The thirteenth CARD steering committee meeting (SC13) was held at Hotel Sarova PanAfric in Nairobi during 7-8 December, 2017. The meeting was attended by representatives from the committee member organizations; the African Development Bank (AfDB), Africa Rice Center (AfricaRice), Alliance for Green Revolution in Africa (AGRA), the Forum for Agricultural Research in Africa (FARA), the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agriculture Development (IFAD), the International Rice Research Institute (IRRI), the Japan International Cooperation Agency (JICA), Japan International Research Center for Agricultural Sciences (JIRCAS), New Partnership for Africa's Development (NEPAD) and the World Bank. The representatives from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the World Food Program (WFP) also participated in the meeting as observers. The meeting was convened by FAO (out-going co-chair) and AfDB (in-coming co-chair), respectively represented by Mr. Peter ANAADUMA and Mr. Benedict KANU.

#### 1. OBJECTIVES

The primary purposes of the meeting were to: - (i) appraise the progress on evaluation of CARD and NRDS implementation, (ii) deliberate on the framework for the next phase of CARD, and (iii) conceptualize the organization of 7th CARD General Meeting.

## 2. Approval of the minutes of SC12 meeting and agenda for the SC13 meeting

The SC members reviewed the minutes of the 12<sup>th</sup> SC meeting (SC12) that was held in Nairobi on 29<sup>th</sup> August 2016, made a few minor editing of its format and contents, and ratified the proceedings with a provision to include the missing contributions from some of the SC members in the notes. The members also perused the program schedule of SC13 (7-8 December, 2017) and adapted the same with a provision to hear the contributions from the observers (GIZ and WFP) to CARD and rice sector development in Africa during the session on the second day in which the SC members are expected to provide an update on their contributions.

#### 3. EVALUATION OF CARD AND NRDS

3.1. DRAFT FINAL REPORT ON CARD EVALUATION: PricewaterhouseCoopers Japan (PwC) was hired to evaluate CARD as a regional initiative with an in-depth country evaluation on CARD in the selected CARD-member countries. Prior to SC13, a draft report on the outcomes of this appraisal was circulated amongst the SC members by the PwC consultants. At the meeting, the PwC team Director Ms. Yuki ISOGAI presented the outcomes of the evaluation, presenting the positive feed backs obtained from stakeholders such as application of NRDS approach to other crops in a few countries and spontaneous mutual learning among CARD member countries as well as other CARD contributions to South-South cooperation, capacity building and better coordination. Also the PwC presented the following observations on success factors of CARD and challenges that CARD faces in the current phase: -

- A multitude of factors have contributed to the success of NRDS implementation in different countries. Often, a factor that contributed to the success of the CARD initiative in one of the member countries is identified as a challenge in another member country
- CARD does not have clear baseline data and the measurable set of indicators, except for overall goal, against which the impact of CARD could be quantified
- Visibility of CARD is generally less adequate in the arena of stakeholders of member countries, especially among the SC members' country offices. CARD is not acknowledged well among government officers outside rice sector in some countries, and hence not all CARD member countries pursue the CARD activities ardently
- The roles of SC members were not clear, and communication on CARD between their HQ and country offices was not sufficient
- Turnover of country focal points to CARD sometimes reduced the momentum of CARD activities in country, also affected the quality of discussions in the General Meetings.
- At country level, NRDS was well implemented and stakeholders were well involved when the high-level government officials facilitate them.

The evaluation team identified the following as lessons learnt from the effectiveness of the CARD initiative: -

#### <AT COUNTRY LEVEL>

- Scopes, priorities, resource allocation, indicators and monitoring and evaluation mechanisms for the country strategies need to be more clearly articulated in the NRDS document
- After the development of the NRDS, the country focal persons in member countries need to be assisted with a sense of continuum and strongly linked to the SC member institutions in the respective countries through a mutual higher official level commitment
- Development Partners, even some SC member country offices, were not necessarily aware of CARD and the amount of fund mobilized for implementation of strategies was limited

#### <AT INITIATIVE LEVEL>

- Implementation of strategic documents remains weak overall.
- Excessive reliance on the CARD secretariat with scarce resources that limits the potential impact of CARD

Taking the above lessons, the PwC team put forth the following measures for consideration in the next phase of CARD: -

