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# **Working Paper**

Rebuilding livelihoods after dam-induced relocation in Koga, Blue Nile basin, Ethiopia

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# Working Paper Series 83

Irit Eguavoen und Weyni Tesfai

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# Rebuilding livelihoods after dam-induced relocation in Koga, Blue Nile basin, Ethiopia.

Irit Eguavoen and Weyni Tesfai

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# **Abstract**

For the past years, Ethiopia has been moving toward making better use of the waters from the Blue Nile. The Koga project is the first new large-scale irrigation scheme in the river basin since the 1970s. The article analyzes the social-economic outcome of development-induced relocation of 500 relocated households, in particular the sub-set which moved to the nearby town. The delay in land re-allocation had left households without livelihood base for much longer than expected and compensation payments were not sufficient to bridge the critical period. Households tended to maintain their social network and memberships in supportive rural associations after relocation but poverty acted as constraint in some cases, especially when households did not find other income generating activities. Housing in town was made difficult due to the need to legalize land exchange arrangements. And it required a common interest (security) to initiate social relations between town dwellers and newcomers.

# Zusammenfassung

Seit einigen Jahren ist Äthiopien bestrebt, seine Wasserressourcen des Blauen Nils besser nutzbar zu machen. Das Koga Bewässerungsprojekt ist das erste neue Großdammprojekt im Flussbecken seit den 1970er Jahren. Der Artikel analysiert die sozialen und ökonomischen Folgen für die 500 Haushalte, die wegen des Entwicklungsprojektes umsiedeln mussten, inbesondere der Gruppe, die in die nahe Stadt gezogen ist. Verzögerungen in der Landumverteilung entzog den Bauern für eine längere Periode als erwartet die Lebensgrundlage, was nicht ausreichend durch Kompensationszahlungen aufgefangen werden konnte. Die Haushalte tendierten dazu, ihre sozialen Netzwerke und Mitgliedschaften in ländlichen Unterstützungsvereinen nach der Umsiedlung beizubehalten. Allerdings war Armut ein Hindernis für einige Haushalte, die keine neuen Einkommensquellen erschlossen hatten. Die Wohnsituation in der Stadt wurde durch die vorgeschriebene Legalisierung von Landtauscharrangements erschwert. Und es brauchte ein gemeinsames Interesse (Sicherheit), um soziale Beziehungen zwischen Stadtbewohnern und Neuankömmlingen zu initiieren.

#### Keywords:

Nile, irrigation, development-induced displacement, livelihood Nil, Bewässerung, entwicklungbedingte Umsiedlung, Livelihood

# 1 Development-induced displacement and relocation in Ethiopia

Displacement of people in the context or as a result of development intervention has been identified as "the most important forced migration problem worldwide" of our time (Pankhurst and Piguet 2009: 250, also de Wet 2006). In Ethiopia, displacement is prominent in development projects aiming at the extension of irrigation and hydropower production referred to as dam-induced displacement (Kebede 2009), at the provision of better housing in urban centres (Gebre 2008, Tadele 2009), and at the conservation of forest or wildlife via national parks (Berisso 2009). As was pointed out in a volume on development and displacement in Ethiopia, development-induced displacement in the country has become the "most significant type of movement replacing earlier concerns with resettlement, refugees, returnees and demobilization." (Pankhurst and Piguet 2009: 246).

The social impact of displacement and land loss due to the Koga irrigation scheme in the Amhara Region has been studied by Abebe et al. (2007) in a kind of technical consultancy report and in a stakeholder analysis by Gebre, Getachaw, and McCartney (2008: 43) who stated that "the project has a significant effect on the social landscape of the Koga catchment" even before being officially inaugurated and operational. The authors have underlined the diversity of stakeholders and differences in interest groups among local farmers living in the vicinity of the project. They have pointed out that farmers can be distinguished, namely as displaced farmers, farmers expecting displacement, farmers in host communities, as well as farmers cultivating plots upstream of the Koga dam and not being part of the land re-allocation accompanying the project. This categorization hints to the fact that the development rhetoric of farmers as beneficiaries must be critically considered because benefits are unequally distributed to an extent that some parts of the target population may even face no benefits but more poverty instead. In development projects including forced displacement such impoverishment may be triggered by landlessness, homelessness, joblessness, social marginalization, loss of assets and social disarticulation and materialize in food insecurity and increased mortality rates (Cernea 2000). Livelihoods get lost and must be re-built by the displaced households who are in the ideal case supported by authorities and adequate compensation schemes. The Impoverishment Risk and Reconstruction (IRR) model developed by Cernea has not served as guideline during field research. The analysis, however, will be presented along this IRR model.

Many studies on displacement in Ethiopia laid their focus on the displacement of high numbers of households going into thousands. The Koga study sheds light on a displacement involving a smaller number of households and little distance between place of origin and new homestead. Therefore, the term development-induced relocation seems more appropriate.<sup>1</sup> Relocation in our understanding includes the notion of involuntary displacement. It however, does not necessarily contain force by authorities or move to an unfamiliar environment. Relocation in our understanding may imply agency of the displaced households who are able to take decisions on where to move and under which conditions.

<sup>&</sup>lt;sup>1</sup> The connotations of 'resettlement', 'displacement' and 'relocation' in Ethiopia are somehow blurred due to conditions under which resettlement (in fact the most neutral term in English) under the Derg government has taken place. In German, 'relocation' could be described as either Standortverlagerung (change of place) or Zwangsumsiedlung (forced resettlement) in combination quite well reflecting the conditions in Koga.

