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# **SUPPORTING COMMUNITIES IN BUILDING RESILIENCE THROUGH AGRO PASTORAL FIELD SCHOOLS**



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# SUPPORTING COMMUNITIES IN BUILDING RESILIENCE THROUGH AGRO PASTORAL FIELD SCHOOLS

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# FOREWORD

The challenge to reduce rural poverty and food insecurity through improving agricultural production systems requires integrated and holistic approaches considering social, economic and environmental issues together, and recognizing that food production, access, distribution and consumption are equally important components of the challenge.

As Amartya Sen said during his McDowell Memorial Lecture at FAO in 2013, “there is significant evidence that the lack of basic education contributes to undernourishment and the ability to secure jobs and incomes.”

To respond to the need to develop education programmes for farmers, FAO developed a programme called Farmer Field Schools (FFS) in 1989, in Indonesia. The aim of the program is to support farmers to better manage their production systems for sustainable production. The first FFS were developed with rice farmers in Indonesia to reduce rice pests, improving the management of the entire ecosystem enhancing the natural enemies and the productive capacity of healthy plants.

The programme was subsequently expanded to African countries and to further crop species. As pastoralists cover large parts of Africa, are especially vulnerable to food insecurity, climatic changes, and often do not receive specific programmes of education, the FFS were adapted to suit pastoral needs by developing specific agro-pastoral field schools (APFS). An integrated and holistic approach to pastoral land management practices was developed with specific curricula created to respond to the unique nature of pastoralist farming in drylands. These agro-pastoral field schools focus on understanding that complex, local problems need local knowledge and solutions. Field school facilitators work during an entire cropping season with farmers/ pastoralists in a participatory manner through introducing and experimenting with new practices and varieties to increase productivity, resilience and improve their livelihood.

In Uganda in particular, agro-pastoral field schools take a multifunctional approach by holistically addressing food security, animal and human health, land rehabilitation, territorial landscape management, market access constraints and other environmental, social and economic issues. APFS therefore is used not only to improve farming practices, but also to increase the livelihoods of people depending on drylands. This multifunctional approach requires long time periods and significant economic support as the training period is long and intensive. But, despite the initial costs and time required, APFS provides significant long-term benefits to agro-pastoralists. A large pool of facilitators, trainers and implementation NGOs have been trained and are helping now to expand APFS programmes into new regions of Uganda.

This paper helps outline the history of APFS, the challenges and provides direction for their future with a view to building the resilience of vulnerable communities and their production systems.

My gratitude goes to the numerous institutions in the Republic of Uganda that have been involved in the nurturing process, including all the District Local Governments in Karamoja, Ministry of Agriculture, Animal Industry and Fisheries, Office of the Prime Minister, National Agricultural Research Organization, National Agricultural Advisory Services, Karamoja Livestock Development Forum and all the Non-Governmental Organizations that have implemented Agro-Pastoral Field Schools.

I would like to acknowledge the continuing work of agro-pastoral communities and community animal health workers that have over the years shared vital indigenous knowledge and to the APFS facilitators that have continuously validated and improved various materials for the learning programme as they support the vulnerable agro-pastoral communities.

Valuable technical comments and contributions were received from FAO colleagues including Alhaji Jallow, FAO Representative in the Republic of Uganda and Caterina Batello, Senior Officer, Ecosystem Approach to Crop Production Intensification Team, Plant Production and Protection Division, (AGPM) and are gratefully acknowledged. John Choptiany, FAO Consultant, (AGPM) also provided many edits, made the final layout and oversaw the paper development.

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## LIST OF ABBREVIATIONS

ACTED	Agency for Technical Cooperation and Development
APFS	Agro Pastoral Field School
CAHW	Community Animal Health Workers
CAPs	Community Action/Adaptation Plans
CC	Climate Change
CCA	Climate Change Adaptation
CMDRR	Community Managed Disaster Risk Reduction
FFS	Farmer Field School
GSLs	Group Savings and Loan Scheme
HEA	Household Economy Analysis
IDDRSI	IGAD Regional Drought Resilience and Sustainability Initiative
IGAD	Inter-Governmental Authority on Development
IGAs	Income Generating Activities
IPM	Integrated Pest Management
IPPM	Integrated Production and Pest Management
KLDF	Karamoja Livestock Development Forum
LEGS	Livestock Emergency Guidelines and Standards
MoU	Memorandum of Understanding
NADDEC	National Animal Diseases Diagnostic and Epidemiology Centre
NaLIRRI	National Livestock Resources Research Institute
NARO	National Agricultural Research Organization
NGO	Non-Governmental Organization
PDRA	Participatory Disaster Risk Assessment
SEAGA	Socio Economic Gender Analysis
UBOS	Uganda Bureau of Statistics

# ABSTRACT

Building resilience of vulnerable communities to the vagaries of climate change (CC) is not business as usual but, rather calls for more transformative approaches that can organically evolve to suit the dynamic and unique needs of different farming systems. However, most of the service delivery mechanisms are overstretched and built on the conventional model of unidirectional extension messages based on broad recommendations. The ecosystem-based Farmer Field Schools (FFS) approach provides an excellent platform that is flexible and responsive to meeting the requisite tailored skills of the farmers.

Over the last fifteen years the FFS approach in the Republic of Uganda has been adapted from a mono-crop rice production system in South East Asia to suit the complex and diverse small holder farming system characteristics of Africa. It has been used to empower communities under three different contexts – improving productivity for food security and reducing rural poverty; restoring agricultural productivity among former internally displaced persons and refugee communities; and building resilience among agro pastoral communities faced with recurrent hazards like drought, floods and trans-boundary animal diseases.

Presently, the FFS programme has adopted a broader and holistic livelihoods dimension ensuring that beyond productivity, entrepreneurial, marketing and savings skills are core integral components of the learning process. The implementation has been conducted through a solid collaboration with the local governments, a national agricultural research system, the private sector and civil society. Through this arrangement<sup>65</sup>, FAO has trained 58 Master Trainers, 796 facilitators and supported the establishment of more than 3 900 FFS benefiting at least 117 000 households and 702 000 direct beneficiaries. A network of more than 52 NGOs with full time facilitators has been vital in supplementing the government extension services to achieve this.

## KEYWORDS

Farmer Field School (FFS)

Agro Pastoral Field School (APFS)

Resilience, Climate Change (CC)

# BACKGROUND

Farmer Field Schools (FFS) are an extension approach built upon principles of adult education and experiential participatory learning processes. FFS provide a forum for farmers to meet and discuss real issues and experiment together on possible solutions that they can implement themselves. A typical FFS involves practical hands-on oriented learning processes in which groups of farmers (20-30) with a common interest within a given micro-catchment get together on a regular basis (ranging between weekly to biweekly depending on the specific needs of the group) to study the “*how and why*” of a situation in a given context under the guidance of a facilitator. The approach is particularly adapted to field learning activities that require unpacking the underlying basic science to enhance the farmers’ conceptual understanding of relations and interactions. The farmers under the guidance of a facilitator make regular field observations, relate their observations to the ecosystem and combine their local experience with ‘new’ information before making appropriate management decisions.

