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Comparing the processes used for assessing farmers' demand for research and advisory services

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Abstract

The public extension system in Uganda is currently undergoing a transition towards a demand-driven one, with private sector involvement in service delivery, and in the future possibly funding as well. There is a concern that poor farmers' needs are not sufficiently addressed by NAADS, because (1) they are not adequately represented in farmer groups and fora, (2) even if represented, they do not influence priority setting, and (3) the need identification criteria indirectly discriminate against the poor. The NAADS approach is dynamic and lessons are still being learnt which might be relevant for NARS. A study carried out in eight villages (four sub-counties) in Arua and Tororo districts analysed the demand assessment procedures used by NAADS and emerging farmer demands for advisory services for inclusion of the poor, participation, transparency, alignment of farmers' criteria with NAADS criteria, and extent to which cross-cutting issues are addressed. Wealth grouping was used to stratify village households along villager-defined wealth groups. Initial findings show that in the two districts participation in NAADS groups is skewed towards the better-off households. Reasons for this appear to be (1) membership fees from one to five thousand shillings per household, which are difficult to mobilise by the poor, and (2) insufficient information about NAADS and doubts about benefits among poor households. Extension link farmers and cadre of farmers facilitator facilitated group level enterprise selection; NGOs facilitated at parish level. Some farmers did not understand the procedures and criteria used for selection, limiting their participation. The terms of reference for advisory services developed by the technical teams emphasised commodities, rather than cross-cutting issues such as gender, soil fertility and markets that equally affect productivity. The differences between NAADS criteria and those used by NARO is leading to a dichotomy of farmer needs, as identified by the two agencies.

Key words: Demand assessment, farmer needs NAADS, NARO, research prioritie, processes institutions

Introduction

As part of the on-going decentralisation and modernisation processes that began in the late 1990s, Uganda is currently piloting NAADS (National Agricultural Advisory Delivery Services), an agricultural advisory services provision system that is largely publicly funded, but delivered through private service providers. This is in line with the Plan for Modernization of Agriculture (PMA), which intends to commercialise subsistence agriculture and reduce poverty among the rural population in Uganda. NAADS, supported by the NARS (National Agricultural Research System), is meant to spearhead pro-poor agricultural research and extension development to achieve the vision of commercialised subsistence agriculture in Uganda. Through the NAADS process, farmer demands are aggregated at sub-county level, and information about priority enterprises and constraints is provided to them through private service providers. NARS roles is to develop the technologies and processes needed by farmers through a demand-driven, client-oriented and farmer-led research delivery system, particularly targeting the poor and women, with greater private sector collaboration and involvement, in line with PMA guidelines.

Until NARS establishes itself to spearhead research priorities and expression of demand, there is no national research priority setting process. Although the NARO processes established some indications of research priorities and could serve as a template for such a process, it does not link well its priorities with demand (MAAIF 2003), because it undertakes the role itself rather than as a truly collaborative effort with extension providers and farmers. Market issues have received little attention until now (MAAIF, 2003). A demand system operating jointly with NAADS and its service providers may provide a sound base on which to validate priorities more effectively against farmer needs.

Unlike participatory approaches, the conventional research and extension view the farmer as passive beneficiaries of new knowledge and technologies. In its true meaning, genuine participation of people is non-directive and does not impose ideas on them; it is based on a dialogue between all stakeholders. It starts from what people know and from where they are, and is based on resources that can

be mobilised by them. Furthermore, genuine participation relies on the collective effort of the farmers; promotes self-reliance but acknowledges the partnership among individuals and their change agent as co-learners (Burkey, 1993, Oarkley and Marsden, 1985 cited by Douglah and Sicilima 1997).

However, achievement of genuine participation of farmers in the demand assessment process entails the active involvement of the people in the planning process from formation and development of self-select groups and identification and prioritisation of the enterprises to meet the different food and income needs of the people to development of terms of references for service provision. However, the realities in African countries show that truly participatory approaches are hard to find (Zaman, 1992 in Douglah and Sicilima, 1997). This argument has been partially responsible for the emergence of extension approaches that promote the transfer of technology through tightly managed organisations as a prerequisite for successful extension practices. On the other hand, advocates of participatory extension approaches provide little insight as to how to go about resolving the contradictions and paradoxes participation unveils when introduced into systems with rigid power structures and long histories of top down approaches to decision making. In Tanzania, Douglah M and Sicilima (1997) noted that neither Training and Visit (T & V) nor Sasakawa Global 2000, an international NGO, employed genuinely balanced participatory approaches in their extension approaches. They noted that more emphasis was placed on getting farmers implement programs than on making provisions to involve them in planning what was to be implemented or evaluating the processes. In Eritrea, Garforth, 2001 noted distinct enterprises and gender based differences in information and knowledge needs between and within villages. The relatively well off, and those considered poor households had very different knowledge and information needs.

In Uganda today, NAADS and NARO are corporate public bodies, established to spearhead agricultural development in extension and research. The NAADS approach is dynamic and lessons are still being learnt from its demand assessment process, which might be relevant for NARS. There is a concern that poor farmers' needs are not sufficiently addressed by NAADS, because (1) they are not adequately represented in groups and farmer fora, (2) even if represented, they do not influence priority setting and (3) the need identification criteria indirectly discriminate against the poor. The study has been designed to address the above concerns with a view to improving responsiveness of advisory services and technology development in NAADS and NARO to farmer needs. Additionally, comparison of the NAADS approach and NARO was an important component of this study, because a divergence in approaches and outcomes is likely to have an impact on the performance of the whole agricultural R&D process. Demand-driven extension that includes the needs of poor and marginalized farmers could potentially improve the lives of the majority of rural people depending on agriculture for a living.

This paper is one of the outcomes of a wider study on the NAADS demand assessment process. It attempts to compare the processes used by NAADS and NARO in identifying farmer demand for agricultural research and advisory services. It will highlight similarities and differences between the two, and the implications of these differences. It will conclude by asking several key questions related to the convergence of research and extension in Uganda.

