

CONFLICT AND FOOD SECURITY IN BENI-LUBERO

Timothy Raeymaekers
Conflict Research Group
University of Ghent

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INTRODUCTION

Background

1. This study has its origin in discussions about the analysis and practice of food security in protracted conflicts (de Waal, 1997; Flores, Khwaja and White, 2005; Seddon and Adhikari, 2003). Research in this field has revealed a critical paradox, or “policy gap”, between the analysis of food insecurity and policy response. Although it is increasingly acknowledged that situations of food insecurity are generated by a complex and dynamic set of causes, responses to food crises still tend to be driven by a one-dimensional understanding of these crises.

2. During the 2003 *International workshop on food security in complex emergencies: Building policy frameworks to address longer-term programming in complex emergencies*, organized by the Agricultural and Development Economics Division of the Food and Agriculture Organization of the United Nations (FAO/ESA)¹ participants examined the likely effectiveness of a range of policy options regarding this “policy gap”, and pointed to the importance of strong knowledge–action links, involving both research and information systems, to gain a better understanding of the complexity of the issues at stakes in order to facilitate knowledge-based responses. The workshop generated the following preliminary conclusions:

- In protracted crises, food security interventions tend to be based on a standardized set of responses that do not take into account the dynamic nature of protracted crises.
- As a consequence, frameworks of intervention remain concentrated mostly on factors of food *production*, while neglecting the deeper political dimensions of food security.
- New policy-oriented research is needed to combine the deeper analysis of underlying causes of food insecurity with a more practical and effective intervention framework.

While it was acknowledged that there are relatively well-developed policy frameworks for humanitarian and development interventions, these appear inadequate in protracted crisis contexts, where people’s livelihoods need to be supported and protected over several years in extremely volatile situations.

3. Following the workshop, FAO/ESA decided to commission case studies in three countries undergoing a protracted crisis: the Democratic Republic of the Congo (DRC), Somalia and Sudan. Two specific tasks were specified for each case study: (a) the elaboration of an overview paper presenting a preliminary analysis of the food security situation in the country; and (b) the development of a number of specific subnational field studies based on first-hand experience and providing empirical evidence on the implications of these findings for both food security and agricultural rehabilitation initiatives within a medium to longer-term perspective.

¹ Held in Tivoli, Italy, 23–25 September 2003.

4. The overview paper on the DRC (*Food security responses to the protracted crisis context of the Democratic Republic of the Congo*, hereafter, “overview paper”²) selected a number of key issues for empirical, field-based research. These issues were:

- a. *Shifts in local food systems.* From the preliminary overview it was argued that as a result of household coping strategies in relation to protracted crises, local food systems tend to shift in scope and nature. These shifts might suggest broader transformations in the social arena.
- b. *The impact of information flows.* In eastern DRC, stakeholders have generally based their interventions on inadequate information flows. This may be explained by the short-term character of most responses but also by the absence of well-designed and locally based information systems. Additional factors were the negligence of available information by aid agencies and the lack of efforts to fill the gap between information and intervention.
- c. *Emergency versus development response.* Although the post-conflict situation in the DRC has led to a shift from emergency to post-emergency response, most interventions continue to be guided by short-term perspectives and do not address root causes of conflict nor institutional shifts produced by conflict.
- d. *The role of local institutions.* The role of local actors has been reduced to the execution of international donors’ food security programmes, which has weakened the functioning of local coordination mechanisms and has limited the appropriateness and impact of responses.
- e. *Access to land and markets.* Limited attention has been paid to the structural conditions of food insecurity, such as access to land and to markets. Nevertheless, the tackling of these factors appears to be a prerequisite for the re-establishment of food security and sustainable peace.

5. Based on the conclusions of the overview paper, two in-depth case studies on the relationship between household coping strategies and food security response were selected. These case studies include one based on a geographical area and the other on a sector. They are:

- *Food security and interventions in Beni-Lubero (North Kivu).* This geographical area study examines the structural shifts in local food systems in response to the protracted crisis and the impact and limits of current responses – including the interactions among different stakeholders and the role and limits of information systems. The study aims at acquiring a better understanding of the structural factors contributing to shifts in local food systems and its effects on food security;
- *Households strategies in a protracted crisis context: land tenure, conflict and food security in eastern DRC* (hereafter, “land use article”³). This sector study focuses on the issue of land access in the DRC’s protracted crisis; it aims at providing a deeper understanding of household strategies with regard to land access, and at identifying and analysing interventions in this particular field.

² Also available on the FAO/ESAF website.

³ Also available on the FAO/ESAF website.

6. The territory of Beni-Lubero was chosen as a case study because of its particular characteristic as a region reigned by “neither war nor peace”. As has been established elsewhere (Menkhaus, 2004; Richards, 2005; Vlassenroot and Raeymaekers, 2004), post-conflict areas like the eastern DRC typically tend to combine elements of both war and peace. While a political transition introduces a framework of sustainable development at the national level, this evolution tends to be coupled with a continuing low-intensity conflict in the country’s peripheral areas. At the same time, the adaptation and accommodation of local households to a protracted conflict engenders a shift in local “systems”. According to Menkhaus:

Too often, external interventions into conflict and post-conflict settings make the false presumption that communities beset by predatory banditry or war are passive victims, where in reality they are expert at the art of survival and adaptation. At a societal level, this translates into a tendency for “systems” – uncoded but often complex arrangements governing predictable movement, transactions, and expectations – to emerge even in the most seemingly chaotic environments. That those systems are all but invisible to most external actors does not make them less real. (Menkhaus, 2004)

7. Taking into account these observations and the key issues identified in the overview paper, it was decided to evaluate the impact of humanitarian and development interventions with regard to the shifts in Beni-Lubero’s food “systems”, which are understood as an expression of wider societal response. In other words, the analysis of evolving food systems was expected to provide deeper insights into (1) how livelihoods adapt themselves to situations of protracted conflict; and (2) how interventions react to the possible societal transformations resulting from these adaptation processes. In order to offer an accurate depiction of these shifts in local food systems, the following subregions were identified as most relevant:

a) *Central Lubero*: This highland area traditionally serves as the agricultural hinterland of North Kivu: its constant output of vegetables like cabbages and onions has formed the basis for the rise of several commercial centres. Growing population density as well as conflicts over arable land have forced local households to develop alternative coping strategies which include, amongst others, migration towards more fertile areas in the east and west. These elements make central Lubero a particularly interesting area for the analysis of the link between structural causes, grassroots coping strategies and the impact of interventions on shifting food systems.

b) *Western Lubero*: The densely forested area of western Lubero acts increasingly as a host for households hindered by land conflicts and population pressure in the central highlands. Since the mid-1990s a number of interventions have been launched to move these households towards more fertile areas within these forest lowlands. An evaluation can be made of the impact of these interventions on structural causes of, and changing coping strategies towards, food insecurity.

c) *Southern Lubero*: This zone is among the most war-affected regions of eastern DRC, which makes it particularly suitable for evaluating the relationship between structural factors of food insecurity on the one hand, and development versus emergency response on the other. In addition, its market-oriented agricultural production makes it relevant for a discussion of problems related to market access.

Issues and method

8. The following sections will try to offer answers to the key questions identified in the overview paper. The first section provides a picture of the evolving food security situation in the territory of Beni-Lubero and the interventions that have been implemented. These interventions are evaluated in accordance with FAO's twin-track approach (Pingali, Alinovi and Sutton, 2005); particular attention is paid to the impact and coordination of information flows. The next sections focus on two key issues identified as relevant for the analysis: (1) the role of local "institutions" (the actors, policies and processes that determine people's rights to crucial entitlements); and (2) the problem of access to land and markets.

Based on these observations, the following regions/themes were chosen as areas of focus:

- a. *Fishing in troubled waters: the exploitation of Lake Edward.* This theme was chosen because it offers a particularly vivid illustration of the degeneration of state competence in this area, demonstrating the impact of the disorganization and fragmentation of political control on Beni-Lubero's food systems. At the same time, this section serves as an introduction to the other areas of focus, which examine the role institutional factors play in the entitlement of households to food and "assets".
- b. *The access to land.* Although a separate report is dedicated to this issue, the Beni-Lubero article focuses on one particular intervention that has been developed to confront the growing land problem in the region, namely the "displacement" (*glissement*) of households from central to western Lubero. This strategy serves as a specific response to the structural factors of poverty and vulnerability in Beni-Lubero.
- c. *The access to markets.* The access to agricultural revenue (i.e. from the partial sale of agricultural products) remains an essential supplement to the income generated from subsistence farming – even when the latter activity is the major economic activity in Beni-Lubero. Analysis of Beni-Lubero's agricultural markets also offers a perfect illustration of the impact of "institutions" on households' coping strategies. Data from Central and South Lubero are combined to evaluate the impact of organizational factors on the access to agricultural markets.

9. The method used for the analysis was a combination of basic data collection and participative workshops. For the first part, on food security and interventions, a baseline study was elaborated on the basis of existing literature and interviews with key organizations. The second section consisted of a series of workshops in nine localities (Masereka and Luhoto in central Lubero; Musasa and Muhangi in western Lubero; Mighobwe, Kikuvo, Kirumba, Kayna, Kanyabayonga in southern Lubero), in which each participant was asked to answer three questions: (a) Which factors negatively influence your agricultural/revenue, and how does the access problem figure in this? (b) What strategies do you develop both in the short- and medium-term to confront these negative influences on your production/revenue? and (c) What has been the impact of food security interventions?

The exercise was divided into two parts, one of which focused on agricultural production and the other on agricultural revenue (or the sale of agricultural products). A choice was made between a

series of “clusters” of preponderant factors, all of which were mentioned by the participating farmers. The factors influencing agricultural production were identified as: climate (e.g. drought, excessive rain); environment (e.g. erosion, plant diseases); demography (e.g. population pressure, lack of family planning); access problems (e.g. distance and access to arable land); and institutional factors (e.g. lack of a state framework, political interference). The factors influencing agricultural revenue were identified as: price (by product and by season); quantity put on sale; organization of the market (i.e. direct sale or sale through intermediaries/cooperatives); taxes (including harassment and charges by the military and “negative forces”); means of transport, conservation and processing.

An important dimension of this research method is that influencing factors were never treated in isolation, but rather as part of a “system” as it were; micro-level findings were thus particularly relevant for detecting the *tendency* of both factors and interventions. The exercise opened each time with the drawing of a map of the peasants’ economic environment, in which they indicated their fields and major markets. A general group discussion at the end of the workshop aimed at evaluating the relationship between the factors mentioned as most important and the interventions carried out in the food security domain.

SECTION ONE

FOOD SECURITY AND INTERVENTIONS IN BENI-LUBERO

I.1. GENERAL DATA

10. The territories of Beni and Lubero are situated in the province of North Kivu (eastern Democratic Republic of the Congo). These territories constitute the largest part of the province and are commonly called “*le grand nord*”. (“*Le petit nord*” comprises the territories of Walikale and Masisi.) The administrative entities of these territories are the *chefferies* (communities) of Bashu and Watalinga (Beni) and of Baswagha, Batangi and Bamate (Lubero).

11. The principal activities in Beni-Lubero are agriculture and cattle keeping (which constitute 54 and 51 percent of overall household activity in Beni and Lubero, respectively) and petty trade (21 and 33 percent, respectively). This translates into the sources of revenue, which are constituted by the sale of agricultural produce (32 and 30 percent of total household revenue, respectively) and petty trade (19 and 35 percent, respectively). An important difference with the rest of North Kivu is that the acquisition of food on the market holds preponderance over self-production of food: 49–59 percent of food per household is bought on local markets, while subsistence agriculture represents only 28–34 percent of the average household’s food basket. Finally, it should be noted that food aid constitutes only 1 percent of the total food basket. According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA, 2005), this should not be interpreted as a failure of the impact of food aid in general, but could instead be a positive indication of the effectiveness of food aid, especially in regions devastated by prolonged warfare.

