Managing the biofuel boom, local income generation & small holders' access to land:

Innovative models in Africa

Harold Liversage, Land Tenure Adviser, IFAD
h.liversage@ifad.org

High-Level CSD Intersessional Meeting, Windhoek, 9 – 10 February, 2009

What is IFAD?

- The International Fund for Agricultural Development - a specialized agency of the UN, established in 1977.
- Our mission is to enable and empower the rural poor to overcome poverty.
- We mainly provide low interest loans to governments to develop and implement rural poverty reduction policies and programmes.
- We also provide grants to institutions and organizations to strengthen technical and institutional capacities (limited to 10% of investment).
- Emphasis is placed on:

➢ Strengthening CBOs and building ownership by beneficiaries and governments of pro-poor rural development programmes.

➢ Strengthening CSOs and in particular Farmers Organisations to engage in policy formulation and implementation.

➢ Strengthening research into agricultural and rural development.

➢ Building partnerships with other international development agencies.

Purpose of the Presentation.

1. Provide an overview of biofuel production trends.
2. Identify possible impacts, opportunities and risks especially for small-scale farmers.
3. Identify possible policy options, mitigation strategies and innovative approaches.

Acknowledgements:

- FAO (Olivier Dubois, Paul Mathieu)
- IFAD (Vineet Raswant, Sappho Haralambous, Monica Romano, Edward Heinemann)
- IIED (Lorenzo Cotula, Nat Dyer, Sonja Vermeulen)
- Mali Biocarburant (Hugo Verkuijl)
- SEKAB – Tanzania (Pär Oskarsson, Anders Bergfors)
- Hakiardhi – Tanzania (Yefred Myenzi)
- MVIWATA – Tanzania (Stephen Ruvuga)
- Verde Azul – Mozambique (Monica Branks)
- ORAM – Mozambique (Lourenco Duvane)

Terminology.

- ***Biomass***: non-fossil material of biological origin.
- ***Biofuel***: fuel produced directly or indirectly from biomass.
- ***Bioethanol***: distilled liquid produced from sugar plants & cereal crops (sugarcane, maize, sugarbeet, cassava, wheat, sorghum).
- ***Biodiesel***: produced from crops (rapeseed, sunflower, soya, castor, ail palm, coconut, jatropha) and animal fats.
- ***2nd generation*** technologies use wood, grasses & straw.
- ***3rd generation*** will use oils from algae.
- ***Land tenure***: The rules, norms & mechanisms that govern how, when & where people access and use land. A “bundle of rights”- not just ownership rights.
- ***Land tenure security***: The ability to freely benefit from the use of, & to transfer rights in, land.

Why is Land Tenure Security important?

1. Land tenure security determines whether people will invest in land, adopt new technologies and access credit. Without secure land rights, investment (financial and labour) and the up-take of new technologies in agriculture and sustainable land management is undermined.
2. Insecure land rights is the major source of social inequality and instability in Africa.
3. The “Land Question” is a fundamental issue for African development. Land is not just an economic asset. It has deep social and cultural significance.
4. Land tenure security & equitable access to land are central yet neglected areas of agricultural development & sustainable land management. Government and donor investment in land policy implementation is generally minimal.

- Land Policy implementation is the elephant in the room.
- LTS is the foundation for agricultural development.