Materials and methods

The study used a qualitative approach, which included key informant interviews, group discussions and case studies of individual households in order to understand the demand assessment process used by NAADS in a sample of sub-counties.

In order to assess the effectiveness of the needs assessment process by NAADS, a range of criteria were developed and validated with stakeholders. These are shown in Table 1.

The study commenced with the review of existing literature, and then proceeded by undertaking key informant interviews and a reconnaissance visit to identify research areas, before undertaking a wealth grouping exercises to stratify the sample population. Case studies of volunteer farmer households selected from wealth groups identified by the respondents among the NAADS and non-NAADS farming households were undertaken to understand differences and similarities in demand at household and group level. Information was collected using check lists.

The study was carried out in eight villages in two districts of Uganda: Arua and Tororo. The districts were selected purposefully among the first six trailblazing districts for the NAADS program for their relative stable security situation and are location in different agro-ecological zones. Two sub-counties facilitated by different NGOs were purposively selected from among the first and second lot of sub-counties implementing the NAADS program, for comparison purpose. Additionally, the number of advisory services contracts implemented was used as criterion for selection. In each of the selected sub-counties, one parish and two villages were randomly selected as research areas. Two volunteer farmers (NAADS and non-NAADS households) were selected from each of the wealth groups for case study. The husband, wife and children above fifteen years old were interviewed. Figure 1 shows the sampling procedure used for case studies.

Analysis of data was done as on-going activity, which allowed key informants to be interviewed two times, depending on the information obtained at each visit.

Table 1 . Quality criteria for demand assessment process

	Criterion	Indicators	Methods
1	Inclusion of the poor	• Representation of poor households in NAADS groups • Differences in needs between poor and better-off households	• Wealth grouping • Case studies
2	Participation of the poor	• Alignment / divergence of priorities of the poor with those of the sub-county	• Case studies • Secondary data on sub-county priorities
3	Transparency	• Extent to which farmers understand the demand assessment process	• Case studies • Key informant interviews
4	Alignment of NAADS and farmer criteria	• Similarities & difference of criteria used by farmers and by NAADS	• Case studies • Review of NAADS reports
5	Extent to which cross-cutting issues are addressed	• Alignment of priorities & constraints mentioned by farmers with service contracts	• Case studies • Review of TOR of service providers

Table 2. Summary of wealth grouping in Arua and Tororo districts

	Arua district					Tororo District				
	Very poor	Poor	Middle	Better-off	Total	Very poor	Poor	Middle	Better-off	Total
Number of households in NAADS groups (% of total hh in NAADS groups)	3 (4.1)	17 (23.3)	32 (43.8)	21 (28.8)	73 (100)	40 (24.1)	65 (39.2)	50 (30.1)	11 (6.6)	166 (100)
Total number of households in sample village (& of total hh in wealth group)	43 (13)	114 (34.4)	111 (33.5)	63 (19)	331 (100)	108 (28.9)	142 (38)	89 (23.8)	35 (9.4)	374 (100)
Proportion of households in NAADS groups (%)	7	17.5	40.5	50		37.0	47.8	56.2	31	

Categorical data was analysed using frequency distribution, literal and interpretive reading of data.

The information about NARO needs assessment was derived from various NARO documents, and discussions with ARDC staff. As the focus of the study was on analysing the demand assessment mechanism used by NAADS, less information was collected from NARO. The most recent NARS planning process (ongoing in May 2004) has not been taken into account.

Results

1. a) ***Needs assessment in NAADS – as per the guidelines***

The NAADS needs assessment process is described in NAADS guidelines, developed by the secretariat, in consultation with partners at the district level. The guidelines are periodically updated to reflect lessons learnt. The version used for the section is revised one (NAADS 2004)

Community mobilisation, orientation and sensitisation on NAADS, its principles of work and farmer group formation precedes demand assessment facilitated by NGO. Each NGO is required to work with Group Facilitators (GF) selected among farmer communities. The GFs; are trained by NGO in Participatory Rural Appraisal, problem tree/ cause–effect analysis and procedure for enterprise selection; before deployment in parishes to guide in farmer institutional development and enterprise selection. Each GF is assigned an agreed number of farmer groups in the parish to work with. The GF help the group to identify six profitable priority enterprises, constraints and opportunities.

However, under PMA and NAADS, the transformation of subsistence farming, through market orientation, to commercial agriculture, and the management of farming as a business is emphasized. Accordingly, farmers' priority enterprises should aim at increasing income, and the major production constraints identified if reduced should make

Table 3 a Comparison of farmer priority enterprise and sub-county enterprise Uleppi sub-county

Emerging sub-county priority enterprises	NAADS group members' priorities	Non-NAADS group households' priorities	Comment
Cassava	# 1 Foodcrop # 1 Cash crop	# 1 Foodcrop # 1 Cash crop	S/C priority reflects farmers' needs
Groundnuts	# 2 food crop # 2 cash crop	# 2 food crop # 2 cash crop	S/C priority reflects farmers' needs
Pigeon peas	# 6 Food crop	# 6 food crop	S/C priority reflects few farmers' needs
Mangoes	Not mentioned	Not mentioned	S/C priority does not reflect farmers' needs
Goat rearing	asset	asset	S/C priority reflects farmers' needs
Apiary	food	food	Promoted by private sector

Table 3b Comparison of farmer priority enterprise and sub county enterprise-Kijomoro sub county

Emerging sub-county priority enterprises	NAADS group members' priorities	Non-NAADS group households' priorities	Comment
Groundnut	# 1 Foodcrop # 1 Cash crop	# 1 Foodcrop # 1 Cash crop	S/C priority reflects farmers' needs
Arabica coffee	Not mentioned	Not mentioned	s/c priority does not reflect farmer needs
Mangoes	Not mentioned	Not mentioned	s/c priority does not reflect farmer needs
Goats	asset	asset	s/c priority reflect needs of few farmers
Apiary	Not mentioned	Not mentioned	s/c priority does not reflect farmer needs