The learning process is systematic and guided by situation specific curricula that follow natural cycles of the subject which could be crop, animal, natural resource, or a community problem that requires collective action. A typical module of the curriculum may follow a “*seed to seed*” or “*egg to egg*” approach where the concept starts with the planting of a crop, through the seasons and is completed when the following season’s crop is planted (Gallagher, 2003). Key livelihood issues that affect the community are blended into the curriculum as special topics based on farmers’ priorities. This responsiveness to farmers’ needs is phenomenally fundamental in developing the farmers’ confidence in determining their destiny (Okoth *et al.* 2002).

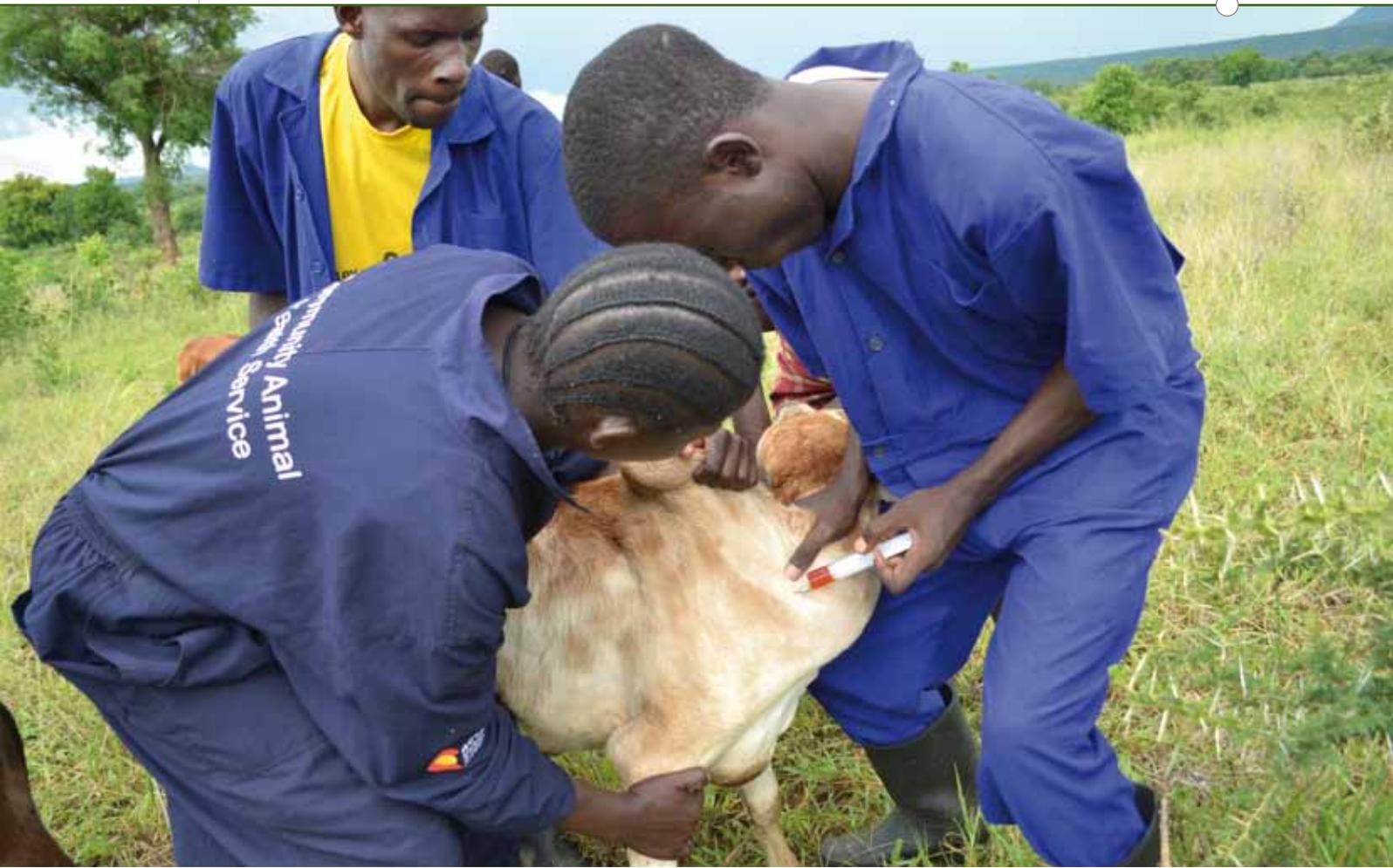
Over the last fifteen years, the FFS approach has been successfully adapted from a mono-crop rice production system in South East Asia to suit complex and diverse resource-poor smallholder farming systems with strong interactions between crop and livestock components.



▲ *Resource mapping during the PDRA process*

The underlying reason for this success has been the involvement of farmers themselves in identifying their problems and in selecting, testing and evaluating possible solutions while taking into consideration the need to balance between achieving household food security and income needs through increased production and productivity on small pieces of land. Several innovations geared towards ownership and sustainability of the FFS process by the community have been and continue to be trail-blazed for integration in ongoing and subsequent FFS programmes.

In smallholder farming systems, pest management is just one of the many production challenges that farmers are faced with. Thus, the modification of Integrated Pest Management (IPM) to Integrated Production and Pest Management (IPPM), a broader and more holistic approach which effectively accommodates any production related issues beyond pest management was the starting point of the evolution of the approach used in eastern Africa (specifically in the Republic of Kenya, the United Republic of Tanzania and the Republic of Uganda). This has enabled farmers to identify their own situation-specific entry points upon which the FFS core learning activities including IPM can be anchored.



▲ CAHWs providing treatment to an animal

- The FFSs in the Republic of Uganda have been implemented under three different contexts:
- improving productivity for food security and reducing rural poverty focusing on a specific crop or problem within the broader farming system which could be disease management, introduction of a new technology or a good production practice, among others;
  - restoring agricultural productivity among former internally displaced persons and refugee communities; and
  - building resilience among agro pastoral communities faced with recurrent hazards like drought, floods and trans-boundary animal diseases.

