



REGIONAL WORKSHOP ON THE SYSTEM OF RICE INTENSIFICATION (SRI)

26th – 27th July 2012, Ouagadougou



Mali



Togo



Ghana



Senegal

August 2012

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I. INTRODUCTION

A regional workshop on the System of Rice Intensification (SRI) in West Africa was organized from 26th to 27th July 2012 at the Conference Room of the Hotel Palm Beach in Ouagadougou (Burkina Faso).

The objective of the workshop was to define an approach for mainstreaming the System of Rice Intensification in ECOWAS countries' research and extension programs by 2015.

The work aimed at identifying extension/research nests, agreeing on a roadmap for the implementation of a regional platform for exchange on the SRI and at defining the modalities for the development of a concept note to submit to CORAF/WECARD's Regional Competitive Fund in the framework of WAAPP implementation.

The workshop went well. Assigned objectives were generally achieved, as a result of the choice and the caliber of participants and the rich contribution to discussions.

This meeting provided a good opportunity to share and provide national and regional stakeholders with the same level of information with regard to the successes and constraints of the SRI in the various countries, and its potential impact on rice productivity improvement, food security and adaptation to climate change.

This present report focuses on the context, justification, objectives, expected results, sequence of workshop proceeding, results obtained, conclusion and recommendations.

II. CONTEXT AND JUSTIFICATION

The System of Rice Intensification (SRI) discovered in Madagascar by the French Jesuit Henri de LAULANIÉ, an agricultural engineer, is an innovation that changes the conventional practices of rice cultivation by enabling the rice plants better express their productivity potential. In practice, it consists of producing rice with less seeds, water and fertilizers on a soil rich in organic matter and well aerated.

Since 2001, small-scale tests have been conducted on SRI in West Africa by national research teams (producers, extension workers and researchers) supported by technical and financial partners including USAID, FAO and a lot of NGOs (ECHO-Volunteer, Africare, World Vision, etc.). The main countries where SRI has been tested are Benin, Burkina Faso, The Gambia, Guinea, Senegal, Sierra Leone and Togo where average yields obtained are between 7.5 t / ha to 11 t / ha compared to 2 to 5 t / ha for conventional practices.

Since 2007, Mali has fast expanded SRI through a more programmatic approach that generates average yields of 7.5 to 9 t/ha, equivalent to more than 50% increase with peaks of 12 t/ha. The main partners involved in this program in Mali are Africare, the USAID-funded Integrated Initiatives for Economic Growth in Mali (IIEGM), Syngenta Foundation and the World Bank.

It is also worth noting that the World Bank organized a videoconference on the SRI on 9th February, 2010 to share the experiences of India, Madagascar and Mali. A team from the World Bank Training Institute (WBI) participated in this conference. The event firstly focused on experience-sharing in Mali, with farmers, field-workers, researchers and representatives of the Ministry in charge of Agriculture. This was then followed by discussions with technicians from India that have extensive experience in SRI,

and producers from Madagascar that have a long practice of SRI. This conference served to inform a great number of Malian decision-makers on the results already obtained in Mali, to promote the Malian experience in an international framework and to discuss the added value of SRI for food security, water conservation and adaptation to climate change.

Therefore, on the basis of the examples cited above, it is affirmed that in West Africa, national experiences of SRI are numerous. However, they are not sufficiently known. This is why the USAID-funded « Expanding Agribusiness and Trade Promotion (E-ATP) » project organized a sub-regional information and sharing workshop on the achievement of the IIEGM project (Mali) with respect to SRI in August 2010 in Mali. The following seven countries participated in this workshop: Senegal, Côte d'Ivoire, Ghana, Togo, Benin, Burkina Faso and Nigeria. Training workshops were then organized in 2011 and 2012 in each of these countries - Nigeria, Ghana, Benin and Togo. These actions combined with that of other stakeholders translated into dynamic expansion of SRI in West Africa. To build on this momentum, it is necessary to capitalize on current experiences and the lessons learnt with the various stakeholders.

Besides, the West Africa Agricultural Productivity Program (WAAPP) is a program funded by the World Bank (IDA) that aims to make agriculture more productive and sustainable while ensuring regional integration in the ECOWAS region. It specifically provides a subregional framework on the basis of which ECOWAS countries collaborate to implement the national and regional agricultural strategies for technology generation and dissemination. The general objective of the WAAPP is to contribute to a sustainable increase in the productivity of participating countries' key priority commodities. As part of WAAPP implementation, a number of countries have set up strategic research for development National Centers of Specialization (NCOS), which are important means for strengthening regional and international scientific cooperation on priority commodities.

Among these priority commodities, rice and rice-based cultivation systems occupy an important and strategic place. Since 2009, Mali has chosen to host the NCOS-Rice with the aim to « **Develop and disseminate proven technological innovations to improve the productivity and competitiveness of rice value chains in West Africa** ».

Based on the early positive impact of the SRI observed in Mali, the NCOS-RICE has been interested since 2010 in this approach that was a technological innovation, and continued to improve upon it in cooperation with the Delegation of the Syngenta Foundation in Mali. The Center is currently involved in the organization of a regional workshop on SRI. The two main landmarks to be retained in the framework of the organization of this workshop are as follows: (i) in January 2012, during a meeting held in the conference room of the NCOS among the Representative of Cornell University who was on visit to Mali, the Representative of the Syngenta Foundation in Mali and the Coordinator of the NCOS-RICE, it was planned to hold a national workshop for sharing experiences and for networking the Malian stakeholders interested in SRI; (ii) in February 2012, there was a meeting on SRI in Washington DC (USA). This meeting was held alongside the technical negotiations of WAAPP 2A (2nd phase for WAAPP-A countries) involved the national coordinators of WAAPP and NCOS from Ghana, Mali and Senegal, the WAAPP Regional Leader at the World Bank (TTL, based in Ghana), the Executive Director of CORAF/WECARD and his staff, and the representative of the SRI International Network and Resource Centre (SRI-RICE) at Cornell University. The participants were informed on the preparations for the

organization of a national workshop in Mali. Following subsequent discussions, the WAAPP/NCOS-Rice and Cornell University were given the mandate to extend the national workshop scheduled in Mali to the whole subregion so as to transform it into a regional workshop.

