



South Sudan Pilot Community Forestry Project

Participatory Rural Appraisals of Ifwoto
and Lainya Payams

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LIST OF ABBREVIATIONS

CBFM	Community Based Forest Management
CDOT	Catholic Diocese of Torit
EU	European Union
FAO	Food and Agriculture Organisation
FGD	Focused Group Discussion
IGA	Income Generating Activity
IGAD	Inter Governmental Agency for Development
IRC	International Rescue Centre
JFM	Joint Forest Management
LPT	Local Planning Team
LRA	Lord's Resistance Army
MAFCRD	Ministry of Agriculture, Forestry, Cooperatives and Rural Development
MDGs	Millennium Development Goals
NPA	Norwegian People's Aid
NRC	Norwegian Refugee Council
NTFPs	Non Timber Forest Products
PFM	Participatory Forest Management
PHCU	Primary Health Care Unit
PRA	Participatory Rural Appraisal
REDD	Reducing Emissions from Deforestation and Forest Degradation
SIEP	Sudan Integrated Environment Project
SPLA	Sudan People's Liberation Army
SSFP	South Sudan Forestry Project
SSRRC	South Sudan Relief and Rehabilitation Commission

TOR	Terms of Reference
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Education Fund
UNOPS	United Nations Office for Project Services
UNSC	United Nations Security Council
WFP	World Food Programme

Notes on the Text

The findings, analysis, conclusions and recommendations that were generated by assessment of both Ifwoto and Lainnya Payams, are included in this report. They are presented together for reasons of efficiency: the two sets of data share the same background information as well as a purpose and a methodology. The payam specific information is presented under the heading of the payam within thematic sections and in alphabetical order: Ifwoto followed by Lainnya.

Throughout the report the present tense is used in descriptions of the human and environmental phenomena that were observed in the two payams by the assessment team that visited them. The reader should not infer that the use of that tense guarantees the permanence of those phenomena. Rather the report should be seen as the reflected image of what could reasonably be assumed to be the relatively stable status quo of a community. The data and analysis presented here were - to the best of the team's knowledge - accurate at the time of writing, and are understood by the members of that team to express *the normal and not the anomalous condition* of the communities in question.

Lastly, in order to reduce repetition the reader should assume that any given statement pertains to the payam in question, and that unless otherwise qualified, the statement is true throughout that payam.

ABSTRACT

This report presents the findings of full scale participatory rural appraisals (PRA) that were conducted in each of the bomas¹ in the payams of Ifwoto and Lainya. The purpose of those appraisals was to generate and collate basic socio-economic, environmental and organisational data that could be used in support of the South Sudan Pilot Community Forestry Project.

The long and bitter Civil War had a devastating impact on the lives and livelihoods of much of the population of South Sudan. During the many years of conflict, people were displaced, had their assets destroyed, and were generally denied the benefits of development. The Comprehensive Peace Agreement (CPA) of 2005 and the subsequent attainment of independence in July 2011 gave birth to the new nation of South Sudan. However, despite that development the damage done to the country's statutory and customary structures of governance in general - and those pertaining to the forest sector in particular - is extensive and significant.

In the absence of established structures and systems to aid and regulate sustainable development, the exploitation of natural resources – especially those that are forest based – in order to meet people's basic needs, has been uncontrolled. At present a confluence of factors is driving that exploitation still harder. There has been a recent increase in the amount of infrastructural development, and the number of people from the diaspora who are returning to the country is rising. In this context there is justifiable fear of that the degradation of both natural and plantation forests in South Sudan will intensify.

The forest cover in South Sudan, which according to the United Nations Food and Agriculture Organization (FAO) stood at 29% in 2010, has been decreasing rapidly since that time. Cultural norms prohibit cutting some trees in particular due to their importance to the community, but rapid urbanisation is taking a toll on these traditional forest management structures and practices largely because people from urban areas do not respect traditional norms and practices. In addition, the legal framework pertaining to forest management is weak, and people are taking advantage of legal loopholes to overexploit forest resources. The result is that forests are being further degraded.

It is in this context then that the South Sudan Pilot Community Forestry Project, which is supported by the United Nations Environment Programme (UNEP) in

¹ A boma is the lowest administrative unit headed by a chief. A group of bomas constitute a payam.

partnership with the Ministry of Agriculture, Forestry, Cooperatives and Rural Development (MAFCRD), was put in place. The pilot project is designed to support local communities in the sustainable management of forest areas and the rehabilitation of degraded forest land.

The pilot project is being undertaken in Ifwoto Payam of Torit County in Eastern Equatoria State and Lainya Payam² of Lainya County in Central Equatoria State. The initial forest assessment is one of the core activities of the pilot project and was implemented by Norwegian People's Aid (NPA) on behalf of UNEP South Sudan. Various PRA tools were used for data collection during that assessment, and key informant interviews were conducted in order to validate information collected from the boma and payam levels. The information collected through this exercise provides a basic understanding of the socio-economic conditions of the people of the area, their use of natural resources, and the outstanding local issues and challenges. That understanding can be used to take informed decision in formulating community forestry management plans.

² A payam is an administrative unit headed by a payam administrator that could be described as a sub-county. A group of payams constitute a county; a county is an administrative unit headed by a county commissioner; and a group of counties makes up a state.

Key findings in Ifwoto Payam

- **Demography:** Ifwoto Payam has a total population of 28,601 ethnically *Lotuko* people all of whom speak *Otuho*. Generally speaking, the community is organised into three major clans: *Omini*, *Igango* and *Owudo*. Across the community – that is in all of the four bomas that make up the payam - males hold a key role in the management affairs of the community. Males in the community are recognized in different age sets with the interval between one age set and another being 12 years. At any given time there is a ruling age set locally referred to as *Monyobiji* whose minimum admission age is 18 years. The *Monyobiji* is the dominant male age group, which shoulders the responsibility for protecting the community and its interests. The group therefore has a key role in making decisions pertaining to forestry activities. This cluster of young males is usually in age group between 18 and 30 years. As the ruling *Monyobiji* grows older beyond the age bracket, the next age set from below takes the mantle of community leadership and decision making.
- **Education:** There are twelve primary schools but no secondary school, in the payam. Only four of those schools have permanent classrooms with one of them being a full primary school³. The rest of the schools operate under the shelter of trees rather than in buildings. Adult illiteracy was observed to be quite high owing to many years of civil war.
- **Health:** Access to health facilities and potable water in the payam is limited - a state of affairs that poses a great health risk for the community.
- **Land Use:** In general land is used for cultivation, livestock keeping, settlement, bee keeping, hunting and fishing. Some land is occupied by traditional or religious shrines. There is evidence that in the recent past some areas of the forests have been used as sites for the production of charcoal. This is especially true of Moti and Ihollong bomas.
- **Livelihood:** The people of Ifwoto Payam have various livelihoods but the assessment found that most of those livelihoods are climate dependant. That dependence makes the community vulnerable to the consequences of climatic shocks. It is worth noting that the sale of Non-Timber Forest Products (NTFP) as a livelihood is growing among the people of the payam.

³ A school in South Sudan is considered a full-fledged primary school if the school has classes from P1-P7, i.e., standard 1 and up to standard 7.

- **Land Rights:** The tenure of land in general and forest in particular is mainly communal. In each of the bomas there are landlords who are the custodians of the land and the forests thereof. However, it is to be noted that landlords do not have the authority to transfer title of the land or to change its use. The assessment ascertained that there are 35 forests in the payam, and that those forests are distributed across the four bomas. Due to the differences in elevation and topography among bomas in the payam, there are some variations of tree species between one forest and another.
- **Forest management systems:** The traditional forest management structures, though well-established, seem ill-equipped to prevent members of the community from over-exploiting resources. Access to the forest is unrestricted to the community and the resources of the forest are considered to be common property. The use of those resources is allocated according to the community socio-economic calendar, but that use differed across the social classes of the community. Such a traditional and customary system of forest resource management in the payam worked well in the past when the community harvested forest resources solely for their own needs. However, those resources are now in much greater demand. The payam is easily accessible by road and so the payam's resources are within reach of the people of Torit, and the markets of Torit are within reach of the people of the payam. The traditional form of forest management is being increasingly weakened as people harvest forest resources for income generation and sale with little regard for the traditional norms and practices. The assessment found anecdotal evidence that tree cover had decreased since 2004 because of the ways in which forest resources were being utilised. There is no evidence of any major conflict over resources within the payam but there has been a dispute between the people of Moti Boma and those of neighbouring Nyong Payam.
- **Development stakeholders:** The assessment found evidence that various stakeholders had intervened in the payam in the past, and that some continue to do so in the present. Many of them seem to have concentrated their activities in Moti and Imokoru bomas. There are no development partners involved in forestry.

Key Findings in Lainya Payam

- **Geographical and political Location:** Lainya Payam is one of the payams that make up Lainya County of Central Equatoria State. The payam is made up of three bomas: Bereka, Logwili and Lokurbang. Lainya Payam is located at the central region of Pojulu approximately 63 Miles (101 kilometres) from Juba and 37 Miles (60 kilometres) from Yei River County.
- **The people:** are ethnically *Pojulu*: a group that sub-divides into several clans. Indeed, there are about 61 clans distributed in the three bomas. In June 2012, the payam had an estimated population of 29,958 people.⁴
- **Socioeconomic infrastructure:** the payam has nine primary schools, one senior school, a teacher training college, and a vocational training institute. There are three primary health care units (PHCUs). There are twenty five hand pumps that provide potable water. The community also depends on surface water from rivers and pools.
- **Land use:** land is used for cultivation, livestock keeping, settlement, bee keeping, hunting and fishing. Settlements are along the main roads and next to water points. Cultivation and the keeping of small livestock are usually practised around these settlements. Conversely, fishing, hunting and cattle-keeping usually take place in the forests, especially in areas near rivers. Beekeeping is practised in the hills.
- **Livelihood:** sources of livelihood in the payam are diverse. Cultivation is ranked as the most important, but other significant sources are the sale of non-timber forest products (NTFPs), charcoal production, small business, local brewing, livestock keeping, hunting and gathering, and blacksmithing.
- **Land Rights:** forest tenure-ship is mainly communal but 13 landlords – divided among the three bomas - serve as custodians of the forest and its resources.
- **Forests and Resources:** there are 37 forests, some of which are situated in each of the three bomas. A community inventory of these forests showed that although a variety of tree species can be found within the forests, the forests do not differ much from one another. The explanation for this seems likely to be that the forests are similar in biological composition because they are similar in their geographical location: that is to say they are in the same *belt* as one another.

⁴ The information on population figures was sourced from the South Sudan Relief and Rehabilitation Commission (SSRRC) and the population was said to have been an update of the 2008 census. It incorporated the number of returnees but did not consider growth over time.

- **Use of forest based timber and NTFPs:** resources are used during a large majority of the year: only a few resources are seasonal. People of low income status were more likely to be involved in exploitation of the forest based resources than those of high income status. However, those of high income were said to be the ultimate beneficiaries.
- **Forest Management Systems:** these are inadequate. Government interference and the corrosive effects of exposure to urbanisation have jointly weakened traditional systems of resource management. This failure to manage the forests is said to have resulted in a decrease in tree and bamboo cover, as well as a reduction of other forest based resources over the years.
- **Development activities:** there are various development stakeholders and actors involved in the development of community support infrastructure and the promotion of a community livelihood base. However, it is important to note that there is not, neither has there ever been, a development stakeholder or actor involved in either the conservation or sustainable management of forest resources.

1. BACKGROUND INFORMATION

1.1 Forestry in South Sudan

The Civil War that devastated Sudan and Sudanese society in general did not spare the forests of South Sudan. The systems and structures that had for time immemorial adequately protected forest resources were weakened by war and are being further undermined by changes brought by peace. The forests' resources are vulnerable to over-exploitation driven by the new demands and aspirations of the growing population and developing society of South Sudan.

The forest sector database in South Sudan is extremely poor so there is little or no documentary evidence to base a judgement on the comparative condition of forest cover in the country. However, it is certainly true that the opinion that forest cover has declined in recent years, is widely held. The reason for that decline is usually given as an increase in demand for forest based products especially among people living in urban centres.⁵ There is some evidence that in the recent past forest resources in South Sudan have been exploited to an extent that is unsustainable. For instance, it is reported that only an estimated 2000 Ha of teak plantations remain out of an original plantation area of about 16,000 Ha. This process of degradation has not only affected plantations but also natural forests.

In 2010, FAO used a land cover map to show that the forest cover was 29% of the country - a figure that did not include mixed woodland-shrub land or pasture areas. This percentage is likely to have decreased in the last two years as a result of the socio-economic changes that have recently taken place in the country. It is often said that certain trees have specific roles in the communities of South Sudan and so cannot be cut unless by special arrangement. While that has traditionally been the case, rapid urbanisation is taking a toll on the traditional forest management structures that have underwritten such customs in the past. In many cases these traditional norms are no longer observed. This has resulted in non-selective tree-felling in some areas – usually for the provision of wood fuel for use or sale⁶, charcoal production, as well as for other timber related needs. Nonetheless, the role of traditional and local institutions in management of forest resources should not be ignored, especially in areas where the social fibre is still strong.

1.2 Legal Framework on Forestry in South Sudan

1. The Transitional Constitution of the Republic of South Sudan, 2011

⁵ UNEP South Sudan forestry project "Pilot project for community forest management in South Sudan", August 2012.

⁶ It is estimated that about 95-99% of households use wood fuel as their principal domestic energy.

Article 171(1) of the Constitution on Land Tenure stipulates that the land tenure system in South Sudan shall govern public land, community land and private land. Community land is further defined so as to include all lands traditionally and historically held or used by the local communities or their members. It is written in the constitution that those lands will be defined, held, managed and protected by the Law. Thus the management of land and the forest resources thereof by the community has a legal foundation. Subsection (7) of the same Article says that *the rights in land and resources owned, held or otherwise acquired by the Government shall be exercised through the appropriate or designated level of government which shall recognise customary land rights under customary land law*. What this means is that customary rights over resources, including forest resources, is protected by the Constitution.

