

**DFID Research Strategy (2008 - 2013)
Consultation - Africa**

Country Report for Uganda

PICO-Uganda

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List of acronyms

ARV	Anti-retroviral
COARD	Client Oriented Agricultural Research for Development
CSO	Civil Society Organisation
DFID	Department for International Development
FGD	Focus Group Discussion
GOU	Government of the Republic of Uganda
IAR4D	Integrated Agricultural Research for Development
IDP	Internally Displaced People
LVEMP	Lake Victoria Environment Management Project
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organisation
NARS	National Agricultural Research System
NDA	National Drug Authority
NEMA	National Environment Management Authority
NGO	Non Government Organisation
NGO	Non-Government Organisation
ODA	Overseas Development Agency
ODI	Overseas Development Institute
PEAP	Poverty Eradication Action Plan
PICO	People Innovations and Change in Organisations
PMA	Plan for modernisation of Agriculture
PNFP	Private not-for Profit
VAT	Value Added Tax
WHO	World Health Organisation
ZARDI	Zonal Agricultural Research and Development Institute

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Executive Summary

National development context

Since 1987, the Government of Uganda (GOU) has pursued political and economic reforms which have sustained average economic growth of about 5% for the past decade. These reforms include policy frameworks for devolution of power to the district local government through decentralisation, liberalisation and privatisation of trade and services. Over 70% of the total population of 27 million live in the rural areas and derive their livelihood from subsistence agriculture and also form the large majority of the poor. The Poverty Eradication Action Plan (PEAP) is government's broad development framework in which government committed itself to reduce the proportion of the population living in absolute poverty from the level of 44% (1997) to almost 10% by the Year 2017.

Through consistent policy reforms, substantial progress has made on the social dimension particularly with regard to gender parity in governance and education. By affirmative action, the parliament and all structures of governance have female representation of at least 30%. Similar action been taken to support the education of the girl child especially at University level by granting all female candidates an addition 1.5 points as a means of increasing female enrolment in public universities. Progress has also been made in the control and management of HIV/AIDS with reduction of infection rates due enhanced public education and campaigns.

Research policy context

Differences occur in different sectors in how research is organized and conducted. In agriculture, the National Agricultural Research Systems (NARS) policy (2005) has led to opening up the agricultural research arena to other public and private actors. The National Agricultural Research Organisation (NARO) which used to be responsible for agricultural research has accordingly restructured to become an all embracing apex body for guidance and coordination of agricultural research conducted by all actors including public research institutes (formerly under NARO); universities and other tertiary institutions; private companies/private sector; farmer organisations; advisory service organisations; regional and international organisations and individuals. Ideally, priority setting for agricultural research involves a variety of key stakeholders starting at the grassroots level, the Zonal Agricultural Research and Development Institutes (ZARDIs) and these priorities are filtered through to national level priorities.

Unlike agriculture, health does not have an apex body to coordinate research to-date, thereby creating a grey area for national health research priorities. Such a body, the Uganda National Health Research Organisation (UNHRO), is still under formation. Research is therefore fragmented in the various units and projects within the ministry of health and largely driven by international organisations and funding agencies.

The National Environmental Policy places Uganda's environment in the custody of the National Environment Management Authority (NEMA) but NEMA does not have a research component. Research related to environment is largely conducted by NARO, universities and cross-border initiatives to protect shared natural resources. Generally, the term climate change is rather new on the research scene and is perceived to be driven by global research agenda rather than national. Consequently, there is little research focussed on climate change per se.

The Governance system in Uganda has been largely influenced by devolution of power to district local governments through decentralisation and democratisation process which has opened up the political space for multi-party dispensation. These gains in governance have been undermined by corruption, public discontent, malpractices in the electoral processes at all levels, and incidences of human rights abuse. There is however, little research going on in governance except for issues related to human rights where international and local human rights organisations document and periodically publish the state of human rights in Uganda. There is also scepticism that research will significantly contribute to problems of governance in Uganda – hope lies in commitment to enforce existing regulations and laws that guarantee accountability in all aspects.

Methodology

The consultations in Uganda were conducted by PICO-Uganda as a sub-contract from CABI. Information was gathered through one-on-one key informant interviews, focus group discussions and stakeholder workshop targeting researchers, civil servants, private professionals/think tanks, politicians, practitioners and end users in all the four areas of focus, i.e. agriculture, health, governance and climate change. Whereas most of the respondents were based in and around the capital city, views from Northern Uganda were deliberately sought because of the unique social and political experiences characterized by conflict and war. The consultations targeted people with the necessary information and gender was not strata. However, out of a total of 83 people consulted, 25% were female. Outcomes of the consultations were shared in a meeting attended by about ten staff based at the DFID office in Kampala as feedback but also to seek their input which was integrated in the findings.

Research is intended to contribute to economic growth in general and in the case of Uganda, this also implies targeting improving the wellbeing of the poor. In this study, respondents expressed opinions on what they thought were the critical sectors for investments in order to stimulate economic growth in general but also have significant impact on the poor. Opinions expressed about the importance of the sectors are described below.

Importance and opportunities for each sector

Governance

Good governance is seen as the overarching framework for planning; resource utilisation and accountability. It directly influences priority development initiatives including research in all sectors. Good governance is thought to be the most critical factor in national development; however, the governance system in Uganda faced the following constraints:

- Developing national institutions that work effectively and efficiently without being patronised.
- Accountability & ethical conduct to ensure value for money – investments worth the resources expended and impact of the resources expended on the targeted beneficiaries.
- Empowerment of society to challenge systems for effectiveness and enforce accountability through their citizenry rights.
- Evidence based planning. Planning and policies are largely developed based on political sentiments rather than proven evidence.
- Weak internal capacity to drive development – there is weak internal capacity to articulate and finance national priority programmes including research.

Education

Education determines the pace and impact of development activities through enhancing capabilities of people to generate and utilise information and knowledge to improve their lives. It provides productive skills to harness opportunities for wealth creation and management development challenges, the common belief that “knowledge is power”. The challenges of education however, include reforming the education system to translate knowledge and skills gained into economic and social value to the individuals and communities.

Agriculture

Agriculture is the major source of livelihood to over 70% of the population. Any interventions for improvement of the wellbeing of people must target agriculture on which the majority of the poor depend. The opportunities here include a high potential production and productivity of agricultural products, which could make Uganda a major supplier of niche market organic products. High production could also stimulate agro-related industrial development which in turn provides employment and income to more people. The emergence of bio-fuels presents an opportunity to benefit from the potential. It is believed that in the short-term, agriculture can kick-start the economy and benefits from that can be invested in industry and service sectors in the long-term. However, at the moment investment in agricultural sector is less than what is needed to drive the economy.

Health

Good health is a pre-requisite for all development endeavours. Health directly affects production and productivity of the labour force, hence development. There is a cyclic relationship between disease and poverty. Disease reduces the productive capacity of the labour force – leading into poverty and conversely poverty encouraged disease, hence a cyclic process.

Health sector performance is below standards in critical indices, such as the maternal and infant mortality rates and overall access to health services. In addition, the basic sanitation facilities per such as latrines per household are below expected standards leading to high incidence of preventable diseases. Moreover, the fertility rates and rapidly increasing population will continue to exert more pressure on existing health facilities.

Climate change

Climate change is a relatively new phenomenon in science with cross-cutting effects especially to the sectors of health (disease patterns) and agriculture (production systems). But climate change is also a consequence of human activity. The causes of climate change, its effects and how it relates with health and agriculture are issues for deeper exploration. Climate change is often associated with negative effects but it could also present some opportunities. The sale of carbon is one such opportunity for countries that can maintain their tree cover.

Research Priorities

Some of the research priorities are sector-specific while others are cross-cutting. The sector-specific priorities are outlined first and the cross-cutting ones follow.

Specific research priorities in agriculture

The specific research priorities for agriculture include:

- *Post harvest handling and value addition.* It is estimated that that up to 30% of agricultural production is lost through post-harvest handling. Value addition is probably the single most significant constraint for agriculture in Uganda. The key

areas for research are: equipment and techniques for increasing shelf-life of various agricultural products; product development, packaging and branding; consumer behaviours with a view of creating local market for processed products.

- *Markets and market access.* Availability of markets can stimulate innovation and knowledge utilisation. Research is necessary in the areas of market intelligence and market information systems for the rural producers; local and international market dynamics to guide production patterns; and profitability of different levels in the value chain.
- *Production systems management.* The important research issue here is development of relevant practices and technologies for enhancing production and productivity in a sustainable manner. Specifically, research should focus on sustainable feeding systems for both livestock and crop production systems; into account cost-effectiveness and sustainability aspects; water harvesting and irrigation technologies; appropriate technologies to reduce drudgery on the farm and over-reliance on the hand hoe; and organic farming practices including organic pesticides.
- *Development of technologies for increased production and productivity.* To cope with the increasing needs for food and fibre, research has to continue developing technologies that increase production and productivity. Areas that need research include: Seed systems and breed improvement – this is where biotechnology could be applied as a tool to develop varieties/breeds with high productivity and resistance to adverse conditions; and fertilizer production and management to increase productivity.
- *Inter-relationships between agriculture and other disciplines/sectors.* There is for example a close relationship between agriculture, health and environment/climate change but research delineates them as if they were unrelated. Some farming systems, e.g. the rice system, create favourable environment for malaria. These relationships are necessary for designing integrated interventions. Some of the specific relationships to explore are between farming systems, climate change and killer diseases; agricultural production and nutrition; and effect of other sectoral policies on agriculture and food security.
- *Agricultural finance and risk management.* Agriculture is one of the sectors where it is difficult to access finance for investment and dependence on the vagaries of weather makes agricultural business very risky. This is probably the main reason agricultural professionals hesitate to invest in agriculture. Research should generate evidence needed for formulation of policy to support agricultural financing and insurance; and suggest mechanisms and institutional arrangements to attract investment and professionalism in agriculture.
- *Doing research on research – uptake and utilisation of agricultural research products.* A major criticism of agricultural research is that its outputs have remained on the researcher's "shelves" and largely not utilised by the intended users. There is need for a different way of doing research that brings together the researchers, research users and intermediaries to make research bring about economic and social benefits. This can be seen as doing research on research. Some of the specific issues for investigation are: how to make public-private partnerships (PPP) work; productive engagement of multiple stakeholders in the value chains; how to organise and empower small-holder farmers; and capacity development of various stakeholders including farmers to productively engage in the research process.
- *Knowledge management systems for agricultural development.* Knowledge is co-created and shared in a social environment. The critical issue is integration of indigenous and scientific knowledge to foster farmer experimentation as a platform for joint learning. Specific issues to explore are: options for effective knowledge management; desirable attitudes for researchers, farmers and other actors to co-create and manage knowledge for mutual benefits; sharing credit and other benefits of joint discovery between researchers and non-researchers.

- *Doing Agricultural Research for Impact.* If the research continues to be done the way it is done now, not much more can be expected. The characteristics of research that might be more beneficial to the research users include; Innovation systems perspective; integration of enterprises and disciplines; and linking to markets and policy. These need to be pursued in an action research mode.

Specific research priorities in health

Areas of priority for research in health include communicable and infectious disease management; management of lifestyle and nutrition related diseases; application of available tools and interventions; alternative health service delivery mechanisms; diagnosis and management of less understood/or neglected health problems; and pharmaceutical product development and quality assurance in pharmaceutical business. T

- *Communicable & infectious disease management.* About 80% of the major diseases are actually preventable and most of these are associated with water-related problems. Known interventions for controlling communicable diseases have not been widely taken up. This phenomenon needs further investigation. The issues to investigate include; socio-cultural influences on uptake of available health tools; impact of previous health interventions; pro-poor options for effective dissemination and uptake pathways for the management of diseases; and preparedness for emerging and the re-emerging communicable diseases.
- *Management of life-style and nutrition related diseases.* These are related to social class and nutrition. Areas of concern are: prevalence, impact and management of diet/nutrition related illnesses or disorders; “drug” consumption e.g. aphrodisiacs, heart stimulants and associated health risks.
- *Alternative health service delivery mechanisms.* Delivery of health services in remote areas where the majority of the poor live will remain a challenge because these areas are not attractive for professional health workers. The alternative in the short run is to develop such options that enable the rural communities access some basic health services from within their communities. In this regard, priority research areas include; innovative and community based mechanisms for health service delivery; monitoring household dynamics and access to various health services; verification, validation and standardisation of traditional medicines and practices.
- *Pharmaceutical product development and quality assurance in pharmaceutical business* The research issues here include: product development - formulation of drugs; characterisation and standardisation of herbal medicines/ remedies and innovative dose / prescription packages.

Specific research priorities in environment and climate change

The research priorities in environment and climate change relate to understanding climate change; forecasting, mitigation and mitigating effects of climate change; and cross-sectoral impacts of climate change.

- *Understanding climate change and communicating about it.* Realistic and context based evidence is needed to illustrate the phenomenon of climate change. This type of research should address; how climate change occurs; options for mitigation of climate change; roles and responsibilities of individuals, communities and governments with regard to climate change; incentives for reversing the effects of climate change.
- *Forecasting, monitoring and mitigating effects of climate change.* Targeting climate risk studies; impact of green house gases on the Ugandan environment.
- *Cross-sectoral impacts of climate change.* Specific areas of investigation include nature and magnitude of impact of climate change across sectors; sustainable natural resource use; coping mechanisms for technological needs and environmental

safety; land and land use policies that ensure food security and mitigate effects of climate change; and economic, social and cultural interactions with climate change.

Specific research priorities in governance

In governance, the priority research issues include:

- *Leadership and democracy in an African context.* Success or failure of development initiatives can be directly linked to the quality of leadership and existing structures and institutions that ensure accountability. Here, research needs to focus on: analysis of strengths, weaknesses and opportunities of different forms of democracy and the circumstance under which they perform; models for building visionary and accountable leadership and institutional frameworks for performance oriented systems; analysis of social and economic impacts of different forms of democracy practiced in Uganda so far and the lessons learnt.
- *Developing institutions and accountability systems.* Corruption is seen as the single most important factor that deprives and increases poverty. But also, corruption can only thrive where there are weak institutions to ensure accountability of resources and services. In this area, research could help to: analyse societal perceptions of corruption and practices that indirectly perpetuate corruption; exposing the extent of deprivation due to corruption and highlighting strengths and weaknesses of existing institutions in dealing with the problem of corruption.
- *Empowerment of society to demand for services and ensure accountability.* Empowerment of society to demand for their rights, services and ensure accountability is the most critical pillar of democracy and development. Research issues that relate to empowerment are: processes and models of empowerment in the African context; incentives and structures for increasing active citizen participation in decision making and enforcement of accountability at all levels; factors that fail the Western types of democracy and empowerment in Africa.
- *Policy development processes and their impact on implementation.* The intentions of policies and their practice are usually contradictory. The research issues here include: policy development processes and equity issues; empirical evidence to support/justify development of a policy; communication of policies to the public and their subsequent interpretation and implementation at various levels.
- *Strategic policy research for equitable utilisation of natural resource.* Recent discovery of oil in Uganda for example poses a lot of doubt on how such a natural resource would equitably benefit all Ugandans. The specific research issues here include: policy framework to guide wise exploitation of oil and ensure equitable benefits from it; avoiding the emergence of a powerful “oil state” that becomes dictatorial and ignores democratic values; how can oil resources to ensure benefit of future generation ; and what are the social and environmental effects of oil extraction.
- *Impact of policies on development.* Aimed at monitoring and evaluation of policies to draw lessons for continuous learning and improvement.

Cross-cutting priority areas

These are priority areas that cut across all sectors and may constitute development and research interventions. They are:

- *Education.* Both formal and informal education are important in building the capabilities of people to pursue focussed development goals. The areas of intervention in education are: curricula reform at all levels of education to foster productive skills and creativity; partnerships for improving quality of education; and civic education for empowerment.
- *Demonstration of returns to research investment.* To convince policy makers to invest in research, research must demonstrate its monetary value of returns to investment. The economic and social benefits of research have to be articulated clearly.

- *Partnerships.* partnerships are essential in research and service delivery but at the same time not easy to manage and sustain. The institutional arrangements and incentives for maintenance of partnerships seem to be the major constraints. Public-Private Partnerships (PPP) are much talked about now but actualising them is yet to be seen.
- *Developing capacity to do quality impact-oriented research.* The new ways of engaging in research that these consultations suggest require new capacities of all actors. Capacity development in this sense includes on-job training, coaching and mentoring. Researchers, research users and intermediary agents all need capacity strengthening to bring about development impact from research. Researchers need capacity in participatory problem analysis; research priority setting and targeting; social systemic skills and mindset change; research methodology; communication skills; skills for mentoring and coaching; team building; monitoring, evaluation; research management and scientific leadership; and specialized disciplinary skills (i.e. Masters and PhD training). The research users need capacity for self-organization; experiment and learning; emancipation to provide honest feedback, lobby and advocate for services and enforce accountable systems; and valuing knowledge/information as a production resource. The intermediary agents need capacity for knowledge management and exchange; development of dissemination materials and communicating with various audiences; facilitation skills; and mobilization and local organizations development.
- *Gender issues in research.* Gender is necessity in all development initiatives including research. Gender is used in a broad sense to take into account the voices of all social categories including those of women, children/youth, physically challenged people and other disadvantaged groups. There is a growing awareness of the importance of gender in research; the challenge is translation of awareness into practice. The gender related research issues are related to: involvement of disadvantaged categories of people in economic activities to reduce vulnerability and dependence; access to social services; access and utilisation of production resources; mainstreaming gender in development processes; and gender related constraints in conducting, dissemination and utilisation of research products.
- *Motivation and commitment of researchers.* Attitudinal behaviour and poor reward systems compromise the commitment of researchers to engage in research for development. The dilemma is in how researchers would engage and commit themselves to research that leads into improving the lives of the poor when they themselves are actually poor and frustrated.

The research process

There are issues related to the research process that have influence on relevance and impact of research to economic growth. These aspects are critical to the utilization of research by the intended beneficiaries. They include:

Generation and prioritization of research agenda

Relevance of research is related to how well the research priorities are developed and targeted. This also implies presence of institutional framework for developing and national research agenda. Whereas agriculture now has an umbrella organisation (NARO) responsible for generation and prioritisation of a national agricultural research agenda, there are no such bodies in the other sectors. Even in agriculture, there are still doubts whether a process exists for involvement of key stakeholders in development of the research agenda in an inclusive manner. In all sectors, research is largely driven by interests and priorities of the funding agencies and the researchers.

Integration of communication and learning

Communication and learning are often an afterthought in the research process. Consequently, uptake and utilisation of the research products is limited. Communication has to be an integral part of the research process right from inception. At inception, the research project needs to identify who will be targeted, the channels that will be used to reach them and the materials/facilities that will be used. These have to be budgeted for in the project. There is evidence that having communication specialists as part of the research team can be more effective in communicating research than training researchers to communicate. A communication specialist is likely to tailor messages to different audiences including the policy makers. Similarly, learning platforms and how they will be facilitated needs to be thought out early and budgeted. This is necessary for organisations to continue learning and adapting to the changing needs and contexts

Conclusions & Implications for DFID

Based on the outcomes of this consultation, the following are drawn as implications for DFID with regard to supporting research for development.

Research project development design. Economic growth is multi-sectoral requiring integrated interventions working through value chains with cross-sectoral linkages. Such a process engages multiple stakeholders and disciplines, but implies a relatively higher cost. To make research relevant to development, there is need for institutional framework and processes for generation of a prioritized national research agenda as a first step.

Project duration. It takes time to achieve impact. This means that investments will have to be long enough (about 5 years) to sustain engagement with a variety of stakeholders including the community, other service providers and policy makers.

Mode of engagement. Research has been done in Uganda for a very long time but its impact is still contested. More innovative ways of doing research need to be pursued. The news ways need to take into account the multi-faceted nature of development problems, and bring on board different actors to engage and learn together for change. that innovation in the research process and of the products generated? Addressing this question calls for engagement in new ways of doing research including capacity This also implies new capacities needed for various actors.

Communication of research. Communication must be part of the project inception with clarity on who the target audiences are and the channels of communication that will be used to reach them. Research institutions need to engage professional communication experts to manage communication with various audiences and using a variety of channels.

Funding research. Government funding for research is minimal. Nearly all the research going on now is externally funded by donors/development partners but now government prefers that donor provide budgetary support as opposed to direct project intervention. There is doubt that budgetary support will channel resources into research. Private sector organisations providing public good type of services too need support from government and donors. Direct intervention is preferred by the implementers of research but it should be pegged onto national research priorities. This implies helping the sectors to set-up institutional frameworks and procedures for national research agenda.