- Given the limited human and financial resources of CARD, the work of the CARD Secretariat should be
  prioritized and focused in certain areas; promoting policy dialogues amongst stakeholders, policy
  advocacy, and engagement of private sector and country offices of SC members shall be prioritized as
  key support areas by CARD towards the implementation of NRDS in member countries
- To ensure the contributions and commitment of SC members both from HQ and country offices, it is important to involve high-level officials of SC member organizations

- Roles and responsibilities of stakeholders such as SC members, the secretariat and member countries were not clear. Therefore, it should be clarified in the next phase.
- The visibility of CARD is limited, especially at national level in some member countries; Government outside rice sector, SC member country offices and other development partners.
- Expand policy advocacy work to the sub-regional level.
- At the country level, more emphasis should be on the strategy implementation, rather than formulation.

(See the PPT attached as ANNEX for details)

3.2. EVALUATION OF NRDS IMPLEMENTATION IN SELECT MEMBER COUNTRIES: At the SC12, the meeting agreed that the NRDS shall be evaluated by each of the member countries with principally the fund mobilized by themselves. However, some SC members such as FAO made commitment for their financial assistance in conducting NRDS evaluation in some member countries. Subsequently, the CARD Secretariat engaged governments of 11 countries in conducting the evaluation of their NRDS implementation, namely Benin, Cameroun, Cote d'Ivoire, Guinea, Kenya, Madagascar, Mali, Nigeria, Senegal, Tanzania, and Uganda. Evaluation has now been completed and validated in Nigeria. In Benin, Cote d'Ivoire, Madagascar, Mali and Senegal the most evaluation exercise have been completed and the draft reports are being reviewed by the country stakeholders. In Kenya, Tanzania and Uganda, the evaluation exercise has faced delays due to some administrative issues. The evaluation results will be used as a base in the formulation of NRDS for next phase in these countries. The other CARD member countries where such evaluation is not organized, data will be collected from the stakeholders during the formulation stages of the NRDS for next phase.

3.3. <u>DISCUSSIONS AND WAY FORWARD</u>: The SC members deliberated on the progress and outcomes of the CARD and NRDS evaluation processes and made the following observations: -

- As it is the case currently, the decision on either developing a commodity specific NRDS as a supplement to the overarching national agriculture sector strategies or accommodating rice sub-sector related strategies within the umbrella strategy shall be at the discretion of the country governments
- NRDS components nevertheless need to be firmly anchored in the countries' overarching national agriculture sector strategies and sufficiently captured under their National Agriculture Investment Plans (NAIP), as tried in this phase.
- The NRDS should also provide more focus on regional trade and private sector participation along the rice value chain.
- Visibility of CARD needs to be enhanced through deliberate efforts such as: -
  - The CARD secretariat should strengthen the public relation through, for instance, sending quarterly newsletter on the CARD initiative to country DP representatives who participate in Agriculture Sector Working Group meetings.
  - o For the visibility of CARD at SC member organizations, it is important to involve high-level officers. Also ideally, each SC member should formalize its focal point to CARD and work on mainstreaming about CARD as well as communicating with country offices for better visibility.

- Besides assisting countries in the development of the various rice value chain strategies, the CARD should also continue promoting the implementation of these strategies as the second half of the first phase.
- CARD should facilitate evidence based information on the added value of investments in rice sector which can help country governments and private investors make informed decisions. AfricaRice committed to contribute to CARD in this regard through implementation of Continental Investment Plan for Accelerating Rice Self-Sufficiency in Africa (CIPRISSA) that can add great value to CARD.
- No need for each of all African countries to achieve rice self-sufficiency. So regional perspectives should be more incorporated.
- Strengthening synergistic relations with other initiatives, institutions, private sector and SC members through partnerships
- Evaluation should suggest indicators for the next phase against which CARD progress can be monitored.