2. The Land Act 2009

This Act of Parliament is inspired by the African Union recommendation that land ownership should be community driven. The Act adopts the provision of the Transitional Constitution on community land and gives more details on community land classification. The Act also provides that the Traditional Authority is the major agency in relation to management of land issues. However, the Act leaves much space for interpretation. The Government of South Sudan has prepared a draft national land policy in 2012 which is currently being reviewed for submission to the Council of Ministers.

3. Local Government Act 2009

This Act regulates the relationship between three tiers: government, community and transitional land user. Section 90 of the Act provides that By-Laws shall be formulated within its jurisdiction to regulate customary seasonal access rights to land and maintain peace and harmony among the communities without undue government interference in land issues, in accordance with the customary practices prevailing in the area. Section 133 further describes linkages with International Agencies and Organisations and Local Governments where the farmers are required to enter into a cooperation agreement to work in collaboration with the specific local government councils.

3. Forest Policy, November 2012 (draft)

This policy provides a framework for management of forests at all levels across the Republic of South Sudan and also recognises the importance of forests for commerce, communities and conservation. It mandates the South Sudan Forest Commission (SSFC) to provide regulations and operational standards for a vibrant forest sector while the Ministry of Agriculture, Forestry Cooperatives and Rural Development (MAFCRD) provide oversight. The policy also clearly spells out ownership and management responsibilities of forest reserves where it gives ownership and management of National Forest Reserves, previously known as Central Forest Reserves, to the government while at the same time recognising that communities also own and are responsible for the sustainable management of forests on communal

lands through community forestry and agro-forestry practices. Furthermore, this policy defines forest revenue collection and sharing at different levels and urges that such arrangements should take into account ownership, responsibility and inputs in forest management such as protecting the rights of local communities. Of major interest is the recognition of the community as a major stakeholder in the sustainable management of the forest. That recognition requires the national and state governments to enter into collaborative forest management agreements and arrangements with communities, in order to manage forests sustainably and in a way that ensures increased benefits to communities.

4. Other International Agreements

a) The Global Forest Principles

The Forest Principles are a non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests in the world. The statement of the Forest Principles was driven both by an understanding of the importance of forest resources and by concern over the threats to those resources around the world. The principles apply to all types of forests, natural and re-established, in all geographic regions and climatic zones. These principles are:

- Encourage forestry development by promoting participation of local communities, indigenous people, industries, labour, NGOs, forest dwellers and women in the development, implementation and planning of national forest policies;
- Advocate that national policies and strategies should provide a framework for increased efforts in management, conservation and sustainable development of forests and forest lands;
- Stress that decisions on management, conservation and sustainable development should be based on a comprehensive assessment of economic and non-economic values;
- Develop policies and legislation that will ensure that unique vegetation types are conserved for cultural, spiritual, historical, and religious needs, as well as for biodiversity value;
- Incorporate the process of environmental impact assessment into national policies, especially where actions are likely to have significant adverse impacts on critical forest resources.

South Sudan still has much to do in terms of involving local communities, NGOs, women, and other stakeholders in the planning, development and implementation of forestry activities. The UNEP supported Pilot Community Forestry Project represents a significant and positive step at the beginning of that journey.

b) EU Strategy for Africa

The European Union (EU) Strategy for Africa is the European Union's response to the challenge of getting Africa back on both the track of sustainable development and of meeting the Millennium Development Goals (MDGs) by 2015. The strategy document states that “as a long-standing partner and close neighbour, the EU is well placed to provide Africa with a decisive boost in this process”. *Geo-environmental dynamics: management of natural resources to combat poverty*, is one section within that strategy. That section contains the statement: “The African continent is environmentally very diverse. Climate change will further increase the strain on water resources, affect biodiversity and human health, worsen food security and increase desertification. Flooding and drought are common across Africa and set to increase as a result of climate change, while early warning systems are inadequate and disaster management is weak. Climate change adaptation is therefore an urgent necessity for Africa's development. Africa's renewable water resources fall below the world average and at least 13 countries suffered water stress or scarcity in 1990, and the number is projected to double by 2015. Furthermore, Africa has 17 percent of the world's forests: deforestation, both for commercial timber and to make room for agriculture, is therefore a major concern and represents an enormous loss of natural economic wealth to the continent.”

The Strategy makes it clear that as Africans in general rely heavily on natural resources for their subsistence, particularly in times of crisis, during famines, conflicts or in the wake of natural disasters, then additional EU support will be required in order for African nations to cope with the Continent's growing and pending environmental problems such as water shortages, climate change and desertification.

c) United Nations Convention for Combating Desertification

Developed as a result of the Rio Summit, the United Nations Convention to Combat Desertification (UNCCD) is a unique instrument that has brought attention to land degradation in dry lands that are home to some of the most vulnerable ecosystems and people in the world. Ten years after coming into force, the UNCCD operates today in an environment that has evolved considerably since its negotiation. Development paradigms have shifted significantly since the Rio Summit, especially since the adoption of the Millennium Development Goals (MDGs). There is now more of a focus in policy on Africa and the world's least-developed countries, and there is more commitment to climate change mitigation and adaptation strategies. The world too has changed a great deal since the summit: the prospects for global agricultural trade liberalization have grown, and so too have the numbers of environmental refugees and migrants.

d) United Nations REDD Programme

This is a collaborative initiative designed to help reduce emissions from deforestation and forest degradation (REDD) in developing countries. The programme was created as a response to the United Nations Framework Convention on Climate Change (UNFCCC) decision on REDD at COP 13 and the Bali Action Plan and builds on the

convening role and technical expertise of the UN Food and Agriculture Organisation (FAO), United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP). The programme aims to promote the informed and meaningful involvement of all the stakeholders in national and international REDD+ implementation. It also works to build international awareness and consensus about the importance of including REDD+ mechanisms in any future climate change agreements. South Sudan is a UN-REDD partner country.

e) **Millennium Development Goals**

MDGs are designed to enhance livelihood security while reducing health risks and vulnerability by achieving seven developmental goals. Several of the MDGs are relevant for the people of South Sudan. The eradication of extreme poverty and hunger is one of the MDGs for example. MDG 7, which deals with environmental issues that can influence livelihood security, is of particular importance to South Sudan because the majority of the South Sudanese population is based in rural areas and depends on the environment and natural resources for their livelihood.

1.3 Review of Community Based Natural Resources Management Approach

The South Sudan Pilot Community Forestry Project has adopted a community based natural resources management approach.⁷ This approach is an important tool in tackling the problem of sustainable forest resource management. More importantly, the approach is a vehicle with which to deliver better livelihoods, because it extends the benefits of forestry resource management to the communities that live near to a given resource. Those benefits might be incentives for involvement in - or identification with - the goals of conservation. Where the approach has been successful, it has not only contributed to high income turnover, but also changed the attitudes of people to the conservation of biodiversity. The main objective of adopting this approach is to give hands-on experience of natural forest management to the local communities. In order to do that successfully, the South Sudan Pilot Community Forestry Project can learn a good deal from success stories of community involvement in forest management, from around the region. For example:

1. **Participatory Forest Management (PFM) Piloting in Arabuko-Sokoke Forest, Kenya:** - Arabuko-Sokoke Forest (ASF) is located in Kilifi and Malindi Districts on the North coast of Kenya and covers an approximate area of 420 square kilometres. Most of the forest is managed by the Forest Department as a Forest Reserve. A small portion is a nature reserve managed by the Kenya Forest Service. PFM was piloted in the western section of the forest reserve that is adjacent to Dida sub-location. Dida sub-location comprises the three villages of Kahingoni, Dida and Kafitsoni. The piloting of PFM started in 1996, and in 2000

⁷ UNEP South Sudan forestry project "Pilot project for community forest management in South Sudan", August 2012

it was given official permission by the Ministry of Environment and Natural Resources in Kenya to allow local communities to manage the forest area under PFM. The community and other stakeholders were taken through the six PFM process step: initiation of PFM; collecting detailed socio-biophysical data; crafting (forming) a community forest association; participatory forest management agreements; guidelines and plans; participatory forest management partnership agreement (endorsing joint management agreement and implementation, monitoring, evaluation and review. Under the PFM, local communities have been benefiting from ecotourism and income generating activities (IGA). The most important IGA is the export of butterflies. The pilot PFM process showed that communities can effectively manage forest resources. On a different note the process demonstrated that community organizations that do not have adequate regulations, capacity building or constant monitoring, are prone to the kind of management problems that can beset government departments in general: corruption, misappropriation of funds, and a lack of equity in resources and benefit distribution. The process also proved that an empowered community can both demand rights from government and be an effective partner in seeking donor support. Lastly, PFM can easily be institutionalised among stakeholders if a *process* approach is adopted. That process should not be seen as a blueprint but rather as a generic guide that can be adapted to each new site; to each forest with its unique characteristics; and to each set of stakeholders with their diverse interests and needs.

- 2. Sustainable management of Indigenous Forests in Mwanza East, Malawi:** A community based natural resource management approach was applied in Mwanza East, Malawi. The project showed that income from NTFPs and related activities can build up household livelihood strategies by increasing incomes and food sources for local people, and can provide for general sustainable development. These benefits can in turn encourage communities to conserve, and manage their natural resources in a sustainable manner simply because of the inherent direct value of NTFPs. The Sustainable Management of Indigenous Forest Project was started in October 1996 and implemented a community-based natural resource management programme, which allowed local people to participate in the sustainable management of natural woodlands. The Malawi project is located 60 km northeast of Mwanza Boma in Symon's *Traditional Authority Area*. In 1998 the population living within the area of the project was estimated at 4,000, and the total land area was estimated at 6,150 ha, of which 3,020 ha was under forest cover. The area was experiencing deforestation at an annual rate of 1.6 percent because a new road from Blantyre to Zalewa that was built in the late 1980s had prompted an increase in settlement, which in turn brought fresh demand for resources. The project was instituted with a development goal of managing natural resources sustainably to ensure better living standards for the local community. The community based natural resource management approach that was adopted, looked to encourage innovative ideas and activities that were less destructive, more sustainable and that gave better returns. One advantage of the approach was that the technologies involved were both simple and cheap. Simplicity and low

cost are critical factors both for sustainability and for the extension of the techniques to other communities that have access to similar resources. Furthermore, the benefits accruing from sustainable management of natural resources were going to the needy, assisting them to escape the circle of poverty. However, proper harvesting methods and mitigation measures need to be put in place by communities once these products have been commercialized, in order to minimize mismanagement or overexploitation of resources. Above all, public awareness on the exhaustion of natural resources needs to be integral to the processes of both the extraction of NTFPs and of forest management in general.

3. **Tchuma Tchato - an evolving experience of CBFM in Mozambique:** Tchuma Tchato was started in 1994 in a remote area covering about 200,000 ha on the right-hand side of the Zambezi River in Tete Province, close to the borders of Zimbabwe and Zambia. This typical mopane (*Colophospermum mopane*) forest ecosystem had been a concession area for safari operations since 1993. At the time there was so much conflict between the local communities, the private sector and the local government that intervention was required in order to promote a more collaborative approach the management of resources. The benefits to and obligations of all stakeholders were clearly defined from the start. There were several stakeholders and a complex network of obligations. The central government played a role in promoting Community Based Forest Management (CBFM) by establishing a mechanism for direct tax revenue sharing between the parties. An inter-ministerial agreement was signed in May 1995 to the effect that tax revenues would be directly collected and then shared in the following proportions: 33 percent for local communities, 32 percent for local governments, and the remaining 35 percent for the national tax system. The role of the Provincial and Wildlife Services, which had been that of law enforcement before Tchuma Tchato, evolved into that of facilitator, conflict manager and promoter of partnerships. Community committees for natural resource management were established by interested farmers using a gender sensitive approach. Those committees are now turning into legally recognized community based organizations that represent their community's interest on natural resource issues.⁸
4. **PFM in Tanzania:** Tanzania is estimated to have about 38.8 million ha of forests. That coverage represents about 41% of the total land area of the country. Those resources are under enormous pressure both from human settlement per se and from the activities associated with such settlement: for example illegal harvesting, fires and mining. These pressures inevitably lead to deforestation, which is estimated to be taking place at the rate of 91 000 ha per annum. Forests play an important role in the livelihoods of Tanzanians: it is estimated that more than 90%

⁸ More information can be accessed from <http://treesforlife.info/fao/Docs/P/y4807b/Y4807B03.pdf> on a paper by Liz Alden Wily "Participatory forest management in Africa: 31", *an overview of progress and issues*,

of the population uses wood for domestic energy. Forests also provide various non-wood products and are important for water catchment. In order to ensure environmental sustainability, PFM approach was adopted as part of an overall rural development strategy that was intended to improve rural livelihoods and thereby help reduce poverty. At the same time the policy looked both to protect the environment and to promote the equitable distribution of benefits. A range of projects testing PFM in many parts of the country were introduced in the 1990s with the first community owned and managed forest reserve being established in 1994. Over 902 out of 10,000 villages became involved in the practice of PFM in Tanzania. Over 441,881 ha of forest are under Community Based Forest Management (CBFM) and 396,330 ha have been planted under Joint Forest Management (JFM). In order to secure the sustainability of PFM, the policy focussed not only on conservation but also on economic incentives for the communities involved. It is however worth noting that PFM in Tanzania would not have been as successful as it has been, were it not for the development – in 1998 - of a National Forest Policy that made PFM a national priority in order to reduce poverty reduction. Indeed PFM as a policy was given a legal foundation when the Forest Act was passed in 2002. The Act provides a clear legal basis for individuals, groups and communities across mainland Tanzania to own, manage or co-manage forests under a wide range of conditions.⁹

Based on the above examples and many others, it is evident that the involvement of a given community in the management of forest resources usually results in the sustainable use of resources, largely because the community is incentivised to use forest resources through legal empowerment and ownership that encourages them to protect and sustainably use forest resources.

