashion

their local-level assistance in ways that *encourage and reinforce* -- rather than *discourage or make seemingly unnecessary* -- local initiatives and assumption of responsibility. There is a narrow path to be walked between doing 'too little' or 'too much' from outside or above. The terms under which assistance is offered and provided will have a big impact on how it is perceived and what impact it has, making villagers either more self-reliant or more dependent.

The MAP is obviously well-intended, but good intentions are not enough. MAP's leadership knows that they face a difficult challenge to get this balance right. A main reason for the event was to communicate a consistent and coherent message to the regions, represented at the meeting by the *Chefs de Région*, and through mayors and *Chefs de fokontany*, many of whom were present, to reach out or down the *commune* (sub-district), *fokontany* (locality), and village levels. Institutional issues in rural development are what I worked on for most of my professional life, before I was 'hijacked' by the SRI opportunity. The expansion of SRI in Madagascar will be greatly benefited to the extent that the government's institutional and programmatic initiatives are appropriately aligned with our SRI campaign efforts.

Andry was followed by **Philibert Rakotoson**, Secretary-General of the Ministry of Agriculture, Livestock and Fisheries, who discussed how SRI would fit into and strengthen the MAP program. SRI, Philibert said, is 'part of our own Green Revolution' in Madagascar, as it was developed by Fr. Henri de Laulanié 'a few years ago.' He stressed that with SRI methods, farmers can succeed in raising their production by relying mostly on their own seeds and on their own fertilizer (compost).

One need, he said, is that farmers invest more of their labor to capitalize on this productive opportunity. Many people have commented that many, maybe most, Malagasy farmers are not inclined these days to invest more labor in agricultural production. Philibert acknowledged that SRI is more labor-intensive. However, this is only part true. To be sure, more labor is required in the initial stages when farmers are learning how to use the new methods. However, more and more evidence is accumulating from Asian countries that as farmers gain skill and confidence in the techniques, they find SRI to be labor-neutral or even labor-saving. As I said in my presentation on SRI around the world, for Chinese farmers, the main motivation for accelerating adoption there is that they find SRI can save them not only seeds, water and money, but also labor.

Philibert did not argue that SRI is too labor-intensive for adoption, but rather that farmers should get together for collective action to improve their water control systems and to manage their water supplies very carefully and flexibly. This could ensure SRI farmers that they will have access to water when it is needed, in smaller amounts but reliably. He also called for farmers to have a 'willingness to succeed,' a conviction that they can increase yield and net income from their rice production by using SRI means. Government agents should be willing and able to help, but responsibility rests with farmers themselves.

NLIM director **Hubert Rakotoarivony** gave an inspirational talk to the group, employing the kind of metaphor so popular among Malagasies. 'If you are in a boat with other people,' he said, 'and there is a leak in the boat, you must all work together to get the water out. Nobody should say, 'But the leak is on the other side of the boat.' It is the same for villagers,' he went on. 'We need to act together, and to act quickly. If there is a fire in the building, you shouldn't write a thesis on the causes of fire, or on how fire spreads in a building made of concrete. You should act to stop the fire.' Hubert stressed that the purpose of assembling so many people from all over Madagascar was not just to communicate to them, but to engage them in thinking through how they can best respond to the MAP opportunity, developing concrete action plans for what they can do and will do in their respective regions.

John Jolliffe then spoke on behalf of Jim Carrey and the Better U Foundation, reaffirming the Foundation's commitment to assisting in the realization of MAP vision. Because Angelo Rarojo, the Malagasy who was interpreting for John and me, had to go to the podium to translate John's remarks from English into Malagasy, I could not hear all that John said, but participants all heard his remarks in their own language thanks to Angelo's trilingual capabilities. My being able to follow the four days of discussion depended heavily on Angelo's services.

Mamy Andriantsoa, DG for Agriculture, reviewed the schedule for the four-day program, explaining how both MAP village planning and SRI promotion planning would be combined. In closing he noted that when Jim Carrey had visited Madagascar and had gone to see SRI rice fields, in some places he had said, 'This is not exactly what I expected to see. It is not really SRI.' This was because there was continuous flooding in some places, or plants too closely spaced. 'So it would be important for all to get a better understanding of what SRI involves.'

The Minister of Agriculture, **Panja Ramanoelina**, then arrived to open the conference formally on behalf of the President. He discussed the interdependence between SRI and the MAP village strategy. He said: 'We knew about SRI in Madagascar 20 years ago, but we didn't take advantage of it. Now it is used a lot in Asia, and elsewhere in Africa, and even in Latin America -- more than in Madagascar.' He described SRI as 'a pillar for the Green Revolution in Madagascar, so please bring it to all the MAP villages.' He also confirmed plans to include SRI in the African Union Summit being hosted in Madagascar next summer.

There was time given for questions and discussion following the Minister's presentation. One of the statements came from the current president of Association Tefy Saina, **Edmond Rataminjanahary**, who said correctly that Tefy Saina was the first organization in Madagascar to begin extension of SRI methods at the village level, and further that Tefy Saina members stand ready to support this effort. 'We are honored that you are considering us as partners in this campaign, and we are here to share our experience.'

In the afternoon after lunch, participants gathered in groups constituted according to region, with discussion and justification of the villages that were being selected as MAP Villages, to begin planning for appropriate initiatives to fulfill 'the MAP commitments' to Malagasies: to improve their supply, access and quality of basic services: education and health care; water supply, both for irrigation and domestic needs; infrastructure, particularly roads; agricultural production and food security; economic opportunities; a conserved and beneficial natural environment; good governance; and security. (In some areas, theft and violence are affecting people's quality of life and economic progress so this is a matter of concern by government and villagers alike.)

At the end of the afternoon, spokespersons from all 22 regions made short, three-minute reports, stating which villages or communes had been selected (there was ambiguity about what should be the unit for action), and what would be the **priorities** for raising living standards and quality of life. Most regions identified SRI as one of their priorities, some with very ambitious expectations. In some places, there could not be assured progress with SRI until water problems were resolved: how to get more supply where water was too scarce, or how to install drainage facilities where it was too abundant.

