African Agriculture
and
Japan's Cooperation

Ministry of Agriculture, Forestry and Fisheries (MAFF)
September 9, 2008
Soaring Food Prices

- Compared to the price in Autumn before last, Prices of Wheat and Rice, Maize and Soybean increased 2.4, 2.6, 2.5 times respectively.

Direct Serious Damage to the Poor
< Expansion of Hunger and Malnutrition >

Agriculture is a main industry in many developing countries.
Improvement of productivity and expansion of production in agriculture are important.
Current Situation of African Agriculture

(major grain, particularly rice)
## Food Supply in Africa

Maize, Cassava, Rice and Sorghum are major calories source. However, self-sufficiency rate of Rice is still low.

<table>
<thead>
<tr>
<th>Region</th>
<th>Per capita provided calories (Kcal/day)</th>
<th>Top 4 Products</th>
<th>Name of Products</th>
<th>Kcal/day</th>
<th>Self-sufficiency rate(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Sahara Africa</td>
<td>2,218</td>
<td>Maize</td>
<td>Cassava</td>
<td>328</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rice</td>
<td>188</td>
<td>93.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>328</td>
<td>Sorghum</td>
<td>93.0</td>
<td>55.2</td>
</tr>
<tr>
<td>East Africa</td>
<td>2,008</td>
<td>Maize</td>
<td>Cassava</td>
<td>503</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wheat</td>
<td>183</td>
<td>92.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>503</td>
<td>Rice</td>
<td>92.6</td>
<td>71.3</td>
</tr>
<tr>
<td>West Africa</td>
<td>2,578</td>
<td>Rice</td>
<td>Millet</td>
<td>342</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sorghum</td>
<td>277</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>342</td>
<td>Cassava</td>
<td>50.0</td>
<td>248</td>
</tr>
<tr>
<td>Central Africa</td>
<td>1,876</td>
<td>Cassava</td>
<td>Maize</td>
<td>654</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wheat</td>
<td>214</td>
<td>654</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0</td>
<td>Rice</td>
<td>100.0</td>
<td>85</td>
</tr>
<tr>
<td>South Africa</td>
<td>2,364</td>
<td>Maize</td>
<td>Wheat</td>
<td>731</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sorghum</td>
<td>45.0</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>731</td>
<td>Milk</td>
<td>45.0</td>
<td>93</td>
</tr>
</tbody>
</table>

Source: FAOSTAT
Rice Production and Consumption in Africa

- Production does not meet growing demand.

Source: Kyushu University
Rice Productivity in Africa

● Slow Productivity Improvement

Productivity Trend

Source: FAOSTAT
Less land are irrigated in comparison to other regions.

Source: FAOSTAT
Japan’s Cooperation in Agriculture
Research and Development for Rice Productivity in Africa

Development of new rice varieties

● Nerica (New Rice for Africa)

Asian Rice

African Rice

○ Strong point of Nerica
  • Early Maturing
  • High Yield

● JIRCAS

Collaboration with WARDA

○ (progress) Research and Development of Rice
  • JIRCAS has dispatched researchers to WARDA since 1998.
  • JIRCAS has implemented collaboration research with WARDA on bad environment adaptability of indigenous genetic resources in Africa.

○ (hereafter) Breeding of Rice including Nerica suited to Africa.
  • Addition of drought/submergence tolerance

Possibility of Expansion of Rice growing area

The lack of water in the later stage caused no ripening of Nerica (BENIN)

JIRCAS : Japan International Research Center for Agricultural Sciences
WARDA : Africa Rice Center
Support for Increase of Rice Production

Support for technical development and extension of sustainable rice cultivation technique (Low cost, High Yield) in lowlands of African inland.

(provide trust fund to WARDA)

- Selection of model site and pilot project for sustainable and low cost cultivation technique of rice.
- Collaboration with institutions concerned and demonstration of pilot model.
- Extension of African style technical system by training etc.

WARDA, IWMI, each government’s research and extension organization etc.

IWMI: International Water Management Institute

Formation of new rice area and increasing of rice production
Development of Small-Scale Irrigation through the Participation of Farmers

Support for Dissemination of Rice Cultivation with Small-Scale Irrigation Collaboration with WFP

- Sustainable Farming System for Self-Sufficiency introduced by Following Measures
  ① Agricultural Infrastructure Development by Farmers
  ② Food Aid in Exchange of Work (Food for Work (FFW))
  ③ Approach for Plan, Implementation and Management through the Participation of Farmers
  ④ Agricultural Development at Community Level (10-30ha)

Results
- Increased harvest by Development of Paddy Field through the participation of Farmers

<table>
<thead>
<tr>
<th>Country</th>
<th>Development Area (ha)</th>
<th>Production Volume (t)</th>
<th>Development Area (ha)</th>
<th>Production Volume (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mali</td>
<td>105</td>
<td>525</td>
<td>210</td>
<td>1,050</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>75</td>
<td>133</td>
<td>195</td>
<td>346</td>
</tr>
</tbody>
</table>

Source: WFP
Selection of improved dual-purpose cowpea varieties suitable for Sahel

- **Grain yield**
- **Leaf & Stem yield**
- **Cowpea varieties**
- **3 varieties for dual-purpose**

**Saving both Food and Fodder**

**ICRISAT**: International Crops Research Institute for the Semi-Arid Tropics

Collaboration with JIRCAS (Niger)
Support for Development of Human Resources and Organizations for Improvement of Productivity

Holistic Support to Farmers through transfer of Knowledge and Expertise of JA (Japanese Agricultural Cooperatives)

- Farm Management, Life Support
  Agricultural Business, Group Purchase/Marketing, Sharing Agro-Processing Facility, Banking
- Support of Farmers Activity
  Farmers Market, Promotion of Local Product
- JA (Japanese Agricultural Cooperatives) Network
  Broad Network from Village to National Level

Training in Japan

Accept trainees from developing countries
- Training on Poverty Alleviation
- Practice of Agro-processing

Post Training Follow-up

Dispatch experts for post training follow-up
- Discussion with Extension Workers (Malawi)
- Rice Processing in a cooperative (Malawi)
1. Improvement of Productivity and Expansion of Production
   - Dissemination of Rice Crop Technology and Development of Paddy farming in lowlands and wetlands
   - Sustainable Supply of Agricultural Water through Development and Renewal of Irrigation
   - Promotion of Organizing Farmers

2. Research and Development
   - Improvement of NERICA and Development of Drought-tolerant and High Yield Varieties
   - Development of Agricultural Researchers in Africa

Toward "Green Africa"