Water dam-induced displacement and relocation has a history in Ethiopia. A prominent case is the Gilgel Gibe dam resulting in displacement of "some 10,000" people from 1985 to 1996 and more thousand people afterwards (Kebede 2009: 50). In the Awash Valley, pastoralists were severely affected by the Koka dam and irrigation scheme (Gebre and Kassa 2009). Uncontrolled inundation of the Fincha'a reservoir in the Blue Nile basin constructed during the 1960s-70s and extended in 1987 forced about 3,100 farm households to move to former grazing land as well as to the steeper slopes after their houses were flooded. Others migrated to urban areas (Tefera 2006; Tefera and Sterk 2008). At the moment, an international campaign "Stop Gibe 3" is fighting against the displacement of about 3,400 people at the Omo River where the Gigel Gibe III dam will be finalized in 2013. Dam development in the Blue Nile basin has drawn international attention mainly because of hydropolitics over the Nile resources but displacement will certainly be an issue in the ongoing dam projects, such as the Gumara or Ribb dam.

Koga is at a later project stage than Gilgel Gibe III already and socio-economic change is faced by a subset of ca. 500 farming households who had to relocate their homesteads due to the Koga dam. This case can be empirically investigated. As will be illustrated below, the extent of dislocation was much smaller than in other large-dam projects. The households, however, have experienced the loss of livelihood assets and went through a formalized process aiming at compensation for these losses. The article seeks to address the following questions: How have households restored their livelihood after relocation? How did the authorities support them in doing so?

# 2 Water Development in the Blue Nile basin

The irrigation scheme draws water from the Koga River, one of 50 tributary streams joining the Ethiopian Upper Blue Nile called Abay. At a size of 176,000 km², the Abay River basin offers an estimated irrigation potential of 760,000 ha. Despite this potential, irrigated land use in the Abay River basin was measured at a mere 30,000 ha in 2002 (Moges et al. 2010). The Abay River basin spreads over three regional states: Amhara, Oromia and Beneshangul Gumuz where about ninety per cent of the 600,000 basin inhabitants live in rural areas within and depend on a strategy combining rain-fed agriculture coupled with animal husbandry. Droughts, the decrease in per capita food production and dependency on food relief, even in years with regular rainfall, demand long-term strategies to secure food security and mitigate rainfall variability. The development of large water storage and irrigation facilities belongs to these strategies. However, besides the undoubted opportunities, "(t)he new rush into large-scale irrigation is inviting a number of problems", as stated by Moges et al. (2010: 83), entailing social and environmental consequences for the people living in areas surrounding the new water projects.

As the Abay is the largest tributary of the Nile, sharing its water has been a sensitive political issue for many decades between the riparian countries Egypt, Sudan and Ethiopia especially (Arsano and Tamrat 2005; Kagwanja 2007; Cascão 2008). Ethiopian water development is supported by the Nile Basin Initiative, a forum where riparian states struggle since 2001 for the ratification of the Nile River Basin Cooperative Agreement. Ethiopia has been among the first five countries signing the agreement in 2010. One more signature is required for the ratification which is argued against by Egypt and Sudan since the beginning of the initiative (Swain 2002, Salman 2011). During past decades already, large dam development in Ethiopia, has been politically hindered by Egypt and Sudan, but was declared national priority under the present Ethiopian government in 2002 in the form of a 15-year water

sector development programme. Planning for the current large dams in the basin had started by the mid 1990s already. First consultancy reports suggesting dam development even date back to the early 1960s (Conway 2000) and the four dams proposed by this time are continuously reassessed (Block 2007). Beside the international policy context, a number of other factors have contributed to the lengthy neglect of large-scale water projects in the basin such as droughts, very high investment costs, poverty and social conflicts (Moges et al. 2010).

The Koga irrigation project has to be understood in this very context. It is the first large dam project in the Abay River basin since the extension of the Fincha'a reservoir in 1987, as well as the first operational large dam project in a series of a projects presently under construction or in the planning phase. This is why the Koga irrigation project also gains significance as a pilot case with regard to water projects in the river basin implemented in the near future.

## 3 Methods

Previous investigations in Koga were based on field visits, project document reviews, focus group discussions, as well as on semi-structured and structured interviews with key informants to conduct a stakeholder analysis (Gebre, Getachaw, and McCartney 2008) or to assess the environmental impact of the project (Abebe et al. 2007). In contrast, the ethnographic study presented here was conducted during six weeks from February to April 2010 in Merawi where the researcher, Mrs. Tesfai, was hosted by the Koga Project Management Unit. At the same period, a second researcher worked on organizational change and project management in Koga which allowed the exchange of data and information about farmers' conditions in the command area.

The archive of the Koga Project Management Unit was accessible for the collection of secondary data, such as project reports. With the help of a research assistant recruited from Bahir Dar University to help with the Amhara translation, 35 households who had moved to Merawi due to the inundation of their homesteads, as well as 15 households who hosted the new settlers in their neighbourhood were visited on a regular basis and interviewed (including standardized interviews). The researcher joined some of them in their activities (e.g. at the market, during meetings, at the payment office for compensation, in church, during Easter festivities) and documented their observations in a field diary. Focus group interviews were held with one group of housewives, one group of religious leaders and two groups of farmers, affected by the project in different ways. To capture experiences and perceptions of relocated households, 20 in-depth case studies representing the various household categories were developed. Participant observation also took place among the Koga project staff (engineering team and management team). The researcher lived in the project quarters and joined the staff on their work trips to the command area. More formal interviews and informal conversations were conducted with staff members of local authorities involved in or related to the Koga project (Table 1).

