

Pact Sudan has been working in southern Sudan and the Three Areas in peace building and conflict resolution and water programmes since the pre-CPA days. With the signing of the CPA in 2005, Pact Sudan realigned its programmatic efforts into a more holistic manner taking into consideration the context that is ushered in by the CPA.

This Pact Sudan new strategy looks at how comprehensive and holistic our programming is to be able respond to the CPA era with possible greater impact. One of the identified thematic areas of interest is the Natural Resources Management, (NRM). In order to help draw up a more responsive and relevant NRM strategy, Pact Sudan planned for a baseline assessment on NRM and its implications on the lives of the communities; emerging legal/policy frameworks and the overall peace building field.

Hence, in July 2009 with funding from Canadian government (DFAIT), Pact Sudan engaged *Ms. Caroline Gullick* to carry out a natural resource assessment and conflict mapping exercise in various locations in Jonglei and Eastern Equatoria States through the Enhancing Peace and Community Stability (EPACS) project. In the past years, conflicts have increasingly flared up in these two States because of the existence natural resources, some are historical and ongoing; some reignited and some new in reaction to the changing demands in pursuit of development. The rich endowment of natural resources of these two states in the future may become a blessing or a burden depending on how all levels of stakeholders respond now.

This document therefore provides an overview of the inter-play between NRM and conflict dynamics in Jonglie and Eastern Equatoria states.

Judy McCallum
Country Representative
Pact Sudan

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ABBREVIATIONS

CBO	Community Based Organizations
CPA	Comprehensive Peace Agreement
CSO	Civil Society Organization
EPACS	Enhancing Peace and Community Stability
FNC	National Forest Corporation
GoSS	Government of Southern Sudan
IDP	Internally displace people
INGO	International non governmental organization
IO	International organization
MAF	Ministry of Agriculture and Forestry
NGO	Non Governmental Organization
NRM	Natural Resource Management
Payam	Administrative area
WCS	Wildlife Conservation Society

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Caroline Gullick

Executive Summary

The domain of every community in Jonglei and Eastern Equatoria States, as in the rest of Southern Sudan, is endowed with a wealth of natural resources with a range of uses. Some of these resources are renewable and have been used for generations, others are non renewable such as oil and minerals, which are in high demand internationally. Increasingly fertile land for cultivation is also becoming a focus of international demand as more countries seek ways to feed their growing populations. The Government of Southern Sudan (GoSS) has the daunting task of resettling thousands of people and rebuilding the south on the principles that took people to war, which was the right of the people to participate equitably in the governance of their country and benefit from its resources. GoSS has to steer Southern Sudan towards self sufficiency and economic growth.

The Comprehensive Peace Agreement (CPA), new laws and policies of Southern Sudan provide opportunities for good governance, drawing on best practice and lessons learned. The most important feature they all hold in common is the need for a participatory consultative approach to governance by all stakeholders. This opens the door for inclusion of individuals at the lowest level of governance – the community. Discussions held on the governance of natural resources at the GoSS, state, county, payam and boma level revealed that there is disparity between what is in legislation and policy regarding community participation and what is actually taking place.

The Government is keen to attract investors to provide the needed capital for development, but in their haste and in the interests of specific groups or individuals the community consultation process is being bypassed along with environmental impact assessments. If a map were made overlaying all of the various awarded or proposed concession areas for oil, minerals, mechanized farming, gazetted and investment forests and wildlife protected areas in Southern Sudan, it would cover the majority of the land area that communities of Southern Sudan are now using and have been using for generations. The impact these investment schemes will have on the livelihoods of thousands of rural communities, particularly with regard to land alienation, cannot be ignored. The lack of inclusion in decision making and planning of resource management, the lack of knowledge on legislation, and confusion about entitlements and responsibilities resulting from parallel legal systems historically culminated in local conflicts and eventually the civil war. To avert a similar scenario, urgent action needs to be taken to bridge the gap between the State and individuals. This provides the most complex challenge of all, and is the most neglected area: how to involve communities in the sustainable governance of their resources.

The key recommendation in this report is that the community takes the lead in empowering itself through asserting its corporate domain and evaluating the resources under its stewardship. This will not only strengthen the corporate unity of the community but will strengthen their awareness of their responsibility and entitlements and the importance of careful management and planning of their limited resources. The process will be long and complicated and there is no guarantee that natural resources will be better managed or managed in a more sustainable way, but it increases the options people have to make choices and decisions, which may contribute to this desired outcome. Lastly it will provide a framework in which secondary user rights and commercial developments can be fairly negotiated.

Background

As a key part of the Enhancing Peace and Community Stability (EPACS) project, funded by the Canadian DFAIT, Pact Sudan commissioned a natural resource assessment and conflict mapping exercise in various locations in Jonglei and Eastern Equatoria states. It is known that conflicts are increasingly flaring up in these two States, some are historical and ongoing, some re-ignited, and some new in reaction to the changing demands in pursuit of development.

This is a pilot phase which focuses on the following:

- Identifying and assessing conflicts related to natural resources (excluding water which is assessed regularly under other Pact Sudan projects);
- Identifying potential community-level livelihoods using natural resources, and sustainable and conflict sensitive approaches with an objective of improving community relationships;
- Assessing marketability of identified community-level livelihoods;
- Identifying and mapping of local stakeholders (which may include corporate entities working in the target states but will focus on local government and community based organizations (CBOs) engaged in livelihoods and natural resource management (NRM) initiatives.

Specifically, the assessment will aid Pact Sudan and its partners in assisting communities, CBOs, government agencies, and industries in identifying opportunities to strengthen sustainable natural resource management and support conflict mitigation strategies related to NRM. The assessment and maps will also be used to inform local and state government, NGOs and UN in developing strategies, projects and policy related to NRM.

Approach

Fifty two interviews were conducted over a period of six weeks with a range of key informants, focus groups and community groups. The areas were selected after consultation with personnel in the ministries in Juba along with Pact staff. Interviews were conducted in the following places: Juba in Central Equatoria; Bor, Kongor, Ayod, Pibor, and Gumuruk in Jonglei State, Torit, Kapoeta, Iboni, Magwi, Obbo, Labone, and Ayii in Eastern Equatoria. The interviews were carried out at different levels: government, state, county, payam, boma and village level, to collect qualitative data on the different perspectives of the different stake-holders towards natural resource management and related conflict issues. Specific names of people and places are not referred to.

Rapid rural appraisal tools were used as needed. The principle tool for the assessment was participatory mapping. For the more in depth investigation at the community level initially key informant meetings were held at the county headquarters to define the geographical and administrative areas, and gather background information. A payam was chosen with the help of the authorities. At the payam level an interview was held with the payam administrator to get background information on the area. A payam mapping exercise was drawn on the ground by a community group of 25-30 people and used as a basis on which people could explain the main features of the payam administrative areas and activities in the area and issues of conflict. After this a boma was selected for a mapping exercise to get more detailed information from village communities living in that boma. (See annexes 1-4)

The large range of resource management strategies and conflict issues pertinent to each of the two states would be impossible to comprehensively cover in one report given the range of resources, the number of ethnic groups and the diversity of livelihoods they employ. The report therefore focuses on the broad issues affecting a range of locations to a greater or lesser extent, but where the underlying issues are the same, dipping into the findings to illustrate the various features as needed. Information from case studies mainly from northern Sudan and other countries is also drawn on to demonstrate trends. Each section is intended to stand alone for readers only interested in certain issues with limited time to read a long report there will therefore be some repetition. Land is dealt with more extensively than the other sections as the others could conceivably come under the umbrella of land as the undoubtedly most important natural resource in Africa and the origin of most other natural resources.

INTRODUCTION

Today's conflicts in Africa are often portrayed to have political or religious origins, but more often than not the underlying causes stem from control of natural resources. History is made up of examples of how empires, friendships, alliances, and kingdoms were created to defend access and control natural resources, demonstrating the fundamental role they play in politics, diplomacy and relationships. Ashby's prediction 2003:

*'Poverty, growing inequity and the importance of natural capital to the poor means that global and local competition between rich and poor over natural resources, such as water is expected to be one of the most significant causes of conflict in the 21st century'*¹

The difference between the past and now is that there is greater transparency with regard to the root causes of conflict. Media coverage of modern conflicts illustrates how commodities such as oil, gold, diamonds, land, and water are fought over and used to fuel wars. Scarcity of resources is also given as a major source of conflict but usually it is the *cause* of the scarcity that causes the conflict rather than the physical lack of the resource itself. Abiodun Alao 2007 aptly states:

*'The majority of conflicts in Africa are not about scarcity but about functions of laws, structures and practices guiding the management of such resources especially the distribution of privileges and opportunities from them'*²

Alao illustrates this with the examples of diamonds in Sierra Leon and Botswana and oil in Nigeria and Libya, illustrating how the resources have been used to the benefit of one country and instrumental in destruction of another, or how physical land shortage led to genocide in Rwanda but not in Gambia.

A review of the way in which events unfolded in post-colonial African countries is important in order to set the context of Sudan today. During the colonial period the governments did not involve their communities in local governance, and were not accountable to the population, rather their focus was on export of raw materials for the benefits of the colonies. This was the stimulus for independence, which offered an opportunity to end the unfair exploitation of the people and the wealth of their countries. Once independence was achieved, amid great euphoria, people settled down allowing the nascent government time to find their feet, with the expected future inclusion in governance and control of natural resources. This didn't always happen, and as time passed people became impatient. They were not seeing the benefits expected from independence and corruption scandals were surfacing. The communities continued to be excluded from local governance, and the new government continued to be unaccountable to the population. Because communities were not able to solve their problems of inequity through the existing structures in many cases they turned to violence in order to be heard. Dictatorships and one party system quelled the complaints often by force.

This scenario has played out in Sudan and resulted in the devastating civil war that Southern Sudan is emerging from. The root cause of the conflict was about unfairness with regard to the equitable distribution of benefits accruing from the exploitation of resources: land, water, oil, solid minerals, and other renewable natural products. In common with other African countries the war was mostly about how resources were being governed. The definition of natural resource governance used for this report is borrowed from Abiodun Alao (2007):

'All the internal and external considerations that come to play in the management of natural resources. These include domestic laws, constitutional provisions, cultural practices, customary laws, neo-patrimonial

¹ Ashby J. Managing Natural Resources for Sustainable Livelihoods. Uniting Science and Participation. 2003.

² Abiodun Alao . A. Natural resources and conflict in Africa. The tragedy of endowment 2007

practices and all the international treaties and obligations that govern issues such as the ownership, management, extraction, revenue sharing, enforcement capacity and the procedures for addressing concerns and grievances over natural resources’.

The GoSS has the daunting task of rebuilding the south on the principles that took people to war, which was the right of the people to participate equitably in the governance of their country. GoSS has to steer Southern Sudan towards economic growth and has committed to new legislation which is underpinned by best practice and lessons learned as laid out in article 2.5 in the Wealth Sharing Protocol of the Comprehensive Peace Agreement (CPA)

‘A process be instituted to progressively develop and amend relevant laws to incorporate customary laws and practices, local heritage and international trends and practices’

Current legislation based on these principles with regard to natural resource governance includes: the Land Act, the Forestry Policy, the Local Government Act and the Environmental Policy (near completion). All include community participation as a prerequisite for resource governance. In addition the Natural Resource Management Working Group has been established comprising of representation from the following seven Ministries: Housing, Physical Planning and Environment; Water Resources and Irrigation; Ministry of Animal Resources and Fisheries; Cooperatives and Development; Agriculture and Forestry; Wildlife Conservation and Tourism; Energy and Mining and the Land Commission (See Annex 5). The group’s mandate is to advise GoSS and State governments on natural resource issues, policy and legal framework. The working group has developed a draft strategy plan with seven goals regarding the governance, sustainable use and protection of natural resources in Southern Sudan.

Southern Sudan has an abundance of natural resources, and a relatively small but growing population. Despite this abundance, controversies regarding ownership, control, management and benefits of resources have led to disputes and conflict and will continue to do so in the future influenced by both local and external demand. Having emerged from more than 20 years of conflict, people are now trying to reestablish their livelihoods in a landscape that has changed physically, culturally and politically. The relative stability provided by the peace process is fragile. There is a great deal of skepticism and concern as to what will happen after the 2011 referendum when the south is likely to vote for secession.

Against this backdrop Southern Sudan is faced with the resettlement of thousands of people, who were either internally displaced or had sought refuge in other countries during the war. Returnees have flocked to the main urban areas as an interim measure before returning to their rural origins. This is overwhelming the limited health, water and sanitation services available. Tension over property and landownership has been an issue for most areas particularly regarding urban and agricultural land. The repopulation of the rural areas is happening slowly but did increase during the last dry season. People are moving back to their areas building homes and clearing land to cultivate. Whilst communities are settling in food aid is playing a major role in the household food economy.