12. In terms of food economic zones, three areas are distinguished:

(a) The highland area (*hautes terres*), to the eastern side of the road from Lubero to Kanyabayonga (in the direction of Goma), with its economic centre in Masereka and Luhotu (*chefferie des Baswagha*). This region has traditionally functioned as the agricultural backyard of commercial centres like Lubero-town and Butembo, producing such crops as cabbages, onions, wheat⁴ and maize.

(b) The *moyens plateaux*, centred around Butembo, whose main production is subsistence crops such as bananas and manioc. Butembo also functions as a commercial centre for the entire eastern DRC (and previously for Kisangani and Kinshasa as well).

(c) The lowland areas, located both in western Lubero and the Graben (or Central African Rift Valley). While the western lowlands consist primarily of tropical forest, the Graben is covered in great part by the Virunga National Park. The area of Manguredjipa (in the far east) also has some minor mining activity, with a focus on coltan and other tin derivatives.

⁴ We have replaced the UK word “corn” with “wheat” in order to avoid confusion with the American use of “corn”.

13. In terms of regional trade, the following zones are distinguished:

(a) The Rwenzori area, which comprises most of Beni territory. Its main activity is subsistence and commercial farming, the produce of which is sold on local and border markets (principally Beni and Kasindi). Its vicinity to the Rwenzori Mountains, whose altitude reaches 5 000 metres, makes this zone particularly suitable for the cultivation of fruits (mangos, oranges, avocados) and cash crops such as vanilla, cacao, and *papaine*. Illegal timber exploitation is taking place at an alarming rate near the Ituri forest (northeast).

(b) The area of Butembo, which functions as a commercial centre.

(c) South Lubero, which traditionally concentrates on livestock and vegetables (such as cauliflower and onions), but has been forced to shift strategies due to pillaging and insecurity.

I.2. INDICATORS

14. Although technically a post-conflict area, Beni-Lubero still hosts some important pockets of insecurity. In December 2004 mixed units of the FARDC (the newly-unified Congolese army) were installed along the territory's southern border, which provided a period of relative calm. Accompanied by an Indian battalion from the United Nations Mission to the DRC (MONUC), the units were meant to supervise respect for the ceasefire agreement reached with dissident army soldiers following armed clashes in late 2004. In addition, the Congolese army carries out regular joint missions with MONUC to search and remove units of Rwandan Hutu rebels of the Democratic Liberation Forces of Rwanda (FDLR) which continue to roam the Kivu's countryside. Although this mixed FARDC–MONUC presence more or less secured the main centres (including the main road from Lubero to Kanyabayonga), the interior continued to suffer from insecurity and militia presence. The far south of Lubero continued to be an emergency area, hosting nearly 40 percent of North Kivu's internally displaced persons (IDPs)⁵. To this external pressure should be added an already extremely high population density (up to 253 inhabitants/km² in the highland areas), a strong drop in agricultural production and difficult access to crucial resources like land and water.

15. The factors contributing to Beni-Lubero's food crisis can be divided into two areas, infrastructure and food (in)security. In terms of infrastructure, there is a general absence of accessible roads. Especially in the interior (away from the urban centres), during the rainy season tracks regularly become inaccessible muddy paths, forcing farmers to invest much of their energy in maintaining access to fields and the market. In addition, massive displacement of the population has led to a destruction of dwellings, which are rebuilt only slowly because of a lack of skill and equipment. The rudimentary dwellings constructed by peasants are regularly occupied by members of the military, who lack the pay and spirit to construct shelter for themselves. This has been the case in Erengeti and Kyavisale (where the FARDC clashes with Ugandan rebels) and in southern Lubero (occupied by a mixed FARDC brigade). Many peasants prefer to construct only provisional homes for fear of destruction by the military and for lack of financial means to acquire certain materials (plastic sheets cost about US\$15 on the local market). Due to lack of medical supplies and a lack of qualified

⁵ In May 2005, southern Lubero hosted 272 240 IDPs, of a total of 685 000 in the whole of North Kivu (OCHA, 2005).

technical staff, health services have deteriorated. This is especially true in zones like Manguredjipa, where as of 2006 only 7 out of 17 health structures were registered in the provincial pharmaceutical registry. Health indicators improved slightly beginning in western and southern Lubero in 2005 following an improvement in security in the area (OCHA, 2005). Educational opportunities have also been drastically curtailed due to the incapacity of parents to pay school fees (teachers have not been paid for years since the collapse of the Zairian state system) and destruction of infrastructure. Especially in inaccessible areas like Manguredjipa, the level of primary and secondary education has dropped to minimal levels. Schools seldom have teaching equipment, and often lack even chairs and tables for their pupils.

1.2.1. Availability of food

16. North Kivu has three agro-ecological zones, two with low to average altitudes and one with altitudes as high as 2 400 meters. This ecological diversity leads to a diversity of microclimates and cultures. There are two major farming seasons, one from mid-September to mid-January and the other from March to July. Agricultural calendars tend to vary according to the specific zone, however. In central Lubero, for example, the sowing and weeding seasons are from January to March and from July to September; the harvest seasons are from April to June and from October to November (with potatoes harvested in June and December).

17. The principal cultures produced for consumption in central Lubero are potatoes and wheat; those produced primarily for sale are onions and potatoes. In the rest of North Kivu, the principal foodstuffs produced are manioc, potatoes and beans, while the main products put on market are manioc, beans, rice (“paddy” or milled) and palm oil.

18. Generalized insecurity and the repeated displacement of local households have seriously affected agricultural productivity in Beni and Lubero. In North Kivu in general, the productivity of beans has fallen 72 percent, manioc 53 percent and bananas 45 percent (OCHA, 2005). In Lubero, the overall agricultural production dropped 67 percent, a slightly more positive situation than in Masisi, where in 2001 manioc and bean production fell by 96 percent and 91 percent, respectively. (The situation improved considerably after that, however; see land use article). Other causes affecting agricultural production are the repeated plundering of harvests by armed forces and the inaccessibility of certain parts of Lubero (in particular the axes Butembo–Manguredjipa and Musasa–Muhangi).

19. Livestock production has been affected in similar ways: due to repeated pillaging by Mayi-Mayi militias, traditional herding grounds in southern and central Lubero have lost almost all their livestock during the war. The looting of cattle was a specific mobilizing strategy for these militias, who gathered young recruits with the promise that they could eat meat (instead of only the manioc leaves they usually consumed). Cattle production began to rise modestly in some protected areas in 2005, while an increasing number of households invested in breeding small livestock like goats, chicken and *cobay* (a kind of guinea pig currently being introduced for animal protein by several non-governmental organizations). Apart from livestock, pisciculture is also gaining popularity especially around Oicha (in northern Beni-Lubero), where an estimated 350 fishing ponds produce an average of 200 kg of fish per pond per annum.

20. The consequence of this low productivity is that food stocks are almost non-existent. In general, households consume their entire subsistence stocks, sometimes even including the seeds they need to sow the next season. This precariousness has resulted in shifts in food consumption patterns to the disadvantage of protein-rich food (manioc, which contains very little protein, constitutes the most important staple food) and the near absence of fish and meat. In addition, very poor households (up to 50 percent of households in inaccessible zones like Manguredjipa and Mbau) do not have regular access to oil, salt and soap. Since the start of the war, the number of daily meals fell from three to one for most poor households. In many cases, children are the only ones to eat in the morning. During the day, they are left to fend for themselves with a sugar cane, a sweet potato or a banana. The only true meal is eaten in the evening by the women/household head, who spend all day working in the field. The rates of acute malnutrition vary from 5 to 10 percent in the province as a whole, with peaks of 18 percent in inaccessible zones like Manguredjipa. Chronic child malnutrition is around 60 percent for the entire province of North Kivu (OCHA, 2005).

21. Agricultural production in North Kivu is divided as follows: subsistence farming (53.7 percent); sale (27.6 percent); barter (2.3 percent); seeds (11.4 percent); and clothing and various (5 percent). Average household spending (cash gained from the sale of agricultural products) goes to: food (39 percent); medical care (24.2 percent); education (27.5 percent); and others, including clothes, soap, investments, etc. (9.3 percent) (OCHA, 2005). Incomes are far from sufficient to meet the essential needs of local households. These proportions differ from one territory to another, however, illustrating the relative vulnerability of the households in question. In the territories of Masisi and Walikale the percentage of subsistence farming is substantially higher (67.5 percent) than in Beni (32 percent), which has more stable communities. Beni also sells more of its production (44 percent) than other regions, because it has better conservation possibilities. More detailed information on these proportions is given in Section 4 of this report.

1.2.2. Access to food

22. The two single most important determinants for households' sustained access to food are access to land and the market. Two normative systems apply to local access to land in Beni-Lubero. While individual land ownership is applied in most urban areas (the so-called "extra-customary centres") as well as in certain large concessions (plantations, mines), the access of smallholders is usually regulated by customary law. As in the rest of eastern DRC, this legislation is the basis for the administrative hierarchy represented in the territorial administration, which includes *collectivities*, *groupements* and *localities*. Since the mid-1980s, this system has been seriously disrupted by the introduction of a new national land law (which was never applied) as well as by a new class of rural capitalists that entered the rural market through corruption. [For more detail, see land use article.] Today, the majority of smallholders (most rural households) rent their fields from customary landlords in return for a yearly tribute. This tribute can be a fixed price (a chicken or a goat) or a percentage of the peasant's seasonal production. The access to production factors is also severely hampered by the lack of a decent road system: peasants must often walk long distances to reach their fields as well as the market nearest their village. It is mainly the women who must walk in order to cultivate fields or reach the weekly markets or purchaser storage facilities in their area. Their journeys are often disturbed by roadblocks set up by various militias. In Beni territory, the distance to fields ranges from 10 to 50 km.

23. Prices on local markets usually vary from one entity and one season to the other. For example, in Pinga (Walikale) one kg of manioc flour costs five times more than in Oicha (Beni). Prices also vary according to the different stages of production, which are commonly designated as the period of the *vache maigre* (sowing and weeding) and the period of the *vache grasse* (harvesting); during the *vache grasse* prices tend to be substantially lower due to increased availability of foodstuffs. The variation can also be explained by the different levels of security, which influence households' access to their fields and stocks. Finally, in the mining areas prices for foodstuffs tend to be substantially higher, because they generally have to be imported from outside the territory by road or airplane.

24. In order to circumvent these access problems, peasant households have developed several strategies to secure their livelihoods. In spite of the war, Butembo, Beni and Kasindi have remained competitive markets, which are supplied with foodstuffs (manioc, palm oil and beans) and cash crops like coffee, papaya and bananas on a regular basis. Households can have access to the basic necessities that supplement their subsistence farming such as salt, clothing and soap. In the less accessible areas, there are increasing numbers of small markets on the side of the road or even in the centres of localities. These markets are usually held at dusk to permit peasants returning from their fields to buy basic foodstuffs like manioc flour and salt. The disadvantage of this isolation is that commercial middlemen can easily impose their prices on producing peasants; this is especially true for imported products. The relationship between producers and buyers means that the countryside supplies much more than it receives; the trade ratio between the countryside and the city is generally 9:1.