Table 1 Sources of information

Local Authorities/ Offices	No. of
	respondents
Amhara Region Environmental Protection, Land Use and Administration	1
Authority (AR-EPLUAA)	1
Koga Community Organization and Reconciliation Committee (KCORC)	4
German Technical Cooperation in Bahir Dar (GTZ)	1
Ministry of Water Resources Amhara Region in Bahir Dar	3
Females Affaires Office (FAO)	2
Bureau for Agriculture and Rural Development (BoARD)	2
Municipality of Merawi, including the mayor	6
Mecha Woreda Information Desk in Merawi	1
Water Works Design and Supervision Enterprise (WWDSE)	5
Mecha Woreda Capacity Building Center (MWCBC)	3
Total no. of respondents	28

# 4 The Koga irrigation project

Koga is located in the Gojam Zone of the Amhara Regional State near the capital of Mecha Woreda, Merawi, a small town about 35 kilometres south of the regional capital Bahir Dar. The population of Merawi has access to a local market, basic health facilities, educational and administrative services and agricultural extension services. Electricity and water supply are generally available in town but not extended to all quarters and the periphery. Households without supply fetch water from a spring situated near the town. The inhabitants of Merawi either mainly live on agriculture or pursue off-farm occupations such as trade or services in the hotel, transport and restaurant sectors. Very few have a government job. The existing and future command areas of Koga lie some kilometres to the west of Merawi town, stretching both to the north and south of the main road to Addis into the countryside, and are therefore less accessible.

The technical infrastructure of Koga consists of a main dam and a saddle dam which store water in a large reservoir. From there, water is released to a canal network leading to the farm plots. The canal network for the irrigation of 7,000 ha of land had not been completed when field research was conducted. During field research in March 2010 about 1,380 ha could be irrigated from the reservoir. Based on consultancy reports, the irrigable area in 2011 was nearly 4,478 ha, but only 10% of this area was also cultivated (WWDSE 2011) due to a number of practical problems farmers were facing, such as lack of transport to distant farm plots (Marx 2011).

Table 1 The Koga irrigation project – technical data

Location	Amhara Region,	Proposed water storage	81.3 Mio m <sup>3</sup>
	Gojam Zone	volume	
Construction	2002-present	Reservoir surface	2,000 ha
period			
Inauguration	2008	Command area	7,000 ha
(Koga dam)			
<b>Construction cost</b>	400 Mio ETB	Population in command	57,000
		area (2007)	
Donor	African Development	Management system	Experts and
	Fund		farmers

The Koga reservoir has inundated about 2,000 ha of grazing land and homesteads. Settlements had to be given up and people have escaped from the inundated parts of five *kebelewotch* and relocated themselves to either Merawi or dry lands in the *woreda*. A few islands are the only reminder of the former landscape which is now dominated by the reservoir. The islands are used as grazing grounds for cattle – even though this is a breach against Koga project rules.

Construction work for the canal system was, however, delayed for about four years, and during field research final completion was projected for the end of 2011. Delays, as well as the inevitable knock-on effects, were openly and frequently discussed in the monthly progress reports written by the construction and engineering firms in charge. The temporal extension of the project led to a much longer economic dependency from payments as compensation for land loss, as the time for the allocation of new arable plots shifted to an uncertain date in the future (Marx 2011).

In Mecha Woreda, households usually live in single homesteads or clusters of homesteads dispersed over the entire area. Most of the farm plots are situated within walking distance and gardens are cultivated nearby. The Koga project has changed the settlement pattern insofar as farm plots got reallocated in the command area, and that some hamlets were dissolved due to relocation. Plot sizes in the command area were reduced by land reallocation into parcels of 0.5 ha and then divided, parts of which were allocated to relocated farmers to compensate for their loss of land due to the construction of irrigation infrastructure such as the dam, streets and canals. The land re-distribution was made possible by the Ethiopian Constitution from 1995, as well as by the Federal Rural Land Administration Proclamation from 1997, vesting all land ownership in the state and restricting farmers' property rights. As a consequence, local modes of land utilization are now dominated by labour exchange arrangements such as sharecropping (timado) and the employment of daily labourers (kenja). Irrigation had just started in a three sectors of the command area. However, rain-fed cultivation could continue if land ownership was clearly spelled out and farmers did not face practical problems in accessing their plots.

The projected beneficiaries of the Koga irrigation scheme are farmers, who cultivated plots of about 2.1 ha average before land reallocation with rather simple agricultural technology, i.e. rain-fed agriculture, ploughing with a pair of oxen, small and localised river diversion systems for horticulture and low amounts of fertilisers, insecticides and pesticides, usually purchased from the agricultural extension office in Merawi. As a result, yields of grain are low and serve mainly as a source of subsistence, even though they are the main crops produced. Horticultural products such as peppers, onions and tomatoes are consumed but

also sold, mostly at the largest local market in Merawi. Many households raised livestock that were grazed in areas that are now inundated by the reservoir. In fact, according to our interviewees, the inundated area was known to be the most fertile land around (Marx 2011).

# 5 Development -induced relocation in Koga

According to Gebre, Getachew and McCartney (2007:10), total 831 households have been dislocated in the context of the Koga project and that about 5,075 households experienced the loss of land and agricultural assets. A large number of households were affected by the construction of infrastructure for the Koga project though their exact number remains unclear. Our field investigation revealed that the extent of dislocation was diverse. Before project implementation, consultations took place to identify possible future places to live for the affected households. Some households had to shift their house about fifty metres on their land plots to give way to canals or streets. Others, affected by the construction of the dams and inundation by the reservoir, had to move about three kilometres or further distances away (Table 2). They relocated their homesteads to either other *kebelewotch* where they had relatives, to other rural plots that were allocated to them or to Merawi. Especially rural households who lived where the saddle dam was constructed moved to Merawi, which is located in three kilometers distance.

The vast majority of relocated farmers, however, moved to places that were familiar to them already and not very distant from their former homestead. People tried to move as neighbourhood groups meaning existing social networks among them were maintained if possible. Some relocated households in a town quarter called Merawi 03 told that their first preference was to move as an entire neighborhood group to the rural area close to the irrigable command areas. But places suggested by the Koga Community Organisation and Reconciliation Committee (KCORC) turned out to be contaminated of malaria and other water-born diseases. According to the local leader of Merawi 03, many such visits to potential rural settlements were undertaken together with representatives of the KCORC: "At the end, there was no other alternative for us, than to settle in town." Thus, the entire context of relocation is very different than in other development-induced resettlement projects where farmers were resettled in other regional states, among other language groups or to environmental zones that they had not experienced before. Nevertheless relocated farmers in Koga lost their land and property and were entitled to receive compensation in terms of money and farm plots.