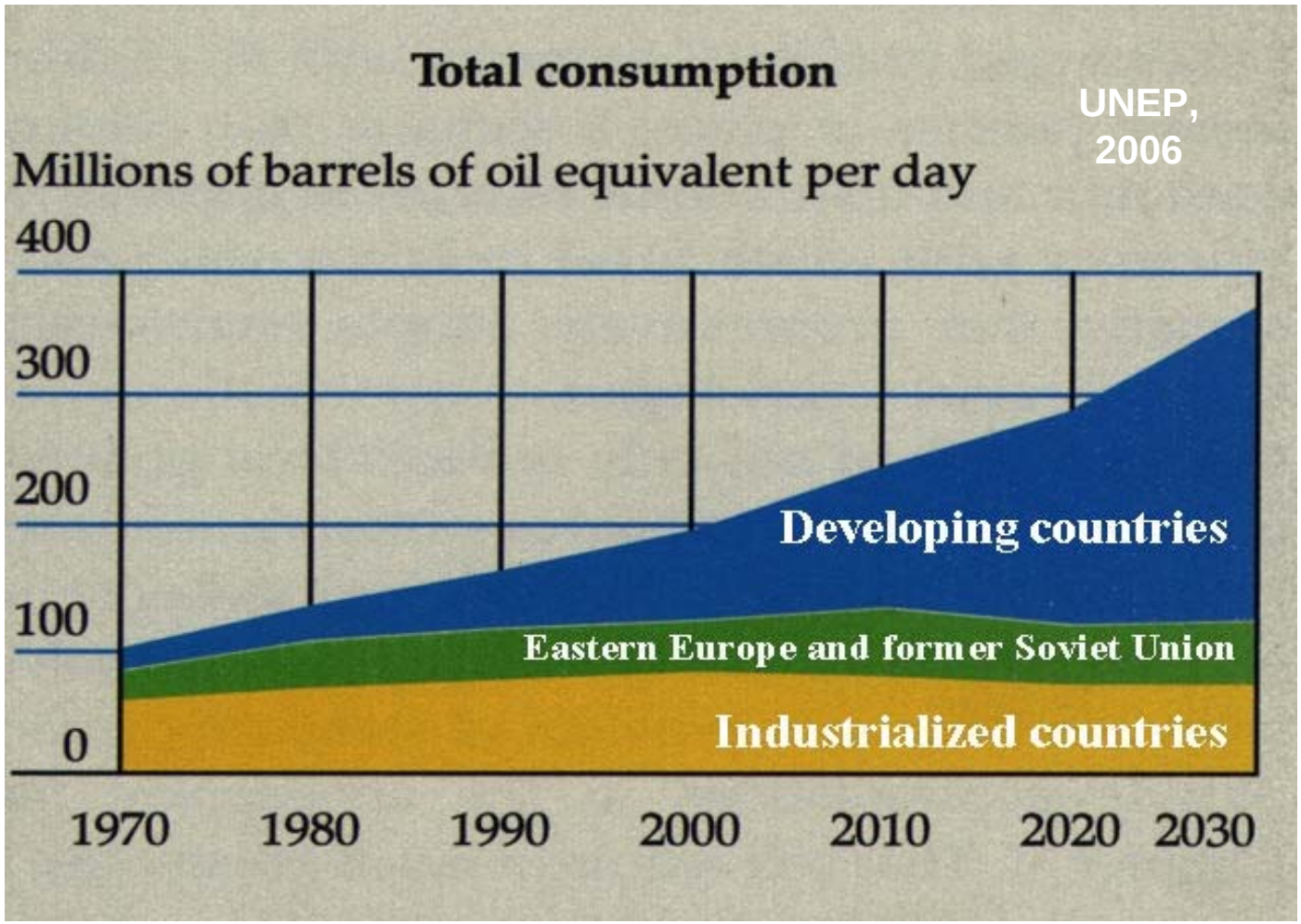
Context.

- A recent, rapid global increase in investment in biofuels.
- In Africa, mainly in Ethiopia, Ghana, Mozambique, South Africa, Tanzania & Zambia.
- East Africa is targeted to become a large net exporter, similar to Brazil.
- Land requests for biofuel production tend to be between 5,000 to 50,000ha but can be upward of 100,000 – 300,000ha.

Main drivers:

- Increasing global energy demand, especially in developing countries.
- Mainly for transport.
- Greater energy security.
- Environmental benefits - mandatory targets & carbon off-sets.
- Opportunities for export diversification & rural development for developing countries.
- An opportunity for rural energy in developing countries where biomass is the main source of energy for 2 – 3 billion people & about 1.6 billion people do not have access to electricity.
- For developing countries, emphasis tends to be on export rather than national or local energy needs.

Projected Demand.



Will the bubble burst?

