

Approaches to food security and agriculture: Options for constructing an agenda that builds on cultural diversity

Batuuka Samuel and Nkanda David
PFARD, Uganda

Introduction

Peasant Farmers Association for Rural Development (PFARD) is a non-profit making voluntary organization working in the districts of Iganga and Mayuge in Uganda. It is one of the few African NGOs that are in partnership with COMPAS. The organization works with rural farmers and assists them to conduct community resource diagnosis and to develop local innovations in agriculture, health, environment protection and social and cultural development.

Since its inception in 1989 PFARD has worked closely with cultural practitioners such as traditional healers, herbalists, spirit medium, musicians and small scale rural peasant farmers in developing policy, advocacy and strategies so that the local communities are strengthened by government and other development partners/agencies with respect for its culture and traditions.

In the area of farming, PFARD has been working with rural communities/people to adopt innovative approaches that promote indigenous knowledge and practices in farming and animal health. The organization's approaches are different from most of the other organizations in Uganda because it focuses on a holistic way of life where the spiritual, human/social and natural worldviews are taken as complementary.

Agriculture has been the most important activity of the indigenous people of Africa and any assistance geared towards reduction of poverty should address the traditional people's innovations and worldviews related to their livelihood systems. In this chapter, we give an overview of the challenges to food security in Uganda, the effects of conventional agriculture methods and a justification for indigenous methods of food production and environmental management.

Background to food insecurity in Uganda

Contemporary Uganda has faced the big problem of food insecurity in the recent past. This has been partly brought about by adopting innovations from Western Europe since the colonial era and the lack of freedom of choice by Uganda with regard to the way farming is developing as a means of ensuring food security.

The agricultural innovations introduced during the second half of the 19th century distorted the traditional agriculture practices, which used to sustain the lives of Ugandans since time immemorial. In the past, communities used their inborn talents

and ability to innovate in crop and animal production in a more or less sustainable way. Indeed, traditional crops and animals had been adapted to the climatic and environmental conditions. The major crops produced were bananas, maize, finger millet, cassava, sorghum, ground nuts, sweet potatoes, bambara nuts, sesame and a variety of indigenous leafy vegetables. In addition to the produced crops were the wild food crops such as yams and coco yams, fruits and vegetable plants that grew in fallows, thickets, forests and swamps/wetlands. Some of these crops are not indigenous but were introduced in the colonial or precolonial time, for example, cassava, maize and groundnuts. The introduction of these crops did imply some adaptation of the traditional farming system

The production of the indigenous crop varieties was relatively easy, as they only needed soil, rains, seeds and labour, which were locally available. Food was therefore generally sufficient since population density was low. Capital investments in agriculture were minimal. A hand hoe and machete were the only implements, and relay and intercropping was practiced. These practices could not expose the soils to massive degradation the way monocropping, planting in rows and tractors do nowadays. Soil fertility was maintained by long periods of fallow and by applying manure from grass, tree foliage, domestic animal droppings and also crop rotation. Indigenous crops did not give high yields but had one major advantage: they provided stable and secure harvests as they could tolerate to all weather conditions, having adapted to such conditions through natural selection and survival mechanisms.

Traditional farmers also knew how to ensure continued availability of food through proper planning and storing. Crops that were vulnerable after harvest would be stored in granaries and those that could be kept in the soil would be left for a relatively long period of time. An example is cassava, cocoa yams and yams. These crops could be sliced to chips when fresh, stored when dried but also kept in the soil to maintain their nutrient levels and be harvested during prolonged drought seasons.

Traditional foods have a lot of ritual significances among the people of Uganda mainly because they maintain a linkage between the living, the dead and the living dead. For instance, among the Bantu-speaking ethnic group of people in Uganda (Basoga, Baganda Banyoro, Batooro, Bakiga, Samia and Banyore Banyankole) who are the majority, corpses were supposed to be buried in the banana plantation. Hence a banana garden was not only used as a food store for the living but also as a home/resting place for the dead ancestors. Today, this linkage is still practiced. Some banana varieties were planted for brewing beer, while millet and sorghum were grown for food and rituals, as well as brewing beer. Traditional beer signified a link between the living and the ancestors as on certain occasions the dead were remembered and honoured with beer and animal sacrifices. The ancestors were appeased; the living dead were believed to plead for the living so that calamities could be averted.