Social dynamics have changed as a result of the movement of people during the war as refugees and the displaced have been exposed to different cultures and livelihoods both inside (i.e. Khartoum, Juba and other urban centers) and outside the country (Kenya, Uganda, Ethiopia, Cairo and places further). Those who stayed during the war, particularly the older people, still follow their traditional ways. These are portrayed in the ‘Southern Sudan Livelihood profiles’³ which broadly describe the socio-economic activities of people in the different livelihood zones in the south of Sudan (See annex 6). The majority of returnees are reintegrating, but the youth among them are finding it challenging to adapt to the more traditional lifestyles they are unused to. There is also a large cadre of younger educated women and men who have returned from

³ Southern Sudan Livelihood Profiles. A guide for humanitarian and development planning. South Sudan Center for Census, Statistics and Evaluation 2003

abroad with a different skills set. These people are looking for government positions and office jobs.

A limiting factor in the evolution of the economy is the lack of an entrepreneurial element. Broadly speaking society may be divided into sectors: the traditional, the political elite and the formally educated. The sector that binds the other sectors together, that creates the enterprise and industry, local manufacture and adds value to commodities is not there, so there is little to export and invest in and few jobs are being created. Most manufactured goods are imported and expensive. Hence external investment revenue coming into the country is for raw materials from the extractive industries. The need to galvanize the development of the entrepreneurial and artisanal sector of society is crucial to the development of the economy, employment and the enhanced utilization of the country's raw materials by the Southern Sudanese people.

The Government is looking for investment to push start development and this current trend relies on the revenue of international investment in the extractive industries and land. This comes at high risk because of the vulnerability of commodities to market fluctuations and other influences, which Sudan is already experiencing with the 2008/09 drop in oil prices. It is likely this will compromise future economic stability, not to mention the great cost to the environment already witnessed, particularly with regard to the oil industry.

Investment has not happened in the south at the speed it was expected, because of the reluctance of interested parties to invest, ahead of the outcome of the referendum and in the absence of reliable legal procedures. If security remains stable, however, the floodgates will open. A number of countries are already establishing consulates in Juba in anticipation of a change in the status quo. New alliances will be forged at a high level as countries in need of energy minerals and land resources woo the south to secure a share of its resources.

FINDINGS

Land

The most important resource in Sudan is land in which all the other resources lie. It is an integral part of people's identity, it is where they are born and where they are buried giving it great spiritual and social significance.

'Every society in Africa sees land as a natural resource that is held in trust for future generations, and the sacredness of this trust lies behind most of the conflicts over land in the continent'⁴.

If it was not important it would not be inherited or fought over, nor would it be the focus of millions of dollars of external investment. During the CPA negotiations the issue of land was seen to be so complex that it was agreed that separate land commissions should be established, to deal with the issue later rather than stall the proceedings⁵.

Land scarcity

The land area of Southern Sudan is vast and the population relatively low. It is hard to imagine there could be scarcity. There are two main types of land scarcity discussed here: Natural and man-made or artificial. With regards to conflict in Sudan, land scarcity is more commonly man made or 'artificial'; most typically where marginalised communities were dispossessed of their land and resources by political elites for private use.⁶

Natural scarcity

This type of land scarcity has natural origins. For example, there may be plenty of land for grazing or farming but if there is no water available for drinking, this may restrict access; a specific soil type may be required to cultivate a certain crop; limited seasonal access to certain areas due to annual flooding or scarcity caused by drought which affects people's movements may also have serious consequences. Solving some of these issues, for instance with the



provision of boreholes in remote areas is a challenge for impoverished local communities. Opportunistic conflict can stem from responding to natural causes such as seasonal vagaries. For example, where different ethnic groups amicably share common grazing grounds for the dry period, there might be competition over livestock watering areas because of environmental conditions, or

groups of youth may take the chance to raid other communities' stock but when environmental conditions allow these communities will return to their respective areas. These activities in recent years have escalated and casualties have increased due to the proliferation of small arms.

Man made or 'artificial' scarcity

Artificial scarcity has number of origins:

⁴ Alao . A. Natural resources and conflict in Africa the tragedy of endowment 2008

⁵ Land commissions were established for Blue Nile, Southern Kordofan and Southern Sudan. Thousands of claims for land lawfully but unfairly expropriated for mechanized farming were anticipated.

⁶Mohammed Suliman, Leif Mangar, Alex de Waal, Gunnar haarland, G.M.Craig

Laws

Laws in the case of Southern Sudan can be customary or statutory law, which govern who has access to where. The Land Act, for example, states there are three types of land ownership: Customary, Private and Public. These are administered by different regulations that dictate access and user rights. For example, customary law dictates that persons from outside the community land domain who want to reside there or use certain resources need to ask permission from the customary leader.

Security

Access to an area of land may be restricted if there is insecurity, such as: crime and banditry, hostile ethnic groups, militia activity or land mines.

Ethnicity

Membership of a certain ethnic group may give you increased or decreased access to certain land areas.

Investment

There are two types of scarcity stemming from investment activities. These are a result of huge areas of land, often thousands of feddans⁷, being requisitioned for extractive industries such as oil exploration and mining and other uses such as mechanized farming, wildlife reserves, tourism, forestry and urban expansion.

a) Community land used throughout the year

This is common land regularly used by one or more communities. It may have settlements and farms with access to water all year. When investors requisition these areas, communities have to be relocated. This will not only impact people's daily activities but will also have social, political and spiritual repercussions, associated with their alienation from their customary homeland. The scarcity faced here are the favorable physical features that lead to it being chosen as a settlement area, i.e. access to water, highland for building homes, soil types, fuel and grazing etc. There is often scarcity of land with these attributes, particularly in the eastern flood plains.

b) Community land used seasonally

This is undeveloped community land used on a seasonal basis for grazing, harvesting of wild foods, fishing etc. This land may be requisitioned with or without the endorsement of the Government (as are nearly 50% of the cases in Northern Sudan) by an outside entity, political elites and traders. They have the financial resources to develop the infrastructure, often from loans. As a result, access and use of resources on this land will increasingly be restricted resulting in scarcity.

Scarcity caused by land alienation can result in internal conflicts within the community. This can occur because some members may agree to land being expropriated by government, political elites and traders whilst others may not. Or some leaders may agree but the community does not. This will usually be accompanied by suspicions of underhandedness, bribery and corruption, sometimes fueled by manipulation by different groups' agendas. In such situations community members may turn against each other or their leaders. Another example of conflict from land alienation is where the community turns against the occupier, be it the government and or investor. Conflict of this nature has been very violent resulting in death, injury and destruction of property. When the community is alienated it is common practice for investment companies to bring with them private security companies along with the government forces, as seen in Upper Nile. Much of this type of conflict could be avoided with proper community consultation and transparency at the conceptual phase of the initiative.

⁷ Fedan = 4,200 m² = 1.037 acres = 0.42 ha

Fortunately there are plenty of case studies and lessons learned documented in northern Sudan to be drawn upon (Abdalla El Tom, et al.1996, Africa Rights 1995, Att el Hassan El Battahanni, A.a. Babiker 1989 and Mohammed Suliman 1998) which could be instrumental seeking ways to mitigate conflict resulting from the different demands on the resource base. The recent civil war is a primary example of the worst case scenario; part of a country seeks to secede from the rest of the country due to the inequity of natural resource governance, for example the case of the Jonglei Canal and oil exploration.

Parallel legal systems governing land tenure

There are parallel legal systems currently operating in Southern Sudan: the western based statutory law and the customary law.

Customary Law

Customary law is often seen as subsidiary to statutory law and is not recognized as having the same importance, but the reality is that the majority of communities subscribe to customary laws and practices as they are more accessible and familiar to them. In addition the dissemination of statutory law has never been carried out with great rigor.

Customary land rights are community rights giving control over land. User based rights and overlapping rights are predominant features. The land area is not formally registered but the boundaries are known by the community and usually are not, or may not be, physically demarcated. However community members may point to a stream or land formation and say it is their boundary with a neighbor.

Customary and traditional are often considered synonymous and it is common to assume customary means outdated not modern because it is linked with traditional- something which has been long established and doesn't change, but the reality is that customary practice is not static but evolving. In some cases it may be that customary leaders have stifled this evolution by applying out dated traditional norms and have not embraced the opportunity to modernize customary laws in order to meet the demands of a changing world. An obvious example of this is with regard to gender equality: women play a primary role in household food security and there is a very practical need for customary inheritance laws to reflect this.

Dr Alden Wily clearly illustrates this

Customary tenure systems have their roots in traditions but norms and procedures need not necessarily be the same as those of past decades or centuries; these change with changing demands. The principle that does not change is that the reference point for the system is the community; in short

1. *Customary tenure only exists for as long as the community endorses it and respects the rights that arise from it;*
2. *It is the norms which the community endorses that represent the operational framework or law upon which decisions are made and upheld (customary rules or 'law');*
3. *In light of growing recognition of human rights and social justice, there will be traditions that a modern 'customary regime' no longer tolerates – or permitted to tolerate by supreme law (Constitutions). Democratic interests of the modern day may also reshape the way in which decisions are made, usually to be more inclusive of all members of the community (rich and poor, male and female, representation from all ethnic groups etc.) and more accountable to the community as a whole.⁸*

⁸ Dr. L. Alden Wily. A concept note on – Pilot development of decentralized land administration in Nuba mountains & Southern Blue Nile, Sudan. USAID Sudan Task Force March 2004

Statutory law

Statutory law in Sudan is partly based on the colonial legacy and partly based on the modern western legal system. Some of the key features relating to land are: the demarcation and registration of land areas; the assertion that customary land rights shall have equal force and effect as free hold and leasehold rights, the holding of title deeds and equal opportunities regardless of gender. These are all reflected in the Southern Sudan Land Act 2009 e.g. Rights to Land Section 13 (4)

Women shall have the right to own and inherit land together with any surviving legal heir or heirs of the deceased as stipulated in Article 20(5) of the Constitution.

The Southern Sudan Land Act gives full endorsement of what people fought for in the war by stating that 'The land belongs to the people.' This is completely different to the previous land law, which stated that all unregistered land belongs to the Government. It also states that there are three types of land ownership; Community, Private and Public. Importantly this gives recognition to community land.

Legislative uniformity

It is important that the various laws agree with each other to avoid confusion but this is not always the case. With regard to the section on Land Administration, it was found that there are discrepancies between the titles of the different levels of land administration and management in the Southern Sudan Land Act and the Local Government Act. There is also a significant difference in the composition and functions of the management levels particularly at the County level and Payam level. With reference to the Land Act the 'Council' is at the Payam administrative level where as in the Local Government Act 'Council' is as the County level. See the table below:

Level	Land Act	Local Government Act
GOSS	GOSS	GOSS
State	State	State
County	County land authority (CLA) (5+ representatives from each town and municipal council.)	Council Land Committee (CLC) (no more than 5 councilors)
Payam	Payam land council (6 + all boma executive chiefs of the payam)	Sub committee at payam or block council level
Boma		Sub committee at boma council level

The Local Government Act does not include community in any of the CLC activities with the exception of (g):

'Mediation of consultation of processes of land lease between the community and other investors'.

In section (b):

'Organization of Council land Development Plans in consultation with the state government authorities and committees'

Community is clearly omitted which does not concur with the five general principles of the Land Act Section 41 E.g. (2):

'The land administration shall be on the principles of decentralization, participation and transparency for the benefit of all people of Southern Sudan'

There is no mention of the role of the traditional customary courts in either Act. In the Local Government Act there is however a reference to a subcommittee at the boma level, but it does not state its composition, roles and responsibilities and is not referred to in the Land Act. In general, the Local Government Act content on the land issue is less inclusive of community participation and consultation with regards its activities as compared with the Land Law.

Administrative arrangements

The fact that the various levels of management have been appointed rather than elected can be attributed to the lack of capacity to hold elections and the pressing need to stabilize the situation by having some sort of administration in place after the signing of the CPA. In the future these posts are to be elected. As a result the concern is that the current administrative arrangements are not democratic enough or independent enough to represent the community perspective. This has obvious repercussions in terms of non-representational decisions being made which could result in conflict. For instance, it may well be that the chief in the future may not be an appropriate person to be on the Land Council or Committee; for example there could be a broader representation, which could include more of a gender balance and perhaps opportunities for respected men from the area who are not necessarily chiefs could also be included.

Though the law stipulates that chiefs be included it is always worth bearing in mind that the older traditional authorities are often quite autocratic in their decision making. They do not necessarily seek the opinions of their people particularly from women and youth due to the hierarchical nature of their society. An example was given where a landowner in Torit County⁹ gave away community land for urban expansion without discussing it with the community, an agreement from which they personally benefited. Likewise people do not offer their opinions or question authority in a participatory way. In the case of Blue Nile State the community decided that in their land councils the Payam Administrators and Executive chiefs were to be *ex officio* members of the land council, in recognition of other demands on their time. The greater body was to be elected as they were working directly on behalf of every member of the community, so must be chosen by the majority.¹⁰ Due consideration was also to be given to the inclusion of special case minority groups such as IDPs or transhumant. The reality is once the committees are fully established; they will be inundated with time consuming obligations as referenced in the Land Act.