3c Comparison of farmer priority enterprise and sub county enterprise-Kisoko sub county

Emerging sub-county priority enterprises	NAADS group members' priorities	Non-NAADS group households' priorities	Comment
Groundnuts	# 1 Food crop # 1 Cash crop	# 1 Food crop # 1 Cash crop	S/C priority reflects farmers' needs
Banana	Not mentioned	Not mentioned	s/c priority does not reflect farmer needs
Pineapple	cash crop	cash crop	s/c priority reflects needs of few farmers
Goats	asset	Not mentioned	s/c priority reflect few farmer needs
Piggery	asset	Not mentioned	s/c priority reflect needs of few farmer
Poultry	asset	asset	S/C priority reflects farmers' needs

the enterprise more profitable. Consequently, a weighted criteria has been developed by NAADS ensure farmers select profitable enterprises:
i) Profitability of the enterprise (weight 4)
ii) tionally NARO s. ing repsonsivensess responsivenes Availability of markets (weight 3)
iii) Financial outlays (weight 2), and
iv) Production risks (weight 1).
The group priority enterprises and constraints in each parish are aggregated to determine parish priority enterprises and constraints before compiling them to obtain three (previously six) sub county priority enterprises and constraints, using matrix-scoring technique. The sub county farmer fora assisted by NGO staff, and technical experts and local government staff work through the priority enterprises and constraints develop farmer advisory service and technology development needs.

b) Overview of the mobilization, institutional capacity building process

Even though the NAADS guidelines clearly describe how demand assessment and enterprise prioritisation is to be done, in practice there is a wide variation between the way various NGOs interpreted and implemented the guidelines.

i) Arua district (Kijomoro and Ullepi sub county)

In Arua district, during the 2003/4 fiscal year, Community Empowerment For Rural Development (CEFORD) and Uganda Change Agents Association (UCAA) facilitated farmer institutional development and enterprise selection in Kijomoro and Ullepi, respectively. However, during the current fiscal year 2004/5, CEFORD was contracted by three sub-counties: Kijomoro, Ullepi and Vurra against NAADS guideline (NAADS 2004) which allows up to two sub counties to be facilitated by one NGO.

The district staff undertook farmer sensitisation and mobilisation at the beginning of the program. The sub-county staff, farmer fora members and the NGO were expected to continue. A good proportion of farmers have not yet been mobilised to join NAADS (78% households in study area). However, reasons advanced by farmers for not joining NAADS were *interalia*: lack of knowledge about NAADS, high group charges, and poor mobilization. The methods used by CEFORD included focus group discussion, training of trainers, workshops and supervisory visits. From focus discussion with sampled farmer groups CEFORD determined capacity-building needs of the groups. Workshops were used to train selected representatives of registered groups and enterprise selection was part of the training which contravened the guideline. This however, reduced the number of farmers who participated in enterprise selection to the few representatives trained.

On the other hand, under UCAA facilitation, selected farmers from each group were trained on group development and enterprise selection procedures before deployment to facilitate in their respective group. The NGO staff provided supervisory support. In both sub counties, the approaches used by the NGOs emphasized on selection of profitable enterprises according to NAADS criteria. Sub-county priorities were aggregated by farmer forum, assisted by NGO and technical staff from group priorities, opportunities and constraints by matrix scoring technique. Similarly, the farmer fora, facilitated by NGO staff and sub-county technical staff, determined advisory and technology needs. The NAADS coordinator sent sub-county advisory service and technology development needs to the district to develop Terms of Reference (TOR) for advisory contracts before the tendering out.

In the current fiscal year, CEFORD used predominantly workshops in Ullepi and Kijomoro methods allegedly due to the small budget allocation for this purpose. It was noted that the NGO did not have enough field staff to cover three sub-counties at the same time. Effectively eight representatives from each group of the registered groups were trained on participatory planning and enterprises selection in two, two-day sessions. At the end of the training, the few representatives made enterprise selection decisions on behalf of the group. In one of the sub-counties, cooking food for workshop participants took part of the time of female participants, preventing them from actively participating in the activities. There was an attempt to follow guidelines given by NAADS in enterprise selection and prioritization. However, the facilitators relied on workshop notes and support from NAADS coordinators and farmer fora instead of own copy of NAADS guidelines resulting into flaws in procedure.

ii) Tororo district (Kisoko & Nawanjofu sub county)

In Tororo district, during the 2003/4 fiscal year, Africa 2000 Network (A2N) and Uganda Rural Community Development Program (URUCODEB) facilitated institutional development and enterprise selection in Kisoko and Nawanjofu subcounties, respectively. Similar methods to those used in Arua were used in Tororo, notably training of trainers, workshops, and supervisory visits. Slight differences existed between the approaches used by A2N and URUCODEB. Farmers facilitated by their trained colleagues selected enterprises in their groups. Unlike in Nawanjofu, group leaders in Kisoko converged at parish level to select parish priorities and constraints before sub-county prioritization. In both cases therefore the farmers and the trained colleagues were in charge of the selection process. No additional information on profitable new alternative enterprises were available to farmers to influence their choices. Aggregation of priority enterprises, opportunities and constraints at sub county level was done by the farmer forum with assistance from NGO technical staff, using pair wise ranking of options. Farmer advisory and technology needs were developed by farmer fora and sub county NAADS coordinator. The TOR were developed by the NAADS coordinator with assistance from sub-county technical staff. In 2004/5 fiscal year A2N used 19 GFs to

3d Comparison of farmer priority enterprise and sub county enterprise-Nawanjofu sub county

Emerging sub-county priority enterprises	NAADS group members' priorities	Non-NAADS group households' priorities	Comment
Maize	# 3 food crop # 4 cash crop	# 3 food crop # 4 cash crop	S/C priority reflects farmers' needs
Groundnut	# 4 food crop # 2 cash crop	# 4 food crop # 2 cash crop	s/c priority reflects farmers' needs
Banana	Not mentioned	Not mentioned	s/c priority does not reflects farmers needs
Pineapple	Not mentioned	Not mentioned	s/c priority does not reflect farmers' needs
Poultry	asset	asset	s/c priority reflect needs of few farmer
Goat rearing	asset	asset	S/C priority reflects farmers' needs