Before the introduction of large-scale farming practices that were associated with monocropping, deforestation and massive bush clearing, there were many traditional varieties of root-tuber food crops and leafy food and herbal species that were vital for human survival and existence. The modernization of agriculture and livestock had far reaching consequences for the smallholder peasant farmers in Uganda. The introduction of modern crop varieties and animal breeds displaced traditional crop varieties and animal breeds (Pretty, 1995).

Modern research has continued to condemn traditional varieties as uneconomical because they take long to mature and also vary significantly in maturity periods. The researchers did not, however, realize that although traditional varieties did not yield well, they were growing in conditions that naturally control pests and diseases. Besides, intermittent harvesting helped farmers to process the produce in manageable quantities and this in the end ensured quality.

Much of the wild game and fish have disappeared due to systematic environmental degradation of forest, bush and wetlands in a bid to open up large-scale farms. Traditional rulers derived their power from the special ties that they possessed with the ancestors, spirits and with God according to the traditional beliefs. Their power was largely mystical and magical and they were considered as the channels through which the life forces were distributed to the whole community.

Colonialism had significant effects to the people of Africa by the importation of a value system that was foreign to Africans and which was intended to eliminate traditional African values. African values respected age as a source of knowledge, wisdom and continuity. People lived in a more communal way. Western nations tended to rate the value of people by their individual possessions in terms of money, education, property and technological development including agricultural innovations. African leaders also learned to see socio-economic development in terms of western science and technology, which should be imported in order to bring about meaningful development.

Whereas we do not conclude that all the evil Africa is facing is a result of western imposition, it may be correct, as Temples (1949) put it, that it is a 'crime to impose on a human race a civilisation devoid of philosophy, practical wisdom and spiritual aspirations'. In this chapter, it can be added that it is also a crime to talk about partnership in development (as economists always do) where development and access to resources are at different levels and modes. Western donors are referred to as development partners of local African organizations and this in the philosophical sense is a fallacy. How can one with nothing partner with the one who has more than he requires? A development partner is one whom one relates with on equal terms and not in the way masters and slaves relate.

African's contemporary problems

African's trouble in the contemporary era began with the process of colonization in the second half of the 19th century (in the case of Uganda). With the coming of the Europeans, a lot of changes were to happen. First and foremost, there were increased intertribal/ethnic conflicts aggravated by the use of guns and gunpowder that were brought by the colonialists. This was followed by western forms of laws and jurisprudence and a new type of political arrangement. With it, a new economy was introduced in form of cash crops that were emphasized at the expense of food crops. Cotton, coffee, tobacco, sugarcane and tea were introduced as new crops and were promoted by colonial government as the major sources of income and possibly seen as the only means to end poverty. Africans started giving less attention to indigenous crops. The introduction of conventional (modern) agricultural systems in the second part of the 20th century compelled farmers to use chemical fertilizers and pesticides to

maximize output and earn monetary income. But continued use of these methods of farming have led to the pollution of water and increased soil degradation, raising the vulnerability of both hybrid and indigenous crops. To maintain high yields meant massive use of chemical fertilizers and pesticides and irrigation to enable crops resist pests and diseases as well as dry weather conditions.

Conventional agriculturalists continued discouraging smallholder peasant farmers from using their own methods of farming in favour of using hybrid seeds and external inputs, recommended as high yielding and profitable, having short maturity periods and uniformity of seeds in their crops. Large-scale monocropping systems, exploitation of soils and continuous deforestation without giving reasonable time to replenish soil fertility resulted in the loss of biodiversity. Most of the fallow thickets and forests that harboured wild food crops and animals were slashed and trees were cut down to enable tractors to plough the fields without any barriers. The slashed grass was burnt and the cut trees were burnt to charcoal. Most of the animals, food crops and useful medicinal crops, which grew in the thickets and forests, perished and the few that escaped found it difficult to grow and live in the present environment. This applies to most of the farming communities in Uganda, leading to the destruction of many vital species. In some instances, forests have been cleared to pave the way for the construction of industries, houses, hotels and other buildings/infrastructures. This also applies to the wetlands. The construction of factories, industries, hotels and other buildings and infrastructure demanded timber, burnt mud bricks and stone. Most also demanded a lot of heat energy/fire for them to run.

