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Meeting the needs of clients in research: A preliminary overview of NARO experiences

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Abstract

With the current government emphasis on increased productivity and poverty eradication through the policies of decentralisation, liberalisation commercialisation and private sector involvement, NARO had to realign its strategic direction. Arising from the strategy and Medium term Plan was the need to respond to needs of farmers and other key stakeholders. The strategy of decentralisation of research services was identified as key in involving clients as equal partners. The other one was the need to avail research outputs to intermediary organisations, service providers and selected end-users (uptake pathways). In an effort to provide high quality, relevant and effective research outputs, NARO is strengthening its adaptive research by involving Farmer Research Groups (FRGs) and having location specific research based on the needs of clients. It is also forging linkages and partnerships as well as encouraging networking.

Preliminary indications of core elements for successfully meeting the clients needs seem to include community mobilisation and action, partnership between researchers, farmers and extensionists, voluntary participation, active feedback from clients, and blending scientific ideas with farmers' own knowledge and practices. Farmers' active participation in monitoring and analysing of the changes as well as sharing experiences among themselves had a positive contribution. There are however, possible challenges from attitudes by all stakeholders at individual, institutional and organisational levels. This calls for a well managed transition to a new paradigm. The incentives particularly in terms of improved livelihoods seem to be low for farmers to actively participate in the process.

Key words: *Decentralisation, participatory approaches, uptake pathways, service providers, partnerships, attitudes, farmer innovativeness, research outputs, paradigm, mutual learning.*

Background

Since the beginning of agricultural development in the country, technology generation has been the prerogative of public research institutions. When new technologies were developed, they were passed over to the extension department of the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) who was supposed to pass it on to farmers, the so called "top-down" approach (Otim-Nape, 2000). There was limited involvement of farmers and extensionists in development and evaluation of technology. Similarly technology needs of farmers were apparently poorly identified and addressed. Consequently there has been widespread public perception that the benefits of research have not had much impact on the rural farmers to enable them earn sustainable livelihoods.

In the past 4-5 years there have been major changes in government policies and strategies. These are contained in the Vision 2025, Poverty Eradication Action Plan (PEAP) and the Plan for Modernization of Agriculture (PMA). The focus of the government policies is poverty eradication. There is renewed emphasis on accelerating the transformation of the agricultural sector from subsistence to semi-commercial and eventually to commercial. As a result, NARO has re-aligned her strategies to meet the new challenges. To arrive at this, it undertook extensive consultations with key stakeholders at district, zonal and district levels with a focus to develop and avail high quality, relevant and

effective technologies, methods, practices, skills and knowledge that will be a major force in reducing rural poverty.

These consultations culminated into two NARO documents viz: "Facing the challenges for the Modernisation of Agriculture: A strategy for 2000 – 2010" and "Responding to research challenges for the Modernisation of Agriculture; the Medium Term Plan 2001-2005". These two documents charted out NARO's path for the next 5-10 years as a response to and in conformity with the current government policies and strategies.

In its Strategy and the Medium Term Plan (MTP), NARO identified the strategic challenges facing research namely; improving the relevance, effectiveness and flow of technologies; forging partnership and broadening participation in agricultural research and availing technologies, incorporating gender, environmental concerns and aiding commercialization of agriculture. The organisation strengthened its outreach program as a strategic direction to overcome these challenges and to enhance relevance and impact of research on the modernization of agriculture and poverty eradication.

Conditions and processes that have led to the re-thinking of strategies for technology generation and technology transfer

On the policy side, the current government strategies focus assistance to the economically active poor farmers to increase agricultural production while maintaining or improving the natural resource base. Due to liberalisation and privatisation there is now reduced scope of public service provision. There is also deepening decentralisation, cost sharing and contracting out services. Yet there have been weaknesses associated with this process due to private sector input and output market failures arising from lack of institutional and infrastructural support (Anonymous, 2000). The development process in Uganda now consciously emphasizes the need to proactively include the vulnerable members of the society (women, youth, sick, people with disabilities). It has further been argued that participation of clients in activities that affect them improves efficiency, effectiveness, self-reliance, coverage and sustainability. It also reduces powerlessness and gives positive freedom by realignment of political power in rural areas (Oakley, 1995).

