Improving and Scaling up the System of Rice Intensification in West Africa

SRI-Rice Trip Report
05-08 March 2014
Republic of Togo

Devon Jenkins, SRI-Rice
April 2014
1. Introduction
This trip report covers a technical support trip by Devon Jenkins to central Benin in early March 2014. SRI-Rice representatives are responsible for traveling to each of the 13 participating project countries during the first phase of the project. This support visit was combined with travel to Benin for a project workshop in Porto Novo on February 17th-19th, and another support trip to southern Togo on 05-08 March 2014.

2. Background and Planning

2.1 Objectives
The general objective was to learn about SRI field activities in Togo in order to better inform our technical support to local partners and to conduct initial planning for a technical workshop in May. The specific objectives were to visit with farmers, field technicians and training staff; to observe local conditions; to discuss training strategies; to learn about past activities and future plans; to provide direct feedback to technical partners and farmers about current and previous SRI trials; and to visit potential field sites and hotels for the May technical workshop.

2.2 Expected Results
To develop a better understanding of farmer conditions, farmer experiences with SRI, and the level of SRI adoption in parts of Togo; to become better acquainted with WAAPP Togo staff and partners; and to develop a list of potential hotels and training sites for the May technical workshop.

2.3 Trip Itinerary

<table>
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<tr>
<th>Date</th>
<th>Locations</th>
<th>Activities</th>
<th>People</th>
<th>Notes</th>
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<tr>
<td>Wednesday</td>
<td>Cotonou, Lomé</td>
<td>• Travel to Lomé</td>
<td>Jean APEDOH (GRAPHE)</td>
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<td>5/3/14</td>
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<td>• Meeting with Jean APEDOH</td>
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<td>Thursday</td>
<td>Lomé, Notsé</td>
<td>• Meeting with WAAPP Coordinator</td>
<td>Kokou OPEKOU, project Focal Point for Togo</td>
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<td>6/3/14</td>
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<td>• Meeting with Peace Corps Togo</td>
<td>Adou RAHIM, WAAPP Coordinator for Togo</td>
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<td></td>
<td></td>
<td>• Visit to potential hotels for the May technical workshop</td>
<td>Peace Corps staff Alex ANANI and Paul SINANDJA</td>
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<td></td>
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<td>• Field visit to ESOP rice processing plant in Notsé</td>
<td>ESOP technicians Erik WINNER</td>
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<td>• Field visits with farmers near Notsé</td>
<td>Farmers near Notsé</td>
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<td>Friday</td>
<td>Lomé, Zio River Valley (near Kovié)</td>
<td>• Meeting with Peace Corps Togo and Kokou OPEKOU</td>
<td>Alex ANANI and Paul SINANDJA</td>
<td>See 3.2-3.4</td>
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<td>7/3/14</td>
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<td>• Site visits in the Zio River Valley to meet farmers, trainers and technicians</td>
<td>Kokou OPEKOU</td>
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<td>• Meeting with ITRA</td>
<td>Jean APEDOH</td>
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<td>Kodjou TCHIMENOU (GRAPHE)</td>
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<td>Saturday</td>
<td>Lomé, Cotonou</td>
<td>• Travel back to Cotonou</td>
<td>Kokou Joseph ADOKANOU</td>
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<td>8/3/14</td>
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<td>Komlan ABLEDE (ITRA)</td>
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2.4 Participants

Participants included Devon JENKINS (SRI-Rice), Kokou OPEKOU (WAAPP SRI Focal Point Togo, ESOP), Jean APEDOH (GRAPHE), Ekou WINNER (ESOP Technician), Kodjo TCHIMENOU (Technician and Director of Research for GRAPHE).

2.5 Background

Jean APEDOH, with the Christian NGO GRAPHE, was one of the first to introduce SRI to Togo, after learning about SRI from a presentation that Erika STYGER gave at the annual ECHO conference in Ouagadougou in 2011. USAID’s E-ATP program led a national SRI training in Kpalimé in June 2012 (in attendance were GRAPHE, ETD/ESOP [an NGO working on agricultural value chains in Togo and Benin], IFDC, ITRA [GoT agricultural research], and ICAT [GoT agricultural extension]), and Peace Corps conducted a national SRI training in Tsevié in September 2013. After the E-ATP training, ESOP (an NGO working in rice value chains in Togo and Benin) conducted SRI trainings for their farmer members throughout Togo.