Hybrid varieties of seeds, breeds of animals and birds were introduced that demanded high external inputs, such as artificial fertilizers, pesticides, fungicides, acaricides and dewormers for them to give proper yields. The hybrid varieties of crops, breeds of animals and birds could not withstand the environment without these external inputs, hence leading to food insecurity. Africans are now in the serious dilemma of producing enough food to feed their people or producing for export in order to fight poverty. But the western nations have regulations that impede imports and rather promote export of their own food products to Africa. Whether the western nations are concerned about Africa's problems is an ongoing debate and a big challenge in terms of policies.

Most of the farmers tried to adopt conventional methods of farming but many of them failed because the external inputs were very expensive and thus not sustainable. Those who could afford them were very few in number. In the first instances, animal and crop productions were high but declined season by season due to various reasons:

- The loss of natural fertility status;
- The hybrid varieties of crops could not be stored for long periods, storing them meant spending more on the purchase of pesticides;
- Most farmers had adopted the growing of hybrid varieties and keeping of exotic breeds of animals but they could not to buy those external inputs every season, hence leading to food insecurity;
- During bumper harvest times, the price of crop yields was very low compared the cost of inputs;

- The palatability the hybrid varieties was not good compared to the indigenous varieties;
- The exotic breeds of animals and birds could not withstand the environmental conditions in which they were put, especially without the administration of dewormers, acaricides and vaccines;
- Farmers who adopted the keeping of exotic breeds could not afford to buy the external inputs which resulted to low and poor production, also leading to food insecurity.

Reducing poverty: Policy implications

Despite tremendous economic growth rates realized over the last 15 years (1990–2005) Uganda finds itself in a situation of poverty where 38 per cent of the total population in 2003 was below the poverty line (Vision 2035, 2005). People survive barely on one meal a day. In terms of income, while an average Belgian earns US\$25,820 per annum, an average Ugandan earns US\$310 per annum, which implies that the latter finds it very difficult to access basic human needs such as food, shelter and medical care.

Poverty in crop-farming communities, some with small non-agricultural enterprises, was driven by falls in producer prices. As a result people in rural, peri-urban and urban areas have been trying to mitigate the impact of poverty by joining the informal sector, hoping that small-scale microbusiness would supplement farming. But still poverty is on the increase. Despite policies to end poverty through all avenues of economic development, poverty in farming households increased from 39 to 49 per cent in 2003 (Government of Uganda, 2005).

Statistics show that Ugandan farmers, especially of cash crops, seemed to have done well between 1992 and 1997. Because of the liberalized marketing policies, coffee prices increased markedly from US\$0.82 per kilogram in 1992 to US\$2.55 per kilogram in 1995. To economists this was a period when poverty levels fell and hence there was increased consumption by the rural farmers. This trend confirmed the notion held by the government that the end of poverty lies in liberal policies of producing marketing. However, since 2000, the prices of cash crops has fallen drastically and hence reversed the trend in incomes to the poor.

One of the options for poverty reduction is to practice sustainable agriculture, which involves the production of food in a way that preserves or improves the soil fertility, maintains a clean environment and protects or regenerates the biological diversity and health of ecological systems. It relies on the proper use and protection of the natural resources. In sustainable agriculture, crop production primarily harnesses the naturally available resources and depends less on synthetic chemicals. It does not necessarily lead to less production. On the contrary, the proper blending of natural resources and synthetic chemicals may lead to high production levels.

Policy options for an agenda for sustainable development

Effective, community-based sustainable development and environmental management requires sound planning, implementation, monitoring and evaluation, all of which work better with good information, financing and legislation. Most central governments in Africa cannot provide all of these. Responsibilities should be delegated to the public administration, civil society organizations, NGOs and to traditional authorities, best suited to the task at hand or to support communities. This can influence positive policy-making at national and international levels. Such policies can include the following attributes.

Involve different stakeholders in policy reformulation towards sustainability

First and foremost, all the stakeholders must be involved in approaches to food security. The stakeholders include policy-makers, scientists and farmers, and also traditional leaders, cultural leaders, spirit mediums, herbalists, traditional institutions, lower and higher institutions of learning, like-minded NGOs and civil society organizations. These must be involved at all stages of mobilization, sensitization, planning, implementation, monitoring, evaluation and decision-making in all projects that are linked to food security and agriculture. Their knowledge, values and resources should be the basis of development. Campaigns should work towards:

- Ensuring the basic human right for food, and of human and environmental health;
- Transforming agriculture into ecologically, economically and socially viable and culturally appropriate systems;
- Strengthening people's movements (including women) and empowering small-scale and resource-poor peasant farmers and fisher folk to participate fully in decision-making in their societies and to have access to land, resources and knowledge;
- Making agriculture and rural societies a priority at local, national and international levels;
- Strengthening and integrating gender issues in all rural agricultural programmes from planning to implementation;
- Guaranteeing biodiversity and agricultural biodiversity as a basis for sustainable communities and ecological agriculture;
- Reducing or eliminating the use of synthetic fertilizers and pesticides, and promoting and implementing safe and sustainable nutrition and pest management methods in their place;
- Promoting the development of ecological urban agriculture;
- Promoting and supporting farmers' rights to seeds, land, knowledge and access to services;
- Providing well-documented experiences, examples and studies to show that food and animal production are viable and successful without the use of synthetic pesticides, dewormers and acaricides;

- Adopting an ecologically sound participatory action research agenda and ensuring that it is undertaken with community participation;
- Documenting in collaboration with indigenous and farming communities their traditional and indigenous knowledge to demonstrate these as a basis for alternative techniques, methodologies and systems;
- Resisting trade policies and technologies that threaten indigenous and sustainable food security;
- Creating awareness of dangers of pesticides and genetically modified organisms (GMOs) and creating emergency response capacity to pesticide poisonings and the release of GMOs;
- Continually strengthening COMPAS as a movement that will resuscitate farming systems that take care of social, spiritual and natural worldviews;
- Holding regular workshops at local, national and international levels to exchange experiences and formulate new approaches.

There is need for national framework policies and legislation to link social economic development with environmental management and to articulate the importance of sound resource management for long-term economic growth and social development. Such policies and legislation should clearly enunciate the country's sustainable development goals and objectives. A sound sustainable development policy provides an overarching national goal. In turn, this common goal guides all national and local government policy and legislation by coordinating the country's social and economic policies with long-term resource management and by ensuring that resource policies recognize opportunities for sustainable use. Such a framework reduces conflicts and contradictions across public policy, encourages coordination and collaboration among ministries and the various levels of local administration, and helps legitimize environmental management and encourage effective community-based resource management. This is not, however, a blueprint for specific actions at any level. Precise mandates are inappropriate because line ministries and local governments must have the flexibility to develop appropriate sectoral and sub-national policy, local laws and compliance strategies. Policy statements should be flexible enough that local people can develop land use and resource management practices that meet both national and district priorities, while addressing local needs and circumstances.

Market incentives for natural resource management

Resource management, while often shaped by cultural norms, is also an economic issue – natural resources are well managed when they are productive, critical to economic activities and vital to improving human welfare. In other words, local people practice effective resource management more often when it yields greater socio-economic returns for their labour and investments than other forms of land use do.

The use of market forces to shape human behavior and ensure effective resource management has several advantages over command-and-control regulations (Faeth, 1993; Repetto and Cruz, 1992). Correct pricing in Africa's increasingly competitive and active private sector and market incentives appeal to most peoples' aspirations for self-improvement (Veit et al, 1995).

When entrepreneurs and aspiring communities try to take advantage of opportunities for environmentally sustainable economic growth and social development, self-motivated and facilitated implementation will save government the high costs of enforcing regulations. Environmentally sensitive tax systems, for example, can generate much-needed public revenue (for both central and local governments) by making those who degrade the environment pay more than those who manage resources better.

Governments should help to create resource-based economic opportunities for Africa's rural population. Significant progress on this front is occurring. For example, the governments of Ghana, Uganda and Kenya encourage the production and export of nontraditional goods (especially agricultural ones) by promoting local goods abroad, identifying international market opportunities, providing credit, devaluing the local currency, offering foreign exchange retention schemes to facilitate local production, and easing import/export regulations (Ampadu-Agyei, 1995; Thrupp, 1993).

Cultural incentives and building on traditional practices

Resource management is most likely to be sustainable when a culture shares a system of values, beliefs and attitudes, grounded and governed by traditional norms and encourages environmentally sound management practices. Throughout rural Africa, the lands and resources protected for socio-cultural purposes derive their value from religious fulfilment, social prestige or other intangible benefits. Restricted land and resource use in sacred groves provide buffer zones to many communities as these are believed to be homes of important traditional gods. Protecting these sacred groves fulfils a religious and a bio-cultural diversity need. Although economic opportunities and monetary gains often drive human behaviour, cultural obligations can sacrifice certain economic opportunities and can promote sound resource management. In many cases, local leaders have solicited the support of religious and cultural leaders in efforts to govern resource use.