1.4 The Initial Forest Assessment

Since South Sudan gained independence in 2011, the country has been losing its forests at an alarming rate. As people displaced by the war return, demand for land for settlement and cultivation increases and the forest suffer as a result. This already difficult situation is made worse by the absence of a clear and unified government policy for dealing with the problem. One ministry claims that the loss of forest is a necessity for farming, while another warns of dire environmental consequences if deforestation continues unchecked.¹⁰ UNEP recognized the need for sustainable forest management; the limited capacity of the government to address that need; and the potential for community engagement in forest management. So, in 2012, UNEP

⁹ Information obtained from a paper presented by Zakia H. Meghji submitted to the XII World Forestry Congress, 2003, Quebec city, Canada. More information can be accessed from <http://www.fao.org/docrep/ARTICLE/WFC/XII/0813-C1.HTM> and <http://www.tzonline.org/pdf/pfmstatus.pdf>

¹⁰ <http://www.ipsnews.net/2012/05/forests-dying-in-south-sudan-violence/>, last updated in May 26th 2012.

commissioned a review of its approach to forestry issues in South Sudan. The review recommended a re-orientation of the project strategy towards sustainable management of forests by communities. Based on this recommendation and in view of the South Sudan institutional dynamics and the support presently provided by partners, UNEP has initiated a one year community forestry pilot project entitled “South Sudan Pilot Community Forestry Project”. The aim of the project is the inclusive management of woodlands, forests and shrubs through the involvement of the rural communities. The pilot project is designed to contribute to the sustainable management of natural forests by local communities and the rehabilitation of graded forest land. Ifwoto Payam of Eastern Equatoria and Lainya Payam of Lainya County, Central Equatoria State were selected as the two pilot project areas.¹¹ Based on experiences gained from piloting community forestry, MAFCRD plans to expand the community forestry programme into a national programme.

1.4.1 Objectives of the Assessment

The objective of the forest assessment was to generate basic socio-economic, environmental and organisational data by conducting a full scale PRA in each of the bomas of Ifwoto and Lainya payams.

¹¹ UNEP South Sudan forestry project “Pilot project for community forest management in South Sudan”, August 2012

2. METHODOLOGY

2.1 Rationale and Approach

After reviewing the available documents and consulting with both UNEP South Sudan and the relevant stakeholders in Central and Eastern Equatoria States, the assessment team decided to apply a Participatory Rural Appraisal (PRA) methodology. That decision was based on the following assumptions: that local knowledge and perspective are fundamental components of any research or assistance project; and that the involvement of local people in decision making about their natural resources is essential in order to guarantee sustainable use, encourage local buy-in, minimize conflict, and promote the efficient distribution of any benefits accrued from forests (Ostrom *et al.* 1999)¹². Lastly, the team chose this participatory approach because it would give them insight into traditional forest management systems – knowledge that could serve as the basis for future forest interventions in the area.

2.2 The Study Area and Population in Ifwoto Payam

The study area covered Ifwoto Payam of Torit County of Eastern Equatoria state. Ifwoto Payam is one of the eight payams that make up Torit County. The Payam headquarter is located at Imokoru boma at an altitude of 718 meters above sea level and latitude N04⁰12.14'20.40" and longitude E32⁰33.01'24.80". The payam is generally hilly with some areas such as Ihollong boma rising as high as 956 meters above sea level. The payam is administered by a Payam Administrator who is assisted by four boma chiefs who are all government appointees. The total population is estimated to be 28,601.

2.3 The Study Area and Population in Lainya Payam

Lainya Payam is one of the payams that make up Lainya County of Central Equatoria state. The payam is in the central region of Pojulu region, approximately 63 Miles (101 kilometres) from Juba and 37 Miles (60 kilometres) from Yei River County. The payam is made up of three bomas namely Bereka, Logwili and Lokurbang. In June 2012, the payam had an estimated population of 29,958.¹³

2.4 Data Collection

The PRA activities were conducted in all four bomas of the Ifwoto Payam and all three bomas of Lainya Payam. In each boma, the exercise took three days. On the first

12 Ostrom, E., Burger, J., Field, C.B., Norgaard, R.B. and Policansky, D. "Revisiting the commons: local lessons, global challenges." PP 284:278-282. 1999

¹³ The information on population figures was sourced from the South Sudan Relief and Rehabilitation Commission (SSRRC) and the population was said to have been an update of the 2008 census. It incorporated the number of returnees but did not consider growth over time.

day, a community consultation/disclosure meeting was held. The aim of the meeting was to inform the community about the objectives of the exercise. This meeting also served as community disclosure and interaction platform where the community expressed their expectations about the whole process and aired their concerns about development activities in the area. The community was then facilitated to select a group of fifteen people who served as the local planning team (LPT) in a two-day workshop. The LPT members were selected based on their gender, age, knowledge of the respective boma and interest groups such as the youths, landlords and charcoal producers. The PRA process rides on experience gained by NPA's COREMAP Project in participatory natural resource planning in South Sudan and from the lessons learnt from PRA Test Cases by UNEP South Sudan within the pilot project areas. The process is also informed by a review of the relevant literature.

Data collected was mainly qualitative in nature. A collection of participatory data gathering tools was used. These tools included: resource mapping; a seasonal forest resource utilisation calendar¹⁴; livelihood analysis using pair-wise ranking; wealth ranking in relation to use of forest resources; forest resources trend analysis; natural resources related conflict time lines; 4 Rs (Rights, Responsibilities, Returns and Relationships) in relation to forest resources; institutional analysis using Venn diagrams; photography; and Focused Group Discussions (FGD). For the FGD a semi-structured guide was used to consult women groups, charcoal burners/traders, youths and elders or leaders. In addition, key informant interviews were conducted at the payam and county level in each of the study area in order to validate some of the information collected at the community meetings.

2.5 Data Analysis and Reporting

The team applied content analysis and triangulation to analyse the data. The report findings are presented in the form of narratives, charts and tables, accompanied by minimal discussion so as not to sway from the objective of PRA as a methodology that is designed to use the data to present the discernible reality of a given issue rather than to draw inferences about that issue.

¹⁴ During the PRA exercises both in Ifwoto and Lainya payams, seasonal calendar of activities was prepared in a participatory manner. This calendar provides a picture of the engagement of the local people in different activities at different seasons in the year. Details of seasonal calendars are presented in separate boma level PRA reports.

3. FINDINGS AND DISCUSSION FOR IFWOTO PAYAM

3.1 Population and Demography

Measuring population growth is crucial to building sustainable development: any increase in population has a direct impact on natural resources, because that growth correlates to an increase in the demand for forest based products such as timber, charcoal, bamboo and other NTFPs. The United Nations (1974) World Population Conference validated the finding that "population and development are interrelated; population variables influence development and are also influenced by them".

According to the South Sudan Relief and Rehabilitation Commission (SSRRC), Ifwoto Payam has an estimated population of 28,601 people distributed across 4,916 households. This official population figure might well be short of the actual population because the number given is the 2008 census total, with returnees added to it: there is no allowance in that calculation for the natural growth of the population over time. The distribution of the population is as shown in table 1 below:

Table 1: Population Distribution in Ifwoto Payam

Boma	Number of Households	Population
Moti	963	5,857
Gunyoro	954	6,340
Imokoru	1,579	7,901
Ihollong	1,420	8,503
Total	4,916	28,601

Source: SSRRC, Torit County

3.1.1 Ethnographic Composition

The inhabitants of the payam are Otuho speakers and are Lotuko by tribe. The Lotuko tribe is generally organised into three major clans: Omini, Igango and Owudo. The Omini clan is the largest and it is said to have been the first to settle in the area. However, there are several sub-clans distributed in the four bomas of the payam as shown in table 2 below. In addition, each of the three main clans has its own identity. For instance during community dancing and festivities, members of the Owudo clan smear sesame flour on their cheeks to signify that they are cultivators; those of the Igango clan smear sorghum flour around their waists to signify that they are warriors; and the Omini clan smear flour on their hands to signify dominance as that of an elephant - the hand symbolizes the elephant's trunk.

Table 2: Clans in Ifwoto Payam

Boma	Main Clans	Sub Clans
Moti	Omini, Owudo and Igango	Owori, Ijugo, Enyere and Osariga
Gunyoro		Onyere, Oloye, Idai, Owori, Mohoi, Otiri, Okuju and Osariha.
Imokoru		Ofiri, Ilohodo, Mogoi, Irwangi and Mokoi
Ihollong		Ilereji, Logoti, Liboji, Iturubai, Mohoi and Lodang'e

In all four bomas of the payam, the males hold a key role in the community. For instance, the young male members are clustered within age sets with the interval between one age set and another being 12 years. At any given time there is a ruling age set locally referred to as *Monyobiji*. The minimum age for admission to the set is 18 and the normal tenure of the set is 12 years. After that time the mantle of power is handed to the next set. This ruling group takes key decisions for the community – decisions that are informed by the wisdom and experience of the elders and chiefs. The institution of the *Monyobiji* is a critical stakeholder in forestry management.

3.1.2 Marriages and Social Organisation

Marriage between people from different clans is permitted and normal; and polygamy is the most prevalent marital practice. In all the four bomas of the payam, there seemed to be a common practice in relation to the process of becoming married – hardly surprising perhaps considering that these are people from the same tribe. The dowry was reported to be usually 5000 SSP and 40 goats, to be paid in phases. For a boy to enter into a marriage relationship he has to pay an initial commitment fee of 2000 SSP to the parents of the betrothed and then he is allowed to bear children with the wife. The wife however lives with her parents for seven years after that time, and only then can she move to her husband's home. This arrangement seems to be quite exploitative of the young grooms because the newly married men have to cultivate for the in-laws for the seven years when the wife is still living with her parents before he gains full control over his family. During that period he is also expected to complete the payment of the outstanding amount of the dowry. In practice then, young men – most of whom are unemployed and uneducated – have to undergo a period of servitude in order to start a family. It seems at least probable that such a practice if accepted as a norm in a community would reinforce the existing cycle of poverty there.

3.2 Community Support Infrastructure

3.2.1 Educational Infrastructure

Rates of illiteracy among adults, though not quantified exactly, seemed quite high. That situation can probably be accounted for by the damage and disruption to the social infrastructure caused by civil war. There are 12 primary schools in the payam and no secondary school. Out of these schools only four schools have permanent classrooms with one of them being a full primary school. The rest of the schools operate under the cover of trees. The schools are situated at some distance from one another and far from some of the villages, so some children have to travel a long way to access education. This distance to some extent sets the age at which children from some of the villages start their schooling: the children have to be old enough to walk to the nearest school in order to be able to attend it. The routes to some of these schools are bushy and forested, so the local community was concerned about children being attacked by wild animals as they travel to and from school. The risk is particularly high for young children. Many children leave education on completion of their studies in the nearest school: their parents cannot afford to send them to the secondary schools that are located far from the village. The secondary schools are located in Torit town and only a few people can afford to send their children there. This lack of secondary education reinforces the cycle of poverty in the community, and jeopardizes the wider project of achieving sustainable development as it is an essential tool in that effort (United Nations Agenda 21).¹⁵

In addition to the schools mentioned above there is a school within an orphanage that is operated by the International Aid Sweden (AIC) and located at Moti Boma.

The main stakeholders in education in the payam are the Government and the United Nations Children's Emergency Fund (UNICEF).

The distribution of the schools is as shown in table 3 below.

¹⁵ According to the Wikipedia dictionary, Agenda 21 is a non-binding voluntarily implemented action plan of the United Nations with regard to sustainable development. It is a product of the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992. It is an action agenda for the UN, other multilateral organizations, and individual governments around the world that can be executed at local, national, and global levels. The "21" in Agenda 21 refers to the 21st century. It has been affirmed and modified at subsequent UN conferences.

Table 3: Schools in Ifwoto Payam

Boma	School	Status	No of classrooms	No of Teachers
Gunyoro	Gunyoro primary school	P1-P6	None	2
	Longulu primary school	P1-P2	None	3
Imokoru	Imokoru primary school	P1-P7	7 permanent	8
	Ohufa primary school	P1-P2	None	3 volunteer teachers
	Orifa primary school	P1-P4	None	6
	Ngabara primary school	P1-P6	None	7 volunteer teachers
	Gong primary school	P1-P2	None	3 volunteer teachers
Moti	Moti primary school	P1-P6	6 permanent	
	Enyit primary school	P1-P2	2 permanent	
	School behind the MAFCRD offices	P1-P2	2 permanent	
Ihollong	Ihollong primary school	P1-P4	None	
	Iluma primary school	P1-P4	None	

3.2.2 Health Facilities

Access to primary health care is a major challenge in the payam. There are only two primary health care units in the entire payam. One of the units is located at Moti Boma in a semi-permanent structure and operated by one community health worker. The other is located at the payam headquarters at Imokoru. The latter is housed in a two roomed permanent building in which services are provided by five community health workers. Residents of Ihollong and Gunyoro bomas have to travel long distances to access medical services and many of them resort to using herbs to treat their ailments instead.

3.2.3 Access to Potable Water

With the exception of those living in Moti Boma, most of the payam's residents depend on unhygienic water sources such as open pools and rivers. There are eight hand pumps in the payam: six of them are in Moti Boma, one is at Imokoru Boma, and the other is at Ihollong Boma. These hand pumps provide a source of relatively good water, but that water is likely to become contaminated during the process of fetching it. In addition, the assessment found that these protected shallow wells were rarely chlorinated.

3.3 Land Use

The term *land use* is understood here to refer to activities that involve the management and modification of the natural environment into environments that address people's needs: fields, pastures, settlements and so on. Or to follow the FAO/UNEP (1999) definition: activities and inputs that people undertake in a certain land cover type to produce change or maintain it. The land use assessment undertaken during the PRA exercises at Ifwoto Payam tried to answer questions pertaining to *what, where, when, how, how much* and *why* activities that bring changes to the natural environment. The assessment found that the main land uses in the payam are cultivation, livestock keeping, settlement, bee keeping, hunting and fishing. Other land uses include traditional/religious (shrines) and in the recent past there have been charcoal burning sites in Moti and Ihollong bomas.

Subsistence agriculture is practiced mainly around the villages and along river banks. Shifting cultivation is practiced with almost no application of modern inputs such as fertilizers and pesticides or use of traditional farm implements. The process of clearing of land for cultivation involves felling mature trees, so the recovery of that forest growth is bound to take some time.

The villages are located along main access roads. Shrines for traditional rituals are situated within or next to the villages. Livestock is reared using open grazing usually in woodlands and grasslands around the settlement areas.