The next day, in the morning there was a **Marketplace of Ideas** (*Marché à Idées*) in and all around the NLIM building. Various NGOs, companies and government departments had tables and displays of things

that they could provide to villages to meet one or more of the MAP objectives. Tefy Saina had a table where delegates from the regions could come and discuss about applications and problem-solving for SRI. Brother Hubert, a French monk who was an associate of Fr. de Laulanié, brought a diverse collection of weeders to display, so people could see the variety of designs that farmers and technicians have designed. This was impressive, but none were as light and effective in my estimation as the metal weeder designed by Premaratne in Sri Lanka. This has been tried out in Madagascar and judged by farmers to be very easy and effective to use. Large-scale production and distribution of this implement would be one of the single most influential things that could be done to promote SRI spread.

There was a display an innovation for SRI that could be useful also in many other countries. This involves making, from old newspapers, biodegradable 'sleeves' or 'pockets' in which SRI seedlings can be grown. This can speed up transplanting because they are very easy to handle and transport, and there is absolutely no root trauma in the process. The material holding the soil around the rice plant root disintegrates within a week or two, so it does not impede root growth.

Then in the afternoon, regionally-defined groups met again and discussed how to finalize their initial plans for the MAP Village initiative, region by region, drawing on whatever was learned from the Marketplace discussions. The willingness of regional governments to take responsibility for village-level improvement, in response to the President's urging, was impressive. All were ready to begin the necessary consultations, procurement, training, etc., the following week. At the close of the day, everyone was asked to come a little early the next morning because the President was planning to join the conference at 9:30.

Actually, the President came at 9:00 Wednesday morning, and after some brief opening remarks, he opened the floor for questions and comments, saying 'I want to hear from you.' When the director for rural development in Menabe region described the selection of two MAP Villages there, it quickly became clear that most participants were planning for development of larger administrative units as the focuses of action -- communes or *fokontanys* -- rather than the smaller villages that the President had in mind. Much of the ensuing discussion focused on having a common definition of what constitutes a 'village' in this MAP initiative. This did not affect our SRI efforts, but it was important to get regional initiatives in synch even if they would each have their own respective tailored interventions. The President made clear that he sees SRI as an important part of the MAP Village initiative, and that it had his full support.

Program of Support for SRI Initiative

After the President left, Philibert as secretary-general of the Ministry of Agriculture introduced the subject of SRI. He had known Father de Laulanié personally and agreed with the priest's emphasis on human resource development. He said that technicians tend to think that improvements depend on material investments, i.e., in seeds, fertilizer, equipment. But SRI requires *less* rather than *more* inputs, he said. Technicians tend to think of development in terms of working with large holdings and richer farmers, he said further, considering larger yields as being due primarily to farmers' input of resources. But in fact, even greater increases can be achieved by farmers changing their present practices. Farmers can succeed by using their own seeds, and by making their own fertilizers (compost), and this can be achieved on small parcels of land. SRI involves the transfer of *skills* more than transfer of *technology*.

SRI is consistent with what the President is calling 'the natural revolution.' Philibert commented on the name of Association Tefy Saina, the NGO that Father de Laulanié established with Malagasy friends to

promote SRI and rural development more generally, which means 'to improve the mind.' People should work with what they have. They should take their own initiatives, although the government should assist where needed. It is important to have cooperation among farmers, to manage irrigation water better, to level the land, to achieve drainage of excess water, to help each other with transplanting, etc. If SRI methods are used well, achieving 6 tons per hectare should be quite attainable as an average, more than double the current level, and the country's rice needs could then be met by just 300,000 farmers. However, to achieve this, there needs to be a change in mentality, 'a change of paradigm.'

It had been planned to show a filmed greeting from Jim Carrey to the conference while the President was in attendance, but he had come and left without a schedule, so a two-minute video was shown in which Carrey expressed appreciation for the hospitality he had received during his August visit and his confidence that Madagascar farmers would be able to benefit from this innovation (SRI) which had been created in their own country. In conclusion, Carrey told the group:

I am humbled by the opportunity to contribute to this wonderful event. We at the Better U Foundation are happy to support SRI as a Malagasy methodology for managing and promoting bountiful harvests, meeting the most basic human needs while also helping to conserving the richness and magnificence of natural ecosystems. By getting SRI's potential into the hands and minds of Malagasy producers with their great skills and innovative spirit, I am very confident you will find the answers you need to provide better for your families and for the needs of others. Improvements in sustainable agricultural productivity can provide the foundation for a more prosperous and fulfilling life for all people.

My powerpoint presentation then followed, describing how and why SRI has been spreading around the world – in China, Indonesia, Cambodia, Vietnam, India, Sri Lanka, Iraq, Iran, Afghanistan, Gambia, Zambia, Sierra Leone, Cuba, Brazil, etc. This seemed to make quite an impression on many participants who had not understood before that over 30 countries have begun using these alternative methods which originated in their own country.

Most interest was engendered by a report from Cambodia, which showed farmers (N=146) increasing their average yields from 1.06 tons per hectare to 4.02 tons, with a reduction of labor requirements. SRI has the reputation in Madagascar of being 'too labor-intensive' and its transplanting methods are thought to require a lot more labor. Yet in a food security program of LDS Charities, labor requirements were reduced along with getting higher yield (not uncommon in Asia). I showed a picture of three young boys who had transplanted their father's paddy field of 0.9 hectares (90 ares) in just one day, while their neighbors invested much more time and effort in transplanting their fields with conventional methods. This father's yield went from 1.2 tons per hectare to 5 tons so he got more yield with less labor input. Could this be true? People asked. At first there was disbelief, but Edmond from Tefy Saina confirmed that there is experience with SRI in Madagascar where one person could transplant 30 ares (0.3 ha) in one day -- once he had acquired skill and confidence in the methods. Across Asia, farmers have been finding SRI to be labor-neutral or labor-saving, once they get used to the changes, not labor-intensive (and burdensome) as considered to be the case with SRI in Madagascar.