In the research arena there is a paradigm shift towards client-oriented participatory research and development. There is a feeling that the past support given to research and extension services has not yielded new livelihood opportunities for the rural poor. Several decades of development assistance demonstrate that it is difficult to maintain significant momentum in modernising agriculture with prescriptive top-down approaches that use subsidies and handouts to promote change. This implies the need to adopt technological solutions which are knowledge and labour intensive rather than relying on high seasonal use of external inputs. This implies the need for capacity of cooperation among farmers involved with the resource in question.

Public sector research and extension cannot cope with the huge need for adaptive research required to provide farmers with fail-safe recommendations. They are forced to resort to blanket recommendations that are often inappropriate for the variable conditions that prevail on small farms. Moreover the culture of dependency created by top-down approaches destroys the social "immune system" based on local inventiveness, entrepreneurship and self-help that traditionally motivated farmers to develop their own strategies against risk (NARO, CIAT, 2001).

There are now new participatory approaches that have been developed that help to reverse passive dependency and can rejuvenate local capacity to innovate in agriculture. These approaches include teaching and learning processes such as farmer field schools and mutual learning processes which stimulate contextual, experimental and social learning. Involvement of farmers in problem definition and in the formulation and testing of solutions is aimed at improving the quality, relevance and effectiveness of formal research. Moreover adoption is now seen as an active process with elements of adoption itself. The potential of technological development based on science-aided indigenous knowledge is also now recognised.

NARO's strategy to meeting clients needs and expectations

The PMA envisages the reduction of poverty through a profitable, sustainable and dynamic agricultural and agro-industrial sector (MAAIF, MFPED, 2000). This would be achieved by having a farmer-responsive agricultural research system in place that generates and disseminates profitable and environmentally friendly technologies on a sustainable basis. The challenge for NARO is to enhance its ability and capacity to provide effective, relevant and farmer-relevant research services to its clients.

NARO is a major producer and caretaker of knowledge and materials that collectively offer the greatest hope for sustainable improvements in agricultural productivity, value addition and incomes. In an effort to meet clients' expectations in research and development, NARO is pursuing the following which are consistent with its mandate and capacities:

- Empowering clients, particularly resource poor farm families, to make effective demands for its services, directly and via agricultural service providers, and to rapidly respond to these requests;
- Increasing the quality, relevance and effectiveness of its research
- Improving the flows of knowledge and information

between and among NARO units, agricultural service providers, research partners, commercial entities and farm families.

At its inception in 1992, NARO recognised a need for a close research-farmer-extension linkage. To this end it created a Research-Extension-Liaison Unit (RELU) at its secretariat with key contact officers at the research institutes. Additionally, each institute had a programme of outreach activities. In 1999, NARO in response to the new challenges decided to strengthen its outreach and partnership activities. As part of efforts to realise this, in consultation with a range of stakeholders, NARO developed a set of strategies that are assisting it to meet the client's needs and expectations. These include decentralization of research services; availing research outputs to uptake pathways; improving the quality, relevance and coverage of research and forging linkages, networking and partnerships.

Decentralization of research services

In line with government's decentralization policy, NARO has decentralized its services to the major agro-ecological zones (AEZ) in the country and taken research services nearer to farmers. NARO is posting small teams of researchers to each of the major AEZs to serve as nodes for adaptive research and conduits for technology and information (including indigenous knowledge) flows among and between NARO units and clients. The teams will enable NARO to more effectively address location specific constraints, opportunities and system interactions in agriculture and natural resource management. The teams will seek to widen the participation of farmers, providers of agricultural services and other stakeholders in adaptive research and dissemination of improved technologies and information.

The zonal research teams will serve as mechanisms by which the requirements of farmers and other clients throughout the country are communicated to researchers who will generate knowledge and technologies to address the requirements. The team members as well as farmers have the opportunity to participate in the design and implementation of selected research projects that address zonal priorities. The zonal teams will primarily operate in the field with partner organizations and Community based organizations (CBOs) but have been given some facilities. NARO has established Agricultural Research and Development Centers (ARDCs) in each of the major AEZ making use of the facilities of selected Districts Farm Institutes.

The zonal research teams are decentralized arms of NARO and have sufficient autonomy to address the needs of the AEZs. They are responsible for the development and implementation of zonal programmes in consultation with stakeholders in each zone. A focal point of stakeholder consultation is the Zonal Steering Committee (ZSC) made up of key stakeholders from the districts served by each team. The selection process for membership in the ZSC gives adequate attention to the diversity within each zone and ensures that resource poor farm families are adequately represented via farmers, local authorities, Non-governmental organizations (NGOs), and CBOs.