The Land Act is a major step to decentralization. The declaration that 'the land belongs to the people' and numerous references to community participation are proof of that, even if the implementation process is not yet developed enough to achieve this. There are opponents of this devolution of power to the lowest level, at different levels of government, who see the process as fraught with problems and do not recognize the potential benefits. Some even think it will lead to tribalism, but the smallest administrative unit is the community, which may be made up of mixed ethnic groups and is not based on the tribe. It is all the people who come under the administration of the land area. A centralized system with strong government control and limited democratic elements is more what some people in the government offices have in mind. However, this arrangement is highly susceptible to corruption due to personal agendas, lack of transparency and accountability to the community.

The following are some of the comments captured during discussion about the Land Act with government employees: -

- Communities are not informed enough to make key decisions about land investment;
- If the community opposes the mineral concession they are against the government and we will use force;
- We worry investors will be put off by devolution of land ownership and management;

⁹ Amongst some societies the title land owner is the traditional leader who is in charge of the land in other societies they are called chiefs.

¹⁰ Southern Blue Nile. Technical Guidelines. USDA 2005

- We know what is best for the community;
- If we approach the community they will just create confusion as they are ignorant of the facts;
- Concerned as to how boundary surveys demarcation can be carried out on such a large scale;
- Demarcation will lead to tribalism
- The land really still belongs to the government what is stated in the Land Act is a misunderstanding;
- If the government decided to use land the community cannot oppose.

What those who hold these attitudes are not recognizing is that it is not a matter of choice whether the land management system is decentralized and requires a participatory approach to implement. It is a legal requirement, which needs to be implemented, or risk potential future repercussions when communities may seek redress. E.g., with regard public land reference Land Act Section 10 (h)

'land which has been formally and willingly surrendered by a community within the area of its jurisdiction as land available for the provision of public services to serve itself or other communities as appropriate, but does not include land provisionally set aside by a community for these purposes;'

It is unlikely that a community will willingly surrender land for public use particularly on a large scale without repercussions if they haven't been consulted. Saying 'communities can't be consulted because they are ignorant and will just confuse things' does not mean they should be denied their rights but rather emphasizes the need for the authority to ensure the community is properly briefed on the issue and is enabled to engage in meaningful consultation. This of course takes time and diligence.

There is confusion over which of the two legal systems takes precedence. Usually it is the western law but the Land Act states in Section 8 (6);

'Customary land Rights including those held in common shall have equal forces and effect in law with freehold or leasehold rights acquired through statutory allocation, registration or transaction.'

This endorses customary land rights as equal rights. With the lack of clarity regarding the Land Administrative structure in the Land Act and the Local Government Act what will most likely happen at community level is the local community courts approach will take precedence.

Land boundary issues

Land boundaries are a source of sometimes violent conflict in the areas visited during the assessment. Communities have unwritten regulations for the management of the resources under their stewardship. These regulations have governed the use and protection of resources and are overseen and guided by customary leaders. As mentioned earlier, communities are very aware of their customary boundaries but they are not usually physically demarcated. The importance of boundaries is to have control over an area of land and hence the resources, to be able to plan the use and allocation of resources. The boundary clearly is the basis on which to understand the amount of land and resources the community is responsible for and who has access to them. In the new Land Law section 8 (5) ;

'Customary land shall be demarcated and registered in accordance with the provisions of this Act and any other law'

This clause legitimizes the domain of customary land owned by communities in statutory law. Demarcation is essential for planning purposes but the main constraint facing the civil administration is the cost and the amount of time it would take to do a cadastral survey in order to register the land.

A number of the conflicts encountered during the research would be partially if not completely solved if the boundaries had been demarcated and the land administration within them clarified. Some examples of disputes are:

- Grazing land disputes. For example, people from Lekwongle move seasonally into the northeastern part of Gumuruk (both Pibor county) to graze their livestock along the Nanaam River. There have been two occasions in the last few years when they have tried to claim it as their territory and resorted to fighting;
- A common dispute is when communities farm inside adjacent territory, and after some years try to claim primary rights over the land belonging to the host community (Magwi, Labone, Lopit);
- Populations have out grown their traditional inherited land area so they are encroaching on others land and are trying to claim primary rights. (Lopit hills);
- Returnees finding their farms occupied and the occupier refusing to move. Sometimes resorting to moving farm boundary markers. (Magwi, Lopit hills);
- Incidences of poaching of timber where those cutting the timber maintain it is their territory (Magwi)
- Two different boma administrations claiming taxes from the same community as it is uncertain which one they come under;
- Newly established boma where the boundary is not clear and the community who gave the land are concerned that non gifted land is being encroached upon (Magwi);
- Each community is responsible for repairing the roads in its land area. The administration cannot ensure this is implemented because there are no clear boundary marks. Communities and the administration are in conflict over this in many areas.

On another level where land demarcation will also help to prevent disputes is with regard to land which is being taken up by government and investors, for example for extractive industries or mechanized farming. If the community land ownership is clearly established, it will help communities who legally own the land to voice their claims and rights on a legal basis, and will contribute to ensuring that the communities are consulted and involved in the negotiations. Communities with a rightful claim will be compensated and receive any due revenues agreed. It will preclude conflicts between communities with regard to whose land the enterprise is on. It can also help to endorse the role of the responsible community to report on issues involving the violation of agreements, particularly with regard environmental concerns such as pollution.

Wealth sharing

The sharing of revenue accrued from the land and the different resources are a bone of contention, requiring careful consultation with all stakeholders. There is a tendency for members of the community to say that they have a right to 2% of the revenue derived from commercial exploitation of resources in their customary land area, but this is a misunderstanding stemming from the CPA, where it states that the community on whose land the oil fields are found are entitled to 2% of the revenue. This however does not apply to other resources. Communities do not realize therefore that they have the opportunity to negotiate an equitable deal, which may be much more than 2%. Communities who are consulted may have trouble knowing the economic value of a specific resource. There are also other issues to be factored in such as the long- and short-term impact the extraction activity may have on the environment, which may be hard to evaluate. This puts them at a disadvantage and requires them to have objective technical advice if they are to negotiate on an even footing.

Pastoralism



Pastoralism and agro-pastoralism are key livelihoods in Southern Sudan, which sustain a large percentage of rural households. Livestock are not only important economically, but through their redistribution amongst kin (especially as bride wealth), family members become inextricably interwoven and alliances between different families are formed. This traditional mechanism forms the fabric of society governed by traditional rights and norms for many communities, providing a certain amount of social security to each individual as well being a

source of food primarily milk but also meat. Payment of cattle also is an important means of settling disputes, governed by a set of norms overseen by the chiefs.

Grazing Resources

Livestock follow a seasonal pattern of transhumance, thus benefiting from the grazing options available at a certain time of the year. Pressure on grazing areas has always been an issue of tensions. In 1952, J. Sherwood, a Government inspector for agriculture from the British Administration, wrote:

'In reality, owing to inaccessibility and swamp, and the consequent heavy overstocking of the accessible areas, adequate grazing for all still remains an unsolved problem in certain districts.¹¹ Post-war Southern Sudan has seen a huge increase in livestock numbers, which is reflected in excessive bride wealth payments. This can be partly attributed to improved access to livestock drugs through NGO's and purchase from markets, eradication of rinderpest and low off take.

It is widely agreed that there is no scarcity of grazing land in real terms but access is restricted due to natural limitations. If water resources were developed in some of the remoter areas through the construction of hafirs the grazing potential will be enhanced though there maybe constraints in the future due to alternative land use for example for mineral extraction.

Pastoralists enjoy the social prestige of having large herds, which are seen as a status symbol, so there is always a reluctance to sell animals. Off-take is also affected by lack of access to markets to sell animals due to insecurity for some groups and also distance. This is particularly a problem for the Murle of Pibor County. Their raiding activities have alienated them from their neighbors and precluded their access to the larger livestock markets in Bor or Akobo. The youth who used to herd the animals to the markets are now idle and frustrated. Some of them have resorted to a more organized, systematic style of cattle raiding, large scale charcoal production and the harvesting of other forest products to obtain an income. On the whole, the majority of Murle and Toposa communities are content with their way of life.

¹¹ Sherwood J. Upper Nile Province. Agriculture in the Sudan. Ed. J Tothill. 1952

They don't seek education and are uninterested in material goods such as clothes; the men solely focus on increasing their number of livestock to obtain enough dowry for another wife. This is a great hindrance to economic development in their areas. It is also a double edged sword, in that the lack of education negatively impacts their community's opportunities to be heard and fairly represented politically. The less they are included the greater their feeling of alienation by the state and the harder it is to integrate their customary governance structures with formal governance structures.

Raiding

Traditionally raiding is a process of redistributing pastoral resources between rich and poor herders. The raiding of neighboring societies is usually stimulated by the need to restock after animals have been lost from disease, drought and raiding. This often occurs at the end of the dry season when communities' livestock have been sharing pasture and the time comes for them to return to their respective village areas. It is common that some youth will opportunistically try to take cows from other cattle camps, occasionally resulting in small-scale fighting between the cattle camp youth. Traditionally, this has been a process of reallocating pastoral resources between rich and poor herders. During these raids casualties were usually men. The nature of raiding has changed with the proliferation of modern weapons, the casualties more often being women and children. Communities are wracked by inter-ethnic clashes stemming from raiding apparently endorsed by elders who also profit from the raided animals. There is huge pressure on the male youth to raid.

There are some communities such as the Lotuko and the Nuer who practice raiding between their various sections as well as other ethnic groups. Raiding also transcends international borders e.g. with the Toposa crossing into Kenya and Ethiopia to raid.

The widespread use of small arms has resulted in more human deaths than these disputes would have had before the war. The increasing numbers of deaths are not being compensated in the traditional ways with the exchange of cattle as blood wealth. Instead there has been the evolution of revenge killings, which are now responsible for hundreds of deaths including women, children and the elderly.

Whilst outside political interference aimed at destabilizing the areas is also being blamed for this and cannot be ruled out, especially with the build up to elections and the referendum, the traditional leadership and the civil administration needs to come together with a single purpose, of collectively doing everything in its power to stop further bloodshed.

It appears that many of the peace initiatives are not targeting the right people. The youth involved in the violence are not the ones attending the peace meetings. Even the term 'youth' is ambiguous. It ranges between the ages of 18-45 years old. The youth who need to be targeted by peace programmes are the younger ones who are out in the cattle camps, but the ones who actually attend are usually the educated and older ones. Also the traditional leadership is not taking responsibility. Whilst they say the youth are out of control and do not respect the elders, the elders themselves need to be sure they are setting them right examples that will engender their respect. This may mean being more flexible in observing the needs of the youth. There are a small but growing number of youth who want to be educated or start trading, but the patriarch in the family who controls the livestock will not allow them to sell cows to raise the funds needed¹². There is a need to evaluate and in some cases modernize customary laws and practices. The following comments were made during interviews with regards to issues that lead to conflict:

- An inflated dowry payment makes it extremely difficult for younger men to marry and puts pressure on them to raid;

¹² The livestock may be owned by the youth making the request, but he doesn't have control over them. In the same way women can own cows but have no say in how they are managed.

- Traditionally, raiding is seen as a rite of passage to manhood of the elders still regard it as so, it is associated with prestige;
- Elders in the community encourage raiding as they also benefit from it. The main ways to increase livestock holdings and therefore status is through raiding and dowry from your daughters;
- A younger son cannot marry till his elder brothers marry, so there is pressure for him to contribute to the dowry of the elder brothers;
- Girls encourage the raiding;
- The use of firearms is having a serious impact: the more deaths the more need for revenge killing;
- Women and children are being killed, this is not traditional;
- Youth have few alternatives to raiding if they want to marry. There are few other income generating activities for them to earn money from to buy cattle and the elder men refuse to contribute cattle under their control, as they want them often as bride wealth for themselves for new wives.
- Because of insecurity, cattle trading routes are unsafe, and stock cannot be sold;
- Women own cattle but they are controlled by the men. If a woman wants to sell some animals to pay for the education of her son, she is unlikely to be allowed;
- Youth sometimes request livestock to sell for education or to start up small trading activities. Traditional livestock keepers are resistant to this.

Impact of investment

Further pressure resulting from advancing investment and extractive industries coming to the areas is likely to have serious repercussions on the communities. There is a risk that communal seasonal grazing land or other reserve land (e.g. potential agricultural land), which may look uninhabited and unused, will quickly be snatched up for private or public use. Due to lack of fair political representation and participation, communities are vulnerable to exploitation. There is an overriding sense amongst intellectuals that the communities will sell themselves short in negotiations if they do get proper representation and access to information. They may be unaware of the full ramifications of agreements being made and their long-term impact. There are also concerns that those who do represent them may have other agendas and personal interests at the fore.