Programmatically, the implementation strategy in all contexts above has been flexible and iterative, allowing gradual changes over a three-phase process involving pilot, review and up-scaling. The pilot is usually a learning phase carried out with fewer partners, with a narrow focus and entails capacity building, tailoring the curricular and development of training material to the specific needs of the farmers in the area. At this stage, there is collaboration and engagement with relevant research institutions (NARS and CGAIR) to identify technologies and



▲ 30 local female goats acquired by Nadekel APFS, Lolachat, Nakapiripiri District

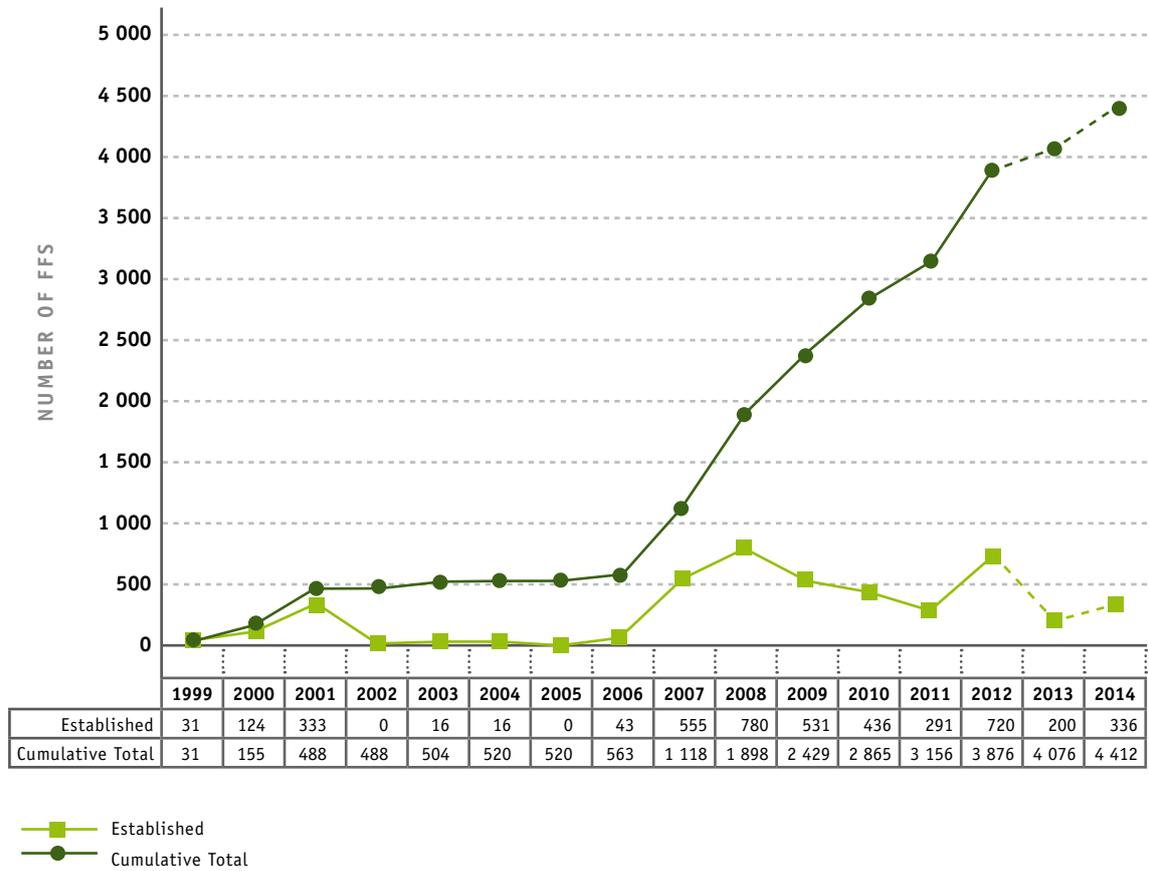


▲ Cattle in a protected kraal

practices that can be taken on for validation and/or experimentation based on identified entry points by the FFS during the group action planning process. The review stage is continuous and in parallel with the other two phases. It involves engaging different stakeholders including the farmers, facilitators, implementing partners, opinion leaders and local governments to obtain feedback, lessons and emerging needs in order to inform the up-scaling process. It also involves strategic engagement with the government and resource partners to ensure sustained support to nurture the programme in raising the necessary capacity and critical mass for institutionalisation. The up-scaling stage is for consolidating and putting in place support systems for sustainability.

Initially, the day-to-day facilitation of the FFS was done by government extension staff as a strategy for enhancing institutionalisation of the approach. However, the extension service delivery system was too understaffed and overstretched to match requirements for the systematic learning process which threatened to undermine the quality aspects. With the growing demands, NGOs which have for a long time been involved in extension service delivery became the best option for running FFS. Under this arrangement, NGOs implement the day-to-day activities of the FFS, while the role of government extension service on the programme has gradually changed to providing technical backstopping of the facilitators and quality assurance. To date, FAO has trained 58 Master Trainers and 796 facilitators drawn from government and NGOs; and supported the establishment of more than 3 900 FFS benefiting at least 117 000 households and 702 000 direct beneficiaries. A network of more than 52 NGOs with full time facilitators has been vital in complementing the government extension services to achieve this. To ensure the requisite technical oversight of the programme, FAO has a team of six FFS Master Trainers and four experienced facilitators spread across seven field offices where the FFS is implemented. Figure 1 below shows the FFSs growth in the Republic of Uganda between 1999 and 2012 with projections for 2013 and 2014.

FIGURE 1. FFS GROWTH IN THE REPUBLIC OF UGANDA (1999 – 2012)



Source: adapted from FAO-Uganda





# BUILDING RESILIENCE OF AGRO PASTORAL COMMUNITIES

The Karamoja region in the Republic of Uganda is one of the most vulnerable areas to climate change (CC) and rainfall variability in the Republic of Uganda. The region is generally characterized by poor rainfall distribution and reliability, manifested through prolonged dry spells and flash floods. The magnitude, frequency and severity of these hazards have increased over the past decades, seriously eroding the productive assets and traditional coping capacities that support livelihoods. From 2001, there have been extended dry spells every second year (2002 and 2004) and also during the three consecutive years (2007–2009). As a result, there have been repeated crop failures and low livestock productivity.

The crop failures have mainly been attributed to the poor rainfall distribution patterns rather than insufficient water and yet under the same circumstances, the effect on pasture and browse is of a lesser degree compared with the field crops. Empirical evidence from a Household Economy Analysis (HEA) study conducted by FAO in 2010 (Levine 2010) shows that even in a year with almost complete crop failure, the majority of agro pastoral and pastoral households in Karamoja were able to cope without external assistance, except for very poor households that relied on the general food distributions. However, despite having 19.8 percent of the total national cattle population, 16.3 percent of goat and 49.4 percent of the national sheep population<sup>1</sup>, livestock production and productivity have been affected over the years by effects of the prolonged dry spells, degradation of rangeland resources and often coupled with the presence of trans-boundary animal diseases.

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1 National livestock census. UBOS 2008



▲ *Goats feeding on sorghum stock (in the background) and Faidherbia albida pods (in the foreground)*



▲ *Cereal banking: 4 000 kg of sorghum grains stored in an improved traditional granary for Nakopir APFS, Nabilatuk, Nakapiripirit District*

In response, FAO designed a comprehensive livelihood programme focusing on three integrated priority areas of crop production, livestock production and land and water management within a Disaster Risk Management framework. A pilot to adapt the FFS approach to suit the peculiar needs of the region was conducted between 2007 and 2009, culminating into the commissioning of a comprehensive HEA supported by five complementary studies at the beginning of 2010. The HEA generated livelihood profiles and gave a better understanding of factors and processes that influence vulnerability and resilience at household and community levels, as well as how livelihoods can be affected by wider economic or ecological changes. These studies were further reinforced by mapping of key productive infrastructure, migratory routes, geospatial distribution of community animal health workers and veterinary supply points. These studies then provided the basis for designing appropriate interventions without undermining existing survival mechanisms.