The main concern was how to utilize and adapt SRI methods where there is either too much or too little water. I had showed pictures from India where thousands of poor farmers have been averaging yields of 7 tons per hectare with a 'rainfed' version of SRI, not having irrigation facilities and just utilizing monsoon rains. At the other end of the spectrum, farmers with heavy rainfall in Tripura state of India

and in Eastern Indonesia have worked out simple systems of in-field drainage channels that keep their SRI plots from becoming and remaining too saturated. I made a comment that there are two kinds of lawyers in the U.S. – can-do and can't-do. Everyone knows that the former are more helpful. Similarly, we should look for 'can-do agronomists.' They understand constraints and difficulties but then help farmers to figure out solutions to their problems. This metaphor struck a resonant chord as I heard several references to it later in the day in the Malagasy dialogues that followed in small groups.

Following my presentation, **Andry Randrianarivelo** reported on the work that GCD had done to assemble reports and written materials on SRI experience in Madagascar and elsewhere, and to identify the various SRI activities to date throughout the country. Maps were shown with the initiatives of various NGOs and government agencies linked to different regions over three time periods: 1993-98, 1998-2003, and 2003-2008. Because the information was still not complete, GCD did not want to draw any strong conclusions yet, and used the occasion to invite participants to help it construct a more complete account of SRI work and impact to date.

Then, before lunch, **Marcelline Hoareau**, program director for the Aga Khan Foundation's rural development program in the Sofia region (in the northwest), reported on efforts to improve rice production there. "In the beginning, we hesitated to talk about SRI," because there was some resistance, based on stereotypes. We could not practice fully all of the practices of Father de Laulanié, she said, adding that she agreed with my statement that SRI practices are always to be *adapted*, rather than just adopted; and that SRI be thought of and talked about in terms of *degrees*, rather than as a matter of *kind*. Is it SRI or not SRI? There are 21 focuses of activity in the rice-growing cycle that the AKF program is concerned with, but it is left up to farmers to decide which ones they will utilize, in what combinations, and how fully.

Rather than 'training' farmers, the AKF program gets farmers to taking and to 'exchanging experiences.' It then gets farmers to experiment, learning in the field and 'not in the classroom.' Preferable land, water, plant and nutrient management practices are all explained to farmers, but the uptake of SRI is very inductive. 'People are amazed to hear that transplanting 1 seedling gives them better results than 5 seedlings, but they can see this for themselves.' While there is resistance at first, 'after 2 weeks, people start changing their minds, once they can see the fine growth of plants. At 4 weeks, they are ready to make the changes themselves. But we are not teaching them,' Marcelline added. 'They are learning for themselves.'

The original AKF objective in 2005 was to achieve doubled yield within two years, she said. But farmers accomplished this in just one year. Having started with yields below 2 tons per hectare, they have now set themselves the goal of 5 tons on average. Some who use the methods most skillfully have reached 11 tons already, and one has reached 15 tons. They will apply for the national yield competition this year, Marcelline said, as one plant has at least 180 tillers. (This surpasses the SRI plant that I showed in a picture from the Aga Khan Foundation program in Afghanistan, with 133 tillers.)

'Water management is the critical aspect for success,' Marcelline said, 'and we can share with you the water management system that we have worked out for SRI under local conditions.... We are proud of our results. We can compete with farmers in the other countries shown by Norman in his presentation. We can reach the same level as other farmers.' This can-do attitude was well-received by participants.

In conclusion, Marceline said, 'Don't give directives. Make sure that the farmers trust you. I don't like to make speeches. It is better to work in the fields.... I invite you to visit our place and we can show you these ideas in action. We have been adopted by the farmers, who are our main partners. We facilitate interaction with the local authorities. If you come to see us, I won't take you to our office, but instead to the field.'

This brought the program up to (and a bit past) lunch time, so the conference adjourned with a lot of conversations and 'buzz' going on. After lunch, the floor was given the **Emmanuel Ralahy**, former Director of Agriculture, whom I had met at the FAO International Rice Commission meeting in Chiclayo, Peru in May, 2006. He too had worked with Fr. de Laulanié and is a strong proponent of SRI. His emphasis was on accepting a variety of approaches, and of leaving to farmers the choice of which to use. He said that he has trained as many as 2,000 farmers at a time, and he is now, since retirement from the civil service, a consultant available to help anybody interested. He gave his phone number, and when asked about fees indicated that he had a sliding scale, considering people's ability to pay. He said that it is much easier to persuade farmers about the merits of SRI practices than to convince technicians.

Marcelline said that her program had started with 3 villages in Sofia province in 2005, and 3 in another province. From 35 households, the number expanded to 148 households, and this year, the number is over 7,000. But, she emphasized, the objective of the Aga Khan Foundation is not to achieve big numbers, but to make progress. At first just getting the transplanting of 14-day-old seedlings was a big achievement. Now there are 68 villages in the program, and this number will increase even more now with such good results.

Emmanuel also discussed training strategy. He was dismissive of any formal training of technicians in classrooms. He said he has been Director of Agriculture for 3 years, and had trained people every week. He found that after 18 months, only 2 of them really had the desired skills. 'Such training is not productive. It is better to train farmers directly, and then to call in technicians to learn from and with the farmers, showing practices and results, rather than giving classroom lectures. I am not doing this for money,' he said, 'I am doing this for development.'