25. The combination of decreased availability and problematic access to both land and the market means that coping strategies have been mostly "negative". With regard to food availability, peasants prefer to produce a number of staple foods such as manioc and bananas, and generally eliminate the cultivation of other foodstuffs that cannot be put directly on sale. They also avoid storing seeds and stocks in their habitats in order to reduce the risk of plundering by armed forces. As supplementary activities, they engage either in remunerated work (such as the carrying of goods or the cutting of wood) or the transformation of foodstuffs into semi-finished products to sell on the market. Examples of these are palm oil or wine (from palm nuts), *aracque* (an alcoholic drink made from maize flour), banana beer, maize and manioc flour.

1.3. INTERVENTIONS

26. The largest policy gap for food security interventions in Beni-Lubero is the lack of bridging interventions between emergency and development responses. The acute crisis following repeated military confrontations seems to be on the wane: after the armed clashes of December 2004 in the southern parts of Lubero, a relative calm was re-instated in most parts of the war-torn region. This means that most humanitarian programmes either closed or were reduced to a minimal level. However, most agencies are still reluctant to implement more development-oriented programmes with a view to stabilizing livelihoods affected by war. This reluctance is reinforced by the continued existence of several pockets of insecurity in southern Lubero and the interior (Manguredjipa, Musasa), where the continued presence of militias (FDLR and Mayi-Mayi) is still hampering a shift towards a more development-oriented approach. Paradoxically, development agencies are blocked in part by the actions MONUC and the FARDC take against the militias. In southern Lubero, for example, the

pressure from MONUC and FARDC on the Rwandan Hutu militias in Virunga National Park led to a dispersion of these forces into the rural areas; the direct consequence was retaliation by the militias against the local population. The presence of FARDC forces in the north and centre of Lubero contributed to increased insecurity in those areas, making them again inaccessible for international agencies.

27. A second characteristic of international interventions is that they have focused foremost on the *availability* of food, and less on the more structural aspects of *access to* and *stability of* food. In Masereka for example (central Lubero), nearly three quarters of intervening agencies (73 percent) focused narrowly on the aspect of food production, i.e. the classic distribution of seeds and tools. Local organizations tend to concentrate more on specific factors such as re-forestation, anti-erosion measures and the introduction of communal labour. In the entire territory, only one organization focused specifically on the problem of land access: SYDIP (*Syndicat des Intérêts des Paysans*). This association developed a programme of conflict resolution through assistance to small farmers for several legal procedures.

28. Additional problems for execution of a concerted development agenda have been:

- The sheer absence of information based on preliminary assessments of affected livelihoods. Apart from some direct needs assessments and general reports, very little data exist on the medium- to long-term factors and needs of Beni-Lubero's prolonged food crisis. This absence is reinforced by intervening agencies focusing mainly on food availability rather than on access and stability.
- The lack of coordination between intervening agencies. Although FAO has initiated food security meetings that gather together several agencies on a regular basis, the meetings are used to discuss immediate matters of food and asset distribution rather than contributing to concerted action or coordination of activities. Little if any exchange exists about the execution of overlapping programmes.
- The lack of participation of local agencies. Despite a shift in strategies by some intervening organizations towards more communal-supported partnerships the role of local organizations is still limited mostly to the execution of international programmes. An exception is the local Catholic church, which maintains several indirect partnerships with intervening organizations.

29. The following section provides an overview of recent food security interventions in Beni-Lubero within the framework of the FAO's twin-track approach. A more schematic picture of food security interventions is provided in the conclusion of the report.

1.3.1. Direct and immediate access to food

Principal actors: Oxfam, Solidarités, World Vision International (WVI), *Cooperazione e Sviluppo* (CESVI), *Première Urgence, Médecins Sans Frontières* (MSF), Norwegian Refugee Council, Save the Children, *Solidarité Développement Rural* (SODERU)

30. The distribution of food aid and relief has focused primarily on IDPs from Ituri and southern Lubero. As of 2006 in Beni, some 8 574 displaced families (OCHA, 2005) were staying both in campsites on the Erengeti axis to the north and with local households on the Mutwanga and Mangina axis to the east and northeast. They were assisted with food, latrines and septic tanks in the IDP sites. In 2003, the World Food Programme (WFP) and Oxfam bought a large amount of needed food supplies *in situ* due to a lack of supplies arriving from abroad. (WFP provided only 50 percent of basic necessities at that time.) In addition, some contingency stocks from the United Nations Children’s Fund (UNICEF) were forwarded through CESVI and Solidarités for the IDP camps on the Beni-Erengeti axis. The recurrent emergency in Ituri meant that most emergency programmes in Beni were being closed or scaled down, however. WFP and ECHO closed their supply programme in July 2005. Because this assistance was carried out by CESVI and Solidarités, both NGOs were forced to reorganize their programmes accordingly. While CESVI relocated to Ituri (principally Aru on the northeastern border), Solidarités started a food security programme in September 2005 to focus more on access to food (ensuring access to land, strengthening the labour market) and stability factors (diversifying agriculture and employment).

31. MSF-France assists IDPs in southern Lubero (Kirumba-Kanyabayonga axis) with medical aid. Together with OXFAM, it also provides psycho-social counselling for victims of sexual violence in the area. As of mid-2006, the humanitarian situation in Lubero remained extremely volatile, and many people continued to lack access to essential assets.

32. A remarkable situation occurred in December 2004, when international aid organizations descended into the field but the population in Kirumba largely refused to accept food supplies. People’s motivation was that they did not need food aid – which was anyway likely to be plundered by surrounding troops – but instead required improved security and more secure access to their fields: “*Nous ne voulons pas du pain mais de la paix*” (“We don’t want your bread, we want peace”). Some post-emergency aid slowly reached the region, but it continued to be affected by the presence of both FARDC and FDLR (Interahamwe) elements. OXFAM and VECO (*Vredeseilanden Coöperatie*, a Belgian NGO), assisted with water supplies in some urban centres (Lubero, Kaina, Kirumba, Kanyabayonga, Kyavinyonge).

33. The constraints to this urgent operation were due foremost to a lack of continuity between emergency and post-emergency contexts. Almost all people asked cited a total lack of coordination between organizations involved in food security interventions. While a commission was later set up through OCHA to exchange information about returning IDPs, coordination was hindered by shifts in priorities on the part of international donors. A lack of programming and follow-up meant that aid organizations were forced to shift their attention towards more “acute” crises such as that in Ituri. Furthermore, none of the organizations was able to provide information about ongoing or past assessments, citing a lack of long-term support. Under these circumstances, it was extremely difficult to develop a more prolonged food security approach, for example by providing assistance to receiving households. Eventually Solidarités and Oxfam took steps toward this end through their post-emergency programmes in Beni and Lubero, respectively.

1.3.2. Rural development/Productivity enhancement

Principal actors: *Agro-Action Allemande* (AAA), FAO, VECO RDC

34. A large post-emergency intervention was launched by the German NGO AAA in 2005. While formerly the organization was active mainly in emergency aid (financed by the United States Agency for International Development/Office of U.S. Foreign Disaster Assistance (USAID/OFDA)), in 2005 it received US\$3 million in funding from the European Union (EU) to be developed along the western Lubero axis. In addition to allowing rehabilitation of RDAs (*routes de déserte agricole*), the EU funding permitted AAA to develop a wide food security programme covering almost the entire area. The primary focus of the programme was on access to consumable products such as potatoes, rice and vegetables, and on the formation of agricultural specialists (*encadreurs agricoles*).

35. The EU funding led to a remarkable shift in AAA's strategies. While during the emergency intervention in Lubero (November 2004–February 2005), AAA worked through local NGOs, notably for seed multiplication, the new counterparts of AAA's programme were village committees. These committees served as mediators for the introduction of vegetable cultivation into the lower highland areas, and as facilitators of access to arable fields. The collective farming methods introduced for this purpose were based on local conventions, and involved the formation of agricultural specialists.

36. The FAO office in Beni engaged itself in a more or less classic food security programme concentrating on two aspects. A first objective was to assist displaced households in Lubero and Beni through so-called rapid intervention projects. These projects concentrated on reproducing seeds of basic crops such as manioc, potatoes and beans. A larger, EU-funded project concentrated on assisting malnourished households through nutritional centres, or NAC (*nourissement à assise communautaire*). Through these centres, FAO introduced vegetable farming methods and small animal reproduction units to meet basic alimentary needs. Their partners in the programme were CEAPRONUT (a local NGO) and WVI. With assistance from the Belgian Government, FAO also tried to introduce fishing activities in and around Beni and on Lake Edward. The problem with this assistance, however, was that fishing activity on the lake had practically vanished as a result of environmental and political threats.

37. VECO RDC was a relative newcomer in the area. In mid-2005, it was still difficult to situate its programme along a pure humanitarian or development agenda. It focused both on direct access aid (food and clothes distribution during the southern Lubero crisis) and on longer-term availability (rehabilitation of the agricultural road system), access (water conduit in Kyavinyonge, livestock rotation in Bunyuka, support of land access programmes, agricultural cooperatives) and stabilization of food security (diversification of agriculture and employment). Its partner in Butembo is *Réseau WIMA*, a church-based organization that works with several local NGOs.

38. The main difficulty in developing a consistent post-emergency programme in the region of Beni-Lubero has been an unstable security context. While there is relative security around the main axis (the road from Erengeti to Kanyabayonga), the interior continues to be plagued by the presence of various militias. On the positive side, the international donors' more recent willingness to assist longer-term programmes has resulted in at least a modest economic recovery; some notably

inaccessible areas were re-secured thanks to these development interventions. In addition, the coordination of developmental activities appears to be better-organized than that of emergency interventions – which is probably due in part to the more limited presence of development organizations. AAA is producing a series of preliminary studies and assessments, and in principle is open to sharing these with other organizations.

SECTION TWO

FISHING IN TROUBLED WATERS: THE EXPLOITATION OF LAKE EDWARD⁶

(written with Nzangi Muhindo Butondo)

II.1. Introduction

39. This section illustrates the institutional dimension of Beni-Lubero's food insecurity through a discussion of the fishing activities on Lake Edward. Once the fishing reserve of the entire province of North Kivu, Lake Edward's halieutic output declined radically, from 11–12 000 tonnes per year in 1954 to 3 000 in 1989 (Vakily, 1989). While the daily production per *pirogue* (canoe) still attained 1 500 to 3 000 fish in 1984–1996, this number has now been reduced to 30 (VECO, 2006). The reasons for this decline are found in the institutional disorganization surrounding the exploitation of Lake Edward: since colonial independence, an amalgam of actors and organizations emerged that are all competing for access to the lake's reserves. Another problem has been the absence of an efficient protection mechanism to prevent the lake from being overexploited. The absence of such mechanism has resulted in massive use of illegal fishing techniques (some of which are discussed below). The section starts by providing a history of the organization that has held a fishing monopoly on Lake Edward since colonial times: COPILE (*Coopérative des Pêcheries du Lac Edouard*), later renamed COPEVI (Cooperative of the Fishermen of Vitshumbi). It then describes the consequences of the destruction of this monopoly. It ends by discussing interventions meant to mitigate the consequences for the population of Lake Edward's declining halieutic output.

40. Lake Edward is potentially one of the greatest fish reserves of Central Africa. It is 90 km long and 40 km wide, with a surface of approximately 2 240 km², 73 percent of which is in the Democratic Republic of the Congo and 27 percent in the Ugandan Republic. Its maximum depth is 117 metres, its average depth 33 metres. As one of Kivu's mountain lakes, it abounds in a halieutic potential estimated in 1988 at approximately 200 tonnes per annum of deep water reserves, and 14 000 tonnes per annum of coastal reserves (Vakily, 1989). Because of its location in Central Africa's Rift Valley, its status remains closely related to that of the Virunga National Park. In 1935, a colonial decree included the entire Congo-Belgian part of Lake Edward within the limits of Albert National Park (today Virunga National Park). That same year, another colonial measure took advantage of a hygienic pretext (the area surrounding the lake was famous for sleeping sickness contamination) to evacuate the population of Lake Edward towards the mountain areas. These measures seriously impeded the local population from exercising its fishing rights.