An example of this is Boma National Park, which is believed widely to be leased to one company for 30 years or more. If this is the case communities will be excluded from the area for that period. Those who signed the agreement may not have considered the fact that populations are increasing in size along with livestock numbers, which will heighten the need to have access to more land in the longer term. They may also not understand that these types of agreement are not negotiable. Not to mention other livelihood and subsistence activities the land is used for, such as collecting wild fruits or honey, grass etc. This will lead to tension, as pastoralist groups will compete with each other for limited resources.

In the case of Jonglei, over a million feddans of what for the most part is now grazing land have been earmarked for mechanized farming. Experience in the north of Sudan shows that the aggressive mechanized farming practices has had a very detrimental impact on the environment. Particularly the loss of tree cover combined with intensive ploughing has destroyed the soil structure making it vulnerable to wind erosion and impaction. The ferocious winds now experienced in Habila in Northern Sudan are being compared to the Saharan sand storms. Without careful management these new areas being taken under cultivations could suffer the same fate. In terms of wealth sharing, it is not clear how communities, which often have a pastoralist background, will benefit from their land being used by international investors.

When talking to people about the impact of losing land to investment the response was along the lines of: *'there is plenty of land we will just go somewhere else'*. The response was very different when the

community was drawing out a map of their area and actually able to start to visualize the possible impact and limitations. It was interesting also being told at State and County offices that there would be compensation for communities in the form of roads and schools when it is well known that the people's priority is the daily need for good grazing and watering conditions for their livestock, the very resources they would be losing access to.

Agriculture

Subsistence shifting agriculture is one of the most common livelihood patterns in southern Sudan. Broadly speaking, the cropping systems aim to minimize risk of complete crop failure, rather than to maximize yields of individual crops, so a variety of grain and vegetable crops are grown in mixed stands with staggered planting periods. Livestock roam these fields freely in the dry season grazing on crop residues, adding manure to the soil for the next year. Households in most communities have a home plot, and the majority also has one or more fields further away. Should those fields be more than a day away, small temporary homesteads are built.

On the whole, the wetter the climate, the larger the range of crops grown. For instance, farms in Magwi County grow a variety of grain, root, fruit and vegetable crops. In the flood plains of Jonglei, the focus is on different varieties of sorghum, to combat the environmental vagaries of flood, drought and pest damage. Every community has its own cultivation idiosyncrasies and crops that it favors for a specific reason or circumstance. Division of labor between the genders varies, as does control over the harvest and income accrued from it. An overview of agricultural practices in the five livelihood zones found in the Jonglei and Eastern Equatoria States can be found the Southern Sudan Livelihoods Profile 2007.

Traditionally most households in rural Southern Sudan would expect to provide some of their annual food and income needs from their own production¹³ if not the majority of it. The food they could not provide from their own production would be obtained through purchase or barter. In order to do this it was important to have good relationships with those who had the desired



commodities. For instance if a trader from the north wanted to trade in the south it was essential that he was accepted and trusted by the community he wanted to trade with. This was particularly so during the war when many areas had no markets and people would have to travel long distances outside their home territory to find people with whom they could barter.

Pastoralists went to cultivator communities to barter grain for livestock and livestock products. For example, the Toposa went to the Didinga or the Dinka to the Luo. The main commodities bartered were livestock, grain, tobacco and fish. Today, many of these relationships have deteriorated and strained because access to grazing areas and migration routes are no longer being negotiated, the use of guns to force access to grazing areas, cattle raiding, or farm crops being eaten and trampled by livestock with no compensation paid to farmers. Maybe the increased number of markets, which make commodities more readily available, has made it less necessary to maintain relations between the different communities?

¹³ Own production includes crops livestock, hunting, gathering and fishing

Local disputes over agricultural land

There are plenty of disputes over agricultural land at the local level. This is mainly as a result of lack of boundary demarcation. In Labonne, Magwi and Lopit communities in Eastern Equatoria, members were very keen to demarcate their boundaries as they felt it would reduce conflict. In one instance where there was conflict between Lohutok and the Kingdom of Iboni over cultivation land, the government intervened and took a stretch of land between the two groups to separate them.

There are a number of causes of disputes: when one community gradually encroaches on another's territory; between communities who settled in an area during the war and do not want to return to their home areas; where boundaries established during colonial times do not match where the community believes their original boundary should be. Sometimes a dispute is caused by political elites having a personal agenda. These disputes all lead to questions about who owns the land, whose authority do the people come under, who do communities pay contributions to, and what rights do they have. It is mainly the customary authorities and local administration that handle the disputes, but the process is lengthy and the cases are increasing in number.

In Southern Sudan, the development goals of the Ministry of Agriculture and Forestry (MAF) are to provide for the home market food needs of its growing population, to reduce poverty and to start meeting the growing export demands which would increase revenue to the country by 2011. Ironically the same drive was behind the highly controversial mechanized farming boom in Northern Sudan in the 1950s, which was one of the root causes of the war. The Ministry of Agriculture is taking a two pronged approach to achieve these goals: the first is to encourage the improvement of small-scale household production farming practices; the second is to promote large-scale mechanized farming.

Small-scale household production

The main strategy for the improvement of household production is through the training and deployment of extension workers. For the moment this is not really happening due to lack of funds, capacity and logistical constraints the GoSS faces. NGOs and other development organizations are carrying out extensive agricultural training programmes, but anything of this nature takes a great deal of time to implement and to achieve an impact.

Currently, most of the agricultural support is based on seeds and tools distributions and not on the enhancement of production techniques to maximize production from small farms, while maintaining the quality of the soil, protecting the environment, and reducing the need for shifting agriculture; putting pressure on land space and other land use needs such as grazing and harvesting grass for thatching).

There is very little attention placed by either the Government or NGOs on the value of indigenous plants, which have been used by communities for generations. There is more focus on introducing new varieties, which may in some cases not only be nutritionally inferior, but also not compatible with the environment in which they are planted, and more susceptible to pest damage¹⁴.

Often communities are misled into believing that their traditional vegetables are inferior and encouraged to weed them out, giving preference to exotic varieties. Many NGO workers are not willing to eat local vegetables or even to taste them. This could result in the loss of indigenous

¹⁴ Gullick. C. Blessing or Burden. Exploring the importance of indigenous food plants in Northern Bahr El Ghazal. MSc. Thesis 1997.

knowledge and an important economic opportunity for farmers, as well as reducing their dietary diversity.¹⁵

Semi-mechanized production

Expansion of cultivation is being encouraged to meet the food needs of every household, but some messages are not being responsibly communicated. Expansion is being encouraged horizontally (i.e. the cultivation of larger land areas) without addressing the potential of producing more from the existing land areas under cultivation.

An example can be found in Magwi County, where communities are being encouraged to prepare land for tractor cultivation by the Ministry of Agriculture and an international organization. Farmers are clearing the land close to their home areas in the forest. The destruction of trees, by setting fire to their trunks, is having a huge impact on large areas of forest. A concerning level of deforestation is seen along the road (see forestry section). The problem is widely known, and yet neither the relevant ministries nor development agencies is taking the urgent action needed to work with the communities concerned to prevent further damage.

It is the responsibility of MAF to promote sustainable agriculture to enhance the production of a large variety of crops that are adapted to the environment, including both ones that have been traditionally grown along with new varieties. Destroying important forest cover to grow sorghum or maize, which can be grown effectively in other areas, is an extreme threat to the environment, particularly the watershed, and will have far reaching implications.

Large-scale mechanized farming

To follow the Government's agenda to introduce large-scale mechanized farming, all the states are soliciting the help of development agencies and international investors to develop the industry in their areas.

There are lessons to be learnt here from Sudan's mechanized farming experiences in the north starting in the sixties¹⁶. The process was supposed to allow communities to become self sufficient, surplus producers. This failed, with the majority of farmers going into debt and losing their land. Elite absentee landlords took over most of the vacated land and employed cheap migrant labor. The entrepreneurs' goals were for quick profits. Their approach was to ignore the environmental protection regulations on the government-demarcated schemes, and on undemarcated areas there was no accountability anyway.

Millions of feddans were stripped of all vegetation. It was estimated that in Southern Kordofan, over one hundred million trees were cleared for mechanized farms (UNU. 1985). In Blue Nile 2.5 million hectares were allocated to 21 companies financed by Saudi Arabia and the Gulf States. The land was meant to be 25% fallow at any one time, but it was mono-cropped until the soil was exhausted and then abandoned, leaving desert-like conditions. The negative impact the mechanized farms had on the livelihood of pastoralists was extensive. Communities were unable to farm, graze their animals or utilize other natural products in the demarcated areas. Nomadic pastoralists in particular were no longer able to access crucial migration corridors, and would have to divert to other routes often adding days to their journey taking them through community farmlands on the periphery of the commercial farmland.

¹⁵ In more developed countries such as Kenya, where there was a movement to promote indigenous food plants, it is now commonplace to see indigenous vegetables in supermarkets, even in Nairobi supermarkets, alongside exotic ones. This has both increased income for local farmers, and provided the consumer with more varieties of vegetables to choose from.

¹⁶ Davis H. Development programmes in non-irrigated rainland areas. The agriculture of the Sudan Ed. Craig. G.M. 1991

This caused conflict with the local farmers as thousands of animals would pass through the area annually often damaging crops. Fighting broke out regularly between the two groups and as it does today as farmers try to protect their fields and pastoralist continue to move through the land, having no choice in the search for grazing and water for their livestock. (See Annexes 7 & 8 to compare demarcated land with the traditional livestock migration patterns). After five failed attempts at establishing pilot projects to rotate cattle in paddocks, the conclusion was that livestock numbers would have to be reduced dramatically.¹⁷ For the investors, the cost of the land was so cheap it was easy to just move on to the next plot, instead of spending money on maintenance. There was gross mismanagement, where huge areas of crops were left rotting in the fields because ploughing was easy but the labor needed for harvesting was not factored in.

The out of control demand for land was partly made possible by the Unregistered Lands Act, which took the land out of the hands of the people. It stated that all unregistered land belonged to the government, which was almost all land. This was a major catalyst for war, as the people of Blue Nile and Nuba Mountains rebelled against the government to reclaim their land. Thousands of feddans of land demarcated for investors became inaccessible for farming for the duration of the war due to insecurity.

The mechanized farms proposed in the south will be on community land. In Jonglei State alone, there are reports that over a million feddans have already been allocated. International investors from Serbia, Holland, Libya, UAE, U.S.A., and Egypt were cited. In some cases it is rumored that investors are going to bring their own work force rather than employing Sudanese.

At the County, Payam and Boma level there was often little knowledge of any agricultural development plans. There has been no involvement of the community so far in most locations in negotiations that will impact on the livelihoods of thousands of people, wildlife and the environment. Environmental impact assessments are crucial to look at whether the proposed activity is the best use of the land, and if it will have any negative long-term impacts, as now witnessed in Northern Sudan. There may be other more beneficial land use, where a variety of activities can take place on the same piece of land, which are more sustainable and less damaging to the environment. For example, properly managed small-scale modernized farming¹⁸, the harvesting of *Acacia* gum, honey collection and small-scale livestock grazing are all low impact complementary activities and could have more direct benefits to the communities. The intensification of the production of alternative commodities such as gum and honey could also become important future exports.

In Nyrol County, we were told by the County Commissioner that at least three schemes are being proposed with the objective of eradicating the hunger gap by providing cheaper food. Two will be rain fed, the third irrigated and fenced for vegetable production. All schemes will be located near a river. The County Commissioner, recognizing that these are important grazing and watering areas for livestock and wildlife, is adamant that the Jonglei State office does an environmental impact assessment (EIA) before demarcation takes place, to advise on the best way to proceed. The schemes are to be locally managed by the Nyrol Farmers Association. Some plots will be let to traders and others to local farmers. Other proposed rural development activities would do well to follow this example. Carefully planned and managed mechanized schemes can be effective, but the focus needs to be providing for local needs primarily and for export only after that. Contrary to popular belief, there is no direct correlation between the size of farm and the size of yield. A farmer can get the same amount or more of sorghum and in addition produce from subsidiary crops inter cropped with between the sorghum such as beans

¹⁷ Davis H. Development programmes in non-irrigated rainland areas. The agriculture of the Sudan Ed. Craig. G.M. 1991

¹⁸ Saeed M. Economic effects of agricultural mechanization in rural Sudan: the case of Habila, Southern Kordofan. Problems of savannah Development. Ed.G. Haaland. Social Anthropology No. 19. 1982

and sesame from a well managed traditional mixed crop farm, as from an equivalent feddan of mechanized farm.

Another undesirable impact of mechanized farming in the north over the past twenty years is the development of shantytowns, which are largely inhabited by seasonal farm workers, middlemen and traders. Limited, if any, services were provided to these settlements, so they were rubbish-strewn, decrepit and unsanitary places. Wages for farm labor were low and food bought from the local kiosks were expensive. Once accommodation was paid for, the little profit gained was unlikely to be spent on improving living conditions. Since the laborers were part of a migrant work force, they had no attachment to the area and little interest in maintaining or protecting it. Even the customarily preserved shade trees were cut for fuel and there was a higher incidence of crime. These factors need to be taken into consideration when planning the mechanized farming developments, as they have a significant impact on population movements.