The assessment team found that there is a hunting method common to all four bomas. Hunting takes place in the open wood and grass land especially during the grass burning period and nearly all the wild animals that were caught were eaten. Bee-keeping for honey is also practised in these areas. In Gunyoro Boma bee-keepers use traditional hives but it is worth noting that in general the process of harvesting honey in the entire payam is crude and wasteful: the bees are smoked or the whole colony is burned. Harvesting is still more extreme in Imokoru Boma where members of the community usually cut down the entire host tree to get to the honey.

Fishing is practised along the Iyodo River and its tributaries. However, crude ways of harvesting fish were reported in all the bomas: for example residents poison fish non-selectively, with poisonous herbs. Such use of poison kills fishes of all ages as well as other aquatic lives and could have negative impact on the stocks of fish in the river.

3.4 Sources of Livelihood

The main sources of livelihood in all of the bomas are climate dependant. This dependency means that any alteration in the climatic conditions has a direct impact on the people of this community. In all the bomas, cultivation was ranked as the most important sources of livelihood. Livestock keeping was rated the second important source of livelihood, but it is run on a very small scale primarily because the Lotuko are not cattle-keepers and partly because of husbandry factors. Traditional sources of livelihood such as hunting, bee keeping, gathering and fishing were reported to be losing ground over time as people diversify their sources of livelihood and are getting involved in small scale businesses, for example the brewing of alcohol. Indeed, brewing ranked highly across the payam.

Some sectors of the community are more involved in some livelihood activities than they are in others. Young people are involved in cultivation; elderly men in livestock and bee keeping; brewing is the preserve of women; while men, youths and women are all involved in the harvesting of non-timber forest products for income generation.

3.4.1 Sale of Non-Timber Forest Products (NTFP)

The market for NTFPs was reported to be growing. This growth was attributed to a high demand for NTFPs such as poles, bamboo, grass, charcoal and firewood in the nearby towns of Torit and Magwi. The team found anecdotal evidence that the sale of NTFPs has formed a major percentage of the household income since the signing of the peace agreement. However, charcoal production was reported to be an emerging source of livelihood that is mainly practised at Moti Boma - the closest boma to Torit town. Similarly, the sale of bamboo and poles was reported to be well-established in Moti boma probably because of the boma's proximity to Torit town. In the other bomas, NTFPs are mainly harvested during the dry season when access to them is guaranteed.

3.5 Forest Resources

3.5.1 Land and Forest Tenure

As in other parts of South Sudan, land in Ifwoto Payam is communally owned, and customary land tenure arrangements are in place¹⁶. The custodians of the land and the forests thereof are the *landlords* in the respective bomas. There are eight landlords in Ifwoto Payam: two in Gunyoro, three in Imokoru, two in Moti, one of whom is female, and one in Ihollong who is also female.

The relationship between the landlords and the land is complex. The landlords are said to have inherited their rights over the land from their forefathers who first settled it and while they do not receive royalties from the community for the use of that land,

¹⁶ Michael Ochieng Odhiambo, "South Sudan land and property study and workshops: a synthesis of policy and legal issues" *The study was commissioned by the Southern Sudan Land Commission with support provided by NRC, FAO and UNHRC PP9, December 2009*

they do enjoy privileges as a consequence associated with their status. For instance, the youths or *Monyobiji* are obliged to cultivate and weed the landlords' land; the first catch of a hunt would normally be given to them, and so on. The relationship between the landlord and the land is articulated through superstition or religion: any activity related to use of the land or forest resources should have the landlord's approval and blessing so that misfortunes do not befall those who work on the land. Similarly, the landlord must be present during and involved in rituals believed to make the land productive, and when people want to go to the forest to harvest forest products such as poles or bamboo, the landlord must perform rituals lest those involved meet with an accident. Such rituals were also reported to be performed during hunting to protect the hunters both from snakes and from one another's arrows. However, these intriguing arrangements notwithstanding, the landlords are *custodians* rather than owners of the land and the resources thereof and so cannot make a unilateral decision regarding major changes in land use.

3.5.2 Forest Mapping

Across all the four bomas of Ifwoto Payam the community defined a *forest*, locally referred to as *Atim*, as a place within their land, where there are many trees and where one can find many wild animals such as big cats, hyenas and pythons. Members of the community told the team that, unlike in the open woodlands and grasslands, the forests had more evergreen than deciduous trees, so the thickness of the forest does not change even in the dry season. In Ifwoto Payam, there are 35 such forests distributed across the four bomas. The distribution of the forest is as shown in Figure 1. It is however worth noting that while the four bomas have similar vegetation and trees, some forest areas varied in species composition due to differences in elevation. With the exception of Moti Boma, there were bamboo forests in all the other three bomas.

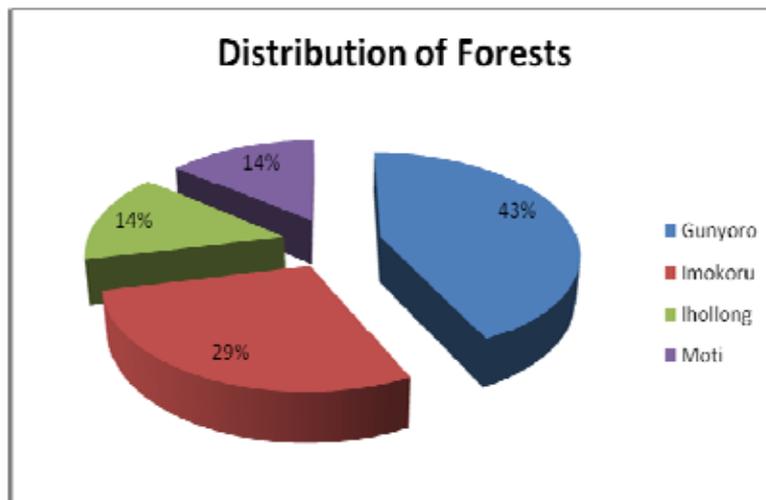


Figure 1: Distribution of Forests in Ifwoto Payam

Most of the forests are still in their natural state not least because the timber industry is not very developed in the area. However, degradation was reported in Houtome Forest and at the periphery of Berehet Forest, both of which are in Moti Boma. The community attributes the forest degradation to an incursion from a neighbouring community from Nyong Payam - also home to the town of Torit - during which outsiders cut down trees for charcoal production and for poles.

3.5.3 Forest Inventory

A basic inventory collected from the community meetings in the four bomas shows that the forests in the different bomas have similar tree species and that the uses to which those species are put, varied little across the bomas. The table 4 below presents the distribution of the dominant tree species in the four bomas of the payam.

Table 4: Dominant Tree Species in the Forests of Ifwoto Payam

Boma	Forest Name	Landlord	Dominant /Common Tree Species		Uses	
			Local Name	English/ Scientific Name		
Gunyoro	Adegusu	Paul Obia		Mahogany	Medicinal and timber	
			Ebony		Medicinal, poles and timber	
			Olohi		Poles	
			Abuleben		Timber	
			Abohole		Timber	
			Olometereny		Poles	
			Eree		Poles	
			Abule		Poles	
			Lovidiahi	Olohiyaha		Poles, Fruits and Medicinal
				Aforofo		Poles, Fruits and Medicinal (ointment)
	Abyhwo				Poles and charcoal	
			Amahak		Fruits and medicinal	

	Hilaya		Angabolo		Timber and fruits
			Aloyinyaha		Poles
			Ahorota		Reeds and Poles
			Ologesyoy		Charcoal
			Asurai		Poles
			Asiliha		Charcoal
			Aturwo		Charcoal
	Lomadwa	Peter Odiang	Alokohi		Timber and Fruits
			Ahoboti		Charcoal
			Apiti		Charcoal and timber
			Enguri	Shea Nut (lulu)	Fruits
	Irobok		Erifoi		Timber, charcoal and Mortar
			Olohuruk		Poles and charcoal
			Enguri	Shea Nut (lulu)	Poles, Charcoal and Fruits
Alehuri			Drum		
Olowangat			Poles		

	Hirboti	Olohidi		Poles and timber
		Esarawai		Hoe handle
		Ahoboi		Charcoal and poles
		Abule		Timber and fruits
		Acahai		Timber, fruits and poles
	Eseliari	Akalijok		Medicinal
		Afati		Poles
		Amoloi		Timber
		Ebeli		Timber, charcoal and fruits
		Abanihi		Charcoal
	Ilawane	Apiti		Charcoal
		Ahiyir	Mahogany	Medicinal, and Timber
		Adokolio		Ointment and fruits
		Angaburu		Poles
		Egioloti		Poles and charcoal
	Lanyimi	Arrifati		Poles and charcoal
		Afafali		Medicinal and fodder
		Aboli		Charcoal and poles
		Abir		Ointment and timber
		Aliarai		Charcoal

	Houlokol	Abuhoi	Poles and bee hives
		Ahatai	Charcoal and fruits
		Alangai	Fruits and poles
		Amelli	Beehives, timber and poles
	Loruhumok	Angaboli	Fruits and timber
		Oloyinya	Poles
		Alamai	Fruits and charcoal
		Elumi	Timber and poles
		Ahuyali	Reeds and fruit
	Lohutok	Elangi	Fruits and poles
		Ahirai	Timber
		Olohila	Timber and poles
		Asohoti	Timber and fruits
		Olohurony	Beehives and charcoal
	Ikarasak	Amomoi	Traditional rituals
		Angariati	Poles and hoe handles
		Asilihani	Charcoal and fodder
		Asurai	Charcoal
		Naboholio	Poles, charcoal and timber

	Ongarat	Olohiyai		Poles
		Ahagesi		Poles and charcoal
		Ayikijik		Poles, medicinal and timber
		Abiongi		Fruits and timber
		Alihori		Fruits and timber
	Imui	Abayai		Poles, charcoal and fruits
		Alokohi		Charcoal and fruits
		Ahoroti		Reeds and medicinal
		Alioroti		Reeds and medicinal
		Aforohi		Poles, ointment and fruit
	Frikhadi		Bamboo	Construction, weaving and fencing
	Lanyimi		Bamboo	Construction, weaving and fencing

Imokoru	All forests (Hiyafara, Otolu, Otadorit, Ikiarari, Oribok, Iboti, Iyolo, Ongwaraha, Isomworot and Ifiahu forests)	Philipino Omolo, Egidio Ohia and John Ola	Abo agar		Timber
			Ahobuai	Mahogany	Timber and medicinal
			Abo kebret		Timber
			Abo laben		Timber
				Wild coffee	Beverage
			Abothok		Timber
			Asimangi		Timber
			Holitimoti		Axe handles
			Angagoi		Timber
			Olihila		Charcoal and Spear handles
			Olorai		Timber
			Abute		Timber
			Abir		Timber
			Atoromijak		Timber
			Angaboli		Timber and Fruit
			Amahak		Fruit
			Abule		Fruit
			Elumi		Fruit
			Asilihani		Fruit
			Enguri		Fruit
Alihori		Fruit			

Woodlands area/ open grasslands		Apiti		Charcoal
		Abenigi		Charcoal and medicinal
		Ahatai		Fruit
		Olowarak		Medicinal
		Engurubalu		Medicinal
		Afafali		Medicinal
		Aforohi		Ropes
		Apol		Medicinal
		Ahuyali		Medicinal
		Ahoroi		Medicinal
		Afeti		Firewood
		Ababanus		Poles
		Egioloti		Poles
		Olohuruk		Poles
		Elangi		Fruits
		Anguria		
		Asiat	<i>Ficus spp</i>	Charcoal
Along Logo and Waraa rivers	Philipino Omolo	Bamboo		Fencing, weaving and making of platforms for chasing birds from the farms

Ihollong	All forests	Lucia	Angaboli	Mahogany	Timber and firewood
			Abir	Shea nut tree	Timber, Medicinal
			Ahobwai		Charcoal
			Olobitick		Charcoal
			Alukohi		Charcoal
			Amilita		Charcoal
			Ebanik		Charcoal
			Elang'i		Charcoal
			Ohatai		Medicinal
			Eng'uri		Charcoal
	Ongaidong		Ahiyer		Medicinal, charcoal and timber
			Ahallwa		Timber, medicinal and charcoal
			Olohila	Tamarindus indica	Charcoal, Poles and Food (fruit)
	Omiriwokoi		Ahiyer		Medicinal, charcoal and timber
			Ahallwa		Timber, medicinal and charcoal

Moti	Houtome	Egidio Ongina	Amolot		Charcoal and timber
			Ahobuai	Mahogany	Timber and medicinal
			Ahoboi		Charcoal
				Tamarindus indica	Charcoal, poles and food (fruits)
	Berehet		Eduti	Shea nut tree	Food (fruit, oil and vegetable)
			Elang'i		Charcoal
			Olohuruk		Charcoal
				Tamarindus indica	Charcoal and Food (fruit)
			Ibaaihi		Charcoal
			Erifwel		Charcoal
			Afati		Charcoal
			Asilihanis		Charcoal
			Ahoroti		Medicinal
			Afafali		Charcoal
			Afati		Charcoal
			Ayeli		Charcoal
			Olohidi		Timber/Poles
			Apiti		Charcoal
			Aliara		Charcoal
			Ahobuai	Mahogany	Timber

	Longomio	Miraya Rumeyok	Eduti	Shea nut tree	Food (fruit, oil and vegetable)	
				Balanities egyptica	Food (fruits), poles and charcoal	
				Esiarawa		Brushing teeth and hoe handle
				Lolowinya		Aromatic gum
				Asama		Cover for traditional bee hives
	Iwoho			Eduti	Shea nut tree	Food (Fruit, oil and Vegetable)
				Elang'i		Charcoal
				Olohuruk		Charcoal
					Tamarindus indica	Charcoal and Food (fruit)
				Ibaaihi		Charcoal
				Erifwel		Charcoal
				Afati		Charcoal
				Asilihanis		Charcoal
			Ahoroti		Medicinal	
			Afafali		Charcoal	
			Afati		Charcoal	
			Ayeli		Charcoal	
			Olohidi		Timber/Poles	
			Apiti		Charcoal	
			Aliara		Charcoal	
		Ahobuai	Mahogany	Timber		
		Angabolo		Timber		
		Achahali		Food (fruits)		

			Oloro		Timber and Firewood
			Aforohi		Hanble for farm implements
			Olohila		Timber
			Abaya		Timber, firewood and Food (fruits)
			Angorwan		Timber and firewood
			Alihoria		Timber and food (fruits)
			Erwoto	Bamboo	Construction

	Ikorobo	Egidio Ongina	Eng'uro		Food (fruits)
			Egioloti		Timber
			Abukohi		Charcoal, Medicinal and Food (fruits)
			Olowangati		Charcoal and firewood
			Abuhoi		Timber and charcoal
			Eduti	Shea nut tree	Food (fruit, oil and vegetable)
			Elang'i		Charcoal
			Olohuruk		Charcoal
				Tamarindus indica	Charcoal and Food (fruit)
			Ibaaihi		Charcoal
			Erifwel		Charcoal
			Afati		Charcoal
			Asilihanis		Charcoal
			Ahoroti		Medicinal
			Afafali		Charcoal
			Afati		Charcoal
			Ayeli		Charcoal
			Olohidi		Timber/Poles
			Apiti		Charcoal
			Aliara		Charcoal
Ahobuai	Mahogany	Timber			

3.5.4 Utilisation of Forest Based Natural Resources

3.5.4.1 Seasonal Utilisation of Forest Based Natural Resources

Analysis of the seasonal utilisation of forest based natural resources in the four bomas shows that there is no disparity between men and women in relation to their access to or utilisation of resources. Women were mostly involved in the harvesting of forest resources that are related to their reproductive roles: grass, wild fruits, vegetables, herbs and fish. Young men and men tend to collect forest based resources for productive purposes. Only the relevant landlord and the *Monyobji* have authority over the use of forest resources. In order to harvest poles, clear land for cultivation, or to carry out a large scale harvest of bamboo, one would need to have both the permission of the relevant landlord and the approval of the *Monyobji*.