41. To meet the demands of the local inhabitants, the colonial administration created fisheries in Vitshumbi and Kyavinyonge, where local inhabitants could exercise their fishing rights. COPILE comprised the customary heads of the collectivities of Bapere, Baswagha, Batangi, Bamate, Bashu, Watalinga, Bwisha, Bakumu, Rwenzori and Beni. It was the first cooperative society to represent the population that lost its fishing rights with the establishment of the national park. From 1949 onwards,

⁶ This chapter is the result of a study by Nzangi Butonto and Timothy Raeymaekers into the extinction of fishing activities on Lake Edward. To complement previous research by Nzangi Butonto, a three-day visit in December 2005 provided the opportunity to compare the material with more recent data. The authors would like to thank VECO-RDC for facilitating the trip and its outcome.

the cooperative exercised a monopoly on fishing rights to Lake Edward, and produced a record 6 000 tonnes of fish in 1960 (Vakily, 1989).

42. Today, several organizations compete for access to the lake. One organization is COPEVI (formerly COPILE). COPEVI's mandate is to regulate the activities of the two largest fisheries of Lake Edward, Vitshumbi and Kyavinyonge. Following national independence, several customary chiefs and co-founders of COPEVI decided to establish private fishing initiatives in their respective communities. In 1961, an individual fishery was established at Nyakakoma by one of the co-founders of COPEVI, *mwami*⁷ Ndeze. Its main activity consists in providing private fishing "concessions" in return for an annual tribute. At the end of the 1970s, a clandestine "fishery of the people" was established in Kisaka, at the western side of the lake. One of the striking elements about this fishery is that its certificate is an exact forgery of COPEVI's, the only difference being that the company's name has been replaced by the name SAGICOM (the company that currently manages the fishery of Kisaka). In complicity with the guards of the national park, the members of this "popular" fishery smuggle unlawfully captured fish and fishing nets to the region's commercial markets. These private initiatives by SAGICOM and *mwami* Ndeze in turn drove other customary heads to create their own fisheries on the shores of Lake Edward. Thus the head of Beni authorized the creation of a fishery at Kasindi-port; the head of Baswagha created fisheries in Muramba, Kisaka and Musenda; the head of Bamate authorized fisheries in Katunda and Lunyasenge; and the head of Batangi opened fisheries in Muyirimbo, Talihya and Kamandi.

43. The second range of actors competing for the lake's reserves are the state services ICCN (*Institut Congolais pour la Conservation de la Nature*) and ECN (*Environnement et Conservation de la Nature*) ICCN officially regulates access to the fisheries situated in Virunga National Park, including the valuable spawning grounds. To do this, the ICCN established patrol stations in the proximity of the spawning grounds. According to an agreement with COPEVI, the agents occupying the patrol stations are to be supplied by the organization with a certain amount of fish. But since COPEVI was not able to comply with the terms of the agreement, certain agents started authorizing individual fishermen to "monitor" activities for them. This resulted in a series of pirate fisheries, all of which are situated in the old patrol stations.

44. In the mean time, some environmental agents started delivering licences or even exploited the lake themselves – leading to massive destruction of the lake's spawning grounds. The ECN is charged with maintaining statistics on fish caught; applying regulations concerning the maximum mesh-width of the nets and the numbers of *pirogues* authorized on the lake; regulating the commercialization of fish production; and overseeing the health and hygiene of the fishermen. ECN agents are obliged to confiscate and destroy fish that has been illicitly captured through use of prohibited techniques. It is not uncommon, however, for these same agents to accept bribes for turning a blind eye on infringements; on many occasions their wives have been seen to sell the fry the agents confiscated.

⁷ Customary chief

II.2 The impact of disorganization

45. The major consequence of this amalgam of organizations and individuals competing for access to the lake's fish is an almost complete exhaustion of the haulieutic potential of Lake Edward. The table below illustrates this trend and presents a sample of ten *pirogues* from the fishery of Kyavinyonge during a period of five years (1998–2003). Figures detailing the evolution of local production and profits are presented in the Annex at the end of this section.

Table 1: Halieutic production

Month	Average monthly production by ten <i>pirogues</i>					
	1998	1999	2000	2001	2002	2003
January	8508	5944	8734	5677	3705	2231
February	6858	7295	8838	3348	3182	1076
March	8106	4632	4710	2916	2970	1486
April	7796	5852	5271	2292	2879	1082
May	9589	8924	5079	2766	2493	1475
June	12212	6056	3856	3673	2398	994
July	6400	6780	4007	2780	2739	2423
August	6233	6832	4970	2777	1714	1691
September	6463	7484	4603	2687	2268	989
October	6464	7105	3386	2618	1614	1500
November	7040	9141	4921	2702	2603	845
December	14040	6517	6296	4080	3174	1189
Annual production	85669	82562	64671	38671	28565	16981

46. Table 1 shows the reduction in captured fish for ten *pirogues*, with a negative slope. If this tendency continues (and if the operating conditions remain unchanged), the production per *piroque* will soon be close to nil. These conditions are furthermore confirmed by the economic realities on the ground: while local production has fallen to an absolute minimum, Ugandan vendors sell fish skeletons from the factories installed at the other side of the lake. These *djoro djoro* (or flip flops), as they are called locally, are sold at the markets of Kasindi (on the Ugandan-Congolese border) and Butembo⁸.

⁸ In November 2005 the majority of Butembo prohibited the import of fish skeletons, which are normally used as animal fodder. Despite this measure, people continue to smuggle *djoro djoro* across Northern Kivu's porous borders.

47. This depletion is further precipitated by the use of various illicit fishing techniques. The box below describes some of these methods.

Illicit fishing techniques on Lake Edward

Fishing with the tamtam. This technique consists of directing fish towards a set of nets using the noise made on the surface of the water by a stick inflated at the end by a cork (locally called *taikoni*). Commonly three nets are used with a mesh tighter than four inches, especially in the spawning grounds.

Malgha legba. This technique consists of voluntarily creating an imbalance between the floats. This forces the current to unfurl the nets at an excessive speed, making it possible to collect more fish than with a normal arrangement.

The fishing of the Bahavu. These fishermen use ordinary nets of four-inch mesh but cabled twice, which doubles the height of the nets. This allows the capture of fish on the lake's surface, while other fish underneath (such as longfish) are unable to escape.

Fishing with mosquito nets. This is the preferred technique of the military, which practices it in small ponds or at the marine posts on the south side of the lake.

48. Another consequence of the lack of order is the systematic theft of fishing nets, mostly with the complicity of the military. Veritable robber nests have been established in the most insecure parts of the lake (especially in the south), where thousands of unemployed youngsters are fishing with their *tam tams* and are repeatedly organizing incursions. The fishery of Kyavinyonge for example, recorded a theft of 55 913 nets between 1998 and 2003 – for a value of US\$208 295 – for the 213 *pirogues* they have in activity.

49. The reduction of fish reserves on the Congolese side of Lake Edward has resulted in continuous trespassing of Congolese fishermen into Ugandan waters. This has led to many confrontations with Ugandan patrols. Congolese captured by these patrols automatically have to pay a fine to release their *pirogues* and the people on board. Between April 2003 and August 2004 the fishery of Kyavinyonge had to pay a total of US\$68 650 to the Ugandan authorities.

II.3. Alternative strategies

50. Confronted with the decline in local production, the population bordering Lake Edward adopted a series of alternative coping strategies in order to continue providing for their livelihoods. The most common of these strategies was the invasion of Virunga National Park. According to local estimates, more than 400 hectares of the park's surface were invaded by local villagers (Butonto, 2004). Because of its favourable location (in Africa's Rift Valley, at considerable lower altitudes than Kivu's mountains), the park offers a perfect alternative for the production of subsistence and commercial crops. The militias and rebel groups that roamed the area for several decades systematically cleared it of wild animals such as elephants, hippos and chimps. The population living on the north side of the lake started cultivating rice, wheat, soya, bananas and manioc in the northern part of Virunga

National Park. Inhibited by the security context in the south⁹, the population of Kamandi was forced instead to move westwards, where it started cultivating the same products near Lunyasenge and Kisaka.

51. Paradoxically, the war greatly facilitated this economic alternative to Lake Edward's declining potential. Instead of continuing to suffer from diminishing production, the population of Lake Edward can now gradually reclaim its access to the national park, thanks to the absence of a rigid regulation framework and to clearance of the park by pillaging militias. The institutional fragmentation surrounding the exploitation of Lake Edward led in turn to an important opening in the regulation of fishing activities. Discussion platforms between farmers, customary heads and local NGOs have been established to facilitate access to Virunga National Park. Nonetheless, this evolution is being blocked by an unwilling environmental administration (ICCN and ECN), complicit in the illegal exploitation of the park.

52. Another aspect of Lake Edward's changing food system is the upsurge of petty trade in the area. Growing agricultural output from Virunga National Park resulted in a series of commodity chains that did not exist on the lake previously. While rice was traditionally brought to the lake from the bordering regions, former fishermen now send it to the market in Goma via Vitshumbi and Nyakakoma. Soya and coffee (and sometimes ivory and bush meat) are exported illicitly to Uganda, using the same *pirogues* formerly used for fishing. Another distribution chain is that of salted fish and *djoro djoro* from Uganda: several well-packed *ballons* (sacks) are imported every week on to places like Goma and Butembo, again using the same fishing boats as a means of transport. This boom in cross-regional trade has led in turn to a large-scale production of *pirogues* in Lake Edward's fishing villages, simultaneously serving the clandestine fishermen and the traders in their various enterprises.

53. An additional factor in the area is the large number of young men recruited into the army and local militias. This strategy has served as means of escape for young men who had no other alternative than fishing.

II.4. Interventions

54. Two types of food security interventions have been implemented to exploit Lake Edward since the beginning of the 1990s: one to finance the relaunching of COPEVI and the other to support fishermen with fishing equipment.

55. The first intervention occurred at the beginning of the 1990s. At that time, CEBEMO (a Dutch NGO now part of Cordaid) wanted to reinforce the production capacities of COPEVI with a project called *COPEVI relance*. Project management and execution were entrusted to the dioceses of Butembo-Beni and Goma, who automatically became shareholders of the project. The context did not allow the execution of the project at that time: the various rebellions erupting in Masisi and Lubero in 1993 made investments a risky enterprise, and two freezer chambers and a freezer truck disappeared.

⁹ The southern tip of Virunga National Park is one of the strongholds of the Rwandan FDLR militia.

56. A second intervention occurred during 2004–2005. FAO distributed a number of fishing nets to the two main fisheries of Lake Edward (Kyavinyonge and Vitshumbi). FAO intended to focus the project on assisting vulnerable women; through the leasing of fishing nets to the fishing associations, women were meant to earn income to supplement their subsistence activities. The project was abandoned because of insufficient local support¹⁰.

57. The approach of the interventions mentioned was to interpret the food crisis at Lake Edward as a crisis of fishing *equipment*. Contrary to this assumption, the level of fishing activity on Lake Edward demonstrates that its coastal reserves are greatly overexploited. The complete lack of organization on the part of Lake Edward's fisheries, and the consequent intensification of illegal techniques, has resulted in massive destruction of the lake's halieutic output. As explained, the principal causes of this depletion may be found in the lack of protection mechanisms and lack of control of access to the lake, mechanisms radically destroyed through Congo's state collapse. The following section explains in greater detail interventions aimed at another important aspect of Beni-Lubero's food insecurity: the access to land.