Given the political crisis that Mali was going through, the workshop was relocated to Ouagadougou/Burkina Faso.

III. OBJECTIVE AND EXPECTED RESULTS

The objective of the workshop was to define an approach for mainstreaming the System of Rice Intensification in the ECOWAS countries' research and extension programs by 2015.

The results from this Workshop were as follows:

- The research nests and orientations to improve the implementation of the SRI in the various ECOWAS countries identified;
- A roadmap for the implementation of a regional network and a more formal framework for exchange and development on the SRI approved;
- A task force constituted and planning and modalities for work defined for the development of a commissioned project's concept note on SRI to be submitted to CORAF/WECARD for evaluation and for potential funding through the Regional Competitive Fund managed by CORAF/WECARD within the context of WAAPP.

The immediate results expected from this workshop were the following ones:

- A roadmap defining the modalities for the implementation of a framework /platform for exchange and networking implemented ;
- The practical modalities for the development of the concept note defined.

IV. PARTICIPANTS

More than sixty participants representing key stakeholders interested in the SRI participated in the workshop. The following categories of stakeholders were represented: producers, extension agents, researchers (from the national, regional and international levels), financial and technical partners, the public and private sector, as well as the local authorities.

The participants were nominated on the ground of their expertise and availability.

The list of participants by country is attached in the Annex.

V. SEQUENCE OF THE WORKSHOP PROCEEDINGS

5.1. Opening Ceremony

The opening ceremony was chaired by Burkina Faso's Deputy Minister in charge of Agriculture, His Excellency, Mr Abdoulaye COMBARY.

The welcome remarks of WAAPP-Burkina Faso's National Coordinator and the Director-General of Mali's Rural Economy Institute (IER) that hosts WAAPP's NCOS-Rice, was followed by the speeches of E-ATP's project Deputy Director, Cornell University (USA)'s Deputy Director, OXFAM (USA) Deputy Director's , the representatives of CORAF/WECARD's Executive Director and of the Director of the National Institute

of Environment and Agricultural Research (INERA). His Excellency Burkina Faso's Deputy Minister in charge of agriculture delivered the opening speech.

In her speech, the Director of Cornell University's SRI-Rice retreated the role her organization plays in SRI dissemination throughout the world and shared her dream of seeing SRI expanded in the West African sub-region. E-ATP's Deputy Director stressed on the importance of the SRI for the Sahel region which justifies the extensive training of trainers' program which has started in certain countries, Nigeria, Ghana, Benin, Togo and Senegal. The OXFAM Manager shared her organization's experience in supporting SRI dissemination in some countries like Vietnam where the Ministry of Agriculture took measures to extend the SRI in the rice production areas. The representative of CORAF/WECARD's Executive Director stressed on the need to strengthen extension and research in ECOWAS countries to achieve the SRI objective; the Director of INERA highlighted the potential of SRI in contributing to the achievement of food security.

In his opening speech, the Minister stressed on the importance of rice among the Sahelian populations with respect to daily consumption and encouraged the mobilization of extension and research efforts and actions in ensuring food security. He solicited the local authorities' commitment in support of the initiative to achieve good results. Finally, he wished participants the best of deliberations and stay in Ouagadougou.

5.2. Methodology of Work

The following arrangement was made to steer the workshop:

- Chairman: Dr Youssouf Ouattara (Burkina Faso)
- Vice-Chairman: Dr Aly Kouriba (Mali)
- Rapporteurs: Dr Madiama Cissé (Senegal) and Dr Wilson Dogbe (Ghana)

Mr DJIGUIBA Kouyate, a SRI specialist, was the facilitator of the workshop.

After the selection of the Chair Persons and Rapporteurs, self-introduction of participants was made.

The work was organized around two (2) axes:

- Work in plenary structured around the presentations followed by questions and answers;
- Group work structured around 3 themes: research/extension nests, concertation framework/platform on SRI, the working modalities for the development of a concept note to be submitted to CORAF/WECARD.

An exhibition on SRI (174-stem pot, breeding-fields adapted to machine operations) was organized and promotional documents on SRI (posters, technical sheets, CD, etc.) brought by the various partners, programs and projects were distributed.

5.3. Presentation on Communications and Exchanges

Following the presentation of the agenda, the objectives and results expected from the workshop by Dr Gaoussou Traoré from Mali NCOS-Rice, a series of presentations were presented by the various partners, which focused on the following points:

5.3.1. SRI Principles/Pillars

| Technique Cultural Technique | SRI | Current Practice |
|---------------------------------|---|---|
| Soil Preparation | Good: Tillage, Mudding, Leveling | Good: Tillage, Mudding, Leveling |
| Transplanting 1 | Age of the Seedling: 10-15 days | 21, often 30-40 days |
| 2 | Number of seedlings: 1 en ligne | 3-4 seedlings in staggered rows |
| 3 | Space: 25 X 25 cm | 15X15cm in staggered rows |
| Fertilization 4 | Organic Manure 10-15T/ha Fertilizer as a supplement or in doses of 1/3 - 1/2 | Dose of Fertilizer: 200 Kg urea (N) 100Kg of Phosphate |
| Irrigation 5 | Alternance between humidity and Drought – without water sheet | Water Sheet: 15- 40 cm |
| Hoeing 6 | Weeding Machine: Weeding and Hoeing | No hoeing. |