Cognisant of the fact that the entire community is affected by the effects of CC, the APFS programme adopted a holistic and catchment-based approach to cater for any broader homogeneity in the nature of challenges which could form the basis for the learning process. Community immersion starts with a diagnosis of the problem. Using a combination of community managed disaster risk reduction (CMDRR) and socio economic gender analysis (SEAGA) tools, participatory disaster risk assessments (PDRA) are conducted with communities in each catchment where the APFS groups will be established.

The PDRA process involves a systematic analysis of trends over time; profiling and characterising of the common hazards; vulnerability in terms of human beings, productive assets and critical services; existing capacities and risks at hand. Based on the outcomes of the exercise, community action/adaptation plans (CAPs) are developed defining possible measures



▲ *APFS group examining a beehive in their apiary*



▲ *Community tree nursery managed by an APFS group*

to minimise the effects of the hazard or CC on the populations. The respective individual APFS groups in a given catchment then tease out of the CAP specific relevant aspects around which the learning curriculum and investment activities are anchored. This becomes the APFS group action plan which also acts as a local baseline against which the APFS and the community can progressively carry out self-assessments.

Unlike the ordinary field schools, the APFS programme has a two tiered level of activities, group and community. The group level activities mainly comprise the cycle-long learning, guided by a curriculum, validation and comparative studies. Alongside these activities are livelihood diversification activities directed at empowering households to build resilience. The community-wide activities are complementary and span beyond the scope of APFS. These activities contribute towards a support system for community resilience and may include activities like rangeland rehabilitation, revitalising of the local seed system, watershed management, community animal health, early warning systems, community based market information systems, resources management and sharing agreements and mechanisms for conflict management. To successfully address these aspects which have an element of “common good”, it is imperative to work with the local governments and/or traditional customary institutions. Customary institutions especially in agro pastoral settings wield significant authority and are often considered to be responsible for the social wellbeing of their community grazing patterns and use of natural resources is usually determined by the council of elders. Therefore, their appreciation of the planned activities and involvement is crucial from the onset.

The APFS are not used in isolation, but are instead part of a longer term multifaceted strategy articulated around complementary and reinforcing interventions. Even as the curriculum broadens,



resulting in a longer duration, effort must be made to safeguard the quality of the learning process. Content should be kept simple, practical and systematically answer relevant aspects affecting the learners. An inbuilt continuous self-assessment mechanism is a pre-requisite. In the Republic of Uganda, the APFS programme is built around farmer institutional development, sustainable crop production intensification, community animal health, natural resources management and alternative livelihoods within a disaster risk management framework. Actually the framework is a blend of disaster risk reduction and climate change adaptation (CCA) because in reality for practitioners working with communities, there is a very thin line between CCA and DRR as most of the tools are similar but only differ in the terminologies used and length of impact. The strategy therefore was to tease out practical elements of the two concepts that could effectively be used.

To systematically address the various components of the programme, strategic partnership had been established with selected institutes of the National Agricultural Research Organization (NARO), the National Animal Diseases Diagnostic and Epidemiology Centre (NADDEC), Karamoja Livestock Development Forum (KLDF), the Republic of Uganda Parliamentary Forum on Disaster Risk Reduction and specialised NGOs such as the International Institute of Rural Reconstruction (for mentoring partners on community managed disaster risk reduction and watershed management), the Agency for Technical Cooperation and Development (ACTED) (for early warning systems and cross border animal disease control), VSF Belgium (for community animal health and cross border animal health control), Cooperation and Development (animal health control and water) and several other NGOs/CBOs resident in the communities where the programme is implemented.

**Farmer Institutional development:** This involves the process of APFS group formation and formalisation, ensuring that all the groups have the necessary instruments for arbitration purposes including simple constitutions, bylaws, formal registration with the local administration and functional leadership. Through participatory processes, each group develops an action plan that defines their long-term engagement. The groups are also guided to establish saving and loan schemes which graduate into resilience funds once some level of trust and cohesion has been developed. Related to this are income generation and group marketing activities which are often implemented alongside the core learning process.

As the number of APFS in a given community increase, APFS networks<sup>2</sup> often emerge, necessitating tailored skills development and mentoring. The emergence of FFS networks has also been attributed to the “foci model”<sup>3</sup> that was adopted for the establishment of the FFSs.

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2 Informal or formal grouping (such as federation, cooperative, association) of a number of FFSs with a common interest within well-defined geographical boundaries such as sub-counties or districts.

3 Growing from a nucleus outwards.



▲ APFS group preparing an organic pesticide to apply on their vegetable field

In this model, successive AP/FFSs are established in the immediate neighbourhood of existing ones in order to form a cluster. This has enhanced the frequency of interaction, experience sharing and horizontal flow of information among the different groups. As a result, innovations and the rich resources of indigenous knowledge can be transferred faster among the farming community. The model also fosters coordination within the cluster, reducing the overall cost of implementation because the different AP/FFSs are able to procure inputs and market their produce in bulk in order to gain economic advantages.

**Sustainable crop production:** In addition to the mainstream skills development on sustainable crop production intensification practices and post-harvest handling, special emphasis is being placed on safeguarding the biodiversity in the region as the cornerstone for resilience. The region had a heavy influx and promotion of “improved seed varieties” at the expense of local landraces that had been used by the communities for a long time. However, with the increased frequency of dry spells, higher crop failures were also being recorded. In this regard, FAO is collaborating with the NARS to revitalise the local seed system to ensure that the local landraces with important attributes are conserved and used where applicable. A comprehensive seed system assessment commissioned by FAO in collaboration with the Nabuin Zonal Agricultural Research



and Development Institute has formed the basis for collection, characterisation where needed and bulking of selected food security varieties through APFS groups. This is aimed at restoring the access to these local landraces alongside the improved ones. In terms of skills, a module of seed production and handling has also been mainstreamed into the APFS curriculum.

**Community animal health:** To enhance prompt response and prevention of the spread of trans-boundary disease outbreaks, the programme focuses on strengthening the animal disease surveillance and diagnostic services through the already well developed Community Animal Health Workers (CAHW) system which is vital in augmenting the critical shortage of veterinary and animal health services in Karamoja.

A total of 420 CAHWs under the supervision of the veterinary services have been engaged as sentinels, conducting surveillance in their respective communities. This is an important mechanism for early warning of diseases and enables community feedback. Selection and distribution was based on a geo-spatial mapping of the CAHWs and relative livestock population across the region. Some of the CAHWs have been co-opted by community-based APFS facilitators to support the mobile pastoralists and have turned out to be very useful in maintaining the learning process. But most importantly they have improved the practical aspects on basic animal health practices among the APFS.