Michel Simeon, founder and chief advisor for GCD, talked about his experiences in training for SRI. First, he said that the training schedule should be linked to the cultivation schedule, so that people can see what is being done. Second, a kind of 'pyramid' is advisable, training some who will train others, 'even though all want to be trained at once.' Third, there is much difficulty in changing behavior, especially because so many people have a dependent attitude, thinking that they should expect money to come from the government. Fourth, there are numerous constraining factors in the environment; he singled out land ownership issues and ineffective organization for water management for comment. 'SRI requires less water, but it needs to be well-managed.' Finally, he concluded that 'SRI is a scientific innovation, based on sound principles of rice physiology and soil management.' Father de Laulanié developed a set of optimum practices for rice plant performance. While the principles of SRI need to be adapted to local conditions, they are in themselves of broad validity. (As could be seen from the range of countries reported on in my presentation.)

Rice production is not a matter of 'speculation,' like growing cabbages or cucumbers for the market. It is essential to people's lives, and it provokes interaction among people, and between people and their land and water resources. GCD has been advising the private company EcoFruit on how to promote SRI techniques among the households that grow fruit for its export market. These people need to have

adequate food security or their horticultural activities will suffer. EcoFruit likes SRI because it is both eco-friendly and guarantees a better yield. In conclusion, Michel said that he has been ‘infected by SRI like Norman said,’ using a metaphor that I had proposed with a positive connotation. “We will confront difficulties, but we can surely find solutions.’

Then **Edline Ravelomirina** from the village of Ambatofotsy, a SRI farmer-trainer whom I had met on Saturday, led off a panel of SRI farmers who shared their experience with the group. She began by saying that, having won a reforestation competition in 1984, she began working development activities working with the Swiss Development Corporation on agroforestry. Ten years later, she met Father de Laulanié and learned SRI methods from him. This refocused her efforts on rice. She recalled that he had said that within 10 years, Madagascar would be a major exporter of rice, thanks to SRI. ‘However, this has not come true, because Malagasy farmers have been slow to respond to this opportunity.’

She agreed with what Emmanuel had said: The approach followed by most technicians is not effective. In her own area, where three technicians trained farmers in SRI methods, the yields were disappointing. ‘Their results were below what can be achieved with conventional methods. They deal only with theory, not with practice. And little attention is given to the roles and work of women in rice production. Look around you. How many women are here?’ She didn’t have to elaborate on this point, as the number was less than 10%.

Edline endorsed the methodology articulated by Marceline, of working closely with farmers, adding that different training should be provided to men and women, because they have different responsibilities within the rice cropping cycle. She also proposed that there be more women trainers, as they would be better able to work with women farmers. She proposed that SRI be understood and practiced not in isolation from the rest of the farming systems that farmers are engaged in. Crop rotation, especially with vegetables, has very beneficial effects with SRI production.

Establishing close personal bonds with farmers was stressed by Edline. ‘When you train rural people, you have to live in their place, eat their food, sleep in their houses. [This statement caused some mirth as the term ‘sleep’ has the same double meaning in Malagasy as in English.] When they have confidence in you, then they will find it simple to follow what you are teaching them.’ She particularly wanted to see more and better training on the making of compost, complimenting Philibert on the way that he had taught her and others to make compost. ‘I have used your training,’ she said. ‘It was highly efficient.’ In concluding her remarks, she said that ‘Training is an inheritance given for the next generation.’

The next farmer, **Jean-Jacques** from the Analamanga region, said that he had started out as ‘a city boy,’ but moved to a rural area in 2002 to take up farming. He started rice cultivation using SRA, he said. (This is *le System de Riziculture Améliorée*, or system of rice improvement, promoted by the government, relying on modern seed varieties and use of chemical fertilizers.) But when he learned about SRI, he switched to these techniques. In 2005, he entered the rice cultivation contest. He said, pointing to Philibert, ‘the Secretary- General came to my field, not as a big boss. He even transplanted side-by-side with me, using young SRI seedlings.’

Jean-Jacques said that he has now begun showing fellow farmers how to use SRI methods. ‘SRI is more efficient and not labor-intensive, as many think.’ He uses 15-day seedlings and compost, ‘with no chemical fertilizers.’ He got 7 tons per hectare in 2005, a good yield with little cash expenditure. But then the next year, ‘we won the contest because we reached 10 to 13 tons per hectare.’ In his village, he

said, 140 hectares are now cultivated with SRI methods, and this area continues to spread. 'I never met Father de Laulanié,' he said, 'but I have noticed that most technicians consider themselves superior to us farmers. They should all be like the Secretary-General here and be willing to transplant with us in the field.'

'Madagascar could be the breadbasket of East Africa by 2025,' Jean-Jacques said in conclusion, perhaps meaning 'rice bowl.' He endorsed Edline's suggestion about paying attention to gender differences in rice production, and also said that having appropriate equipment (weeders) is important for SRI success. 'Not many farmers know that they can produce their own equipment. They should be shown how to do this.' He said that he personally plans to double his rice production and will now do more weeding 'as Dr. Uphoff recommends.' (I had shown how additional soil-aerating weedings with a rotating hoe can add 1, 2 or even 3 tons to yield, due to the promotion of root growth and soil biota.) Around Tana, he said, we can be growing 2 crops of rice a year with SRI. 'Let us stop the continuous flooding and save water. Thank you for your kind attention.'

A young farmer from the Diana region in the north who cultivates just 1 hectare of rice talked about his experience. He first learned about SRI in 2003 from a technician of the Regional Directorate for Rural Development. He has already reached yields of 12 tons per hectare, he said, and he also cultivates off-season crops on the same field, which adds to his income and improves the soil. He said that before he left his farm to attend this meeting, he counted the tillers on his rice plants at this stage of growth; the number of tillers per plant averaged 97, so he expects a very good yield this year.

Jean-Maurice from the rice-growing area of Marovoay said that he has won the regional rice yield competition but didn't know much about SRI. He has been transplanting in a square pattern since 1995 and has since been learning about SRI. He achieved a yield of 10 tons per hectare in 2006, so for him, SRI is not really new, except for the use of very young seedlings, which he now understands and practices.