## 4. FRAMEWORK FOR THE CARD SECOND PHASE

At the CARD 6<sup>th</sup> General Meeting, the member countries conceded that the CARD initiative should be extended into a second phase. Hence there is a need to agree on the framework of the initiative for the second phase in terms of the overall goal(s), the time frame, strategic approaches, the organizational and implementation structure and the membership prior to the 7<sup>th</sup> General Meeting. The following were the outcomes of the discussions amongst the SC members on this framework:

**4.1. OVERALL GOAL:** It was agreed that CARD's goal should earn the political buy-in and yet be realistic. In this context, doubling production and attaining self-sufficiency were debated as two potential options. While achieving self-sufficiency as a goal could send a strong political message, experiences from Japan and other countries in Asia suggest that such a goal could potentially invoke controversial policies such as higher rice importation tariff, trade distortions and fiscal and political pressures on governments. Given the vast scopes for expanding the area under rice production and scaling out of other productivity-enhancing technologies in many of the Sub-Saharan African countries, the SC members agreed to further 'doubling rice production' as a overall goal under the 2<sup>nd</sup> phase of CARD. Based on the current trends, JICA postulated that rice production in SSA could be doubled between 2018 and 2030, to 56 million tons.

4.2. TIME FRAME: The SC members acknowledged the need to synchronize the timeframe of the 2<sup>nd</sup> phase of CARD to other major continental initiatives; Comprehensive Africa Agriculture Development Program (CAADP) which was recently renewed by African Union (AU) members through Malabo declaration is set for a period of 7 years (2019-2025). The SC members however agreed that 7-year time frame, synchronizing the CARD's 2<sup>nd</sup> phase with CAADP might be too short for new member countries to make significant achievement, and for CARD to achieve its overall goal. Therefore, the meeting decided to align the timeframe of CARD second phase to the Sustainable Development Goals (SDG) of United Nations that will terminates in 2030, hence the timeframe for the CARD second phase will be 2019-2030. This will coincide well with cyclic periods of Tokyo International Conference for African Development (TICAD). The meeting also confirmed that the mid-term evaluation can be conducted at the midway (in 2024) of this new time

frame, and the evaluation results can be provided to CAADP as a milestone that shows the progress of CARD against CAADP goal.

- **4.3. STRATEGIC APPROACHES:** In the current phase, the CARD initiative embraced a value chain approach whereby the countries' NRDS have attempted to address the various challenges along the production, processing and marketing segments of the rice value chain. Since the 2<sup>nd</sup> phase of the CARD shall emphasize greater participation of the private sector, climate adaptation and market-oriented production; the SC members accepted JICA's proposal on a new 'RICE' approach, whereby the following strategies will be emphasized in the 2<sup>nd</sup> phase of CARD initiative: -
  - Resilience (R), to assert the stability in rice production in the face of climate change and the rising population growth
  - Industrialization (I), to promote the engagement of rural and urban enterprises in production, processing, value addition and marketing of the locally produced rice
  - Competitiveness (C), to enhance the quality and value of the locally produced rice and thereby substitute importation
  - Empowerment (E), to enable the relevant stakeholders (including women and youth) in harnessing the socio-economic rewards of rice farming

JICA also suggested a table format (attached as ANNEX) that SC members can list up all of their rice-related contributions according to the above strategy categories. This will help clarify roles and contributions of SC members to CARD. The meeting agreed that the table will be circulated to SC members prior to the second phase so that each SC member can fill it in with information of its projects/ investments/ contributions.

4.4. ORGANIZATIONAL STRUCTURES: Under the present organizational structures of the CARD, the General Meeting which assembles all the member countries remain the supreme body, makes final decisions on the actions under the CARD initiative. The Steering Committee of CARD provides the required technical consultations and operational directions to the CARD Secretariat. The CARD Secretariat, with support from contracted technical consultants, runs the day-to-day activities of CARD in its member countries. The CARD initiative shall retain the same organizational structure under its 2<sup>nd</sup> phase. The SC however agreed that the panel of the SC shall be expanded to include representations from Regional Economic Communities (RECs). The CARD Secretariat will communicate with the RECs in partnership with NEPAD in order to seek the possibility to include them in SC, confirming their interest and readiness.

The frequencies of the General Meeting (once in 2 years) and SC meeting (once in a year) will be maintained. Should a need arise for consulting the SC members on more than one occasion in a calendar year, the CARD Secretariat shall seek the possibility to organize meetings through virtual modes such as video conferencing.