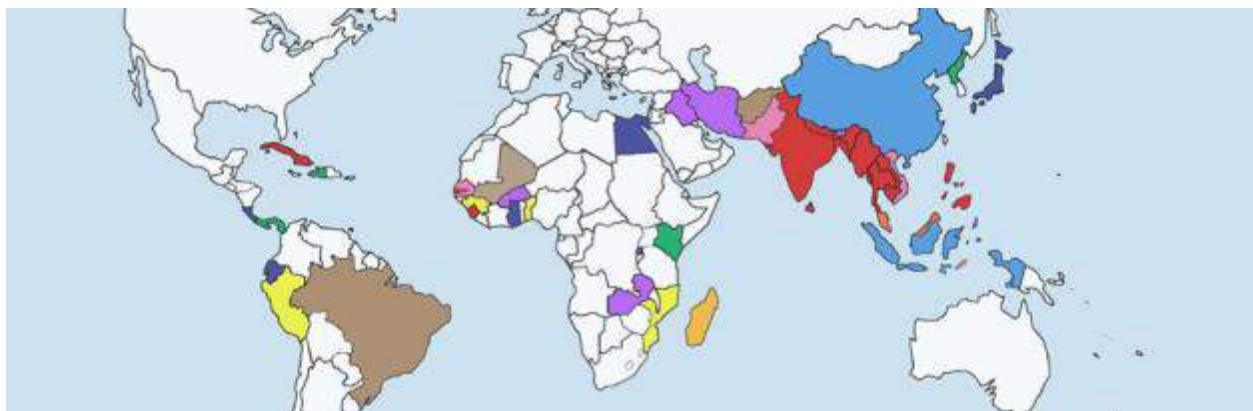
According to the SRI specialist, there exist 6 principles with 3 basic principles (transplanting with one seedling during 10 days and spaced 25 cm x 25 cm) and 3 other principles that depend on ecology . This facilitated the adaptation of the rainwater harvesting system in South of Mali. The attempts in other rice growing systems where controlled submersion (irrigation with basic equipment and using a lot of water) also gave satisfactory results. The average yield of SRI method is 8 tons per ha compared to 4.5 tons per ha for the conventional practice.

He concluded by saying that producing more is no longer a myth in ensuring the competitiveness of the local rice.

5.3.2. Evolution of SRI in the World and in Africa

Erika Styger, the Director of USA/Cornell University SRI- Rice, made this presentation.

In her presentation, she indicated that SRI is practiced in 49 countries in Africa, Asia and Latin America.



| Country | Date | of | Country | Date | of | Country | Date | of |
|---------|------|----|---------|------|----|---------|------|----|
|---------|------|----|---------|------|----|---------|------|----|

| | Introduction | | Introduction | | Introduction |
|---|--------------|--|--------------|-----------------------------------|--------------|
| Madagascar | Before 1999 | Senegal, Pakistan, Vietnam | 2004-05 | Malaysia, Timor Leste | 2009 |
| China, Indonesia | 1999-2000 | Burkina Faso, Bhutan, Iran, Iraq, Zambia | 2006 | Kenya DPRK Panama Haiti | 2010 |
| Bangladesh, Cuba, Laos, Cambodia, The Gambia, India, Nepal, Myanmar, Philippines, Sierra Leone, Sri Lanka, Thailand | 2000-2001 | Afghanistan, Brazil, Mali | 2007 | Korea, Taiwan, Colombia, Tanzania | 2011 |
| Benin, Guinea, Moz., Peru | 2002-2003 | Rwanda, Costa Rica, Ecuador, Egypt, Ghana, Japan | 2008 | | |

SRI can be practiced in very diverse agro-climatic conditions: medium altitude tropics (Bhutan), tropical savannah (Cuba), high altitude, semi-arid climate (Afghanistan), arid and rainy climate (Mali), tropical climate – low altitude (Cambodia). SRI is also compatible with the agro-ecological methods: conservation agriculture, zero tillage, soil coverage, rotation, biological agriculture (without chemicals), agroforestry (synergies between trees, crops, and animals), integrated management of pests and diseases, etc.

In all the countries where the SRI method has been practiced, improved yields have been observed in the areas concerned.

5.3.3. **Presentation of the IIEGM Project** (USAID/Integrated Initiative for Economic Growth in Mali) **SRI Program**: National-Scale Experience-Project.

DJIGUIBA Kouyaté, a Specialist in SRI and the Manager of IIEGM/USAID- Mali Rice-Value Chain, gave this presentation.

It was focused on the intervention strategy, the activities achieved, the results obtained, the lessons learnt and the recommendations for the SRI.

Results in Irrigated Areas

SRI Yield and Average Production Marker in 3 Irrigation Regions under Total Control

| Regions | SRI | Marker | PIV | Growth compared to the Marker (%) | Growth compared to the PIV (%) |
|---------------------------------|-------|--------|------|-----------------------------------|--------------------------------|
| Gao | 7.47 | 4.61 | 5.07 | 38.25 | 32.11 |
| Tombouctou | 9.107 | 7.203 | 4.19 | 20.91 | 41.85 |
| Mopti | 8.27 | 6.51 | 5.33 | 21.28 | 35.55 |
| Average Production in 3 regions | 8.28 | 6.11 | 4.86 | 26.81 | 36.503 |

Results in Rainy Areas

SRI Yield and Marker Average Yield for the Sikasso Region in Rainy Areas

| Region | SRI | Marker | PIV | Growth Compared to the Marker (%) | Growth compared to the Plain (%) |
|---------|-------|--------|-----|-----------------------------------|----------------------------------|
| Sikasso | 3.247 | 2.459 | 1.2 | 24.271 | 63.044 |

The project's intervention strategy was based on extension areas through demonstration plots and collaboration with research to develop research-action themes on fertilization, density and variety in various agro-ecological zones of Mali.

Contracts were signed with the technical services and the NGOs for extension; open days and a national result restitution workshop were organized to share the results and to promote SRI at the national and local levels. Mechanization was introduced for scaling-up.

The project's gains are broadly as follows: SRI introduction in all rice-basins in irrigated areas and its adaptation in rainy areas. Exploitation by 2,200 producers on 1,575 ha and support to dissemination in 7 West African countries in collaboration with the E-ATP project.