3. Site Visits

3.1 Notsé – Plateau Region – ESOP rice processing facility and farmer/field visits; hotel scouting visit for potential May workshop

ESOP works with farmers to strengthen value chains for rice and other crops. Consumption of domestically produced rice is low, particularly with urban consumers, largely due to: an inferiority stigma associated with local products; low quality rice processing, resulting in high grain breakage and dirty or contaminated rice; inefficient or poorly developed processing and supply chains; and preference for perfumed varieties such as jasmine, instead of traditional varieties. ESOP provides perfumed seed (typically IR-841), trains farmers in methods to increase yields (including SRI), and does high quality processing and marketing. Similar work is done in Benin by CAFROP.

From ESOP’s plant we traveled northeast to the nearby village of Somé Kopé, where 10 villagers working with ESOP had been trained in SRI in 2012. Of the 10, only 3 have tried SRI, and all three did SRI both in 2012 and 2013, but none of the others (nor any new people) tried SRI in 2013, or had plans to do so in 2014. The principle reason for the lack of adoption was lack of labor, particularly for weeding and threshing. Of the three farmers who had started using SRI, two of them repeatedly the second year with only a small trial plot again, i.e., they didn’t increase the area under SRI, which makes them potentially unlikely to fully adopt SRI. The farmers who didn’t adopt said that labor is scarce, and that without mechanization they wouldn’t be able to pull it off, despite the fact that all of them said they could see that with SRI their yields would increase substantially.

One farmer, Kpasséou SKALO, had enthusiastically adopted SRI despite these difficulties, and during his first year decide to plant .25 ha, which he increased to .5 ha in his second year. He was partially able to overcome the labor challenge by using several of his sons for weeding and transplanting, and advantage that the other farmers in the group said they didn’t share. His yields using SRI had gone from 2-2.4 t/ha to 4...
t/ha with SRI. His practices included use of organic matter, transplanting from a nursery at 10 days, a spacing of 25 x 25 cm, supplemental foliar N applications, and two manual weedicings (15 and 45 days after transplanting) by hand. As with the other farmers, he said the soil is hard, and weeding and threshing are difficult without any mechanized tools. The first year transplanting was a bit difficult, but with some experience it’s become much easier.

In 2013 ESOP worked with farmers in the village to improve their lowland fields, giving them more control over water, which ostensibly helped raise yields for both SRI and non-SRI fields. Follow-up communication will be necessary to determine the actual impact, and the farmers’ experiences.

Back in Notsé we met with a female farmer whose field was immediately next to town in a broad, sloping lowland plain (bas-fonds). Along with other female farmers, she had also benefited from some recent training to improve the water control in her fields, but her experience with SRI was more muted. She hadn’t been following SRI practices very consistently, having instead used narrower spacing, older transplanting, and herbicide. Among the group of women farmers she was with, all had small plots, and all were trying out SRI, but in a similarly timid fashion.

Before leaving for Lomé we stopped at a hotel on the edge of town, just 100 m from the female farmer’s plot, which could be suitable for the May workshop.

3.2 Kovié and the Zio River Valley – Maritime Region – Farmer/field visits

The Zio River Valley in Southern Togo is the country’s largest irrigated rice scheme. It was apparently developed some time ago, and is somewhat in disrepair in spots, but still works, and there seemed to be ongoing work to rehab or expand the irrigation infrastructure. We first visited the small demonstration plots of Kokou Joseph ADOKANOU, who along with his Peace Corps volunteer counterpart Veronica MAZ-ARIEGOS had attended a Peace Corps regional training organized by the USAID-financed West Africa Food
Security Partnership (WAFSP) in September 2012 (where Jean was one of the trainers). Upon returning from the training the two began testing out SRI. In June 2013 Joseph, Veronica, and Jean teamed up to organize technical exchanges, bringing farmers from the region to view Joseph’s SRI trials. In September of 2013 the three teamed up together again, and alongside Peace Corps staff co-organized a national training of trainers in September 2013 in the Zio Valley, bringing together farmers from ‘all corners of Togo,’ and sending each area home with at least one rotary weeder. Feedback from this training showed that while farmers were really interested in SRI, those from other regions couldn’t relate to the conditions in the Zio Valley, and most as well weren’t familiar with compost production. In response, Peace Corps Togo has planned to follow-up trainings for Kpalimé and the far north, to be held in late March and April 2014, where regional adaptation and compost production will be covered.