¹⁰ Conversation with FAO chief of programme in Beni, October 2005.

Annex to Section Two: Figures

Figure A1: *Yearly production per pirogue*

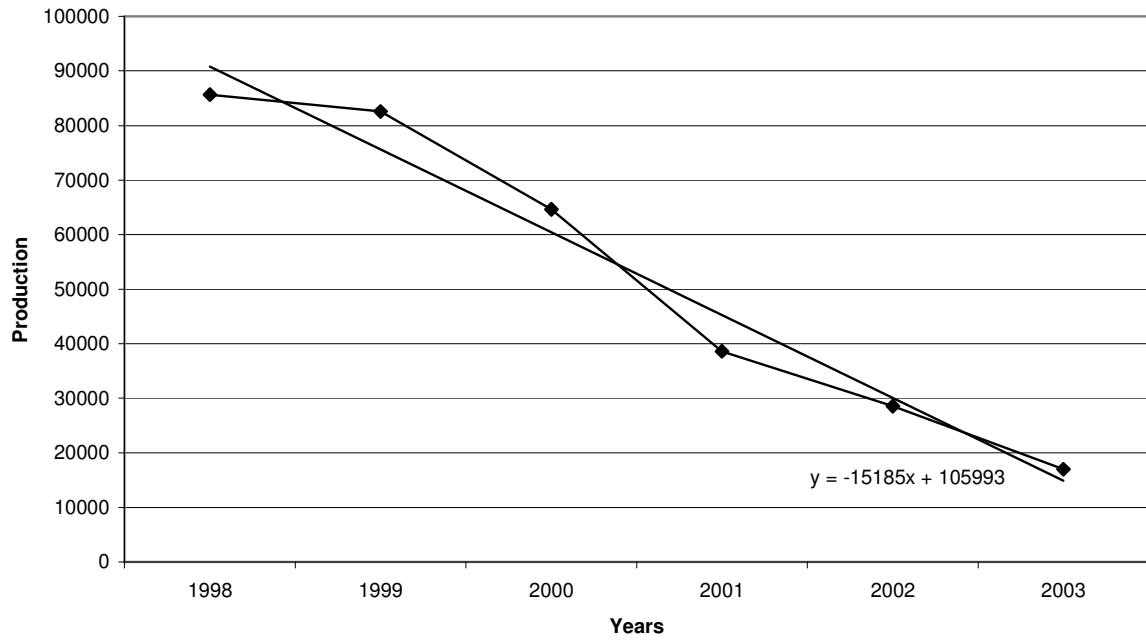
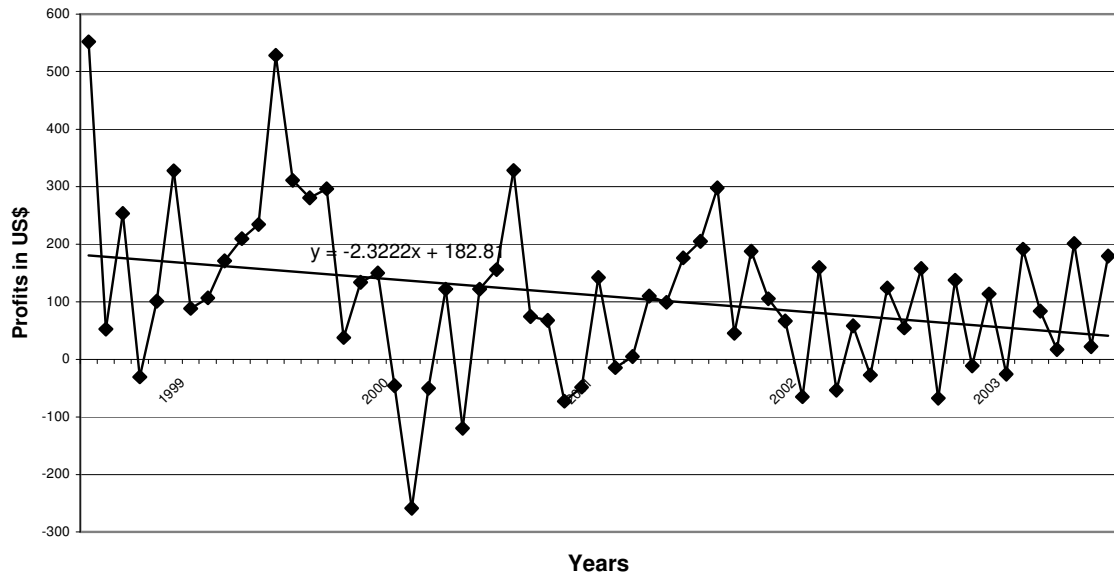


Figure A2: *Evolution of profits 1998–2003*



Source: Butonto, 2004

SECTION THREE

MOVING THE PROBLEM¹¹

III.1. “The new frontier”

58. This section explains the impact of the “dislocation” of households affected by problematic land access from central Lubero to the western Lubero forest. For at least two decades, the population of central Lubero has been confronted with growing pressure on its existing land. [This issue is discussed in detail in the land tenure report.] A series of interventions by non-governmental organizations and the local Catholic church during the mid-1990s aimed to “resettle” part of these central Lubero households to several “virgin” sites – including Katimbya, Muhangi and Musasa – in the western Lubero forest area. This relocation has a number of significant advantages both in terms of land access and agricultural productivity. In Vuyinga for example (a locality in western Lubero), households obtain on average an arable field of 10.3 ha for a local inhabitant and 5 ha for an “immigrant”; in Masereka (in central Lubero), this surface is generally 1 to 0.3 ha (Vahamwiti, 2005). In addition, 57.1 percent of land titles are estimated as “conflictual” in Masereka, against 12 percent in Vuyinga. While 80 percent of households in Vuyinga consider themselves to have secure land rights, only 30.6 percent in Masereka claim so (Vahamwiti, 2005). Compared with central Lubero, the population density in this western forest is far lower: 69.40 inhabitants per km² against 253 in central Lubero.

60. Taking into account population growth in both central and western Lubero, in less than ten years the pressure on arable land will have doubled in this forest area (Vahamwiti, 2005). In other words, in less than 15 years (around 2020) – if conditions remain unchanged – the structural factors contributing to food insecurity in central and western Lubero will have become very similar¹². The following section offers an overview of the food security situation of western Lubero through a discussion of two main problem areas: infrastructure and access to land, along with a number of strategies and interventions aimed at confronting these problems.

III.2. Back to the past?

61. Several factors support the preliminary conclusion provided by Vahamwiti regarding food insecurity. First, the forest of western Lubero has an almost total lack of infrastructure. Already highly inaccessible due to its dense forest, the poor state and insufficiency of roads further contributes to the region’s isolation. In addition, heavy rainfalls and constant moisture often lead to the crumbling of existing road tracks – which seriously impedes the commercialization of agricultural products¹³. Of the 17 peasants interviewed during a group discussion in Kitambya (some of which had to walk for

¹¹ This section explains the effects of this population movement both in terms of food security and development assistance with regard to two distinct areas: Musasa and Muhangi. It is the result of a field trip organized from 7–11 November 2005 to the area of Katimbya, Musasa and Muhangi, in western Lubero. The trip’s primary purpose was to make an inventory of the agricultural activities in the area, particularly agricultural production and marketing. Along with four main meetings with peasant communities in Katimbya and two others in Muhangi, individual contacts and discussions with political and administrative authorities and development organizations were organized. Two grassroots organizations provided the logistical support for the trip: LIIDE (*Ligue de Développement*) from Butembo, and AJMUD, an agricultural association based in Muhangi. The team consisted of François Paluku Biloko, Jean-Pierre Muhindo Musivirwa, Muhinda Mutokambali and Nzangi Muhindo Butonto.

¹² Conversation with the author, December 2005.

¹³ Peasants from Musasa for example, have to walk between five and nine hours to reach the nearest market of Muhangi.

six hours to reach the inhabited centre), 90 percent (14 people) found this problem “very significant”. Peasants have developed a number of strategies to circumvent these infrastructural problems. They trace shortcuts that carry them directly towards the markets, transporting food products on their backs in small quantities. This transport is done mainly by women. Men engage in communal work to mark out and maintain these road tracks and have constructed a number of wooden bridges, which have to be replaced often due to rotting.

62. A second problem is construction of local habitats¹⁴. The lack of adequate equipment and material often entails serious efforts on the part of peasants to construct their homes. This lack of decent shelter also influences agricultural production, because it makes it difficult to store food products; the ongoing task of fixing the houses is a considerable waste of time which would otherwise be spent on agricultural work. In order to save time, farmers usually build small huts with palm leaves or ferns. The doors are made of reed or leaves instead of the wood usually used for this purpose. (Wooden planks can be found only at very long distances.) This strategy is only palliative, since in less than two years the entire home must be renewed while heavy rainfall constantly carries away walls and roofs.

63. The third problem regards agricultural assistance¹⁵. Because the average age of people moving to western Lubero is generally rather old¹⁶, the household heads usually lack the physical force to engage in extensive activities such as deforestation and weeding. As a result, most peasants continue to cultivate small concessions. So instead of benefiting from larger concessions and more secure land titles, the environmental conditions mean that cultivated fields do not usually exceed the surface of those in the farmers’ home region. Most farmers report being disturbed by the presence of wild species such as monkeys and forest rats, which regularly destroy their crops just before harvest. The long distance to the farmers’ fields – mostly situated in densely forested areas – leads to an almost constant labour fatigue, which negatively influences the physical health of the peasants. During a workshop, 11 out of 25 participants judged this problem “very significant”; the same number found this problem “significant”.

64. Finally, a number of environmental problems continue to hinder agricultural activity by these replaced populations. Among these, the infertility of the soil and plant diseases are cited as the most important. Because the soil is argillaceous in most of western Lubero, manioc remains nearly the only crop that withstands local environmental conditions. Without adequate farming techniques, this monoculture almost automatically leads to infertility of the soil¹⁷. The result is a rise in destructive plant diseases (such as mosaïc) and a consequent drop in agricultural production¹⁸.

¹⁴ Out of 17 peasants from Musasa, 5 (29.4 percent) found this problem “very significant”; 6 out of 17 (35.3 percent) found it “significant”.

¹⁵ In Musasa, 30 percent found this lack of assistance “significant”; 30 percent “not very significant”.

¹⁶ For example, the population between 18 and 60 years represents only 41.4 percent of the population of Vuyinga (Vahamwiti, 2005). Peasants interviewed in Musasa and Masereka revealed that it is only the older men who are relocated; the reasons most often cited are continuing insecurity in the forest area and lack of infrastructure.

¹⁷ In Muhangi, 16 peasants out of 25 (64 percent) judged the problem of lack of fertility “very significant”; 3 out of 25 (12 percent) “significant”. Some farmers stated that they used deep ploughing as a strategy to combat lack of fertility. The result is a temporary increase of agricultural production which almost automatically drops during the next season.

¹⁸ In Muhangi, 18 peasants out of 25 (62 percent) judged the problem of plant diseases “significant” to “very significant”.

III.3. Again: lack of access

65. Another, more institutional, factor of food insecurity has been added to these environmental problems: the intervention of customary landlords. In several cases, farmers made reference to the obstructive attitude of local chiefs, who do not appear to accept the “intrusion” of these new inhabitants into their fiefs. The attitude of local landlords is contributing more and more to a problem of limited land access¹⁹. This has forced farmers in turn to look for land in ever more remote areas; it has also led them to abandon the practice of allowing fields to lie fallow, because the practice almost invariably invites landlords to resell the unoccupied land to others²⁰. In certain cases, landlords even end up ravaging the fields before the farmers have been able to harvest. Customary landlords also prohibit farmers from planting certain commercial crops that can be sold on local markets: the potential enrichment of these vassals presents a threat to their economic position.