Table 2 Relocation of households due to the Koga project

Kebele of origin	Kebele of destination	No. of households
Kudmi (main dam)	Kudmi	31
Abyot Fana (main dam)	Abyot Fana (Amusit)	40
Enamirt (saddle dam)	Enamirt (Merawi)	23
Inashenfallen (saddle dam)	Inashenfallen	15
Enamirt, Kurt Bahir, Inashenfallen (inundation)	dispersed to adjacent rural places/ small towns	366
	·	Total 475

Source: Merawi Town Municipality, March 2010

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<sup>&</sup>lt;sup>2</sup> Mr. Bazezew, 26.3.2010, Merawi 01

Merawi municipality estimates about 160 households who were affected by Koga and as a result have moved to the urban community. For these households, the move to town resulted in a series of changes: urban housing, dependency on food and labour markets, an urban lifestyle, new income sources, gender relations and a change in social networks. The relocated households in Merawi originated from five different *kebelewotch* directly affected by the two dams and the reservoir, namely Kudmi, Enashenfallen ("we will win"), Abyot Fana ("sparks of the revolution"), Kurt Bahir and Enamirt ("let's produce"). Currently, 50 relocated households reside in two new quarters, called 01 and 03, on the periphery of Merawi. They formed the core sample of this research. Quarter 01 was established by Koga officials in cooperation with the town's municipality and quarter 03 by the households themselves. Electricity and water supply, as well as sanitation facilities, are wholly inadequate. Other relocated households in Merawi live in other parts of town and were also interviewed.

# 6 Landlessness, loss of assets and compensation

In the course of preparing the Koga project, the social economic conditions of households living in different parts of the project area were assessed. Family size, livestock ownership and assets for agricultural production, housing type, water and sanitation supply and access to health care were all taken into consideration. The findings reveal that the former inhabitants of the dam and reservoir area were the wealthiest group compared to households living in either the hilly upper catchment of the Koga project or the flat lands of the proposed command area (Gebre, Getachew, and McCartney 2008).

Even though land ownership is vested in the Ethiopian state, households affected by the Koga project were entitled to an adequate compensation for their loss of land use rights and other assets such as their houses, gardens, trees and, above all, agricultural production capabilities. These losses were caused by the fact that people had to wait three years for new land plots in the Koga scheme (according to plan) and could meanwhile not engage in farming. Following article 1474 of the Ethiopian Civil Code, compensation may be forwarded in cash or kind, but should equal the cost of the damages caused by the respective project. Whilst in 2008 farmers believed that the long-term impact would outbalance the short-term social costs (Gebre, Getachew, and McCartney 2008), pessimism dominated the perception of the affected households in 2010, especially among relocated families in Merawi.

In 2004, the Koga Community Organisation and Reconciliation Committee (KCORC) was put in charge of the matter by the regional government. It assembled *woreda* representatives, staff from the Bureau for Agriculture and Rural Development and Officers from the Amhara Region-Environmental Protection/ Land Use Administration Authority. The committee attended community meetings to enhance farmers' participation prior to construction. Other local authorities were also invited to facilitate the assessment of existing assets and to negotiate the amounts of compensation. As a result of this process, a total compensation cost of 30 Mio ETB was assumed for the Koga project (Gebre, Getachew, and McCartney 2008). In practice, the assumed reimbursements were not fully paid, as in the case of compensation for the loss of homesteads. These were initially estimated at around 8,000

<sup>&</sup>lt;sup>3</sup> Farmers' cooperatives (*kebelewotch*) were established in 1975.

ETB per house, but actually amounted to between 3,000 to 5,000 ETB and were not even enough to cover the construction of a new house.

Compensation payments were made many months after the assets were lost and when dam construction had already begun. When workers from the Chinese construction company demolished property during construction, they were met with violent resistance of farmers. As the administrator and security officer of Merawi pointed out, most resistance occurred in cases when destruction was carried out before farmers assets had been officially estimated for the determination of compensation. Finally, the Merawi security office was asked to intervene, after which the conflict was settled peacefully through negotiations.

Apart from the delay and incompleteness in the assessment, rumours about the lack of transparency and propensity for favouritism also went around. One interviewee stated, "I know, and I'm very sure about corruption going on in this project. I know one guy who received a total amount of 25,000 Birr for his eucalyptus trees, while another man received only 6,000 Birr for exactly the same amount of eucalyptus trees." Of course, such statements are very difficult to verify empirically. Nevertheless, they indicate that the detailed criteria for defining compensation were not easily understood. Also, the delay in construction played out negatively, as in 2010, already five years after the loss of land, farming was possible for many relocated families, but only through seasonal land renting and sharecropping arrangements within their kin network or through urban dwellers.

The implementation of the assessment was also criticised by the majority of the farmers, especially because it recorded selected assets but neglecting others considered important for livelihoods such as the loss of communal grazing land and state forest for the provision of fuel wood, charcoal and honey. The last two were not considered because the ownership or use rights were not allocated to single households. Instead, grazing land and forest were common pooled resources owned by the state.

As a result, it was not only farming that was abandoned for some years. Livestock-related occupations had to be given up by many households, too, including the sale and production of dairy products: "Before, my wife used to sell milk, butter and cheese – of which we had plenty. But unfortunately we had no other choice than to sell most of our cattle, since the town has a limited capacity for livestock. So I gave three oxen and cows of mine to my relatives in Kurt Bahir, where they take care of them. Sometimes we go there to take some milk or cheese, but in case I get my farmland, I'll use them to plough my plot." The Koga project documentation reveals that some of the herein-mentioned constraints of compensation were known and acknowledged by the local authorities. The Environmental Management and Monitoring Plan Report Vol. II (2005) suggested compensation packages coupled with the establishment of employment and training programmes to counterbalance the loss of livelihoods caused by the project. In 2010, both of these recommendations were still to be initiated.