The following recommendations were made: (i) Adapt SRI to the lake production and Dogon mountain plateau systems; (ii) Mobilize political, administrative, technical decision-makers and farmer organizations; (iii) Operationalize the SRI concertation framework, (iv) Ensure the distribution of the SRI machines/ Garuda-Briggs /India in production basins (v) Pursue extension and research in West and Central Africa (concertation framework, learning network) , (vi) Pursue research on the following themes: Behaviour of *Glaberima* in the SRI Environment, Water Balance in SRI, quality of grains at processing/consumption, soil fertilization and sustainable management; SRI –Lying Rice, etc.

5.3.4. **Presentation of the E-ATP's Project** (Expanded, Agribusiness and Trade Promotion) **SRI Program**: Regional-Scale Experience-Project

Evolution of 2011-12 Trainings

| Country | Effective Training of Trainers | Cascaded Training Number of Producers | Objectives of the Cascaded Trainings |
|---------|--------------------------------|---------------------------------------|--------------------------------------|
|---------|--------------------------------|---------------------------------------|--------------------------------------|

| | | | | |
|--------------|-----|-------------|--------------|---------------|
| Nigeria | 46 | 1.005 | Goal : 1.000 | December 2011 |
| Ghana | 47 | 642 | 600 | July |
| Benin | 43 | In progress | 500 | August |
| Togo | 35 | In progress | 500 | August |
| Burkina Faso | 37 | In progress | 500 (Sept) | September |
| Senegal | 33 | To plan | 500 (Sept) | September |
| Total | 241 | | 3.600 | |

Results: Yields of the Demonstrations

| Country | Number of Stems | | Yields | | |
|--------------|-----------------|----|------------|-----------|--------------------------------|
| | SRI | PC | SRI (T/ha) | PC (T/ha) | % of growth compared to the CP |
| Nigeria | 62 | 35 | 10,5 | 5 | 101% |
| Ghana | - | - | - | - | - |
| Benin | - | - | - | - | - |
| Togo | 54 | 32 | 6 | 4,2 | 43% |
| Burkina Faso | 60 | 26 | 7,6 | 4,8 | 58% |
| Senegal | - | - | - | - | - |

The strategy adopted focused on the training of trainers in collaboration with partners from the various countries at shared costs. These partners are ready to develop a national program.

Observed Advantages: Lower Inputs (Seeds and Mineral Inputs), Water Saving (30- 70%), Increase in Production (30-100%), Conservation of Soil Fertility, which lead to sustainable agriculture.

The constraints met were: the non-availability of organic manure, change in technical behaviour and increased time for transplanting.

The perspectives are the following ones: (i) Implement a roadmap for countries (ii) Strengthen and Consolidate Gains (iii) Extend the technology to the countries that aren't yet covered (iv) Look for synergies and complementarity (v) Register SRI in national rice-development policies (vi) Implement an Information System/Network on SRI (vii) Call for all the Technical and Financial Partners to get involved in the dynamics of promotion of rice productivity through the SRI.

5.3.5. Questions/ Answers

After the presentations, the participants exchanged with the presentators on the following aspects: How to remove the constraints related to technology application by taking into account irrigation without importation of water; plant transplanting being a minutious operation, how to adapt SRI to the other systems of rice-growing? SRI on soils with high concentration of salts and limestone: economic analysis; availability of the organic matter, etc.

The participants also made the following proposals: Involve political authorities in the extension strategies, develop methods for the production of organic matter in quantity and quality; reflect on the

system's sustainability; integrate SRI in the educational and university system; strengthen the link between research and development; adapt and strengthen mechanization; training; and raise funds to support training programs; sustainability and documentation of experiences.

Presentation By Country

| Country | SRI Partners | Actions | Total of Producers | SRI Surface Area | Type of Rice Growing | Start Date |
|----------------------|---|--|--------------------|--------------------|---|------------|
| Nigeria | CAADP GS-RD RIFAN WAAPP ARCN | Cascaded Training | 1005 | - | Irrigated Rainy Low Lands | 2011 |
| Ghana | -AMSIG Resources -Advance -IFDC -GRIB | Cascaded Training | 642 | - | High | 2011 |
| The Gambia | NARI | Training | - | - | | |
| Benin | SAIN IFDC CCRB PPAAO EATP | Demonstration Training | | | Terre ferme Inundate Plain | 2011 |
| Togo | GRAPHE ETD/ESOP ITRA/ICAT RAFIA IFDC E-ATP | Practical Cascaded Training Roadmap for Dissemination Advocacy | 100 | 11 | Irrigated Low Lands Control of Rain | 2011 |
| Mali | Africare IIEGM/USAID IER DNA Fondation Syngenta AVAL PAPAM | -Extension -Large-scale extension, research, adaptation rice-growing system Concertation Framework Mechanization | 3252 | 574 San 1075 | Irrigated Total Control Low Lands PIV (pompage) Irrigation by flooding Fall in Water Level Mountaine | 2007 |
| Burkina | FAO DPAH | Demonstration - Plot SRI / GIPD | | | | 2000 |
| Senegal | SAED PRODAMA ANCAR PAPIL/ BAD PGIPD / FAO | Demonstration Plot | 100 | 80 | Irrigated | |
| Niger | ONAHA | Demonstration | - | - | - | 2012 |
| Guinea | - | - | - | - | - | - |
| Sierra Leone | | | | | | |
| Liberia | CARI MOA FUN | Demonstration | - | - | - | - |
| Côte d'Ivoire | SNDR ANARIZ | Participation in the Bamako Regional | - | - | - | 2010 |

5.3.6. Mechanization.

The presentation was made by Mr Olivier from the American firm Briggs that just bought back the Indian firm, Garuda.