Table 4 a Comparison of NARO West Nile farming system (Abi ARDC) and case study farmer household priority enterprises in Kijomoro and Ullepi sub county in Arua district

Abi ARDC six priorities crops	Kijomoro sub county		Ullepi Sub county	
	C/S hh priorities	NAADS sub-county priorities	C/S hh priorities	NAADS sub-county priorities
1. Cassava	1. Cassava		1. Cassava	Cassava
2. Maize	5. Maize			
3. Sweet potato				
4. Groundnut	3. Groundnut	Groundnut	2. Groundnuts	Groundnuts
5. Simsim			5. Simsim	
6. Beans	2. Beans			
1. Dual cattle				
2. Goats		Goats		Goats
3. Poultry				
	4. Sorghum			
	6. Tobacco			
		Arabica coffee		
		Mangoes		Mangoes
		Apiary		Apiary
			3. Cowpeas	
			4. Millet	
			6. Pigeon peas	Pigeon peas

train farmer groups in four parishes following NAADS guidelines. Eight bicycles were budgeted for by the NGO to facilitate transport for GFs in the field. It was noted that the GFs were used to selected sub county priority enterprises instead of farmer forum against guidelines. The NGO was contracted late, after onset of rains, which affected attendance in meeting by farmers.

Needs assessment by NARO

The NARO needs assessment process has evolved from the Farming-systems wide analyses (NARO,1998, 2001) to participatory one, that takes into account stakeholder involvement in determining the research agenda. The Farming system-wide Needs Assessment approach developed for use in Teso farming system with DFID support is characterised by first reviewing of literature, followed by rapid appraisal by multi disciplinary team in selected agro ecological zones within the farming system, a stakeholder workshop and development of logical framework. However, the NARO planning process has been reviewed (NARO, 2001 pp:14) from relying on few farmer representatives in planning to working with established farmer groups (figure 3). To ensure the views of the clients direct research agenda, NARO Zonal Steering committees (ZSC) comprising of local government leaders, Subject Matter Specialists (SMS), NGOs, Community Based Organisations (CBO), farmer organisations, and NARO Centre manager have been created to work with NARO management committee and the Board. Similarly, farmer research committees have been formed to implement Farmer Participatory Research (NARO , 2001). Nonetheless, the current restructuring of NARS and planning of new theme areas and output aim at improving client responsiveness of

4b Comparison of Zonal Teso farming system and case study household priority enterprises in Tororo district

Soroti six priorities crops		Kisoko sub county		Nawanjofu sub county	
		C/S hh priorities	**NAADS sub-county priorities**	**C/S hh priorities**	**NAADS sub-county priorities**
1	Cassava	1. Cassava		1 Cassava	
2	Horticulture (mangoes, oranges, pineapples)		Pineapple		Pineapple
3	Groundnuts	5. Groundnuts	Groundnut	4. Groundnuts	Groundnuts
1	Cattle (dual)				
2	Poultry		Poultry		Poultry
3	Goats		Goats		Goats
4	Piggery		Piggery		
		2. Millet		2. Millet	
		3. Sweet potato		3. Sweet potato	
		4. Maize		5. Maize	Maize
		6. Rice			
				6. Cotton	
			Bananas		Banana

Table 5 Peoples' assessment of clarity of enterprise selection process

Clarity of enterprise selection process	Male respondents	Female respondents	Total
Clear	3	2	5
Not clear	1	4	5
Did not attend selection session	2	3	5
% of respondents who said they clearly understood the process	50	22.2	33.3

Table 6 Comparison of priorities between NAADS and non-NAADS households

Ullepi	Cassava, millet, cowpeas, groundnuts pigeon peas, sesame are grown for food and income, tobacco and cotton are also grown. There is no difference between food and cash crops grown by the NAADS and non-NAADS households.
Kijomoro	Cassava, beans, groundnuts, sorghum, maize and sweet potatoes are priority crops grown for food and income. Tobacco and *mairungi* crops are cash crops. There is no difference between food and cash crops grown by the NAADS and non-NAADS households.
Kisoko	Cassava, millet, sweet potatoes, maize, and rice are priority enterprises for both food and income. Few non-NAADS households grow Cotton.
Nawanjofu	Millet, cassava, maize, groundnuts, sweet potatoes and sorghum are priority food crops that also bring income. A household with enough land and swamps grows cotton and rice. There is no difference between enterprises of NAADS and non-NAADS household.