Based on the international Livestock Emergency Guidelines and Standards (LEGS), the National Animal Diseases Diagnostic and Epidemiology Centre (NADDEC) and Karamoja Livestock Development Forum (KLDF) have been trained and supported to operationalize a response mechanism in the event of any disease outbreaks. Due to relationships built while working with APFS, CAHWs, NGOs and Veterinary Services of the Republic of Uganda and the Republic of Kenya, a high level Memorandum of Understanding (MoU) on enhancing collaboration on cross border animal health coordination between the two countries was signed at a ceremony attended by the Executive Secretary of the Inter-Governmental Authority on Development (IGAD). In addition to enhancing cross border trade, this MoU provides linkages to the legal and policy landscapes at the national and regional level within the framework of the IGAD Regional Drought Resilience and Sustainability Initiative (IDDRSI) on ending drought emergencies in the Horn of Africa.

**Livestock nutrition:** This component focuses on promoting and sensitizing communities on conservation and use of locally available feed resources that have been underutilised or grossly mismanaged. Emphasis has been placed on how to maintain and preserve some of the important pasture species that provide cheap sources of relevant nutrients for animal health. There has been a deliberate drive to create awareness on the high nutritional value of Acacia tree pods

often left to waste and rot. APFSs, with suitable sites are being trained and supported to set up tree nurseries to safeguard some of the vital species like *Acacia*, *Sesbania*, *Gliricidia*, *Calliandra* and *Leucaena*. Related to this is the multiplication of appropriate varieties of high stover and grain yielding cereals – sorghum (*Sorghum bicolor*), maize (*Zea mays*) and millet (*Pennisetum glaucum*), to provide both food for the people and stover for animals after harvest. This has also been coupled with specific training on use and preparation of homemade livestock mineral licks to provide the required mineral, protein and energy supplements and preparation and preservation of hay, especially for fattening ruminants and feeding of lactating cattle when the large herds migrate in search of pasture. These practices have been important in resilience strategies for safeguarding the nutrition of the young and elderly who are usually left behind in the homesteads.

In collaboration with the National Livestock Resources Research Institute (NaLIRRI), the District Local Governments and the traditional Customary Institutions, there is ongoing effort to rehabilitate degraded rangelands along dry season mobility routes. This is being informed by a comprehensive situation analysis of the rangeland (NaLIRRI, 2012). The analysis revealed that the woody component of the vegetation is dominated by *Acacia* species which in some areas formed dense bushes covering over 40 percent of the total vegetation cover. There was also a lack of legumes in pasture swards coupled with the colonization of herbaceous vegetation by woody species like *Hyparrhenia* which indicated that the nutritive value of the swards is low due to fact that the grass quickly gets coarse, resulting in high fibre content and hence low degradability in the rumen.

Based on the above conditions, the programme focused on over-sowing existing native pasture with appropriate legumes that are compatible with each other and made deliberate efforts with the community to control/manage the escalating recruitment of woody species. The strategy also involves the introduction of more palatable and highly nutritious grasses to improve animal productivity.

**Alternative livelihoods:** In an attempt to strengthen household resilience and minimise stripping of productive assets, saving skills have been included as integral components of the curriculum. Each APFS is trained on group savings and loan scheme (GSLs) and facilitates to establish and operationalize these resilience funds. Using the resilience funds, groups have been able to fund activities intended to reduce the vulnerability of the community. A good example are the seed/grain banks that have been vital in shortening the hunger gap, making grain readily available during lean periods and seeds banks have been important for timely planting. In cases of disease outbreak, the resilience funds have been used for stocking veterinary supplies, thus improving access to medicine.



▲ *Community Animal Health Worker deworming young goats*



▲ *Attending to a nursery bed in an APFS*

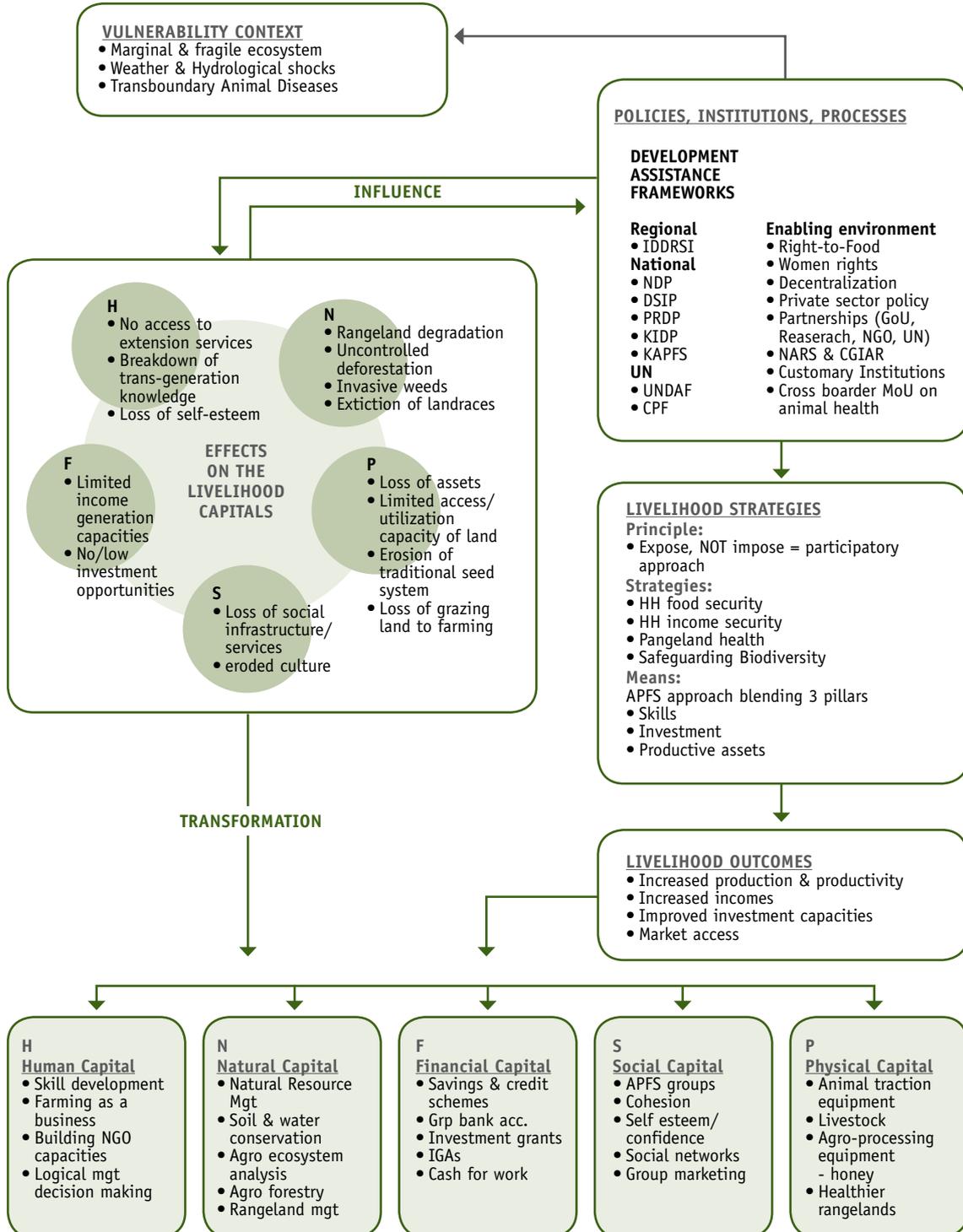
To ensure capitalisation of the GSLS, the APFS groups are guided on identifying complementary and productive income generating activities (IGAs) relevant to CCA as part of a module on farming as a business. Examples of such enterprises that have noticeable results include fattening of ruminants, bio-intensive vegetable production and apiculture, among others.