3.5.4.2 Wealth Ranking and Its Relation to Utilisation of Forest Based Resources

The community in general defined *poverty* as a ‘lack of basic needs’ – one that could be occasioned by laziness, poor planning, foolishness as well as sickness or disability. *Wealth* was defined as a condition of ‘having enough resources to meet ones basic needs as well as a surplus to share with the community or with people in need.’ That condition was generally attributed to such factors as wisdom, good planning or to coming from a rich family. There was some disparity of opinion between the people of the bomas regarding the use of forest based resources by different economic classes. For instance in Gunyoro Boma, the rich and the middle class were said to benefit more from forest resources than the poor. In Imokoru Boma, the rich were said to use forest based resources only occasionally but whenever they did so, they did it in on a large scale. Middle class people on the other hand were said to be regular users who mostly used the forest resources for income generation, as opposed to the poor were said to use the forest resources for survival, and in so doing exploited the resources more than any other group in the community. In Ihollong Boma there was said to be no difference in the utilisation of the resources by the various economic classes. In Moti Boma, the rich and the middle class were said to be more likely to exploit natural resources than were the poor because they had the tools necessary to do so, were better positioned to mobilise the youths to help them cut the bamboo or poles, and were in a better position to hire trucks for transportation to the market in Torit.

In a community where each individual is locked into a system that compels him to increase his wealth so as to be better than other people, the freedom of the commons is likely to be overstretched by a few individuals at the expense of the larger community: therein lies the tragedy of the commons. The economic gap between the rich and the poor is likely to widen with time and, with the poor envying the rich, it is probable that the forest resources will be over-exploited for the purposes of wealth creation¹⁷. In the current context of rural South Sudan, particularly in those

¹⁷ The concept of ‘tragedy of the commons’ holds that when everybody in a community tries to maximize their personal benefits from the *commons* - such as forest resources – they give little thought to the issue of sustainability. When traditional and customary norms and

communities that lie close to towns, the market for forest resources is so buoyant that both people within the community and those from outside it are tempted to exploit forest resources for personal gain at the cost the sustainability of those resources and so to the detriment of the community. These communities are therefore in a difficult situation: modern statutory laws and regulations are neither well developed nor enforced and customary forest management practices weak and under threat. The pilot community forestry project will both reinforce customary practices and build the capacity of the community to manage the forest sustainably.

3.5.4.3 Trends in Utilisation of Forest Based Resources

Trend analysis of the utilisation of forest based resources indicates that there has been significant change since the end of the second civil war in 2004. In Moti, Gunyoro and Imokoru bomas, tree cover is reported to have decreased. That change is attributed to high demands for forest products - particularly for charcoal and wood fuel – both in nearby towns and among a growing local population. By contrast in Ihollong Boma, most of the degraded areas have recovered and degradation in this part of the payam is minimal. Member of the community attributed this replenishment to the ending of the civil war, during which many people fled to and lived on higher ground in the forest. When they left to return home, the forest recovered naturally. However, that explanation for the replenishment is only partial. The traditional forest management systems also ensured that there was minimal interference with the natural forest in these areas. Projections for the next eight years – to 2020 - indicate that if no intervention is made then further degradation is likely in the three bomas that have already been negatively affected. The community of Ihollong Boma does not foresee much change but indicated that the community forest management structures are strong enough to ensure that the rise in the market demands for NTFP will not have much impact on the available forest resources.

3.5.4.4 Charcoal Production

Charcoal production is a relatively new activity that is mostly practised in Moti and Ihollong bomas. In Moti Boma, there are six charcoal producers who produced charcoal by cutting tree branches and shrubs. A bag of 50 kgs can be sold for 35-40 SSP and that of 100 kg for 75-80 SSP. In Ihollong Boma there are two charcoal producers who produced charcoal from fallen trees and sold bags of 100 kgs for 35 SSP each and 50 kgs bags for 25 SSP. In both bomas the practice was regulated and the producers were not allowed to cut down big trees. However, members of the community expressed concerns that charcoal producers from outside the payam - most of them from Torit town - were encroaching on the forests around Halia Hill in Moti, where they were producing charcoal with no regard for the forest. The team also noted firstly that the charcoal producers from Torit usually burn charcoal continuously throughout the year, and secondly that they normally cut down trees and transport the logs to the neighbouring Nyong Payam, a practice that makes their activities difficult to regulate.

practices are strong and when government's legal and regulatory measures are enforced, people can be induced to change their behavior and so incidences of the tragedy of the commons can be reduced . (Garret Hardin, 1968)

3.5.5 Forest Management Systems

3.5.5.1 Traditional Forest Management Systems

The payam has a well-defined community forest management structure. In each of the bomas the *Monyobiji* are in charge of the day to day running of the forest - which includes patrolling it - and the respective landlords are the custodians and authorising agents of the land and resources. No other group in the community has the power to take decisions in relation to the management of the forest resources without the approval of the *Monyobiji* or the permission of the landlord. However, exploitation of the forest resources by the local community is uncontrolled enough for there to be the potential for abuse of the existing system and consequently an inequitable distribution of the forest resources. During the PRA exercises it was reported that well-to-do members of the community extract forest products such as wood fuel and charcoal more than others as they have the means to hire trucks for transportation of charcoal and wood fuel to the market in Torit and Juba. If the proper internal checks and balances are not enforced or observed, then the rich will tend to harvest more forest resources and therefore benefit more at the expense of the community. There are some restrictions on the use of the forest resources by people from outside the payam. They are expected to pay about 20% of their projected benefit to the *Monyobiji*, an amount that is then saved for community projects. In addition, outsiders have to get permission from the *Monyobiji* and the relevant landlord as well as the chief of the boma. All four bomas practiced some form of conservation, such as controlled grass burning and a system of fines for felling fruit trees.

3.5.5.2 Women and Natural Resources

Women are not actively involved in management of the forest resources, but their access to the forest and the resources were said to be the same as that of their male counterparts. Two of the eight landlords are women and while that does not constitute equal representation, it is safe to say that women are not excluded from ownership. Similarly, women do not engage in large scale commercial utilisation such as the sale of bamboo and poles, but the explanation seems to be that there is a prohibitive amount of heavy labour involved rather than that they are suffering any form of discrimination. Interestingly, people in Gunyoro Boma told the team that at the household level, the head of the household - usually a man - cannot sell forest products without first consulting his wife.

3.5.5.3 Natural Resources Related Conflicts

Conflicts over natural resources were reported between the people of Moti Boma and those from neighbouring Nyong Payam. The conflict is said to have been about two issues. The first is the right to fish in area around a swamp next to the Iyodo River, where Nyong Payam and Moti Boma share the boundary. The second is encroachment by people from Nyong Payam into the forest around Halia Hill in Moti Boma. That encroachment has allegedly been wantonly destructive. The relevant government authorities claimed that the conflict had been resolved, but members of the community were of the opinion that it was not fully settled because the issues at the centre of the problem had not been adequately addressed. No other natural

resources related conflicts were reported in the other bomas, and the communities in general were of the feeling that the forests had adequate resources to meet all their needs. The sharing of resources between bomas and even payams seemed to be common and accepted, with the proviso that the norms of consultation with the *Monyobiji* and landlords were observed.

3.6 Stakeholders Analysis

No stakeholders are involved in forest management or conservation initiatives. Even the Ministry of Agriculture, Forestry, Cooperatives and Rural Development (MAFCRD) is reported not to be active in conservation issues, despite being engaged in the collection of levies from traders of NTFPs. However, stakeholders have been involved in development activities in general - rather than those pertaining to forestry in particular – in the past and are so at present. Moti and Imokoru bomas have been the major beneficiaries thus far. Details are shown in table 5 below.

Table 5: Development Stakeholders in Ifwoto Payam

Boma	Stakeholder	Role	Relation to the community
Imokoru	Government	<ul style="list-style-type: none"> • Provision of security • Provision of salaries for teachers community health workers and administrative chiefs • Provision of medicines • Construction of Imokoru primary school 	The people in the community seemed to feel close to and connected with the Government
	SSRRC	<ul style="list-style-type: none"> • Provision of relief food in 2010 and in 2012 	People seemed to feel the same regard for this institution that they feel for the Government that it represents.
	Farm Project (FP)	<ul style="list-style-type: none"> • Provision of seeds 	The project was said to have involved only a small number of people and to have provided an insufficient amount of seeds
	AVIS	<ul style="list-style-type: none"> • Drilling of a borehole 	The community has had no contact with this stakeholder since the intervention, but despite that - and by dint of the value of <i>water</i> to them - the people here still value the contribution

	AAHI	<ul style="list-style-type: none"> • Construction of a primary health care unit 	This stakeholder made a single but significant contribution that is till warmly remembered by the community because the health services that are provided here are treasured
Ihollong	UNICEF	<ul style="list-style-type: none"> • Provision of school learning materials 	The community has little contact with this stakeholder
	AVSI	<ul style="list-style-type: none"> • Drilling of a borehole in the centre of Ihollong 	
	Government	<ul style="list-style-type: none"> • Provision of salaries for teachers and administrative chiefs • Provision of security 	
Moti	UNICEF	<ul style="list-style-type: none"> • Provision of school learning materials • Construction and renovation of school infrastructure 	Was said to have a close relation with the community because they kept the school functioning by supplying the necessary materials
	Government	<ul style="list-style-type: none"> • Provision of security • Provision of salaries for teachers and administrative chiefs • Grading of roads 	The Government was said to be very close to the people
	WFP	<ul style="list-style-type: none"> • Support to the provision of food for school children 	There has not been much interaction between this stakeholder and the community but nevertheless their support is clearly much appreciated by the community
	NPA	<ul style="list-style-type: none"> • Provision of farming grants • Provision of seeds and cassava cuttings • Provision of farm implements 	This farming community values what NPA has done in the past but pointed out that the stakeholder was no longer active in the area

	War Child	<ul style="list-style-type: none"> • Provision of educational materials to schools • Rehabilitation of the hand pumps and latrines in primary schools in Moti • Training of teachers 	The support that was received is valued by the community and it is noteworthy that that support was compared favourably with that of UN bodies
	AVIS	<ul style="list-style-type: none"> • Rehabilitation of hand pumps 	This intervention though singular is still valued by the community
	IRC	<ul style="list-style-type: none"> • Provided small grants for opening land 	This intervention though singular is still valued by the community
	CDOT	<ul style="list-style-type: none"> • Training of extension officers 	This stakeholder is new to the area and so opinions of it had not yet been formed within the community
	FAO	<ul style="list-style-type: none"> • Provision of seeds 	Members of the community pointed out the neutral observation that this stakeholder has been working with other stakeholders such as CDOT and the Government

4. CONCLUSIONS AND RECOMMENDATIONS FOR IFWOTO PAYAM

4.1 Conclusions

- The homogeneity of the ethnographic composition of the community of Ifwoto Payam has given the people there a **sense of unity**. As a consequence resources are shared between the bomas and there are almost no resource related conflicts – with the exception the conflict between Moti Boma and Nyong Payam.
- The **socioeconomic infrastructure** needed to support sustainable development is poor. Furthermore the community's livelihood base is very climate dependant making the people there vulnerable to a change in the prevailing climatic conditions.
- There are **strong, traditional forest management structures** and that is important for the future of sustainable forest management in the area. Any activity related to forests is dealt with by the *Monyobiji*, the landlords and the boma chief. Customary, unwritten rules for harvesting of forest resources are based on community needs and seasonal calendar. However, there are gaps in those structures that could be exploited by the wealthy at the expense of the poor. During the PRA exercises it was reported that well-to-do members of the community extract forest products such as wood fuel and charcoal more than other people in the community because they have the means to hire trucks for transportation to the market. If the current situation is not addressed then it seems at least probable that the rich will continue to harvest more than their share of forest resources and will therefore benefit more. This trend will lead to the exponential weakening if not to the total destruction of the traditional forest management structure.
- In general the forests have been **spared the degradation** they would have suffered if there was a well-developed timber industry or any other major forest resources exploitation activities in the payam. This observation is not intended to be entirely positive. It seems very likely that if the forests were exploited sustainably then there would be substantial developmental benefits for the payam: the infrastructure could be improved, the incidence of poverty could be reduced, and the local economy would grow.
- These **forests can replenish** themselves if they are allowed adequate time to recover. Indeed they have done so in Ihollong Boma where sections of the forests that were degraded during the civil war have recovered naturally after the people who had taken refuge in the mountains returned to their communities.
- In general there is **gender parity** in relation to access and control of forest resources. However, it also true that women are more likely to be involved in the utilisation of resources in their reproductive rather than their productive roles. Conversely, men are more likely to be engaged in the utilisation of forest resources for productive purposes.