Capacity development. Capacity development is a wide term ranging from building competences of individuals and communities to engage in sound research processes to infrastructural and institutional support to create a conducive environment for research to happen. All these are important to build a research system that can deliver relevant and quality services. Related to this is the issue of motivation, retention and performance of the

researchers which is largely a responsibility of governments but are currently unable to satisfactorily do the needful. Building capacity of local institutions is critical for sustainability and relevance of research. It is therefore imperative that research projects integrate some aspects of capacity building that might enhance achievement of the research objectives.

1. Country Context - Uganda

1.1 Development Status & Governance System

Since 1987, the Government of Uganda (GOU) has been implementing economic reform programmes aimed at restoring economic growth and development. Uganda's broad macro policy objectives hinge on ensuring food security, economic growth and poverty eradication through which an average economic growth of about 5% has been sustained for over a decade. Over 70% of the total population of 27 million live in the rural areas and derive their livelihood from subsistence agriculture. The rural population also forms the large majority of the poor. The Poverty Eradication Action Plan (PEAP) is government's broad development framework in which government committed itself to reduce the proportion of the population living in absolute poverty from the level of 44% (1997) to almost 10% by the Year 2017.

PEAP has undergone two revisions since it was first developed in 1997 and currently is based on 5 pillars namely:

- Economic Management;
- Production, competitiveness and incomes;
- Security, conflict-resolution and disaster-management;
- Good Governance;
- Human Development

Generally, Uganda has progressively created an environment that supports economic and agricultural growth and the reduction of poverty. Nevertheless the rising poverty after 1999 especially among farming communities and the weaker performance of the economy are indicators that the economy still faces some critical challenges that need redress. The challenges being faced in the implementation of these pillars are identified in the background to the budget 1997/8 and include scarcity of resources; lack of absorptive capacity and; imbalances in the economy.

Governance in Uganda is linked to progressive devolution of power to the district level local governments through the decentralisation policy implemented since the early 1990s. A district is led by an elected chairperson who provides political leadership. The Chief Administrative Officer (CAO) is the accounting officer at the district and is audited by the office of the auditor general for purposes of separation of the political and civil service leadership and to create a transparent and accountable system. Alongside decentralisation, the government has pursued a liberalised and market oriented economy which has increased the participation of the private sector in providing public services that were originally a preserve of government. The intention is to increase effectiveness, efficiency and access to services in all sectors of the economy. The National Agricultural Advisory Services (NAADS) is a typical example of public funded but privately delivered extension services which was originally provided directly by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

Uganda's development has been guided by the principles of equity, transparency and accountability. Through this, substantial progress has been gained on the social dimension particularly with regard to gender parity in governance and education. As an affirmative action, the parliament and all structures of governance have female representation of at least 30%. Similar action been taken to support the education of the girl child especially at University level by granting all female candidates an additional 1.5 points as a means of increasing female enrolment in public universities. Progress has also been made in the control and management of HIV/AIDS with reduction of infection rates due enhanced public education and campaigns.

1.2 Research Policy Environment

Differences occur in different sectors in how research is organized and conducted. A brief is given on the state of research in each of the four areas of focus in this study.

Agriculture

In agriculture, research and extension have reformed in order to implement the Plan for Modernization of Agriculture (PMA) – the strategic framework for operationalising the Poverty Eradication Action Plan (PEAP). PMA targets at transforming the subsistence farmers into market-oriented commercial producers. In this perspective, the National Agricultural Advisory Services (NAADS) was developed to reform and revitalise the public extension service delivery. Similarly, the National Agricultural Research Systems (NARS) policy (2005) was developed to provide research services to address the needs and opportunities of the poor in a market driven environment.

The NARS policy aims to promote delivery of high quality and efficient agricultural research services by enhancing the participation and coordination of the public as well as the private service providers. The cardinal principles on which the NARS policy is based are: responding to market opportunities; empowerment of stakeholders; scientific integrity and professional excellence; decentralization of research services; promoting participation of the private sector; civil society and farmers; separating public funding from research services delivery; mainstreaming gender in research; social, human and environmental concerns; and quality assurance of agricultural research services.

The NARS policy led to opening up of the agricultural research arena to other public and private actors. Before the NARS policy, the National Agricultural Research Organisation (NARO) dominated public agricultural research and received nearly all public research funding. NARO has now been restructured to become an all embracing apex body for guidance and coordination of all agricultural research activities. The overriding principle in the restructuring of agricultural research system is to separate public funding from research delivery and broadening the range of research providers. The actors in the NARS include:

- Public research institutes (formerly under NARO)
- Universities and other tertiary institutions
- Private companies/private sector
- Farmer organisations
- Advisory service organisations
- NARS linkage institutions – the regional and international organisations
- Individuals

According to the Director General, NARO, priority setting for agricultural research should ideally involve a variety of key stakeholders starting at the grassroots level, the Zonal Agricultural Research and Development Institutes (ZARDIs) and these priorities are filtered through to national level priorities. The secretariat provides guidelines for processing the demand, but it is mandatory that the community/farmers are involved in the process.

Health

Unlike agriculture, health does not have an apex body to coordinate research and therefore creating a grey area for national health research priorities. The Uganda National Health Research Organisation (UNHRO), a body intended to manage and coordinate health research has been in formation for nearly a decade. There is however hope that it might be borne soon basing on the information that a bill seeking to legitimise its establishment has been forwarded to parliament. Research is therefore scattered in the various units and projects within the ministry of health with no mechanism for synergy. Those engaged in

health research generally content that health research priorities generally emanate from international bodies like the World Health Organisation (WHO) and largely conform to the interests of the funding agencies.

This is a scenario that also applies to the other sectors because of lack of national funding for research but it is made worse in health by absence of a mechanism to collate national research priorities. A good example is the malaria consortium whose research agenda is basically determined in United Kingdom though some of the research issues are adjusted to the local situation. The newly created malaria research centre is making attempts to contextualise malaria research through participatory research priority setting but this is only with regard to malaria. Other examples include research on HIV/AIDS particularly research directed towards developing HIV/AIDS vaccine. Because of lack of coordination, most of the research taking place in health is skewed towards malaria and HIV/AIDS.

Environment / Climate change

Uganda is endowed with natural resources which are rich in biodiversity. Some of these natural resources are trans-boundary such as lakes, rivers and mountains, shared with neighbouring countries. The State of Environment Report 2005 highlights the following challenges:

- increases in flood and drought frequencies – imposing adverse impacts on agricultural dependent communities;
- land degradation, especially through soil erosion causing high cost of environmental degradation;
- high depletion of forest resources - protected areas are only 30% of the national forest cover;
- Uganda has significant quantities of the water resources with wetlands covering about 13% of its total area but it is ranked in a group of countries that must plan and secure more than twice the amount of water they used as of 1998 in order to meet reasonable future requirements.

The National Environmental Policy places Uganda's environment in the custody of the National Environment Management Authority (NEMA) but NEMA does not have a research component. Research related to environment is largely conducted by NARO and universities and cross-border organisations such as the Nile Basin Initiative (NBI), Lake Victoria Environmental Management Project (LVEMP), Lake Kioga Mitigation Projects (LKMP) etc. The focus here is on management, sustainable utilisation and conservation of the natural resources. The term climate change is rather new on the research scene and is perceived to be driven by global research agenda rather than national. Whereas it is recognised that environment change is important especially this study did not identify research that is specifically labelled to be on climate change. Without demeaning the importance of climate change, there seems to be more concern and appreciation of the environment than climate change.

Governance

The Governance system in Uganda has evolved since its independence from the colonial masters in 1962. The pursuit of the capitalist strategy to Uganda's post colonial economic development stimulated urbanisation without the necessary industrialisation, as well as tendency to western consumption patterns and tastes without development of the matching productivity technologies and skills. The present regime which came into power in 1986 has liberalised trade, as a way of stimulating technology and development. There have been some successes such as the emergence of a number of Agro technological developments in the dairy industry as well as the small scale manufacturing industry. These successes have

not been equitably enjoyed country-wide because of two major challenges. First is the political instability that has characterised the Northern and parts of Eastern Uganda for the past two decades. Second is the rampant corruption that has further marginalised the poor and denied them access to vital services such as health, education and basic infrastructure.

The gains in the democratisation process particularly the devolution of power to the district local governments have been undermined by corruption and lack accountability. Further the multi-party dispensation that came in place with the 1995 constitution has been characterised by discontent, malpractices in the electoral processes at all levels, and incidences of human rights abuse. There is however, little research going on in governance except for issues related to human rights where international and local human rights organisations document and periodically publish the state of human rights in Uganda. Other organisations such as the Uganda Debt Network are trying to bring out evidence of mismanagement of resources as a way of influencing enforcement of accountability systems. In many cases, these organisations are seen as being antagonistic to government and therefore, their findings are not often mainstreamed in the operations of the system.

There is another school of thought among the people consulted that most of the problems of governance in Uganda don't need research, they just need commitment to enforcement of existing guidelines and laws. It is believed that there is no new information that research will generate that is likely to change the situation; instead pressure should be exerted to enforce regulations and laws that guarantee accountability in all aspects.

2. Methodology for Consultations

The consultations in Uganda were conducted by PICO-Uganda as a sub-contract from CABI. The consultations involved three main methods involving 74 respondents as summarised in Table 1 and detailed out in Annex II.

One-on-one key informant interviews: A total of 27 respondents (8 women), in the various categories were interviewed using a checklist (Annex I).

Focus group interviews / discussions (FGD): This involved a discussion with two or more respondents using the same checklist as for the key informant interviews. Altogether, 29 people, 5 of them were women, were involved in 11 FGDs. Two FGDs were conducted upcountry and nine in Kampala. Overall, 2 FGDs were with Agricultural researchers, 1 with Agriculture public servants, 1 on Governance, 1 with health public servants, 3 with health researchers, 2 with health CSO/NGO service providers, and one feedback discussion with 10 members of staff at the DFID office Kampala.

Workshop: This involved 25 participants (8 women), and was held mid-way the consultation period (report attached as Annex III). Some of the workshop participants had also been involved either in the key informant interviews or FGDs. Table 1 provides a summary of respondents who participated in one or more methods used for data collection.

Table 1: Respondents by category for each method of data collection

	Agriculture	Climate change	Governance	Health	Total
Politician	0	0	7	0	7
Civil service/policy maker	1	2	1	3	7
Researcher	14	2	3	10	29
CSO/NGO	4	3	5	4	16
Intermediaries/practitioner	6	0	0	2	8
Private Sector	3	0	0	2	5
Beneficiary/end user	1	0	0	0	1
Donor- DFID Kampala					10
Total	29	7	16	21	83

Whereas most of the respondents were based in and around the capital, views from upcountry were deliberately targeted. Particularly, views from Northern Uganda and in this case Lira district were sought because of the unique social and political situation which has persisted in the area. As mentioned earlier, Northern Uganda has experienced social and political conflict and insecurity forcing the majority of the people to live in concentration camps, the Internally Displaced People's Camps (IDPs) for nearly two decades. Similarly, Nakasongola district was targeted because of its rather unique environment within the central region. Nakasongola is part of central region but it is within the cattle corridor characterised by semi-arid conditions and yet relies on a mix of economic activities including livestock, cultivation and fishing.

The consultations aimed at generating information from those holding positions targeted in each sector. In this regard, gender was not a deliberate categorisation of the respondents; however, it turned out that 25% of the people consulted were women.

The major outcomes of the consultations were shared in a meeting attended by ten staff based at the DFID office in Kampala. The intention was to update them on the emerging issues in the consultation and to seek their input. The comments and opinions expressed in that meeting are integrated in this report. The views generated were analysed in a qualitative manner as described in the subsequent sections of this report.

3. Drivers of Growth - Relative Importance & Opportunities

Research is intended to contribute to economic growth in general and in the case of Uganda, this also implies targeting improving the wellbeing of the poor. In this study, respondents expressed opinions on what they thought were the critical sectors for investments in order to stimulate economic growth in general but also have significant impact on the poor. Opinions expressed about the importance of the sectors are described in their relative order of importance below.

3.1 Good Governance

Good governance is seen as the framework for foresighted planning; resource management and utilisation; implementation of development programmes; and accountability systems. It influences priority setting and how investment can be translated into wealth and economic prosperity to benefit all citizens. Nearly all respondents thought governance is the most critical because it directly influences how development is pursued in all other sectors but on the contrary they highly doubted that the answer to governance issues lies in research. Most respondents kept on asking what it is that research will bring out that is not known already. Questions such as these emerged during the interviews: Who doesn't know that corruption is bad? Who doesn't know that abuse of human rights is wrong? Who doesn't know that war is terrible? What is needed is the seriousness in implementation and the commitment of leaders to fight those bad practices.

The following were pointed out as challenges for Uganda to build good governance system that supports equitable development and poverty eradication.

- **Developing national institutions** that work effectively and efficiently without being patronised. There is a feeling that the current governance structures though decentralised are still controlled by the centre. An example is given here of the pronouncements of new districts by the president rather than use established structures and procedures on how to create new districts. Another example is about the restriction of funds sent at the district level as conditional grants – these funds are tied up to be spent on specific things and in a particular way regardless of the needs of the districts.
- **Accountability & ethical conduct to ensure value for money** – investments worth the resources expended and impact of the resources expended on the targeted beneficiaries. In other words minimal corruption and mismanagement of resources which deprive the poor even more. Corruption is the single most important problem which is attributed to weak institutions for accountability and lack of political commitment to fight corruption. Here a finger is also pointed to the donors who either encourage or in some cases also participate in corrupt tendencies. The members of parliament claimed to have evidence to this attest but this could not be obtained. It is also thought that donors could help improve the accountability system if they followed up activities where their money is claimed to be spent, but they rely on falsified reports from the implementers. This seems to be a contest of the budgetary support by donors which assumes that the system has its own priorities and structures for accountability. An audit by donors is being called for as a means strengthening the accountability system.
- **Empowerment of society** to challenge systems for effectiveness and enforce accountability through their citizenry rights. Whereas policies such as decentralisation and privatisation were partly intended to empower society, it largely remains a dependent society.

- **Evidence based planning.** Planning and policies are largely developed based on political sentiments rather than proven evidence. The challenge is how to develop and nurture a culture of evidence based planning and targeting of development initiatives. This calls for policy oriented research and close interactions between researchers and policy makers. But on the other hand, evidence-based policy development is more easily said than done. On this issue, DFID is also challenged to demonstrate that its policies are based on the research it funds. The challenge is moving from rhetoric to practice.
- **Weak internal capacity to drive development.** More than half of Uganda's budget is financed by overseas development partners whose support also comes with conditions attached. The situation is compounded by weak capacity to articulate and pursue holistic development programmes. One respondent from a research institute put it clearly that; "How can you expect donors to fund our national priorities when we don't have any?" There is a cry of negligible funding for research from government across all sectors and this is associated to low importance that government attaches to research in a development process.

3.2 Education

By way of emphasis, education follows governance in relative importance. Education determines the pace and impact of development activities by imparting capabilities in people to generate and utilise information and knowledge to improve their lives. It enhances productive skills to harness opportunities for wealth creation and management development challenges. The common belief that "knowledge is power" was invoked several times while referring to the importance of education as a custodian of knowledge. In health for example recent gains in reduction of maternal and infant mortality rates were partly attributed to enhanced education (informal and formal) including the universal primary education.

The challenges of education however, include reforming the education system to translate knowledge and skills gained into economic and social value to the individuals and the community at large. The current education system is criticised for being deficient in imparting entrepreneurial skills that enable people to take advantage of existing opportunities for wealth creation. Investment therefore needs to be made in reforming the curricula at all levels to move away from the present reproductive to a more creative education that promotes endogenous development.

3.3 Agriculture

Agriculture directly employs over 70% of population and will continue to be the major source of livelihood to the majority in the foreseeable future. The majority of the poor depend on agriculture as a source of livelihood and therefore investment in agriculture, particularly in value addition of agricultural produce can release a variety of welfare benefits to the poor at least in the short-term. The opportunities pointed out with regard to agriculture include the high agricultural potential which makes Uganda have a comparative advantage in the production and productivity of agricultural products. Uganda could easily become a major supplier of niche products such as organic products that have a premium price on the international market. In the short-term, addressing poverty implies targeting agriculture as exemplified by the PMA and its support pillars. Besides agriculture, agriculture stimulates agro-related industrial development which in turn provides employment and income to more people and thereby contributing to overall economic growth. The emergence of bio fuels was also cited as a possible opportunity to benefit from Uganda's agricultural potential.

On the other hand some people at the workshop thought that agriculture is not the long-term driver of economic growth since a lot had been invested in agriculture to-date and but there

was little to show for it in terms of impact on livelihood. However the majority of the participants still argued that given the numbers of people who live on agriculture and the importance of agriculture in the national economy, not enough investment has been made in it. The budgetary allocation to agriculture in the 1997/8 budget which was said to be the highest in recent times was only 4.3%. And from experience, not all the budgetary allocation may be released.

3.4 Health

Good health is a pre-requisite for all development endeavours. Health directly affects production and productivity of the labour force, hence development. There is a cyclic relationship between disease and poverty as medical professionals describe in box 1 below. Disease and poverty con-influence each other and breaking out of the poverty cycle is also associated with disease.

Box 1: Relationship between health and poverty

Disease leads to poverty by reducing the capacity to work/produce and indirectly other people spend time caring for the sick or mourning the dead instead of producing. Conversely poverty too leads to disease because people cannot afford the basic health facilities/services. But as they get out of poverty into affluence, they tend to suffer diseases of affluence such as diabetes, hypertension and obesity.

Source: Health researcher and trainer

The public health facilities in rural areas are ill-equipped with no staff nor adequate drugs. So the people in rural areas depend on drug shops, and because of poverty, they buy under-doses, which only make them chronically ill, and hence chronically poor.

Source: Health professional in NGO

Generally research in health is scattered in different units and projects, with less coordination at the sector level. Firstly, there is no national research policy in health indicating a lack of framework within which relevant research is conceived and conducted. This has led to neglect of some health aspects and concentration on a few diseases. More recently, research in health has been heavily skewed towards HIV/AIDS and malaria.

Health sector performance is below standards in critical indices, such as the proportion of deliveries taking place in government and private not-for profit (PNFP) health facilities; which inevitably culminate into high maternal and infant mortality. In addition, the proportion of health facilities with tracer medicines all the time and sanitation measured by household latrine coverage is below standards leading to high incidence of preventable diseases. Uganda's high fertility rates and rapidly increasing population will continue to exert more pressure on existing health facilities.

The health sector's performance over financial year 2006/07 has had many challenges including low and stagnant levels of funding from the government budget; increasing but rather unpredictable and earmarked funds from Donor Projects and Global Health Initiatives.

Some of the challenges in access to health by the majority of the population, particularly the poor include alternative mechanisms for provision of health services, and expanding health research to cover a wider range of diseases and conditions.

3.5 Climate Change

Climate change is a relatively new phenomenon in science with cross-cutting effects especially to the sectors of health (disease patterns) and agriculture (production systems). But climate change is also a consequence of human activity. The relationships between climate change and other sectors need further exploration and understanding to be able to develop appropriate strategies to deal with climate change. Similarly the relationships between its causes and effects are not well understood and communicated. Climate change has attracted a negative connotation but as some respondents argued, climate change could also present some opportunities. The sale of carbon is one such opportunity for countries like Uganda. Another respondent challenged that if for example Uganda had proper mitigation strategies, the recent floods in the East and Northern Uganda which are believed to be an effect of climate change could have been harnessed in more productive ways.

4. Research Priorities

The specific priorities are discussed under the respective sectors though they were not exclusively provided by respondents categorized in those sectors. The issues that cut across all the sectors are presented separately.

4.1 Research Priorities in Governance

As argued earlier, there seems to be little hope among the people consulted that research can significantly influence improvement in governance. What is thought to be needed is enforcement of laws and standards as well as ethical conduct in implementation of the development agenda. It is argued that those in governance know very well what is right for them to do but they deliberately choose to do the wrong things for their own benefit. A respondent from a human rights network described this as “competence of ignorance”. It is not a lack of knowledge or capacity because as he argued, capacity should be directed to those who don’t have the knowledge or those who have the knowledge but don’t know what to do. Areas where research could make a contribution are described below but they may incorporate both research and implementation.

Leadership and democracy in an African context

Success or failure of development initiatives can be directly linked to the quality of leadership and existing structures and institutions that ensure accountability. Leadership needs to be developed but also processes through which leaders emerge need to be legitimate and authentic. Democracy is often interpreted to mean period elections no matter how free and fair they may be. But this far below the mark as one respondent asserted in Box 2.

Box 2: Democracy and elections

What is clear is that elections in themselves cannot guarantee democracy in the absence of responsible leadership, demonstrated respect of and for constitutionalism and the presence of a vibrant civil society that can mobilise masses on issues of appreciating and demanding accountability from the state, and the wider public, private and not for profit sectors.