**Resources sharing agreements:** Exchange visits between APFS groups within the Karamoja region and across the border in the Republic of Kenya have created opportunities for dialogue among communities that had for a long time been in conflict over particular dry season grazing belts. These conflicts have created insecurity and underutilisation of the resources. This dialogue has culminated into resource sharing agreements between communities within the country and across the border with the Republic of Kenya.

**Drought early warning:** In collaboration with ACTED, a region-wide early warning system is operational and being supported through the local government where sentinels submit data on a set of parameters that are synthesised into monthly bulletins. These are circulated to all stakeholders electronically alongside specific action messages for farmers and transmitted over radio and through community drama groups.

The strategy has been to support medium and long-term interventions by contributing to CCA/DRR within a livelihoods-lens, emphasising food and income security through sustainable production and income generation practices. Figure 2 below shows the livelihood perspective of the APFS attributes.

FIGURE 2. LIVELIHOOD PERSPECTIVE OF THE APFS ATTRIBUTES



Source: adapted from FAO-Uganda



▲ APFS study plot

## KEY CORNERSTONES OF APFS FOR BEING INSTRUMENTAL IN THE PREPARATION OF POLICY GUIDANCE

The introduction of APFS can be instrumental in refining long-term community actions for enhancing better land and herd management, sustainable crop intensification and diversification of livelihoods within a Save and Grow framework. These lessons learned can later be used to design appropriate policy schemes. The APFS programme is not one size fits all and cannot be used as a remediation tool without adaptation to the local context. Nonetheless, the design of APFS systems aiming at modifying the policy system should include the following milestones drawn from experiences in the Republic of Uganda:

- **Programme and not Project:** *implementing the FFS within a programme framework<sup>4</sup> has been an important cornerstone for the success recorded to date in the Republic of Uganda. There has been a consistent effort to have projects formulated to draw upon emerging lessons and practices. As a result, the programme has been able to rectify anomalies and build the necessary synergies over the span of several years. Long-term projects have been used to consolidate gains and bridge activities initiated under projects of shorter duration. There is also a more rational and cost effective use of the resources.*

4 The Country Support Strategic Framework 2010–2014 for FAO Uganda.

- **Competent core team:** *in terms of human resources, the FFS programme has six master trainers and four experienced facilitators spread across the seven field offices. The team is able to support and maintain regular contact with the implementing partners, facilitators and APFS groups to identify and respond timely to any emerging capacity strengthening needs. The team is supported by a strong monitoring and evaluation unit and multidisciplinary pool of programme officers within the Country Office.*
- **Capacity building:** *the inherent attributes of the FFS as an empowerment approach lie in the process. Therefore, the programme places much emphasis on process and content building as well as promoting continuous feedback. In addition to the structured season-long and shorter training courses tailored for Master Trainers and Community Based Facilitators respectively, there is an inbuilt continuous capacity building process through localized monthly review and mentoring sessions. These sessions involve reviews of progress to date, identify capacity gaps and provide guidance within the framework of the learning cycle. This is coupled with simplification of training materials based on local and practical examples.*
- **Duration of the learning cycle:** *to match the evolving contexts and broadening curricular, the duration of the learning cycle has also gradually increased to ensure that the process aspects are not compromised in an attempted rush to cover all the new inclusions. The learning cycle in APFS varies from 18–24 months as some of the processes involving community-wide dialogue require significant amounts of time to complete.*
- **Resident coordinators:** *experience has shown that the use of facilitators resident in the community increases the ownership of the process by the local community. Their better understanding of the local context makes them more responsive to the farmers' needs and priorities and they are also more accepted than newcomers as they are easily able to relate to them.*
- **Alignment to National Development Frameworks:** *this has been crucial in facilitating dialogue on institutionalization.*
- **Conflict sensitive programming:** *mainstreaming conflict sensitive programming and use of socio economic gender analysis tools for activity immersion in the communities has averted delays that we used to experience prior to implementing these activities and tools.*
- **Strategic partnerships:** *with research, local governments, customary institutions and specialized NGOs and resident NGOs/CBOs.*
- **Comprehensive M&E:** *framework and multiple tools adapted to meet varying field situations.*



## EMERGING LESSONS FOR A FRAMEWORK ON POLICY RECOMMENDATIONS

The experiences described above allow for synthesizing of main points and experiences for policy recommendation once using APFS to increase climate resilience. The main points to be included into agricultural and land use planning development policy frameworks include:

LESSONS LEARNED	APPROACH SUGGESTED
Holistic livelihood programme within a Disaster Risk Management	<ul style="list-style-type: none"> <li>» Knowledge of the area</li> <li>» Household Economy Analysis (HEA)</li> <li>» Mapping of key productive infrastructure, migratory routes, geospatial distribution of community animal health workers, veterinary supply points, markets etc.</li> </ul>
Include planning based on natural resources and socio-economic settings	<ul style="list-style-type: none"> <li>» Catchment-based approach</li> </ul>
Quality of capacity building process	<ul style="list-style-type: none"> <li>» Institutionalization should be done carefully and systematically ensuring that the requisite structure for quality assurance exists and is well embedded in the overall national extension services delivery system</li> </ul>
Reinforce appropriate use of legal instruments by stakeholders and communities	<ul style="list-style-type: none"> <li>» Necessary instruments for arbitration purposes including simple constitutions, bylaws, formal registration with the local administration and functional leadership</li> </ul>
Gender	<ul style="list-style-type: none"> <li>» Socio economic gender analysis (SEAGA) tools to articulate appropriate interventions</li> <li>» Consider distance to training</li> <li>» Affirmatively mainstreaming activities that reduce on their labour burden</li> </ul>
Production intensification practices	<ul style="list-style-type: none"> <li>» Integrated production and pest management</li> <li>» Post-harvest handling</li> <li>» Safeguarding biodiversity</li> <li>» Diversification of farming system</li> </ul>
Livestock nutrition and health	<ul style="list-style-type: none"> <li>» Locally available feed resources, forage preparation &amp; preservation</li> <li>» Tree nurseries and appropriate tree planting</li> <li>» Community Animal Health Workers (CAHW)</li> <li>» Approach for trans boundary animal diseases</li> </ul>
Rangeland rehabilitation	<ul style="list-style-type: none"> <li>» Community rehabilitation</li> <li>» Over sowing with legumes in pasture swards</li> <li>» Appropriate bush and tree pastures</li> </ul>
Livelihoods	<ul style="list-style-type: none"> <li>» Markets and market information</li> <li>» Resilience fund</li> <li>» Seed/grain banks</li> <li>» Income generating activities</li> </ul>
Land management	<ul style="list-style-type: none"> <li>» Resource sharing agreements</li> <li>» Conflict management</li> <li>» Rational utilisation</li> <li>» Community action plans (CAPs)</li> <li>» Self-assessment and monitoring</li> <li>» Valorise customary institutions</li> <li>» Community managed disaster risk reduction (CMDRR)</li> </ul>
Strategic partnerships	<ul style="list-style-type: none"> <li>» Research, Local Governments, Customary institutions, Specialized NGOs and resident NGOs/CBOs</li> </ul>
Early warning system	<ul style="list-style-type: none"> <li>» Community based sentinels</li> <li>» Use of various communication channels (electronic, radio)</li> </ul>