Figure 1 Sampling method of case study households

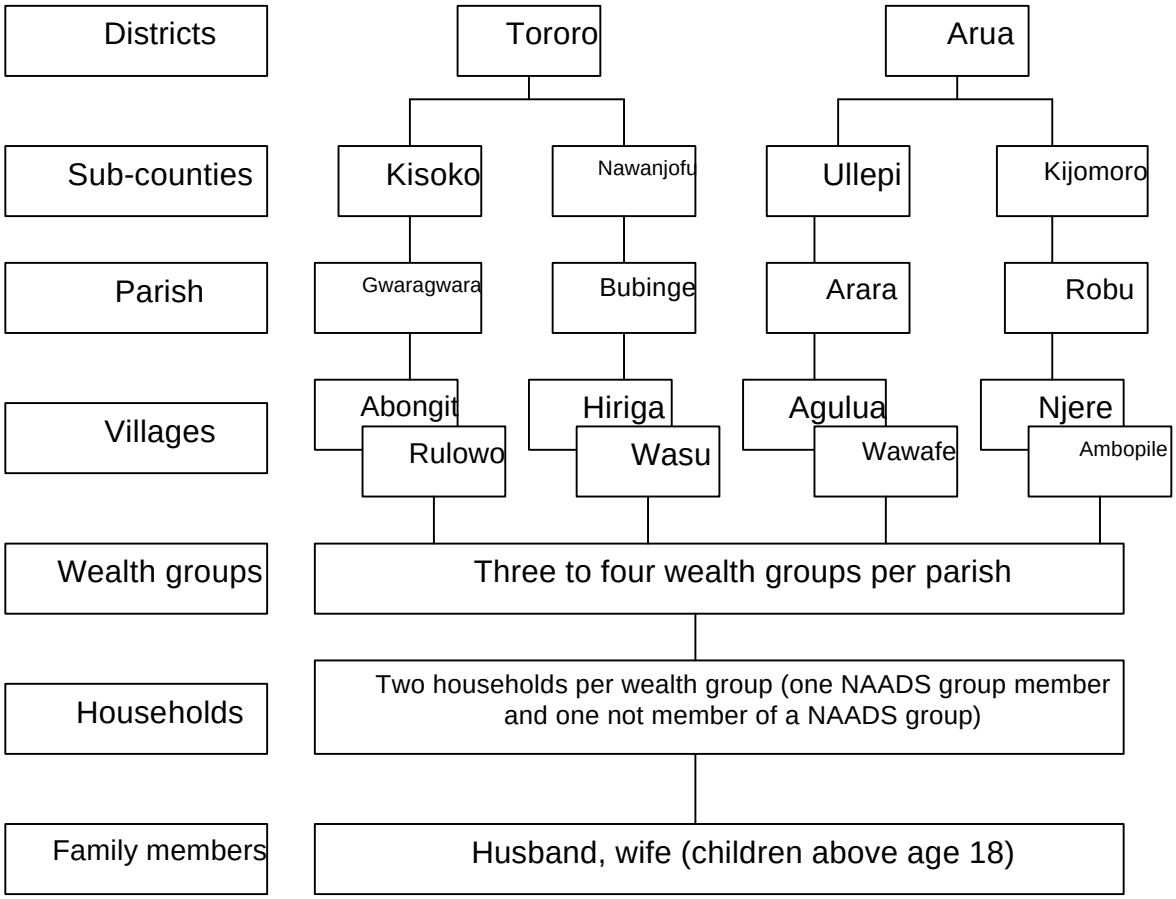
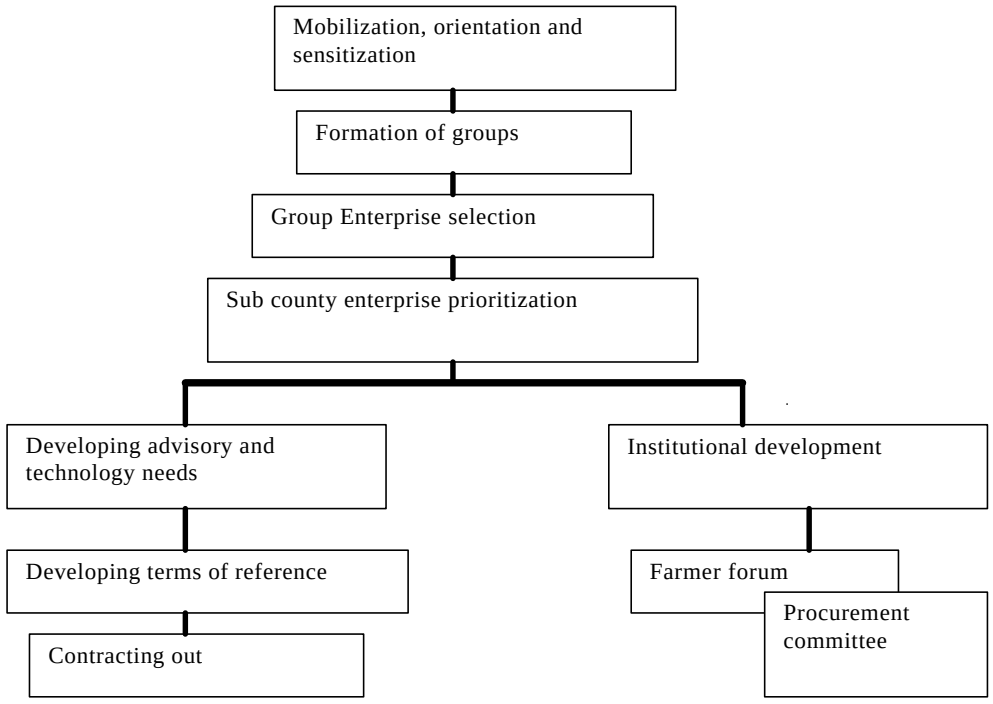