Forestry

Southern Sudan has a range of forest types, from savannah to tropical. These provide a large variety of resources used by communities, which are often more heavily exploited in time of stress. These products include: construction materials, timber, fiber, fuel, fruits, yams, insects, mushrooms, gum, honey etc. In addition, the forests are an important habitat for wildlife, they are watersheds for feeding streams and rivers, the trees protect from soil erosion and cool land temperatures. There are many threats to forests, such as uncontrolled timber extraction, mineral and oil extraction, charcoal production, brick making, man-made and natural fires, slash and burn agricultural practices, mechanized farming and climate change.

During the war, Southern Sudan's forests had to some extent regenerated due to the abandonment of farmland and grazing areas and the halt of commercial forestry. On a visit to Panyagor in 1996, people returning to the area were amazed at the number of trees, which had sprung up in what was previously an over-grazed, barren landscape.¹⁹ The return of thousands of IDPs and refugees since the signing of the CPA, however, is already taking a toll on forest resources, as trees are cleared for farms, settlements, construction and fuel. Recent satellite imagery from the Imatong Mountain ranges, for instance, shows that valley bottoms are being extensively cleared for farming (WCS)²⁰. This is an important watershed, so the implications are extensive to areas well beyond the mountains.

In 2006, the Ministry of Agriculture and Forestry put an end to the forestry concessions, which had been operating during the war extracting hard woods. They also initiated a programme to reform the whole management system and the regulation of the timber trade. Currently, apart from the vast community forests, there are 86 gazetted forests (FNC 1999) covering approximately 640,211 hectares. Though the Forestry Act is still not passed, in *lieu* the now endorsed Forestry Policy 2006 makes the following assumptions:

- (i) *GoSS will have central forest reserves which will be protected and managed for the benefit of all people of Southern Sudan,*
- (ii) *Local communities and state administrations will own other forest lands but will manage and protect the forests on their land under technical guidance from MAF,*
- (iii) *Individuals and companies will be able to purchase and own forest land. This policy anticipates congruent outcomes from the on-going land reform process.*

Particularly important to the community is Policy statement 3:

¹⁹ This is just one example, but for confirmation on a broader scale refer to the ETOA 2007 section on forestry which gives empirical evidence of this between 1982 and 1999. Southern Sudan Environmental threats and opportunities assessment. Biodiversity and tropical forest assessment. IRG. USAID 2007

²⁰ Personal communication Falk Grossmann. Wildlife Conservation Society

'GoSS and State Governments will enter into collaborative partnerships with rural communities for sustainable management of forests, in ways which also ensure fair sharing of benefits.'

This paves the way for the inclusion of the community in governance of forest resources and equity of benefits, i.e. the potential to establish systems of management, which should reduce the incidence of conflict over forest resources.

State and County Forestry

Implementing the policy document is more complex. In the gazetted Central Forest Reserve areas and the Provincial Forest Reserve areas, there are both plantations and natural forest. Some of these forests are controlled directly by GOSS and some by the Forestry Department in each state/county. What is not clear is which forests come under which level of administration, or who is answerable to whom. It seems that there is very little communication between Juba, state and county offices. In the state level offices personnel felt they are not kept properly up to date with information and the decisions that were being made.

At the State and County level, there is confusion about what the appropriate regulations are and who is responsible for enforcing them. Some employees were unaware of the Forestry Policy document. It was claimed that there was no standardized agreement on sharing of revenue from forestry between Government, investors and the community. There was also an understanding by some that unreserved natural forest was to be controlled by the Government. This would be extremely hard to implement given the size of the forested area in the south and the undeniable logistical constraints faced by such a centralized approach, and it would also be contrary to what is stated in the Forestry Policy. On a practical level it was claimed that forest guards in the gazetted Central Forest Reserve areas and the Provincial Forest Reserve areas are paid by one office but managed or answerable to another. They were not adequately trained, and there was no clarity regarding who was responsible for building their capacity.

In relation to the community, with regard to their involvement in Central Forest Reserves, it is stated under Section 2.3.2 Responsibility and Ownership of the Forestry Policy Paper:

'There will be clear provisions in the Forest Act to continue providing regulated access and livelihood support to forest adjacent communities.'

This at least is fairly straightforward and does not stipulate community exclusion so as long as the communities are duly consulted on types of access and support, they are more likely to and will have more incentive to respect the forest reserves since they will also benefit from them.

Public Plantations

A priority for MAF is:

'Engaging the private sector in the management and utilization of public plantations as appropriate investment will be encouraged in the central and provincial reserves and community lands'.²¹

To do this, the government plans to introduce a system of land concessions for plantation development, based on long-term (99 years and beyond) land lease agreements to be negotiated at national, state and county levels. A priority for investors is to establish clear ownership of land, so having communities demarcate their land areas would be beneficial in this respect. Again, communities need to be fully consulted and involved in negotiations and plans regarding investment in their land. Activities which can include the communities, such as jobs as forestry

²¹ Forestry Policy 2.8.6 The role of the private sector

guards, nursery attendants or managers, and a community share in the revenue would make it a mutually beneficial arrangement, both for the investor, the community and the government.

Community Forestry

At the payam and boma level, the role of community and the role of government in the community forest administration needs clarification. In the State organizational framework under the Director of Community Forestry, there are three assistant directors for agro-forestry, community wood lots and urban tree growing. Yet there is none for community forestry. Such a post would seem critical, given that the document states:

'Support will be provided for capacity building for communities to manage their own forests. It is anticipated that NGOs and CBOs will play important roles in this regard. The Ministry of Cooperatives and Rural Development (MCRD) will have a major role in promoting and supporting community participation in forest management'.

Regulation of communities' use of community forestry is unclear. As with the Land Law, parallel legal systems are in force, the customary and the statutory law. The institutional and logistical capacity of local administration is weak, so implementation of the latter regulatory system is seriously compromised.

For instance, community members may harvest products for household use. Many also sell forest products on a small-scale, seasonal or ad hoc basis and are taxed locally. If, however, an individual or group want to sell products on a more commercial level in urban areas, such as charcoal or bamboo they will then need a permit from the County Forestry office. If people want to cut trees, they also need a permit. In both instances the individual or group are supposed to be guided by a forestry officer, who advises them on where they can carry out the activity and ensures they keep to the agreement stipulated in the permit. In reality the constraints to getting permits discourage people from applying for them, poor transport and road conditions, the lack of forms, and untrained and unavailable staff. Experience shows the procedure can be lengthy, so people rather risk being fined at a checkpoint than going through the process. Sometimes this results in small bribes being paid, particularly by charcoal traders. In addition the availability of forestry staff to monitor the harvesting of the resources is hampered by lack of transport and poor communication.

Further inconsistencies with regard to roles and responsibilities of the civil and customary administrations are highlighted in the following examples: In Magwi County, members from one boma encroached into the territory of the adjacent boma and started cutting trees with a chainsaw. The customary landowner²² handled the case and felt compensation should be paid directly to his community. In a similar case nearby, the government handled the case, took the timber and allocated one tree to the community who claimed the land where the trees were poached.

Wealth sharing

The whole wealth sharing issue is confusing to everyone, it seems. What compensation? To whom? For what? People need to have this clearly explained to them. There is tension building between communities and different levels of administration regarding this. If a community has land occupied by a gazetted reserve, how will they be compensated for contributing to their land? Likewise, for other types of forest reserves such as concession areas: where does the percentage

²² In some communities (e.g. Acholi, Latouka, and Lopit), there is a traditional class structure with a ruling class (the royal family, spiritual leaders, landowners, rainmakers etc). In these cases, all the land belonging to the community comes under a small number of landowners, who can be men or women. They are responsible for carrying out blessings and receive contributions from the residents of the areas under their authority.

of revenue owed to the community go? There were varying opinions on this. For example at the payam level, one person told us that it should go to the payam to pay salaries for administration. At boma level, it was suggested it go towards the boma administration budget. At community level, it was to be put towards buying a community truck. Somehow these different needs will have to be reconciled. It is only fair that the community who owns the forest should see some returns from the income gained by the company using it.

A comment made at the State level was that:

'Communities think they are entitled to 2% of all national resources but they are not. The 2% only applies to oil and they have no entitlement to revenue from other resources'.

At the community level, people did constantly refer to the 2% figure as their anticipated share, not just in reference to forestry but to other resources as well. However, the community does have the right to negotiate what they think is appropriate for resources being extracted from their land area. If put into perspective, 2% from the oil revenue will be a much higher figure than 2% accrued from the forestry revenue. If communities are to be encouraged to protect and manage their forests, then they will need to see probably more than 2% returns.

Deforestation

Thousands of households resettling along the road between Obbo and Labone in Magwi County and other areas are clearing forest to cultivate, which involves the removal of large forest trees. Clear felling of this lowland forest is occurring on an unprecedented scale and though it is acknowledged to be happening by government personnel at the state, county and payam level, nothing is being done to prevent or control it. In cases such as this, where this type of deforestation can have major implications, the departments involved with water, agriculture and forestry need to work together to solve the problem. The acceleration of deforestation is in response to farmers being told that, if they clear their land of trees, the Department of Agriculture will bring tractors to prepare the land for sorghum cultivation.

Southern Sudan has no shortage of land suitable for cultivating sorghum. It does, however, have a limited area of forest, which is the water catchment that feeds large areas of distant land. The MAF needs to identify appropriate land for sorghum production and to search for other crops, which can thrive in forest conditions. The challenge ahead is to find crops to suit the environment, not to change an important ecosystem to suit the crop. Areas well beyond the immediate vicinity will feel the environmental impact of the deforestation activities. The change in microclimate will impact the amount of water feeding the rivers and streams. Upstream erosion will also silt up these watercourses.

Charcoal



Many households are making charcoal from the trees they are clearing. Sacks of charcoal line the roads to be picked up by passing traders. In some areas, soldiers with little else to do are producing charcoal illegally. The local communities fear challenging them and this is a source of tension. Some community leaders denied the army was making charcoal, but there was clear evidence of it. As there is so much charcoal available

from land clearance, a sack sells locally in Magwi for as little as 10 SDG. When it reaches Juba, it sells for 60 SDG. The local producers realize comparatively little money for their work. The trader is taxed in the main markets and has to pay contributions at checkpoints, but urban demand is high and it is worth their while. The demand for charcoal from the urban areas is unlikely to diminish and with the shortage of jobs available it is an important source of revenue for the youth.

Fire

A great risk to all types of forest area is fire. Annually thousands of feddans are burnt, destroying both fauna and flora. Though there are wild fires, the majority is started deliberately for hunting, firebreaks, farm clearing, improving grazing, security and honey extraction. The occasional fire can be good because it reduces the vegetation build up. This means that when there is a fire in future, it burns with less intensity and does less damage. If, however, the same area is burnt for a number of years in a row, it changes the ecology of the area, the types of plants that grow there and the animals that can live there. Burning also results in scarcity of other products such as wild grass grains, grass for thatching, resins with economic value, and fruit and nuts from trees. Some of these products may be important sources of household food and income. In extreme cases, such as a failed harvest, people's survival can depend on the availability of these wild food plants. The common use of fire to harvest honey is seriously detrimental and unsustainable as it kills the bees, which are essential for pollinating crops and other plants.

Forest products



As mentioned previously, communities benefit from the use and sale of a large range of forest products. The indiscriminate use of these products can lead to depletion of the resource base and negatively impact the environment. Forests are important habitat for wildlife including animals, reptiles, birds and insects. Some of the forests are expected to be made into wildlife-protected areas in the future. At the moment the hunting of animals is illegal for a five year period, though this is difficult to enforce. Other activities, which are difficult to control, are the harvesting of bamboo, poles and the increasing production of charcoal to meet urban demands. The main problem is that no one whether the community or government is sure of the extent of neither the resource base nor the area they have control over.

In order to better manage resources, the community needs to be involved in their micro-management and information on the negative impact of over exploitation needs to be made available to them. It would be too costly and impractical for the management to be done at a higher level, and since the community moves amongst the resources on a daily basis they are best placed to monitor the resources for any changes. For community-based natural resource management to be effective the community needs to have a clear understanding of the importance of management and the benefits they will receive from it. In the Forest Policy Section 2.8.5, on the role of communities, it states:

'One of the strategies to enhance community participation and benefit will include development of community-based cottage industries for processing forest products such as hand-driven wood turneries (makaratta), pit-sawing, production of honey, valuable gums and oils, handicrafts, furniture, etc. Another strategy will be to promote public- private sector- community partnership in development and utilization of forest resources.'

It also states in Section 2.5 on the sale of forest products and services:

'Regulation of product prices licenses and concessions, rates and royalties will be through subsidiary legislation of the Forest Act.'

