The Project for “Sustainable Development of Rain-fed Lowland Rice Production” in Ghana

19 September 2012
Dakar, Senegal

SAMUEL KOFI TEKPOR
AHMED YUSUF
TSUJISHITA KENJI

Target Regions and Districts

Northern Region
Annual Rainfall: 970-1195mm
1 rainy season
YILONAYILE - TAMALE Metro
Nov. 2009

Ashanti Region
Annual Rainfall: 974-2985mm,
2 rainy seasons
Katabo Central, Atwima Mponua
Aug. 2011
Current Conditions of Rice production

<table>
<thead>
<tr>
<th>Rain-fed</th>
<th>Irrigated</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland</td>
<td>10,000 ha</td>
<td>118,000 ha</td>
</tr>
<tr>
<td>Upland</td>
<td>10,000 ha</td>
<td></td>
</tr>
<tr>
<td>Rice farming system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-intensive: cash income generation, 2.0~3.0 t/ha, rainfall + minor irrigation, fertilizer, direct seeding</td>
<td>Intensive: Cash crops, 4.0~5.0 t/ha, irrigation facilities, transplanting, fertilizer</td>
<td></td>
</tr>
<tr>
<td>Extensive: Low-input, home consumption, 0.5~1.5 t/ha, only rainfalls, no fertilizer used, broadcasting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planted Area</th>
<th>89,000 ha</th>
<th>19,000 ha</th>
<th>10,000 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>2.4 t/ha</td>
<td>1.0 t/ha</td>
<td>4.6 t/ha</td>
</tr>
<tr>
<td>Paddy production</td>
<td>214,000 t</td>
<td>19,000 t</td>
<td>46,000 t</td>
</tr>
<tr>
<td>% in Area</td>
<td>76 %</td>
<td>16 %</td>
<td>8 %</td>
</tr>
<tr>
<td>% in Production</td>
<td>77 %</td>
<td>7 %</td>
<td>16 %</td>
</tr>
</tbody>
</table>

Project Information

**General outline**

1. **Project Purpose**: Dissemination of the "model for sustainable development of rain-fed lowland rice production (Model)" is accelerated within the Project areas.
2. **Project Area**: Northern and Ashanti Regions
3. **Project Period**: July 2009-July 2014 (5 years)
4. **Implementing Organization**: Crop Service Directorate (CSD), MOFA
5. **Target**: more than 1,000 farmers, Regional extension plans, manuals

**Approach**

- **Technical Package**
  - Increase of Yield through applying appropriately low-cost, user friendly and easily adoptable techniques
- **Farming support system**
  - Increase of Income by producing and marketing high quality milled and parboiled rice through strengthening and improving farmer's and farmers' groups' capacities on farm management, post-harvest, credit management and marketing
- **Extension Procedure**
  - Promotion of rain-fed rice production through applying effective and efficient extension methods strengthening stakeholders' capacities for sustainability
Overall Project Framework

Model and Thematic Intervention

- **Land Development**
  - Valley selection, Bunds construction, Land levelling,
  - Water harvesting, Water control and usage
- **Rice Cultivation**
  - Seed selection, Planting techniques, Weed control, Split fertilizer application, On-farm water management, Harvesting

- Strengthen farmers’ groups
- Farming management capacities
- Post-harvesting capacities
- Credit management capacities
- Marketing capacities
- Guidelines and manuals

Extension:
- AEA to Farmer, Farmer to Farmer, Field day, Field trip
- Competition on technical adoption level

Training:
- On-site Training, In-house training, Training of trainers,
- Support

Extension plan (Region and District)
[Framework of Extension Approach]

PCU (Project Coordination Unit at RADU)
- Overall Coordination
- Organizing Activities (TOT, materials, etc.)
- Regular Monitoring and Reporting
- Organizing meetings and forums

DADU (District Agriculture Development Unit)
- Organizing Trainings, Regular Monitoring and Reporting
- Consulting and advising, Organizing Competition

AEA: Coordination, Regular Visit, etc.