Abdul Richard from Vasina commune said that in his area 'we also apply the square system of transplanting, but not quite SRI.' In 2005, 23 farmers in his community applied for the national contest, but nobody qualified. So they realized that something needed improvement. So they used more SRI practices, and when they applied in 2007, they won a prize. 'The people were amazed.' Now they will keep trying to improve. They know that if they keep practicing SRI better and better, they will increase their yield, whether or not they win any prizes.

Use of compost is becoming more important, Richard said. 'Chemical fertilizer is becoming too expensive for people. They see me making compost and ask about it. I say: Come, I'll teach you.' Last year, Richard achieved 9.6 tons per hectare, and this year he expects to reach 12 tons, dropping the use of NPK fertilizer altogether, he said.

Someone asked the question of Emmanuel Ralahy: Some people have said that achieving a yield of 19 tons per hectare is possible. Is it? Emmanuel responded that in the Fianarantsoa region, more than 10 farmers have reached yields of over 20 tons per hectare. 'SRI is not a university subject,' he said. Anybody can use the methods. 'Whether you are a PhD or an engineer or a farmer, if you use SRI methods in the right way, you will succeed.'

Next, **Ramarola** from Fianarantsoa spoke: 'Myself and Emmanuel were both students of Father de Laulanié. Where I live, only a few people have large farms. Most have less than 1 hectare of rice land.

We have to improve our fields and practices if we want to raise our production. I started with SRI methods in 1993, and next year won the national contest with 14 tons per hectare. In 1995, I reached 17 tons. Though I lost in the most recent contest, I will keep improving my crop performance and training fellow farmers.'

Ramarola noted that one farmer, Ralalason in Soatanana village, has now reached a yield of 27 tons per hectare. (This is a small farmer whom I first visited in 1999, when he had reached a yield of 21 tons per hectare, and from whom I got my first understanding of the super-yields possible with SRI because Tefy Saina had documented components of yield, and our own random sample of tiller per plant had showed this number to be 70.) 'We weighed the rice together as it was harvested, so I know that this number was achieved. So, as Emmanuel Ralahy says, SRI is not just the business of educated people. Farmers can succeed with it too. Farmers trust what they can see, more than what they hear.'

(Note: Tefy Saina previously provided me a detailed report on this super-yield, which was countersigned by the regional director of FOFIFA, who was a member of the team that weighed Ralalason's paddy as it was harvested. It recorded 3300 kg taken from just 1300 m², 1/8 of a hectare. Because this grain was weighed before any drying, to compare it with other yields, this yield should be adjusted downward by 3-5 tons to be compared with other yields. Paddy yields are usually reported with a standardized grain moisture content of 14%, so that comparable amounts of dry matter in the grain are being compared. Even with such an adjustment, however, this yield is well beyond what has been considered 'the biological maximum,' based on rice researchers' calculations from crop modeling, so this report remains 'controversial' in scientific circles.)

Edmond Rataminjanahary, president of Association Tefy Saina, stood and said that he too had been a member of the evaluation team that measured this remarkable yield. He confirmed the 27 ton yield reported, saying that the regional director for FOFIFA had also confirmed this. 'We have to take very good care of our rice fields so as to nurture their fertility if we want to get more such successes.' He added: 'It is not true that SRI is more expensive to practice. Using its methods, farmers can actually save money.' (This has been documented by researchers from IWMI, GTZ and national universities in India, China, and Indonesia.)

Edmond emphasized that 'you have to change people's mentality when you want to change agriculture.' He supported my report that three boys could transplant 90 ares (0.9 ha) in one day. 'This is possible.' He thanked Emmanuel and me for our presentations, saying that it is also true that these methods can be used for other crops. Farmers in some places have begun applying practices (wide spacing, use of compost, soil aerations, etc.) to sweet potato and cassava, with good results. One cassava plant managed this way, he said, had produced 50 kg of edible tubers, many times the usual yield.

After a coffee break, videos that had been produced for training farmers in SRI methods by CIIFAD, CRS and the World Bank Institute were screened, and then the whole group broke up into eleven smaller groups of 10-15 persons each to discuss the positive and negative features of each video, and to make suggestions on which of these should be used in the SRI campaign to begin in a few weeks, and how they should be used. Our assumption was that by viewing the three videos, and asking them to evaluate each, we could inform participants about SRI methods more quickly and effectively than by trying a kind of standard 'training' on SRI. This seems to have worked quite well.

When the groups made their reports, there was considerable enthusiasm expressed for all three videos, though the first two, produced in Malagasy language, were preferred because the language was simple and clear. There was some concern that any reliance on written instructions on screen would not help the many farmers who are illiterate still, although mostly the written subtitles were reinforcing what was said in the narrations.

The World Bank Institute training video produced with many pictures from the Philippines, where the National Irrigation Administration had cooperated in the production, was considered interesting by most participants. Madagascar farmers, they thought, would be intrigued to see SRI methods, developed in their own country, being used by farmer in another country. But this video was mostly a succession of still pictures, and there was a preference for seeing action in the videos. The explanations given on this and the other videos were considered to be clear and helpful.

Participants wanted, if possible, to have the narrations provided in **regional dialects**, because although most Malagasies understand the standard (high plateau) language, most are more comfortable with its regional variants. That will not be possible this year, when everyone needs to get started quickly on dissemination, at least in the selected MAP villages. But as materials are prepared for an expanded campaign next year, this can help to make the effort more effective.

Some areas not well or fully covered in the videos which participants wanted more detailed information on were: seed selection (so that farmers start with seedlings grown from the best-developed seeds); compost making (to utilize available biomass most effectively); harvesting; and post-harvest storage. One group objected that the transplanting shown in one video was into soil that was still too muddy and more flooded than is suitable for ideal SRI practice.