- Predictions on expansion range from today's 14 million ha to 35 million ha (IEA, 2006) or up to 1,500 million ha by 2050 = all today's arable land (Field et al. 2007).
- Analysis of 3 recent booms (1950-51, 1973-74 & 2004-present), all were triggered by shocks but the latter has been more sustained.
- But competition with other crops (especially food & fodder) will be a brake;
- As biofuel feedstock prices rise so will investment in oil exploration.
- 2nd generation biofuels could reduce competition for food.
- Water supply is likely to be a limiting factor.
- Changes in global demand will be a key determinant

(Source: IIED & FAO, 2008)

Possible impacts on energy consumption, global warming & land & water use.

- If all crop land were converted it would only meet 57% of total petrol consumed – biofuels met 2% of world transport fuels in 2007, and is expected to meet <4% by 2030.
- GHG reduction but impact depends on crop type & estimates of carbon off-sets need to account for land conversion.
- Biofuels currently use 1 – 2% of all arable land, expected to rise to max 4% by 2030 & 20% by 2050 & 2% of water in 2005, expected to rise to 4% by 2030 & ?% by 2050.
- With 2,500 litres of water we can produce food for 1 person / day or 1 litre of biofuel.
- Could have a significant impact on local energy needs & hence on the rate of deforestation.

How much land is available?

- Global land area = 13.5 billion ha in total: 8.3 billion ha = grassland / forest, 1.6 billion = cropland.
- ± 14 million ha is being used for biofuels.
- Excluding forest & protected land, 250 - 800 million is potentially available for expanded crop production, 80% in Africa & Latin America, of which ½ is in Angola, DRC, Sudan, Argentina, Bolivia, & Colombia.
- In Mozambique: only 9% of 36 million ha of arable is currently used for crops & the GoM believes it is possible to bring into crop production 41 million ha of “underutilised” land.
- In Tanzania: ±4% of 45 million ha (2 million) of arable land is used for crops & GoT proposes that another 2 million ha could be utilised for biofuels.
- Most land available in Africa is considered marginal but much could be suitable for biofuel production. However marginal land is often a major source of livelihoods for the rural poor, especially women and for pastoralists.

Whose land?

- ±73% of people in SSA live in rural areas, 90% of agricultural production is done by small-scale producers who have access to, on average, ±2 ha of cultivated land.
- De jure the state owns most land but +90% of land is de facto owned under diverse tenure systems, ranging from group to individualised ownership but typically balancing group & individual (family) rights.
- Women tend to have weaker land rights but are the main producers.
- Pastoralists use 40% of all land in SSA.
- While land may be under-utilised, very little is not owned, vacant or unused.

Possible opportunities:

- Foreign direct investment & tax revenue but level of financial investment, benefits and impact on poverty reduction not always easy to ascertain.
- Infrastructure development & technology transfer for commercialisation of agriculture but this depends on crop type and production systems used.
- Employment but conditions & duration can be limited.
- Income generation but depends on partnership arrangements and market access.
- Local energy, but this tends to be neglected.

Possible risks:

- Loss of land & water rights, food insecurity & environmental degradation but although there is some evidence of evictions & resettlement, the full extent is not known.
- Food insecurity but while biofuel production has had an impact on rising food prices, increased demand from China & India for raw materials & “luxury” foods may have had a greater impact.

Increased demand for land for food production.

- The latest trend, mainly from land starved Gulf & Asian countries. For example, in the last year it was reported in the media that:
- Saudi Arabian Hadco acquired 25,000 hectares of land for food production in Sudan & intends investing USD 95 million.
- Saudi companies intend to invest USD 2,5 billion on several hundred of thousand hectares of “unused” agricultural land to grow cereals.
- Qatar is negotiating with the Government of Kenya to lease 40,000 hectares of uncultivated communal & grazing land in the Tana River delta for food production.
- China intends purchasing or leasing “unused” farm land for food production in Congo, Kenya & Uganda.
- South Korean firm Daewoo apparently plans to lease 1.3 million hectares of land in Madagascar maize & palm oil.
- In Sudan, an American entrepreneur is reported to have gained leasehold rights to 400,000 hectares of fertile land in Southern Sudan which would be largest known private land deal in the world.

Lessons learnt (1).