Source: Consultant/researcher

A leader of a district local government expressed frustration over the failure of western type of democracy based on multi-partism. He argues that it only fuels conflict in community and diverts them from focussing on the common goals of development. This type of democracy needs to be adapted for Africa and grounded in African values. Some of the specific areas of focus for research included:

- Analysis of strengths, weaknesses and opportunities of different forms of democracy and the circumstance under which they perform. A combination of several of these might be more appropriate but this has to be based on empirical analysis.
- Models for building visionary and accountable leadership and institutional frameworks for performance oriented systems. What are the responsibilities of leaders and what characteristics should be looking for in making choices for their leaders?
- Analysis of social and economic impacts of different forms of democracy practiced in Uganda so far and the lessons learnt. These can be reference points for forging a way forward.

Developing institutions and accountability systems

Corruption is seen as the single most important factor that deprives and increases poverty. But also, corruption can only thrive where there are weak institutions to ensure accountability of resources and services. While it is common knowledge that corruption is undesirable, research can contribute to dealing with the problem if it focussed on:

- Analysis of societal perceptions of corruption and the practices and attitudes that directly or indirectly perpetuate corruption. This is fundamental for the society to become active in fighting corruption.
- Exposing the extent of deprivation due to corruption; who are the most affected categories of citizens? What is the collective responsibility of the various stakeholders in dealing with the problem?
- What are the strengths and weaknesses of existing institutions in dealing with the problem of corruption? What kind of structures and institutions need to be in place to enforce accountability and how can this be enforced with the participation of the civil society?

Empowerment of society to demand for services and ensure accountability

Effective participation of society in development is to a large extent dependent on the level of empowerment of the population. Empowerment of society to demand for their rights, services and ensure accountability is the most critical pillar of democracy and development. This implies that people have to be aware of their rights and pursue them as a right and not a privilege. Empowerment also means that people have to be given space to act but even more important, they must be able to utilise that space to influence processes and outcomes.

A human rights activist associated the problem of empowerment in Uganda to a powerful state that muzzles the rights of people – those who demand are seen as making the country ungovernable, and yet it is by observing human rights that the country can be governable. A similar argument is advanced by an NGO researching on governance that; *“for the last 21 years, donors have been building capacity of government to become too powerful without building commensurate capacities in other sectors. This has undermined sectors such as the civil society and political opposition which are meant cheque the excesses of government”*. The bigger challenge however is how to bring about empowerment of society regardless of their social status. Many models of empowerment such as affirmative action concentrate on providing space and not utilisation of that space, which ends up with manipulation disguised

in representation. Could empowerment be achieved through education, if so, what kind of education could it be? Could it be through mass mobilisation – a revolutionary approach, if so, how can this be done? Could it be through civic education, if so who will provide this and how can it be provided? Aware that a combination of approaches is necessary, there is still need to analyse the underlying factors that would trigger empowerment of African communities. In this regard research could assist in the following:

- What are the appropriate processes and models of empowerment in the African context? How can this empowerment be achieved in Uganda?
- What incentives and structures need to increase active citizen participation in decision making and accountability enforcement accountability at all levels?
- Why have the Western types of democracy and empowerment not been very successful in Africa and what are the alternatives?

Policy development processes and their impact on implementation

Policies are developed with the intention of improving service delivery and overall wellbeing of all members of society. The intention is good but how these policies are interpreted and finally implemented leaves a lot to desire. This dilemma emanates from the processes of developing those policies and how the policies are finally communicated and internalised by those who put them into practice. Bad implementation of policies and programmes is probably the most worrying aspect of development. Research could be useful in analysis of:

- Policy development processes and identification of what needs to be done to ensure equitable development
- How are policies initiated and what is the empirical evidence to support the policy development
- What evidence and how much of it is needed justify a policy
- Who ultimately influences the policy process
- Communication of policies to the public and their subsequent interpretation and implementation at various levels

Strategic policy research for equitable utilisation of natural resources

The recent discovery of oil in Uganda poses a lot of doubt on how such a natural resource would equitably benefit all Ugandans. An NGO working on advocacy and policy research sees a need to begin engaging into policy dialogue and research into the potential impact of oil extraction, democratic use of proceeds from oil during the extraction and after exhaustion of the resource. There is also fear of the likelihood of creating a powerful “oil state” with the potential to fuel civil strife in the country and region. The specific issues here include:

- What policy framework will guide wise exploitation of oil and ensure equitable benefits from it?
- What needs to be done to avoid the emergence of a powerful “oil state” that becomes dictatorial and no longer dependant on democratic values?. The state can be too rich to listen to opposing voices.
- What investments should be made from oil resources to ensure benefit of future generation – the posterity concern?
- What are the social and environmental effects of oil extraction?

Impact of policies on development

Many policies have been experimented with, but few lessons have been distilled from those experiences to guide better development pathways. The capacity to monitor policy impacts on development is very weak leading to repetition of policy related mistakes which only worsen the poverty situation. Evidence based policy development is not possible without reliable data on the impacts of previous policies and the lessons they present. One example given in the consultation was the analysis of the impact of decentralisation, privatisation and taxation policies on poverty and economic growth in general?

4.2 Research Priorities in Agriculture

Post harvest handling and value addition

It is estimated that that up to 30% of agricultural production is lost through post-harvest handling and a corresponding amount of income is lost. Lack of proper storage and value addition are responsible for the low prices of agricultural products. Value addition is probably the single most significant constraint for agriculture in Uganda. Emphasis on value addition could possibly triple the incomes of farmers even without increasing the current production. Specific areas of research include:

- Equipment and techniques for primary processing to increase shelf-life of various agricultural products.
- Product development, packaging and branding. A variety of products could be developed from for example banana. Development of acceptable products on the market is a critical area of research that can directly increase incomes of the producers and also enhance agro-industry development.
- Attitudes towards consumption of processed products to create a local market. There is a tendency for local consumers to insist on traditional products. Product development therefore has to be followed by a shift in attitudes towards processed products in order to develop strategies that will promote their consumption.

Markets and market access

Like value addition, marketing and market access severely constrain agricultural production and farmer income. Availability of markets can stimulate innovation and knowledge utilisation. A good example here is vanilla which was neither supported by public research nor extension but because the crop had a good market, farmers sought knowledge and innovated to produce it for export. The challenge though was the weak understanding of the market dynamics and strategies for adaptive response. In this regard, research needs to be directed towards:

- Market intelligence and market information systems for the rural producers to be continuously informed of what is happening in the markets so as to develop strategies for appropriate responses.
- Market dynamics and consumer behaviours for local and international markets to guide production patterns. The major constraint is not the lack of markets per se but the very low prices of agricultural produce especially during the harvesting season. Partly this is because most farmers produce the same products for a relatively small market. Understanding the market dynamics for different products would farmer decisions on profitable investments. The market intelligence helps to know which market offers a better opportunity.
- Profitability of different levels in the value chain to enable decision making for optimal investment. It is believed that of all the actors in the value chain, farmers get the least

returns to their investment but these allegations are not backed by concrete evidence. Research into this area would help farmers and other actors to identify what else they need to do to maximise returns to their investment. If it was therefore how much more a farmers would earn if they transported their product to the market instead of relying on middle-men traders, this would be an incentive for farmer organisation to deliver their produce to the market in a more cost-effective manner and earn a lot more.

Production systems management

Different agro-ecological zones have different agricultural potentials. The important research issue here is focussing the research to develop relevant practices and technologies for enhancing production and productivity within those agro-ecological zones while ensuring sustainability. There is a feeling that the current ZARDIs do not seem to take into account the diversity within those areas in terms of priorities. Box 3 below illustrates this dissatisfaction.

Box 3: Agro-ecological zones and relevance of research

Our district is unique within this sub-region. It is semi-arid unlike the other districts. The major enterprise is livestock and the priority crops are different from the rest of the district. But when compiling these priorities, even if stakeholders from the district are involved in the process, our preferences will never emerge among the zonal priorities.

We have peculiar problems such as termites which destroy crops and pastures especially during the dry season but nobody is doing research on this. Instead, research is promoting things like new high yielding banana varieties which are not our preference.

Source: District leader

The key research areas within production systems management include:

- Sustainable feeding systems for both livestock and crop production systems. For the crops, focus should be on nutrient and soil fertility management while for livestock the focus should be on conservation and preservation of livestock feeds. There is evidence that farmers have not attained the maximum potential of existing varieties and breeds (disparity between on-station and on-farm yields) primarily due to inadequate feeding and management but this must also take into account the cost-effectiveness and sustainability issues.
- Water harvesting and irrigation technologies to guarantee water for production and thus production and income to the farmers. Farming in Uganda is rain-fed and production is dependent on sometimes unreliable rains. Water for livestock and crop production is a major constraint. Technologies and innovations for harnessing water including irrigation are critical to sustainable agricultural production.
- Appropriate technologies to reduce drudgery on the farm and over-reliance on the hand hoe. Farm labour has always been taken for granted but as more youth prefer to move to urban areas in search for employment, labour in the rural communities is increasingly becoming a major constraint for production. This is further exacerbated by morbidity from pandemics such as HIV/AIDS. Increasing urbanisation puts more pressure for food produced largely by the weak and elderly population.
- Organic farming practices including organic pesticides. The small-holder farmers in Uganda have a high potential to produce organic products for the export market but this has not been a focus of research.

Development of technologies for increased production and productivity

Whereas this has been the major focus of agricultural research, a lot more needed. To cope with the increasing needs for food and fibre, research has to continue developing technologies that increase production and productivity. But these technologies have to fit the social contexts as well, hence integration of biological and social research. Ultimately, success of research should be measured in terms of benefits at the household level. Box 4 is a comment of one of the respondents about the integration of biological and social issues in agricultural research

Box 4: Integration of social and biological issues in agricultural research

Most of the agricultural technologies are tested against biological factors such as yield and resistance but they are not tested on the social elements of farmers' preference such as taste, colour etc. Ultimately it is the social factors that determine whether farmers adopt the technology or not. A good example is the new groundnut varieties which are resistant to rosette disease and are also high yielding but unfortunately they either have colour that is not liked or the seed sizes are just too small. Despite their advantages, they are not widely grown by farmers.

Source: Independent consultant, CSO

The specific areas for research include:

- **Seed systems and breed improvement:** This is where biotechnology could be applied as a useful tool to develop varieties/breeds with high productivity and resistance to adverse conditions many of which result from climate change.
- **Fertilizer production and management:** High yielding crop varieties also require supplementary nutrient supply. Fertilizer use in Uganda on traditional crops is very low partly due to high costs of the fertilizer. Local manufacture could reduce the cost and increase access of fertilizers.

Inter-relationships between agriculture and other disciplines/sectors

Agriculture influences other sectors as much as it is influenced by those sectors. There is a close relationship between agriculture, health and environment/climate change but research delineates them as if they were unrelated. A good example in Uganda is the relationship between malaria, agriculture and climate change. Some farming systems, particularly the rice system, create favourable environment for breeding of the malaria vectors (mosquitoes). Similarly, temperature change (an effect of climate change) over the past decade is considered to be responsible for emergence of malaria in the highlands of Uganda where it never existed before. These relationships need to be explored more through research in order to develop integrated interventions. The specific issues for research here include:

- Relationship between farming systems, climate change and killer diseases. Box 5 provides hints on such the relationship between change in farming practices and malaria incidence and it is such research that explains new disease phenomena.
- Agricultural production and nutrition. There is concern that some of the areas that produce a lot of food such as the South-Western Uganda are also the ones with highest levels of malnutrition.

- The effect of other sectoral policy reforms on Agriculture and food security, for example; whereas Universal primary education is to ensure education for all, the children who used to contribute labour for food production and security are now drawn to schools. What are cost benefits related with this shift, and what are implication on the women who now have to single handed ensure production of sufficient food for the family?

Box 5: Relationship between farming practices and malaria

A prominent researcher now based in Mbarara University has shown a relationship between emergence of malaria in the pastoral communities in South-Western Uganda to change in farming practice. In the past malaria did not exist in the pastoral communities because they were mobile and lived far away from the water sources where mosquitoes breed. As the farmers pastoralists abandon the nomadic practice to settle in specific areas, they also dig dams to provide water for their animals. To protect the water sources from other cattle keepers, they tend to live near the dams and malaria has emerged in such communities because the mosquitoes also breed in the dams.

Source: Presentation at the Malaria research priority setting workshop, Sheraton Hotel, Kampala, 9th November 2006

Agricultural finance and risk management

Much as agriculture employs the majority of the population in Uganda, it is one of the sectors where it is difficult to access finance for investment. Interest rates and repayment schedules of commercial loans do not favour agriculture which has a long gestation period and is characterised by high risks due to vagaries of weather and unreliable markets. This is the main reason the agricultural professionals who are more enlightened about these risks are hesitant to invest in agriculture. If agriculture is to thrive and develop as a business, it has to be supported by finance and insurance institutions. There are policy and operational issues in agricultural finance and risk management. Research issues here include:

- What evidence is needed to influence policy formulation to support agricultural financing and insurance? If such policies existed, poverty eradication programmes such “Prosperity for all” would channel a substantial amount of resources to agricultural finance and risk management in agriculture.
- What mechanisms and institutional arrangements are needed to attract investment and professionalism in agriculture?

Doing research on research – uptake and utilisation of agricultural research products

A major criticism of agricultural research is that its outputs have remained on the researcher's "shelves" and largely not utilised by the intended users. There has been a disconnect between the demand side (technology users), technology developers and the markets. Relevant technologies and knowledge generated by research need to be promoted and utilised by the intended users i.e. research into use. Why research has not significantly transformed the practices and nature of agriculture to-date is a researchable issue that will help to redesign the research system. While a new way of doing research such as the Integrated Agricultural Research for Development (IAR4D) and demand led approaches are being pursued to enhance relevance and uptake of research products, there are many questions that remain challenging to the operationalisation of those approaches. The concept of demand-led agricultural services presumes existence of a strong demand side. Unfortunately not much investment has been made to develop and strengthen the users/farmer institutions as a component of the research system. The specific issues to be addressed include:

- How can public-private partnerships (PPP) be developed to deliver agricultural research services effectively and efficiently? What are the success/failure factors for PPP in the Ugandan context? PPP are essential in the delivery of effective research but development and maintenance of the partnerships is not easy.
- What are the mechanisms for engagement of multiple stakeholders along the value chains? What are the challenges for managing multi-stakeholder platforms characterised by unequal power relations and what are the appropriate strategies for dealing with those challenges?
- How can small-holder farmers be organised and empowered to analyse their situation and articulate research needs?
- What are the capacities and competences needed by various stakeholders including farmers to productively engage in the research process? How can these capacities be developed?

Research about these phenomena is in fact doing research on research, which is essential for improvement of uptake and utilisation of research products.

Knowledge management systems for agricultural development

Knowledge in this sense includes both indigenous and scientific knowledge. 'Supremacy' of scientific knowledge and neglect of indigenous knowledge in the research process was one of the reasons given for low uptake of agricultural research products. Knowledge is co-created and shared in a social environment. Researchers therefore need to engage in processes that allow integration of indigenous and scientific knowledge to foster farmer experimentation as a platform for joint learning. The research issues here are:

- Options for effective knowledge management in communities. How can communities access and disseminate relevant knowledge?
- What are the roles of agricultural professionals in the community knowledge systems?
- What are the desirable attitudes for researchers, farmers and other actors to co-create and manage knowledge for mutual benefits?
- How can researchers and non-researchers share credit and other benefits of joint discovery and co-created knowledge. How indigenous knowledge is recognised and rewarded – who benefits and who doesn't?

Doing Agricultural Research for Impact

Agricultural research has always been done but its impact is still elusive. If the research continues to be done in the same way, not much more can be expected. For the research to have the desired impact, new ways of engagements are necessary. This is already realised by the agricultural research institutions in Uganda. For example, NARO has been experimenting with several options including the Client Oriented Agricultural Research for Development (COARD) and now the Integrated Agricultural Research for Development (IAR4D). The following are some of the key characteristics of research for impact in agriculture.

- **Innovation systems perspective:** The key feature here is the multi-stakeholder engagement in the value chain with the ultimate goal of impact. The different stakeholders continuously clarify and redirect research for relevance and the research is linked to other actors including the users. The IAR4D is an example of an innovation systems type of research. Based on focus group discussion with researchers, some of the successes of IAR4D experiment include team building inter-disciplinary teams that now begin to look at research in a broader market chain, engage with industry to develop and test different products, integrate market research in their research processes etc. But this has been achieved out of a two year engagement in action learning and action research.
- **Integration:** Integration here is in two ways. First is the integration of livestock and crop enterprises and second is the integration of agriculture and other disciplines/services. An independent consultant gave the example of some NGOs that supplied heifers to women as part of gender targeted agricultural programmes. The NGOs train the recipient families on the management of the animal and use of animal manure to enhance crop production especially vegetables; nutrition for the families to make the best use of the foods they produce; investment and saving i.e. doing agriculture as a business; gender relations and; environmental management etc. This is a more holistic approach to development which brings together different disciplines in a synergetic way to bring about impact at the household level.
- **Linking to markets and policy:** Markets are the stimulant to agricultural production and development in general and policies guarantee sustainability of achievements. Agricultural research must continuously be linked with markets and should be able to influence policy; otherwise its impact on poverty will be minimal. New platforms for interaction between markets, and policy have to be created and facilitated. A good example of linkage with markets in Uganda is an association of potato growers in Kabale District who are directly supplying potatoes to the fast foods companies in Kampala. At the same time the farmers are growing improved potato varieties and working with researchers to improve their supply.

4.3 Research Priorities in Health

Areas of priority for research in health include communicable and infectious disease management; management of lifestyle and nutrition related diseases; application of available tools and interventions; alternative health service delivery mechanisms; diagnosis and management of less understood/or neglected health problems; and pharmaceutical product development and quality assurance in pharmaceutical business. These are expounded below.

Communicable & infectious disease management

Communicable diseases are responsible for many deaths in the developing countries. Health workers in private sector explained that about 80% of the major diseases are actually preventable and most of these are associated with poor sanitation and water-related problems. So by dealing with the water problem alone, many of these diseases would be

controlled. The diseases are mainly perpetuated by social environment and behavioral practices. There are also known practices which could considerably reduce the disease burden but their application is limited. Promoting economic growth through health research will imply understanding and influencing behavioral practices for uptake of available preventive options and health improvement

- **Socio-cultural influences on uptake of available health tools:** Several tools are available for management of some the killer diseases but their adoption is very low. There are socio-cultural factors contributing to this scenario but these have to be explored through systematic research processes. The malaria research centre gave an example of using treated mosquito nets which had the potential to reduce the malaria burden by up to 75% but their use is very low even among the educated society. Medical professionals in the private sector too cited an example that only 30-40% of the mothers who attend antenatal services in hospitals come back to give birth in hospitals. The reasons why such mothers don't come to deliver in hospitals are not known. Similar examples can be drawn from the family planning options and HIV/AIDS prevention measures. This type of applied research is needed to enable effective delivery of health services especially to the poor.
- **Impact of health interventions -** Studies on research outputs and recommendations: How far have the results and recommendations from research (for example the recent finding that male child circumcision reduces the risk of HIV infection) been applied, or why they are not applied and what behavioural changes can be attributed to the intervention / research output ?
- **Options for effective dissemination and uptake pathways for disease management** especially maternal and infant mortality. For example, it is known that using mosquito nets can prevent malaria but many people including the educated do not want to use mosquito nets. Yet it is not understood what incentives would persuade them to change behaviour. Similarly birth rates, unwanted pregnancies and risk to HIV infection are on the increase despite massive campaigns to use condoms.
- **Research into equity and access to pro-poor health initiatives** needs to be carried out on a country wide basis to reduce poverty. This could involve developing innovative approaches to adaptive research with quick wins in disease management. An example is the production by Makerere University of a home management package for malaria, which has contributed to the reduction of mortality among the poor who have no easy access to medical care. How can equitable access to health services be achieved under the current governance structure?
- **Research into disaster preparedness for emerging and the re-emerging communicable diseases** at times of change in climate, environmental stresses or changes in economic and social conditions. Examples given included the emergence of waterborne epidemics in the flood prone areas of North Eastern Uganda, and emergence of a severe form of malaria in the highlands of Kisoro and Kabale districts and; the increased incidence of malaria in the urban as well as the war torn areas of northern Uganda.

Management of life-style and nutrition related diseases

Increasing urbanization has led to many youth leaving the rural areas to the urban centers in search of jobs and more affluent lifestyles. As a result, existing cities have experienced overwhelming demand for services that were not planned for. The consequence has been joblessness and increased poverty levels both in the rural and urban areas, with subsequent increase in levels of malnutrition and drug abuse. Priority areas that were proposed included:

- Research into the prevalence, impact and management options of malnutrition (under- and over-nutrition)

- The extent to which youth and unemployed urban dwellers are succumbing to drug abuse through consumption of aphrodisiacs, heart stimulants and *Khat* among others and what health risks they are consequently exposed to.