Jean’s NGO, GRAPHE, has been busy since 2011 promoting SRI, particularly in the Zio Valley. At first he tried to organize a training of trainers, but as farmers kept asking for per diem, seeds and fertilizers and a condition for attending, he grew frustrated, and decided instead to do a series of sensibilisations, or awareness-raising presentations. For these he traveled to villages, primarily throughout the southern parts of Togo, and displayed the World Bank Foundation’s SRI educational video in French, reaching an estimated 1,200 farmers. These presentations helped generate a significant amount of interest in SRI, and were followed up by technical exchanges such as the held at Joseph’s fields in June 2013. This strategy seems to have paid off. While visiting Joseph’s demonstration fields on this trip, a neighbor came by, and the conversation quickly turned to talk of another farmer in the area, who without having attended an actual SRI training, had planted 1.5 ha of SRI for his first trial, and was planning on planting an addi-

Figs. 4 and 5 - Above, a partial view (see the photo on the cover for the adjoining portion) of Abel Gbadomi’s 1.5 ha first trial of SRI. Notice the nursery at left in the photo above and in the photo to the left; to hedge his bets Abel planted a normal size nursery, but ended up only needing a small portion of the seedlings, resulting in many left over plants. SRI typically uses 85-90% fewer plants than with traditional rice production (both photos Devon JENKINS).
(referred to as SCI, or the System of Crop Intensification), but had some challenges arise that prevented him from following his plot well, so he was planning on re-starting this trial next season. From here we tracked down the farmer, Abel Gbadami KOMLA, who had started his first trial with 1.5 ha, despite not having attended a training. Abel learned of SRI through one of Jean’s sensibilisations, then attended one of the technical exchanges at Joseph’s fields in 2013. For his first plot of 1.5 ha he hired a team of three people to do the transplanting, one of whom had done a small amount of SRI transplanting before. We met with the transplanting team and Abel himself, and walked through the field. The transplanting took three days, translating to a rate of .5 ha per day for three people, though they said in the future they could likely do this even faster, and that once they became familiar with transplanting SRI it was actually easier than doing conventional transplanting. [An interview of Abel is available at www.sririce.org]

The field itself was in an irrigated lowland, and the irrigation/drainage system had been recently improved. With the exception of mechanical weeding (herbicide was used instead), all other practices of SRI had been followed: spacing of 25 cm by 25 cm; one plant per hill, young transplanting, alternate wetting and drying; and plenty of well decomposed organic matter in the soil (owing largely to the location in a flood plain). I suggested that Jean or Joseph loan him a rotary weeder for the following season, and that he start out by doing mechanical weeding and no herbicide in at least one of his beds, which would allow him to compare the results between herbicide and mechanical weeding, but not overwhelm himself by trying to mechanically weed the entire plot his first time. The farmer had planted an enormous nursery—far larger than what was needed, and the reality of this was now clearly apparent, since he’d only used a small portion of what he’d sown. In the coming weeks he intended on starting a second nursery and planting the remaining 1.5 ha of land he owned.

While still early in his first trial, Abel’s plants were growing very well, and he was optimistic and satisfied with how SRI was working out. He noted as well that the vigorous plants resisted insects better than normal, so much so that he hadn’t had any need yet to apply any insecticides.

Next we moved on to a succession of several farmers in the Zio Valley, detailed below:

Kokou Emile HESOGBO [interview available at www.sririce.org] - A male farmer from Ativimé, he learned of SRI from a friend, and had decided to plant his whole field in SRI. He had some difficulty applying organic matter, said land preparation was also a challenge, and that he could benefit from access to a rototiller. He followed normal SRI spacing, transplanted at 8 days, used one plant per pocket. He used to use 15 measures of seeds, roughly 2 kg each, to plant 5 plots using the traditional methodology, but with SRI he used only 1 measure of 2 kg to plant the same area. He noticed that with SRI the plots were doing better, but weren’t as different as he had hoped, and thought that the lack of organic matter was a likely cause, especially since where he did apply more organic matter the plants responded well. In any case, he believed that SRI was already going to make a big difference for him, and that he’d work hard to get more organic matter for the following season. Kodjo TCHIMENOU, the agricultural technician and director of research for GRAPHE pointed out that most farmers in the area aren’t used to calculating their
costs and the profitability of their farming, but that SRI allowed for an easy entry point into teaching farmers how to do this.