The management of land reallocation took place under the auspices of the Amhara Region Environmental Protection/Land Use Administration Authority in Bahir Dar, whilst the practical distribution was conducted by the Koga Project Management Unit in Merawi. Land reallocation is legally backed up by regional land laws that allow the appropriation of land use rights in the interest of irrigation development. Of course, households holding land rights in the command areas were not always happy to lose up to 20 per cent of their land

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<sup>&</sup>lt;sup>4</sup> Anonym, 11.03.2010, Merawi

<sup>&</sup>lt;sup>5</sup> Mr. Yete, 22.03.2010, Merawi 01

plots, depending proportionally on the size of their land. Project laws issued by the World Bank and ADF have given priority of allocation to households that have to be compensated. According to KCORC, the redistribution is organised chronologically following the alphabetical order of the names of farmers to be compensated; it is not organised spatially by *kebele* affiliation, meaning that it did not accommodate farmers who had adherent farm plots and work arrangements before. However, irrigable land can only be allocated and farmed once the construction of the canal system has been finalised, which is not yet the case in nine of the twelve command areas.

Even when compensated with a land plot, households continued to face challenges in farming due to the greater distance between place of residence and the new plots, which were located about 8 km from Merawi and could only be accessed via the main road. "The distance between my house and my plot is 9-10 km away, which makes the situation more difficult. How can my family cover the increased workload required for irrigation farming, when the plot is so far away? We can't afford to pay transportation for the whole family [...] Besides this, walking on foot is dangerous in this area, as car accidents occur sometimes. [...] I still haven't cultivated my plot, which I received last year." There are regular transport services in Merawi which link to irrigated areas in Kudmi, but the fares cannot be afforded by everybody and, of course, cannot cater for the two oxen needed to plough the plots.

Another challenge is farm plots that previously hosted Eucalyptus trees, which render the land unfertile and dry. In many cases, the roots remained in the soil after the former owners cut the wood for sale before handing it over for reallocation. Other plots are so unlevel after taking out the tree roots that farming is not yet possible unless land levelling has been conducted with heavy machinery.

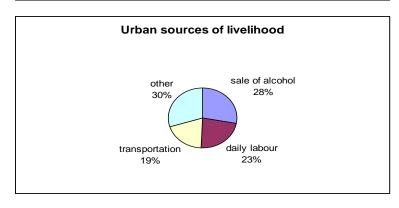
# 7 Urban sources of livelihood

The outcome of compensation payments differed a lot among the affected households and thus did their economic condition during field research. Some households were only compensated for their lost house, but not for the land on which it stood. Other households received the correct amount of compensation but were not asked immediately to leave their land plots, meaning they could continue to cultivate on their 'lost land' for another season. Thus, these farmers benefited from the compensation scheme. Some households again could still draw from the compensation money they had received to contribute to their livelihood in Merawi. They entered sharecropping arrangements within their kin network and through urban dwellers or bought food at market to sustain their families. Three betteroff households were observed trading in agricultural crops between Merawi and Bahir Dar. According to authorities from Merawi, there are a few more households involved in trade. Some relocated families have built houses in Merawi but continue to reside in rural places. Their livelihood is based on renting out the urban house to relocated families and other people. The livelihood portfolio of relocated households coming to Merawi has changed dramatically. With the loss of land and livestock, alternative income-generating strategies had to be developed. The relocated households succeeded to some extent in this respect, as shown in Figure 5. The main shift in occupation was from subsistence to the market-based provision of household goods and increased importance of money.

<sup>&</sup>lt;sup>6</sup> Mr. Dagne, 12.03.2010, Merawi 01

forest products
14%
dairy products
20%
horticulture
21%

Figure 5 Income sources of relocated households in Merawi



Source: Standardised interviews with 17 households

Due to their low levels of education, relocated households find it hard to gain urban employment, resulting in psychological stress and frustration. Most men look for construction work in the irrigation scheme, carrying load with donkey carts or even consider labour migration: "The Chinese pay us 17 Birr a day. As you know, one breakfast costs about six Birr. How are we going to feed our family from that small amount of money? Sometimes we work 16 hours a day, and it's really hard and exhausting work, but they refuse to give us more salary." Additionally, "Nowadays I'm so tired. Town life is so difficult since there are no jobs for illiterate people like me. Previously I possessed two quada of land [about 0.5 ha]. Imagine, I started ploughing when I was eight and now I'm 27 years old and just carrying stuff like a quatero [carrier, person who doesn't spend money] to earn a little money." Women have started to produce alcohol for sale. The gender-specific labour distribution and male role of the breadwinner as prevalent in rural farm economy are not easily applied to the urban context, which brings additional problems into the families – in some cases even social disruption, alcoholism and an increased vulnerability to HIV/AIDS.

# 8 The challenge of legal housing

Homelessness as such was not a problem among the relocated families as they usually had received compensation payments to finance house construction. But the legalization of land plots for establishing houses turned out to be a challenge to a number of relocated households as the sale of land is not allowed in Ethiopia. To receive land plots for

<sup>&</sup>lt;sup>7</sup> Mr. Tiezazu, 18.02.2010, Merawi 03

construction, arrangements of changing use rights to plots have to be found between town dwellers and incoming households. Land in the two formal resettlement sites Merawi 01 and 03 was usually exchanged against rural land plots in Bojar Enamirt when the Koga project was announced. One relocated farmer told about this land exchange arranged about ten years ago: "When they [the authorities] informed us about the project, I knew I will lose my land and since I have no additional land somewhere else in the rural area, we had to move to the town. So what I did was an arrangement with one of my relatives in town who owned this piece of land where I live with my family now since 2 years. In exchange for that I gave him a piece of land which he cultivated until the launch of the project. By that time we legalized this arrangement officially at the Towns' Municipality, so that we were both benefited and on top of that compensated in terms of irrigated plots in Inguti." According to the mayor of Merawi, this practice is legal and common. Lack of infrastructure (water, electricity) is a common problem in other newly established quarters at the periphery of the town, not a condition faced by relocated families only.