The ZSC will be empowered and fully responsible for making decisions on zonal programmes and activities and for the oversight of their centers. The committees will be very much involved in the planning and decisions regarding facilities as well as on the programmes of each team. They will also be charged with the responsibility to mobilize funds to partially support each team's programmes and thus improve prospects for sustainability.

These powers and responsibilities give expression to NARO's policy of decentralization and are intended to cultivate a spirit of ownership and promote participation of clients and partner organizations in research, development and dissemination of technologies. It is expected that in the long run, stakeholders will assume increasing ownership, management, operational and funding responsibilities for ARDCs and the zonal teams.

NARO's outreach initiative will contribute to the government's policy of liberalization by working with a plurality of service providers. This will primarily be aimed at empowering stakeholders particularly farmers and service providers to participate in prioritization of their needs, implementation and evaluation of research. This will enhance the effectiveness of intermediary organizations and farmer groups in meeting the knowledge and technology needs of clients. This will also shift research from being a supply-driven to a demand-driven service by improving farmers' ability to make demands on agricultural service providers.

Availing research outputs to uptake pathways

Public and private sector agricultural service providers are operating in virtually every district of the country. These agencies have existing programmes that commonly involve promotional activities aimed at increasing agricultural productivity and incomes. Many of these specifically target the poor, notably the programmes of NGOs. NARO's specific area of comparative advantage lies in providing information and skills on practices and methods by which producers can select and test technologies. Farmers, CBOs and service providers will be the primary participants in carrying out these activities with backstopping assistance from NARO, extension service providers and research partners, directly and via intermediaries. The zonal research teams will help in one or more of several ways, including information on specific practices, training, on-farm trials, surveys and advisory assistance. The modalities of assistance to service providers will be worked out through discussion and where necessary the results will be formalized in partnership agreement.

Service providers utilize a variety of approaches that are more or less amenable to farmer selection and testing of improved practices. Outreach teams are working with service providers to enhance their capacities as well as those of their farmer groups to effectively utilize specific Farmer Participatory Research (FPR) approaches. The experience of the Vvumba Women's Group in Luwero District illustrates one possible approach to FPR (NARO, 2001b). In addition to serving as a source of information on the range of agricultural practices, the zonal based research teams will provide advice and training on FPR methods.

Improving the quality, relevance and effectiveness of research

Each of the agricultural production systems in Uganda has different constraints, opportunities and interactions. The research teams will carry out joint planning, implementation and monitoring of activities at the zonal level. Feedback from these activities as well as from other components of the zonal programs, will be sought and taken into account in priority setting and planning at institute and zonal levels. Research on cross-cutting and systems level issues will be carried out. This will provide the context in which research activities will be designed and assessed.

Priority is given to activities that effectively reach poor and vulnerable categories of the farming community including HIV/AIDS affected households/ communities. The adaptation and demonstration of improved technologies will target farmers according to gender roles and categories with the purpose of alleviating drudgery and increasing productivity. Communication and information flow will take into account the most appropriate channels that access the poor. The management of the natural resources for sustaining productivity at system and agro-ecological levels will be emphasized. Programs to enhance the capacity of NARO and partner organisations' staff to monitor and assess the impact of disseminated technologies as well as take mitigation measures where appropriate will be organised.

Forging linkages, networking and partnerships

NARO as a development partner subscribes to the research and development continuum. It therefore takes a proactive role in identifying, facilitating and catalyzing opportunities for greater adoption and impact. It recognizes it has limited human, financial and physical research resources. At the same time there are many players in the field of agricultural development. NARO is actively seeking and developing partnership linkages with various stakeholders and service providers (NARO, 2001a). This will improve the quality and flow of information to farmers as well as helping NARO adjust its research activities to farmers' priorities and needs. Partnerships will also serve to mobilize resources and better coordinate agriculture development efforts in the country.

The form and purposes of partnership arrangements are guided by the specific purposes to be achieved jointly by NARO and its potential partners. However, the form of the partnership could be strategic, contractual or facilitating. A number of partners for both downstream and upstream linkages have been identified such as NGOs, CBOs, extension service providers, NAADS, IARCS, regional research and development networks as well as Universities.