- There are no stakeholders involved in forest management initiatives in the area. There are two points to note in clarification of that statement. The first is that there *are* stakeholders involved in the general development of the community, but not in forest management.¹⁸ The second and more significant point is that *the* exception to that statement is the Government, the involvement of which is said to be limited to the collection of revenue from traders in NTFPs. This limited government involvement has had the unintended and fortuitous consequence that the **community owns the forest** and its resources – a circumstance that is essential for the forest to be managed sustainably.

4.2 Recommendations

Mindful of the fact that *development* can only be *sustainable* if it is focused on people as well as resources, this report recommends that any intervention should:

- help improve the socioeconomic conditions of the community through adequate infrastructure development (e.g., schools, health care centres).
- help the people of this community to build forest-based enterprises that would not only generate wealth but also offer livelihoods that are less vulnerable to climatic shocks than are those that they depend upon at present.
- build the capacity of traditional forest management structures so that they can be used effectively to control the exploitation of NTFPs and to establish a management regime that is based on the understanding that the forests' resources are finite.
- train the people of this community to add value to NTFPs in general and in particular, to capitalize on their own knowledge about the development of artefacts from NTFPs.
- support the people of the community in the development of agro-forestry by providing them with tree seedlings – such as fruit trees, which have multiple benefits - and by showing them how to develop nurseries.

¹⁸ See Table 5 for details of these stakeholders.

5. FINDINGS AND DISCUSSION FOR LAINYA PAYAM

5.1 Population and Demography

According to the South Sudan Relief and Rehabilitation Commission (SSRRC), the official population of the Lainya Payam is 29,958. That figure is said to be the 2008 census total with the number of returnees that have returned added to it. According to the Lainya County Director for SSRRC, the actual total could well be greater because the projected figure does not take into account the natural growth of the community.¹⁹ There are 4,052 returnees - 1,945 males and 2,107 females – and more returnees are expected. Indeed, the team observed preparations being made for their arrival. The significance of correctly ascertaining the number of people living in the payam cannot be overstated. *Population and development* are so mutually influential that an understanding of the demographic dynamics will be essential to the design of a sustainable management regime for the forests and their resources (UN, 1974). At its simplest and most stark, that relationship is one of supply and demand: any growth in the population will correlate to an increase in demand for forest resources.

The distribution of the population is as shown in table 6 below:

Table 6: Population Distribution in Lainya Payam

Boma	Population
Bereka	10,788
Lokurbang	10,184
Logwili	8,986
Total	29,958

Source: SSRRC, Lainya County

5.1.1 Ethnographic Composition

Lainya Payam is part of the Pojulu Region. The Pojulu ethnic group is a Nilotic speaking people and is a sub-division of the Karo people. The Pojulu people speak the Kutuk na Pojulu language, as do other Karo people, but with particular dialectic variations. The Pojulu divides into clans: Nyori, Morsak, Goduck, Lobora, Mulusuk, Pirisa, Malari, and Mankaro, as well as a few other smaller ones. In Lainya Payam, the clans are distributed across the three bomas. Logwili has five (5) main clans, Bereka has thirty one (31) and Lokurbang has twenty five (25). The distribution of the clans is shown in table 7 below.

¹⁹ The SSRRC Lainya Country director advised the assessment team to use this as the official population figures without making projections as the only body mandated to make such projections is the National Bureau of Statistics.

Table 7: Clans in Lainya Payam

Boma	Sub – Chief	Clans
Bereka	Oliver Lako	Guri
		Worogor
		Nyangwara
		Somba
		Songoma
		Moje
	Emmanuel Pisa	Nyemuding
		Jeluri
		Mogiri
		Loyira
	Cosmas Lomeri	Peyiti
		Gworong
		Muresuk
		Maranga
	Victor Lokonga	Kililye
		Mingasuk
		Dangaro
		Wombura
		Rungosuk
		Mijigo
		Lujabya

	Aggrey Mogga	Nyori
		Ngayiga
		Waka
		Gobu
		Korbura
		Mingkoyen
		Jongor
		Mijigo
		Woke
		Kojongkenin
Logwili	James Lolope	Mankalo
	Charles Laki	Mitika (nyubek)
		Mitika (Lujogi)
	James Luga	Ngurubek Nakuladulele
Martin Wani	Joluri	
Lokurbang	Michael Luga	Woli
		Konyi
		Workilik
		Jebele
		Rijangu

	Noel Ladu	Monoteng
		Mile
		Ngijutome
		Goduk
		Lunyagwa
		Girmunu
		Wilibari
		Songoma
		Worogwo
	David Yata	Jongosuk
		Malari
		Yonsuk
		Nyangere
		Kirgwolong
		Dongwo
		Nyongoliji
	Simon Ladu	Mere
	Christopher Laki	Lonyagwa
		Moje
		Goduk

5.1.2 Social Organisation and Marriage

Generally speaking, the community of Lainya Payam is patriarchal. Men are the primary authority figures and are central to social organization in general and to leadership roles in particular. They hold moral and practical authority over women and children, and legal control over property. In this, a social system based on primogeniture, the eldest male member is charged with responsibility for the family or clan. Men and women raise their children in the knowledge and observance of the laws, customs and norms both of the clan and of the wider community. People marry between clans, which seems to be seen as good for the biological and social health of the community. The process of marriage seems close to what would generally be considered *normal* in the developed world: it begins with courtship and, once the

prospective bride and groom have decided to marry, the matter is reported to both families for endorsement. In a departure from the developed model there is a dowry, which is usually given in the form of goats, cattle and cash.

5.2 Community Support Infrastructure

5.2.1 Educational Infrastructure

The value of *education* in general as a tool in sustainable development has long been acknowledged by the UN (United Nations Agenda 21).²⁰ Literacy in particular will have a direct relationship with the sustainable utilisation of forest and other natural resources. It was important, therefore, to find out what systems of education and what levels of literacy are present in the payam. From interaction with members of the community during meetings, the team judged that levels of adult illiteracy are quite high. Those levels seem generally to correspond with age – the older the person is the less likely it is that they will be literate. This relationship might well have been driven by the civil war. Anecdotal evidence suggests that during the war years formal schooling was practically impossible, but children who had been taken or sent to nearby Uganda may have had access to schools. Hence those who are literate, tend also to be young.

There were nine (9) primary schools and one (1) senior school in the payam. The main stakeholders in developing educational infrastructure in the payam were the Danish Refugee Council (DRC), ZOA, Plan, GTZ, GEN, UNICEF, IBIS and the Government.

In addition there is a teacher training college at Lalyu in Lokurbang Boma, and a vocational training institute near Lainya market.

The distribution of the schools and institutions is as shown in table 8 below.

²⁰ Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. More information available at sustainabledevelopment.un.org

Table 8: Schools and institutions in Lainya Payam

Boma	School	No of classrooms	No of Teachers
Bereka	Bereka primary school	8 permanent	
	Kiringo primary school	None	
Lokurbang	Lainya primary school	8 permanent	
	Lokurbang primary school	8 permanent	
	Loka primary school	Under construction	
	Konkat primary school	None	
	Rijengu primary school	None	
	Holy cross primary school	None	
	Loka Secondary school	4 permanent	
Logwili	Logwili primary school	Under construction	6 teachers
	Mafi primary school	None	4 volunteer teachers

5.2.2 Health Facilities

There are three primary health care units (PCHU) in the payam. One PHCU is located at Logwili Boma and was built by the Red Cross. The other two are located at Bereka Boma and were constructed with the support of Help Age International. There is no PHCU at Lokurbang Boma and people there have to travel to Lainya Health Centre or Loka Health Centre for treatment. The main stakeholders in the health sector in the payam are Help Age International, the South Sudan Red Cross, and the Government. It is however worth noting that provision of professional health care services is a major challenge in the payam as the PHCUs are run by community health workers who have undergone only very basic training.

5.2.3 Access to Potable Water

The main sources of water for domestic and livestock use in the payam are underground water, pools and rivers. There were 25 boreholes with hand pumps in the payam. Nine (9) of those are located at Logwili, six (6) at Lokurbang and ten (10) at Bereka boma. Of the 25 boreholes with hand pumps, four (4) hand pumps (two at Logwili and two at Bereka) were not functional at the time of this assessment and the adjacent households affected were reported to depend on unsafe water sources for their water needs.

5.3 Land Use

FAO/UNEP (1999) defines *land use* as activities and inputs that people undertake in a certain land cover type, to produce change or maintain it. Land use can also be defined as *activities that involve the management and modification of natural environment into environments that addresses people's need*, such as fields, pastures, settlements etc. The land use assessment undertaken during the Participatory Rural Appraisal (PRA) exercises indicated that the main land uses in the payam include settlement, cultivation, livestock keeping, bee keeping, hunting and fishing.

The payam's **settlements** are concentrated mostly along the main roads. The few villages that are not and lie several kilometres away from a road, are situated next to a water source. The people of the payam all live in these villages and their houses are made of mud and thatched grass. However, corrugated iron sheets are said to be gradually replacing thatched roofs.

Cultivation activities were mostly concentrated in and around the settlement areas and most people practise subsistence farming, using locally fabricated farming tools. Shifting cultivation is practiced almost entirely without the application of modern inputs such as fertilizers and pesticides. A common complaint among members of the community was that the soil had become less fertile over the years and so cultivation had become less productive. That drop in productivity and the diversification of the payam's economy since the end of the civil war seem to account for a reduction in the amount of cultivation taking place and a corresponding reduction in the amount of land used for such.

Livestock keeping is not the mainstay of the people of Lainya Payam, but they do practise it on a small scale and keep cattle, sheep, goats and poultry. In general smaller animals are kept near the homestead but cattle are kept in the forest: there are cattle camps located along the major rivers within the forests.

People **fish** in all the major rivers and hunt in the forest; poaching is deemed illegal. They hunt hare, gazelle, deer, buffalo and monkey, among other animals. In addition, people practise beekeeping in the hills; a few people have modern beehives but most use traditional methods and equipment.

5.4 Sources of Livelihood

The people of all three bomas ranked cultivation as their most important source of livelihood. The majority of them are peasants who practise mixed farming for subsistence purpose. The team also learned that many of the residents of Lainya Payam have diversified their sources of livelihood to include the sale of NTFPs, charcoal production, small business, local brewing, livestock keeping, hunting and blacksmithing. Interestingly, despite the fact that the community ranked cultivation as the most important source of livelihood it is not practised uniformly across the society. Indeed it is really the preserve of the elderly and the aging: most young people prefer to depend on forest based resources for their livelihood. It was mooted

in one of the meetings that most young people view cultivation as being both labour intensive and unrewarding so they look to forest based products for quicker and more substantial returns. That many young people are unwilling to cultivate, is a great threat to the environment, because those people are likely to over-exploit natural resources in trying to address their need for financial and household food security. Furthermore, an assessment of the main sources of livelihood in the payam indicated that those sources are climate dependant and so are already vulnerable. Further degradation of the environment would therefore pose a very real threat to the people's livelihood base. Lastly, and on a more positive note: agro-forestry is picking up as a source of livelihood in some parts of the payam.

5.4.1 Sale of Non-Timber Forest Products (NTFPs)

The payam is located along a road between two major towns of Juba and Yei, so the people of the payam have access to markets for NTFPs such as bamboo and poles. There is also a trade in other NTFPs such as charcoal, sand, stones, grass and honey. The NTFP trade in the payam has a distinctive and uniform character. Poor and/ or young people extract NTFP and sell them to middlemen at low prices. Those middlemen sell to the rich and the rich take the products to Juba for sale to traders who buy in bulk for retail to the final consumers. On occasion the members of the poorer *extracting* group sell directly to the rich in exchange for food or alcoholic drink. The NTFP value chain is shown in Figure 2.

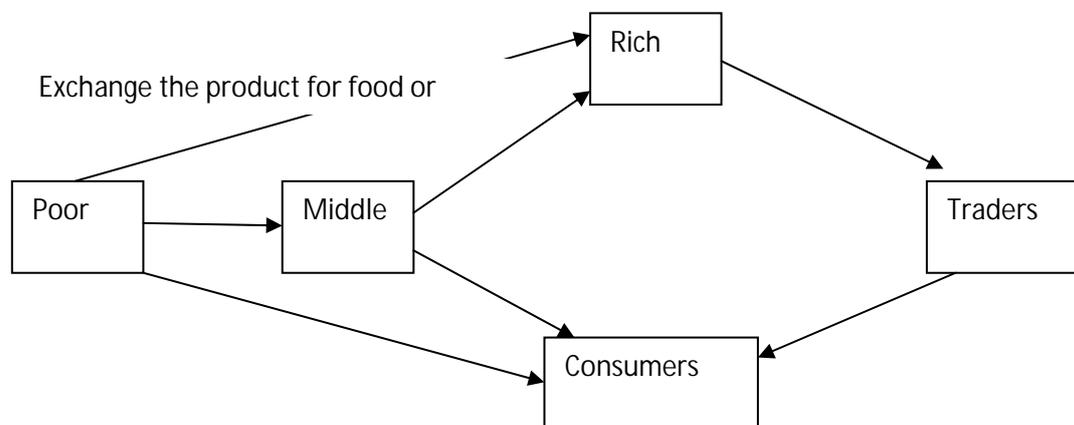


Figure 2: Forest based products value chain, Lainya Payam

5.5 Forest Resources

5.5.1 Land and Forest Tenure

As in other parts of South Sudan, land in Lainya Payam is communally owned, and customary land tenure arrangements are in place.²¹ There are 13 landlords in the payam: four in Logwili, four in Lokurbang and five in Bereka. They are the *custodians* both of the land and of the resources thereof. The landlord is supposed to take decision regarding the use of land in the best interests of the community as a whole. The landlords are understood to have inherited their rights and privileges, which have been passed down through generations along family lines. However, despite their longevity these traditional arrangements are inadequate: some landlords *own* the land they have inherited in the sense that they treat it as their private property. The community has no say in relation to the use that land or its resources. Similarly, some of the landlords seem to have lost touch with their land and that land has suffered from neglect. This absence of traditional control seems to be the result of a confluence of factors. The first of those factors is the advanced age of some of the landlords. The second is the prohibitive physical insecurity in some sections of the forest. Lastly, there seems to be a general feeling that the forest no longer belongs to the community but rather to the Government, which issues permits to loggers and others who are desirous of access to and use of forest resources. The Government, then, rather than the landlord, is now seen as the *de facto* custodian of the land.