4.5. COUNTRY MEMBERSHIPS: It was agreed that the current CARD member countries will be requested to confirm their interest in continuing their participation in the 2<sup>nd</sup> phase of the CARD initiative. As current member countries, new member countries shall meet the following criteria: - (i) rice is important to the national economy and/or food security, (ii) there is potential for rice production, (iii) two or more DPs that

support rice sector presently exist, and (iv) the country government shows commitment in developing the rice sector. At SC12, countries that are affiliated with Africa Rice (Chad, Guinea Bissau, Malawi, Niger and Sudan) and IRRI (Angola, Burundi and Gabon) but have not yet joined the CARD initiative were mentioned as potential new candidate members. The CARD Secretariat has subsequently informally confirmed the interests of Angola, Burundi, Guinea Bissau, Malawi and Niger.

The SC members concurred the following as procedures to decide the new CARD member countries for the next phase:

- An official letter will be sent to all Non-CARD member SSA countries to invite the expression of their interest in joining CARD, attaching the Final Evaluation Report (Feb, 2018)
- Deadline of the submission of expression of interest (May, 2018)
- The Secretariat will screen the interested countries against the criteria set as above (June, 2018)
- SC members will be consulted and confirm the screening results through emails (July, 2018),
- The Secretariat will send notification of the screening results to countries, and requested the new member countries to nominate focal point to CARD (July, 2018)
- The Secretariat will invite the new members to participate in the GM7 if that can be managed in time (August, 2018).

# 5. Preparation for the 7<sup>th</sup> General Meeting (GM7)

General Coordinator of the CARD Mr. Takanori Satoyama proposed a draft concept note of the 7<sup>th</sup> CARD General Meeting (GM7) that includes the objectives, program, dates, venue and a pre-conference seminar preceding the GM7. The members reviewed the draft, made a few changes and adopted the revised version as follows;

- The general and specific objectives of GM7 are decided as below;
  - 1 To validate the results of final evaluation on the first phase of CARD:
    - 1-1 To present the analysis on the CARD first phase in terms of achievements, operational structure, lessons learnt and remaining challenges
    - 1-2 To share success stories and materialized partnership cases
    - 1-3 To share country experiences

# 2 To lay the groundwork of the second phase of CARD:

- 2-1 To present and review the framework of the CARD second phase
- 2-2 To have feedback on general plan of CARD activities in the second phase

# 3 To increase the visibility of CARD:

- 3-1 To present highlights of the CARD first phase of and framework for the second phase
- 3-2 To increase awareness of CARD among African and Japanese high-rank government officials
- The expected outcomes of GM7 will be; (i) The achievement made, lessons learned and remaining challenged during the CARD first phase is shared with the CARD member countries and other stakeholders, (ii) The framework of CARD second phase is endorsed by the General Meeting, (iii) Comments and feedback are obtained from CARD countries on the general plan of activities in the CARD second phase, and (iv) CARD is better acknowledged by African and Japanese high-rank

government officials.

- GM7 shall be held in Japan along with the Ministerial preparatory meeting for TICAD. This will provide fair acknowledgment to both the Japanese government and taxpayers who have provided the financial foundation for the CARD initiative. This will also increase the visibility of the CARD initiative among the ministers representing African countries in the meeting.
- The dates for the GM7 shall therefore hinge on the official announcement of the schedule for the Ministerial Preparatory meeting for TICAD by the Government of Japan.
- Launching of the CARD second phase shall be done at the TICAD VII to be held in 2019.
- The pre-conference seminar of GM7 will lay emphases on policy dimensions and the CARD Secretariat shall consider the organization of parallel sessions as well as more technical programs such as poster exhibition.
- GM7 will be co-chaired by FAO and a CARD member country on day-1 and by AfDB and another CARD member country on day-2. The Country Co-chairs shall be decided with consideration and attention to seniority of the country representative, the progress made in rice sector development, the language balance and geographical balance. The country who have co-chaired in the past meetings shall be excluded.
- A High-level Meeting shall be organized in the afternoon of Day 2, where the Minister level participation from African countries is expected. The results of GM7 shall be share with them there, and this will address to the general objective 3 of GM7 mentioned above. To effectively show case CARD accomplishment to the participants of the high-level meeting, the meeting suggested the preparation of visual aid such as short movie for the occasion. The CARD secretariat will follow up to enquire the cost of production and financial sources, among other necessary information, and will prepare one, if time, financial and all other necessary conditions are met.