66. In addition to problematic land access, many farmers complain about the lack of access to local markets. A major factor remains the lack of local infrastructure: 85 percent of the peasants see this as a “significant” to “very significant” factor in Musasa, while a full 100 percent came to the same conclusion in Muhangi. This factor entails another important consequence: the absence of an adequate road network means that peasants remain generally dependent on commercial middlemen to sell their produce in the more urbanized areas; 75 percent found this problem to be “significant” to “very significant”. One result of this is that farmers continue to be offered unfavourable prices for their produce (50 percent thought this was a “significant” to “very significant” problem). In general, the hypothesis made in the beginning of this study holds: the lack of access by peasants to favourable markets (monopolized by several intermediaries) often prevents them from improving their commercial revenue.

67. To confront these problems, the peasants of western Lubero have developed a number of strategies which are partially successful. In Musasa for example, peasants set up small selling points, or *boutiques*, in their doorways to sell to passers-by. The mining areas to the west of Musasa provides an alternative selling point; because of their seclusion, miners usually pay higher prices for their foodstuffs than can be fetched at regular markets. The coexistence of several markets held on the same day obliges peasants to make a choice according to certain criteria. The most important of these criteria are: (1) *the distance*: the nearest market is often chosen in order to reduce time spent on selling agricultural produce; (2) *the price*; (3) *harassments*: some markets are known to harbour particularly bothersome agents; and (4) *necessities*: the market is chosen in function of what is required.

III.4. Interventions

68. In the area of Musasa-Kitamba, peasants are conscious of the actions of certain organizations. The most important of these are:

¹⁹ In Muhangi, 54 percent of the farmers found the problem of the jealousy of landlords and lack of access to arable land “significant” to “very significant”.

²⁰ This problem is similar to that in central Lubero, where landlords resell fallow land they view as “unoccupied” (see land use article).

- *Ligue de Développement* (LIDE). Assists in accompanying and setting up peasants from central Lubero; organizing and supporting roadworks; distributing agricultural seeds (beans, wheat, potato) and equipment; and organizing rotating credit. LIDE also contributed to the resolution of land conflicts through the establishment of social relationships between newcomers and residents. As one farmer stated: “Our enemies of yesterday became friends today.”
- **The Catholic church** (parish of Lukanga). Helps with the migration of the local population.
- *Agro Action Allemande* (AAA). Assists with humanitarian aid (distribution of food, plastic sheets, agricultural and other equipment) and rehabilitation of the road network. Through AAA interventions, the area became relatively more accessible, primarily by motorbike, very quickly. The plastic sheets are used for building shelters, which in turn improves the storage of agricultural produce.
- *Communautés Ecclésiales Vivantes* (CEV). Contributes to the organization of a solidarity fund between the peasants and the organization of community work.

69. In Muhangi, several organizations intervene in the area of agricultural assistance. The most important of these are:

- *Syndicat des Interets des Paysans (SYDIP)*. Helps with the distribution of seeds (soya, coffee, beans), the training of agricultural monitors, the legal accompaniment of its peasant members and diffusion of the land law.
- *Conseil Technique pour le Développement Rural (COTEDER)*. Installed a hydroelectric mill, distributed seeds and runs a micro-credit operation.
- *Association des Jeunes de Mubangi pour le Développement (AJMUD)*. Assists peasants in their main activities (agriculture) and in using the hydroelectric mill.
- Several **mutual organizations** exist that assist in improving habitat, performing community work, mediating taxes and maintaining roads.

70. As is clear, most interventions in the Musasa-Muhangi area concentrate on agricultural assistance, relocation of households from densely populated areas, distribution of seeds and tools and the organization of economic activity. AAA works to rehabilitate the road from Kimbulu to Musasa and from Musasa to Kitambya.

71. The effects of these interventions have been ambiguous, due to two factors. On the one hand, most organizations present in the area at the time of writing (2006) had begun to work only recently, making it difficult to measure their impact. Organizations that had been present for longer (such as the Catholic church) are active in a restrictive field only, namely assistance to relocation. On the other hand, interventions are once again carried out without prior assessment of households’ overall needs. This means that underlying problems that manifest themselves only over a longer term (e.g. the land problem) are generally overlooked. Table 2 shows current (2006) interventions in the Musasa and Muhangi area with their respective estimated impacts.

Table 2: Interventions and their impacts in the Musasa and Muhangi area

Factors	Interventions	Estimated impact
Lack of roads	AAA: rehabilitation of the axes Kimbulu–Musasa and Musasa–Katimba	<i>Positive:</i> increased accessibility <i>Negative:</i> abandonment of roadworks due to lack of means
Construction of habitats	AAA: distribution of plastic sheets	<i>Positive:</i> The sheets can be utilized during displacement in the forest (as roofs for the habitats) and for the drying of agricultural products <i>Negative:</i> insufficient sheets; no intervention in habitats as such
Agricultural assistance	AAA, LIDE, COTEDER, SYDIP: supply of seeds and tools Local <i>mutuelles</i> : accompaniment of underfed children; consciousness-raising against alcoholism	<i>Positive:</i> relative growth of agricultural production <i>Negative:</i> no improvement except for eggplants, cabbages and carrots; no assistance in improvement of accessibility (through cutting down trees, chasing wild animals, technical assistance) <i>Positive:</i> relief of household charges <i>Negative:</i> lack of means
Environmental Problems Infertility of the soil Plant diseases Climatic disturbances	no intervention no intervention no intervention	
Land access	SYDIP: popular education about the land law; legal accompaniment of peasants	<i>Positive:</i> better knowledge of infringements; winning of some lawsuits <i>Negative:</i> no action against obstructive landlords; accumulation of land by unknown others

SECTION FOUR

THE PRICE OF WAR?

IV.1. Introduction

72. A final issue of importance for Beni-Lubero's food security situation is the access of small farmers to the market. Contrary to popular wisdom, farmers confronted with acute crisis situations do not always withdraw completely into subsistence. The revenue acquired from the sale of some agricultural products constitutes a central element of local food security (Collinson, 2003). As is explained in this section, the peasants of Beni-Lubero dedicate huge efforts to reaching local markets with their seasonal produce, the profits of which are used for procuring prime necessities, medicine and schooling.

73. Ten years of violent conflict have produced two main market problems: on the one hand, the drop in overall national demand following the increasing isolation from Kinshasa (traditionally Kivu's main "export" base) resulted in a downward spiralling trend for local agricultural prices. In 2003, a sack of beans (100 kg) from Beni-Lubero was valued at between US\$12 and US\$28, while during the pre-war period it was worth US\$80 (Jackson, 2003). On the other hand, the total deterioration of local industries such as soap factories and beverage units generated a steep rise in the import of basic necessities: soap, salt and household equipment are currently imported from places like Dubai, Indonesia and Thailand, for prices that have a severe impact on the average household budget. As a result, peasants are increasingly trapped in a price vise, between having to buy high-priced basic necessities and being offered low prices for their less valuable agricultural produce. Local producers are also affected by unfavourable trade relations with neighbouring Uganda. Because Uganda offers higher, subsidized prices for cash crops like coffee, cocoa and vanilla, small producers smuggle them over the border from DRC. However, when those products are subsequently re-imported into the DRC in the form of semi-processed foodstuffs (such as cookies or chocolate), the prices are higher than they would be if DRC had local processing industries. The main beneficiaries of this regional trade are not the peasants, but a series of Congolese and Ugandan intermediaries positioned between the peasants and the market.

74. In addition, the war has seriously affected agricultural output. The production of coffee – traditionally the main export product – decreased from over 30 000 tonnes per season in 1990–1991 to less than 6 000 tonnes in 2005. Plant diseases like *tracheomyces* (coffee wilt disease) are only part of the problem. The major reason for the drop in agricultural output has been continuing insecurity in the countryside, where regular displacement and pillaging by roaming militias has severely hurt peasants' income security. Another reason has been the complete deterioration of the road system: especially in less accessible areas, peasants have to invest all their energy in the maintenance of muddy paths used to reach nearby markets. One consequence of the lack of passable roads has been a huge increase in bicycle traffic. In the northern parts of North Kivu and Oriental province, young cyclists (called *toleka*, or "let us pass") pedal by on Chinese or wooden bikes, stowing 250 kg or more of palm oil or bananas from the interior to the main markets in North Kivu (Beni, Butembo, Kasindi) and Kisangani. The bravest among them complement their petty trade by stuffing diamonds and gold into the tubes of their bicycles, evading road blocks and barriers set up by various militias.

75. The isolation of Kivu's countryside has led to increased dependency of agriculturists on "capitalist" modes of production. This dependency is supported primarily by the re-introduction of semi-industrial crops like vanilla and *papaine*, imposed on Kivu's hinterland by a range of small monopolist traders (both from Congo and other countries). Unlike during the pre-war period (when such products were primarily exported through more or less official *comptoirs*), the current trade in industrial crops is characterized by blatant exploitation. Farmers generally lack the skills and information to operate on the regional market, and it is easy for traders to buy up the products of several small suppliers and make profits in neighbouring Uganda. In 2004 a sharp decrease in vanilla exports from Madagascar²¹ led to a steep rise in global demand for the bean, including in Uganda. Ugandan traders descended into neighbouring Congo and offered traders up to US\$3.50 per kg of unfinished vanilla²². Local farmers were offered only the equivalent of US\$0.08 to US\$0.10 per kg, however. The same discrepancies could be seen in the prices paid for papaya, palm oil and coffee.

76. To control local production, traders have introduced a type of private security arrangement that binds farmers to both their land and the market. Often, the producer and trader reach an agreement on the price for a quantity produced. This agreement is usually accompanied by prepayment on the farmer's estimated production. To ensure that his deal will be respected, the intermediary then engages some other farmers – or even his own "security personnel" – to check on the evolution of local produce, and to prevent the farmer from selling his production a second time. As an "exit strategy", the farmer can obtain credit (often from the same trader) if he has already spent the prepayment on other necessities. Together with problematic access to land, this exploitative trade relationship between local traders and farmers is the most important "structural" consequence of the war in Beni-Lubero.

IV.2. Factors

77. Following are examples of principal foodstuffs put on sale on Lubero's markets. For this section, data were combined from several locations in central and southern Lubero, traditionally the agricultural "backyard" of commercial centres like Butembo and Lubero. Data for this exercise were collected during a three-day visit to the markets of Masereka and Luhotu (central Lubero) and to Kirumba, Kayna, and Kanyabayonga (southern Lubero). The calculation of commercial revenue is based on central factors that influence agricultural revenue such as: (1) price and the quantity put on sale; (2) the organization of the market; (3) transport costs; and (4) taxes. The main objective of this exercise is to offer a preliminary insight into the *relationship* between agricultural prices and the revenue gained from the sale of basic foodstuffs by Lubero's small farmers – the variation between prices on the one hand and agricultural revenue on the other hand. At the end, these calculated revenues are compared with estimates of average household incomes from other sources.

IV.2.1. Agricultural prices

78. The region of *central Lubero* has a number of important markets that serve both Lubero's interior and the urban centres (Lubero and Butembo). The goods circulate as follows: (1) Luhotu and

²¹ The main global vanilla producer, Madagascar, was hit by cyclones in January, February and March 2004, causing large-scale damage to its exports: 300 000 hectares of vanilla, paddy and other crops were destroyed (FAO/GIEWS, 2004).

²² Conversation with vanilla-producing peasants in Mutwanga (on the Congo–Uganda border), February 2005.