5.5.2 Forest Mapping

The community defined a forest as *an area with a lot of tree cover, where big trees are found*. There are thirty-seven forests in the payam: 16 in Logwili, 7 in Lokurbang, and 14 in Bereka. The tree cover has reduced in recent years. This reduction seems likely to have been caused by uncontrolled logging. The Government issues logging permits, so in theory logging is *controlled*. In practice, however, the loggers operate without Government supervision of and so routinely fail to comply with their obligations regarding felling quotas. The bamboo forests were also said to have been reduced by over-exploitation as well as by bamboo disease. However, the bamboo forests in particular were said to be recovering, largely because bamboo self-propagates after being cut.

5.5.3 Forest Inventory

A basic forest inventory, which was collated at community meetings, shows that the payam's forests have similar tree species. The uses to which those trees are put differed little across the bomas. Table 9 presents the distribution of the dominant tree species.

²¹ Michael Ochieng Odhiambo, "South Sudan land and property study and workshops: a synthesis of policy and legal issues" The study was commissioned by the Southern Sudan Land Commission with support provided by NRC, FAO and UNHRC PP9, December 2009

Table 9: Distribution of Dominant Tree Species in Lainya Payam

Boma	Forest	Land Lords	Tree Species		Uses
			Local Name	English/Scientific Name	
Bereka	Rijangu, Workirio, Nyangere and Kunyung	Lomeri Lomajoko	'Bito		Timber and charcoal
			Ko'bo	<i>Isobertia doka</i>	Firewood, poles and timber
			Kirio	<i>Oxytenanthera abyssinica</i>	Poles, beehives and weaving
			Kumuro	<i>Vitellaria paradoxa</i>	Oil, fruits, charcoal, firewood and timber
			Kou		Poles, timber firewood and charcoal
			Gwagwat		Charcoal, poles and firewood
			Kiyer	<i>Hymenocardia acida</i>	Firewood and poles
			Kobat		Poles
			'Bokoliat		Timber and charcoal
			Papa		Firewood, charcoal, poles and medicinal (roots)
			Nyalibi		Poles and charcoal
			'Biyo		Firewood, charcoal, and fruits
Nyangilo		Poles, charcoal, firewood and vegetables			

	Kilingo and Konyingi	Manash Lokule	Ko'bo	<i>Isoberlinia doka</i>	Firewood, poles and timber
			Kou		Poles, timber firewood and charcoal
			Kiruot	<i>Khaya senegalensis</i>	Timber, medicinal and oils (seeds)
			'Bilingi	<i>Afzelia africana</i>	Plates (seed cover), vegetables and cloths (young leaves)
			Kumuro	<i>Vitellaria paradoxa</i>	Oil, fruits, charcoal, firewood and timber
			Kirio		
	Porang, Kidopot and Jiku	Loboka Jangwor	Kobo		
			Kumuro	<i>Vitellaria paradoxa</i>	Oil, fruits, charcoal, firewood and timber
			Kou		Poles, timber firewood and charcoal
			Kiruot	<i>Khaya senegalensis</i>	Timber, medicinal and oils (seeds)
			Kuji		
			Kirio		
			'Bito		Timber and charcoal
			'Bilingi	<i>Afzelia africana</i>	Plates (seed cover), vegetables and cloths (young leaves)

	Rudu, Makiri and Langkoda	Lemi Langwawa	Kuyibi		Fruits and gum
			Kiryiang		Arrow handles
			Mantome		Poles and medicinal (roots)
			Lute		Fibre, poles, fruits and furniture
			Nyalibi	Combretum spp	Charcoal, firewood, medicinal and rituals (blessings)
			Kirio		
			'Bito		Timber and charcoal
			'Bilingi	Afzelia africana	Plates (seed cover), vegetables and cloths (young leaves)
Lokurbang	Motutu		Kiruot		Timber, charcoal and medicinal (bark)
			Kobo	Isoberlinia doka	Timber poles, charcoal and source of pollen grain for honey making
			Kuji		Timber, charcoal, fishing (bark) and fruit
			'Bokoliat	Acacia polyacantha	Timber and medicinal (bark)
			'Bito		Timber, medicinal (gum) and pollen grain for honey making
			'Bilingi	Afzelia africana	Timber
			Kumuro	Vitellaria paradoxa	Food, charcoal and oil (seeds)
			Kele	Porinari	Fruits and timber
			Konyukwi	Vitax doniana	Fruits and timber
			Duroba		Timber and medicinal (bark)

		Yuper		Timber and fishing (bark)
		Likuk	<i>Lophira alata</i>	Medicinal (leaves), charcoal and oil (seeds)
		Kulutat		Timber and medicinal (bark)
Lomekora		Bo'bot		Timber, charcoal and perfume (gum)
		Kiruot	<i>Khaya senegalensis</i>	Timber, charcoal and medicinal (bark)
		Kumuro	<i>Vitellaria paradoxa</i>	Fruits, charcoal and oil (seeds)
		'Bilingi	<i>Azelia africana</i>	Timber
		Kite		fruits
Lalyu		Kujat		
		Kiruot	<i>Khaya senegalensis</i>	Timber, charcoal and medicinal (bark)
			Mango	Fruits, timber and charcoal
		Kele	Porinari	Fruits and timber
		Bileng		
		Kou		Timber and poles
Purikoyen		Kobo	<i>Isobertinia doka</i>	Timber, poles, charcoal and pollen grains
		Kiruot	<i>Khaya senegalensis</i>	Timber, charcoal and medicinal (bark)
		'Bilingi	<i>Azelia africana</i>	Timber

	Bayat		Kiruot	<i>Khaya senegalensis</i>	Timber, charcoal and medicinal (bark)
			Kirio	<i>Oxytenanthera abyssinica</i> (bamboo)	Fencing and weaving
			Kujat		
				Teak (plantation)	Timber and poles
			Sederula		
			Kasia		
			'Bito		Timber, medicinal, and pollen grain
	Wadalala		Kobo		Timber, poles, charcoal and pollen grains
			Lorogo		Poles and firewood
			Kiruot	<i>Khaya senegalensis</i>	Timber, charcoal and medicinal (bark)
			Kirio	<i>Oxytenanthera abyssinica</i> (bamboo)	Fencing and weaving
				Teak (plantation)	Timber and poles
			'Bilingi	<i>Azelia africana</i>	
			Kele		Fruits and Timber
			Kou		
			Kiyer		Poles, Firewood and pollen grain for honey making
			Likuk	<i>Lophira alata</i>	Leaves, oil and charcoal
			Kumuro	<i>Vitellaria paradoxa</i>	Fruits, charcoal and oil (seeds)
			'Bito		Timber, medicinal (gum) and pollen

	Nyaporo		Kiruot	Khaya senegalensis	Timber, charcoal and medicinal (bark)
			Kou		
			Kele	Porinari	Fruits and timber
			Lorogo		
			Kirio	Oxytenanthera abyssinica (bamboo)	Fencing and weaving
			'Bito		
			Kumot		Timber, fruits and gum (seeds)
			'Bilingi	Afzelia africana	
			Kuyubi		Fruits, beehives (hollow) and pollen grains
Logwili	All forests (Gidolong, Makiri, Lodoke, Lipiro, Sunukuyu, Yankurok, Loputut, Kamanda, Lokila, Limu, Kiriango, Jigim, Kokok, Belfe, Lubang and Guegue forests.)	Oliva Lomen laku, Cosmas Lokosang, Khalif Peter and Wani Lo Lukonga	Jingili		Firewood, hoe handles, walking sticks and utensils such as cups and plates
			Kou		Poles
			Payati		Walking stick
			Makyot		Fishing poison
			Lomudi	Annona senegalensis	Fruits, furniture, medicinal
			Kele	Porinari	Fruits and medicinal
			Kuyibi		Fruits and gum
			Kanyakweri		Fruits and gum
			Kirio	Oxytenanthera abyssinica	Poles and weaving
			Tirie	Grewia spp	Fibre for making ropes, fruits and vegetable

			Kidutot		Fibre for making ropes
			Konyukwi	<i>Vitex doniana</i>	Fruits, beehives and timber
			Kiyer	<i>Hymenocardia acida</i>	Firewood
			Porotat	<i>Zizyphus abyssinica</i>	Poles and charcoal
			Bokoliat	<i>Acacia polyacantha</i>	Timber and charcoal
			Lalok	<i>Balanite aegyptiaca</i>	Charcoal, fruits and vegetables
			Kiruot	<i>Khaya senegalensis</i>	Timber, medicinal and oils (seeds)
			Dirimi		Poles and charcoal
			Kumuro	<i>Vitellaria paradoxa</i>	Oil, fruits, soap making and medicinal
			Kobo		Timber and charcoal
			Nyangilo		Poles and vegetables
			'Bito		Timber, charcoal and medicinal (gum)
			Ko'bo	<i>Isobertia doka</i>	Charcoal, poles and timber
			'Bilingi	<i>Afzelia africana</i>	Plates (seed cover), vegetables and cloths (young leaves)
			Kisikisik		Fishing (seeds) and poles
			Kulujo		Fishing (seeds)
			Kite		Fruits
			Jikili'bim		Fruits and firewood
			Igwutu		Fruits, medicinal (bark) and spice
			Lama	<i>Ximenia americana</i>	Fruits

			Kumi		Fruits
			Woriongo		Poles and fibre
			'Biyota		Fibre, fruits and medicinal (gum)
			Tulubgwo		Medicinal (roots)
			Lukwoki		Fruits and medicinal (root)
			Pepe	<i>Piliostigma reticulatum</i>	Fibre, Medicinal (leaves and bark), mending needles and arrow poison (bark of the roots)
			Kiryiang		Arrow handles
			Mantome		Poles and medicinal (roots)
			Lute		Fibre, poles, fruits and furniture
			Nyalibi	<i>Combretum spp</i>	Charcoal, firewood, medicinal and rituals (blessings)
			Lusuri		Rituals (chasing demons)
			Pu'dut		Cloths (bark), timber and beddings
			Kulungwi		Fruits and medicinal
			Lorogo		Poles and charcoal
			Milejukwo		Charcoal and poles
			Jo'dok		Soap (roots) and medicinal
			Museru	<i>Erythina abyssinica</i>	Medicinal (roots)
			Kulutat		Medicinal (leaves and roots) and timber

			Konjulu		Fruits and medicinal (roots)
			Ringwele		Timber
			Lokolore		Firewood, charcoal and pestle
			Ko'boro		gum
			'Burutor		Timber and fruits

5.5.4 Utilisation of Forest Based Natural Resources

5.5.4.1 Seasonal Utilisation of Forest Based Natural Resources

Forest resources are used almost throughout the year and only some resources are seasonal. Charcoal, which is in great demand in Juba, is produced throughout the year but production is higher during and immediately after the rainy season because, during that period, the soil is soft and easier to work on. Bamboo is sold throughout the year and is the main source of income for the majority of households. Other resources – such as poles, grass, game meat, honey and wild fruits – are used according to their season, their availability, and the accessibility of the areas in which they are found.

There is no disparity between men and women in relation to their access to or utilisation of the resources. In general, women harvest resources that are related to their reproductive roles: grass, wild fruits, vegetables, herbs and fish. Men and youths by contrast collect forest based resources for productive purposes.

5.5.4.2 Wealth Ranking and Its Relation to Utilisation of Forest Based Resources

The community defined *poverty* as a condition characterized by *lack*; and *wealth* as one of *abundance*. Poverty was said to be caused by factors such as laziness, heavy drinking, illiteracy, lack of technical knowhow and unemployment. Wealth was said to be a consequence of inheritance, hard work and good planning. A correlation of economic status and the utilisation of forest based resources showed that in Logwili Boma poor and the middle class people harvest and trade in bamboo, grass and poles, and rich people sell timber, charcoal and poles. In Lokurbang and Bereka Bomas, there was a general feeling that the rich people exploited the poor for their own benefit. In Lokurbang Boma, for example, people expressed the sentiment that the poor were the direct exploiters of the forest, but the rich were the ultimate beneficiaries of that exploitation. In Bereka Boma people said that the poor gain little from the forest products because middle class people act as middlemen in buying the forest products at very low prices and then selling them to the rich, who take them to the market in Juba. In a community in which everyone is locked into a system that

compels them to increase their wealth and where there are no proper systems of control, rich people are likely to benefit more from the forest based resources. The economic gap between the rich and the poor is likely to then widen over time. As the poor try to gain parity with the rich, they are likely to over-exploit the forest. This is the *tragedy of the commons*²² that is likely to adversely affect the livelihood base of the people of this Payam.

5.5.4.3 Trends in Utilisation of Forest Based Resources

There have been significant changes in the utilisation of forest based resources since the Second Civil War ended in 2004. In each of the three bomas, the community reported that tree cover had significantly reduced - to an estimated half of what it was at the end of the war. That reduction was attributed not only to an increase in market demand for tree based products such as timber, charcoal and poles, but also to weak systems of control over the exploitation of those resources. A similar trend was reported with bamboo forest and was attributed to an increase in exploitation as well as to disease. The decreasing trend in forest cover was reported to have lowered water levels in rivers, and decreased both the number of wild honey sources and the availability of wild fruits and tubers. There was however a general perception that disarmament and a poaching ban have had a positive effect on the forest's wildlife, which was thought to be more abundant since the end of the war. There was a general feeling the forest cover will continue to reduce unless the Government and its partners introduce conservation and sustainable management initiatives in the payam, and unless the Government reduces the numbers of permits issued to loggers. The community expects that bamboo cover will increase because bamboo regenerates well when cut.