Others wanted more focus upon the **constraints** to SRI adoption and how to deal with these (like too much water and too little water control). These videos had been produced as how-to instruction, but there was not enough emphasis on problem-solving. The method for spacing seedlings (strings tied to sticks) is being superseded in other countries by rakes, roller-markers, and light-weight soil-aerating weeders (which I had shown in my presentation), and participants wanted more attention to (and access to) these **implements**, which could save farmers' time and achieve better results.

Another group suggested also that there be more emphasis in the videos on the **advantages** of SRI, which were not stressed because these were designed as 'how-to' presentations. It was suggested that there be more farmers shown recounting their **experiences** with SRI, their initial skepticism, the opposition of neighbors, the difficulties in starting, and the eventually rewarding results. This is done very well in the ADRA video produced in Indonesia in 2004. This was not shown here because of limited time and the soundtrack is in English (or Bahasa Indonesia) rather in Malagasy. (It will be provided on CD also and can be shown with a Malagasy narrative that is read out loud with the sound turned down.) There was also a request for **written instructional materials** that could complement the videos, because in each village there should be some who are literate enough to utilize them and help fellow farmers understand SRI.

When Tsimba Randiamiarintsoa from Tefy Saina reported for group #9, he suggested a need for videos to emphasize more the **principles** behind SRI practices, so that farmers would understand these and could then make up their own minds about how many to use, and the extent to use them. There is a very good presentation of SRI principles in the ADRA Indonesia video. Tsimba also emphasized that the

videos should not be used by themselves but only in conjunction with **demonstration plots** in the villages. There should also be more attention to how the basic SRI practices can (should) be adapted to **local variations** in soil and climate, he said.

Others reporting from their group discussions requested more detailed information, in the videos or in written materials on the **economic costs and benefits** of SRI, and others asked that there be more said about the **social impacts** of SRI. These latter requests can be met with more time, e.g., by GCD staff or by involving students from the University of Antananarivo. But this first year, the personnel working with the MAP Villages will have to make the most of available materials. Those partner organizations already disseminating SRI in various regions – Catholic Relief Services, ADRA, CARE and others -- would continue using the videos and written materials that they already had, supplemented now by additional materials and videos they had gotten through this team-building exercise.

One useful means of communication developed by ADRA is a set of large illustrated cards depicting successive activities/operations in the SRI crop cycle. These have been drawn attractively, simply and colorfully, with Malagasy narrative printed on the back which someone can read while holding up each card in a sequence for others to see. The only drawback is that the current cards show the use of strings and sticks for spacing plants in a grid pattern. Rakes or roller-markers are now known to be more labor-saving, so this option should also be shown. With some additional cards illustrating these options, these cards will be an important adjunct to SRI dissemination at village level in Madagascar.

At the end of a long day, the group adjourned about 6 o'clock with considerable enthusiasm. One indication of the positive response to these videos was how eagerly participants sought to receive their own copies of the CDs that Better U Foundation had made to support the nation-wide campaign.

The next morning, the participants convened again in smaller groups to discuss **problems or constraints** for SRI adoption and also **solutions or responses** that could help farmers take advantage of the productive possibilities described the day before. I had suggested that, instead of thinking and talking in terms of SRI 'extension,' it is more appropriate to think and talk in terms of SRI **problem-solving**. It was in that connection that I had suggested the distinction between can-do and can't-do professionalism.

By the end of the morning, the groups had posted several dozen flipchart sheets on the walls around the meeting room summarizing their discussions and conclusions. Inviting participants then to go around and read these charts in a 'gallery walk,' looking for points and ideas that their own groups might not have considered, was thought to be more productive than having each group make a plenary report, because there was understandably a lot of amount of duplication and overlap. I made this round myself and with Angelo's help was able to capture the substance of the reports in a table, in English, which is included as an annex to this trip report.

In the afternoon after lunch, participants met for two hours in 11 groups, each with all of the participants from two of Madagascar's 22 regions, with the objective of formulating **plans of action** for the respective regions. These would include what would be done to introduce SRI in each of the MAP Villages selected throughout the country and to harmonize the efforts of many agencies and actors, starting with the Ministry of Agriculture, Livestock and Fisheries working with the Regional Directorates of Rural Development (DRDR in French) and including the NGOs active in different regions throughout the country: Tefy Saina, CRS, ADRA, Aga Khan Foundation and others.

Because there would be considerable similarities among the plans, in the closing plenary, reports were made from four of the groups, to reflect the discussion and thinking of the participants as a whole and to represent different parts of the country. GCD collected all of the plans and was given the task of producing, very quickly, a compilation of plans to circulate to all of the regional governments and partner organizations. This way, participants could get additional ideas from each other for the design of their efforts for the new season.

There was no aim to have one unified plan that would be similar across the whole country. First, the country itself is very heterogeneous in terms of agro-ecosystems, climate, soils, and rice culture. In some areas SRI is well established and in others, it is still quite new. This first year of the campaign, a variety of approaches is expected, and the campaign with BUF support will carefully monitor and document what is done and what are the results, so that there can be systematic learning from this first year to inform and guide an expanded effort next year. This effort was described not in conventional monitoring terms but as a 'monitoring-documentation-learning' process.

The first report was from **Antsinanana Region**, in the northern part of Madagascar, where the focus will be on assisting all farmers in the MAP Villages to start using SRI on at least some part of their rice land. The goal stated -- of doubling production in the October-March season -- was overstated because farmers in these villages would not be using SRI methods on their entire area. If the objective is to achieve doubled yields, rather than to double total output in this time, this should be possible. The regional government will be responsible for overall support, with the respective organizations providing the necessary equipment and finances for dissemination within their respective programs. MAP Village SRI extension will be the responsibility of the government, while NGO partners expand work in their respective programs. Technical supervision will be given in the period November-June, with concurrent logistical support and monitoring and evaluation from the respective organizations. There were not many details given, but the group reported commitments from the different government and non-governmental agencies to share information and work together.