Evaluative research into proposed health management interventions to promote RIU

- How effective can the different modes of delivery of ARVs, HIV vaccines and other remedies for killer diseases in the different demographic and socio-cultural contexts be?
- Economic studies of disease management interventions. No matter how effective a health intervention is, the issue of its costs and cost effectiveness will always arise before it is implemented. The support for these undertaking studies should also include supporting the implementation of the findings, i.e move beyond the research implementation to supporting the implementation of the recommendations.

Alternative health service delivery mechanisms

Most of the poor also live in remote areas which are not attractive for professional health workers. Access to health services in such areas can be extremely difficult and alternative approaches other than the conventional health facilities need to be sought through action oriented research (see examples in box 6).

Box 6: Alternative health service delivery mechanisms

Village health team concept for home based management of fever

To enhance management of fever related diseases in the rural areas where there are not enough professional health workers, the Ministry of Health with support from WHO initiated a village health team concept for home based management of fever. Here volunteers are identified by the community and trained by the ministry to provide primary health care related to fever. For every ten families, one person is trained and equipped with first aid kit. They then provide primary treatment and information/advice on the problems.

Source: Ministry of Health

Safe Motherhood

Mothers in the rural areas do not have easy access to maternity and safe delivery facilities and personnel – they rely of traditional birth attendants. The Ministry of Health recognised this constraint and developed a programme to train the traditional birth attendants in basic hygiene, first aid and also techniques to help mothers deliver safely. They then help mothers to deliver safely and quickly refer complicated cases to the nearest hospital. This programme has reduced the number of mothers dying during child birth.

Source: Ministry of Health

The inadequacy of professional health workers and facilities particularly in the rural areas will not be solved in the near future. Besides numbers, many professionals don't want to work in remote areas. The alternative in the short run is to develop such options that enable the rural communities access some basic health services from within their communities. Similar support systems that target other disadvantaged groups such as the elderly, the disabled and other groups that find it relatively more difficult in accessing health services are needed. This requires action-oriented engagement to continuously improve those options to meet the needs. In this regard, priority research areas include:

- **Innovative and community based mechanisms for health service delivery:** Developing models that take into account the context and existing capacities.
- **Monitoring household dynamics and access to various health services:** This is necessary to identify the successes and failures of each model for adaptation and continuous improvement.
- **Verification, validation and standardisation of traditional medicines and practices:** Traditional herbalists are the nearest health providers in the community and as a psychiatric researcher explained, people will always interpret disease in a socio-cultural context especially those that relate to mental health and disability. The herbalists are therefore the first consulted before seeking professional medical services. Instead of ignoring the traditional herbalists, there is an opportunity to use them to provide first aid related health services. Simple training and facilitation like in the case of traditional birth attendants could be helpful to the community. But even more important, their medicines and practices need to be investigated with a view of making them fit the medical practices.

Pharmaceutical product development and quality assurance in pharmaceutical business

Lack of research in pharmaceuticals is one of the major hindrances to local manufacture of drugs. This is probably the reason many people especially in the rural areas rely on traditional medicine to treat all kinds of diseases. Basing on the discussions with people from a pharmaceutical company, there is almost no research going on in this area. The company has established its small research unit but is constrained by personnel and facilities. The pharmaceutical industries cannot attract qualified pharmacists as these prefer the easy and more lucrative options of covering commercial pharmacies. Further the company complained of drug related policies which encourage importation of drugs rather than manufacture. The imported drugs are exempted of taxes and yet local manufactures have to first pay value added tax (VAT) and may get reimbursement after a year or more. Yet the drug importers will have made a lot of profit on their investment. In fact, if it was not for the charitable support of the Aga Khan Foundation, this industry would have closed.

Because of the high returns to investment on imported drugs coupled by a weak quality assurance system, this sector is also marred by importation of substandard drugs which in the view of the local manufacturers is responsible for the increasing levels of resistance to say malaria drugs. The National Drug Authority (NDA) is responsible for the quality assurance but it does not have adequate capacity to do the job effectively. The research issues here include:

- **Product development.** This is the formulation of drugs for local manufacture especially with respect to the major killer diseases like malaria. This is a national issue that might not be of international concern. The point here is to make quality drugs available, accessible and affordable by the majority of the population.
- **Characterisation and standardisation of herbal medicines/ remedies.** This is a virgin area with high potential to develop and standardise herbs to treat even complex diseases like allergies, hypertension etc. China is a good example of a country that has highly developed its herbal medicines.
- **Innovative dose / prescription packages.** Given, the economic and social situation, innovative approaches are needed to enable people take the right doses even without the assistance of medical personnel who are unavailable particularly in the rural areas. This is only possible if the drugs are manufactures with the specific context in mind – a thing that is difficult for the externally manufactured drugs.

4.4 Research Priorities in Environment and Climatic Change

In Uganda, there was more appreciation and focus on environment than climate change. The impression given is that people tended to use environment and climate change synonymously and in many cases, the term climate change was even confusing. As stated earlier, it was difficult to find respondents who are engaged in climate change issues per se. It therefore seems to be a global agenda which is understood at that level but yet to be internalized at the national level although the Uganda National Adaption Programme of Action (UNAPA) on climate change (2007:1) recognizes that the least developed countries are likely to be more vulnerable to the adverse effects of climate change. This also raised the question of how climate change fitted into the national research priorities. As one of the people who attended the feedback meeting at the DFID offices asked; “if DFID had not prioritized climate change, do you think it would have emerged among the national priorities?”. Anyhow priority research issues raised in regard to environment and climate change are outlined below.

Understanding climate change and communicating about it

UNAPA (2007:1) notes that; “the emerging phenomenon of climate change is inadequately understood in Uganda as evidenced by a lack of policy framework.there is need to raise the level of awareness and build capacity of various sectors to mainstream climate change in development plans”. This confirms the earlier impression on understanding of climate change and also justifies investment in clarifying and disseminating information and knowledge regarding climate change. Whereas the potential effects of climatic change are not in doubt, the lack of empirical evidence limits policy development and overall national preparedness to deal with climate change. Realistic and context based evidence is needed to illustrate the phenomenon of climate change. This type of research should address the following questions:

- What is climate change and how does it occur?
- What can be done to mitigate the effects of climate change
- What is the individuals governments at all levels, the state and global responsibilities to climate change
- In what ways can those to contribute to reversing the effects of climate change be fairly be rewarded and encouraged?

Forecasting, monitoring and mitigating effects of climate change

Again UNAPA (2007:11) articulates the likely impact of climate change in Uganda on health, water resources, agriculture, wildlife, mountains, and forests. Nevertheless, the people in the meteorology department responsible for forecasting these impacts as part of the early warning system expressed worries about their capacity to do it well. Climate risk studies are needed to clarify areas of vulnerability across sectors to enable appropriate policy development. But the policy aspect is much more complicated than mere availability of evidence. An official from the Meteorology department complained: “policy makers are not seeing the evidence on consequences of climatic change on Uganda’s economy.”

Moreover, the lack of evidence on impact of green house gases on the Ugandan environment also further compounds any steps to put in place mitigation strategy. In fact Uganda is considered a net green house gas user rather than producer. Thus any foresight planning to forestall and or reduce carbon emissions are underplayed, yet the rapid urbanisation and industrialisation and general economic growth of at least 5% per annum may impact on the environment in the short to medium term..

Cross-sectoral impacts of climate change

As discussed earlier, climate change has impacts across sectors. In Uganda, impacts of climate change are likely to be more felt/seen on the natural resource base on which the majority derive their livelihood. This implies an economic impact with possible set-backs on the gains of poverty alleviation programmes. There is already concern over the unreliable rain patterns leading to droughts and floods both of which adversely affect livestock and crop production.

There is therefore need to be conscious of natural resource use and technology as they relate to climate change. Recent public protests in Kampala against the transformation of a tropical rainforest (Mabira forest) into sugarcane plantation attests to the worry of effects of climate change associated with natural resource use. On the technological dimension, it is known that essential equipment for modern living including fridges and automobiles have serious implications for environment and climate change. In addition it is necessary to research on options of land reforms that can ensure food security and take into account strategies for dealing with effects of climate change. The research issues to address here include:

Nature and magnitude of impact of climate change across sectors

- Ways and means for sustainable natural resource use without significantly upsetting ecological balances.
- Coping mechanisms for technological needs and environmental safety
- Land and land use policies that ensure food security and mitigation of effects of climate change
- Economic, social and cultural interactions with climate change: what people do in their environment is influenced by their economic activities, social needs and cultural norms. How do these co-vary with climate change?

4.5 Cross-Cutting Areas

4.5.1. Education

Education is a basic requirement for utilisation of research products. As a matter of fact, education was considered second to governance in terms of importance in national development. It is the key to capabilities of people to generate and utilise information and knowledge to improve their lives. Education is a form of empowerment through productive skills development to harness opportunities for wealth creation and strategic management challenges. However, for this to happen, the education must be relevant. In addition to the formal education acquired through schooling, civic education is also critical. Through civic people would become aware of their rights, roles and responsibilities and as a consequence they be able to utilise their household resources and choose accountable leaders. The critical areas of intervention in education are:

- **Curricula reform at all levels of education.** The current education is criticised for being devoid of life skills, critical thinking and creativity and instead encouraging memorisation. This is also true for universities that produce the researchers. The curricula needs total overhaul and reorientation to make education relevant to national development.
- **North-South and South-South partnerships** for capacity building to improve the quality of education. Education institutions need help to reform their education and hence partnerships for mutual learning and support. Such partnerships consume resources. The S-S partnerships strengthen the contextualisation and provide a framework for sharing human resources while the N-S partnerships in quality improvement. A good example of a desired agricultural curriculum is that of the Earth University in Costa-Rica which focuses of life skills and entrepreneurship.

- **Civic education.** What kind of civic education can lead to empowerment of society for social and economic benefits?

4.5.2. Demonstration of returns to research investment

To convince policy makers to invest in research, research must demonstrate its monetary value of returns to investment. There is a cry that government investment into research is minimal. Consequently it is difficult to come up with national research priorities when government does not demonstrate interest in research. Faced with scarcity of resource, policy makers need convincing evidence of returns to research investment. The economic value of research has not been demonstrated with hard evidence and this is an area of research that needs to be undertaken in order to influence governments and policy makers to support research. The economic and social benefits of research have to be articulated clearly. One of the respondents illustrated this scenario in box 7 below.

Box 7: Challenge of demonstrating economic value of research

If I were the minister of finance struggling to allocate the meagre resources in the treasury and researchers demand that I should allocate more money to research, the question I would ask is: If I put so much money into research, how much do I get out of it? Researchers must go beyond just doing good research and demonstrate the economic value of their research in national development. This is very important for policy makers to make decisions. An attempt to quantify the benefits or opportunity cost of research would easily influence policy makers.

Source: Policy maker

4.5.3 Partnerships

Given the inter-relationships between actors in bringing about development, partnerships in research and service delivery are inevitable but at the same time not easy to manage and sustain. Nearly all organisations consulted do have partners but these tend to be short-term and for specific tasks rather than long-term relationships. The institutional arrangements and incentives for maintenance of partnerships seem to be the major constraints. The Public-Private Partnerships (PPP) are much talked about now under the policy context of privatisation and liberalisation of services but actualising them is yet to be seen.

In health for example, it is estimated that the private sectors provides about 30% of the health services and at a cost of about 10% of the total investment in the public health sector. Despite these facts, government does not offer adequate support to the private health sector. In some cases, actions taken in the public health sector may undermine the private sector service delivery as a health worker in the private sector illustrated in box 8.

Box 8: Public-Private sector relationships in health

We train and develop our health workers which are very expensive undertakings but when government increases salaries for health workers in the public sector, we end up losing many of our experienced staff to the public sector. The government takes these actions without any consideration of their impact to the private sector which is also providing a service to the public including government officials.

We know that government does not have enough funds as it is always claimed but some of the funds that donors put into budgetary support should be channelled to support the private health sector. This is when we can talk of a true PPP.

Source: Health worker in private sector

True partnership thrives on mutual understanding and co-existence like those mentioned for education rather than competition. Such dilemmas as expressed above sometimes unintentionally cause confusion and crises among the would-be partners.

4.5.4. Developing capacity to do quality impact-oriented research

The new ways of engaging in research that these consultations suggest require new capacities of all actors. Capacity development is a continuous process that has to be integrated in all research projects. Often capacity building is interpreted to mean short and long-term training but here it is much broader. On-job training including coaching and mentoring are critical aspects of human resource capacity development. There is evidence that most researchers have not applied the knowledge gained in short-term and long-term training. For example, most of researchers in NARO have had some training related to gender in research but very few apply what they learnt in practice. New ways of developing capacity need to be developed in addition to the short-courses and long-term training.

Various actors require different capacities. The consultations and also other related studies in Uganda and in the East and Southern Africa highlight some capacity needs for researchers, research users and intermediary agencies (or research partners). In general, researchers need capacity to do quality research and to engage with multiple stakeholders in the research process while the research users need capacity to utilise outputs of the research. Specifically, the researchers need the following capacities among others:

- Problem analysis to address real underlying problems rather than symptoms
- Research priority setting and targeting
- Social skills (soft skills) to enhance systemic thinking and mindset change for impact oriented research
- Strengthening competence in research methodology including impact-oriented research approaches such as action research
- Communication skills (oral and written) for various audiences
- Mentoring and coaching
- Team building and inter-disciplinary interactions
- Monitoring, evaluation and impact assessment
- Research management and scientific leadership
- Specialized disciplinary skills (i.e. Masters and PhD training)

The research users too need some capacities which include:

- Self-organization to articulate research needs as a support system for their development endeavours

- Initiative to experiment and share learning
- Emancipation to provide honest feedback, lobby and advocate for services and enforce accountable systems
- Valuing knowledge/information as a resource and being proactive in searching for relevant information/knowledge.

The intermediary agencies or research partners perform need capacities related to the following roles:

- Knowledge management and exchange
- Development of dissemination materials and communicating with various audiences
- Facilitation skills for engaging with stakeholders in learning processes and documentation of lessons learnt and their implications
- Mobilization and local organizations development

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- Development of dissemination materials and communicating with various audiences
- Facilitation skills for engaging with stakeholders in learning processes and documentation of lessons learnt and their implications
- Mobilization and local organizations development

4.5.5 Gender issues in research

Gender is a cross-cutting issue of necessity in all development initiatives including research. Here we refer to gender in a broad sense to take into account the voices of all social categories including those of women, children/youth, physically challenged people and other disadvantaged groups. There is a growing awareness of the importance of gender in research; the challenge that remains is the translation of awareness into practice. At policy level, there is affirmative action on gender exemplified in the 30% representation of women all political decision making levels from the village local councils to parliament. People with disability and the youth also represented all levels. Conventionally quantitative research has been based on men's voices, but the situation is now changing. There ongoing efforts to get women's and children's voices in both the social and biological sciences' research. Specific issues for research in gender include:

- Involvement of disadvantaged categories of people (women, youth, physically challenged people) in economic activities to reduce vulnerability and dependence
- Access to services such as health, education by the disadvantaged groups of people including the elderly and ethnic minorities (e.g. the Batwa and Karamojong)
- Access and utilisation of production resources such as land, micro-finance, knowledge and skills
- Mainstreaming gender in development processes including research. A lot is known about gender but not as much is done in practice – what is the problem?
- What are the gender related constraints in conducting, dissemination and utilisation of research products?

4.5.6. Motivation and commitment of researchers

Attitudinal behaviour and poor reward systems compromise the commitment of researchers to engage in research for development. This type of research requires long-term engagement with a variety of stakeholders targeting impact as the ultimate goal. For this to happen, the researchers must be highly motivated and committed but the reward systems do not encourage that level of engagement. A private not for profit health provider reported having increased the motivation and commitment of their staff by increasing a bit of their salaries and providing other benefits such as housing. In the public sector, it is assumed that

this is a responsibility of the governments which in reality are not committed to improving the welfare of researchers. The dilemma is in how researchers would engage and commit themselves to research that leads into improving the lives of the poor when they themselves are actually poor and frustrated.

The World Bank supported programme of Millennium Science Initiative (MSCI) implemented by the National Council of Science and Technology for example encourages supplementing the salaries of researcher as a way of enhancing their motivation and commitment to deliver quality research. Such intervention may introduce issues of sustainability but nevertheless they may provide a mechanism to encourage researchers to seek to achieve research impact.

5. Research Process

5.1. Generation and Prioritization of Research Agenda

If research is to deliberately contribute to national development, it has to be coordinated and matched with the national needs. There is need for a mechanism for generation and prioritization of research. Like one of the respondents from health research said; “you cannot talk of research priorities where there is no research agenda”. Whereas agriculture now has an umbrella organisation (NARO) responsible for generation and prioritisation of a national agricultural research agenda, there are no such bodies in the other sectors but even here, it appears the final priorities do not reflect the needs of the intended users. Beyond the sectors, there is need to build synergies and linkages across sectors. Both structures and processes are necessary to involve grassroots stakeholders in articulating the research needs in an inclusive way. Absence of such structures and processes leads to:

- Irrelevant research outputs which cannot be utilised by the targeted audience because it does not fit their needs and interests.
- Wastage of resources (money and time) on research that cannot be utilised and sometimes there is multiple funding for the same issues.
- Disconnected and uncoordinated research that cannot bring about holistic change. Research is fragmented and not linked across sectors and within sectors.
- Research that is not problem based or impact oriented. The research ends up serving the interests of the researcher rather than the purported beneficiaries.

In all sectors, research is largely supply driven with research priorities determined by the researchers and international agencies/or donors. Because government has no funds for research, research tends to follow funding opportunities. Whereas not all research has to be demand-driven, it has to address the existing needs and conditions. Box 5 below is a typical example of the risks of supply-driven research.

Box 7: Risks of supply driven research

The malaria consortium developed a Rapid Diagnostic Tool (RDT) for quick diagnosis of malaria especially in the rural health units. The consortium found partners willing to try out the tool, trained them and provided the tools. Five months later, the tools had never been used and were still as intact as they were delivered. On finding out why the tool had not been used, the partners complained that gloves had not been delivered as part of the package by the providers. The providers of the tool had assumed that gloves were always available in the health units which were not the case.

Source: Malaria consortium

Such errors would have been avoided if the partners had been involved in determining the requirements for the tool to work within their context. In this case, the intervention was relevant but did not take into account the context in which it would work.

5.2. Integration of Communication and Learning

Communication and learning are often not considered part and parcel of the research process, it is often an afterthought. Consequently, uptake and utilisation of the research products become huge challenges. Communication has to be an integral part of the research process right from inception when, the research project needs to identify who will be targeted in the research, the channels to be used to reach them and the materials/facilities to be used. These have to be budgeted for in the project. Efforts to improve communication of research have focused on training researchers to communicate but this has not significantly improved the situation. Experiences from the Institute of Public Health (IPH), Makerere University (Box 8) provide an alternative way of improving research communication.

Box 8: Improving research communication

The School of Public Health, Makerere University has employed a professional journalist to help improve communication of research. From their experience, it is extremely difficult to make researchers good communicators to different audiences because they do not have the time to learn all about communication and they feel this is not their area of expertise. Communication itself is not as easy as it is often portrayed.

By engagement of a professional communication expert, communication is made a component of all research proposals in the school. The expert works with the researchers to design different messages to different audiences and relays the messages through appropriate channels. It is however, recommended that such a journalist must have interest in research. It would even be more appropriate if the Mass Communication Department in the University could start research communication as an option of journalism. What the researchers need then is not to learn to be expert communicators but to work with communication specialists who know the intricacies of communication.

Source: Health researcher

Engaging a communication specialist as part of the research team helps to tailor messages to different audiences including the policy makers. While research desires to support evidence-based policy development, communication between researchers and policy makers has not been effective in all sectors. One respondents said that policy makers get information mainly from newspapers, television and radio while researchers communicate through technical reports and peer-reviewed journals. The media used by policy makers must be targeted with research evidence but in a form that is easy to understand. This is a task that can be best done by communication specialists than scientists. Every research project does not need to have a communication specialist, but like in the case of IPH, one communication specialist can serve for an institution.

Similarly, learning platforms and how they will be facilitated needs to be thought out early and budgeted. This is necessary for organisations to continue learning and adapting to the changing needs and contexts but learning is not mainstreamed in the operations of research

institutions. For example the COARD project did not leave behind lessons that can shape the research process in NARO. Mainstreaming learning is essential for research organisations to become learning organisations and avoid repeating mistakes but build on past experiences for better service delivery. Learning platforms have to be facilitated, documented and the lessons mainstreamed in organisational operations. The top leadership of the organisations must champion this and be committed to utilising the lessons learnt; otherwise it becomes just a mechanical process.