Masereka mainly exchange local produce such as potatoes, onions, wheat and beans (Luhotu) or onions and potatoes (Masereka). (2) These products are in turn sold in larger towns such as Lukanga, Musienene, Kyondo and Butembo. (3) Farmers from Luhotu and Masereka buy mainly manioc flour and bananas in Lukanga and Musienene. (4) Butembo provides the interior with basic necessities such as salt, soap, petrol and clothing. For *southern Lubero*, the commodity chain is as follows: staple food and vegetables are traded between southern Lubero's countryside and local commercial centres like Kirumba and Kayna. From there, the goods are transported to cities like Goma and Butembo, where they are exchanged for basic necessities such as soap, salt and clothes.

79. Price is a first factor that influences the revenue from the sale of these products. Prices vary enormously according to the period of sale (see Table 3). During the harvest period (locally called *la vache grasse*) prices tend to be far lower than during periods of relative scarcity (the period of sowing and weeding, locally called *la vache maigre*). In late 2005, the price of 1 kg of potatoes or onions varied between the equivalent of US\$0.20 and US\$0.10, according to the period of the *vache maigre* or *vache grasse*. For wheat and beans, the price per kg was equivalent to US\$0.20–US\$0.28. A kg of manioc changed hands for US\$0.05–US\$0.20, and a kg of maize between US\$0.15 and US\$0.18. The price fluctuation for Lubero's principal foodstuffs was almost 50 percent.

Table 3: Product prices

N°	Product (1 kg)	<i>vache grasse</i>	<i>vache maigre</i>
1	potatoes	100 Cf (US\$0.20)	50 Cf (US\$0.10)
2	onions	100 Cf (US\$0.20)	50 Cf (US\$0.10)
3	wheat	140 Cf (US\$0.28)	100 Cf (US\$0.20)
4	beans	140 Cf (US\$0.28)	100 Cf (US\$0.20)
5	manioc	25 Cf (US\$0.05)	100 Cf (US\$0.20)
6	maize	75 Fc (US\$0.15)	90 Cf (US\$0.18)

(The exchange ratio between US\$ and Cf at the time of writing was 1:500).

80. Supply and demand are influenced in turn by factors such as local food practices, the evolution of food security and the quality of the offered product. This analysis concentrates only on factors that have an immediate effect on agricultural prices. In addition to the quantity/quality of the product put on sale, these factors are the exchange rate of the United States dollar and product storage. In the case of the six products under discussion, storage ranges from one month (for potatoes and onions) to six months (for wheat, maize and beans). The exchange ratio is relevant only when an external market is involved (i.e. when confronting net revenue gained from foodstuffs with the price of imported basic necessities).

81. The multiplication of the price by the quantity of the product offered constitutes the gross commercial revenue farmers acquire for sale of their products. The gross commercial revenue from Lubero's principal products can be calculated as follows:

$$R_G = P_{p[vg-vm]} \times Q_p (1kg) = [US\$0.10-0.20] \text{ (potatoes)}$$

$$R_G = P_{o[vg-vm]} \times Q_o (1kg) = [US\$0.10-0.20] \text{ (onions)}$$

$$R_G = P_{c[vg-vm]} \times Q_c (1kg) = [US\$0.20-0.28] \text{ (wheat)}$$

$$R_G = P_{b[vg-vm]} \times Q_b (1kg) = [US\$0.20-0.28] \text{ (beans)}$$

$$R_G = P_{ma[vg-vm]} \times Q_{ma} (1kg) = [US\$0.05-0.20] \text{ (manioc)}$$

$$R_G = P_{mz[vg-vm]} \times Q_{mz} (1kg) = [US\$0.15-0.18] \text{ (maize)}$$

where R_G = Gross revenue, p = potatoes, o = onions, c = wheat, b = beans, ma = manioc, mz = maize, vg/vm = *vache grasse/vache maigre* and Q = quantity.

IV.2.2. Taxes

82. To calculate the net revenue acquired from the sale of these products, various taxes imposed on the producers must be calculated in. Taxes are not levied on the basis of the value of sold produce. Instead, a number of fixed taxes are collected from the producers every time they reach the market with part or the entirety of their seasonal produce. In early 2006, these taxes included 50 Cf *each* for communal tax (*taxe chefferie*), public health, army tax and city tax; and 20 Cf for a market tax.

83. Producers thus pay a total of 170 Cf [US\$0.34] every time they reach the local market, so taxes must be calculated on the basis of the number of market entries (ME) per sold foodstuff. In southern Lubero, an “insecurity factor” should be added to these tributary taxes: peasants from Kayna, Kirumba and Kanyabayonga pay a military share of 1.5 kg of manioc a week. These “taxes” are collected by the Rwandan Hutu militias, who visit every locality on a weekly basis, but their random nature means the “taxes” cannot be included in a general calculation of household income. A yearly tribute (or *redevance*) of US\$3, paid to the customary landlord, must also be calculated for each field. The total of taxes and harassments can thus be represented as such:

$$T_x = [T_{x_{ch}} + T_{x_h} + T_{x_m} + T_{x_a} + T_{x_c}] \times ME - M_r - R_e$$

where $T_{x_{ch}}$ = communal tax, T_{x_h} = public health tax, T_{x_m} = market tax, T_{x_a} = army tax, T_{x_c} = city tax, ME = market entry, M_r = Military ratio and R_e = yearly tribute or *redevance*.

Since the military share is a regular tax that runs throughout the year, it is calculated as such. The total tax for one year of manioc thus equals 78 kg (1.5 kg x 52 weeks) x US\$0.125 (the average manioc price) = US\$9.75 (The military tax applies only to manioc.) The remaining taxes equal US\$0.44 per market entry.

IV.2.3. Transport costs

84. A final factor is the cost of transportation. The lack of local infrastructure (almost total disintegration of the road system in the Kivus in general, and in Beni-Lubero in particular) imposes serious constraints on peasant producers. Every time they want to reach the market they spend several hours walking or cycling along muddy road tracks, carefully avoiding passing vehicles.

Products are usually stowed on women's backs or on the *tolekas*' bicycles. It is difficult to estimate the real cost this transport represents for peasants. On the basis of conversations with peasants in central and southern Lubero, and of the estimates of average household incomes by other sources [see overview paper], we estimate an approximate value of US\$0.50 of lost opportunity costs per market entry²³.

IV.2.4. Net revenue

85. On the basis of this information, we can calculate the net revenue acquired by small producers for the sale of their agricultural produce. The final factor is the quantity put on sale. Before reaching the market, peasants reserve part of their production for their own consumption, for the payment of labour (particularly of non-family members) and for the payment of seeds they have borrowed from cooperatives or ordinary suppliers. On the basis of the information provided by Luhotu's small farmers, the following equation can be elaborated:

$$R_N = P_{[vg-vm]} \times [Q_\pi - Q_c - Q_l - Q_s] - Re - ([Tx_{ch} + Tx_h + Tx_m + Tx_a + Tr] \times ME)$$

where R_N = net revenue, $P_{[vg-vm]}$ = price *vache grasse* – *vache maigre*, Q = quantity, Tx = taxes, ME = market entry, Re = annual tribute and Tr = transport costs. The quantity of sale is calculated on the basis of the total produce (π) minus the amount used for own consumption (c), paid labour (l) and seeds that have to be repaid after the harvest (s).

86. The following equations represent the seasonal net revenue gained from the sale of potatoes, wheat and onions on the basis of production per half hectare (the average acreage available to a household). The prices that are presented are those offered by the intermediaries from Butembo.

$$\begin{aligned} R_{Np} &= P_{[0,1-0,2]} \times [500 - 200 - 100 - 100] - US\$3.00 - ([US\$0.44 + US\$0.50] \times 3) \\ &= [US\$4.03 - 14.03]^{24} \text{ (potatoes)} \end{aligned}$$

$$\begin{aligned} R_{Nc} &= P_{[0,2-0,28]} \times [200 - 100 - 30 - 50] - 3 - ([US\$0.44 + US\$0.50] \times 3) \\ &= [(-1.97) - (-0.37)]^{25} \text{ (wheat)} \end{aligned}$$

$$\begin{aligned} R_{No} &= P_{[0,1-0,2]} \times 500 - 30 - 0 - 60 - 3 - ([US\$0.44 + US\$0.50] \times 3) \\ &= [US\$35.03 - US\$76.03] \text{ (onions)} \end{aligned}$$

²³ Since it is estimated that peasant households earn on average an income of US\$0.50–US\$1.00 per day, this (minimum) value represents the lost opportunity cost per market day.

²⁴ Since potatoes are harvested twice a year, yearly revenue from their sale can be estimated at [US\$8.06–US\$28.06].

²⁵ The shafts of wheat are used to thatch roofs.

IV.2.5. Organization of the market

87. The previous equations represent the net revenue gained by peasants from their seasonal production of the principal agricultural products. As can be seen from these equations, onions are the main sources of revenue, while wheat and potatoes are used mainly for self-consumption. [These equations represent the data from central Lubero]. In terms of revenue from agricultural sales, wheat (a major consumption product) presents a net loss for Lubero's peasants. The overall net revenue per season from these products varies from US\$37.09 to US\$89.69. Given that they are harvested twice a year, the average net annual income from central Lubero's principal agricultural produce can be estimated at US\$126.15 per household. This is lower than the estimates of the African Development Bank, which in 2005 concluded that in eastern DRC the average *individual* income per annum was US\$32. [See overview paper.] When the amount farmers lose on "irregular taxes" (i.e. the various tributes and harassments they encounter each time they enter the market) is added, income is even lower. For potatoes and maize (the major commercial products), these "taxes" amount to an average of 42 percent of the products' gross revenue. For wheat (mainly a consumption product), the percentage is as high as 215 percent. Even leaving aside the "insecurity factor", almost half of a farmer's gross income is lost on taxes and tributes.

88. One more factor should be included to make the picture complete: the organization of Lubero's food market, or the way in which agricultural produce is being commercialized. A distinction made between products sold directly (by the farmers themselves) and those sold indirectly (through a set of intermediaries) allows us to calculate the percentage of gross seasonal revenue of agricultural sales small farmers lose through lack of direct access to the market.

89. Farmers lose a considerable part of their potential revenue through the intervention of intermediaries. One example is manioc flour. This semi-finished product is used as an alternative during the period of the *vache grasse*, when prices for raw manioc are low: while raw manioc is valued at US\$5 per 100-kg bag during the period, manioc flour is valued at US\$11 per bag. If the entire calculated production of manioc is sold in the form of manioc flour, the farmer's gross seasonal income from it would be US\$31.13.²⁶ Calculating a minor contribution to the flour miller (about US\$1), the net revenue would be:

$$\begin{aligned} R_{Nmf} &= \\ & \text{US\$30} - \text{US\$3} (= Re) - \text{US\$0.44} (= Tx) \\ & = \mathbf{US\$26.56} \text{ (manioc flour)} \end{aligned}$$

The sale of manioc flour during the *vache grasse* thus represents a minor surplus value (about US\$5 per 100 kg) compared with the sale of raw manioc during the same period. However, the price of **raw manioc** during *vache maigre* season is higher even than the price of **manioc flour** during *vache grasse*. Thus, it would be more profitable to the small farmer to conserve and sell the raw manioc at the more favourable moment during *vache maigre* season.

90. The situation becomes even more complex if one considers how much profit an intermediary makes on the same bag of manioc flour. With no other added costs, the intermediary makes

²⁶ As indicated above, production put on sale is 300 kg minus the 27 kg reserved for the military.

US\$39.62 for one 100-kg bag of manioc flour – or US\$13.94 more than the farmer made. In other words, the intermediary makes the equivalent of almost half of the farmer’s net revenue²⁷.

