

Integrated Pest Management Collaborative Research Support Program (IPM CRSP)

Africa Food Security Initiative (AFSI) – Quality Food Production, Availability, and Marketing

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Mission: To examine and demonstrate factors affecting rice seed production, several small plots and field-scale experiments will be conducted in two villages (by 60 - women 30 women at each location) in Mali. The goal is to improve the quality of rice seed. Several researchers from the U.S as well as in country collaborators (WASA, IICEM, IER), will be looking at ways to improve rice seed quality for small scale farmers (mainly women). My major goal for this trip was to establish a collaborative “project” that would address constraints associated with rice production. Ultimately, the yield potential of rice as expressed by the maximum yield that can be achieved in a given environment

Activities June 22 – July 2

Detail activities

Date	Contact/met with	Activities
June 22 and 23h	Tuesday and Wednesday	Left Blacksburg on the 22 nd for Mali via Paris and Arrived in Banmako on the 23 rd
June 24 th	<p>Meeting - AM Strategic Planning Dialogue among the Partners</p> <p>Meeting – PM with:</p> <ul style="list-style-type: none"> • Kadiatou Toure Gamby, IER – Satuba – Entomologist, • Jean Harman, USAID people including Jean Harman, • WASA – the seed people – Norbert G. Maroya and S.V.R. Shetty., • Trore Halimatou KONE, DVM • Jolie Dennis – Programming – Training Officer - Peace Corps Mali • Yacouba Kone, Ag/NRM associate program director • Djiguiba Kouyate and Aissata Thera – IICEM • Ozzie Abaye and Larry Vaughan – Virginia Tech 	<p>AM - The Meeting was conducted by USAID-Mali. Key players: James Graham, Director, USAID in Mali and Jean Harman, Director, Office of Accelerated Economic Growth, USAID/Mali</p> <p>PM – Meet with Peace Corps, Mali representatives, WASA, IER, USAID, and IICSEM – to discuss potential collaborative work on the rice seed project. It was a very productive meeting. Some of the topics discussed were: problems associated with rice for seed production: weeds, poor quality seed, pest, soil fertility. The main weed species discussed was red rice. However, later in the week it was made clear that red rice is not much of a problem in lowland rice production systems. Most weeds are removed prior to planting – flood the soil – let weeds emerge – remove weeds and plant rice. No one has documented the exact source of weeds – soil, water-borne or seed source?</p> <p>IICEM and WASA will provide technical assistances. Peace Corps volunteers might be available next year.</p>
June 25 th	IER- Sobuta - Kadiatou Toure Gamby	Discussed the activities for the week ahead and visited the seed and the soil labs.

June 26 th	Saturday	No activities – e-mail...
June 27 th	Left Bamako for Sikasso with 4 IER-technicians	Traveled to Sikasso
June 28 th	IER – Sikasso - meet with Moro Tradore, and 3 field technicians and discussed the project.	<ul style="list-style-type: none"> • At 8 AM - met with Moro Tradore. From Moro I learned that Yacouba Doumbia - Sikasso -lowland rice program leader - Agronomist, the key player is on vacation till July 3rd. • Fortunately, Moro and Yacouba Doumbia had discussed the protocol I sent and combined with the protocol they worked on. The combined protocol has two components: <ol style="list-style-type: none"> 1. Assessing (Appendix I) rice cultural practices - methods of planting, weeding, harvesting; variety selection, rotation (if exists), fertilization... 2. Conduct field trials (lowland and upland rice) using 30 selected women (at 30 different rice fields).
June 29 th	Left Sikasso for Niena around 8:30 AM to meet Kadiatou Toure Gamby (IER) and Djiguiba Kouyate (IICEM) traveling from Bamako.	While waiting for Madame Gamby and Djiguiba, had a chance to interact more with the women we met the day before. Around 10 AM, WASA representatives arrived. After introduction, I explained the purpose of my visit. I suggested several areas where WASA can collaborate with us (with the seed quality trials). Madame Gamby introduced all of us to the women and explained the purposes of the visit. Once again, the women expressed interest in rice seed production.
June 30 th	<ul style="list-style-type: none"> • At 8 – AM – left Sikasso for M’pegnesso - Kadiatou Toure Gamby IER – Sotuba) Djiguiba Kouyate (IICEM) Rice/tomato production- Moro Tradore – IER – Sikasso – plant Pathologist, and WASA (Youssouf Traore – Country Coordinator, Ibrahima Sanogo – Agribusiness and Financial Services Manager, Karmuko Traore, Arouna Sangare – Seed Technician. 	<p>M’pegnesso, 20 women and 10 men attended the meeting. Madam Gamby introduced the group and stated the purposes of the visit. She explained the reason why various organization are present – ‘we have to solve the problem(s) collectively’, she said that is why we are here. The farmers were asked what variety of rice they use – although never named a variety – I guess they use mainly Nerica. For the rice seed project, Madame Gamby said they have to choose the variety that works best for them.</p> <p>Djiguiba explained the difference between seed for grain vs seed for planting. He also addressed planting density (i.e spacing). Apparently, the farmers were putting several seeds (5-9 seeds) per single hole instead of spacing the seeds across. Again, the point was stressed that the farmers need more than verbal</p>

