

RIU-NIGERIA

Annual Report – New format

For each of the main outputs in your country programme please answer the following questions concisely:

- i) Why are you working on/facilitating this innovation experience?
- **CASSAVA** - **Uptake of a cassava mosaic disease-resistant and high-yield variety by farmers:** CMD attacks cassava fields, limits on-farm productivity and reduces food security of about 2 million small-holder farmers whose livelihoods are tied to the crop. Wide-spread adoption of CMD-resistant varieties through the RIU-assisted Cassava Innovation Platform will directly boost the farm productivity of about 600,000 small-holder farming households and propel cottage commercial activities related to post-harvest value addition and diversification of applications.
 - **COWPEA/SOYBEAN** - **(1) Uptake of dual-purpose medium-maturing varieties; (2) Solarisation with triple bagging; (3) efficient management of crop residues for livestock feeding (4) rust-resistant soybean variety:** Nigeria is the largest producer of cowpea in West Africa. The dual purpose medium maturing cowpea variety is high-yielding and has rich forage which is used for livestock feeding during the dry season when pastures are scarce. It matures early and therefore is more suitable given unpredictable rainfall cycles. Solarisation with triple bagging prevents post-harvest losses of cowpea due to weevil infestation in storage. Farmers and marketers can lose 100% of improperly stored cowpea. Rust-resistant soybean variety addresses the problem of rust in soybean plant (leading to poor photosynthesis and low yield) caused by high humidity. Soybean is a high-value raw material in the livestock feed sector.
 - **AQUACULTURE** - **Linkage of fish farmers to authentic input and service providers; integrated aquaculture-horticulture; improved fish farm management practices; building capacity for local production of fish feed:** Aquaculture has replaced poultry as the fastest and most widespread small-scale investment with high potentials in Nigeria. But limited access to authentic inputs and services has hampered the growth of the sector. Waste water from fish ponds is rich in nutrients useful in soil maintenance and horticulture for income generation, hence the need for skills development in integrating fish farming and vegetable farming activities. It emphasizes recycling of environmental resource.
- ii) What is your role (what do you mainly do) and how has this changed development(s)?
- **CASSAVA:** RIU-Nigeria's role involves facilitating linkage between cassava farming households and resource organizations with cassava mandate e.g. the International Institute of Tropical Agriculture (IITA) through its cassava station in southeast Nigeria, and the National Root Crop Research Institute (NRCRI), the Federal Institute for Industrial Research (FIRO); building capacity through training and technical assistance with selected cassava farmers and processors associations, to promote commercial cultivation and adoption of CMD-resistant & high-yield varieties and diverse post-harvest options for value addition.
 - **COWPEA/SOYBEAN:** RIU-Nigeria's role involves facilitating linkages between cowpea/soybean farmers, farmer associations involved in cowpea/soybean marketing, resource organisations, non-governmental organisations, communities, private partners, financial institutions and research institutions – National Animal Production Research Institute (NAPRI), Institute of Agricultural Research (IAR), Nigerian Institute for Stored Product Research (NISPRI), Nigerian Agricultural Extension Research, and Liaison Services (NAERLS). Build capacity through training and technical assistance with selected cowpea/soybean farmers, linkage to input providers, and processors associations, promote access to dual purpose cowpea and rust resistant soybean varieties, facilitate uptake of

triple bag cowpea storage technique and facilitate the uptake of better crop residue storage technology (baling).

- **AQUACULTURE:** RIU-Nigeria's role involves facilitating linkages between fish farmers, farmer associations involved in fish processing and marketing, resource organisations, non-governmental organisations, communities, private partners, financial institutions and research institutions – National Institute for Oceanography and Marine Research (NIOMR), Nigerian Institute of Freshwater Fisheries Research (NIFFR), Nigerian Institute for Stored Product Research (NISPRI), Federal Institute of Industrial Research (FIRO). Build capacity through training and technical assistance with selected fish farmers on appropriate management practices in fish farming, linkage to authentic input and service providers, processors associations, promote access to genuine source of fingerlings and brood stock, facilitate uptake of aquaculture/horticulture integration.

iii) What is driving the innovation (market, project, policy change, etc)?

- **CASSAVA:** The innovation process is driven by a mix of farmers' demand for improved cassava varieties, capacity-building on agronomic management and post harvest processing, market opportunities, and policy responses.
- **COWPEA/SOYBEAN:** The innovation process is driven by farmers' demand for improved dual purpose, high yielding cowpea and rust resistant soybean varieties, improved storage technique and better crop residue management, capacity-building on appropriate agronomic practices, market opportunities, and policy responses.
- **AQUACULTURE:** The innovation process is driven by farmers' demand for authentic inputs and technical services; fish farm management skills; methods of maximising the use of resources e.g. water; high-quality affordable local fish feed; consumer market opportunities, and policy interest in growing the aquaculture sector.

iv) What forms of partnership are involved and what is their significance in respect of the outcomes thus far?

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Partnerships involve both horizontal and vertical networking amongst diverse members of IP value chains, self-managed by the members. Occupational associations represented at the IP serve as channels for out-scaling of innovation. Significance includes members having a sense of ownership in the outcomes of their effort, and the multi-stakeholder networking (MSN) approach is sustainable.

v) What is different/special about the way partners interact and how is this evolving over time?

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Unlike in the traditional agricultural extension approach, the MSN approach allows for collective decision-making processes, negotiations and greater accountability. The power of collective agency is emerging.

vi) Are there any special ways of working required/evolving that will allow the innovation to be achieved?