- Challenges facing small-scale producers in biofuel production are not new – similar challenges are generally faced in the commercialisation of agriculture.
- Biofuels will not meet the all of the projected global energy needs but biodiesel could be important in meeting local energy needs.
- Ultimately “we” (the developed world) need to learn to consume less energy, more efficiently.
- Empowering small-scale producers to engage in biofuel production is essential for poverty reduction.
- Land tenure security (for both small-scale producers & large outside investors) is essential.
- Access to water is as important as access to land.
- Crop choices could have a major impact on the amount of land & water needed & the ability of small-scale farmers to engage in production.
- Public policy choices will determine whether biofuel production will have an impact on poverty eradication.
- Information on large-scale land transactions & associated benefits & risks is patchy & often misleading.

Possible policy options & mitigations strategies.

- Selection of appropriate crops, inter-cropping & minimum tillage / conservation agriculture.
- Utilisation of residue & waste (mainly from agro-processing rather than from fields).
- Second & third generation crops & processing could reduce land demand but these technologies are still being developed; there are no edible by-products; & they could result in increased land competition & environmental degradation.
- Greater focus should be given to local & national energy needs.
- Emphasis should be on pro-small scale producer value chain analysis.
- Support should be given to promoting enterprise development amongst small scale producers.
- Strengthening market access (infrastructure, information).

Possible policy options & mitigation strategies.

- Secure land rights of small scale producers.
- Develop guidelines, certification procedures and codes of conduct (voluntary & compulsory) for investment.
- Strengthen community – investor partnerships, preferably those that do not require large-scale land acquisition by outside investors.
- Strengthen multi-stakeholder engagement especially at local & national levels.
- Strengthen monitoring of expansion of biofuel production, improve lesson sharing & analysis on the risks & benefits.

Options for securing land rights of small-scale producers

- Develop appropriate policies & legislation that recognise diverse tenure systems (from group to individual & a combination of both).
- Increase public & donor investment in developing transparent & accessible land administration systems.
- Include requirements for local community approval in the granting or acquisition of land rights to outsiders.
- Civic education on land rights.
- Increase legal aid support for defending & enforcing land rights.
- But above all – social and economic empowerment.
- Importance of voluntary guidelines for up-scaling land policy formulation and implementation - “Land policy in Africa: A framework to strengthen land rights, enhance productivity and secure livelihoods.” (AUC, UNECA & AfDB).

Regulation and Voluntary Guidelines Options.

1. Government regulation for biomass minimum standards, possibly combined with incentives.
2. Voluntary adoption of standards and certification schemes by governments, companies and other interested parties.
3. A combination of government regulations for minimum biomass standards and a set of private standards.
4. International agreements for sustainable global biofuel markets.
5. International regulation of legally binding sustainable biomass standards.

- Mandatory regulations are difficult to enforce whereas collaborative strategies are more likely to succeed.
- Voluntary schemes such as certification can be effective but depend on widespread (1st world) consumer awareness raising.
- A combination of mandatory regulations and voluntary guidelines and incentives is probably best.
- We can draw lessons from the “Principles, criteria and indicators on mutually beneficial partnerships between corporate and smallholder partners in forestry sector” (FAO & CIFOR, 2003)

Options for Community - Investor Partnerships.

- The term partnership is freely used and there some diversity, for example:
- One – off donation in exchange for land rights - is this a partnership?
- Lease agreements: an outside investor leases land from a community.
- Purchase agreements: an entity agrees to buy a certain amount from farmers in an area, which may entitle them to tax breaks.
- Contract farming: an outside investor purchases the harvest from farmers at pre-arranged quantities and prices. Outside investor may provide credit, inputs and technical advice.
- Nuclear estate / out-grower scheme: similar to contract farming but an outside investor has a core estate for crop development and / or for securing a guaranteed supply.
- Joint equity venture: an outside investor and farmers have joint share-holdings in a company.
- Partnerships should be defined as long-term, mutually beneficial relationships.

Examples of Community – Investor Partnerships.