		<p>instruction/education. They have to be taught in the field how to place the seeds in the ground (planting depth and spacing).</p> <p>Yousouf Traore – WASA - Country Coordinator, talked about training programs that WASA can provide – starting from soil preparation to harvest. He also talked about the importance of seed quality vs quantity.</p> <p>Moro Traore (IER Sikasso) - will bring both lowland and upland rice. Additionally, IER-Sikasso will provide several timely educational programs – regarding soil fertility, seed quality, pesticide use.... He also stressed the fact that the rice variety must match the soil (fertility) and the rice production system (upland, lowland...)</p>
July 1 st	Meeting at Sotuba	<p>Met with Yacouba Doumbia - lowland rice program leader Agronomist - to discuss the rice seed project.</p> <p>Details on page 4</p>

Trip Details

June 28, 2010

Details of the day: According to the combined protocol (which we did not have), today was the day they were planning to make the initial contact with the women group in Niena (different from Madame Gumby’s plan tomorrow). I asked if I could go along to meet the women to discuss our joint projects. Moro said yes and went off to meet the women. What a pleasure it was. Twenty five women showed up (Appendix II). According the president of the women’s’ organization more would have come if it had not been for the field work. The discussion took two parts:

Part 1. Discussed the objectives of the project/visit. All the women expressed interest in the seed quality project. First we discussed the survey followed by the selection of the 30 volunteer women to do the field trial and the selection criterion. The women were told those women who volunteer to do the trials have to understand the importance of the project and have a great deal of interest/desire to follow protocol. They all agreed and cheered..

Part 2. Ask for volunteers to do the field trails, 11 women volunteered and more to come. According to the protocol (explained to the women):

- Two type of rice production practices will be utilized (lowland and upland).

- Each women will have 300 square meter area/5 (Agronomic and IPM work).
- The 30 women (may be more) will go through farmer field school (three times: before planting, after planting, and at harvest).

Challenges described by the women:

- Availability of rice new rice varieties (YES, THEY DO NOT LIKE some Nerica varieties) . **To why – can be explored by a social scientist**
- **Poor quality seed – contamination (a lot of weed seeds in the rice seed). I told them that is why they need to produce QUALITY SEED. The seed quality can be easily evaluated on station (nursery, greenhouse or using a simple germination test (water + paper towel).** Weed Problem – not red rice – red rice is not too much of a problem in a low – land rice production systems.
 - Problematic weeds: Bermudagrass - *Cynodon dactylon* (L.) (Pers.) var. *dactylon*
 - *Oryza longistaminata* (not a red rice but similar).

June 29th , 2010

Second day at Niena – Present at the meeting: 30 women from the women organization; representatives from IER, WASSA, ICEM, Government Agency and Virginia Tech. Kadiatou Toure Gamby made the initial introduction (introduced the various players – organizations). WASA – explained the value and importance of producing good quality seed. The women said in 2009, produced rice seed (Nerica) and was certified but were unable to sell the seed. Some were give R1 to produce R2. However the R2 can only be used for grain not seed production. In order for the women group to produce certified seed through WASA each farmer must have at least 1 hectare (a total of 5 hectare, at least 1 hectare for seed production). Obviously, none of the women in the group individually have a land area more than 0.25 ha. WASA promised to provide quality seed to the women (Vita-12 – for lowland, BG another old rice variety women like; BVV - the BEST rice variety).

Challenge: Timely seed and fertilizer availability, and commercialization.

June 30th , 2010

Meeting at the M'penesso village – Present: 20 women and 10 farmers and representatives from IER – Sotuba and Sikasso, ICEM, and WASA. The farmers (both male and female) inquired about rice varieties, fertilizer, and pest control measures. Their concerns regarding rice production for grain or seed with similar to those of Niena farmers.

July 1st , 2010

Met with Yacouba Doumbia - lowland rice program leader Agronomist. It appeared that multiple proposal have been circulating with similar objectives – dealing with rice seed production. We discussed the various proposals/protocols and modified some of the treatments. Some of the modifications include adding organic source of fertilizer and

adjusting the rates from 0-74 kg/ha. The 74 kg/ha being the rate currently recommended to obtain optimum yield. Yacouba suggested that although the 74 kg/ha rate has been recommended for years, it is very high. So we decided to add a lower rate i.e half of the recommended rate. We also decided to use a single best variety (in stead of multiple varieties).