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** NO, but there will be adjustments as issues emerge, although within the country strategy and work plan

vii) Who are the key players and why are they important – and how are key players and their respective roles evolving?

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** The key players in each IP are farmer groups, research institutions, financial institutions, post-harvest processors, copwpea/soybean marketers, technology fabricators, and other development assistance organizations. Each stakeholder group is important because the value chain commercial activities feed into each other and there is mutual benefit from sector-wide growth through innovation
- viii) Is there an innovation champion or coordinator?
- **CASSAVA AND COWPEA/SOYBEAN:** There are groups of lead adopters whose farms serve dual purposes (e.g. as outgrowers and demonstration and training facility. For aquaculture, there are breeders, fish feed producers, technical services providers, mandated research institutes and the federal department of fisheries who are championing innovation.
- ix) What strategies are in place to link local innovation activities to the wider economic and policy environment?
- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** By collaborating with occupational associations, resource organizations and policymakers, there will be greater diffusion of innovation activities.
- x) What strategies are used to ensure inclusiveness of stakeholders and opinions – particularly the poor?
- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Stakeholder groups within each value chain comprise of peers and there is no top-down relationship. Membership is voluntary and not static as there is free entry and exit, depending on interest. Effort was made to include women's organizations among the occupational groups.
- xi) What have been the unexpected outcomes thus far, and what was/is their significance?
- **CASSAVA:** Unexpectedly, the cassava IP members switched from production of high-quality cassava flour for industries (e.g. flour mills) to cottage production of starch and odourless fufu for the local market and potential export. This happened because of the flooding of local market by imported wheat flour (owing to collapse of the policy directive on cassava flour composition), thereby creating a glut in cassava flour market.
 - **COWPEA/SOYBEAN:** Ready acceptance of triple bagging method of cowpea storage, backed by willingness to pay for the bags despite the higher cost of the bags relative to other bagging options previously used by the farmers and marketers. Demand for the triple bags has outpaced the local private sector-led production of the bags.
 - **AQUACULTURE:** Data from fish breeders indicate a high demand for fingerlings from authentic sources even at higher prices. Despite high costs of imported fish feed and urgent need for locally produced fish feed of comparable quality to the imports, each of the mandated research institutes have pursued individual research without collaborating or sharing information with each other. But they responded with great enthusiasm when RIU-Nigeria floated the initiative to jointly address the fish feed challenge.
- xii) What strategies/mechanisms are used to learn, adjust and refocus during the innovation experience?

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Periodic reports, meetings, feedback from multiple sources, and reactions to market conditions by IP members are means of learning and adjusting the experience.
- xiii) What have been the main lessons learned thus far and how has this influenced your way of working and the innovation experience?
- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Innovation diffusion is more enhanced if IP membership is composed of representatives of associations rather than individual entities; bringing together IP members enhances access to market information, increases business opportunity, and enables value chain actors to respond to market preferences; an enabling policy environment is crucial to the commercial viability and growth of the value chain and its related activities; inter-ministerial collaboration is necessary for consistent policy messaging and enforcement. Private sector-led extension can succeed.
- xiv) To what extent is the innovation experience influenced by/ dependent upon the political environment and how are you dealing with this?
- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Political instability, policy inconsistency and lack of continuity of government programmes and policies are part of the Nigerian environment. Dealing with these involves focusing more on local, small-holder livelihoods which are more resilient and stable over time. However, there potential to grow is ultimately dependent on improvement in the broader context.
- xv) What new skills and knowledge are emerging as a result of your work?
- **CASSAVA:** Production of starch and odourless fufu from cassava; commercial cultivation of cassava as opposed to subsistence cultivation; cropping of single varieties in response to specific market outlets.
 - **COWPEA/SOYBEAN:** Rust-resistant soybean variety introduced in humid areas has effectively sensitized farmers in the locality about the need to innovate. Hence, an increased demand for the variety against next planting season.
 - **AQUACULTURE:** New knowledge and skills have been imparted to farmers on improved farm management practices, integrated aquaculture-horticulture, hatchery operations, post-harvest processing, export opportunities and requirements.
- xvi) What indicators quantify the social and economic changes occurring through your activities in this innovation experience?
- **CASSAVA:** Number of direct participating farmers; number of local government areas covered; size of fields cultivated; quantity of cassava cuttings traded and planted per season; quantity of cassava tubers harvested; quantity of starch and odourless fufu produced.
 - **COWPEA/SOYBEAN:** Direct participating farmers in RIU-assisted IP; number of local government areas covered; number of farmer organizations involved and their membership numbers; communities involved; naira value of traded cowpea/soybean by direct participating farmers or traders; length of cowpea storage relative to period before triple bagging; reported number of incidents of public health hazards resulting from consumption of chemically-preserved cowpea; naira value of cowpea lost in storage due to weevil infestation relative to pre-intervention year.
- xvii) Formulate a statement that builds plausible connections between your activities and the indicators identified under (xvi), to substantiate – in hard figures – the scale of the impact, and indicate how you expect this to evolve over time.

- **CASSAVA, COWPEA/SOYBEAN & AQUACULTURE:** Collaborating with mandated research institutions and ADPs in facilitating uptake of innovations in each crop sector, with the participation of outgrowers, subsistence farmers and post-harvest processors, makes it possible to track direct impact. The direct impact numbers in the cassava and cowpea/soybean sectors are expected to triple in the 2010-2011 period based on the results produced in 2009-2010 period. Projected indirect social and economic impact at scale at scale.