There are a number of undeveloped products, which have the potential to enhance local livelihoods, many of which have an international market. New discoveries particularly in the field of medicinal properties of some wild fruits are occurring regularly. The importance of auspicious management of resources, so they are not destroyed by mismanagement before their potential has been fully realized, is critical. (See Annex 9)

Wildlife

Sudan's important wildlife numbers are better than expected after the war. This is surprising, as with the proliferation of weapons wildlife became a major source of food and revenue, both for the army and civilians throughout the year. Though hunting is now illegal, the large quantity of guns retained by the community from the war makes it hard to control. Animals can now only be found far from human settlement areas in the more marginal lands.

Hunting

Traditionally hunting used to be a dry season activity. It is easier to hunt during this time as there are fewer watering holes, so the animals tend to congregate around them. There is also less vegetation so it is easier to find the game. The drier vegetation lends itself to a common hunting practice, which involves using fire to drive the animals in a certain direction where hunters set up ropes to trip their prey and set on them with clubs and spears; these days they more likely to be shot. In addition, in the dry season there are fewer demands on people as the harvest is in, allowing more time for hunting activities. It is the responsibility of the spiritual leaders to tell people when they should cultivate, hunt, fish and carry out the necessary rituals. If these rituals have not been carried out it is believed misfortune will befall the community. If someone is caught hunting at the wrong time they will be taken to the spiritual leader, rituals will have to be performed and the kill will be confiscated. One of the benefits of people not being customarily allowed to hunt in the rainy season is that it coincides with the animals' breeding cycle.

The use of automatic weapons has made hunting much easier all year round, but has also had the effect of driving the animals away and disrupting wildlife patterns. Most of the animals, which had territories close to human settlements, will have been killed or have moved away, whilst migratory animals have changed their routes to avoid areas of human activity. There is little understanding at the village level of what benefits there would be to protecting wildlife, although one woman did say that 'the animals had saved them during the war and it was their turn to save them now'. The majority were disappointed that the animals were not around to be hunted any more. Others were concerned that the wildlife was competing with their livestock for water and grazing and may introduce diseases; they also say they encouraged predators such as lions.

Wildlife Service

The message that hunting is illegal is spreading and game meat is no longer found in the markets, though it can still be found being sold along the roads. Employees from the wildlife service



make arrests when they find poachers, and confiscate the kill. The poacher then has to pay a fine to the government. Wildlife rangers claim they are doing their best to discourage hunting but it is difficult and at times a dangerous task. The lack of effective disarmament of the

community means that they could be putting their lives at risk. Most rangers are ex-combatants and have therefore had military training. They know how to track and apprehend poachers, but they lacked the communication skills needed to explain why wildlife needs protection and how a potential tourism industry based around wildlife viewing may benefit the community and the economy.

People are angry, claiming that their families are starving; that wildlife provided the household with food; that meat is sold fresh or dried along with the skins for money needed by the household, and that the income is important to buy food and other items from the market. Whilst these concerns have to be taken seriously, it is unlikely that people are starving as a result of the hunting ban, given that they have other food sources and income. Also the majority of hunters are the youth who tend to be providing for their own needs rather than that of a family. Though claims may hence be exaggerated, they do put pressure on the rangers, who may require more mediation tools to explain the importance of wildlife. Explaining the benefits of tourism can seem very hypothetical under these circumstances.

Rangers do believe they are having an impact and say they are finding fewer snares. Most of the rangers were deployed around the town areas, so poachers with guns will stay away as their gunshots will be heard. In the more distant rural areas hunting can go unchecked. Lack of logistical support and equipment to deploy rangers into the rural areas is one limitation; we were told, along with not having enough personnel to cover the large areas they need to. Some rangers move with the livestock keepers to monitor the migration and stop poaching activities, which is working well according to reports. Alarmingly there was some we were also told that the wildlife forces were to some extent involved in hunting to supplement poor salaries. A constraint reported by women rangers was they had to deal with complicated cultural norms of some ethnic groups. For example, Murle women traditionally have very little power outside their immediate household. Murle men therefore find it challenging to be questioned by female rangers. Women rangers are usually unarmed, which they believe puts them in danger.

Protected areas and Tourism

There are currently 11 game reserves (2 proposed) and 5 national parks²³ (one proposed), which cover around 15.6 million hectares. (See annex10) This does not include forest reserves and an additional 4 nature conservation areas, which have been proposed. This is a significant amount of land which has various regulatory systems attached which have been hard to enforce. Pressure from national and international environmental organizations, conservationists, hunters etc will want to increase the areas under conservation for a variety of different reasons. The importance of co-conservation, where interlocking strategies link conservation to alternative land use

²³ Southern Sudan Environmental threats and opportunities Assessment. Biodiversity and tropical Forest assessment. IRG. USAID 2007

activities will be crucial. In the past the governing systems have been established without community participation. It is now recognized by most that communities need to contribute to and advise these management systems. This point is clearly made by the Natural Resource Management Group (which is composed of representatives from seven different ministries and the Land Commission) in its draft strategic plan 2009-2011, which stresses the importance of best practice and community-based natural resource management. Section 2 Goal (a):

'Promote community participation and partnership in sustainable NRM in Southern Sudan²⁴.'

Communities naturally have a wealth of information regarding the resources they are familiar with, but they don't necessarily have the understanding or knowledge to address issues such as sustainability and management. A community may be given more control over wildlife in their area but it doesn't mean that the management will be more sustainable. Government and other organizations need to ensure that communities be properly informed, and made aware of all the issues surrounding wildlife and habitat conservation, to lessen the danger of the resource being mismanaged. This applies to any natural resources under the governance of communities.

A good example of why this is important is the current situation of Boma National Park, where an investor has been awarded a significant area for tourism purposes by the GOSS. There has been almost no community dialogue regarding the agreement. This lack of transparency surrounding the agreement has led to a host of rumors, which, whether or not based on truth, are starting to create concern and suspicion and even tension amongst, and between communities. There is fear that not only will the project have a negative impact on people's livelihoods, but that it will foster multiple levels of conflict.

There is a cadre of young people who returned from East Africa during the war, that have had exposure to the wildlife tourism industry and its' potential. Some of them have hopes to develop wildlife tourism in their home areas. They also saw having wildlife parks as a way to manage the animals, which were a danger to people. For example, there were concerns raised in Ayod County about farms being destroyed by elephants and the peoples' need to be able to protect their crops. There were also complaints about hippopotamus and crocodiles attacking boats. One group of youth said:

'If we cannot kill the animals then there should be a park established in Southern Ayod County for the animals where they would be safe and not disturb people. In addition, tourists and school children could visit. It could be run by the community if they were properly trained.'

Recently an elephant had been killed in the area, and the people responsible had been arrested, but later they were released because people from other villages maintained the elephant had been menacing the whole area. This demonstrates that for wildlife to be protected, the community must see tangible benefits otherwise they are considered vermin.

Conflicting land use areas

Most of the protected areas cover land, which can be used for other activities such as farming and livestock grazing. Likewise activities such as mechanized farming, and the oil and mineral extractive industries, will affect wildlife habitat and the ecology in non-protected areas. One of the reasons the SPLA put a stop to the construction of the Jonglei Canal during the war was because the environmental impact would have serious repercussions on thousands of livelihoods. It had already had an impact on wildlife migration routes²⁵. Once the planned road from Bor to Malakal, which runs alongside the canal, is constructed, it will also cut across migration routes having the same negative impact. There is need to ensure every precaution is taken to do the least

²⁴ Natural Resource Working Group Draft Strategic Plan 2009-2011

²⁵ There are on going discussions whether or not the Jonglei Canal project may still be revitalized.

damage to fauna and flora, which makes environmental impact assessments a fundamental part of any similar infrastructure programme.

A further case in point is that the Ministry of Agriculture wants to establish the Mongalla sugar scheme, originally proposed in the 1970s in the Mongalla Game Reserve. This area is of great importance as it is part of the northern migratory corridor for wildlife. One of the key features is that the banks of the river on the western side are sloped, enabling animals to water there. On the eastern side they are too steep. Concerns were raised by the Department of Wildlife, and the Ministry of Agriculture has agreed that an EIA is to be done. But there is concern that even EIAs can be biased as the group that has interests in developing the land area funds them. In another case of a proposed irrigated scheme in Northern Jonglei State, which is also an important watering area for both game and livestock, there is a commitment made by the County Commissioner to leave accessible land for this purpose.

Oil

According to the Step Oil Scoping Statement,²⁶ Sudan has 1.1 million square km. under license and is the sixth largest producer in Africa. Oil is now the backbone of Southern Sudan's economy; theoretically it receives 50% of the share of oil revenues. Approximately 60% of the oil fields are in Southern Sudan with production rising. The future stability of the country will depend on the outcome of the referendum that will be influenced by how the ownership and management of the oil reserves is addressed. As with a host of other countries Sudan's oil industry is set against a historical backdrop of environmental damage and human conflict. Stories of land and water pollution, loss of natural resources, flooding caused by poor road construction, livestock deaths, conflicting land use requirements and inappropriate community development initiatives abound, along with tragic deaths of villagers and oil workers, kidnappings, relentless community harassment, displacement and destruction of properties of both communities and investors. Economic success for some has come at the expense of human life, livelihood and the environment.

Moving on from the contentious Abyei boundary agreement, which relegated various oil fields to the north or south, the future of the oil industry is going to face serious challenges with the upcoming referendum. Here China, Sudan's largest foreign investor and producer with considerable influence in Khartoum, could play a positive role in ensuring secession passes smoothly. Given that most of the oil is in the south, it is to the Chinese advantage to build ties with Juba, and to push for a peaceful negotiated settlement so the industry can continue. If the vote for independence is not accepted by Khartoum, then full-scale armed conflict will most likely ensue. The first option would allow development to continue, the second could destabilize the whole region²⁷. Ironically one of the key natural resources that caused so much conflict in the past (oil) could also be instrumental to achieving stability. Though this may provide stability for the north, the south and the international investors, it is unlikely to provide greater accountability and equity to the oil producing communities.

After the signing of the CPA people expected oil companies to flood in, but this did not happen. The main reason being investors are watching to see what happens with the referendum in 2011. To their credit, the GOSS have a declared policy to avoid displacing communities as a result of oil exploration and extraction. The challenge is enacting it. It is inevitable however those communities will be displaced and relocated, probably resulting in artificial scarcity of the land, on which they need to maintain their livelihoods. The agreements are being signed between the Ministry of Mining and Energy and the various oil companies. (See Annex 11) Some concession areas were agreed and even demarcated before the war. The State is also signatory to the agreement, but at this level negotiations ends. The State informs the Commissioner of the

²⁶ Scoping Statement for a Programmatic Environmental. Assessment of oil exploration and production activities in Southern Sudan. USAID 2007

²⁷ Niel Ford. Sudanese tinderbox threatens oil industry. Energy Economist. Issue 320. June 2008

respective county where the exploration is to take place, which seems to be the point at which the information flow ceases.

At the county level, very few of the people interviewed had any precise knowledge of oil exploration plans or the physical area to be covered, as there was no involvement in the decision making. The need to consult and get feedback from the community about the proposed activity for the most part was not understood as being instrumental in the planning process. There was more of an emphasis on telling the community what was going to happen, and it was felt that the community could not say no to the oil development because they would benefit from development and jobs. There would be compensation if the people had to move from the land and the companies would provide roads, schools, hospitals, etc. There was some mention of the need to do assessments to look at environmental issues, but this we were told would be handled at the State level.

Few people at the county level had knowledge of the environmental impact the oil industry can have. One commissioner made a comment about wanting to be better informed about the potential hazards and questioned how possible it would be in reality to get an oil company to fill its contractual obligations. For example, the clean up or rehabilitate of the area after the company is leaving. Also, there is a question on who will be the watchdog to ensure the legally required Environmental Impact Assessment is done, and that its recommendations are carried out to the appropriate standards to ensure sound environmental practice. This is of high importance regarding undertakings such as the construction of infrastructure, roads, seismic lines, all types of waste disposal including contaminated drilling mud and water, oil spills etc. It is unlikely that there is sufficient local monitoring capacity.

There is a trend that investors are expected to provide social amenities to the community, such as schools or clinics. For the multinational companies it is good for their public image to be seen to be helping the community. Unfortunately, due to lack of consultation, often the amenities provided are not what are actually needed by the community as can be seen in the case of Melut²⁸. Amenities are supposed to be provided by the government but as Alao²⁹ points out with this regard:

'Ordinarily, the process of asking these companies to invest in providing social amenities would not have been necessary if all structures had been in place to ensure that what was due to the country in the form of royalties and other taxes was obtained and that the companies did not violate the basic environmental concerns of the population in the process of extracting natural resources.'