#### **6. SC Members Update on Rice Related Activities**

# 6.1. AFDB:

Under its new Feed Africa Strategy (2016-2025), African Development Bank has included rice as one of the important value chains in some CARD member countries, and supports various rice-related projects through the respective country portfolios. At the regional level, AfDB provides financial support to AfricaRice's CIPRiSSA initiative which will initially target nine countries: Cameroon, Côte d'Ivoire, Madagascar, Mali, Nigeria, Senegal, Sierra Leone, Tanzania, and Uganda. The priority domains for CIPRiSSA's investment include seed, technology transfer/capacity building, fertilizer, machinery/equipment, marketing, information and communication technologies (ICT) and Irrigation.

#### 6.2. AFRICARICE:

As a leading research institution on rice research and development in Africa, AfricaRice has been contributing to the CARD member countries through: - (i) supply of breeder seeds of rice varieties and genebank accessions, (ii) promoting a participatory approach on the development of lowland in inland valleys, (iii) developing energy saving technologies through efficient use of rice by-products such as husk in parboiling and briquetting systems, (iv) development of rice varieties for lowland and upland ecosystems,

and (v) technology platforms such as RiceAdvice, an Android based application for farmers in making decisions on the various options for improving rice yields and farm revenue.

Through its Continental Investment Plan for Accelerating Rice Self-Sufficiency (CIPRiSSA) initiative, AfricaRice intends to strengthen the capacity of the CARD and its functions in countries towards attaining self-sufficiency by 2025. CIPRiSSA will generate evidence based information that will help identify NRDS indicators and specific investment opportunities along the rice value chain in several CARD member countries.

#### 6.3. AGRA:

AGRA has been promoting about 63 private enterprises in rice seed production and marketing in several CARD member countries through its Program for Africa's Seed Systems (PASS). AGRA also supports rice breeding programs through which about 87 varieties have been released in various countries. By providing support for acquiring PhD and MSc degree programs, AGRA has also helped in building technical capacities of rice research and development in CARD member countries.

## 6.4. FAO:

FAO actively supports the development of rice sector in several of the CARD member countries through the following projects/programs: -

- Partnership for Sustainable Rice System Development in Sub-Saharan Africa -Develop Sustainable and Productive rice systems in Africa (PARDA) to increase food security and enhance sustainable development of rice food chain among the smallholder farmers in Benin, Cameroon, Cote d' Ivoire, Guinea (Conarky), Kenya, Mali, Nigeria, Senegal and Tanzania
- Strengthening Agriculture Statistics and Food Security Information CARD countries through South
  South Cooperation to improve capacity of CARD countries on timely collection and sharing of reliable
  statistics on rice planted areas and/or yield by drawing expertise and experience of ASEAN and
  AfricaRice, under the FAO's South-South Cooperation (SSC) scheme
- Capacity Development and Experience Sharing for Sustainable Rice Value Chain Development in Africa through South-South Cooperation in Burkina Faso, Côte d'Ivoire, Nigeria
- Development of efficient and inclusive rice value chains in Guinea Conakry, Guinea B. Senegal and Cote d' Ivoire
- Technical Cooperation Programs in the development of rice value chain segments such as seed production, extension and policies

## 6.5. FARA:

Under its continent-wide support projects, FARA has been contributing to rice sector development through the following interventions: -

 Innovation platforms for rice research for development in Ghana, Mali, Zambia, Kenya, Mozambique, and Nigeria. The knowledge generated is currently streamed in to contribute to the development of the countries National Agriculture and Food Security Investment Plans (NAFSIPs) and other policy instruments.

- Under the Science Agenda for Africa Agriculture (S<sub>3</sub>A), FARA is assisting the development of business proposals in rice sector in 5 CARD member countries. Implementation of these proposals in these countries will use the innovation platform to ensure productivity growth and sustainable livelihood.
- Rice is also a major commodity under the project on Technologies for Africa Agricultural Transformation (TAAT) in several countries. The implementation of actions will use the agricultural innovation platform, and are expected to produce measurable impact at the lower stakeholders' level along the rice value chain.
- Through the rice mechanization platform FARA is fostering the integration of the machines that are suitable for the smallholder rice production systems.

#### 6.6. IFAD:

IFAD supports rice-related development projects in several CARD member countries through its country specific investment strategy. Where the country government has prioritized rice under IFAD's portfolio, IFAD projects cover the entire rice value chain. By leveraging its investments on those segments of the rice value chain that would have greater benefits to larger segment of rural poor people (women, men, youth and indigenous people) in the context of rural transformation pathways, IFAD supports NRDS implementation.