District Extension Plan

Priority Site (Community) - Group Approach -
- Model Site (Community) - Group Approach -
- On-site Training
- Field Day
- Trial Plot
- Individual Plot
- Group Farmer
- Other Farmer

Field Trip (Exchange)

Sub - Priority Site (Community) - Individual Approach -
- Leading Farmer
- Other Farmer
- Individual Plot
- Demo Plot
- Field Day

Regional Extension Plan

Land Development

Ashanti Region

Divided-canal type
Weir(spring)-and-canal type

Northern

Plane figure

Runoff area (water way)

Distance: Depends on the slope of valley

Profile of wetted soil

Plot to plot type

Profile of wetted soil

Contour Bunds

West Africa Regional Seminar on Rice Development
AR: Manual land leveler

AR: Flat leveler tied with a rope

NR: Bunds construction using tractor

NR: Soil compaction with compactor

Seed selection (AEA training)
Using an Egg

Transplanting

Sowing on the nursery bed

Weeding with push weeder
Direct sowing on site training (Northern)

Fertilizer application (Northern)

Weeding with a tool (Northern)

Rice Quality Improvement
(One of Farming Support System)

Traditional way

Threshing
Threshing Box with a tarpaulin
(Bam Bam box)

- Reduction of lost
- Avoid chaff and Stone
### Number of AEA and Rice Farmers in 2012

**Pilot districts:** 7 out of 47 Districts  
**Total AEAs for 7 districts:** 111 AEAs  
**Total Rice farmers:** 21,634 farmers

<table>
<thead>
<tr>
<th>Year</th>
<th>AEAs</th>
<th>Comm.</th>
<th>Farmers</th>
<th>Trial Plots</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>14</td>
<td>13</td>
<td>369</td>
<td>38 Trial Plots</td>
</tr>
<tr>
<td>2011</td>
<td>14</td>
<td>13</td>
<td>369</td>
<td>38 Trial Plots</td>
</tr>
</tbody>
</table>
| 2012 | 14+39 | 13+108 | 369+1329 | (14+39) = 53 AEAs 48%  
(13+108) = 121 Comm.  
(369+1329) = 1698 Farmers  
= 8% of rice farmer in pilot district |
| 2013 | depends on district extension plan |
| 2014 (end of the Project) | Project target  
More than 1,000 farmers  
Rice Extension plan manuals |

---

### Current output by the Project

**Direct**
- Increased yield at trial plots  
5.6 t/ha-ASH, 3.6 t/ha-NOR
- Expansion of area with technology by farmers themselves
- Technology adoption by other surrounding farmers
- Appearance of serious farmer
- Livelihood improved
- Farmers able to purchase inputs for their production
- Collaboration with other projects/programs

**Indirect**
1. Change in cropping pattern of farmers
2. Commitment from GoG to continue development and implementation of rice extension
3. MOFA District level self-initiatives
4. Created awareness on rice among stakeholders
# Outstanding

## Technical Challenges

1. Bird scaring  
2. Erratic rains  
3. Flooding of crop fields  
4. Land leveling difficulties  
5. Acquisition of good seed  
6. High yielding rice cultivars  
7. Low fertility status of fields  
8. Post harvest handling and quality improvement of rice  
9. Accessibility to inputs and farming machinery  
10. Weak relationship among stakeholders in the Rice-chain

## Measures proposed

1. Use of bird scaring net?  
2. Installation of supplementary water harvesting facilities  
3. Avoid flood prone areas /early planting  
4. Installation of interlocking bunds  
5. Self-seed production  
6. Collaboration with research institute  
7. Supplementary fertilizer application  
8. Good quality pre and post harvest technology and practice  
9. Credit facility/group approach  
10. Facilitation of rice quality forum

---

Thank you for your attention  
Merci pour votre attention  
Jere Jef