IPM-CRP collaborators/ Contact

Farmer Associations

- Women association – Niena
- Sidi Traore Agent Technique d' Agriculture - Niena
- Men and women farmers association - M'pegnesso

IER - Bamako

- Kadiatou Toure Gamby IER – Sotuba (Entomologist)
- Abdoulaye Camara – CRRA – Sotuba Fruit Program

IER – Sikasso

- Moro Traore - Plant Pathologist
- Yacouba Doumbia - lowland rice program leader Agronomist
- Zakoria Diarra – Programme Riz - bas-fond
- Pifounfo Kunata – Agronome Programme – Riz bas-fond- CARA Sikasso

USAID

- Jean Harman

WASA

- S.V.R. Shetty – Chief of Party
- Norbert G. Maroya – Senior Advisor on seed Policy and Public Partnership
- Youssouf Traore – Country Coordinator
- Ibrahima Datleme Sanogo – Agribusiness and Financial Services Manager
- Karmuko Traore
- Arouna Sangare – Seed Technician

IICEM

- Aisata Thera – IICEM (Plant Pathologist)
- Djiguiba Kouyate (IICEM (Rice/tomato production- USAID project/Abt Associates.

Appendix I

Agronomic Practices to Optimize Yield and Quality of Dryland (Rain-fed) Rice Seed Production in Mali

Survey questions

1. How long have you been in rice production? (Circle one)
A. 1 year B. 2 years C. More than 5 years D. 10 years E. > 10 years
2. What type of rice farming system do you practice?
A. Low land rice B. Upland rice C. Others type of system?
3. How many hectares of rice do you grow?
A. 0.25 hectare B. 0.50 hectare C. 1 hectare D. > 1 hectare (change to local terms)
4. How often is your soil tested for fertility?
A. Once a year B. every 2 years C. every 3 years D. never
5. What kind of fertilizer:
A. Organic B. mineral C. organic and mineral
6. What type of fertilizer do you use?
A. Complete (N-P-K) B. Only Nitrogen (if so what kind?)
7. How much mineral fertilizer do you use on your rice?
Complete (N.P.K): A. 0 kg/ha B. 10 kg/ha C. 20 kg/ha D. > 20 kg/ha
Only Nitrogen: A. 0 kg/ha B. 10 kg/ha C. 20 kg/ha D. > 20 kg/ha
8. How much of organic fertilizer do you use on your rice?
A. 0 kg/ha B. <2000 kg/ha C. <5000 kg/ha D. > 5000 kg/ha
9. What rice variety do you commonly grow?
A. Improved variety B. local variety
10. Do you practice crop rotation? If so how often do you rotate rice with other crops?

11. If you are willing to rotate rice with other crop, what kind of crop do you prefer to grow?
Would you be willing to rotate rice with vegetable crops?
12. What is your main weed problem (type of weed/weeds most problematic)?
13. In your experience, where is the weed coming from?
14. What about insect or disease problems? What kind of insect/disease are most problematic?
15. Do you understand the value of good quality seed? If so, are you willing to grow rice for seed?

Appendix II. Names of women attended the first meeting at Nieno, and women volunteered to conduct the rice seed trails

Members:

Officers

1. Mamou Diallo No. 2 (President)
2. Rokia Diallo (in charge of Marketing)
3. Fatoumata Sangare (Accountant)
4. Biba Diarra (Secretaire)

5. Mamou Diallo No. 1
6. Mamou Togola
7. N'tio Togola
8. Kadidiatou Kone
9. Araba Togola
10. Djenebou Sidibe
11. Madjala Sangare
12. Awa Diallo
13. Djama Diallo
14. Rokia Diallo
15. Biba Coucibaly
16. Mineta Diallo
17. Djenebou Diakite
18. Mariam Diakite
19. Nana Sangare
20. Kadidiatou Kone
21. Kadiatou Kone (Sokoroni)
22. Kadia Sanago
23. Sata Diallo
24. Sali Diallo
25. Adjarra Coulibaly

Women volunteered to do the trials:

Officers

- Rokia Dialo (in charge of Marketing)
- Mamou Togola
- Kadidiatou Kone
- Farina Diarra
- Araba Togola
- Biba Coucibaly
- Kadidiatou Kone
- Kadia Sanago

- Sata Diallo
- Sali Diallo
- Adjarra Coulibaly

Appendix III. Pictures of women farmers and collaborators at Nieno



Appendix IV. Pictures of women and men farmers and collaborators at M'pegnesso