It was focused on the presentation of the ranges of machines made by Briggs/Garuda and there had been a video-projection on the following machines: A tiller that simultaneously plows and puddles, the rice transplanter and the weeder all used in the SRI method.



5.4. Group Work

After the plenary presentations, group work was organized and presented in plenary. The results expected from the working groups were as follows:

- 1) Extension/Research nests and the orientations for a better implementation of the SRI in the various ECOWAS countries identified;
- 2) A roadmap on the implementation of a regional network and a more formal framework for exchange and development on the SRI approved;
- 3) The practical modalities for the development of a concept note defined.

3 groups were constituted and the main results obtained with regard to these points as well as the roadmap for the development of the concept note are in Annex.

5.4.1. Extension nests conduct research.

The methodology used by the group consisted in identifying the constraints faced by SRI producers in the various rice-production systems. The solutions to these constraints form the extension and research nests. The proposed nests are articulated around the aspects related to the cultivation techniques (planting, fertilization, adaptation to different agro-ecological conditions, seed production, association with the other existing agro-ecological good practices, advocacy, mechanization, gender, environment-related aspects, etc. (See the Table in Annex).

5.4.2. Roadmap for the Concertation Framework/Innovation Platform

Group 2 worked by specifying the background of the mission and the roadmap.

| Activity | Period | Responsible |
|----------|--------|-------------|
|----------|--------|-------------|

| | | |
|--|---------------|--|
| Identification of the country focal point by the local partners | October 2012 | - EATP -NCOS-Rice |
| Preparation of the basic documents | December 2012 | - NCOS-Rice/CORAF/WECARD - Cornell University |
| Organization of a National Stakeholders' Workshop for the implementation of the national platform by the WAAPP-Country | January 2013 | WAAPP Country NCOS-Rice |
| Implementation and Rooting of the exchange Framework/Platform | February 2013 | -CORAF/WECARD -NCOS-Rice |
| Development of an Action Plan | February 2013 | NCOS-Rice |
| Development of a National Action plan | March 2013 | - Country Focal Point -WAAPP |
| Implementation of an internal and external monitoring and evaluation mechanism (National and Regional level) | March 2013 | NCOS-Rice WAAPP Country |

5.4.3. Roadmap for the Development of the Concept Note

Group 3 that worked on the concept note drafted a roadmap for its development and finalization.

| Activity | Timeframe | Responsible |
|---|-----------------------|---|
| 1 Develop and submit the Workshop Report to C/W | 28 Jul-5 Aug 2012. | Dr. Djiguiba Kouyate |
| 2 Develop and share the draft Project Concept Note with Gp. 3 members | 5 -10 Aug. 2012 | NCOS – Rice, Mali Task Force |
| 3 Receive inputs from Gp. 3 members | 10-20 Aug. 2012 | NCOS– Rice, Mali Task Force |
| 4 Receive letters of intent and CVs from consortium members | 20-31 Aug. 2012 | NCOS – Rice, Mali National Focal Person |
| 5 Submit Project Concept Note, letters and CVs to C/W | 1 – 10 Sept. 2012 | NCOS – Rice, Mali |
| Review CN at C/W level | | C/W STC |
| 6 Receive feedback on CN review from C/W | 15 Oct. 2012 | NCOS – Rice, Mali |
| 7 Organize a team to develop draft Project Proposal | 15 Oct – 31 Nov. 2012 | NCOS – Rice, Mali Task Force |
| 8 Share PP with project team for inputs | 1 – 15 Dec. 2012 | NCOS – Rice, Mali |
| 9 Receive inputs, finalize PP | 15-30 Dec. 2012 | NCOS – Rice, Mali |
| 10 Submit PP to C/W for review | 1 Jan - 15 Feb. 2013 | NCOS – Rice, Mali |
| Review PP at C/W level | | C/W STC |
| 11 Receive feedback on PP review from C/W | Feb 28 2013 | CORAF, NCOS – Rice, Mali |

5.5. Closing Ceremony

The closing ceremony was marked by the speech of Mr Atamana Bernard Dabire, Burkina-Faso WAAPP Coordinator. He thanked the participants that actively worked during the two days of the workshop. He then urged the organizers and all the stakeholders to ensure a good monitoring of the recommendations.

Finally, he thanked all the stakeholders on behalf of CORAF/WECARD and the WAAPP for the initiative of this workshop and for the quality of the organization before wishing to all participants a nice trip back home.

VI. Summary of the main results achieved by the workshop

Based on the terms of reference, the main results achieved by the workshop can be organized into six (6) main points:

- Identification, mobilization and fruitful exchanges between the national, regional and international stakeholders involved in rice programs, and in SRI, in particular (Sixty-Six (66) persons actively participated in the meeting);
- Better information of research and extension services, farmer organizations and technical and financial partners at the national and regional level on SRI evolution in the 13 countries presently covered by the WAAPP;
- Deepening knowledge on SRI and on the opportunities for mechanization through the appropriate equipments for tillage, transplanting and weeding, then favoring SRI expansion on larger areas and reducing the constraints connected with the need for more labor;
- Development of a roadmap for the establishment of a concertation framework/innovation platform at the national, regional and international levels so as to coordinate the actions, share national experiences for SRI promotion in the West African Region;
- Technical and financial partners (CORAF/WECARD, WAAPP, The World Bank, NCOS-Rice; E-ATP/USAID, SRI –RICE / Cornell University, OXFAM, Africare and national stakeholders) are mobilized and work in synergy for the development of a concept note facilitating capacity strengthening for stakeholders in SRI dissemination and the development of this practice in West Africa;
- Formulation of relevant recommendations for SRI the large-scale expansion in West Africa. .

VII. CONCLUSIONS AND RECOMMENDATIONS

With regard to the number and quality of participants, the richness of the debates and the accuracy of the recommendations, the assigned objectives have been met.

This meeting was a good opportunity to exchange and to provide all the national, regional and international stakeholders with the same level of information with regard to SRI successes and constraints in various countries and its role in productivity improvement, food security and adaptation to climate change.