6. Conclusions & Implications for DFID

Sub-Saharan Africa is one of the regions of the world making the slowest progress towards attainment of the Millennium Development Goals. Well-planned and sustained economic growth does not just happen – it requires viable and evidence-based policies underpinned by quality research. It is in that line that the review of DFID's Research Strategy comes in handy. In this section we present a synthesis of the implications of the findings from the Ugandan consultation.

Research project development design

Economic growth is multi-sectoral requiring putting in place or redressing several macro-economic conditionalities. Accordingly, to achieve impact at the community level, focus should be on integrated projects and working through value chains. In agricultural research whole value chain focus will improve targeting and delivery of results. Such a process engages multiple stakeholders and disciplines, but implies a relatively higher cost of research projects compared to independent sectoral specific research projects.

In some sectors there is no institutional framework for generation of national research priorities. In such cases, research priorities are driven by funding opportunities. Researchers respond with proposals wherever they can secure funding and the research is justified within the confines of the funding interests – relevance is less important than securing research funds. This partly explains why most of the research taking place in health is largely skewed towards HIV/AIDS and malaria. Development of institutional framework and processes for generation of a prioritized national research agenda is the first step to making research relevant to development.

Project duration

It takes time to achieve impact. This means that investments will require sustained engagement. But also funding has to be long enough (about 5 years) to bring about sustained impact and spill over effects to other areas. For example the success of ministry of health on eradication of measles involved sustained engagement with a wide range of stakeholders including politicians at different levels, traditional and religious leaders, researchers and service providers for a period more than five years. Short duration investments may generate outputs that are not well integrated in the society. For example health is a result of many interplaying factors and health research that will have positive impact must take cognisance of the social contexts in a holistic way and recognise that impacts take place well after the end of research.

Mode of engagement

Research has been done in Uganda and in several other countries for at least 50 years or so. A crucial question therefore is in what new ways should research be packed to assure innovation in the research process and of the products generated? Addressing this question calls for engagement in new ways of doing research including capacity building as well as

strengthening the monitoring and evaluation system to track the outcomes and impacts. The research process must also have platforms for reflection and learning as an integral component of capacity building. It is through learning by doing that people perfect to do things in a real-life situation.

Communication of research

Communication must be part of the project inception. There is need to clarify right from the start who the target audiences are for the project, channels of communication that will be used to reach them and the materials that will be used to communicate. The lack of communication has accounted in large measure for the weak response and ownership of research in Uganda and perhaps world over. Thus research undertaking ought to have well defined communication strategies with budget support otherwise communication will always be relegated in priority.

Funding research

The government has not prioritized research and hence minimal funding is provided for research in all sectors. Nearly all the research going on now is externally funded by donors/development partners. However, the new preferred mode of donor support through budgetary support may not deliver research services effectively. Direct funding to institutions is preferred by the implementers of research but it should be pegged onto national research priorities. This means helping the sectors to set-up institutional frameworks and procedures for national research agenda in sectors where they do not exist and strengthen those that exist. Further funding needs to be channeled to private organisations that are providing a public good type of services of which research is one. This will enhance effectiveness and efficiency through the principle of subsidiarity.

Capacity development

Capacity development is a wide term ranging from building competences of individuals and communities to engage in sound research processes to infrastructural and institutional support to create a conducive environment for research to happen. All these are important to build a research system that can deliver relevant and quality services. Related to this is the issue of motivation, retention and performance of the researchers which is largely a responsibility of governments but are currently unable to satisfactorily do the needful. This has led to many professionals leaving for “greener pastures” in Europe, America and other emerging strong economies – a phenomenon of brain drain that only perpetuates poverty and under-development. There is need to develop mechanism for donors to support this kind of capacity otherwise the demoralised researchers cannot deliver on their expectations.

Building capacity of local institutions is critical for sustainability and relevance of research. There is a tendency to rely on international research agencies which often make generalised recommendations that are difficult to implement in the specific contexts of developing countries. But capacity development is a continuous process and consumes huge amounts of resources. It is therefore imperative that research projects integrate some aspects of capacity building that might enhance achievement of the research objectives. In the long-term institutions engaged in research will develop the basic capacity needed to deliver research services effectively.

7. Annexes

Annex I: List of people consulted

Sector	Actor Group	Sex	Position	Organisation	KI	FGD	Workshop
Agriculture	Beneficiaries	F	Training and Agricultural Advisory Manager	Uganda National Farmers' Federation	X		x
Agriculture	Civil Servant	M	Director	Animal Resources Min. Agriculture, Animal Industry & Fisheries	X		
Agriculture	CSO/CBO/NGO	M	Executive Director	Africa 2000 Network-Uganda	X		x
Agriculture	CSO/CBO/NGO	F	Independent consultant	Consultant, Participatory Development	X		
Agriculture	CSO/CBO/NGO	F	Social Development Specialist	Plan for Modernisation of Agriculture (PMA)			x
Agriculture	CSO/CBO/NGO	M	Project Officer	Kulika Charitable Trust Uganda			x
Agriculture	Intermediaries	M	District Fisheries Officer	Nakasongola District	X	X	x
Agriculture	Intermediaries	F	District Agricultural Officer	Nakasongola District	X	X	x
Agriculture	Intermediaries	M	District Production Coordinator	Lira District	X		
Agriculture	Intermediaries	M	District Production Office	Nakasongola District		X	x
Agriculture	Intermediaries	F	District Production Officer	Mbale District			x
Agriculture	Private Sector	M	Director	Kirojo College, Nakasongola	X		x
Agriculture	Private Sector	F	Sales Representative	Victoria Seeds Ltd.			x

Sector	Actor Group	Sex	Position	Organisation	KI	FGD	Workshop
Agriculture	Private Sector	F	Independent consultant	Private consultant	X		
Agriculture	Researchers	M	Coordinator	Regional Univ Forum for Capacity building in Agric (RUFORUM)	X		
Agriculture	Researchers	M	Director	National Fisheries Research Institute (NaFIRRI)		X	
Agriculture	Researchers	M	Director	Nabui ZARDI		X	
Agriculture	Researchers	M	Director	National Agricultural Research Laboratories		X	
Agriculture	Researchers	M	Director	Abi Zonal Agricultural Research and Development Institute, Uganda		X	
Agriculture	Researchers	M	Senior Research Officer	National Crops Resources Research Institute		X	
Agriculture	Researchers	M	Director	Mbarara ZARDI		X	
Agriculture	Researchers	M	Director	Bulindi ZARDI		X	
Agriculture	Researchers	M	Director of Research	National Semi-Arid Resources Research Institute		X	
Agriculture	Researchers	M	Research Officer	Ngetta Zonal Agricul Research & Development Institute (NGEZARDI)		X	
Agriculture	Researchers	M	Director	Ngette Zonal Agrdcultural Research and Development Institute (NGEZARDI) Kitgum Road,		X	
Agriculture	Researchers	F	Research Officer	National Agricultural Research Organisation (NARO)			x

Sector	Actor Group	Sex	Position	Organisation	KI	FGD	Workshop
Agriculture/ Climate Change	Researchers	M	Director	National Forestry Resources Research Institute (NaFORRI)		X	
Climate Change	Civil Servant	M	Principal Meteorologist, Department of Meteorology	Ministry of Water and Environment	X		x
Climate Change	Civil Servant	M	Principal Meteorologist	Department of Meteorology, Ministry of Water and Environment,			x
Climate Change	CSO/CBO/NGO	M	Coordinator	PROLINOVA, Environmental Alert	X		x
Climate Change	CSO/CBO/NGO	M	Chairman	Network of Climate Journalists in the Greater Horn of Africa.	X		x
Climate Change	CSO/CBO/NGO	M	Secretary	National Association of Professional Environmentalists	X		x
Climate Change	Researchers	M	Assistant Lecturer	Makerere University Institute of Environment and Natural Resources (MUIENR)			x
Governance	Civil Servant	M	Chief Administrative Officer	Lira District	X		
Governance	Civil Servant	M	Commissioner	Local Councils Development, Ministry of Local Government	X		
Governance	CSO/CBO/NGO	F	Head Social Policy, Advocacy & Alliance for Rights of Children	United Nations Children's Fund (UNICEF)	X		x
Governance	CSO/CBO/NGO	M	Capacity Building Officer	HURINET	X		
Governance	CSO/CBO/NGO	M	Programme Director	Community Development Resource Network	X		
Governance	CSO/CBO/NGO	M	Ag Executive Director	Advocates Coalition for Development & Environment (ACODE)		X	

Sector	Actor Group	Sex	Position	Organisation	KI	FGD	Workshop
Governance	CSO/CBO/NGO	M	Director Research, Head Peace & Conflict Programme	Advocates Coalition for Development & Environment (ACODE)		X	
Governance	Politicians	M	District Chairperson	Nakasongola District	X	X	x
Governance	Politicians	M	Deputy District chairperson	Lira District	X		
Governance	Politicians	M	District Chairman	Lira District	X		
Governance	Politicians	M	Member of Parliament	Kawempe South Division – Kampala	X		
Governance	Politicians	F	Secretary for Finance	Mbarara District Local Government Council			x
Governance	Researchers	M	Managing Director	REEV CONSULT Uganda	X		
Governance/ Agriculture	Politician	M	President	Uganda Veterinary Association and former National Presidential Candidate			x
Governance/ Climate Change	Politicians	M	President General	Conservative Party			x
Health	Civil Servant	F	Principle Nutritionist, Health Division	Ministry of Health	X		
Health	Civil Servant	F	National Programme Manager, Child Health Division	Ministry of Health		X	x
Health	Civil Servant	F	Principle Medical Officer, Health Division	Ministry of Health		X	
Health	NGO	M	Medical Director	Mengo Hospital		X	

Sector	Actor Group	Sex	Position	Organisation	KI	FGD	Workshop
Health	NGO	M	Deputy Medical Director	Mengo Hospital		X	
Health	NGO	F	Deputy Director	Nsambya Hospital		X	
Health	NGO	M	Head, Dept of Obstetrics & gynacology,	Nsambya Hospital		X	
Health	Private Sector	M	General Manager and Chief Executive Offices	Kampala Pharmaceutical Industries (1996) Ltd.	X		
Health	Private Sector	M	Pharmacist	Kampala Pharmaceutical Industries (1996) Ltd.	X		
Health	Researchers	F	Coordinator, Uganda Communications Programme on Health Research	Makerere University, School of Public Health	X		x
Health	Researchers	M	Director	Uganda Virus Research Institute	X		
Health	Researchers	F	Public Health Specialist	Malaria Consortium, UK Office		X	
Health	Researchers	M	Research Officer COMDIS RPC / Epidemiologist and Vector Control & Emergencies Specialist	Malaria Consortium, Africa		X	
Health	Researchers	M	Drug Policy Change Specialist and Ag. Director	Uganda Malaria Research Centre		X	
Health	Researchers	F	Vector Control and Emergencies Specialist	Malaria Consortium, Africa		X	
Health	Researchers	M	Research Officer	Uganda Virus Research Institute		X	
Health	Researchers	M	Research Manager	Medical Research Council (MRC)		X	
Health	Researchers	M	Senior Lecturer	Makerere University, School of Public Health			x

Annex II: Stakeholder consultative workshop

Consultative on DFID Research Funding Strategy – Uganda



**Imperial Resort Beach Hotel
Entebbe Uganda**

PICO Uganda

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List of Acronyms

CSO	Civil Society Organisation
DFID	Department for International Development
NAADS	National Agricultural Advisory Services
NGO	Non Government Organisation
ODA	Overseas Development Agency
ODI	Overseas Development Institute
PEAP	Poverty Eradication Action Plan
PICO	People Innovations and Change in Organisations
PMA	Plan for modernisation of Agriculture
UPE	Universal Primary Education

Summary

The purpose of consultations is for DFID to obtain views for a new research strategy 2008-2013. In Africa, DFID specifically seeks to:

- (1). To understand the demand for research and identify processes for continuous demand articulation
- (2). Views on partnerships, processes and communication strategies to make research more effective i.e. 'Research into Use'.
- (3). To know how cross-cutting themes e.g. climate change informs other areas (agriculture, health, and governance)
- (4). To know capacity needs for research implementers and their partners

In Uganda, consultations have gone on for approximately two weeks and the progress is highlighted below:

- Consultations (individual and focus group interviews)
- Stakeholder consultative workshop
- Interviews continue after the workshop

By the time of the workshop, the stakeholders that had been consulted are summarised in the table:

Informant category	Number
Policy makers	4
Bureaucrats/public servants	9
Civil society/NGOs	4
Think tanks/academicians	3
Researchers	16
End users/farmer organisations	2
Private sector	2
Total	40

The areas of emphasis have been Agriculture, Health, Governance and, Climate change, with four major general observations.

- Poverty is a multi-dimensional phenomenon that requires integrated or multi-sectoral interventions
- Economic growth may not necessarily benefit the poor
- There are many non-research issues that influence how research is done, utilised and its impact
- Critical areas of intervention

During the discussions and also in the workshop, it emerged that the sectors where investment should be made in order to kick-start the Ugandan economy in relative order of importance are highlighted below.

1. **Governance, because** this sets the framework and conditions for delivery.

The specific areas of intervention included

- Policy development processes and policy implementation
- Impact of policies on development
- Developing national institutions that work and ensure accountability
- Empowerment of society to demand, participate and enforce accountability
- Developing leadership and democracy in Africa – what works and what doesn't

2. Education – capacity to translate knowledge into economic value

Specific areas of intervention

- Curricula reform at all levels of education to promote:
- Productive life skills
- Critical thinking and creativity
- North-south and south-south partnerships to build capacity for improvement of quality of education

3. Agriculture – high impact potential in short-term

Specific areas of intervention

- Value addition (including post-harvest handling) and market access
- Production systems management
- Communication of research products for application– research into use
- Strengthening farmer institutions
- Technology development for increased production and productivity
- Harnessing indigenous knowledge and farmer experimentation
- Integration of social and biological factors in agricultural research
- Relationship between agriculture and health

4. Health – prerequisite for production & productivity

Specific areas of intervention

- Communicable & infectious diseases – uptake of available preventive options
- Management of life-style and nutrition related diseases
- Pharmaceutical manufacture and quality assurance in pharmaceutical business
- Alternative health service delivery mechanism

5. Climate change – influences agriculture and health

Specific areas of intervention

- Understanding, learning and communicating about climate change
- Forecasting and preparedness to harness and manage effects of climate change
- Relationships between natural resource use, technology and climate change
- Relationships between climate change & other sectors e.g. agriculture, health

There were also cross-cutting challenges

- Generation and prioritization of research agenda in an inclusive way
- Integration of communication and learning in the research process
- Capacity to do quality research and to utilise research products
- Demonstration of returns to research investment
- Motivation and commitment of researchers

As consultations continue, solutions to these challenges will be proposed.

1.0. Introduction & Background

1.1. Opening Remarks

Paul on behalf of PICO Uganda welcomed participants to the workshop. He said the workshop was a follow up to the interview consultations that had been going on over the previous 2 weeks. He added that the purpose of the workshop was to bring together different stakeholders to discuss and generate ideas towards DFID research funding strategy for the next 5 years.

Paul informed participants that the organisation, PICO the organisation to which he belonged, had been subcontracted by CABI to undertake the DFID consultations in Uganda. PICO stands for 'People Innovations and Change in Organizations' and has branches in Europe, Africa and Latin America (PICO, www.picoteam.org).

He introduced his co-facilitators, Dr. Maria Nassuna-Musoke and Dr. Patrick Okori, who also belonged to PICO Uganda. He also introduced Dr Florence Burungi Kyazze, a lecturer in the Department of Agricultural extension, who would assist with administrative affairs of the consultation exercise.

1.2. Participant Introductions

In order for participants to share freely, they were asked first of all to interact on their table and the interaction was guided by the instructions shown in the box below.

Getting to know each other

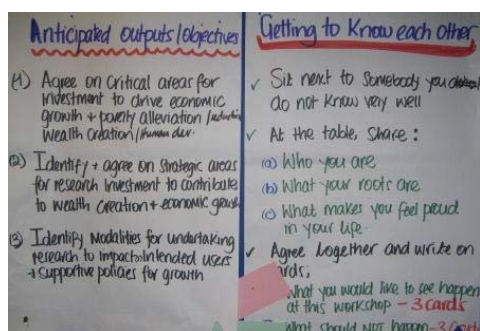
Sit next to somebody you do not know very well

At the table, share:

1. Who you are
2. What your roots are
3. What makes you feel proud in your life

Agree together and write on cards,

1. What you would like to see happen at this workshop (3 cards)
2. What should NOT happen (3 cards)



There were 8 representatives of CSOs, 10 from Government departments and ministries, and 3 policy makers and 2 from the private sector. From the gender perspective, there were

6 women and 22 men. It was concluded that the representation was skewed and non represented sectors would need to be remembered as deliberations were made.

1.3. Expectations and Fears

After the table interactions, participants presented their expectations out of the workshop and what they would not want to see happen (fears).

What participants wanted to see happen at the workshop

- Agree on next steps after the workshop
- Recommendations to feed into a bigger study
- Specific research areas identified
- Participatory research
- Applied research
- Our views must be the fulcrum of future action
- Tangible and useful outputs to development
- Implement what is agreed upon
- Should follow the timetable and should not exceed the ending time

What they did NOT want to see happen

- Generalisation of research issues
- Long sessions and speeches
- Inconclusive discussions
- Duplication
- Rubberstamping other peoples ideas
- Politicising the workshop

1.4. Facilitation Principles

In presenting the facilitation principles Paul presented core values that the meeting would adopt in order to achieve the objectives in a free relaxed but productive way so that the workshop outputs and outcomes are owned by the stakeholders represented. The role of the facilitators was basically to guide the process to get the best out of the ideas from the participants.

The values presented included: Informality and relaxed atmosphere implying that participants should interact freely and even have freedom to address each other by their first names without being bogged down by titles. Another core value was open dialogue and multi-logue, so that the meeting is very inclusive with no domination by those who are more articulate than others. This would bring out balanced participation. Inclusiveness and ownership by the participants, appreciation of any contribution meant that there are no stupid questions and people were free to seek clarification since people came from different backgrounds.

Openness and transparency was yet another core value. It meant that participants were expected to be open to bring outs issues to be discussed in the open. The other value closely related to the former was constructive controversy. This meant that issues have nothing to do with individual but with systemic issues have to be unearthed and discussed freely. Creativity and thinking beyond the box was another value that would out new things and lessons by the end of the process. Most importantly was honesty and political incorrectness, freedom to be blunt and call a spade a spade in a constructive manner that will bring about progress. Honesty and political incorrectness was to allow participants to call



a spade a spade. For this to happen, there should be confidentiality which ensures that nobody points a finger at another one.

1.5. Anticipated Outputs of the Workshop

The anticipated outputs as planned by the facilitation team, were three as indicated below.

- (1) Agree on **critical areas** for investment to drive economic growth and poverty alleviation / wealth creation
- (2) Identify and agree on **strategic areas for research investment to contribute to wealth creation and economic growth**
- (3) Identify modalities for undertaking research to impact intended users and supportive policies for economic growth and poverty alleviation
 - a. Generation of research agenda
 - b. Bringing research into use
 - c. Communication and learning
 - d. Influencing policy formulation

1.6. Standpoint Statements

The stand point exercise was used to explore views and opinions of the participants/stakeholders on some issues related to the theme of the workshop. This was done to set a platform for discussions with a broader view of the different opinions and feelings among the participants represented.

In order to explore participants' opinions and views, Paul read out 2 statements to which participants positioned themselves on a five-level scale basing on whether they agreed fully, agreed a bit, were indifferent or had no opinion, disagreed a bit, or disagreed completely to the statement. The statements were not factual but were based on possible feelings and or sentiments surrounding issues of undertaking strategic actions and research for development.

Statement 1: Agriculture will not stimulate economic growth. Over last 30 years there has been massive investment in agriculture but with limited impact. We should therefore focus on other sectors of the economy to accelerate economic growth and improvement of wellbeing.

To this statement, only 1 person agreed completely, 4 agreed a bit, 2 disagreed a bit while the majority disagreed completely.

The person who agreed completely said that whereas there has been massive investment output does not measure up to it. In other words, there is nothing to show for the investment that has been made.

The 4 people who agreed only a bit said that the economy depends on agriculture and as a country; Uganda could actually have done better. There is however need to change the approach because agriculture is inter related with many other sectors. There is need for integrated research instead of investing in agriculture per se.