Next a mayor from **Ihorombe Region** in the central part of the country reported on its SRI action plan. Its objective is to have each farmer adopting SRI over the next two years, starting in November 2008. This means that SRI will be promoted not just within MAP Villages but for the whole region. Plans have been roughed out for monitoring and evaluation and for having exchange of experience, farmer to farmer. All sectors have agreed to take responsibility, it was reported, mayors, chefs de fokontany, ministries. There will be SRI Observation Committees established in each fokontany (sub-district) to collect information and document SRI experience at the commune level. They plan also to set up an SRI training center in each fokontany, with demonstration fields. Further, they will develop SRI materials for inclusion in the school curriculum so that the next generation learns about these methods at an early age.

The third report was from **Alaotra-Mangoro Region** east of Tana which represents the main concentration of rice production in the country. The rapporteur said that 'Once we leave this room we will soon enter the next rice-growing season. We can't wait until November to start work. Participants from this region already had planned to convene an information meeting on SRI in Ambatondrazaka, the regional center, in early October, and from that meeting would come agreement on a regional SRI strategy, with a Task Force established to promote the spread of SRI. They would also set up an extension initiative, recruiting and training extension staff, coordinated with the DRDR. SRI materials will be developed and distributed with field follow-up with farmers. A data base of SRI practitioners will be

established and made public, so that the expertise already within the region can be used. By February 2009, there will be a first report on the extent of SRI practice in Alaotra-Mangoro, followed by reports from the harvest in March-April. Then in July-August after the harvest when yields have been reported and analyzed, this information will be disseminated at a big fair to be held in Ambatondrazaka. In the period April to September, there will be improvement of the data base and training materials, so that the region is better prepared for an expanded effort in 2009-2010. To achieve this, the regional and local government authorities will mobilize all possible partners to gain their support in this effort. Their goal is to have 100% of farmers in MAP villages using SRI within three years – 50% the first year, 75% the second, and 100% the third – and to extend SRI to non-MAP villages throughout the region. A very ambitious plan, but this is also a region with more resources than most others.

The report from **Sofia Region** in the northwest was from a representative of the NGO known as FDS. “In our group, we decided that within two years we can have all farmers knowing about SRI,” referring actually to both Sofia and an adjoining region. ‘We have adopted most of the same activities as the other regions.’ There will be an official launching of SRI for a regional campaign. They will train technicians and also train local leaders who can support the effort. Both government and NGO workers will be involved, with farmers trained at the fokontany level. ‘We know that equipment is expensive, but we will train local blacksmiths to fabricate weeders and other equipment so that implements are locally available.’ Local partners will work together to figure out ways that the purchase of SRI equipment can be made easier, with subsidies or time-payment (paying most of the cost after the harvest). In particular it was suggested that the campaign will rely on farmers with SRI experience to give testimonies, as they will have most credibility. ‘We will also recruit artists and musicians to help attract people and get the SRI message communicated.’ A tentative schedule for training technicians and farmers was outlined.

The chairman for this reporting session, Rolland Radasy Randrianarivony, senior MAP advisor, complimented the groups reporting plans to extension start work right away in October, ahead of the coming season. He also endorsed efforts to promote local fabrication of implements (especially weeders) and said that pictures and designs would be made available from the MAP Secretariat in cooperation with BUF.

The closing session was chaired by Philibert Rakotoson, MAEP Secretary-General, who repeated his endorsement of SRI and stressed the contribution it could make to MAP objectives. ‘We need to learn this approach in a good way, so we can have good production.’ John Jolliffe thanked the MAP Secretariat and MAEP leadership as well all the participants for their contributions to this launch. ‘When people make history, they seldom recognize that they are making it,’ John said. But he said he believed that in these four days, and in the work that will follow, this group can have changed their nation’s history. SRI is an innovation of Madagascar that can not only benefit this country but call attention to Madagascar’s contribution in the world. The NLIM director, Hubert Rakotoarivony, underscored the need for people to transform their mentality. ‘Don’t count on the government to do everything. If we change our mentality, we can achieve many goals.’

MAP Secretary-General Andry Ralijaona brought the session to a close as the clock approached 6 p.m. He expressed happiness with all the initiative and enthusiasm manifested in the meeting, noting that Madagascar is known as the country of ‘*mora mora*’ (which means ‘slowly slowly’ or ‘little by little’). However, people are showing that they are prepared to move quickly. He commented on how unusual it is to have participants at a meeting like this, at the end of four days still alert and interested in talking more about the subject. This observation was echoed by one of the participants, who rose to express

thanks on behalf of other participants and said that these four days had been very valuable, and that 'never before' had they been exposed to such interesting sessions as these. I think that the way the program was structured, with much small-group interaction, got everyone more engaged than with a conventional lecture format. However, the opportunity being offered, with evidence provided from different parts of Madagascar and from other countries, was itself quite exciting.

Next morning, when John, Winifred and Rames were discussing follow-up steps and what role the Better U Foundation could play in supporting the initiatives now underway, I got a call from **Joeli Barison** whom I had been trying to reach since before I arrived in Madagascar. Because the BAMEX project that he had been working with closed down the previous June, his email address had changed, and only now, as I was about to leave, had he gotten the information that I was in the country. All I could do was arrange for him to meet Rames and Winifred after I left, hoping that we could get him engaged in the emerging campaign, perhaps in the monitoring, documentation and learning tasks that were planned. A lot of things remain to be done. But given the President's and the government's commitment to spreading SRI opportunities within Madagascar, plus the professional and financial support being provided by the Better U Foundation, the number of farmers who have positive experience that they are eager to share with their peers, and the number of NGOs and donor projects integrating SRI into their programs, it should be possible to see rather quickly a change in Madagascar's status from the middle ranks of SRI countries into a leadership position.