Enyo Akpa Adjou ELIKPLIM [interview available at www.sririce.org] - A female farmer from Kaxoué, she participated in a technical exchange at Kovié, and decided to try SRI last year, and harvested 156 kg of rice for 25 m², versus 110 kg for the same area using traditional methods. Her biggest difficulties were with accessing and transporting organic matter to the field, and access to machinery to prepare her field. In order to bring more compost to her fields she’ll need to find some way to transport it more efficiently, and wants to find better access to a rototiller to help prepare the soil.

Komi Djifa GAGBA - A young male farmer working right next to GRAPHE’s farm school plots. He learned about SRI from attending one of Jean’s sensibilisations, then attended the technical exchange in Kovié, and planted his entire 0.8 ha plot in SRI. In the past he was getting 1 t (1.25 t/ha), and last year trying SRI he harvested 2 t (2.5 t/ha) of white rice. He applied 5 t of manure for the whole field, and brought a tractor in for land preparation. For him transplanting was the biggest difficulty, but he said that it’s getting easier with practice. He closely followed all standard SRI practices, including mechanical weeding, but did one round of herbicide treatment during the first two weeks.

Kodjo Bernard HESSOGBO [interview available at www.sririce.org] - A middle-aged male farmer from Ativemé, Kodjo is leasing a .375 ha field, which he switched over to SRI the previous season after viewing one of Jean’s presentations and participating in the technical exchange in Kovié. His first season last year with SRI was much better than the traditional methods he used before, but he said there’s still room for improvement. In the past he used 18 measures of seeds totalling 36 kg, and with SRI he now uses 1.5 measures of seeds totalling 3 kg of seeds for the same area, and that next year as he gets used to transplanting he’ll use even less than that (he wasted some seedlings this year because they’d been out of the ground for more than 30 minutes, so as he gets more adept at transplanting he’ll waste less). He purchased poultry manure for fertilization, and also applied 15-15-15 fertilizer, and will compare how the two treatments affect yields. He does all his weeding with a hoe, and said that with a rotary weeder and a rototiller he could lease a
larger area, though he also has had difficulty getting access to more land.

Zilevou ATSOUPI - A middle-aged female farmer working a .25 ha plot with her son. As with the other farmers visited, she learned of SRI from Jean’s presentations, and experimented with a small plot last season. This year she’s doing her entire field in SRI, and noted that with SRI plants tiller better, and the yield is better. She has challenges with finding enough labor for land preparation (difficulty finding access to a rototiller), for transplanting, and for weeding. She currently uses a hoe for everything, but would like to get a rotary weeder, and if she could get access to more land for her SRI she would gladly plant more rice. Fertilizers are also difficult to find, and often too expensive. In the past she used to grow market vegetables, but in the process destroyed her once-rich soil, and had to eventually give it up entirely. Now she’s come back to her land for farming rice, and is encouraged by SRI.

3.3 Meetings at Peace Corps Office - Lomé

Peace Corps has been involved with SRI in Togo since September 2012, when it sent volunteers and their counterparts to a training in Porto Novo, Benin. As noted above, Kokou Joseph ADOKANOU participated in this, and has since led technical exchanges and trainings in collaboration with Jean APEDOH, who was one of the trainers for the Port Novo training in 2012. Both Jean and Joseph have collaborated closely with Peace Corps staff to plan and carry out trainings, particularly so with Alexis ANANI (who has since phased out much of his work with Peace Corps, and is now consulting primarily) and Paul SINANDJA, and have further plans for trainings in 2014, focused on both compost production and adapting SRI to non-irrigated areas.

During an initial meeting with Peace Corps staff in Lomé, they expressed a need for support in following up with training participants to help build regional networks of SRI farmers and trainers throughout Togo, and also wanted to learn more about rice transformation and marketing in Togo. Later, when speaking with WAAPP SRI Focal Point Kokou Opekou, it became fairly evident that his organization (ESOP) and Peace Corps had potentially complimentary strengths and needs, as ESOP had identified compost trainings as one of their biggest needs, but already had a regional network of transformation and extension sites throughout the country. Kokou attended a second meeting with Peace Corps staff, and the two groups discussed how to begin collaborating.