## 6.7. IRRI:

IRRI has been contributing to rice research for development in several CARD member countries. Major contributions of IRRI includes the following: -

- Using modern techniques, IRRI has shortened the breeding cycles so as to speed up the varietal development
- Major rice pathogens (BB, RYMV, Sheath blight, sheath rot complex) were isolated and characterized
- Five new rice varieties have been identified for release (2 in Tanzania and 3 in Kenya)
- Variety-specific agronomic management packages are being developed in Tanzania and Mozambique for irrigated and rainfed ecosystems and rice-legume compatible cropping systems in rainfed areas
- Quality of rice seeds collected from formal and informal sources was assessed and strategies to improve seed quality along the seed chain, together with new rice seed models that accelerate adoption of improved varieties are being proposed
- Trained 49 researchers and technicians from the 23 CARD member countries and trained about 1770 farmers through farmers' field schools on paddy and seed production and processing in the region

## 6.8. JICA:

JICA has been a staunch supporter of CARD activities in all its member countries. Besides its assistance through various bilateral technical cooperation projects, grant aid and ODA loan; JICA also facilitated the following activities in CARD member countries: -

- Training opportunities in Japan and other countries in Asia and Africa for capacity development in rice sector
- PhD/Master programs in collaboration with Japanese universities for further contribution of capacity development of young leaders
- Enhancement of private sector participation through PPP scheme under JICA
- Enabling Japanese agricultural machinery manufacturers to enter into African market and to promote further mechanization
- Expansion of ODA loan operations in rice sector through either single loan or co-financing with multilateral development banks

# 6.9. JIRCAS:

JIRCAS has continued its contributions to the achievement of the overall goal of the CARD initiative through its 'Food Security in Africa' project. The major interventions include programs on (a) breeding for improving traits such as the tolerance to mineral deficiencies, (b) water management technology development and dissemination, (c) socio-economic analyses on the adoption of technologies by farmers in CARD member countries.

# "RICE approach"

(1)  $\mathbf{R}$  esilience : Stability of production to cope with the climate change and the population growth

(2) Industrialization : Promotion of the local industry in collaboration with the private sector
 (3) Competitiveness : Enhanced quality of the domestic rice against the imported produce

(4) **E**mpowerment: Promotion of the farming systems for better livelihood and welfare of the end beneficiaries

Approach	Subjects
(1)Resilience	✓ Irrigation and low land development
	✓ Development and distribution of appropriate varieties
	✓ Cultivation techniques in each agro-ecological zone
	✓ Optimized production at suitable areas
	✓ Regional trade though Reginal Economic Communities (RECs)
(2)Industrialization	✓ Milling and farming machineries
	✓ Market access (domestic/regional)
	✓ Public private dialogues
	✓ Enabling environment for investment for the private sector
(3)Competitiveness	✓ High quality seeds
	✓ Post-harvest techniques
	✓ Enhancement of the private sector performance
(4)Empowerment	✓ Improvement of the land and labor productivity
	✓ Income and nutrition improvement of farmers
	✓ Farming credit system
	<ul> <li>✓ Gender consideration</li> </ul>

# **CARD RICE Matrix**

Subjects	Contribution by CARD Steering Committee Members						
	JICA -Example	SC1	SC2	SC3			
(0) Policy and Capacity Development							
NRDS support and knowledge sharing	Coordinator for CARD Secretariat						
	Research for rice industry development						
Human resource development	PhD program in Japan						
	south-south cooperation (training)						
(1) Resilience							
Irrigation and low land development	Master plan development						
Variety improvement for climate change adaptation	Breeding						
Appropriate cultivation techniques	Development of technical manuals						
(2) Industrialization							
(2) Industrialization	Value shaire shorts			I			
Industrial policy development	Value chain study						
Smooth distribution domestically and regionally	Construction of access road						
Farm mechanization	Provide post-harvest facilities						

Financial access for business partners	-		
(3) Competitiveness			
High quality seeds	Development of seed		
a. quanty sooss	production manuals		
Milling and marketing distributers	Training of service provider		
Willing and marketing distributers	Training of service provider		
Food safety	-		
(4) Empowerment			
Farming system	Field demonstration of farming system		
Capacity building of extension officers and farmers	Training of extension officers and farmers		
and farmers	and larmers		
Credit system for farmers	-	 	