The 2 who disagreed a bit were in agreement with the above two groups saying that there is nothing much to show for the investment that has been put into agriculture. The investment that has been placed there has been misplaced since people are still using hard labour (such as the hand hoe). Furthermore, the sector has not prioritised where exactly to efficiently place investment. However they did not agree that the investment has been massive

The majority of the participants disagree completely with the statement saying massive is an overstatement! They gave an example of this year's allocation to agriculture being only 4.3%

and yet we claim that the economy is dependent on agriculture. Furthermore, out of the little budgetary allocation, 67.8% of the funds remain at the centre and only 32.2% goes down to the district where the actual agricultural development is supposed to take place! They argued that economic growth must be measured from the people themselves. Currently there are no ready markets for the products, thus Government has not invested sufficiently compared to the population that lives off agriculture.

Statement 2: Poor implementation is the major cause of the poor performance of the economy but not to inadequate investment into development initiative.

To this statement, 2 people agreed completely, 6 agreed a bit, 3 felt confused or were undecided, 12 disagreed a bit and only 1 person disagreed completely.

The 2 people who agreed completely said that there are good examples to show large figures of investment for example in NAADS, PMA, Global fund etc, but it is the people who do not implement such initiative properly that cause the poor performance we are witnessing in the country. Another example is the ministries of transport and the ministry of health where massive investment has been made but the Ugandan roads, which would bring about change and reduce poverty roads are almost impassable all over the country and the medical care system leaves a lot to be desired. They concluded that there is lack of proper prioritisation of issues.

The six people who agreed only a bit argued that it is those who do the donkey work who do good implementation. Whereas implementers try their best, there are many factors such as poor administration/ leadership, negative attitude of the beneficiaries, and politicisation of issues that hamper progress.

They also attributed poor performance to notion of sector ceilings. Although sectors make budgetary plans, they are compromised by the ceilings attached to those sectors. In other words, although implementation is a problem, there are also problems of insufficient investment, to lead to development.

The three persons who were undecided felt that those who design projects do it with self interest and that is why implementers do not register much success even after hard work.

Those who disagreed a bit were the majority and their argument was that the poor implementation was a result of inadequate research before planning. Examples of inadequately researched interventions were UPE, NAADS etc and that is why they were encountering many implementation problems. The other problem, is that many times, investment of donor project is foreign led and we sometimes gamble and get a few things right but we need to redesign our economic planning.

The person who disagreed completely attributed the problems to leadership, political and otherwise, which implies a need to rethink leadership goals.

2.0. Input Presentations

2.1. Overview on DFID Research Strategy and Purpose of Consultations by Dannie Romney

DFID is currently developing a new research strategy that will guide investment into research during the period 2008-2013. The DFID budget is set to double from 110 to 220 million GBP per annum by 2010, making DFID the biggest government funder of research. The new strategy will allow DFID to refocus on key issues, develop innovative ways of working and establish new partnerships.

DFID are very anxious to consult as widely as possible and to gain views from UK and International organisations as well to receive input from Southern countries where they work, particularly in Africa and Asia where the majority of their activities are targeted. Mechanisms to gather input include:

- Electronic consultation
- Consultations in Africa (Uganda, Nigeria, Ethiopia) and Asia (India and Bangladesh)
- Workshops in China and South Africa
- Consultations with other donors
- Consultations with UK research councils
- Consultations with regional and international bodies

The electronic consultation was open to all, however the majority of respondents were researchers and Northern countries were better represented than those in the South. Country consultations in Africa and Asia were seen as a means of addressing this imbalance. Uganda was chosen, not because DFID expect to target funds there, although already there are 10 partner organisations based in Uganda (see Figure 1), but because Uganda, together with Nigeria and Ethiopia were seen as countries that would be representative of African views.

Outcomes of the broader consultation process, including the country consultations will be posted regularly at the following sites and DFID hope to contact participants in the consultations directly using email addresses. Workshop participants are requested to provide email addresses, but to let us know if they DO NOT wish to be contacted.

- www.research4development.info
- http://www.dgroups.org/groups/r4d-consult/index.cfm?op=dsp_info
- <http://r4dconsult.wordpress.com>

DFID's main research themes under the current strategy, all of which are aimed at finding better ways to lead to economic growth and poverty reduction, absorb 2/3 of the budget and include the following:

- Sustainable agriculture
- Health (killer diseases and healthcare)
- Climate change (impact and adaptation)
- Governance and social research (states working with the poor)

Another 1/3 is spent on education, other aspects of health, social and political change, transport, energy and water.

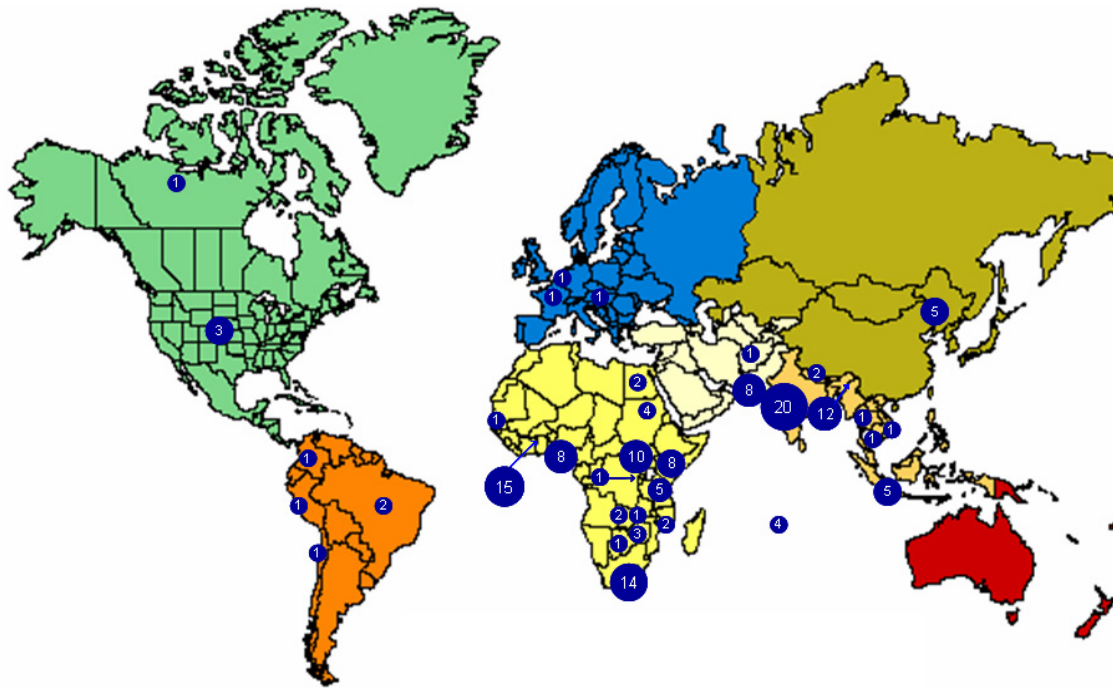


Figure 1: Location of non-UK based bilateral research programmes' partners

Management of the country consultations in Africa have been contracted out to CABI and the Overseas Development Institute working together with country teams in Ethiopia (CABI), Uganda (PICO team) and Nigeria (CAPPS). The consultations involve a range of approaches to seek input from Ugandans including Key informant interviews; Focus group discussions; Quantitative questionnaire and the present Workshop. The idea of the combination of approaches is to obtain different views in different ways. The workshops allows individuals to respond to other views and opinions, it also allows people to comment on preliminary feedback and input. Participants in the process have been selected from across the main DFID target sectors and from different stakeholder (actor) categories as shown in table 1.

Table 1: Selection of participants

	Health	Climate Change	Agriculture	Governance
Researchers/Think tanks/Academia	3	2	3	3
Politicians	1	1	2	1
Civil Servants	4-6	2	3-4	3-4
CSO/NGO	2-3	2-3	2-3	2-3
Private sector	2	1-2	2	
Beneficiaries	2		2	
Public sector intermediaries/practitioners	2		4	1

In order to sum up it is helpful to emphasise that the consultation is not seeking a consensus, but aims to obtain the range of views and opinion from Ugandan stakeholders. It should be noted that DFID make no promises at incorporating all views since it must respond to a global stakeholder constituency. However it considers the views of Africans and Asians invaluable to the process of strategy design.

Comments to Danny's presentation

Why did the small table on the sectoral coverage of the consultations not reflect climate? Because two thirds of DFDs funding is in the listed areas and it so happens that environment as a specific area has not been prioritised.

The actual impacts of climate change are very significant especially on agriculture and health. So support on climate change should be people centred and should be linked with health and agriculture, which in turn directly translate into poverty alleviation.

2.2. Preliminary Findings of the Country Consultations

Key informant interview coverage by the time of the workshop

Category of informant	Number
Policy makers	4
Bureaucrats/ public servants	9
Civil Society / NGO	4
Think- tank	3
Researchers	5
End users	2
Private sector	2
Total	29

General messages from the consultative process

During the course of the study two key messages came through from the responds. The messages were on poverty and economic growth and interrelationships. On poverty the key message was that poverty is multi-dimensional and consequently requires integrated approaches in its handling. Specifically poverty is a result of several factors that interactively influence the livelihood strategies of people. The second message was in relationship to economic growth. This was largely viewed as an aggregation from various sectors of the economy and may not therefore necessarily relate to improvement in the livelihoods of the poor populace. Indices of economic growth may not therefore reflect the true picture of peoples livelihoods. Economic growth however is inter-related with poverty reduction

Accordingly Government of Uganda programmes to address poverty and stimulate economic growth are all inter-related and multi sectoral in nature. Examples of such programmes include the Poverty Eradication Action Plan (PEAP), the vision 2020 etc

Results from consultations so far

Strategic investments to stimulate economic development and poverty reduction

As part of the consultation, respondents were requested to identify the most important sector of the economy for which investments may be targeted to stimulate economic growth and poverty alleviation. Opinions expressed in the interviews indicate the following order of relative importance.

1. **Good governance** which provides the conditions for informed and foresighted planning; resource management and utilisation; implementation of development programmes; and accountability systems to ensure benefits to all citizens. Without good governance, investment in any initiative can not have any impact.
2. **Education** to build the capacity of people to innovate and use knowledge to improve their livelihood. Education is the vehicle for effective utilisation of knowledge and other services for sustainable development.
3. **Agriculture** provides employment to majority of the population and is also the main source of food and nutrition security. The majority of the poor depend on agriculture, therefore provides the highest potential to improve incomes and general welfare to the poor in the short term.
4. **Health**- is a pre-requisite for production and productivity. Disease and death greatly reduce the capacity to produce and pursue beneficial goals for individuals and society in general.
5. **Climatic change** is cross-cutting influences other sectors particularly agriculture and health.

In addition to the four DFID areas of focus, education was added as a critical area of investment to enhance utilisation of the research products in the other sectors. The specific of intervention within those sectors to accelerate economic growth and poverty alleviation are outlined below.

1) Good governance to support economic growth and poverty alleviation

It is a general opinion across all sectors that good governance is the most important area that determines how investment can be translated into wealth and economic prosperity to benefit all citizens. Most of the problems and constraints of development are in many ways associated with bad governance. Specifically, the respondents identified the critical areas of intervention within governance which present both implementation and research issues. These include:

- **Developing national institutions that work effectively and efficiently.** Institutions are established with good intentions to improve effectiveness and efficiency of services to the population but unfortunately they don't function as institutions. Institutions end up being patronised and their capacity to deliver services severely compromised. This seems to be the case for all institutions regardless of their nature and status. Contextual underpinnings that reproduce these phenomena need to be elucidated and appropriate strategies to deal with them sought.
- **Evidence based planning / targeting development initiatives.** For a long time, development initiatives have been implemented with limited impact on the lives of the people they are intended to benefit. It is recognised that most of the plans including policy are not based on concrete evidence. This is the reason several policies cannot be implemented largely because they do not fit the existing context and facts. The weakness transcends from policy to project plans and such plans ultimately cannot deliver the anticipated impact. The challenge is how to develop and nurture a culture of evidence based planning and targeting of development initiatives. This calls for research to generate reliable evidence and making it available in utilisable form to the

planners and implementers of policies, programme and projects. Those who utilise the evidence must also learn to seek for evidence that increases relevance of their plans. Special emphasis is placed at the policy level as this provides the framework under which development programmes are conceived, designed and implemented.

- **Accountability & ethical conduct.** Accountability and ethical conduct are critical to effective implementation of development programmes. This is the dilemma of governments and partner agencies in development. Mechanisms for developing capacity to enforce accountability and ensure ethical conduct are themselves research issues. Research needs to unravel the institutional arrangements and modalities necessary to ensure:
 - Value for money – investments worth the resources expended
 - Going beyond outputs to focussing on outcomes or impact as the ultimate goal
 - Minimal losses through corruption and mismanagement of resources intended public services
- **Empowerment of society.** Sustainable economic growth that benefits the majority is only possible when society is empowered to influence development initiatives and ensure equitable benefits from those initiatives. Whereas policies such as decentralisation and privatisation are partly intended to empower society, it largely remains a dependent society. Society needs empowerment to be able to articulate their needs, influence development initiatives to address those needs and ensure accountability of resources allocated for such initiatives. But how this can be done is the challenge that can be dealt with through research and experimentation.
- **Weak internal capacity to drive development.** The budget of Uganda government is largely funded by overseas development aid (ODA). This weakens the ability of government to pursue national priority programmes. Moreover conditions attached to donor funding do not necessarily fit national priorities. Other issues that compound this problem include the failure of governance systems to articulate and address root causes of problem and the weak linkages between sectors for holistic development. Processes for developing national development priorities, associated research and how this can be supported need to be developed. Research can then help to provide evidence and lessons for continuous improvement of the structures and processes.

2) Education

Education was considered to be the second most important sector after good governance because it determined the pace and impact of development activities. Education is the key to capabilities of people to generate and utilise information and knowledge to improve their lives. It is a tool for empowerment and productive skills development to harness opportunities for wealth creation and strategic management development challenges. However, for this to happen, the education must be relevant.

One of the critical challenges in education is how to reform curricula to provide a productive type of education. The present education system encourages memorisation at the expense of creativity, critical and analytical thinking, and productive life skills which are necessary for endogenous development. Curricula reform is necessary at all levels of education (formal and informal) including universities that produce the researchers.

3) Agriculture

Agriculture was considered to be an important area for investment for research and development because:

- Over 70% of population derive livelihoods from agriculture
- It is the largest employer of Ugandans and will continue to be in the foreseeable future
- The relatively high agricultural potential to produce for itself and the region. Agriculture is bio resource supplying food, feed and fibre and other biological products including the potential for bio-fuels. Investment in value addition of agricultural produce can release a variety of welfare benefits to the poor.
- It has high potential impact on poverty in the short term because.
 - Supplies raw materials for many industries and can improve nutrition and food security as well as incomes
 - Majority of the poor depend on agriculture as source of livelihood
 - If well managed, integrated agriculture can guarantee sustainable natural resource productivity and environmental health.

Critical areas for research investment in agriculture

The areas within agriculture that are considered to be critical are:

Value addition and market research: Value addition and market research is critical and yet little research attention has been given to it. Specifically the following issues require attention:

- Product development including agro processing and branding for niche markets and market expansion
- Post harvest handling to reduce losses and increase shelf-life
- Local, national and international markets and market dynamics
- Increasing production / productivity

Integration of the social and biological factors in agricultural research: Research in agriculture focuses more on biological factors e.g. yield, resistance, etc but the social and cultural aspects that are more critical to adoption are not given due attention. One of the main reasons technologies and knowledge generated by research are not taken up by farmers is because the research process misses out socio-cultural dimensions to anchor the technologies in context.

Options for reducing drudgery and increasing labour efficiency: Increase production and productivity also implies increased labour demand. It is impossible for example to modernise agriculture with the hand-hoe as the main farm tool. Labour is a serious constraint which research must address alongside other productivity enhancing technologies. Appropriate farm equipment need to be developed and made available.

Harnessing of indigenous knowledge and enhancing farmer experimentation: Integration of indigenous knowledge and scientific knowledge is a gap area. Researchers and farmers have to engage in learning processes that allow two way exchange of knowledge in order to enhance farmer experimentation. The place of indigenous knowledge has not been recognised in agricultural modernisation.

Appropriate technologies for increasing production and productivity: Processes of innovation to develop appropriate technologies that fit agro-ecological and social context have to

continue. This needs to be targeted on priority commodities with high economic potential in specific localities.

4) Health

Good health is a pre-requisite for any development endeavours. Health directly affects production and productivity of the labour force, hence development. Generally, little research has been directed to the health sector in Uganda. Firstly, there is no national research policy in health indicating a lack of framework within which relevant research is conceived and conducted. This has led to neglect of some health aspects and concentration on a few diseases. More recently, research in health has been heavily skewed towards HIV/AIDS and malaria. The health indices such as high maternal and infant mortality and high incidence of preventable diseases indicate unsatisfactory health situation. Moreover Uganda's high fertility rates and rapidly increasing population will continue to exert more pressure on health services.

Critical areas for research in health

The under-listed were identified as the most critical areas for research in health:

Communicable / infectious diseases: These are by far the major killers yet several tools and practices that can reduce the impact of these diseases are known and available. Research needs to be directed into understanding why these tools and practices have not been widely taken up in Uganda.

Neglected lifestyle related diseases: Lifestyle related diseases such as diabetes and hypertension are becoming more important. Minimal research is done on these diseases creating a shortage of knowledge on the management and treatment of these diseases.

Nutrition – food fortification and its effects: Nutrition can increase human immunity, reduce effects of disease and prevent nutrition-related diseases. Food fortification and food supplements are areas that require research. Also research on combinations of local foods for balanced nutrition for different categories of people (e.g. children, the elderly, pregnant mothers, etc) is critical.

Pharmaceutical manufacture: Drug discovery, testing and manufacture is essential for ensuring availability of quality drugs. Presently, almost no research is done in this area. The pharmaceutical industries are struggling to do some research at a small scale but they are highly constrained by resources, facilities and human resource.

5) Climate Change

Climate change is a relatively new phenomenon in science with cross-cutting effects especially to the sectors of health (disease patterns) and agriculture (production systems). But climate change is also a consequence of human activity. The relationships between climate change and other sectors need further exploration and understanding to be able to develop appropriate strategies to deal with climate change. Similarly the relationships between its causes and effects need research.

Critical areas for research in climate change

Identified areas of research in climate change included:

Understanding what climate change actually means in the African context: Is there a difference between normal variability in climate and climate change? What are the risks and opportunities of climate change? How can the climate change phenomenon be explained

and what are the indicators of climate change. How can climate change be harnessed? What are the strategies for coping with climate change?

Relationship between climate change and other sectors: How does climate change influence agriculture and health and vice versa? What are the cross-sectoral mechanisms for mitigating effects of climate change?

Sustainable natural resource utilisation: In view of climate change, how can natural resources be managed and utilised on a sustainable basis? What are the best options for management and utilisation of waste especially in the urban areas?

6) Cross-cutting challenges for research

Whereas research is desirable, its relevance and potential to improve the well-being of the people is questioned. Generic challenges that need to be addressed to increase the relevance of research and its uptake were identified in the consultations. These included:

- (a). **Generation and prioritisation of research agenda:** There is need to develop a process for generation of national research agenda to ensure relevance and involvement of key actors. This is one of the major constraints of research across sectors. There is attempt to involve grassroots stakeholders in generating research agenda in agriculture but even here, it appears the final priorities do not reflect the needs of the people research is intended to benefit. Absence of an effective, transparent and inclusive processes for generation and prioritisation of national agenda leads to:
 - Irrelevant research outputs which cannot be utilised by the targeted audience because their views and interests are not taken into account. The research agenda is largely determined by the researchers and their research outputs remain with them.
 - Wastage of resources on issues (money and time) that are not interest to the intended beneficiaries.
 - Disconnected research that cannot bring about holistic change. Research is not linked across sectors and even within sectors; it is still fragmented and uncoordinated.
 - Research that is not problem based or impact oriented. The research ends up serving the interests of the researcher rather than the purported beneficiaries.
- (b). **Integration of communication and learning in the research process:** Communication and learning are often not considered part and parcel of the research process. In such situation, uptake and scaling up of initiatives are huge challenges. Because of poor communication, there is a lot of duplication and inefficiency in research.
- (c). **Motivation and commitment of researchers:** Attitudinal behaviours and poor reward systems compromise the commitment of researchers to engage in research for development. This type of research requires long-term engagement with a variety of stakeholders with impact as the ultimate goal. For this to happen, the researchers must be highly motivated and committed but the reward systems do not encourage that level of engagement.
- (d). **Capacity to do quality research and to utilise outputs of research:** There is need build capacity among various actors to ensure impact of research. The researchers need capacity to do quality research and to engage with multiple stakeholders in the research process while the research users need capacity to

utilise outputs of the research. Some of the critical areas for capacity building include:

- Problem analysis to address real underlying problems rather than symptoms
- Articulation of research issues by the demand side actors as well as influencing research process and implementation
- Moving beyond research outputs to impact. This calls for new ways for doing research e.g. action research as well as competences to effectively communicate with different categories of users.
- Interdisciplinary interaction to bring on board different perspectives of the research problems and cultivating ground for application of research. Integration of social and biological research in a mutually beneficial way is critical to making research relevant and applicable.