Based on the results of the discussions, the workshop made the following recommendations:

- Document and Consolidate the results obtained and Ensure their dissemination to concerned stakeholders;
- Strengthen the link with research to support SRI development and adaptation to other rice production systems;
- Continue to adapt SRI to the various agro-ecological zones of the region according to their specificities (irrigated/rainy zone, low lands, mountain, fall, mangrove ...);
- Support producers through the provision of appropriate equipment for the mechanization of production;
- In the short term, think about implementing a mechanism for the large-scale production of organic manure;
- Highlight some limitations of SRI based on situations incompatible with SRI principles;
- Strongly encourage extension and training for national and regional stakeholders;
- Implement the best strategies to disseminate SRI in the countries that are in the introduction phase;
- Ensure the promotion, the lobbying with political, technical decision-makers and farmer organizations so as to facilitate technology appropriation;
- Identify the national, regional and international stakeholders in order to monitor and evaluate the results;
- Develop a Monitoring and Evaluation system that facilitates the assessment of the progress and the results obtained during the implementation of the SRI method and support best practices' identification and development;
- Establish a concertation platform between the various stakeholders in order to create synergy at the national, regional and international levels with the support of WAAPP;
- Work to make the concept note effective so as to formally support and ensure the sustainability of the stakeholders' actions in extension and research for SRI development in West Africa while remaining open to the Technical and Financial Partners interested in specific interventions.

VIII. ANNEXES

8.1. Workshop Program

| Time | Activities | Responsible |
|--|---|---------------------------------|
| Thursday, 26th July 2012 | | |
| 8.00-9.00 am | Welcoming, Registration and Installation of participants | WAAPP- Secretariat Burkina Faso |
| 9.00-9.30 am | Official Opening Ceremony by Burkina Faso Minister of Agriculture or her/his Representative | Master of Ceremonies |
| | Opening Statements: WAAPP Burkina Faso | WAAPP National Coordinator, |

| | | |
|---------------------------|--|---|
| | Speech N°1 NCOS-Rice/WAAPP Mali Speech N°2 SRI-Rice, Cornell University Partners' Statements: Oxfam E-ATP Speech N°3 CORAF/WECARD Speech N°4 Minister's Opening Statement | Burkina Faso IER Scientific Director, WAAPP/NCOS-Rice, Mali Director of the SRI-Rice Centre, Cornell University, OXFAM Representative E-ATP Deputy Director CORAF/WECARD Representative Burkina Faso Minister in charge of agriculture |
| 9.30-9.45 | Official Break – Coffee Break / Family Photo | |
| 9.45 -10.15 | Establishment of the Board (1 Chairman, 1 Vice Chairman, 2 rapporteurs) Introduction of participants | Facilitator |
| 10.15-10.45 | Presentation and Discussions/Adoption of the Draft Program General Information on the Organization Reminder of the Context, Objectives and Expected Results | Gaoussou Traoré WAAPP Mali/NCOS-Rice |
| 10.45-12.00 | Reminder: SRI Notion and Principles/Pillars in comparison with Conventional Practice. Evolution of SRI in the world and in Africa. IIEGM Experience of national project. E-ATP experience of regional project. Questions of clarification | Djiguiba Kouyaté, IIEGM, Mali Erika Styger, SRI-Centre, Cornell Djiguiba Kouyaté Kokou Zotoglo Facilitator |
| 12h00 -13h30 | SRI NATIONAL EXPERIENCES/TESTIMONIES: Diversity of practices, Salient Results, Main Constraints, Perspectives NIGERIA GHANA THE GAMBIA BENIN TOGO Discussions | Joint Team/Country: Producer, Researcher, Extension Agent (1 presentation by country) |
| 1.30- 2.30 pm | Lunch Break | |
| 2.30 – 4.45 pm | COUNTRY EXPERIENCES/TESTIMONIES IN THE FIELD OF SRI (continued) MALI BURKINA SENEGAL NIGER Discussions GUINEA SIERRA LEONE LIBERIA COTE D'IVOIRE Discussions | Joint team/country: Producer, Researcher, Extension Agent (1 presentation by country) |

| | | |
|--------------------------------------|--|-------------|
| 4.45- 5.00 pm | Coffee Break | |
| 5.00-5.30 pm | General Discussions End of the Day | Facilitator |
| DATE AND PLACE TO BE PRECISED | Projection of video-films on SRI at large scale /Mechanization: Briggs/ Matforce | Facilitator |
| End of Day 1 | | |
| Friday 27 July 2012 | | |
| 8.00-8.15 am | Presentation of the TOR for Group Work Group Work 1: Identification of extension/research nests for SRI development Group Work 2: Concertation Framework and Learning Network on SRI and Mechanisms of Exchange Group Work 3: Development of a concept note | Facilitator |
| 8.15-10.30 | Group Work 1 (Extension/Research Nest) Group Work 2 (Framework of Exchange/Innovation Platform and Networking, Identification of stakeholders) | Group Work |
| 10.30-11.00 | Coffee Break | |
| 11.00 am-1.30 pm | Group Work 1 and 2 Group Work 3 (1.00 pm -2 pm) | Group Work |
| 1.30 pm-2.30 pm | Coffee Break | |
| 2.30 – 4.30 | Restitution in plenary of group work and Consensus | Facilitator |
| 4.30 – 5.00 | Coffee Break | |
| 5.00 – 5.30 | Main Conclusions Roadmap Evaluation of the Workshop | Facilitator |
| 5.30 – 6.00 | Closing Ceremony Speech by CORAF/WECARD Speech by the Minister or his/her Representative | |
| 6.30-8.00 | End of the Workshop | |

8.2. Terms of Reference for Group Work

Results expected from Group Work

The results expected from Group Work are as follows:

- The research/extension nests and orientations for a better implementation of the SRI in the various ECOWAS countries identified
- A roadmap on the implementation of a framework for exchange/innovation and network, identification of stakeholders achieved.
- The practical modalities for the development of a concept note defined.