ANNEX: NATIONAL SRI CAMPAIGN – Constraints and Suggested Remedial Actions

CONSTRAINTS/PROBLEMS	REMEDIAL/CORRECTIVE ACTIONS
<p>AT FARMER LEVEL</p> <p>Belief that SRI is labor-intensive</p> <p>Belief that SRI requires large investment</p> <p>Belief that SRI is limited to small scale</p> <p>Difficulty in giving up traditional practices</p> <p>Farmers have little understanding of SRI concepts and practices</p> <p>Lack of cooperation among farmers in irrigation and drainage; little respect for rules</p> <p>‘Can’t-do’ mentality is widespread</p> <p>Lack of willingness to invest more time and resources in agriculture (incl. in rice)</p> <p>Poverty and illiteracy in communities</p> <p>Lack of understanding of soil management and use of compost and fertilizer; limited knowledge of how to make compost</p> <p>Farmers often do not implement what they learn in training</p> <p>Some SRI farmers are not sharing their knowledge</p> <p>Many farmers still favor ‘extensive’ approach to agriculture over ‘intensive’ approach</p> <p>Advantages of SRI are not clear to everyone</p> <p>Farmers wait for mpanjaka to begin planting; charisma of elders can discourage SRI use</p> <p>Farmers have many non-rice activities that compete for time and attention</p> <p>Farmers have many land tenure problems</p> <p>Rice farming in general is not profitable</p>	<p>Help technicians have more effective communication with farmers; make sure that they understand SRI concepts and practices</p> <p>More and better training materials (videos, written materials, etc.)</p> <p>Documentation of <i>labor requirements</i> and <i>investment costs</i> compared to benefits, and sharing this information with farmers; communication about SRI profitability</p> <p>Provision and improvement of labor-saving equipment, especially weeders</p> <p>Develop adaptations of SRI for different scales of production</p> <p>Work with and open minds of mpanjakas about SRI and get issuance of supportive dinas</p> <p>Encourage and support farmer organization and community solidarity</p> <p>Encourage change in mentality (can-do spirit)</p> <p>Adapt approaches to community levels to suit their local conditions</p> <p>Strengthen training on soil management and compost making</p> <p>Adopt a community approach in training, not focusing just on individuals; reinforce community spirit and sense of unity</p> <p>Develop sense of professionalism among farmers and commitment to efficient resource use; including conservation of natural resources</p> <p>Develop farmer-to-farmer forums and channels for communication and exchange of experience</p> <p>Establish adult training center for SRI formation</p> <p>Have farmers identify their own problems and their own solutions</p> <p>Publicize the advantages of SRI more widely</p> <p>Develop farmer cooperatives for equipment sharing, water management and other collective action to benefit from SRI</p> <p>Identify and support model farmers for SRI</p> <p>Address land tenure issues, e.g., titling</p>

AT TECHNICIAN LEVEL	
<p>Technicians communicate different approaches; use of different words regarding SRI confuses farmers</p> <p>Technicians do not communicate well with farmers</p> <p>Lack of sufficient good training materials</p> <p>Training is too much theory, not enough practice</p> <p>Technicians think that farmers are lazy</p> <p>Lack of follow-up from technicians</p> <p>In some places, shortage of government staff, and they don't speak dialect</p>	<p>Technicians should be better informed regarding SRI and should have a more common approach and use standard SRI vocabulary</p> <p>Develop better ways to communicate to farmers, e.g., explain more about how rice plants grow (plant physiology)</p> <p>Technicians should develop better working relationships with farmers, e.g., technicians should learn to be more humble</p> <p>Develop better training materials and make them available more widely</p> <p>Encourage hands-on training methods, linked to demonstration plots</p> <p>Improve follow-up to training that assesses effectiveness and that reinforces learning</p> <p>Recruit, train and assign more government staff who can work in local dialect</p>
AT PROGRAMMATIC LEVEL	
Need to overcome farmer skepticism	Establish demonstration fields
Need to change community attitudes	Develop units for use in school curriculum
Limited expertise throughout country	Establish better and larger partnership network including NGOs
Not enough technicians with SRI knowledge	Need to train and deploy more technicians with SRI knowledge
Not enough knowledge about field situation	Develop SRI farmer data base , by region and down to village/project level; in general make improvements in rice sector information/data
Little coordination in promotion and training strategies	National campaign to coordinate and facilitate communication among partners
Not reaching remote villages	Make special efforts to reach remote villages, although probably not in first year
Farmers not having access to credit and equipment	Improve microcredit ; develop credit or hire-purchase schemes for equipment
Not clear policy support for SRI	Get clear statements of government policy
Not enough leadership for SRI at all levels	Undertake leadership training at all levels
Young people not much involved in SRI	Engage youth with SRI, use non-formal education
Need more farmer leadership in campaign	Conduct farming contests , use winners to help spread knowledge of methods

AT PRODUCTION LEVEL	
Lack of access to appropriate equipment (weeders, shredders, markers, etc.)	Ensure physical and financial access to weeders and other equipment <ul style="list-style-type: none"> • Promote local fabrication of implements • Establish hire-purchase scheme for purchase • Provide microcredit access at village level • Training of farmers in use of equipment
Difficulty in managing nurseries and doing timely transplanting	Improve training for farmers and demonstration plots
Deficiencies in irrigation systems and drainage facilities	Invest in repairing or providing infrastructure for irrigation and drainage Promote farmer cooperation for irrigation mgmt
Water scarcity during cropping season	Improve irrigation infrastructure Improve irrigation management by organization
Water excess during cropping season	Improve, construct or repair drainage facilities Adapt SRI methods to water-surplus conditions Mobilize farmers for better mgmt of surplus
Fields are not well leveled for efficient water management	Provide training on land preparation
Farmers have need for more access to credit	Improve access to credit through microfinance and establish more favorable conditions for credit
Address labor constraints with SRI	Develop mechanization alternatives for SRI
Problems with pests (birds, rats)	Work out local strategies to deal with pests
Soil problems	Evaluation of SRI adaptations to different soil conditions; varietal evaluations and selection
Climate problems – e.g., cyclones	Adjust timing and practices ; grow plants with better root systems to protect against stresses; support environmental protection measures