While the APFS present an excellent platform and flexible conduit for holistically integrating a broad range of practices, there is need to have a balance between the content and process to avoid undermining some of the inherent APFS attributes for empowerment. Pastoralists are more responsive to interventions regarding the welfare of the livestock than they are for their own

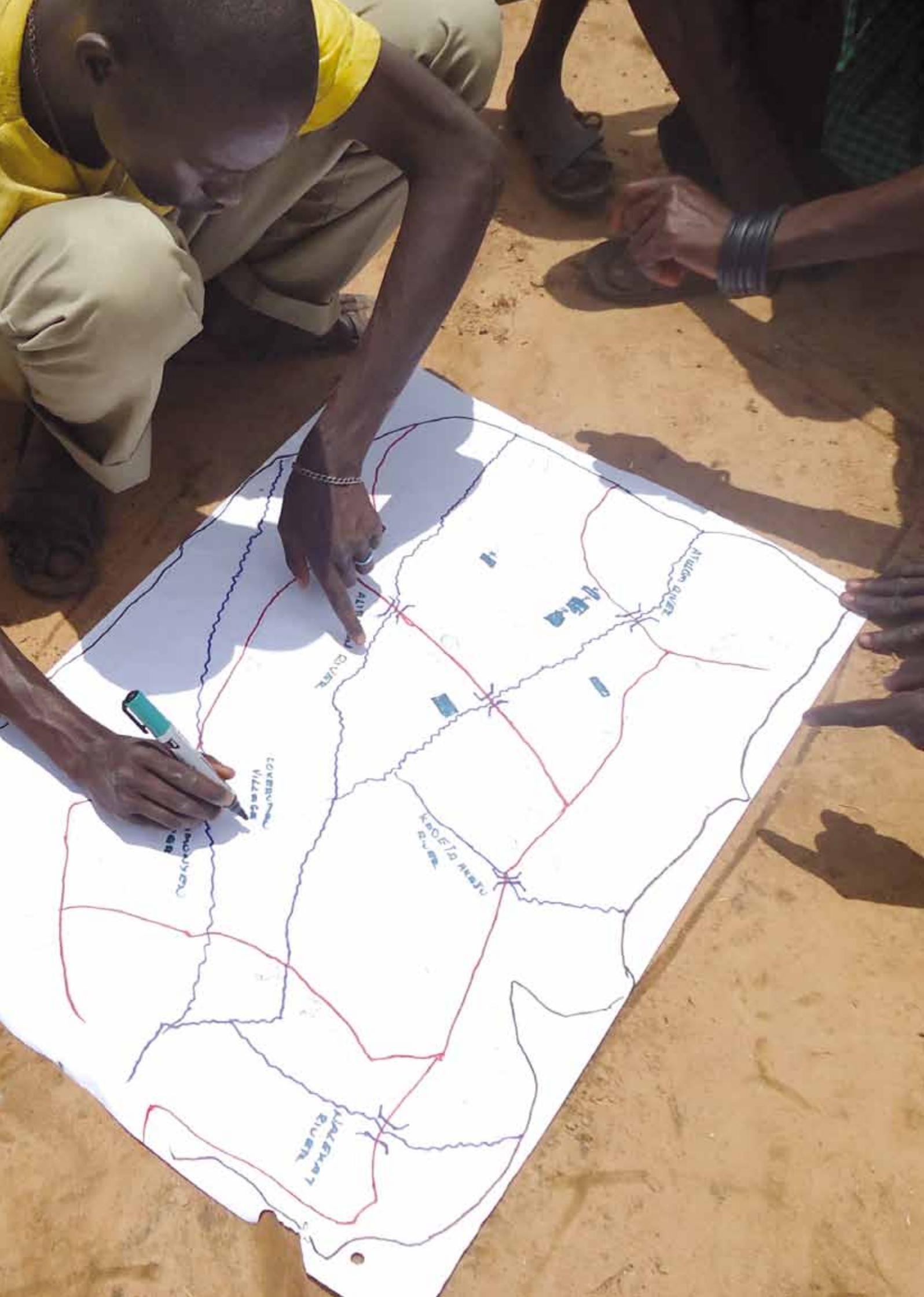
lives. However, their consistent attendance in the APFS is an indicator of how innovative and practically relevant the learning process was designed.

As a consequence, institutionalisation of the AP/FFS cannot be attained mechanically but must be a gradual process. It calls for raising the necessary critical mass of high quality trainers, functional groups, profiles of demonstrated good practices and support systems, continuous self-assessments, feedback from the primary beneficiaries on what works for them, relevance of interventions and from other stakeholders on their perceptions as well as an open mind. There is also a need to demystify the perceived high costs by placing value on the qualitative attributes which continue to be overlooked.

Furthermore, the livelihoods dimension of mainstreaming entrepreneurial skills and alternative income generation activities enhances diversification and reduces reliance of the affected communities on bad coping strategies like cutting down trees. These changes, coupled with the group savings and loan schemes have led to the emergence of resilience funds.

The gender dimension of APFS also needs to gain momentum into policy schemes. Household resilience lies in the hands of women and therefore deliberate effort must be made to enhance female participation in the APFS. For instance, long distances between homes and APFS lead to poor attendance and drop-out, especially with the female participants. Long distances between homes and APFS also discourage any meaningful investment in the location by the group. Therefore, for CCA, which inherently requires long-term investments like rehabilitation and preservation of rangelands, a more holistic catchment approach with clusters of APFS is more likely to achieve meaningful results. Participation of females can also be enhanced by affirmatively mainstreaming activities that reduce their labour burden. CCA-appropriate practices like bio-intensive backyard gardening, energy saving stoves, agro-forestry and establishment of tree nurseries have an overall complementary effect on income generation and freeing up more time for the women to attend to other household chores.