Groups' Worksheet

- **Group Work 1 Extension/research nests and orientations for a better implementation of SRI in various ECOWAS countries**

Objective

The objective of this group work is to identify extension and research nests and orientations for SRI development in West Africa.

The work will be based on the presentations made in plenary and on participants' knowledge in the field of SRI. Extension actions are priority and research comes in support of dissemination on the field to ensure development.

Duration – 1 hour 45 minutes

1. Identify a chairman and a rapporteur to record and present the results. Since time is limited, the Chairman should manage it efficiently.
2. Ensure that everybody understands the objective of the group work before starting.
3. Based on your knowledge and experience of SRI practices, list SRI extension and research nests.

NB: Ensure that the research and orientation nests are relevant and that they take into account the *cross-cutting aspects* (gender, environment). Take into account the notions of adaptation to agro-ecological areas and SRI production systems.

4. Please electronically record the results of your work for the report in plenary.
 - **Worksheet – Group work 2: A roadmap on the implementation of an exchange framework/innovation platform and networking, stakeholders' identification.**

Objective

The objective of this group work is to define a roadmap for the implementation of a more formal development and exchange framework on SRI. Implement the innovation platform to strengthen learning, training and direct exchange between the stakeholders and the various actors at the national and regional levels.

Duration – 1 hour 30 minutes

1. Identify a chairman and a rapporteur that will record the results and present them. Time should be managed by the chairman.
2. Ensure that everybody has understood well the objective of the group work before starting.
3. Propose a list of the categories of stakeholders potentially interested in the implementation of a concertation framework on SRI (specialists, politicians, farmer organizations, producers, private sector, civil society, university, basic education...)

Propose an objective, concrete action to conduct, a period and an operational mode by taking into consideration the national and the regional level;

4. The learning network : define its objective, expected results, communication tools to be implement, concrete actions (website, leaning trip between countries and continents...) operational mode;

NB: one can ask various questions on the relationship between the framework and the network.

What is its aim? The missions among others (monitoring and evaluation, stakeholders' identification, documentation of experiences, work in synergy, training, information, sensitization, promotion, lobbying)? Where to put the framework? How to build the national and regional board? Which communication tool to use: Is the network a framework tool or not? How should it operate? Operation plan?

8.3. Group Work Results

GROUP WORK 1: Identification of extension/research nests for SRI expansion in West Africa.

IDENTIFICATION OF RESEARCH AND EXTENSION NICHES AND ORIENTATIONS FOR IMPROVING THE IMPLEMENTATION

Chairman: Mrs Samba Njai FATOU

Facilitators: Dr Erika Styger, Dr Ernest ASIEDU

Rapporteur: Mr Komlan ABLEDE

Points Proposed for Discussion

- Presentation of an ideal model for SRI implementation in terms of extension and research.
- How are we going to develop good SRI practices? What should be the role of the various stakeholders?
- Guidelines for the monitoring and evaluation of SRI activities on the field.
- Identify the major constraints to SRI implementation. See how these main constraints can be lifted.
- Meet the challenges the farmers that practice SRI face. How to meet these challenges?

- Clarification of the notion of nests (geographic zone or specific themes to address): A proposal was made so as the nests are developed with regard to rice ecologies and themes to develop.
- List the different rice ecological systems that exist and analyze them to see what should be done depending on the constraints.

| Major Problem with Organic Matter; Problem with the management of water in Farms Ecology | Major Constraints with the Application of SRI | How to address these constraints? |
|--|---|---|
| I. Rainfed lowland | <ul style="list-style-type: none"> • Weak Water Management • Lack of Control of Inundations • Late rains that stop early • Difficulty to practice 1 plant/poquet –transplanting • Rapid Mineralization of the OM • Lack of technical references/knowledge on SRI functioning in this ecology. • Lack of agricultural mechanical equipment • High-level of Weed Infestation • Hydric Stress • Leveling Problem | <ul style="list-style-type: none"> • Adapted Varieties • Respect of the agricultural calendar • Water Drainage • Introduction of Water Conservation Techniques • Establish technical referentials for SRI adapted to rain • Possibility to use the patterns for rainfall frequency analysis (AGHRYMET) • Ensure good seed quality (direct seeding) • Respect of the 25 cm x 25 cm spacing |
| II. Irrigated | <ul style="list-style-type: none"> • Problem with the collective management of water resources in perimeters • Weak Water Management • Soil Management/ Leveling Problem • Management of Irrigation Channels • Difficulty to apply the treatment against the nematodes before transplanting (Niger) • Conflict between the villagers and the producers due to water (Benin) • Technical Itineraries if SRI not sufficiently precise in available technical | <ul style="list-style-type: none"> • Get organized with the support of the Management Committee Perimeters • Create enough sources of water • SRI Adoption by the producers could solve the conflict of water and the soil management problem • Use of the weeds as organic manure • Sensitization of producers on SRI performances • Gather SRI producers in a corner of the perimeter (Mali example) • Involvement of/Support to agricultural extension in water management • Improve available technical referentials • Use of the Azollae Fern |

| | referentials | |
|----------------|--|--|
| III. Mangroves | <ul style="list-style-type: none"> • Salinity and Acidity Problem • Delay in transplanting • Damage due to the crabs that attack the transplanted seedlings • Difficulty to transplant the young seedlings due to the importance of the water sheet • Iron Toxicity | <ul style="list-style-type: none"> • Possibility to apply SRI to rear mangroves • Use of salt-tolerant varieties • Leaching and Use of Soft Water • Limestone Amendment |
| IV. Upland | <ul style="list-style-type: none"> • Hydric Stress • Irregularity and stop of rainfalls • Difficulty to practice transplanting • Lack of drought resistant rice varieties • Problem with termites | <ul style="list-style-type: none"> • Soil Conservation Practices • Improvement of Organic Manure • Conservation Methods/Control of Water (Bunds) • Development of the Technical Referentials • Find solutions to fight against termites • Rationally choose regions with favourable rainfalls • Use of drought-tolerant varieties • Use of early and short-cycle varieties • Use of legumes • Development of transplanting demonstration plots • Try on rice the methods that have worked with other speculations |