Preliminary indications of elements required in addressing clients needs and expectations in research

NARO has in the past few years had experiences and plausible successes working with farmers' communities for example in South Ibanda in Mbarara, Vvumba in Luwero and Wakisi, Kawolo and Ngoma in Mukono districts (Boxes 1-3). Some of the core elements that could have contributed to the positive changes are discussed.

Enhanced community mobilisation for planning and action seems to have contributed to positive achievements realised by the groups. Some of the target communities were already mobilised by the political and local leaders for example the Ibanda Banana Growers Association (IBGA). While others were specifically mobilised to receive support like in Kawolo, Wakisi and Goma in Mukono districts. The issues being addressed were identified by farmers at the grassroots (bottom-up) and roles were stipulated among the key players. This gave a more or less equal partnership between farmers, researchers and extensionists to learn from each other. To some extent, efforts aimed at increasing farmers' influence on the research process are beginning to bear fruit. With IBGA it was in effect a demand-driven process while with Mukono it was at the invitation of research. This could have additionally strengthened farmers' problem solving, planning and management abilities.

Giving farmers a say and an active voluntary role in activities that affected their livelihoods, could have boosted their morale and self-worth. This could have heightened their courage and curiosity to try out new things. A hands-on approach could have further helped to promote farmers' capacity to adapt and develop new and appropriate technologies and innovations. It is also possible that the increased interest could have been due to anticipated immediate material benefits. It is however hoped that as they begin to see beyond imagined or real immediate benefits their vision could become bigger thereby triggering a thirst for more participatory involvement.

It is recognised that most of the farmers were already growing the intervention crops but had faced challenges of decreasing productivity. They possessed their own expertise like which cassava crop phenology was

appropriate for intercropping and ergonomically good for weeding. They also gave a feedback on the preferred tuber shape in the fresh root tuber market. By learning through experimentation, building on their own knowledge and practices (IK) and blending them with new ideas they made a tremendous contribution to cassava research. To a great extent their values, preferences and criteria has greatly re-shaped the research priorities on cassava improvement.

Farmers participated in the evaluation of the activities. They monitored by cross-site visits and assessing the performance of the interventions. As a result they are now demanding for more technology options to try out. Consequently they have been introduced to new improved bean and potato varieties as well new tick control technologies. They are for example demanding for training in improved potato production. They are open and seem to freely share new experiences with other farmers. Fellow farmers may trust their fellow farmers and take the information. It could however lead to social disharmony if jealousies and rivalries creep in and hence the need to facilitate the groups with conflict resolution skills. In Vvumba they are not only involved in training other farmers but are also training the future farmers of Uganda (Students). It is possible that if this process is not well facilitated technically it could lead to distorted and conflicting messages.

The other interesting aspect is that farmers in different wealth categories work in a complementary way. For example the better off are able to avail land for Community based technology trial sites (CBTTS) at no cost . This may be contributing to equitable development through negotiation of interests among groups and giving space to the poor and marginalised in decision-making. This could particularly be relevant with interventions with income generating prospects especially using strategic entry points like new crop varieties.

Possible challenges to strategies aimed at meeting clients needs

A difficulty in harmonising attitudes in the areas of integration, sharing of a common vision, different working habits, equity values and unequal facilitation could jeopardise the envisaged strategies. Involvement of other stakeholders requires that they be prepared for some of the risks associated with failures and disappointments while trying things out. It will also depend on the amount of social capital one can command as well as the ability to weather conflicts. The different levels of empowerment of the various clients could also present difficulties.

The strategies aimed at meeting the clients' needs andexpectations could infringe on the current institutional and organisational culture as well as tamper with vested interests with respect to power and access

Box 1: South Ibanda Banana Growers Association in Mbarara district:

- About 2 years old
- Currently has >100 community groups
- 1600 banana plantations rehabilitated
- No. of bunches has increased from 0-10 to 20-30 per acre.
- Bunch price has increased from Sh. 500= to Sh. 2000-2500=.
- Asked and received Victoria variety of Potato and K132 of beans.

Source: Mbarara ARDC report, 2001

Box 2: Vvumba women's group in Luwero District:

- 12 Community based technology transfer centres.
- Seed multiplication and sale leading to Construction of "cassava houses".
- Farmers training fellow farmers and School children (future farmers of Uganda).
- Farmers field days held.
- Actively involved in on-station and on-farm Participatory breeding (variety selection).
- Influenced cassava selection criteria e.g tuber shape in relation to market preference, root tuber taste, branching characteristic in relation to weeding, branching height in relation to intercropping.