91. A more striking example of farmers’ loss to intermediaries is coffee. Intermediaries usually get a price of US\$1.50 per kg for coffee, or five times the average gross price offered to small farmers (US\$0.30). Other things being equal, the gross price offered to the intermediary thus differs a full 400 percent from the gross revenue made by the small farmer.

IV.3. Strategies

92. To confront this erosion of their agricultural income, farmers have developed a number of strategies to increase their income and access to the market. As shown in Table 4, these strategies are inadequate to counteract these negative influences, which originate mainly in the lack of organization of central Lubero’s agricultural markets. Apart from speculating and cheating, farmers have very few instruments at hand to circumvent the monopolization of their produce. The same can be said about the various “taxes”, most of which end up in the pocket of the taxing agents themselves. The only action a peasant can take is to negotiate tributes to the imposing tax agent. This situation changes once the product is in the hands of the commercial middleman, who usually has a lot more pecuniary/political power for forcing these agents into a favourable deal. Unlike these middlemen, most farmers are left with a dire choice: accept the prices and taxes imposed on them by state agents and commercial middlemen, or stay in their fields and live off their own production.

Table 4: Strategies for the sale of agricultural products

Price	Taxes	Market organization	Conservation
<ul style="list-style-type: none"> - speculation - cheating: use of <i>mesurette</i>²⁸ instead of weights - transformation of wheat into <i>aracque</i> (an alcoholic beverage) - transformation of manioc/wheat into flour - long-term barter with other farmers - inform oneself about the exchange rate in Butembo - sell potatoes intended for seeds 	<ul style="list-style-type: none"> - collective marketing - send minors to the market (less noticeable) - negotiate with tax collectors - pay <i>in natura</i> - sell directly from the field - develop social relationships with the tax collectors - benefit from tax collectors’ lack of cash 	<ul style="list-style-type: none"> - inform oneself on the prices paid to the intermediaries - define the profit margin to be granted the intermediaries. 	<p><i>Wheat</i></p> <ul style="list-style-type: none"> - oil the grains with palm oil or ashes <p><i>Potatoes</i></p> <ul style="list-style-type: none"> - dry on racks - harvest with care (to avoid damage that causes rotting) <p><i>Onions</i></p> <ul style="list-style-type: none"> - harvest at full maturity - store in a dry place

²⁷ Or 49.17 percent: (US\$39.62 – US\$26.56) / US\$26.56 x 100)

²⁸ The ‘*mesurette*’ is an informal measure (like a can or a bucket), which makes it easier for vendors to cheat.

IV.4. Interventions

93. The main intervention implemented to facilitate Lubero farmers' access to the market is the establishment of agricultural cooperatives. These cooperatives have not been able to reverse the negative picture of Lubero's agricultural market as described above. First of all, peasants generally recall negative experiences with cooperatives, citing problems of leadership. Cooperative members have not had representation, and some cooperatives have even closed due to corruption²⁹. Even without these leadership problems, it is doubtful that cooperatives would be able to have a substantial effect on agricultural revenue. If we take the example of manioc flour, the net price gained by the agriculturalist would have to increase by at least 35 percent in order to counteract the negative effects on revenue of intermediary trade. On the other hand, the potential advantage of risk pooling (i.e. the insurance of a medium-to-long term trading relationship coupled with a better price) is blocked by the monopolistic behaviour of some cooperatives, which generally encounter little competition. The combination of negative experiences and lack of trust appear to seriously limit any possible advantageous affect of cooperative interventions. In any case it can be assumed that organizational factors such as taxes and intermediaries will continue to be a determining factor of the peasant's agricultural revenue. This confirms the initial hypothesis of this report that institutional factors exercise a determining influence on both the revenue and production of Beni-Lubero's households.

²⁹This was the case with COMAGRI, formerly financed by the Zairian-Canadian cooperation.

CONCLUSIONS

94. This report outlined the impact of protracted conflict on the food security situation in Beni and Lubero, two territories of the Democratic Republic of the Congo. As was stated in the introduction, the region contains elements of both war and peace. While in December 2004 a relative calm came to the region when several ceasefire agreements went into effect, it nonetheless continues to have pockets of insecurity. These include southern Lubero, which hosts nearly 40 percent of North Kivu's IDPs, as well as the western Lubero forest and is characterized by lack of even the most basic infrastructure.

95. This situation of “neither-war-nor-peace” poses several challenges to both policy analysis and response. According to FAO/ESA, “post-conflict” situations such as the one in Beni-Lubero are very often characterized by a *policy gap*, or a paradox, between the nature and causes of food insecurity, and policy response. Although it is increasingly acknowledged that food insecurity in such cases is caused by a complex and dynamic set of causes, responses to food crises still tend to be driven by a one-dimensional understanding of these crises. One major element that is often disregarded is the institutional or societal change that results in part from the adaptation of livelihoods to protracted crises. In this report, these changes were illustrated through a discussion of two main problem areas affecting Beni-Lubero's households: the access to land (or fish reserves, in the case of Lake Edward) and to the market.

96. The first conclusion of this report is that Beni-Lubero's food crisis continues to be determined to a great extent by structural factors of food insecurity, mainly access to land and the market. A cluster of “institutional” factors maintains a determining influence on households' agricultural production and revenue, which in turn leads to a confirmation of structural poverty. These factors can be defined as: (1) a lack of institutional *organization*: i.e. the degenerative decline of national state institutions, leading to a privatization of household assets; and (2) a lack of ensured *access* – expressed in the monopolistic attitude of several “gatekeepers” to household entitlements (in this case customary landlords and commercial middlemen). The lack of ensured access of smallholders to arable fields is still a key determinant of Lubero's food crisis. To confront this growing land problem, a number of organizations have intervened in favour of the relocation of households affected by land conflicts in central Lubero to less populated areas in the west. Although at first sight, these interventions appear to offer some significant advantages in terms of availability of and access to food, Section Three of this report concluded that such relocation offers only a temporary solution. The near absence of infrastructure as well as the obstructive attitude of local landlords (who are generally hostile to the “intrusion” of these newcomers into their area) means that the peasants' efforts to enhance their livelihoods are largely frustrated. An important secondary conclusion of this comparative analysis is that by 2015 or 2020 (if conditions remain unchanged), the outcomes of Beni-Lubero's food crisis are likely to look very similar in central and western Lubero as well – the latter area being increasingly subject to of the effects of structural factors such as limited access to land.

97. A similar conclusion was reached with regard to the exploitation of Lake Edward – described in Section Two of this report. Once the fishing reserve of the entire province of North Kivu, the halieutic output of Lake Edward has suffered a radical decline. The reasons for this are institutional disorganization and the absence of efficient protection mechanisms that prevent Lake Edward from

being overexploited. In the absence of such a framework, households have been forced to look for different alternatives, amongst others cultivation of the region's national park. However, here also households continue to confront the same problems they encountered on the lake, in the form of agencies. In the case of Lake Edward, the environmental services themselves are complicit in the destruction of the lake's productive output.

98. This study also focused on the access to markets. Farmers confronted with acute crisis situations do not retreat completely into subsistence survival. On the contrary, revenue acquired from the sale of agricultural products constitutes a central element of local food security. However, peasant households confront two main problems in this regard. The first is lack of *accessibility*: because of a lack of market infrastructure, farmers encounter great difficulty in getting their products to market. The second is a problem of *access*. Calculations offered in Section Four showed that organizational factors play a determining role in peasants' agricultural revenue. The factor with the greatest influence on households' agricultural revenue is middlemen, intermediary traders that monopolize agricultural households' access to the market and pay low prices. The second most important factor is taxes of various kinds, including tributes and coerced payments peasants have to make before reaching the market.

99. The second conclusion of this report is that interventions have barely addressed the underlying causes of Beni-Lubero's food crisis. Despite the preponderance of "structural" factors such as the problematic access to land and the market, most intervening agencies prefer to focus on factors related to the immediate availability of food, such as food aid and seed/input relief, or the rehabilitation of agricultural infrastructure. One positive outcome of this focus has been a modest agricultural recovery, resulting in part from improved access to seeds and agricultural equipment. However, without an adequate response to the institutional dimension of Beni-Lubero's food crisis, this positive outcome is likely to have little effect in the medium- to longer-term. One problem is that many interventions continue to interpret Beni-Lubero's food insecurity as a crisis of *equipment*. As was demonstrated in the case of Lake Edward, FAO assisted in the distribution of fishing material to a number of vulnerable actors, which were meant to use it to supplement their subsistence activities. Without the establishment of an adequate protection mechanism, however – which would enable fishers to exploit the lake in a sustainable manner – the recipients had no other option than to sell the equipment to more fortunate counterparts. In the case of western Lubero, the lack of a protective framework was disregarded altogether: intervening organizations limited themselves to offering a subsistence alternative, with no attention to even the most basic infrastructure. The lack of a long-term view of Beni-Lubero's food crisis risks reconfirming the reasons why these organizations intervened in the first place, namely limited access to land for households that were eventually relocated. Finally, in the case of commercial cooperatives it was concluded that they did not resolve the problem of the disorganized nature of Beni-Lubero's market. The combination of previous negative experiences with cooperative leadership, and the lack of a viable alternative to commercial monopolization, meant they were ineffective in reversing the negative effects of certain organizational factors on households' agricultural revenue. Table 5 offers a compilation of some crucial intervention areas in Beni-Lubero, commented on with reference to FAO's twin-track approach.

Table 5: Interventions in Beni-Lubero in relation to FAO's twin-track approach

Responses	Partners	Key objectives	Observations with respect to twin-track approach
Food aid distribution	International agencies, often through local associations	Address immediate food needs	Focus on direct, immediate access to food through increased availability (food aid, enhancing food supply to the most vulnerable) and through increased food access (nutrition intervention programmes); strengthening of the labour market
Distribution of seeds and tools	International agencies and local associations	Diversify crops; facilitate access to seeds and tools; increase food production	Focus on direct, immediate access to food through increased food availability (seed input relief) and on rural development through stability efforts (improvement of rural food production). International interventions tend to disrupt local mechanisms of seeds distribution based on credit systems.
Provision of technical support	Local associations	Improve the production of food; strengthen capacities to deal with diseases	Focus on rural development/productivity enhancement through increased food availability (improvement of rural food production, and investment in rural infrastructure) and food stability (diversification of agriculture and employment, monitoring of food security and vulnerability, and development of risk analysis and management)
Introduction of collective fields	International organizations in collaboration with "village communities"	Facilitate access to land for landless farmers; increase food production	Focus on rural development/productivity enhancement through increased food availability (improvement of rural food production) and access (access to land)
Rehabilitation of rural infrastructure (roads, etc.)	International agencies	Rehabilitate roads; facilitate access to local markets; increase food and cash distribution (food for work/cash for work)	Focus on direct, immediate access to food through increased access (food/cash-based transfers, asset redistribution if cash-based) and on rural development through increased availability (investing in rural infrastructure)
Introduction of livestock rotation mechanisms	International organizations and local associations	Revitalize livestock production; (indirectly) improve land fertility	Focus on rural development/productivity enhancement through increased availability of food (revitalization of livestock production) and stability (diversification of agriculture and employment)

Conflict resolution	Local associations	Mediate in land disputes; strengthen the legal position of farmers	Focus on rural development/productivity enhancement through increased access (access to land) and food stability (dealing with structural causes of food insecurity)
Introduction of micro-credit systems	Local associations	Facilitate the revival of rural financial systems	Focus on rural development/productivity enhancement through increased access (reviving financial systems) and through stability (reviving of access to credit systems and saving mechanisms)
Commercial cooperatives	International and local organizations	Facilitate households' access to the market	Focus on food availability by enabling market revival, and on access (enhancing access to assets)

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