Approaches:

- ⇒ Training of Trainers through the field – schools
- ⇒ Use of the « green technology » (projection of video-films/Learn from what has been done in India)
- ⇒ Need to monitor the technique
- ⇒ Exchange of information
- ⇒ Use of proximity radios
- ⇒ Use of appropriate germplasms/varieties
- ⇒ Technology Testing

- ⇒ Use AfricaRice and NARS' experience to develop protocols for the collection of reliable data during the field schools
- ⇒ Monitoring and Evaluation Methodology (See AfricaRice to take example from the sheets they use)
- ⇒ Use of a note book bearing frameworks during the field-schools.

Suggestions:

- ⇒ Consider SRI as a method and adapt its 6 basic principles to the various ecologies/conditions
- ⇒ If SRI can be considered as a method with its 6 principles that can be adapted to any condition, one should rather talk about SRI good agricultural practices
- ⇒ How to transform rice straw into compost?
- ⇒ Should the recommended OM be supplied every year or every 3 years? Answer: People supply it every 3 years but it depends on the level of soil fertility
- ⇒ Accelerated Composting Technique = a means for the transformation of rice straw into OM. The emphasis should be laid on the training of producers.
- ⇒ Use of apple-cinnamon by-products (cashew nuts) as a source of OM in Sierra Leone

CROSS-CUTTING ISSUES ADDRESSED

1. Gender Aspects:

- Equity between men and women in terms of training, equipment, tools, etc.
- Analyze the whole value chain and identify women/men's roles at each stage. Try to strengthen the various levels in which women are hardly involved
- Roles played by women (transplanting, bird hunting)
- The gender aspect must take into account women as well as the youth. Find a mechanism for the integration of the youth into SRI promotion/extension
- Access to Land: Practice positive discrimination in favour of women with regard to access to land.

2. Sustainability Aspects: Environment, Climate Change

- Seed varieties adapted to the various stresses (short-cycle varieties or drought-resistant varieties)
- Water resources
- Pollution of water resources by pesticides
- Toxicity risks for pesticide users
- Adaptation and Mitigation of CC effects
- Develop an Action Plan for adaptation to CC
- Aspects of deforestation in the valleys
- Use of the Nymphos and of biopesticides = alternative to the use of Furadan(forbidden product)

- Rice intensive system (on small areas) = means for fighting against deforestation
- Also observe the aspects of storms that destroyed all seedlings
- Greenhouse gas
- Acknowledgement of groundwater's contribution P
- Soil nutrient management (the production of nitrate causes fast denitrification= source of pollution)
- SRI leads to massive exportation of soil nutrients (bear in mind this issue)
- High quantity of OM can generate the effect contrary to that expected on soil
- Integration of legumes in the system to ensure its sustainability
- The combination of SRI and conservation agriculture (soil minimum tillage practices) will facilitate a better conservation of soil resources
- Include in SRI the association of crops such as peanut and cowpea to rice
- Use of tillage techniques according to the contour lines
- etc.

ISSUES ADDRESSED DURING DISCUSSIONS IN PLENARY

- Efficient use of fertilizers
- Add crescent terraces to stone bunds
- Resort to seed-multiplier farmers
- Invest in mechanization as nests by providing guidance to agricultural machines producers
- Gender aspects (women's difficult access to land: practice positive discrimination in favor of women)
- What will be the role of mineral manure in the difficulties connected with the availability of organic manure?

Group Work 2: Implementation of an exchange framework/platform on SRI in West Africa

- Membership : 23
- Chair : Mrs Gina Odarteifio, AMSIG, Ghana
- Rapporteur : Kokou Zotoglo, EATP, Burkina Faso

Objective of the Framework

- Promote SRI dissemination and adoption by favoring exchange and the coordination of activities between the national and regional stakeholders

Missions

- Information sharing and exchange between all stakeholders

- Promote and Disseminate SRI
- Documentation of experiences/Monitoring and Evaluation
- Conduct advocacy for SRI development
- Resource Mobilization with partners

Categories of Stakeholders at the national and regional levels

| | | |
|---|--|---------------------------|
| NGOs | Projects /Program | The Media |
| Technical Services | Technical and Financial | Political Decision-makers |
| NARS: Training Institutes, Universities and Research Institutes | Partners (TFP) Producer Organizations (PO) Private Sectors | |
| Umbrella/Interprofessional | | |

Categories of Regional and International Stakeholders

| | | |
|------------------------------|---------------------|-------|
| CORAF/WECARD | ECOWAS/WAEMU | FAO |
| NCOS-Rice | Oxfam | TFP |
| EATP | Syngenta Foundation | ROPPA |
| SRI –Rice Cornell University | IFDC | |
| CILSS | | |

8.4. Roadmap for the formal implementation of the framework

| Activities | Date | Responsible |
|---|---------------|---|
| Identification of the national focal point by local partners | October 2012 | - EATP -NCOS-Rice |
| Preparation of the main document | December 2012 | - NCOS-Rice CORAF/WECARD Cornell University |
| Workshop of National Stakeholders for the implementation of the country platform organized by the WAAPP-Country | January 2013 | WAAPP NCOS-Rice |
| Implementation and Rooting of the exchange framework/platform | February 2013 | -CORAF/WECARD -NCOS-Rice |
| Development of an Action Plan | February 2013 | NCOS-Rice |
| Development of a Country Action Plan | March 2013 | - Country Focal Point -WAAPP |

Implementation of an internal
and external monitoring and
evaluation mechanism (country
and regional levels)

March 2013

NCOS Rice
WAAPP -Country

8.5. List of Participants