5.5.4.4 Charcoal Production

Charcoal production was said to be increasing with demand. The charcoal is produced by poor young people and the elderly, near to their homes. The final customers are the rich, but middle class people act as middlemen, buying from the poor and selling to the rich at a profit. Charcoal production is said to peak during the wet season when the soil is wet and soft. Charcoal is said to have doubled in price in the last three years: in 2009/2010 a bag of charcoal cost between 20-25 SSP and the price at the time of writing is 40-50 SSP.

²²Please refer to footnote 17 for more on the concept of the *tragedy of the commons*.

5.5.5 Forest Management Systems

3.5.5.1 Forest Management Systems

The communities in all three bomas of Lainya Payam acknowledged that their forests were under real threat. They identified the problem as a lack of control over the exploitation of forest based resources. The traditional systems are simply not strong enough to guarantee sustainability. It is certainly true that in general members of the community were keen and quick to point out the good in those traditional systems. They drew attention to the fact that the forests are held in custody by the landlords and that the landlords would only allow people to fell a maximum of five trees, and only those that are not used for people's livelihoods or religious practices. However, these traditional forest management structures were said to have weakened over time and the landlords no longer have full control over the forests. The community - members and leaders alike - blamed the Government for undermining the system by issuing permits for the harvesting of forest based products without consulting the landlords or the communities. This point about government interference with forest management was echoed in all three bomas. Members of the community complained that they are not benefiting from the revenue that is being collected from their forests. How, they asked, could timber be the gift of the Government when the forest belongs to the community? Furthermore, they felt the Government had been severely remiss in not developing a system to guard the forest: to ensure that loggers comply with the conditions of their permits and to keep illegal harvesters out.

These complaints about the Government, loggers, permission, and protection are genuine and no doubt valid. However, an accurate representation of the threat to the forest is a more finely shaded picture than that black and white version. The team noted that the landlords were not above but inside a system that expected them to exploit both their position and the forest to increase the wealth of their clans. Furthermore, the landlords are certainly not alone in the community in pursuing their own interests to the detriment of the sustainable future of the forest and the community. Indeed in the absence of effective controls over the exploitation of the forest, the majority of the residents, especially the young, are said to have abandoned cultivation and taken up the trade in forest based products instead. The larger analytical point here then is that perhaps the breakdown of control of the forest is a symptom of a change in the forms of life of the people in this community and the society of which it forms a part. Belief in *the commons* as a concept may be being eroded as that society becomes more aspirant and more focussed on the individual person rather than broader social networks to which that person belongs.

That gloomy analysis notwithstanding, there are some conservation initiatives in the community. For instance in Bereka and Lokurbang, the community has begun growing teak trees for commercial use, in lots of about 0.5-2.5 feddans. In the Sakaya area and the Langkoda Forest in Bereka Boma a group of young men have begun a conservation initiative that involves using the resources sustainably as well as preventing outsiders from exploiting the resources. A 13 member committee of these young men is said to have been established with the purpose of helping the landlords to manage the forests. These young men are said to collect revenue from everyone

who uses the forest, and then give it to the landlords who use the money for development activities in their area. These young men were also said to report illegal loggers to the authorities.

5.5.5.2 Women and Natural Resources

Lainya Payam is a patriarchal community so women are not actively involved in managing forest resources. However, they are said to have equal access to the forest and the resources therein. Women are mostly engaged in the extraction of forest based resources that are related to their reproductive roles, but some are said to be involved in the trade in forest based products such as grass and bamboo.

5.5.5.3 Natural Resources Related Conflicts

There are said to have been conflicts over natural resources both within and between bomas in the past. There has been conflict within Bereka Boma between the Mere and the Nyagirol clan over the issue of the Kodonajongkuko Forest. In the Rudu area there has been conflict between the bomas of Bereka and Logwili, both of which claim ownership of the forest there, although the people actually living in the contested areas are said to belong to Bereka Boma. Occasional conflicts had also been reported between the community of Bereka Boma and the Mondari pastoralists, over pasture and watering grounds. There was also said to have been conflict in Lokurbang Boma. The dispute was apparently over land along the Loka West-Konkat Road that had originally been part of Lokurbang Boma, but the people from Kenyi Payam having settled there then also claimed ownership. Lastly, there was said to have been conflict between Lokurbang Boma and Logwili Boma over resource boundaries around the Purikonyen and Kalali rivers. The dispute was based around an allegation made by the community of Logwili Boma that people from the community of Lokurbang had invaded their area and were exploiting their forest based resources.

5.6 Stakeholders Analysis

Development partners are actively involved in the Payam. However, there are no stakeholders involved in forest management or conservation initiatives. Even MAFCRD, whose mandate was reported to be the conservation of forests, was said not to be active in conservation, but rather was engaged in the collection of levies instead. Details of stakeholders are shown in Table 10 below.

Table 10: Development Stakeholders in Lainya Payam

Boma	Stakeholder	Role	Relation to the community
Bereka	Government	<ul style="list-style-type: none"> • Provision of security • Employment for teachers 	The people of the community seemed to feel close to and connected with the Government
	Help Age International	<ul style="list-style-type: none"> • Construction and supporting of 2 PHCUs • Provision of drugs to the PHCUs • Distribution of mosquito nets 	This stakeholder's support is still valued by the community, not least because it is on-going
	International Aid Sweden (IAS)	<ul style="list-style-type: none"> • Drilling of 1 borehole 	People in the community commented that the organisation seemed distant because it did not provide maintenance for the borehole that it had drilled
	Danish Refugee Council (DRC)	<ul style="list-style-type: none"> • Construction of some classrooms in Bereka primary school • Construction of toilet blocks • Provision of books 	People in the community rated this as a significant contribution but pointed out that they had shared the cost
	CHF	<ul style="list-style-type: none"> • Provision of beehives and sewing machines 	The equipment that was provided is still used but not many people have benefited from this support
	Samaritan Purse	<ul style="list-style-type: none"> • Construction of the church • Provision of toys to children 	People in the community pointed out that this stakeholder provided the cement, iron sheet, and skilled labour for the project, but the community provided the rest of the materials and did the rest of the work.
	GEN	<ul style="list-style-type: none"> • Drilling of borehole • Construction of latrine block in Kilingo primary school 	People pointed out that the latrines were not completed
	Norwegian Peoples' Aid (NPA)	<ul style="list-style-type: none"> • Demining • Provision of relief and hoes 	This support was significant but took place some time ago

Lokurbang	Government	<ul style="list-style-type: none"> • Provision of security • Employment for teachers 	People seem to feel close to the Government
	Norwegian Peoples' Aid (NPA)	<ul style="list-style-type: none"> • Demining • Supported farmers groups with cash • Supplied relief food • Provided farm implements and seeds • Supplied drugs 	This support was significant but took place some time ago, although demining is ongoing
	Plan	<ul style="list-style-type: none"> • Assistance for the orphans • Renovated the primary school • Provided plastic water tank • Construct Lalyu teachers training college 	This stakeholder is held in high esteem by the community
	Samaritan Purse	<ul style="list-style-type: none"> • Construction of 3 churches • Provision of toys to children 	Provided only cement, iron sheet and skilled labour - the community did the rest.
	Malteser	<ul style="list-style-type: none"> • Provided medicines and treated TB 	Their support is still valued but they are no longer active in the area
	Danish Refugee Council (DRC)	<ul style="list-style-type: none"> • Construction of 4 classrooms in Loka round primary • Construction of toilet blocks in Lokurbang primary • Provision of books 	The cost of the project was shared with the community
	UNICEF	<ul style="list-style-type: none"> • Construction of 8 classrooms in Lainya primary school 	There is no close contact between the stakeholder and the community
	ZOA	<ul style="list-style-type: none"> • Construction of Lainya Vocational Training Institute • Provided sewing machines 	People in the community commented that the cost of the construction project was shared with the community and that the sewing machines are still being used by the community

	GEN	<ul style="list-style-type: none"> • Construction of toilets in Lokurbung primary school 	
	GTZ	<ul style="list-style-type: none"> • Construction of a training centre in Lainya 	The project was not completed
	IBIS	<ul style="list-style-type: none"> • Support adult education programme 	
	Women Self Help	<ul style="list-style-type: none"> • Provided seeds 	People in the community pointed out that some of the seeds that were provided had already expired and that the project was targeted very narrowly
Logwili	Government	<ul style="list-style-type: none"> • Provision of security • Provision of salaries for teachers and boma administrator • Provision of drugs and medicines 	People seemed to feel close to and connected with the Government
	Red Cross	<ul style="list-style-type: none"> • Drilling of borehole in Logwili centre • Construction and supporting of the PHCU 	Their support is valued by the community not least because it is on-going
	International Aid Sweden (IAS)	<ul style="list-style-type: none"> • Drilling of boreholes 	The stakeholder drilled boreholes but did not render them sustainable by maintaining them
	IOM	<ul style="list-style-type: none"> • Drilling of the borehole at Lugei village 	This stakeholder seemed to have little contact with the people of the community despite the manifest importance of the borehole
	CDF	<ul style="list-style-type: none"> • Construction of classrooms at Logwili primary school 	This construction project is on-going and the cost of it is shared with the community

	Danish Refugee Council (DRC)	<ul style="list-style-type: none"> • Drilling of a borehole in Rudu village 	Not valued by the community as the people living in Rudu ²³ are said to be from Bereka boma rather than from Ifwoto
	Catholic Relief Services	<ul style="list-style-type: none"> • Provision of Non-food relief Items such as blankets and utensils 	This support, though relatively small, is clearly valued by the community
	Samaritan Purse	<ul style="list-style-type: none"> • Construction of the church 	The church is clearly important to the people but they pointed out that they shared the cost of building it and the stakeholder has not returned since the completion of the project
	Women Self Help (WSH)	<ul style="list-style-type: none"> • Provision of seeds 	People in the community commented that this support had been insignificant and badly timed
	Norwegian Peoples' Aid (NPA)	<ul style="list-style-type: none"> • Demining 	The demining work and associated following up is valued by the community

²³ Ownership of the land at Rudu is contested between the people of Logwili and those of Bereka bomas

6. CONCLUSIONS AND RECOMMENDATIONS FOR LAINYA PAYAM

6.1 Conclusions

- The **community of Lainya Payam** is ethnically homogenous and so has long had a strong and socially cohesive sense of identity. That cohesion has weakened as the people of the payam have been increasingly exposed to the lifestyle prevalent in the two nearby towns. Both the principle of the *common good* and the practice of traditional natural resource management have been eroded as a result.
- The people of the payam are **diversifying** their sources of livelihood, a change in part made possible by the availability of basic socioeconomic infrastructure. This trend might seem positive in principle but in practice it has negative implications for the forest. The direction of that diversification is *away* from cultivation and *towards* the exploitation of the forest. The community is becoming dependent on the forest, and that dependence is unsustainable.
- **Government interference** in the management of forest based resources has not only led to significant degradation of the forests, but has also weakened traditional forest management systems. In addition, the Government lacks the financial resources needed to deploy forest guards to protect the forest from unauthorised logging, so the sustainability of the forest is under real threat. This situation is further aggravated by the fact that the timber industry is quite developed in the area, and the government rather than the community gives permission to people to cut down trees with power saws after paying a fee of about 1500 SSP. This combination of great and increasing demand for the forest's resources, and the absence of an adequate system to manage those resources is tremendously dangerous for the forest.
- There is some awareness among the people of the payam about **conservation** in general, and about the relationship between conservation and income generation in particular. There is therefore a foundation on which to build an appreciation of the need for forest protection, reforestation and agro-forestry.
- In general, there is parity between the **genders** in their access to forest resources but differences in their use of those resources. Women tend to use resources that are related to their reproductive roles; men tend to use them for productive purposes. However, control over the resources is the preserve of men in this a fundamentally patriarchal society.
- The Government is the only **stakeholder** involved in forest conservation in the area, and that involvement is said to be limited to the collection of revenue from traders in timber and NTFPs. For the sake of clarity it is worth re-iterating the fact that there are many stakeholders involved in development in the payam – details of their activities can be found in Table 10 – but the Government alone is involved in forest management,

6.2 Recommendations

- If the forests are to be managed sustainably then the community must be supported in building their understanding of and capacity for conservation. The community should be encouraged to generate income in ways that are not dependent on the forest, by developing alternative livelihoods and enterprises.
- There is already some agro-forestry in Lainya Payam that could form the basis of a functioning sector of the community's economy, in which trees would be grown commercially for their fruit and timber.
- The community should be trained to add value to NTFPs in order to generate better financial returns. This recommendation is made partly in recognition of the community's existing knowledge concerning the development of artefacts; knowledge that could be explored, developed, shared and used.

REFERENCES

<http://www.fao.org/nr/land/use/en/>

<http://www.ipsnews.net/2012/05/forests-dying-in-south-sudan-violence/>, last updated in May 26th 2012.

Hardin, Garrett. The Tragedy of the Commons. Science New Series, Vol. 162, No. 3859. PP 1243-1248. 1968

Michael Ochieng Odhiambo, "South Sudan land and property study and workshops: a synthesis of policy and legal issues" *The study was commissioned by the Southern Sudan Land Commission with support provided by NRC, FAO and UNHRC* PP9, December 2009

Ostrom, E., Burger, J., Field, C.B., Norgaard, R.B. and Policansky, D. "Revisiting the commons: local lessons, global challenges." PP 284:278-282. 1999

Rolandsen O.H. The Sudan People's Liberation Movement/Army's National Convention and Political Changes in the Southern Sudan during the 1990s. University of Oslo, 2003

UNEP South Sudan forestry project "Pilot project for community forest management in South Sudan", PP August 2012

<http://treesforlife.info/fao/Docs/P/y4807b/Y4807B03.pdf> on a paper by Liz Alden Wily "Participatory forest management in Africa: 31", *an overview of progress and issues*.

<http://www.fao.org/docrep/ARTICLE/WFC/XII/0813-C1.HTM>

<http://www.tzonline.org/pdf/pfmstatus.pdf>

<http://www.fao.org/nr/land/use/en/>

<http://www.ipsnews.net/2012/05/forests-dying-in-south-sudan-violence/>, last updated in May 26th 2012

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