From the community perspective, oil companies are welcome since they are perceived to bring development and jobs. None of the individuals or groups interviewed had been consulted about the proposed sites, but they were willing to relocate as they expect to be compensated. Generally people are pretty passive, saying their community leaders will make the right decisions for them. On this point, community leaders such as chiefs are not being proactive in trying to find out about oil development plans and the implications. Understandably it is hard to imagine something that is not in your experience. The community leaders have a duty to find out more about proposed developments, just as much as the government has a duty to inform them. Communities know there are potential benefits, but they don't see potential problems such as the impact on: access to grazing, agricultural land, settlement areas, livestock routes, wildlife, water resources, fishing and sacred areas.

It is hard for the community to be objective when they are not fully aware of the facts. The negligence in sharing information in this respect goes right through the governance chain (i.e. the gatekeepers of knowledge sharing). As one acting Commissioner said on this issue 'I am

²⁸ A community was provided a hospital with no means of furnishing or running it, also a mosque was built in an Animist Christian area.

²⁹ Alao, A. Natural Resources and Conflict in Africa. The tragedy of Endowment 2007

the government. I decide what people need to know'. The concern here is government is not upholding the laws with regards community consultation and rights and its behavior is unconstitutional. The Land Act Section 63(3) states:

'Concerned Ministries in the Government of Southern Sudan and the state and the investment Authority shall consult with the community concerned on any decision related to the land that the investor intends to acquire and the view of the Community shall duly be taken into consideration.'

One group interviewed recounted this experience:

'In Jonglei State, an oil company moved in to carry out oil exploration. Though it was claimed by respondents that the community was not involved in discussions, they were told they would get a health facility among other things, with a surgery and antenatal wing. For the first year, basic health care was provided for free. Though a draw back was the health workers at the facility did not speak English or Arabic, so communication was almost impossible. No surgery or antenatal clinic materialized. In the second year workers at the health facility were demanding beer for health services. The community had expectations of jobs at the oil exploration site, but no one was employed. The company suddenly pulled out in April 2009, allegedly not having found oil in the three wells they drilled. No environmental impact assessment had been done. They had built camps, a 2 km airstrip, created artificial islands, dug dykes, put in drainage and dredged channels. The community claimed that cows had died from drinking contaminated water. The company made no effort to clean up the waste they left behind.'

Captured comments:

- There is no rain and that is why the oil company was not happy;
- We don't know how to complain about the problems, it is in the hands of God;
- How do we get compensation for the dead cows now the company has left?
- Will the area and water be safe for livestock and people in the future?
- Our Paramount Chief can't do anything to make them (oil company) do what they said they would;
- They (Oil Company) left because they have been away from home too long.
- The company hunted wildlife;
- Dynamite was used to kill fish;
- A woman said that they are now more aware from a bad experience and will be very careful with new organizations wanting to come to the area;
- We don't know how to deal with the problem, but 16 people died in an oil company boat accident, who is responsible?
- A woman said they lost children and husbands in the war in the fight for liberation. Community leaders need to be properly supported to do what is right. We don't know how to make sure a company or an NGO does what it says it will;
- Land belongs to the community but if the government wants it we cannot stop them.

Because people are not being properly informed and consulted at the initial stages of the planning, there is very real potential that the project doesn't meet local expectations. People will become increasingly aware that they have been kept in the dark about the facts and possible risks they are facing. The realization that they have a right to be consulted and informed both under statutory and customary law may make them start to look at their leaders with suspicion. They may suspect them of having personal agendas, of being corrupt or personally gaining from the investment activity. This will fuel social stress, which may increase the likelihood of communities resorting to violence to have their voices heard in the future.

Solid Minerals

The mineral wealth of Sudan is in demand internationally. There are reports of large deposits of gold, copper, iron, uranium, cement, kaolin, diamonds and semi precious stones. Up until now,

mineral exploitation has only been on a low level with local communities extracting small amounts of iron and gold using local technology.

Artisanal mining

The villagers on whose land the gold is found are entitled to mine. The Toposa, Murle and Didinga young men mine shallow pits in groups during the rainy season. They tend to be people who don't have livestock and returnees. In these areas, women don't mine but porter buckets to the streams and water sources to wash away the mud. The gold found belongs to the men. It was claimed that there are minor conflicts between miners in the Murle areas mainly due to theft, but no reports in the Toposa areas. It is recognized that a mine is owned by whoever excavated it and is jealously guarded. Kenyan traders get licenses to buy gold from the county office, though there is also some smuggling. Mining is not taken seriously as a livelihood option by artisanal miners in Kapoeta or Pibor where most men were reported to spend their earnings on alcohol or occasionally use it as a means of restocking. One person referred to gold mining as more of a coping strategy. Gold mining in Magwi County is slightly different and is a more common activity for both men and women. Though the women interviewed said they sent the money they earned from selling gold on the family and the men spent it on other things such as alcohol.

The Ministry of Energy and Mining is now proposing to visit all states to look at regulating the artisanal mining sector. The ministry would like to assess the potential of the artisanal industry, the health and safety aspects and the environmental impact. In the future gold miners will have to get licenses and be more accountable for their activities. At the Juba level procedures have been drawn up to try to deal with some of the environmental protection issues but the problem is enforcing them and monitoring. The Ministry of Development Directorate already has responsibility for overseeing activities such as overseeing that pits are filled in after excavation has ended, safety of national workers, and supervision of site selection. Draft mining regulation policy is being worked on in Juba and should be soon available with the mining act.

Large-scale mining

At the moment, secondary gold, i.e. the gold deposited by rivers, is being mined on a small scale. Once it has been discovered where the primary gold deposits are, the Government will adopt a more scientific and industrial approach for large quantity extraction, which will involve heavy machinery for deeper excavation than current methods can achieve. International investment is already being encouraged to finance this. It is very possible the artisanal miners will lose access to the land that they mine now and would potentially mine in the future.

The GOSS also has plans for large-scale mining of cement and uranium. Concessions are already demarcated and being awarded to international companies for exploration. These plans are not clearly known at the county level, as the directives will be passed directly to the county offices of Ministry of Energy and Mining from the GoSS level in Juba and the county administrative office will not be involved or informed. In one government office we were told that:

'Prospecting and exploration licenses have been granted to companies since 2007 from the Juba office. Companies make reports back to Juba so at the county level they don't know locally what is going on. Investment details are all in the Juba office. Commissioners have to sign the agreements but they are not consulted. The company brings the license and starts. They don't need to consult the community. The company will be given security. The community should be told what is happening but they will have to agree they cannot say no to the development'

It is however the local governments' role to promote good governance as stated in: The Local Government Act Section 11 the Act of Rights and Citizenship (1):

'The rights and freedoms of individuals and groups within every local government territory shall be upheld, protected and promoted by all organs, agencies and persons of the Local Government Authority concerned.'

and Section 12. Objectives of local Gov. (3):

'Encourage the involvement of communities and community based organizations in local governance and promote dialogue among them on matters of local interest.'

Yet if the relevant local government authorities are not kept properly informed as to what the GoSS is planning for their constituencies it is hard for them to carry out their mandate, while it is likely that they will be the ones to be blamed if there are problems with investment activities in the future.

An example of the large-scale investment being planned is the cement mining around Kapoeta. Here a ridge of cement runs from Uganda to Jonglei through Kapoeta County. It is said that at least 10 mining licenses have been issued to companies including companies from China, Turkmenistan and Egypt. County office officials say that the community was to get 2% of the revenue. This figure is based on the Wealth Sharing Protocol for oil and does not apply to other commodities, though this didn't seem to be known by the county office. As with other resources, it is very likely that community representatives may not be in a position to understand the potential of the cement asset value, or how to get a fair deal for the minerals on their lands generally. So far the companies have not started working. This may be because they are waiting for the outcome of the referendum before investing in expensive infrastructure. So far responders claim that no information has been released at the community level regarding which areas will be mined.

Similar to the proposed oil investment, people have heard that if their areas are invested in, jobs will be created and they will be compensated if they have to move. What they are not informed about is what the real impact will be. For example, in the case of Boma National Park the usual conflict of interests exist with the park having large mineral deposits as well as wildlife. Thus, it is very likely there will be conflict over these interests in the future. Another example from other areas is that huge tracts of land will be fenced off for cement and gold mining (e.g. one concession area for gold mining was reported to be 500 hectares). This will preclude the access of any local users and their activities. This includes grazing, honey collection, grass cutting, wild fruits or grain harvesting, cultivating, migration routes, mining, fishing etc.

Investors are very weary of moving ahead without clear sole entitlement to the investment land area for the duration of their tenancy. Beyond this, people need to be informed of the possible hazards associated with the industry such as toxic waste, soil, water and air pollution. Gold mining particularly has a risk of mercury contaminating water supplies if it is not properly handled. The physical environment will be reshaped and impacted by the services to the extraction areas including access routes, construction etc. The changes will be more far reaching than the communities will be aware of. The other area of concern is what happens when the projects come to an end or don't find what they are looking for. What assurance is there for the community that any necessary rehabilitation is carried out? The Ayod oil exploration project is an example of how this not happening. Communities need to know the risks.

Why community isn't involved

There are numerous reasons why the community is still not involved in natural resource governance even though the foundations are set in legislation:

Local structures

Traditionally, most societies in Southern Sudan are hierarchically structured. This leaves limited opportunities for the free flow of information, and in turn lends itself to hegemony where 'the

ideas of the rulers are the ruling ideas'. If people are not used to questioning ideas and decisions or being asked for an opinion, they cease to contribute to decision making processes, which in turn leaves them less likely to be consulted in the future. Cultural practices, such as only including women in specific types of meetings because of traditional gender stereotyping, or that certain community members cannot speak publicly in front of others, are additional obstacles to a participatory approach to community-based natural resource governance.

Access

Accessing communities can be a challenge. Poor roads, lack of transport, spread out populations, and poor means of communication are obstacles even to the most committed government workers to carry out community consultation.

Information flows and gatekeepers

The information needs to flow back and forth through the governance chain. At every level of governance, people complained of not being informed of developments, and not being consulted, usually by the higher levels. Yet it turned out that those who were complaining were making little effort themselves to disseminate information to the lower levels, in some cases waiting for a directive from above to start the process. Information is power, and there are many gatekeepers who for various reasons control, block or manipulate information. Some reasons given on why information is not shared include:

- 'Some people do not understand the importance of passing information on'
- 'Some people do not think people will know what to do with the information',
- 'Some people will manipulate it for personal gain',
- 'Some people think it will confuse things, it is better people don't know',
- 'Some people think government knows what is best for the people',
- 'Some people think that people trust their leaders to make the right decisions'.

Because the laws and policies are relatively new, the mechanisms for dissemination are not in place and they have not been widely circulated in government offices or within the community. Some people believe that elites trying to maximize personal gain are preventing the establishment of accountably transparent consultative structures that can prevent graft. Either way, the information gap leaves room for a great deal of confusion in terms of roles and responsibilities of government and community who don't get the necessary information to make informed decisions or to ask informed questions about natural resource governance issues.

Exclusion

Certain individuals, groups or communities may be excluded from information fora, such as ethnic groups, youth, women and minority groups.

Approach and capacity of government officials

Often the approach to consultation is more along the lines of the community being told what is going to happen rather than holding a consultative discussion. Government personnel frequently lack the skills to create the right ambiance needed to facilitate meaningful community participation, so that people feel free to contribute to the dialogue. Often it is felt that if you speak to the chief you have achieved community consultation.

Time

Real community consultation takes time if it is to be inclusive and to get feedback, answer questions and clarify points of concern. Few people are prepared to take the time, and many don't see the need for it. Often the subject matter may be new, maybe something that some community members may not be used to discussing, or being asked for an opinion on. Real consultation may take a number of visits to the same community allowing time in between for people to discuss the issues. Ensuring that a small number of people don't dominate, the process requires diplomacy and skill. Many times traditional leaders, intellectuals, or a woman leader, will speak for their group without any prior discussion and there is taken to be consensus, which it may not be.

Investment pressure

The GoSS is under pressure and in a hurry to sign agreements to secure foreign investment. The GoSS needs to ascertain that in this process they are not omitting certain procedures that are in violation of the treaties and conventions they are signatory to (See Annex 8). There were many comments made about flouting the need for EIAs and also allowing investment companies tax exemption and other incentives. There were also comments about investors not paying attention to government regulations, and since the government with its limited capacities is not in a position to monitor the companies sufficiently, companies often get away with it.

On a more local level, not wanting to deter investors, the community consultation process is being bypassed along with EIAs, and the discussion with the other levels of government offices. There may be concern by individuals in higher-level government on the need to discuss issues on wealth sharing with communities, mainly because of the anticipated delay of the investment process. If this is the case, it is short sighted. The government should have the upper hand over the investors since control of resources is under the governance of Southern Sudan, but this is not always reality. So it is worth ensuring a fair process that follows procedures of best practice rather than facing the potential negative repercussions later.

Building on customary rights and their administration

According to the CPA, the Southern Sudan Interim Constitution and the new legislation, community consultation is not a choice but a legal requirement. This is not to say that the process isn't long and complicated, or that there is any guarantee that natural resources will be better managed or managed in a more sustainable way. However, it increases the options people have to make choices and decisions, which may contribute to this desired outcome.