Interviews revealed that the head of the Koga Community Coordination and Reconciliation Committee did not know about Merawi 03 where more than thirty relocated households lived who received their plots via private land exchange arrangements. Plots for houses in Merawi 01 were organized by the same committee in cooperation with the municipality.

But not all relocated household had prepared land exchange arrangement as described above or received plots from the committee. These households had to arrange land when already being under time pressure leading to unregistered land exchange with and land sales from town dwellers which are categorized as illegal. Houses built on these sold plots do not receive permission and were built at night to elude authorities' attention. If patrolling administrators detected such a 'moon house', it was declared and has to be broken down within one week before it would be turned down by the town officials. Households waiting for legalization of their land exchange and households without land exchange arrangements that just had to build a house somewhere to find a homestead live in great despair afraid of loosing their home and property (the money invested in construction and household items). During the time of research 17 applications for legalization were on-going. Legalization can be denied by authorities. The house will be destroyed without compensation and the households have to rent a place to stay then. Not being able to show the legal documents of the house entails also not to have access to credits or loans from the bank or other formal financial institutions. According to town planners from the municipality, Merawi 01 and 03 will be fully integrated in the town's administrative zone opening access to its formal saving and credit associations.

# 9 Relations to the host community

Relocated families were not welcome in the beginning. They were easy to spot within town due to different cloths and attitudes. To speak of social marginalization seems not appropriate as they were not denied access to services based on their origin. The background of hostility was compensations. A few urban dwellers show solidarity with the newcomers and help them to get water and electricity, but initially town dwellers did not make it easy for the relocated families to integrate into urban social networks, but rather insulted them as being backwards. "To your surprise, we used to live not far from this town,

<sup>&</sup>lt;sup>8</sup> Mr. Gedefay, 26.03.2010, Merawi 03

but in the beginning they considered us as a strange ethnic group, especially the insult that was forwarded on our females was shameful for us and created bad feeling for us, because we just tolerated all these things, thinking that tomorrow we're going to live peacefully." The background to the insults was twofold. Urban dwellers had to give out land for the new settlers to cultivate. Further, they suspected them of gaining large financial benefits from the Koga project. However, over time, the urban dwellers came to realise that the former well-off farmers faced economic difficulties: "When we used to live in rural Enamirt, the whole city benefited from us, because we had vast land where we were able to collect many crops and grazing fodder and the surplus we sold in the market here in town. [...] When they saw me in the market buying fodder and crops, they understood my problem, realised that we were not rich like they suspected before and accepted me. After this, when I start a transportation service for them, they better understood my problem and started to say, 'Really, he is a poor immigrant, he is not rich and benefited'." The cultural unity spelled out in language, customs and social organization between rural and urban Amhara population did not provided much target for discrimination.

# 10 Membership in local associations

Social disarticulation and the breakage of social ties were among the risk identified by Cernea (2000). Indeed, membership in kin groups, Orthodox Church communities and other rural associations, such as funeral groups provide reliable social networks in rural areas within Amhara Regional State. Besides providing room for social interaction, these groups contribute to livelihood security by community-based insurance and credit schemes. Dercon et al. (2006) illustrate that funeral associations (sing. *iddir*) are widespread in Ethiopia and share some common characteristics despite local variety. Funeral associations work like saving circles and allocate funds, kind and labour to member households in crisis (death but also illness, loss of assets etc.). They may further provide loans and credits to their members who pay first an entrance and then regular membership fees. Typically, households are part of several associations. Thus it is worth looking whether membership in associations has changed among relocated households in Koga.

The importance of local associations was obvious in conversations about former places of residence among relocated households in Merawi and elsewhere. Especially, religious and funeral associations displayed strong social and spatial ties and were kept alive even after relocation. The association serves many purposes, including the moral support of its members in difficult and happy situations such as funerals and weddings. Associations further act as a saving circle for private usage and for the provision of labour and money for church construction. Members of the rural association called *Jegobez Mahaber* (association of braves) indicated the main benefits besides social support, moral guidance and labour exchange are *qurban* (a funeral insurance) and the supply with oxen for ploughing: "In case one of our brothers is sick or gets arrested, we plough his land otherwise his family is going to starve. The same as when a member looses his oxen, we contribute two oxen so that he can plough."<sup>11</sup> Membership was observed to be male; wives and female relatives benefit indirectly. Local associations are perceived as social security networks of great value, as family members tend to join different associations to provide security for each other beyond financial security: "The reason why we join different [religious] associations is that since we

<sup>&</sup>lt;sup>9</sup> Mr. Dagne, 12.03.2010, Merawi 01

<sup>&</sup>lt;sup>10</sup> Mr. G. Wale, 24.03.2010, Merawi 03

<sup>&</sup>lt;sup>11</sup> Mr. G. Wale, 24.03.2010, Merawi 03

are brothers. [...] we became members of two different associations, which are celebrated at different days, so that when I go to the ceremony he will guard the compound, and when he attends I become a guard for our houses." After relocation, many of these supportive, saving and house-defending arrangements became obsolete.

Even though the networks created by the church and associations have not changed as such, a number of relocated households have left such supportive groups because they are not able to afford the required membership fees any longer after having lost their land and not being able to farm for a few seasons. A few farmers expressed their unhappiness about this: "We have lost our land and our properties, but the church personnel constantly demand financial support to construct the churches. I suppose they are not [facing] problems as we are." Some 20 individuals have shifted to a church closer by to avoid the long distance involved in attending their previous place of worship. Studies found that some local associations limit their membership to a specific age group or gender (Dercon et al. 2006). In the field site, membership of local associations is granted to male household heads, which means that widows and divorced women and their households stand outside and are unable to enjoy the association's support, even if they could afford to pay to join. It should be noted, however, that this gender imbalance in accessing local associations seems to have already been in place in the region long before the Koga project.