CCA is a long-term effort which relies on the will and commitment of the communities to proactively change their livelihood practices. The inherent attributes of the AP/FFS approach of cultivating cohesion and a willingness among farmers to learn together, while solving problems that affect them as a community build the necessary social and human capital. The level of empowerment and organization developed is critical and can have significant impacts on the marginal returns of the various complementary activities. Therefore, the community-wide interventions that span beyond the APFS do not only improve reception and implementation, but also provide the requisite support system for anchoring the programme. Policy support should be able to valorise the community contribution in prioritizing interventions.



# CHALLENGES

The process of implementing APFS in the Republic of Uganda depicted various challenges. CCA holistically combines various concepts and practices which often are knowledge intensive and require a good understanding of the underlying science yet the learning process in APFS hinges on the facilitator's knowledge, skills and innovativeness to suite dynamic changes in the local ecosystem. An effort needs to be made to maintain quality of experiential learning, especially in a framework where institutionalization is ongoing. Furthermore, most of the concepts and practices that contribute towards CCA have historically been implemented in isolation. Limited effort has been made to harmonise them into one integrated curriculum or set of simplified training materials on CCA. A further challenge is that APFS for CCA are implemented over a much longer learning cycle with a broadened curriculum than FFS. Owing to the difficult working conditions associated with agro pastoral settings, staff turnover is high which often disrupts the learning process. Partners are also faced with the problem of identifying resident facilitators with the requisite background to facilitate a broadened and dynamic APFS curriculum, yet this is a crucial factor in the degree of success of the APFS and has a direct bearing on the cost. These challenges are inherent to agro-pastoral settings and need to be addressed during planning phases.

## CONCLUSION

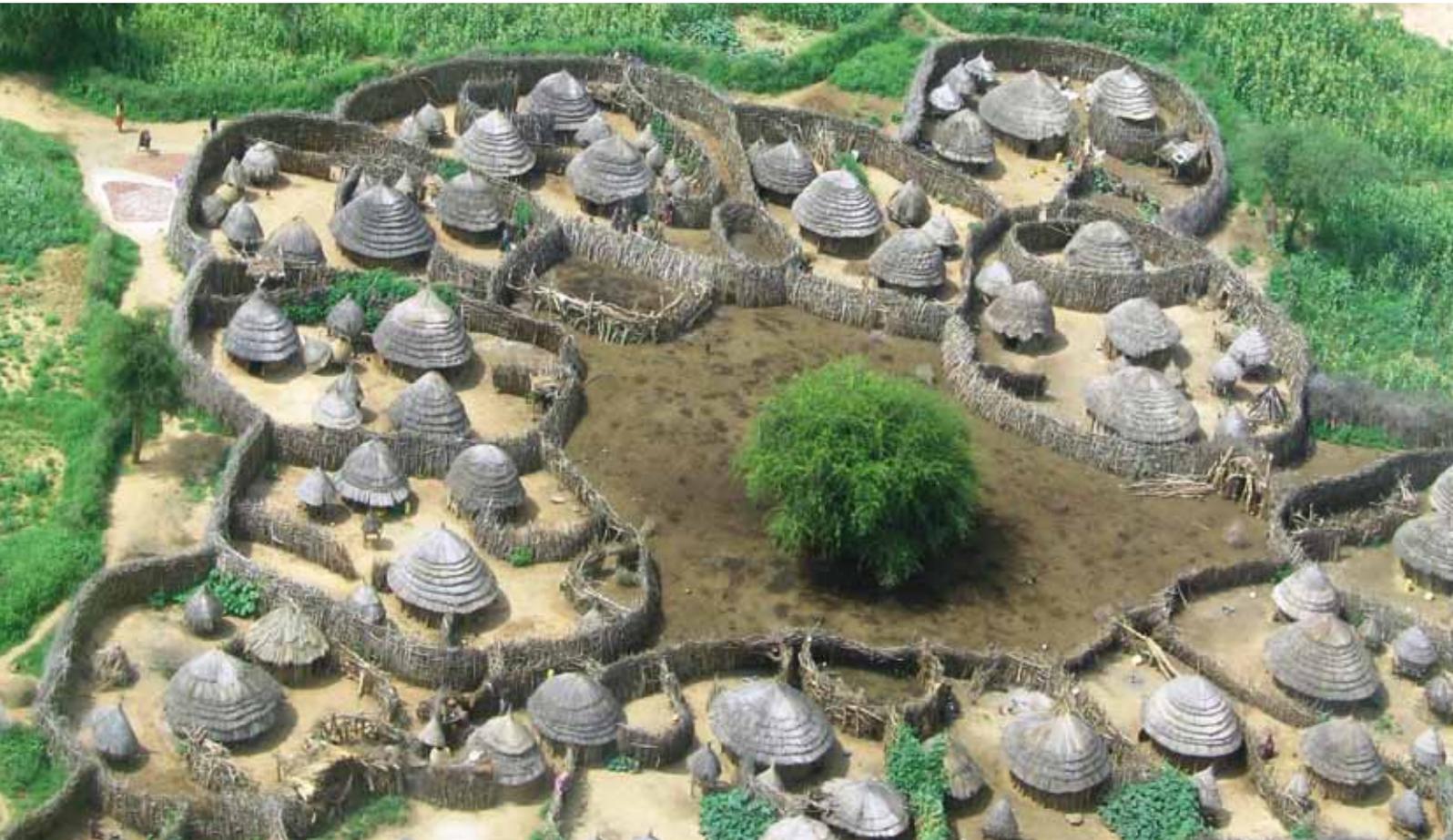
Quite a number of good lessons and practices have emerged out of the various programmes to inform subsequent formulation of new programmes. A good pool of trainers and training materials exist. Most importantly, the National research systems have started appreciating the relevance of the APFS in validating technologies and generating new demand for research. The APFS approach provides an excellent opportunity for implementing CCA interventions. However, there is a need to define a comprehensive and well harmonised framework for integrating climate resilience into agro-pastoral system through FFS/APFS. At the moment, many of the CCA facets remain isolated concepts.



▲ Watershed map

## RECOMMENDATION

The lessons learned from the Republic of Uganda are at the moment being used to introduce APFS in countries where the institutionalization of FFS is already ongoing with different levels of success. There is significant room to create a more positive policy enabling environment by first adapting APFS to the local context and by taking into consideration recommendations and steps previously taken as depicted in the present article. The introduction of CCA/APFS should be done in a holistic and participatory manner, so that all aspects of livelihoods are taken into consideration.



▲ *Arial view of a settlement*



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## SUPPORTING COMMUNITIES IN BUILDING RESILIENCE THROUGH AGRO PASTORAL FIELD SCHOOLS

Building resilience of vulnerable communities to the vagaries of climate change (CC) is not business as usual but, rather calls for more transformative approaches that can organically evolve to suit the dynamic and unique needs of different farming systems. However, most of the service delivery mechanisms are overstretched and built on the conventional model of unidirectional extension messages based on broad recommendations. The ecosystem-based Farmer Field Schools (FFS) approach provides an excellent platform that is flexible and responsive to meeting the requisite tailored skills of the farmers.



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