Source: Chairperson of Vvumba Women's Group during field visit, June,2001.

Box 3 : Kawolo, Wakisi and Goma in Mukono district:

- Operating in the sub-counties of Kawolo, Wakisi and Goma.
- About 1 year old
- Banana bunch weight increased from 6-10 kg to 21-30 kg
- Before, 33 % of households would eat matooke > 3 times a week, now > 50 % eat 6-10 times a week.
- Before, 33 % were selling matooke, now 50 % do sell.
- Before, average number of weevils per stool was 10, now 76 % have below 7 per stool.

Source: Mukono ARDC quarterly report, 2001

to funding. On a national level it could have implications on vested economic and political interests especially in the areas of liberalisation, private sector involvement, deepening decentralisation and bottom-up planning processes. The extent to which this is actually so and how these changes are managed at institutional and organisational levels could affect the extent to which research activities are driven by clients. In particular there is a likelihood that community interests could be at variance with the nature and legitimacy of state institutions.

The other possible drawback is the underlying assumptions like a functioning private sector input supply and output/marketing sector. Currently these are straggling and are still weak particularly the marketing sector where farmers receive pitiful farm-gate prices with the middlemen taking a lions share of the profits. This undermines the farmers will for investing in improved technologies thus acting as a great disincentive to farmer initiative and innovativeness.

To realise the need to meet clients expectations involves a myriad of stakeholders not only because the target clients are many and complex but also because the solutions are equally complex and intertwined. This calls for a new way of thinking and working, in effect embracing a new paradigm. The actors' skills, educational background and belief in the development relevance of client-oriented participatory agricultural research and extension approaches will be crucial in the success of the new experiments and approaches.

Conclusion

Recent changes in government policy in agricultural development and research approaches to technology generation and dissemination have posed strategic challenges to NARO. NARO has reacted positively by re-visiting its institutional and organisational management as well as its strategic direction in an effort to remain relevant and responsive to the needs of producers and consumers (clients). NARO has adjusted its research planning and implementation processes by involving key stakeholders as equal partners. From the discussion it is apparent that there are some core elements that must be in place for this process to succeed. The need for farmers to work together among themselves while being supported by agricultural service providers (extension, research, stockists) for a common destiny seems to be crucial. This would be helpful in sharing and initiating new ideas. Increasingly there is evidence that the needs of clients can guide and even determine the research priorities and direction. These changes seem to promise to yield some positive results initially at the community/group level.

However this process could be wrought with "landmines" if not well planned for and managed well. It is possible that it will inevitably lead to changes in work ethics and deeply rooted cultures in institutions and organisations participating in the agricultural transformation in Uganda including the dependency syndrome among farmers. The extent to which the different stakeholders are facilitated (technically, materially) to handle the new of way doing business will influence the future level of success in meeting the needs of clients in research.

References

Anonymous, 2000: Poor farmers and agricultural change in East and Southern Africa.

MAAIF and MFPED,2000: Plan for Modernisation of Agriculture: Eradicating Poverty in Uganda. "Government Strategy and Operational Framework". Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Ministry of Finance, Planning and Economic Development (MFPED). August 2000.

NARO, 2000: A strategy for 2000-2010. Facing the challenges for the modernisation of Agriculture, National Agricultural Research Organisation, Uganda, May 2000.

NARO,2001. Medium Term Plan 2001-2005: Responding to Research Challenges for the Modernisation of Agriculture. NationalAgricultural Research Organisation, Entebbe, Uganda,Feb.2001.

NARO, 2001a: Prospects for NARO-NGO partnerships in
strengthening Research-Extension Linkages for NARO:
A preliminary*Assessment and Proposal for a preparatory Phase prepared by R. Khandelwal and P. Padde.*

NARO, 2001b. Outreach and Partnership Initiative: A strategy for Decentralisation and Mutual Institutional Learning National Agricultural Research Organisation, Entebbe, Uganda, Working paper No.1, October, 2001.

NARO, CIAT, 2001: A concept note on "investment in rural innovation and enterprise development to build new livelihood opportunities for the poor in competitive, high value,ecological agriculture". 3 pp.

Oakley P. 1995: People's participation in development projects. Occasional papers series number 7. The International NGO trainingand research centre. 27 pp

Otim-Nape, G.W. 2000: Dealing with the issues of our time: Improving the system for agricultural technology dissemination and transfer in Uganda. Unpublished paper.