Although many community-based resource management practices have their roots in the prevailing culture, some originate outside the community. For example, bench terracing was made mandatory by the colonial British administrators in Kenya and Uganda and was abandoned after independence, in part, to repudiate colonialism. More than a decade later, when soil erosion jeopardized local livelihoods, the people returned to the practice.

While some aspects of culture encourage sound natural resource management, others restrict the adoption of environmentally friendly practices, discourage ecological/bio-cultural diversity management, and even invite resource degradation. For example, in some societies, important religious ceremonies or other social events occur between growing seasons when the demand for agricultural labour is low. During such times, food may be used in excess and sufficient labour to manage, maintain or restore resources may not be available.

In general, religious beliefs, ingrained divisions of labour, and traditional authority strongly influence resource management. Traditional religion significantly shapes daily life and behaviour; religious leaders wield considerable social power. Along with the government, Christianity and Islam, indigenous African religious beliefs are still strong. In many societies, for example, it is either forbidden to kill certain animals or they can be hunted only in certain restricted and regulated ways.

Rivers are regarded as homes of gods of fertility and rain, hence fishing may be prohibited or restricted. In addition, fish are considered sacred and villagers often make scarifies to them for protection and good fortune. In other local streams and rivers, fishing is allowed only along certain stretches during the dry season.

Therefore, cooperation with traditional authorities and dialogue about cultural practices and their possible modification and improvement is an important condition for sustainable development. Formation of farmers' groups at local national and international levels with well-laid objectives, goals and activities connected to bio-cultural diversity can also influence positive policy-making at all levels.

Cultural divisions of labour sometimes restrict the work of particular sex or age groups. Resource management practices that require or would benefit from the input of traditionally excluded individuals are thus hard to start. In most African societies, land management is primarily the female responsibility. But women, already overburdened with household activities rarely have the time, even during the agricultural off-season, to undertake labour-intensive resource management practices, such as the construction and maintenance of bench terraces. In some cases, work groups have been organized for (usually) agricultural activities, and these help overcome this culturally imposed bottleneck.

Traditional cultural practices empower certain individuals or groups, usually male elders who control household earnings. For example, in most African societies, customary tenure systems restrict women as individuals from owning land, even though they are its primary managers and thus know best how to use it. Yet without control over productive resources or access to capital and other vital inputs women are severely handicapped.

Religious beliefs, divisions of labour and authoritative hierarchies that encourage natural resource management deserve support. Cultural values, attitudes and beliefs that work against effective resource management can often be modified by altering the behaviours associated with them, but reshaping ingrained cultural behaviour requires sufficient incentives or alternative means of accommodating long-standing preferences.

Political support and legitimacy

Government support to community-based resource management can come in the form of political statements and declarations, presidential decrees, government policy, national or local legislation and project assistance. In any of these forms, it lends credibility to those who practice environmental management and it sanctions government and donor support to such efforts. It also encourages local people to practice effective environmental management, village institutions to address resource management, and government officials to support community efforts.

Government support usually makes the most difference when it is translated into project assistance that reaches communities and supports local initiatives. But supportive public policy and legislation *without* project assistance can still encourage communities to address resource management issues and enable the national staff charged with implementing policy (such as local government extension and law enforcement officers) to nurture local action.

Legitimacy can be established even where farmers may not know the specific terms or implications of supportive policies and legislation. In many cases, the mere perception of government interest in community development and resource management has been enough to stimulate local actions. For a example in Ikumbya sub-county, Iganga District, Eastern Uganda, a district soil conservation by-law has been a driving force behind effective terracing practices. The by-law promotes soil conservation and empowers local authorities to implement and enforce management practices.

In summary, the road to reduce poverty in Uganda, and in Africa in general, should not be sought by copying western systems of modernization and competing with western economies in the international market. It should rather be sought by building on values, knowledge and leadership of different stakeholders in the diversity of the African economic, ecological and cultural realities. Economic, ecological and spiritual motives should be integrated to respond to African needs and potential. The experiences of NGOs such as PFARD show that this is a feasible option, but it requires policy change and changes in attitude, skills and modes of cooperation between researchers, development workers, farmers and traditional leaders.

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