During festive events conducted at Merawi 01 and Merawi 03, it became clear that the relocated households relied on their families, associations from their former settlement and old neighbours rather on the urban associations or new urban social networks created through the neighbourhood or common occupation, albeit that town dwellers and relocated families were linked to each other through market activities before the Koga project. In practical matters, town dwellers and relocated households started to cooperate in organising water and electricity supply or in the case of the establishment of a vigilant group protecting the quarters from thieves. In fact, the common security force acted as a key factor of social integration. "The village-hood committee in this kebele, in which this association keeps villages secure together, helped us to create a peaceful life. This facilitated us getting to know each other and facilitated our interconnection. [...] Now, since we know each other better, sometimes we take credit in shops or bars, and in return we give them credit in selling firewood or dairy products."14 Thus, the first steps towards social integration have been achieved. Once the relocated farmers can restart farming on irrigable plots, enjoy security with regard to urban housing and assure their livelihood, some of the present social challenges can be expected to be solved.

# 11 Conclusion

As a result of their stakeholder analysis, Gebre, Getachew, and McCartney (2008) established a number of key findings, which were confirmed by our ethnographic study. What they called "a sharp conflict of interest" between relocated households and their host communities (Ibid. 2008: 40) could still be observed, even though due to the delay in project implementation, members of the host communities realised in the meantime that the relocation often had a negative impact on the livelihoods of the relocated households. Running out of compensation payments, inter alia the consumption of these payments had

<sup>&</sup>lt;sup>12</sup> Mr. A.Wale, 24.03.2010, Merawi 03

<sup>&</sup>lt;sup>13</sup> Mr. Mengist, 12.03.2010, Timt Mikael Ceremony

<sup>&</sup>lt;sup>14</sup> Mrs. Dagne, 12.03.2010, Merawi 01

been predicted in 2008, whilst in 2010 a number of households faced exactly this situation of not being able to farm again and having no money left to buy food items, thus facing food insecurity. The study shows that besides the loss of land and property, and besides the delay and irregularities in compensation payments, the project was accompanied by processes of social disarticulation. As a major cause of this disarticulation, the studies identified the change from a rural to an urban environment and the knock-on consequences for social networks, livelihood systems (from subsistence to market-dependence) and gender relations within households. Many of the relocated households had to start from scratch, even though some could build on existing social networks to some extent to ensure temporal access to farmland. The studies also show that socio-economic integration is an ongoing process in Merawi, which will take some more years to come to full fruition. The economic and social-political positions of the relocated households will probably improve once they finally receive and can practically access their irrigable land plots, especially because there is no language or cultural barrier to hinder social integration.

If the high expectations associated with the Koga project materialise in terms of household earnings through irrigation, from which about 14,000 households may benefit according to plan, an increase in rural-urban migration to Merawi can be assumed. About 98 per cent of the interviewees would "build a house in the city" in such a case. For people over 30 ears of age, Merawi is still perceived a difficult place to live, but this does not prevent them from intending to send their children to live in the town if this course of action results in a better education. The prospect of their children leaving the farms behind and striving for other jobs seems to clearly outweigh the parents' fear of problematic social integration in unfamiliar urban surroundings.

When relating the findings to the impoverishment risks of the IRR model (Table 3), seven of eight risks were clearly identified. (There was no reliable data on increased mortality). But it is also important to underline that the majority of relocated households succeeded in settling down in rural areas, thus not facing the specific urban difficulties. The Koga project as well as the municipality undertook reconstruction activities to reverse the impoverishment risk for the relocated households, even though they focused on the reconstruction of material livelihood assets, such as land and houses and tried to deal with income loss through mainly compensations. They however, seem to have underestimated the extent of rural-urban migration and the need for land in Merawi. The Koga Project Management Unit works very professionally and reflects often on its role and activities. Despite this, the payment of compensation and allocation of land could have been better organised and the negative consequences for livelihoods reduced. But it seems that reconstructive activities mainly suffered from the long delay with regard to the finalization of the canal system and the calculation of compensation for a shorter off-farm period. The reconstruction of access to commons (especially grazing land) was not considered - the irrigation scheme did not provide space for commons.

Table 3 Main reconstructive activities by project and affected farmers

Impoverishment	Reconstructive activities		Risk reversals
risks	by Koga project	by relocated farmers	
(1) landlessness	land reallocation	land exchange arrangements, seeking for legalization	land-based resettlement
(2) joblessness	compensation, few construction jobs	off-farm occupations/ paid labor, farm if possible, migration	reemployment
(3) homelessness	compensation, preparation of urban plots	construction of houses, legalization of urban plots	house reconstruction
(4) marginalisation	none	none	social inclusion
(6) food insecurity	compensation	off-farm occupations	food security
(7) loss of access to common resources	none	none	restoration of access
(8) social disarticulation	none	moving in kin groups if possible, maintaining membership in rural associations	rebuilding social networks

Source: Cernea (2000) and field data

Another striking finding is the proactive activities that were initiated by the affected households if they were informed early enough about the project, especially about the need to organize and to legalize land exchange arrangements. Proactive households found it easier to settle down in town or with rural relatives, as well as to ensure the temporary access to farm land to buffer the times until land reallocation and irrigation.

The main lessons that can be drawn from the Koga for future schemes in the Blue Nile basin include that the period of the time farmers need to depend on the compensation payments will have to be estimated more realistically, that the development of other incomegenerating opportunities should not be neglected. The early communication to farmers as well as the administrative support of their reconstructive activities seems essential. The process of legalizing land exchange arrangements needs to be speeded up also to allow access to credits available to the new town dwellers. Finally, one can expect a wave of rural-urban migration to towns near the future dam sites which need to be accommodated.