If the community level continues to be excluded from governance, it is likely that conflict will increase at all levels. This will result in development and economic growth being stalled, government will have to focus on containing conflict, natural resources will be destroyed and the environment will likely deteriorate. There are two major potential causes of widespread conflict in the future in Southern Sudan: the first is the referendum in 2011, and the second is inequity of distribution of benefits from the investment activities. The likely targets in both cases will be investment activities, i.e. oil installation, mines, and mechanized farms, as they will be seen to be aiding or abetting the perpetrators of the grievance. The second cause of conflict could be averted if open transparent consultation is achieved with the community.

Local conflict is also likely to increase, as communities are not empowered to govern their resources, are lacking knowledge on legislation, and are confused about their entitlements and responsibilities by parallel legal systems. The common local grievances are currently based on boundary disputes between one community and another, or where members from one community are taking resources from another without consent and negotiation; disputes over grazing and water and the destruction of crops by livestock. A properly devolved and

decentralised governance mechanism gives room for the authority of customary systems and rights to settle disputes locally and provides legal support and guidance when needed.

Advantages of recognising and building upon customary systems of rights and their administration include (Alden Wily 2005)³⁰

1. *The fact that they do exist, with consequent benefits gained by building upon what exists rather than creating new regimes – low costs, high local 'ownership' of process and principles, etc*
2. *The fact that these ways of organising and regulating land rights commands widespread respect and adherence among the rural majority*
3. *The fact that customary norms, such as in the ways through which land rights may be held, are organically-derived, fashioned directly from the socio-environmental conditions of the area*
4. *That through its natural locus as a community-based system, maximum opportunity is available for popular participation in decision-making and systems-user levels (not the case with remote, centralised regimes)*
5. *That securing respect for their customary land rights is a founding demand of people in these conflict areas, and making practical provision for this to be realised and in a sustainable manner will contribute significantly to peace*
6. *Advancement of this approach will demonstrate to populations that new governments at the State/Territory level genuinely seek to adopt new and more democratic administrative systems, not just repeat the past ills of Khartoum-centred administration at a yet closer level to the people.*

How the community can empower itself

A process, which is both a requirement in the land legislation and is seen as a priority by a number of communities visited, is to formally demarcate community land. Demarcation would reduce the incidence of conflicts associated with boundary issues and clarify the domain the community is responsible for, endorsing the land rights of the majority. In the land law it is proposed that this is achieved by carrying out a cadastral survey, but this is both costly and time consuming. Nevertheless it is essential that each community knows its land area to meet the needs of land use planning, allocation and regulation.

If however the community were to undertake the process itself it would be cheap and effective and relatively easier to carry out on a large scale. It is a process that everyone can play a part in and feel ownership of. It is a good starting point from which community leaders can strengthen and create greater homogeneity particularly with in communities that have been fractured by war, where some families and individuals remained in their home areas and others lived as IDPs or refugees in different environments and cultures. Bringing these groups together with all their experiences for this common cause would establish a dynamic opportunity for sharing experiences and cross-fertilization of ideas. The demarcation process could build a modern customary process from traditional knowledge and custom and will be community driven to meet their needs. It also builds relations between adjacent communities who have to work together and cooperates in order to agree their boundary. Lastly it provides a framework in which secondary user rights and commercial developments can be fairly negotiated.

As part of the empowerment process, communities need to be much more aware of resources under their stewardship. This is a relatively straightforward process whereby, guided by a facilitator, the community draws a map on the ground and indicates the important features on it such as rivers, roads, hills, forests, villages, markets etc. They show where they get certain resources from such as grass for thatching, honey, bamboo, lulu nuts etc. Although the map is not accurate it is an important step for communities to start looking at their resources within the limitations of their land areas and the need to evaluate the resources and plan their management. It helps people to become more informed about their area and how they corporately use it (See

³⁰ Concept Note on pilot development of decentralized land administration in Nuba Mountains and Southern Blue Nile Sudan. USAID Task Force 2004.

annexes 1-4). It can also be used as a tool to look at the needs of secondary users and relationships with neighbors. In the past it has been a very useful tool for identifying and resolving conflicts. It empowers the community as an informed corporate group to engage in serious dialogue with potential investors with regards their resources. As mentioned before empowering the community to govern their resources does not guarantee good governance or sustainable community based natural resource management but this empowering process will give people the opportunities and tools they need to make informed choices.

CONCLUSION

As in most parts of Sudan, communities in Jonglei and Eastern Equatoria are endowed with a wealth of natural resources, but there are many different perceptions on who is entitled to use them, how, and for what purpose. Some of these resources are renewable and have been used for generations, others are non renewable such as oil and minerals, which are in high demand internationally. Increasingly, land for cultivation is becoming a focus of international demand, as more countries seek ways to feed their growing populations.

If a map were to be drawn by overlaying maps of all the various either awarded or proposed concession areas for oil, minerals, mechanized farming, gazetted and investment forests and wildlife protected areas, it would cover the majority of the land area that communities of Southern Sudan are using now and have been for generations. The potential for conflict over these resource areas is high, especially given the weakness or lack of policies and good governance procedures. This is particularly true in light of the escalation in land grabbing, which is being facilitated by governments in many African countries under the guise of much, needed investment for development.

The CPA and new laws and policies of Southern Sudan provide opportunities for good governance, drawing on best practice and lessons learned. The most important feature they all hold in common is the need for a participatory consultative approach to governance by all stakeholders. This opens the door for inclusion of individuals at the lowest level of governance: the community. Discussions held on the governance of natural resources at the GoSS, state, county, payam and boma level also revealed commonalities. First and foremost, it is very clear that there is a disparity between what is in the laws regarding community participation in resource governance and what is actually taking place. This provides the most complex challenge of all, and is the most neglected area: how can communities be appropriately involved in the governance of natural resources? What is also demonstrated is how this lack of inclusion historically culminated in conflict and eventually the civil war.

RECOMMENDATIONS

There are potentially so many recommendations for such a large range of issues. A priority is for communities to map their boundaries and their resources as this community empowerment process, underpinned by principles of best natural resources management practice would have positive impact on many natural resource management issues and conflicts.

I. Customary boundary demarcation

These activities are both legal and practical procedures which enable the majority to access, use and benefit from participatory land administration and dispute resolution this prominently includes making systems closer, cheaper and simpler to the majority and is much facilitated through decentralized devolved land administration. The focus is to identify the land area so that the community can entrench their customary rights to govern their resources with authority.

Civil society organizations (CSOs) such as local NGOs and community based organizations (CBOs), with the support of international NGOs and international organizations, need to lobby and work with the government to develop a strategy to work with communities to facilitate the process and provide technical support. The focus is on adjacent communities together walking and making a written description of their boundary, noting all the physical features. The process

has been carried out in Southern Blue Nile and Southern Kordofan, so there are lessons to be learned from these case studies.³¹

2. Community domain resource mapping

Communities map and evaluate the resources they are responsible for. This is to facilitate community-based natural resource management and planning in accordance with legislation. The baseline will help prepare communities to enter into the decision making process, become accustomed to thinking about their resources as finite with need for management, raise awareness of their natural resource endowment and corporate responsibility.



Identify CSOs who can support the government to develop a strategy to work with communities to facilitate the process and provide technical support.

3. Revisit all the recommendations in the peace agreements and workshops

There is a need for organizations involved in conflict mitigations to review the recommendations, what has been achieved and what has not, any lessons learned. Tasks could be allocated to individuals to liaise with other organizations, which don't necessarily see themselves in the conflict mitigation field, but probably are relevant actors if they are providing services relevant for implementing the recommendations.

Future workshops organizers need to consider carefully who should attend and be innovative in attracting the right participants.

4. Lobby international investment companies and Government to follow guidelines and best practice

This needs to be done at two levels. CSOs/INGOs/IOs can take this forward at the local level and also at the international level by lobbying donors, government and investment companies in ethical responsibility.

5. Disseminate laws and policies at all levels according using material which cater to the needs of the different audiences. (DVDs, radio, drama etc.)

Identify CSOs who can support the government to develop a strategy to work with communities to facilitate the process and provide technical support.

6. Draw up environmental guidelines for international development organizations and companies (See examples from Blue Nile, Southern Kordofan and Abyei areas)

Natural Resource Management Group should take responsibility to do this to promote best practices among national and international organizations this would include investors.

³¹ Once both communities are in full agreement the boundary can be marked in some way. In Blue Nile paint was used and at a later date the boundary was recorded with a geographic positioning system.

7. Train local government employees in participatory consultation methodologies

This is crucial to bridge the gap between administration and community to enhance communication and participation of stakeholders. An example of this would be training local government in participatory techniques.

8. Implement the Natural Resource Management Group's strategy

Hold a focus meeting on how to move ahead and delegate task to individuals to follow up on.

9. Capacity building

a. Sensitize all levels of government regarding the issues in the report. Hold exchange visits to expose government personnel and customary leaders to case studies and best practice scenarios.

b. International organizations need to work closely with national CSOs to build their capacity as the interface between community and government.

10. Disarmament

Continue voluntary disarmament process and give the youth other livelihood alternatives. The government should also put stronger structures to ensure community security so that the locals do not necessarily think of rearming themselves.

11. Appropriate technologies

The development of and enhancing the value of a number of natural products has the potential to provide industries and future jobs. Effort needs to be made to enable communities to learn from experiences in other countries where some of these resources where the development and sale of certain natural resource products are now commercial activities. Organizations can help to identify appropriate technologies, which add value and make local resources attractive, as well as identifying technologies, which enhance the use of resources such as alternative energy sources and construction materials.

ANNEXES

Annex I – Magwi Payam Map

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TIFF (LZW) decompressor
are needed to see this picture.

Annex 2 –Gumuruk Payam Map

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Annex 3 – Tangyang Boma Map

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Annex 4 – Ayii Boma Map

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Annex 5 – Natural Resource Working Group

NAME	MINISTRY/COMMISSION
David Batali	Ministry of Housing, Physical Planning and Environment.
James Adam Boy	Ministry of W R and Irrigation
John Ogoto Kanisio	Ministry of Animal Resources and Fisheries
John Pangech	Ministry of Cooperatives and Rural Development
Kenyi Bullen	Ministry of Agriculture and Forestry
Mary Benjamin	Ministry of Agriculture and Forestry
Michael Mayik	Ministry of Housing, Physical Planning and Environment.
Minasona Lero Peter	Ministry of Wildlife Conservation and Tourism
Nyasigin Deng	Ministry of Water Resources and Irrigation
Patrick Legge	Ministry of Energy and Mining
Rejoice Mannasseh	Land Commission
Robert Zakayo	Ministry of Water Resources and Irrigation
Suzan Gabriel Fandas	Ministry of Animal Resources and Fisheries
Viviana Imbua Levi	Ministry of Animal Resources and Fisheries

Annex 6 – Southern Sudan Livelihood Zones

Source: Southern Sudan Livelihoods Profile 2007

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TIFF (LZW) decompressor
are needed to see this picture.

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Annex 7 – Blue Nile Mechanized Schemes 1987

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are needed to see this picture.

Source: The agriculture of Sudan G.M. Craig 1991

Annex 8 - Blue Nile Livestock Migration Patterns

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Source: The agriculture of Sudan G.M. Craig 1991

Annex 9 - Wild plants with economic potential

(These plant were identified during the assessment)

- *Acacia seyal* (tahle) and *Acacia senegal* (hasab Ar.) Gum (sumuk Ar.)
- *Ziziphus sp.* (Nabak Ar.)
- *Nymphaea lotus* (waterlilly seed)
- *Sclerocarya birrea* (Hemeid Ar.)
- *Balanites aegyptiaca* (Lalob Ar.)
- *Grewia tenax* (Gidem Ar.)
- *Vitellaria paradoxum* (Lulu Ar.)
- *Boswellia sp.* (frankinsence, luban Ar.)
- *Oryza longistaminata* (wild rice)
- *Discorea sp.* (wild yams)
- *Saba comorensis*
- Wild coffee
- Honey
- Mushrooms

Annex 10 - Map Protected areas

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Map source: Sudan Transitional Environmental Program. Scoping Statement for a programmatic environmental assessment of oil exploration and production activities in Southern Sudan, USAID September, 2004.

Annex II – Map of Oil Concessions

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Annex 12 - International Conventions and Treaties

Government of Sudan is party to (UNEP 200): -

- The United Nations Framework Convention on Climate Change (1993)
- UN Convention to Combat Desertification (1995)
- Convention on Biological Diversity (1995)
- Stockholm Convention on Persistent Organic Pollutants
- Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes in Africa
- Convention on Wetlands of International Importance: Ramsar Convention (1971)
- Convention on International Trade in Threatened and Endangered Species of Wild Fauna and Flora. CITES (1973)
- Montreal Protocol on Substances that deplete the Ozone Layer (1987)
- Kyoto Protocol (1977)
- Biosafety Protocol (1999)
- The great Apes Survival Project. (2005)