Figure 2 Sequence of NAADS demand assessment process



Source: NAADS, 2002: Guideline volume III

Figure 3 Steps in NARO Demand Assessment Process

Source: Adapted from NARO Medium term plan 2001-05 Pg 14

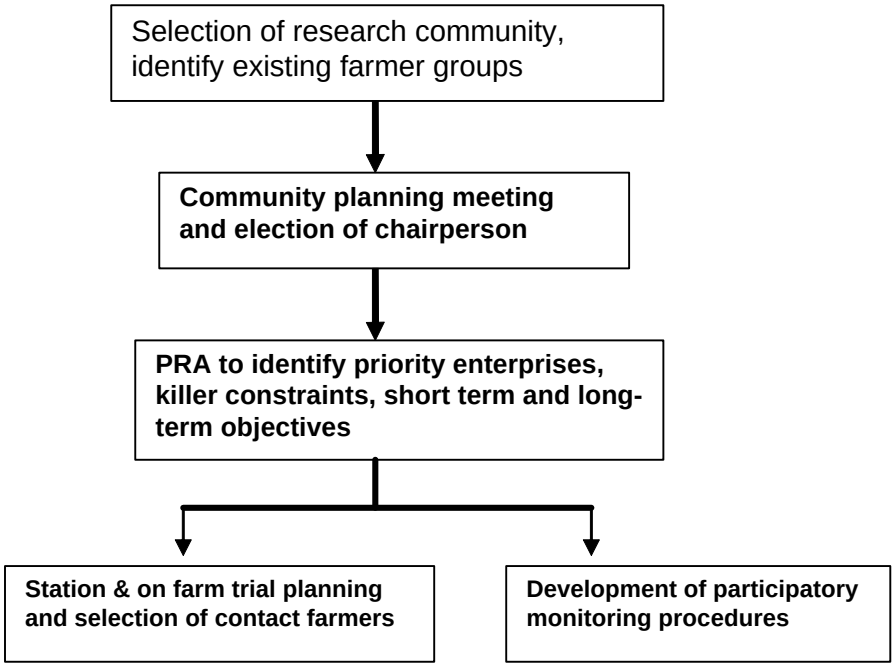
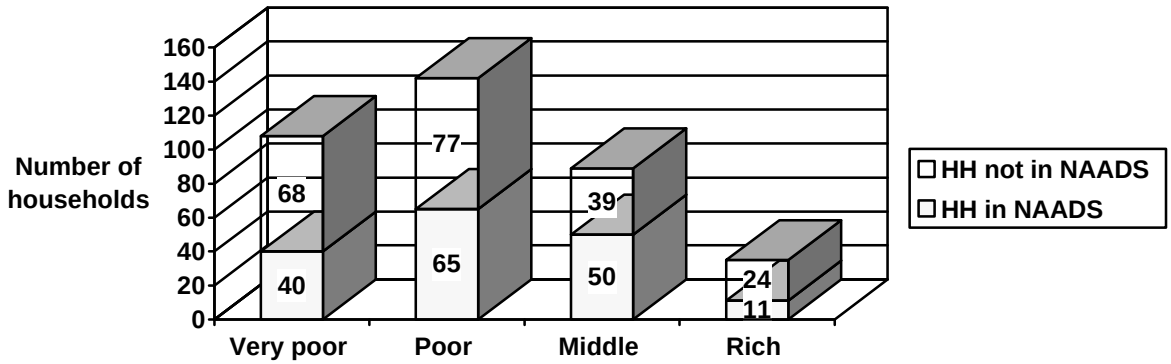


Figure 4 Distribution of households in NAADS groups by wealth category
4 a Sample villages in Tororo district



4 b Sample villages in Arua district

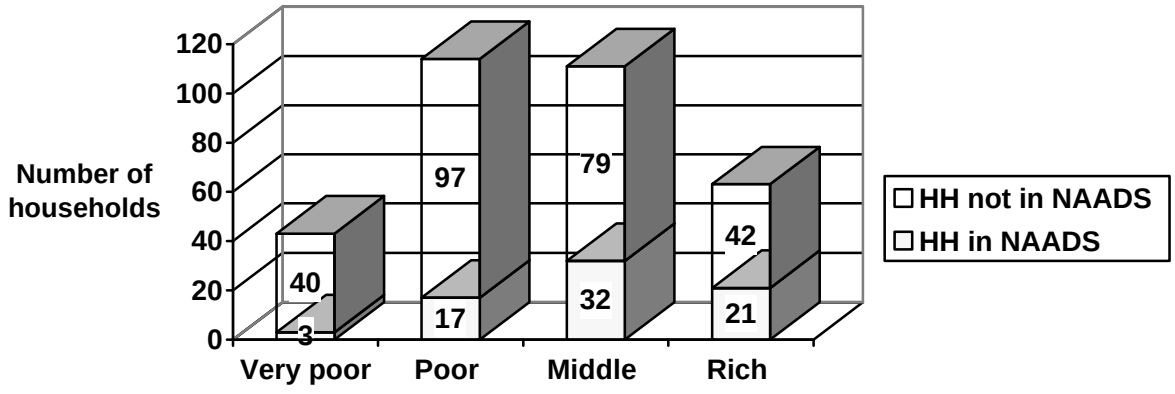


Table 7. Similarities and differences between NAADS and NARO planning process

	Similarities between NAADS and NARO demand assessment process	
1	Use appraisal methods (PRA and RRA) in determining farmer priority needs	
2	Group methods and farmer organisation as basis for participatory planning	
3	and interventions to enhance efficiency in coverage	
4	Both are public funded programs targeting the poor; women, youth, disabled and HIV/AID for modernising subsistence agriculture in Uganda.	
5	Require multi stakeholder collaboration in research, extension and technology development.	
	Differences between NAADS and NARO demand assessment process	
	NAADS demand assessment process	**NARO demand assessment process**
1	Public funded and privately delivered	Public funded and public delivered
2	Profit and non profit NGO contracted for enterprises selection	Relies on public officers and hired consultants for needs assessment
3	One NGO staffs are used or outsourced (social scientists mainly) for institutional development and enterprise selection	Uses multi disciplinary team of researchers in needs assessment
4	Output focused on developing advisory services and technology development needs	Output focused on client responsive technology development and research
5	Institutional development and capacity building is part of the overall process	Relies on existing organised groups
6	Focuses on commercialisation of farming (emphasis on farmer income)	Uses value free criteria in priority enterprise selection (both food security and income)
7	Annual planning activity	Medium term planning (two-five year planning)
8	Commodity-focused analyses; constraints and opportunities on priority enterprises	Analyses focused on farming as a system; priority agricultural research issues (livestock, crops & production factors)
9	Parish and sub county based planning	System wide planning covering many districts as components within a farming system
10	Group level interventions (advisory service & technology development)	Groups and progressive individuals receive advisory services and support
11	Participation in planning is restricted to group members, NAADS staff , farmer forum, technical and NGO staff	A range of stakeholders is involved; local leaders from districts, agricultural organisations (NGOs, CBO), local government staffs among others.
12	Coordinates efforts in technology, knowledge and information dissemination	Directly involved in technology, knowledge and information dissemination
13	Emphases markets and marketing	No role in markets and marketing

research and extension with consideration for multi stakeholder collaboration.