# 12 References

- Abbink, Jon (2010), A bibliography of Ethiopian-Eritrean Studies in society and history, 1995-2010. Leiden/ Addis Ababa: African Studies Centre/ OSSREA.
- Abutte Wolde-Selassie (2000), Social-re-articulation after resettlement: observing the Beles Valley scheme in Ethiopia, in: Cernea, Michael M., Christopher McDowell (eds.), Risk and reconstruction. Experiences of resettlers and refugees. Washington, D.C.: The World Bank, 412-430.
- Arsano, Yacob and Imeru Tamrat (2005), Ethiopia and the Eastern Nile Basin, in: Aquatic Sciences, 67: 15-27.
- Berisso, Tadesse (2009) Planning resettlement in Ethiopia. The experience of the Guji Oromo and the Nech Sar National Park, in: Alula Pankhurst and François Piguet (eds.) Moving people in Ethiopia. Development, Displacement and the State. New York: James Currey, pp. 93-101.
- Block, Paul J. (2007), Integrated management of the Blue Nile basin in Ethiopia. Hydropower and irrigation modeling, in: IFPRI Discussion Paper 00700. Washington DC.
- Cascão, Ana Elisa (2008), Ethiopia Challenges to Egyptian hegemony in the Nile Basin, in: Water Policy, 10, 2: 13-28.
- Cernea, Michael M. (2005), Concept and method. Applying the IRR model in Africa to resettlement and poverty, in: Itaru Ohta and Yntiso D. Gebre (eds.) Displacement risks in Africa. Refugees, resettlers and their host population. Kyoto: Kyoto UP, pp. 195-258.
- Cernea, Michael M., Christopher McDowell (eds.) (2000), Risk and reconstruction. Experiences of resettlers and refugees. Washington, D.C.: The World Bank.
- Conway, Declan (2000), The climate and hydrology of the Upper Blue Nile river, in: The Geographical Journal, 166,1: 49-62.
- Dercon, Stefan, Joachim de Weerdt, Tessa Bold and Alula Pankhurst (2006), Group-based funeral insurance in Ethiopia and Tanzania, in: World Development, 34,4: 685-703.
- De Wet, Chris (ed.) (2006), Development-induced displacement. Problems, policies and people. New York/ Oxford: Berghhan Books.
- De Wet, Chris (2005), Some socio-economic risks and opportunities relating to dam-induced resettlement in Africa, in: Itaru Ohta and Yntiso D. Gebre (eds.) Displacement risks in Africa. Refugees, resettlers and their host population. Kyoto: Kyoto UP, pp. 259-281.
- Eguavoen, Irit (2009), The acquisition of water storage facilities in the Abay River basin, Ethiopia. ZEF Working Paper 38. Bonn.
- Haileslassie, A., Fitsum Hagos, Everisto Mapedza, Claudia W. Sadoff, Seleshi Bekele Awulachew, S. Gebreselassie, D. Peden (2008), Institutional settings and livelihood strategies in the Blue Nile Basin: implications for upstream/downstream linkages. Colombo, Sri Lanka: IWMI.

- Kagwanja, Peter (2007), Calming the Waters. The East African Community and the Conflict over the Nile Resources, in: Journal of Eastern African Studies 1, 3: 321-337.
- Kebede, Kassahun (2009), Social dimensions of development- induced resettlement. The case of Gilgel Gibe hydro-electric dam, in: Alula Pankhurst and François Piguet (eds.) Moving people in Ethiopia. Development, Displacement and the State. New York: James Currey, pp.49-65.
- Marx, Sina (2011), Large-scale irrigation in the Blue Nile Basin. Chances and obstacles in implementing farmers' self-management. ZEF research report. Bonn.
- Moges, Semu, Helmut Kloos, Stuart McFeeters and Worku Legesse (2010), The Water Resources of Ethiopia and Large-scale Hydropower and Irrigation Development, in: Kloos, H. et al. (eds.) Water Resources Management in Ethiopia. Implications for the Nile Basin. Amherst: Cambria Press, pp. 63-101.
- Pankhurst, Alula and François Piguet (2009), Displacement, migration and relocation, in: Alula Pankhurst and François Piguet (eds.) Moving people in Ethiopia. Development, Displacement and the State. New York: James Currey, pp.246-264.
- Rahmato, Dessalegn (2008), The peasant and the state. Studies in agricultural change in Ethiopia 1950s-2000s, Addis Ababa: Custom Books Publishing.
- Salman, M.A. Salman (2011), The new state of South Sudan and the hydropolitics of the Nile basin, in: Water International, 36,2: 154-166.
- Swain, Ashok (2002). The Nile River Basin Initiative. Too many cooks, too little broth. SAIS 22, 2: 293-308.
- Tadele, Feleke (2009), Urban development and displacement of rural communities around Addis Ababa, in: Alula Pankhurst and François Piguet (eds.) Moving people in Ethiopia. Development, Displacement and the State. New York: James Currey, pp.102-118.
- Tefera, Bezuayehu (2006), People and Dams. Environmental and socio-economic changes induced by a reservoir in Fincha'a watershed, western Ethiopia, Wageningen: UP.
- Tefera, Bezuayehu and Geert Sterk (2008), Hydropower-induced land use change in Fincha'a watershed, western Ethiopia: Analysis and impacts, in: Mountain Research and Development, 28,1: 72-80.
- Gebre, Yntiso (2008), Urban development and displacement in Addis Ababa. The impact of resettlement projects on low income households, in: Eastern Africa Social Science Research Review, 24, 2: 53-77.

# Koga studies and project documents

Abebe, Wubneh Belete (2007), EIA implementation and follow-up: a case study of Koga irrigation and watershed management project – Ethiopia, Delft: UNESCO-IHE Institute for Water Education. .

Gebre, Ayalew, Derese Getachew and Matthew McCartney (2008), Stakeholder Analysis of the Koga Irrigation and Watershed Management Project. A study report submitted to the IWMI. Addis Ababa.

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