Mauritius - Sharing of Revenue from Cogenerated Bagasse Energy

- Involves revenue sharing amongst stakeholders in the sugar industry for the bagasse-generated electricity.
- Initially only involved millers but now includes small-scale sugarcane growers.
- The Bagasse Transfer Price Fund (BTPF) was set up to share the revenue. *(Source: FAO)*

Namibia – Kavango Bio-fuel Project

- Aims to produce Jatropha through a joint venture by a Namibian private sector company (Prime Investment) & the Kavango Jatropha Farmers' Association. The former has 60% shares & the latter the balance.
- Contracted farmers provide land & labour & Prime Investment covers capital costs & compensates participating farmers with food & cash for loss of maize & millet. *(Source: IIED)*

Examples of Community – Investor Partnerships.

Mali – Mali Biocarburant

- Small-scale farmers supply the Jatropha nuts to a farmer association which extracts the oil and sells it to *Mali Biocarburant*.
- *Mali Biocarburant* processes the oil into biodiesel for the national market, the seed cake is sold to the farmers to improve soil fertility & the glycerol by-product is sold to a women's cooperative to produce soap.
- A private company *Interagro* purchases the fuel and distributes it.
- The model seems to integrate Jatropha production into smallholder farming systems, without creating competition over land uses for food and fuel production, by promoting intercropping with food crops or growing Jatropha on unproductive land (e.g. along the roadside).
- The company has not acquired land & land rights of the people are strengthened as, according to Malian customary law, land planted with trees belongs to the person/community who planted the trees.
- Small-scale farmers are shareholders in the company & therefore will not only get revenue through the sale of the nuts, but also through dividends and increased share value. *(Source: Mali Biocarburant)*

Examples of Community – Investor Partnerships.

Tanzania – Farming for Energy for Better Livelihoods in Southern Africa (FELISA)

- FELISA is a limited company with mainly Belgian shareholdings, producing crude palm oil & bio-diesel. The company wants 10,000 ha & has thus far acquired 4,358 ha.
- An oil palm nursery has been set up (42,000 seedlings), processing equipment is installed & 29 groups with 990 outgrower farmers have been mobilized, provided with 10,000 seedlings for free & trained on palm husbandry.
- The company has developed an out-grower scheme through which small-scale farmers will be contracted to supply additional fresh fruit bunches (FFB).
- In the long run, FELISA aims to enable small-scale farmers to establish their own processing plants & improve the quality of FFB that farmers bring to FELISA.
- Palm farmers are under no obligation to sell only to FELISA & the price is negotiable; although there would be a contractual agreement that binds the farmer to supply a certain amount of a crop at a specified quality over a given period of time. *(Source: Pisces & WWF-Tanzania)*

Examples of Community – Investor Partnerships.

Tanzania - SEKAB Sugarcane Smallholder/Outgrower Scheme (SUSO)

- Tanzania could develop 2 million ha of uncultivated land = 16 billion litres of bioethanol, USD7 billion in revenue & 1 million new direct & indirect jobs.
- SEKAB wants to develop ±250,000 ha in investment clusters over 15 – 20 years.
- Critical mass of investment, infrastructure & land is essential.
- A block farming approach with a continuous area operated under shared ownership by professional management will assist small scale farmers with farming knowledge, economy of scale, mechanisation & infrastructure.
- The scheme aims to provide mutually beneficial opportunities where small scale farmers participate in commercial farming, investor gets a stable cane supply & government get an increased tax-base.
- Certification requirements means that the company has to demonstrate social, economic & environmental sustainability. *(Source: SEKAB)*

Lessons Learnt (2).

- It seems that serious investors desire mutually beneficial and sustainable partnerships (it makes good business sense).
- It seems that many small-scale producers are prepared to relinquish their rights to certain lands if they see a real benefit.
- But partnerships that do not require a major transfer of land rights to investors may be more desirable and socially sustainable.
- There seem to be few examples of joint shareholding arrangements in which communities have significant shares.
- Small scale producers' share holdings could be increased by properly valuing their land as a key asset and also by considering certain benefits from government & other development programmes such as buildings, infrastructure & equipment as part of their share.
- There is a need to monitor the implementation of partnerships, to ensure that the anticipated benefits are realised.
- There is a need to strengthen information sharing and lesson learning from successful and unsuccessful partnerships.