(e). Demonstration of returns to research investment: To convince policy makers to invest in research, there has to be convincing evidence of its returns to investment. This is an area where scientists have performed very poorly and perhaps contributes to the meagre investment into research by governments. In the situation of limited resources, investment in research has to be justified with valued economic and social benefits to society.

Comments to the presentation

The following issues and comments emerged as reactions to the presentation of preliminary findings from the consultations.

- Cooperatives or a scheme that would monitor what is being done in the field. Things like benchmarking
- *Promote sustainable agriculture without public advocacy?*
- *There was a term multidisciplinary, there has been a tendency fro researchers to move from disciplinary approached to multidisciplinary approaches. What should now emphasise is interdisciplinary approaches.*
- *In order to utilise the outcomes of this research we need to find out how to utilise the already accomplished work, instead of re-inventing the wheel. We should also harmonise the various bodies that are involved in the research so that ultimately, the people who are the target get a wholesome integrated product.*
- *Poverty reduction is multidimensional but research that addressed poverty is compartmentalised. DFID should therefore fund inter disciplinary research that caters for all the sectors in a holistic way.*
- *We should address gender and power relations*
- *There is so much money being spent on agriculture. Agriculture as a sector is dominated by poorest, illiterate and backwards who support the economy. So as we plan and aim at improve livelihoods, we need to think of the capacity of the people to produce better. However we need to find alternative employment for the people who will be laid off as agriculture makes agriculture more efficient through mechanisation and agricultural technology.*
- *Should DFID invest more in technology development or invest more in long term public good research when we actually we do not have an idea of what agriculture will look like in the future especially where the technologies take a long time to pay of and to materialise?*

3.0. Exploring Issues for Research & Development

To complement the preliminary findings presented and discussed above, further exploration of priority issues for research that can positively impact on economic growth poverty alleviation were explored in two in two ways. First was a group brainstorming on what these priority research areas are in each of the four sectors i.e. health, agriculture, governance and climate change. The brainstorming was guided by the task below.

Group task

Basing on the presentation, discussion and your own experiences, what are the priority research areas that can bring about impact on economic growth and wealth creation?

Each group focuses on one sector:

- Health
- Agriculture
- Governance
- Climate change

Write the issues on cards: One issue per card

Choose a facilitator who guides the discussion

The research priorities identified through this exercise were clustered for each sector to build thematic areas for research intervention.

Second was through panel discussion. Four panellists were prior identified and assigned topics for discussion. The topics were related to capacity building for relevance of research, impact of donor funding on development initiatives, the role of research in providing health care, and making research benefit the poor in a decentralised governance system. The intention of the panel discussion was to stimulate and deepen thinking in those areas to generate more ideas on where and how research can better impact on the wellbeing of the poor. From these discussions more ideas were further distilled in small groups to enrich the ones generated in the brainstorming exercise.

A synthesis of ideas generated in the two approaches is provided in section 3.2.

3.1. Panel Presentations



Each panellist was allowed ten minutes to informally express their opinions and thereafter a general discussion followed. A summary of the main issues raised in the panel discussion are presented in this section.

Capacity building for effective delivery of research services to influence development by Mr. Afuna Adula

Responding to new challenges of an integrated world need new capabilities but unfortunately training institutions particularly universities have not changed they prepare professionals to confront complex challenges. Some of the new competencies needed among researchers include:

- **Being able to work in interdisciplinary teams.** Integrated problems demand multiple skills which are provided by interdisciplinary teams. This is a departure from the individual and single disciplinary approaches which training institutions still emphasise. Working in isolation cannot solve complex multidimensional problems.
- **Creativity and innovation.** The prevailing type of education emphasises memory and reproducing what exist rather than creativity and discovery. The capacity to innovate is very low yet the rapidly changing world requires quick adaptation, hence innovation. There is need to enhance the capacity for innovation without being told what to do.
- **Confidence and empowerment.** Independent thinking and judgement is a basic quality of researchers. Good researchers should be able to say “no” when they know that an undertaking is not likely to be beneficial. This independent thinking has been compromised by many factors and researchers accept to engage in research endeavour which they know very well will not yield benefits to the intended beneficiaries. Present education encourages domestication without critical thinking to make rational decisions. This type of capacity can be thought – it is all about being able to think ahead to see the big picture.
- **Facilitation and management of multi-stakeholder processes.** Multi-stakeholder engagement requires social skill and self regulation to be able to able to guide process that lead to collective engagement for a common goal. This kind of skills is not part of the professional development of researchers.

Integrating such skills in the professional development of researchers', calls for investment in curricula reforms. There is need to rethink the curricula that will produce new professionals capable of dealing with complex problems. The desired researcher is one who is impact oriented and committed to making a difference in others' lives. This is only possible when the researchers engage with other stakeholders to learn and jointly explore solutions to existing problems. It is such people that collectively build learning organisations that continuously adapt to changing environments and contexts to remain relevant. Learning together is the best way researchers can address problems that cut across sectors and disciplines in a more effective and efficient manner.

Impact of Donor funding on development initiatives: experiences from NGOs by Mr. Fred Kabuye

Africa and Uganda have received a lot of external investment but unfortunately these investments have not had impact on the lives of the majority. The fundamental question is, how can we make the situation better? Hunger, poverty, and disease still persist. Africa is still notoriously characterised by dictatorial tendencies. Mortality rates for children and mother remains unacceptably high leading. The quality of education is low and drop out rates are very high. These issues cast doubt on the possibility to achieve the Millennium development Goals (MDGs). It is necessary to take a step back and ask what the impact of donor funding is? The premises of donor funded initiatives are good but the major failure has been the inability to upscale results of donor funded projects.

This failure can be attribute to the focus on project intervention rather than institutional development. Institutional development takes time and requires sustained flow of resources and concentration of effort yet donor funding predominantly short term (2-3 years). Before the institutions gain capacity the projects come to an end and there is no continuity. Most times the tendency is to deal with symptoms of the problems rather than the real root-causes. In the process, organisations that depend on donor funding continuously change their priorities and focus depending on donor preferences, thereby behaving like aid 'prostitutes'. The aid recipient organisations become preoccupied with 'chasing' money and shifting priorities and focus based on where the donors want to put the money. This is also the main reason donors are feeling fatigued to administer the aid. The cost of administering aid is very high because of the too many applications for the little money that is available – but this is largely because everyone is chasing money and claiming to be doing everything.

Many times donors come with their own pre-conceived agenda which often does not fit national needs nor the development context. But because research and development agencies have no alternative sources of funding, they engage in agendas that are entirely donor driven but inappropriate to the purported intended beneficiaries. During the discussion, one of the participants emphatically put it that; "it is true donors sometimes have preconceived ideas of the results of certain research undertaking. When results do not turn out as expected, donors think the problem was bad implementation which is very frustrating for the research team".

Further, donor conditionalities tend to be universal and incognisant of the different contexts. For example, the insistence of 2-3 years regardless of the nature of problems and prevailing conditions curtails efficiency and effectiveness in utilisation of donor support – the intended impact is never achieved. The other constraint is the conditionality to compel recipient of donor aid to take on sometimes incompetent technical advisors as part of the package. The so called technical advisors take back a large proportion of the funding which would have been put into intervention activities.

Dependence on donor funding is partly caused by the inability of the citizens to save and invest in their own development. In Uganda, there is no policy for minimum wage to enable those employed to earn reasonable income and save to invest. Without such a policy, how we ensure that people are adequately paid so that they can support themselves? How we then ensure effective participation in development and reduce the burden on governments? The struggle against poverty then becomes mere 'lip service' by governments and donors.

In conclusion, there has been a lot of donor funding but for it to have impact on development, we need to address the structural and strategic barriers. Rural lives are characterised by poverty and deprivation. Sustainable development in the long run relies on functional institutions. We need to ensure that local institutions are strengthened to leverage development impact.

Providing health research services to the poor: implications for research in Uganda by Dr. Fred Nuwaha

Disease can lead to poverty because it reduces capacity to work/produce and others will spend time to care for the sick or mourn the dead rather than being productive. Conversely, poverty too leads to disease. It is also true that as people get out of poverty into affluence, they tend to suffer from diseases of affluence such as diabetes, heart diseases obesity and cancer. In other words, disease and poverty are cyclic in nature but at the same time, breaking out of this cycle is also associated with ill-health from diseases of affluence. Therefore, there is need for a balance between keeping people healthy and alleviating poverty but the point of balance is often difficult to identify.

There are however, some known approaches can actually reduce both at the same time. One of such approach is focus on education (both formal and inform) at community and national level. The other potential approach is empowerment of social groups in communities taking into account gender norms can lead to reduction of disease and consequently poverty. Focusing on improvement of agriculture can also improve food security and reduce malnutrition. Disasters and calamities especially the man-made ones such as wars further exacerbate the health situation of the poor. Good governance is therefore necessary for improving the health care of the poor. Man made disasters can be reduced by sowing peace.

Providing health services to poor communities remains the major challenge. The poor communities are also the most affected by disease yet they have the least access to health services. Unlike the poor, the rich can depend less on government health service. The poor need support on basic elements such as mosquito nets, latrines for sanitation, etc. Confronting disease and poverty especially in the rural communities requires multi-sectoral intervention because no one sector can provide a sustainable solution.

Mechanisms for providing health services to the poor are proposed for experimentation. For example, should it be through taxation, privatisation or insurance? But there are also cases around the world where poor countries have succeeded in providing effective health services to the poor. One good example is Cuba – health service access is almost 100%. Lessons can be learnt from such countries. In the last 20 years, emphasis has been on providing health services to the rural poor but increasing urbanisation poses another challenge of providing health services to the urban poor.

Making research benefit the poor in a decentralised governance system by Mr. James Muruli Wandera

The object of decentralisation is to build a government that is responsive to the needs of the people, promote capacity building at local level, and infuse local ownership and people's participation in making policies that affect them. It gives powers to districts and sub county local governments to plan based on the needs of the people through a participatory process.

In reality the grass root participation is constrained. For people to influence decision making and demand for value for money, they have to be regularly consulted by their leaders at all levels. This has not been possible because the finances that are supposed to support these processes are skewed against local governments. The bigger chunk of the funds remains in the centre yet most of the services are expected to be provided by the local governments. For example, the local councillor who are supposed to consult and the citizens are not facilitated to do so. Expenditures on local councils is restricted to not more than 20% of the local revenue in the previous year. To start with, the central government passes restrictions on local government revenues – for example the abolition of market dues. This makes it difficult for the local councillors to consult and mobilise communities for development. Similarly the workers at local governments are not well remunerated and hence lack the

motivation and commitment to provide services. The disbursements from central government come with conditions that don't allow flexibility for the local governments channel resources into their priorities. The essence of participatory processes is defeated and policies that are passed do not reflect people's aspirations.

Because of the limited involvement of the local people, development programmes championed by the central government do not necessarily address the felt needs of the people. One good example is the National Agricultural Advisory Services (NAADS) which puts massive investment in training which has not impact on the farmers. NAADS would be more effective if some of that investment is channelled into providing inputs for production. The major beneficiaries of the NAADS programme turn out to be the service providers who conduct the training rather than the farmers.

There is lack of trust from the centre that local governments can make their development plans and channel resources into those priorities for the development of their people. Nakasongola district for example has a problem of safe water. The central government directive is that safe water should be provided by boreholes but the water table for Nakasongola is very low – making it difficult to have functional boreholes. The district would have preferred valley dams which are more feasible in harvesting and storing rain water but nonetheless money is spent on sinking boreholes that cannot supply water.

Research should be customised at district level to address problems at the local levels. In this regard, districts should be allowed and facilitated to set their priorities. For example, Nakasongola produces the best honey in the world and there is a ready market. If farmers are supported to produce honey, there is high potential to increase their incomes. But instead, farmers are misguided to grow crops such as aloe vera, moringa which they cannot sell. Priority interventions policies for development should be localised in order to have impact on the poor.

Because of lack of resources at the local level, implementation of otherwise good programmes like the Universal Primary Education (UPE) programme is severely affected. UPE grants are released irregularly and in inadequate amounts. In some cases, teachers are not paid for a whole term yet they are expected to perform in accordance to agreed standards. Failure to invest substantially in local development initiatives is often blamed on the high administrative cost which is partly a consequence of many districts created allegedly due to demand of the grassroots people. But the central leadership including parliament should be able to make wise judgement of structures that will enhance development. Approval of new districts for example should not just be based on demand from the grassroots people, there should be better justification for creation of any new district. Besides, creation of new districts do not only increase administrative cost at the district level but also at the higher levels like in parliament – each new district will have to get a woman representative in parliament.

Basing on the ideas expressed in the panel discussion, participants in their groups generated more ideas on areas of intervention where research could make a significant contribution. A synthesis of these areas is presented in section 3.2 below.

3.2. Priority Areas of Research to Enhance Economic Growth and Poverty Alleviation

Priority areas of research were specified for each sector, climate change, governance, health, and agriculture. However, the order in which they are presented here does not in any way indicate preference or rank.

3.2.1. Governance

Policy development processes and impact on implementation: Policies are developed with the intention of improving service delivery and overall wellbeing of all members of society. The intention is good but how these policies are interpreted and finally implemented leaves a lot to desire. This dilemma emanates from the processes of developing those policies and how the policies are finally communicated and internalised by those who put them into practice. Bad implementation of policies and programmes is probably the most worrying aspect of development. There is need to analyse these processes and identify the gaps that need to be addressed to fulfil the shared desire of equitable development. How these policies are initiated, who ultimately influences the policy process and their intentions; how the policies are communicated to the people, how they are interpreted at various levels and how they are finally put in practice are areas that warrant research.

Empowerment of society to demand for services and ensure accountability: Empowerment of society to demand for services and ensure accountability is the most critical pillar of democracy and development. This implies that people have to be aware of their rights and pursue them as a right and not a privilege. Empowerment also means that people have to be given space to act but even more important, they must be able to utilise that space to influence processes and outcomes. Many models of empowerment such as affirmative action concentrate on providing space and not utilisation of that space, which ends up with manipulation disguised in representation. Processes of empowerment and models of empowerment in the African context need to be researched and articulated. The Western types of democracy and empowerment have not been very successful in Africa and there is need to explore factors that influence this phenomenon. Effective participation of society in development is to a large extent dependent on the level of empowerment of the population but the difficult question is how this empowerment can be achieved? Could it be through education, if so, what kind of education can it be? Could it be through mass mobilisation – a revolutionary approach, if so, how can this be done? Could it be through civic education, if so who will provide this and how can it be provided? Aware that a combination of approaches is necessary, there is still need to analyse the underlying factors that would trigger empowerment of African communities.

Leadership and democracy in an African context: Success or failure of development initiatives can be directly linked to the quality of leadership and existing structures and institutions that ensure accountability. Leadership needs to be developed but also processes through which leaders emerge need to be legitimate and authentic. For these systems to continue improving there has to be analysis of the strengths and weaknesses and options for addressing the constraints. Also, research needs to be done about the different forms of democracy in Africa and the circumstances under which such democracies can deliver services to the masses. How can visionary and accountable leadership be developed within those systems and what structures and institutions need to be in place to make it work. What have been the social and economic impacts of different forms of democracy practiced and what lessons can be derived to improve the status quo.

Developing institutions and accountability systems: Corruption is seen as the single most important factor that deprives and increases poverty. But also, corruption can only thrive under weak institutions for accountability of resources and services. While it is common knowledge that corruption is undesirable, research can contribute to dealing with the problem by generating evidence of the extent of deprivation due to corruption, who is most affected by corruption, and what the collective responsibility of the various stakeholders would be to deal with the problem. Alongside this, what kind of structures and institutions need to be in place to enforce accountability. How does society view corruption and what practices and attitudes directly or indirectly perpetuate corruption.

Impact of policies on development: Many policies have been experimented but not as much lessons have been distilled from those experiences with regard to development. What for example has been the impact of decentralisation, privatisation and taxation policies on

poverty and economic growth in general. The capacity to monitor policy impacts on development is very weak leading to repetition of policy related mistakes which only worsen the poverty situation. Evidence based policy development is not possible without reliable data on the impacts of previous policies and the lessons they present.

3.2.2 Agriculture

Production systems management: The agricultural potential in Uganda can be harnessed and sustained by effective management of production systems. Agro-ecological zoning and characterisation is important to demarcate the different production systems. Within those systems, appropriate practices and technologies need to be developed to ensure sustainable production. For example, one of the major constraints is developing sustainable feeding systems for both livestock and crop production systems. Cost-effective and feasible options which also ensure sustainable natural resource management need to be developed. The other major constraint is reliance on rain for agricultural production. Options for harnessing water for production including irrigation are critical to guarantee production and income to the farmers. Organic farming is a niche for Uganda but this has not been supported by research. Organic products have high potential for export where they attract premium prices, however organic production systems have not been a focus for research. In addition appropriate technologies that reduce drudgery on the farm need to be given attention. Farm labour has always been taken for granted but as more youth prefer to move to urban areas in search for employment, labour in the rural communities is increasing becoming a major constraint for production. This is further exacerbated by diseases such as HIV/AIDS. Increasing urbanisation puts more pressure for food produced largely by the weak and elderly population.

Post harvest handling and value addition: It is estimated that post-harvest loses in Uganda especially for grains is up to 30%. This is unacceptably high and lead to substantial loses in income for the farmers. Further loses are incurred through rudimentary processing and storage facilities. Value addition is probably the single most significant constraint for agriculture in Uganda. Focus on this aspect alone could triple the incomes of farmers even without increasing the current production. Because of lack of capacity for post-harvest handling and value addition, the prices of agricultural products are very low at harvest/farm-gate, hence denying farmers reasonable income from their efforts. Investment needs to be made in the area of value addition and post-harvest handling to enhance marketability of agricultural products, guarantee incomes to the producers and stimulate production at the same time.

Markets and market access: Like value addition, marketing and market access severely constrain agricultural production and farmer income. Availability of markets can boost production even without any other intervention. This was well-demonstrated by the short-lived vanilla production in Uganda. Sustainability of the production however depends on reliable markets. In this regard, market and market access research is very critical. The dynamics of local and international markets needs to be analysed to guide production. Dynamics of the markets is also influenced by consumer behaviours and preferences. Market analysis and consumer behaviours constitute market intelligence which is essential to predict demand and guide investment in production. Whereas agricultural research has concentrated on production technology development, this important component which has a direct influence on production has not been given as much attention. The gap lies in linking and analysing the entire value chain – starting from production to consumption. The innovations systems approaches currently under experimentation target entire value chains. These efforts need to be supported but value addition and marketing could be the entry points to improving the value chains.

Research into use: One of the major criticisms of agricultural research is that its outputs have remained at research stations and have not very much influenced practices. There has been disconnect between the demand side (technology users), technology developers and

the markets. The knowledge and technologies generated have not gone beyond the research institutions and are said to have remained on the researchers' 'shelves'. The argument here is that research should feed directly into use. The relevant technologies need to be promoted and taken out to the intended users while a new way of doing research is advocated to enhance uptake of research products into use. This calls for partnerships between different actors in the value chains to ensure that the chain is connected and that it functions effectively. This new way of engagement also demands new capacities of all actors including researchers to make it work. Innovations systems approaches are precisely intended to enhance research into use and increase relevance of research to the changing needs and contexts. Doing research about these phenomena is in fact doing research on research, which is essential for improvement of the research system itself.

Strengthening farmer institutions: The foundation for relevant research is existence of strong farmer institutions that can demand research services and engage with the researchers and other actors to fulfil their desires. The concept of demand-led agricultural services presumes existence of a strong demand side. Unfortunately not much investment has been made to strengthen farmer institutions as a component of the research system. There is a relationship between the weak demand side (farmer institutions) and relevance of research. If research is to benefit the farmers, it must address their needs, resources and interests. These can only be articulated when farmers are organised to take into account the various categories of farmers. Without this, research will always be driven by the researchers' interests and therefore its relevance contested. But there are also serious questions to answer in this regard. How can small-holder farmers be organised in a manner that their needs and interests are well articulated? How can farmer institutions be strengthened to lobby and advocate for services even from politicians/policy makers? What capacities are needed for farmers to be able to pursue their interests without being manipulated? Such questions pose research challenges which can only be addressed through engagement in development types of initiatives.