Overview of differences and similarities between the NAADS and NARO approach

From the foregoing, the two approaches used by NAADS and NARO in demand assessment are similar in that both are public funded programs that use appraisal methods (PRA, RRA) in identifying needs, group approach is used to improve efficiency in coverage, and target the poor in line with PMA goals to commercialise subsistence agriculture (table 7)**.** Despite the similarities between the two approaches, NAADS unlike NARO, is public funded and privately delivered advisory services and technology development program. NAADS uses NGOs to facilitate farmer institutional development, priority enterprise selection and prioritisation of production constraints and opportunities related to the priority enterprises at group and sub county level**.** NARO approach uses multi disciplinary team in needs assessment (NARO, 1998). The NAADS criteria emphasize farming as a business, whereas NARO criteria are "value free" taking into consideration production factors, food and income needs as determined by farmers.

Arising from similarities and differences between NAADS and NARO approaches the study will attempt in the next paragraphs to compare the demand identification mechanisms against the stakeholder criteria presented in the methodology chapter.

Assessment of the NAADS process against stakeholder criteria, and comparison with the NARO process

a) Inclusion

The results summarised in table 2 were obtained from wealth grouping exercise carried out with respondents. Households with at least one member in NAADS groups were identified from among the wealth groups to determine the proportion of household in NAADS.

All wealth groups were included in NAADS groups, nonetheless, the proportion of the very poor is low. Reasons for low inclusion of were, according to villagers: For the poor houses: inability to afford group charges that ranged from 1000 to 5000 Ugandan shilling per year (approximately 5-25 $ US); lack of interest, not enough strength (sickness & old age), lack of knowledge on NAADS and forming groups, fear to participate in groups and lack land to practice what is learned by farmers.

From the above it becomes clear that a high proportion of households in the eight villages have not been mobilized to join groups. Even very poor households are included in NAADS groups, but group composition is skewed towards the better off wealth groups. The educated and better-off farmers are initiators and leaders of the groups.

Comparing participation in the NAADS and NARO planning process, NAADS planning uses NGOs, to facilitate needs assessment directly with farmers at group and sub county level. In the NARO planning process developed for use in Teso farming system (NARO, 1998), rapid appraisal data extracted from farmers and analysed by multi disciplinary team, is used to guide decision making in multi stakeholder workshop organised by NARO. After stakeholder workshop, a logical framework is developed for program implementation. Neither do the ARDCs directly include farmers in the planning process as outlined in NARO medium term plan (NARO, 2001). The realities of inadequate staff at ARDCs coupled with the fact that ARDCs cover many decentralised districts make direct involvement of farmers in genuine participatory planning difficult. Accordingly, ZSC have been formed with farmer representation to ensure farmer views receive attention.

b) Participation

In all four sub counties no differences were observed between the agricultural food and cash crops grown by NAADS and non-NAADS households. This is because NAADS is still too young and has not had much impact on the cropping pattern yet. However, study found that extent of participation varied among sub counties (see table 3 a-d). In Arua, stronger participation noted in Ullepi, reflected in four household priority enterprises (cassava, grounduts pigeon peas and goats) out of six matching with sub county priority enterprises compared to Kijomoro only one (groundnuts). Similarly, in Nawanjofu, Tororo district, three (groundnuts, maize and goats) out of six household priorities matched with sub county priority enterprises compared to two in Kisoko. The mismatch is attributed to facilitation style of NGO staff and "agricultural experts" from the district advising against cassava, millet and sweet potatoes as priority enterprises. The NAADS criteria, equally emphasizes profitability of potential enterprises. In two cases, farmers' priorities were tampered with at sub county level.

Comparison of six agricultural crop enterprise priorities at Abi ARDC in West Nile farming system and farmer household priorities in Kijomoro and Ullepi Sub County showed weak match in Arua district reflected in cassava and groundnuts enterprises matching (table 4). Similarly household crop enterprises cassava and groundnuts in Kisoko and Nawanjofu matched with zonal agricultural crop enterprise priorities in Teso farming systems. Only groundnuts was converging priority among households, ARDC and Teso farming systems. The divergence can be explained by variations in agro ecological zones within a farming system that impacts on livelihood strategies and enterprises farmers select. The process of aggregation and prioritisation of demand does not take into account the unique differences. For example, the zonal priorities emphasize on cassava, groundnuts, horticulture (mangoes, pineapple and oranges) and livestock excluding millet, sweet potatoes, and maize, which are important crops in Tororo district.

c) Transparency

A process was defined as clear if the farmers followed the steps and understood the outcomes. From fifteen people (six men, nine women) farmers in NAADS groups 50% of the men and 22.2% of the women think the process was clear to them. Others did not understand either criteria used for selections or did not attend the needs assessment sessions due to other commitments. Comments from farmers as *"the process is fine but, the more you struggle to get enterprise you like most, the more difficult it becomes to get, another thing comes instead"* show that some farmers did not understand the process. In either cases, no complains have been raised about the choices made by colleagues. However, in two cases the where farmers expressed that they understood the process; the body language showed the contrary they feared.

Discussions with farmers revealed that in one of the sub counties, farmers' preference for piggery was changed to goats because piggery ridiculed Moslem leaders. Similarly, in another sub county goat enterprise was not among the original list of sub county priorities facilitated by the NGO point to lack of transparency in the process.

Regarding the NARO process, the study could not get much information about transparency. However, ZSCs are accountable to Local Government (LG), but its not clear how NARO is accountable to farmers. No direct farmer involvement. The fact that ARDCs cover several districts makes it even more difficult to trace back needs of individual communities to priorities of ARDC. Difference of scale!

Alignment of NAADS criteria and farmer criteria

Food security and people's culture played important role in selection of food crops grown by farming household. Cassava and maize appear across all the villages for both food security and income in Tororo and Arua districts. Millet is important cultural crop among the *Banyole* in Tororo district. Similarly, in Ullepi, cowpea is the first crop planted by farmers when rains begin, because it is early maturing and saves them from hunger.