3.3 Meeting at ITRA office - Lomé

Upon returning from Kovié on Friday afternoon impromptu visits were paid to the Institut Togolais de Recherche Agronomique (ITRA) and Institut de Conseil et d'Appui Technique (ICAT). The ICAT contact point was not in the office, but at ITRA we were able to meet with Komlan ABLEDE, who had attended the Burkina Faso workshop in 2012. ITRA and ICAT are both part of the consortium of four organizations that are working under the WAAPP SRI project in Togo, alongside ETD/ESOP and GRAPHE. These four organizations have coordinated for planning and implementing SRI activities, with a focus on using each organizations strengths to develop a more robust, and complimentary approach. With ABELDE Kokou OPEKOU and I discussed their activity plan and roles.

4. Commentary

4.1 Future Steps

Peace Corps will integrate ESOP into their upcoming trainings, and ESOP will take steps to integrate Peace Corps-trained farmers into their regional structures throughout Togo. The Togo team’s PTBA (action plan and budget) for 2014 was still waiting on funding from the World Bank to arrive, so hopefully that will be
resolved shortly, if it hasn’t yet happened. Planning will be short on a regional technical/pedagogy exchange, which will likely be held in Kpalimé, Notsé or another location not far from Lomé.

4.2 Observations and Conclusions

The two areas visited in Southern Togo were stark contrasts from one another in terms of SRI adoption, even though they were close geographically. This isn’t terribly surprising, given that 1) the Zio River Valley appears to be the only major irrigated rice zone in the country, and that SRI needs less adaptation for irrigated rice versus rainfed rice, and 2) organizers of previous SRI trainings noted that attendees coming from outside of the Zio River Valley had a difficult time relating to the favorable conditions there, and commented that they would have challenges adapting SRI to their own conditions.

In the Zio River Valley, SRI seemed to be spreading quickly, with farmers readily adopting SRI and even skipping small trials in favor of planting their entire fields in SRI. Here, mechanization remains a problem, both for weeding and land preparation, with many farmers having little access to appropriate/desired tools. While this is likely not the case for every farmer, many of those that don’t have access seemed to suggest that they would pay for them if they were available, but the tools are simply hard to come by. Compost, and organic matter in general, are also issues, and need to be addressed. Synthetic fertilizer and herbicide use seem to be pretty common place, but most farmers seemed to readily understand the importance of using organic matter and doing mechanical weedings, indicating that with time they’d be able to decrease dependency on chemicals.

In Notsé, farmer adoption was more timid, and despite an outlier who had jumped right into practicing SRI on a larger scale, the majority of farmers I spoke with who had been trained in SRI either weren’t practicing it, or hadn’t after two seasons increased their area in SRI beyond a small trial plot. It should be stressed, as well, that the number of farmers I spoke to was small, representing only 11 total in the Notsé area. As in Central Benin, farmers in Notsé had been trained to transplant when using SRI, and for some this had caused problems. Others, however, said that even though they were in a rainfed area, they could clearly see the benefits of transplanting, beyond even just doing SRI, and that they wanted to continue transplanting whether using SRI or not. Farmers also commented on the perceived effects of climate change, and said that rains fell later, less consistently, and in lower volumes than before. Several farmers in the Notsé region said that most of the large trees have been cut down, and there’s little shade to induce rainfall, so aside from adopting SRI, they would benefit from some concerted effort to reforest the region. Such an effort would potentially dovetail well with SRI, as a source of additional organic matter for SRI applications, which would also help lock in more moisture in the soil for trees or other plants. Mechanization was perhaps the most pressing issue in this region, as farmers didn’t have access to tools beyond their hand hoes. Transplanting took too much time many argued, and all of them said land preparation, weeding and threshing were incredibly time consuming as well, and that there wasn’t sufficient labor available. Most of the farmers who hadn’t yet adopted SRI said that this was the reason why, as did those who hadn’t increased their SRI holdings beyond a small trial plot. Lastly, most of the farmers spoke about how in the past they used to grow maize, but had switched to rice because the market for rice was better, due to the value chain linkage they had formed by working with ESOP. With rice they had a guaranteed place to sell, something that was incredibly important and beneficial.

A follow-up trip to Northern Togo would be beneficial, and should be considered in the near future if time and resources permit.