Indigenous knowledge and farmer experimentation: Indigenous is what has sustained farming in Uganda to-date yet it is under-looked by researchers. The 'supremacy' of scientific knowledge has not yielded as much impact as expected. It is logical therefore to suggest that the way forward is integration of indigenous and scientific knowledge to foster farmer experimentation as a platform for joint learning. Researchers and farmers need to engage as co-learners to explore options for improvement. Joint engagement will require shifts in attitudes for both the researchers and farmers and experimentation has to be feasible and beneficial to both. Whereas it is clear how researchers benefit from successful experimentation, it is not clear how farmers can be recognised/rewarded for their indigenous knowledge.

Agricultural finance and risk management: Much as agriculture employs the majority of the population in Uganda, it is one of the sectors are not so easy to access finance for its investment. Besides the interest rates and repayment schedules of commercial loans do not favour agriculture. Agricultural enterprises have a long gestation period which the commercial banks are not willing to give. Dependence on vagaries of weather poses a high risk for agriculture business making it difficult for the traditional finance institutions to support it. Unreliable markets too worsen the problem. Because agricultural enterprises are not cushioned by any form of insurance, the producers bear all the risks associated with the business. Professionals who are more enlightened about these risks are hesitant to invest in agriculture. If agriculture is to thrive and develop as a business, it has to be supported by finance institutions. But how and who can provide agricultural finance at favourable conditions? How can agricultural enterprises be insured to attract more professional producers and reduce the risk of the producers?

Linking agriculture and other sectors: Agriculture influences other sectors as much as it is also influenced by those sectors. Synergies need to be created between agriculture and health and climate change. There is a high relationship between agriculture and malaria for

example. Agriculture sometimes creates favourable environment for malaria and malaria also seriously affects the labour force in agriculture. Similarly there is correlation between climate change, agricultural production and disease. Malaria for example is emerging in areas that did not have malaria before and this is partly attributed to climate change. There is need to do research that cuts across sectors for holistic development?

3.2.3. Health

Understanding and influencing behavioural practices for health improvement: There are many known practices that would significantly reduce disease and associated losses but the behavioural practices have not allowed those options to work. For example, it is known that using mosquito nets can prevent malaria but many people including the educated do not want to use mosquito nets. Similar examples can be drawn from the family planning options and HIV/AIDS prevention. There is need to study and understand the behavioural practices, attitudes and culture/tradition that influence these behaviours. It is only then that appropriate strategies can be devised to enhance supportive behaviour for prevention of diseases.

Quality assurance in pharmaceutical service delivery: Quality assurance in pharmaceutical services is one of the major hindrances to health service provision. Whereas the Uganda National Drug Authority (NDA) regulates and tests the drugs on the market, they do not have the capacity to test all the batches of all drugs. In the process a lot of sub-standard medicine finds its way on the market. This is one of the reasons for increasing levels of malaria drug resistance. In addition, the policies regulated to drug importation do not favour local manufacture. The imported drugs are exempted of taxes and yet local drug manufacturers have to pay VAT on raw materials and only claim it later- sometimes taking a year before the refund is made. These policies favour importation of cheap and substandard drugs which are also subsidised by the countries in which those drugs are manufactured. In addition, the pharmaceutical industries cannot attract qualified pharmacists as they prefer the easy and more paying coverage of a few pharmacies than the less paying and tedious industrial jobs. There is almost no research in pharmaceutical manufacture. Traditional medicine which could be more accessible to a larger population at fairer costs also requires research to improve its processing, packaging and standardisation in terms of dosage. Use of traditional medicine is largely left to the uneducated yet it is well known that a large proportion of Ugandans who cant afford medical services depend on traditional medicine.

Alternative service delivery mechanisms: It is a fact that there will not be adequate trained health workers to provide medical services to all Ugandans in the near future. The distribution of medical workers is skewed with high concentration in the capital and hardly any in the remote areas. The conditions that influence this are many and unlikely to change dramatically in the near future. A feasible option is to explore alternative mechanisms for delivery of health services. A good example is the recognition of the traditional birth attendants who are now trained in hygiene and basic first aid practices to administer safe delivery in areas where mothers cannot access professional medical personnel. This needs to be extended to management and treatment of diseases. Can other personnel other than medical workers be used to increase access to health services especially in the remote areas? What are the alternative health service delivery mechanisms and what needs to be in place to make them work effectively and efficiently? What support systems are needed for the disadvantaged groups such as the elderly, the disabled and other groups that find relatively more difficulty in accessing health services? How can the vicious cycle of poverty and disease be turned into virtuous cycle. Innovative approaches to alternative health delivery services will be complemented with studies to monitor household dynamics and access to various health related services.

Management of lifestyle and nutrition related disease: Lifestyle, nutrition and stress related diseases are becoming very important in Uganda. Diseases associated with lifestyle such as hypertension and diabetes are among the neglected diseases that are killing a lot of people. These are also closely associated with nutrition. Malnutrition and over-nutrition are

equally unhealthy and often result into diseases. The prevalence and impact of these diseases need to be researched and their management options disseminated just like for malaria and HIV/AIDS. Similarly psycho-social diseases emanating from stress too need to be researched and awareness created about their management. These diseases affect both the poor and the rich but they have not been given much attention in terms of research and management/treatment.

Infant and maternal health care: Infant and maternal mortality is still very high and the factors contributing to this need to be further researched and understood. Most of the causes of maternal and infant mortality are actually preventable but options for management of these causes have not been widely taken up. The causes are related to several issues discussed above but it is singled out here for emphasis.

3.2.1. Climate Change

Forecasting and preparedness to manage effects of climate change. While we cannot accurately predict the future, research needs to enhance the capacity to forecast climate change and support devising mechanisms to manage the effects there from. Climate risk studies are necessary to bring out areas of vulnerability across sectors e.g. health and agriculture. This information is necessary as part of an early warning system to enable forward planning to avert and or manage the effects of climate change. It is true that human activity is one of the major causes of climate change. To reduce effects of human activity on climate change, issues of reward systems for those who protect have to be explored and documented to provide solid data to guide policy formulation. At the moment, those who strive to preserve the environment are not recognised or rewarded and yet they provide a public good. Unfortunately the public good is invisible and this requires research evidence to appreciate their contribution to the health and sustainable wellbeing of humanity.

Understanding, learning and communicating about climate change. Climate change is a relatively new area of focus in research and development. There is limited understanding of what it actually is even among scientists. Realistic and context based evidence needs to be generated to illustrate the phenomenon of climate change. This has to be appropriately communicated to the various stakeholders in a manner that they understand their own contribution to climate change and what they need to do differently to avert the adverse effects arising from climate change. Continuous learning has to be focussed on issues of climate change to deepen understanding and to be able to develop practical strategies for dealing with the effects. How effective communication and learning about these issues can be achieved pose many research questions that need to be addressed.

Socio-economic and cultural aspects of climate change: What people do in their environment is very much influenced by their economic activities, social needs and cultural practices. The interaction of these factors in the context of climate change needs to be explored and understood. Many cultural practices in Uganda have inherent principles and mechanisms for preservation of the environment but as these cultural norms are eroded, the impact on climate change is likely to be greater. There is enormous pressure on the environment to meet the economic needs of the ever growing population. Often economic activities that provide immediate short-term benefits take precedence over the long-term and invisible benefits of environmental conservation. The challenge for research is to demonstrate the economic value of environmental conservation in order to convince governments and other development partners to invest in activities that guarantee sustainability of the environment.

Relationship between land use, technology and climate change. Land use patterns and technology influence climate change and the reverse is also true. How these factors co-vary is a research issue that would generate valuable knowledge needed in designing policies and other interventions to manage climate change. A recent example in Uganda is the protest of the local people to convert and natural tropical rainforest (Mabira) into sugar cane

plantation. This is clearly a change in land which local people foresee the have serious undesirable impacts on their environment, but their claim needs to be supported with scientific information to enable policy makers design appropriate policies. The protest by the local people was probably to a large extent based on indigenous knowledge which needs to be integrated and enhanced in the communication and learning about climate change aspects. On the other hand, the argument of some politicians that a forest can be recreated elsewhere also requires better understanding of eco-system responses at landscape level. Research has a significant role to play in clarifying the relationships between land use, technology and climate change.

4.0. Modalities for Effective Research

This exercise was executed in 3 table groups and each group discussion was guided by a task.

4.1. Involvement of Stake Holders in the Research Process

Group 1 Task

In order to carry out research for development, stakeholders, i.e. end users, researchers and policy makers have to be actively involved in the research process. What specifically do each of the stakeholders have to do differently?

Group output

In order to address this issue three guiding principles below were adopted.

1. How do we ensure that the demand for research is effectively articulated?
2. How do we ensure that the demand for research is effectively monitored?
3. For research to be beneficial it should have an objective to address a “negative/innovative to be effective and relevant to the stakeholders

In order to make use of the guiding principles, the three factors needed to be considered

- a) Who else should be considered as stakeholder? agreed to consider these in the context of sectors identified during the plenary: -
- b) There are different meanings given to the categories the categories of stakeholders and end users, researchers, policy makers are not mutually exclusive
- c) Research should be cyclic versus parallel research versus coordinated research to harness and ensure efficiency in terms of cost and time but also to ensure continuity, and programmatic approach to research versus project based

What would end users do differently?

- They would lobby, advocate, network and associate for research. They would demand for research and feedback results aimed at improving the research methodology and content.
- Need to use the results for action
- Need to test the findings and demand for scaling –up application
- Proactively seek to be facilitated to participate in gap identification so as to guide the research agenda
- They should actively participate in research

What would researchers (indigenous, technical /implementers CSOs do differently?

They should limit inbreeding as well as choice of themes that might not be relevant to end users but rather aimed at keeping flow of resources. Currently, domestication of researchers limits their ability / latitude to respond to research needs.

Researchers should be realistic, and not arrogant. They should consider the end users, and aim at harmonizing the researchers and end users needs. "The different agendas tend to dictate the research needs.

Research should be based on clear outcomes and done in teams to benefit from synergies from different disciplines e.g. preference a mix in research teams- of sciences and social sciences. Because development problems are multifaceted & in wider context and need cross disciplines

Researchers should be open to scrutiny to enhance research integrity. E scrutiny should not be limited to peers but also extend to the end users. Researchers are not only based in research organisations but they also include indigenous, implementers, and CSO. The conventional researchers need to take into account the kind of benefits that the end users will realise and also evaluate how research has impacted in the long run. This needs to be done the stakeholders.

There is need for institution transformation to adequately respond to new challenges and demands of research for example setting up inter-disciplinary institutes.

There is need to build research partnerships between the public, private and non-formal sectors. Victoria seeds ltd for instance has been involved in on line production of seed varieties. They have been working with non formal sectors such as Uganda Farmers Association as well the Uganda Agro dealers Association who have some varieties to promote. Altogether these have contributed to disseminate information to help farmers know about the varieties such as AVDRC that are new on the market. Victoria Seeds has also been working fro scientists in the University as well as NARO. However this needs to be institutionalised.

The other public-private partnership that has been successful is that of the Millennium Science Initiative project. Some in new agricultural research systems are opening to non formal service providers such as the participatory market chain analysis (PMCA) currently being implemented in NARO.

Policy Makers

Policy makers should recognise building of institutions as their duty. They should listen to the communities / the clientele(s) to guide research agenda and demand for evidence based policy development, policy pronouncement and decision making premised on research. In fact they should able to initiate `research at different levels. Micro –research should guide the Macro research agenda. They then need to proactively engage in collective evaluation of research outcomes and impact.

Policy makers should push for an overall policy to help in the generation of research agenda that is coherent across sectors. At the moment, research agenda is fragmented by sector.

4.2. Communicating Research Among Stakeholders

Group 2 task

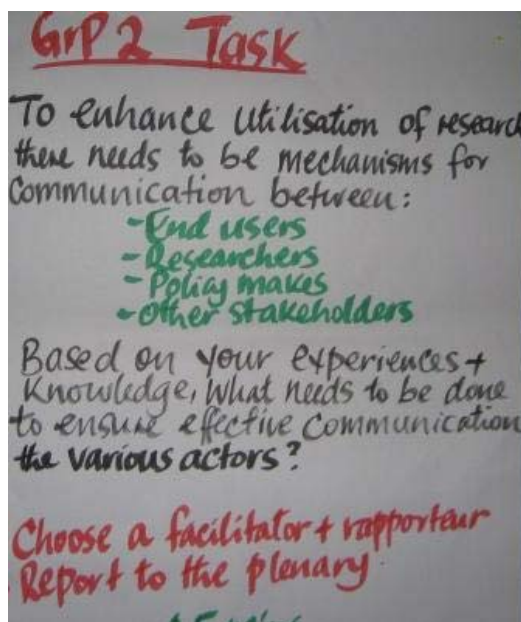
To engage utilisation of research, there needs to be mechanisms for communication between:

- Researchers
- End users
- Policy makers
- Other stakeholders

Based on your experiences and knowledge, what needs to be done to ensure effective communication by the various actors?

Choose a facilitator and rapporteur
Report to plenary

45 minutes



Group output

The main aim is to ensure effective communication of research among different stakeholders to ensure use. If want effective research use then we need to identify and categorise stakeholders at different levels for whom do we do the research. There is need for different strategies and tools for different groups. This means that we need still need horizontal communication between researchers but also need vertical communication among stakeholders. This requires us to focus on doing things differently.

The issues that need to be considered in identifying what needs to be done differently to ensure effective communication include understanding who the stakeholders are and what their different roles are. This would help in the identification of the mechanisms to involve them. This would involve for example timing of the communication and nature of environment where you are communicating.

The other issues include process monitoring and evaluation, to be able to judge whether the communication has been successful or not, whether it has contributed to learning. Further more it is important to identify mechanisms for enhancing demand for communication of research, and communication of the research from one end user to another.

Mechanisms for communicating research

Mapping of stakeholders: This includes involving stakeholders and beneficiaries right from the beginning, identifying appropriate channels of communication and linking them, tailoring methods of communication to the type stakeholder e.g. policy maker briefs, organising targeted feedback workshops to make the communication loop complete and identifying cheap models to use. The purpose of communication is get information across to the desired target. Communication of research outputs should be connected with learning and this can be achieved through timing, use of right names right pictures, etc.

Structural arrangements: Sectors should have expertise in communication to help create sectoral data banks but also harmonize harvesting of research to feed into national data

banks. There may be need to recruit specialized policy research and desk officers or create unit / databanks where information can be easily accessed.

The institutions also need to design mechanisms of improving attitudes of researchers towards involving stakeholders and communicating effectively which could include among others:

- taking a scientific approach to communication and only with a representative group
- learning to continuously communicate through alternative means such as newspapers, news conferences. It may take one 15 years to acquire a degree so researchers should not expect others to believe what they publish in a one off event
- turning a seeming layman into an expert by using simpler language and facilitating interactions between expert and layman

Motivation: Researcher rewards and incentives to communicate their research need to move beyond international journal publication to community based publications. Communicating to the grass root involves translating research into simple and local language and packaging the research products to suit the target audience.

Budgeting: Involvement of stakeholders in communication has to be part of on-going process. Since this is an expensive process, research project proposals should have a budget line for communicating research and donors need to recognise the contribution of this towards promoting of research into use.

Building on existing expertise: Research institutions should be aligned with parent sectors. There is need to realign research institutions under parent sectors. Sectors should have research policy and desk officers or units this way research can feed directly into policy.

Inter-disciplinary communication must be promoted. This includes involving the private sector and learning from learn from them, turning lay people into good communicators as well as communicating with legislators and structures to use. This would also encourage and ensure creation of an iterative feedback loop that would involve public & private sectors, NGO, CSO and others. The challenge would be How to ensure that NGOs, CSOs pass on messages without adulteration and comply with intellectual property right guidelines.

Effective policy communication and collaboration between research and policy organs can be enhanced by researchers channelling their information through the parliamentary sector oral research assistants and legislative officers. These officers collect data which sub-committees use and are the best informers of the policy makers on evidence based data. Effective policy communication is an iterative process and research institutions and IRBs should have play a role in interactive communication amongst themselves, policy makers and end users. Political pronouncements need not replace research output communication.

Alignment of institutions within line Ministries to ensure that structures do link with research and reforms are guided and harmonised: This would partly address problems such the National Agricultural Research Organisation being linked to the Ministry of Agriculture but the Ministry doesn't provide guidance on reforms in the different components. It could also partly address the issue of the National Agricultural Advisory Services (NAADS) which reformed and conducts extension that is independent from research! It would also address the problem of erratic and short term private suppliers.

4.2. Capacities & Competencies Needed to Conduct Relevant Research

Group 3 task

To engage in research for development, new capacities / competencies are needed for

- Researchers
- End users
- Policy makers
- Other stakeholders

What specific capacities / competencies are needed for each of the stake holders?

How can these capacities / competencies be developed?

Specific capacities / competencies needed for Researchers

- Research skills not just of research leaders but of entire research team since
- translating research into policy
- Researchers should make use of gatekeepers (contact but influential people) to access and improve their interaction with end users as well as policy makers. Researchers need to understand who are the gatekeepers and ensure they are included in the dialogue for research to be acceptable and used

These capacities / competencies can be developed among the researchers through:

- Sourcing for alternative funding for research from government and donors. Institutions can develop research training modules and lobby for increased budget for research to cater for this.
- All institutions of learning need to develop a more pragmatic curriculum which equips trainees with research skills, right from the early age. The research environment should aim at supporting and promoting young researchers.
- Mechanisms to document lessons learned should be developed
- Laboratory equipment/infrastructure development

Specific capacities / competencies needed for Policy makers

- Policy formation (relevance, impact on
- development and controversies)
- Translate research products into policies

These competencies can be developed by interfacing between researchers & policy makers

Specific capacities / competencies needed for end users

- Users have to be literate so that it is easier to communicate results to them.
- Users have to be knowledgeable to be able to your new knowledge
- They should also have ability to identify problems, to initiate work and identify researchable areas

These capacities / competencies can be developed among end users through enhancement of literacy levels.

Specific capacities / competencies needed for extension agents and other stakeholders

- Communication skills
- Basic interpretation of research findings so that they are meaningful to end users
- Mobilization of end-users
- Equipment (demonstrations, motor cycles)

These capacities / competencies be developed among extension agents through documentation of lessons learned and availing resources to effect documentation.

5.0. Key Messages for DFID

Participants were asked to agree, at their tables, 3 key messages that they wished to give to DFI as the workshop came to an end. Below are the messages reflecting where they felt DFID should focus its research funding

- Capacity building research
- Inter disciplinary approach,
- Institutional transformation and integrated research
- Communication
- Demand driven
- Local resource initiatives
- Policy related research at all levels
- Evaluation studies
- Disaster preparedness
- Opposition parties

6.0. Workshop Evaluation

What participants liked	What participants did not like
<ul style="list-style-type: none">• Facilitation approach was participatory• Duration of the workshop• Good style of facilitation• Very hospitable facilitators• Method of facilitation	<ul style="list-style-type: none">• Less time for generation of ideas• Too much work for the time available• Venue not environmentally friendly

7.0. Participants List

	Organisation	Position
1	Makerere University, Institute of Environment and Natural Resources	Assistant Lecturer
2	Ministry of Health Child Health Division	National Program Manager
3	Kulika Charitable Trust, Uganda	Project Officer
4	Department of Meteorology	Principal Meteorologist
5	Makerere University	Senior Lecturer
6	Uganda National Council for Science & Technology	Science Officer
7	Victoria Seed Ltd	Sales Representative
8	Environmental Alert	Prolinnova Co-ordinator
9	Conservative Party	President General
10	National Association of Professional Environmentalists	Secretary
11	Department of Meteorology	Principal Meteorologist
12	Uganda National Farmers Federation	Training and Agricultural Advisory Manager
13	Network of Climate Journalists in the Greater Horn Africa	Chairman

	Organisation	Position
14	PMA Secretariat	Social Development Specialist
15	Africa 2000 Network-Uganda	Executive Director
16	Mbale Local Government Administration	District Production Co-ordinator
17	Mbarara District Local Government Council	Secretary for Finance for District Chairn
18	Kirojo College Nakasongola	Director
19	Nakasongola District Local Government	District Production Officer
20	Nakasongola District Local Government	District Chairperson
21	Nakasongola District Local Government	District Fisheries Office
22	Uganda Veterinary Association	President
23	National Agricultural Research Organisation	Research Officer, NARO
24	PICO-Uganda	Senior Lecturer, Facilitator
25	PICO-Uganda	Senior Lecturer, Facilitator
26	PICO-Uganda	Senior Lecturer, Facilitator
27.	CABI-AFRICA	Knowledge & innovation systems
28	DFID UK	Growth & livelihoods team