From table 3 a-d, cowpeas and sesame in Ullepi, and cassava and beans in Kijomoro respectively are household food and income priorities not reflected in sub county priority enterprises due to the difference in criteria used by farmers and NAADS for prioritisation. For the same reasons, cassava, millet and sweet potatoes do not appear among priority enterprises in Kisoko, and Nawanjofu sub county. Conversely, NARO considers both food and cash crops liked by farmers in determining priorities for agricultural research.

Cross cutting issues

Cross cutting issues are difficult to grasp for facilitators because they are new concepts to service providers and local government staff. Although included in some TOR , it was not clear how this could be operationalised.

Natural Resources management

Ullepi sub county lies in the Nile valley cotton-millet agro-ecological zone of West Nile farming systems characterized by lower rainfall. The area is covered with scattered natural Savannah wood tree species that are threatened by increased settlement and tobacco growing. Livelihood strategies include, farming, wild honey collecting, hunting, charcoal burning and farming. Priority farming constraints were , unreliable rainfall, termites, pests and diseases in food crops and wild animals that destroy crops. Access to land for farming is not a serious problem; customary land ownership is common land tenure system. Shifting cultivation is practiced. However, increase in population; charcoal burning and settlement combined have contributed to reduce the forest cover. Farmers complained of reduced soil fertility because the period for allowing the land to regain fertility has reduced. Accordingly, aspects of natural resource management are such as soil conservation were reflected in TOR for service provision but monitoring to ensure compliance by the service providers was difficult for the farmer fora and NAADS Coordinators because the concepts were new. Charcoal burning is a livelihood strategy for some households; when told not to practice it farmers say *at least for you have something* which showed that a general extension message may not be appropriate in Ullepi.

Kijomoro sub county is highly populated and farming is the main source of livelihood. Average land owned by household ranged from half to one and half acres. Social relations are renting are commonly used by the landless to access to farming land. Land fragmentation and declined in soil fertility are common. However, the farmers prioritized lack of capital as major constraints limiting production. Pests and diseases affecting annual food crops such as cassava, beans, and maize was serious constraint. Others were unreliable rainfall and decline in soil fertility caused by over cultivation and land shortage. Integrated soil conservation farming practices are required to improve productivity of the soils. It was difficult to find information on soil improvement practices among the farmers.

Kisoko sub county is about ten kilometers from the Tororo with multi-ethnic community. Average land size owned by household varied from half to four acres the poor. The poor had small land compared to the better off. Borrowing and seasonal renting of land for farming, off-farm activities were coping strategies. Pests and disease, unreliable rainfall, land fertility decline and lack of capital were identified as serious production constraints.

The soils in Nawanjofu Sub County are sandy loam suitable for cotton growing. The average land owned by household (Bubinghe parish) varied from half to three acres the poorer households had smaller land compared to better off household. Borrowing and renting land is common coping strategy. Pests and diseases, land fertility decline, lack of capital and unreliable rainfall are priority farming constraints across all wealth categories. Land shortage and lack of markets for crops were also reported. The TOR

reflected aspects of soil conservation but how to measure achievements was not clear.

ii) Gender and Marketing

There was attempt to include aspects of gender and marketing on TOR for service provision however, strategies to implement it at field level were not clear yet, neither were indicators to measures success.

The NARO plans (Abi ARDC, 2001) reflected technology adaptation for soil fertility improvement, saving labor, drought mitigation and farm mechanisation but it was not clear what research interventions were designed address them. Strategies for effective marketing of farmers' produce would be developed and availed to farmers and uptake pathways in addition to gender, environmental and equity issues to be incorporated in the interventions. In West Nile region, Northwestern Smallholder Agricultural Project, which is expected to implement strategies for marketing, is still a long way to doing it.

Discussion

The PMA envisions transformation of subsistence agriculture currently characterised by low productivity of land and labour in Uganda into commercial one through targeting the poor women, youth, disabled and HIV/AIDS (MAAIF, 2001) Convergence in priority demands of the resource poor as determined by NARO and NAADS is critical in achieving the vision to commercialise agriculture in Uganda. The poor and very poor wealth groups constitute a big proportion of rural population, the study showed that (table 4) about 56% and 77% of the population had not yet been fully mobilised to participate in NAADS and the poorer households more affected in the study area. Group charges and lack of awareness are among key reasons for low inclusion in the study. Riveira, Zijp and Alex, (2000) encouraged group charges to enhance ownership and control of advisory services received by farmers. The question is which, flexible combination of methods for paying group charges; do not compromise their dignity and interest to learn in NAADS?

NAADS and NARO aim at client responsive interventions in line with PMA objective and in consequence, endeavour to use participatory appraisal approaches (PRA/RRA) in prioritising demands for research and advisory service delivery and technology development. There is clear divergence (tables 3 a-d) between farmer household food security and income needs and sub county priority enterprises in NAADS. The farmers understanding of profitability is different from NAADS and service providers. Its not clear what price (local, export, regional) to be used in calculating profits as shown in pigeon pea growing in Ullepi sub county Arua. Apart from 400 kilograms taken by Ullepi sub county farmer forum, the farmers have failed to market about five tonnes of pigeon peas grown in demonstration plot in 2003/4 fiscal year. The participatory approaches and criteria used by NARO and NAADS is leading to dichotomy of farmer needs as identified by the two agencies evidenced by divergence (table 4) between NAADS sub county priority enterprises and Abi ARDC,, approved zonal priority enterprises in Teso farming system and household prioitrid for farmers in Tororo district respectively. Greater linkage and collaboration between NAADS, NARO and facilitating NGO is recommended to reduce divergence. Working partnership collaboration involving farmer is on farmers garden seen in Manibe sub county near Abi ARDC whereby farmers' received seed technology packs from ARDC and got advisory services under NAADS. The advantage with such a collaboration is that farmers are exposed to more technology options, knowledge and information. At national level, strategies for collaboration between NAADS, NARO and other stakeholders have been developed (NARO, 2001) but how far it has been operationalised is not clear the gap still exists. The relevant questions is how to improve linkage between ZSC in NARO, private service providers, and the farmers in NAADS to improve convergence in priority setting for commercialising agriculture in Uganda.

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