

CONCERNS ABOUT THE GIBE 3 DAM

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Introduction

Although greatly increasing Ethiopia's electricity generating capacity and the irrigation potential of the Omo Basin, the Gibe 3 Dam will have a potentially devastating impact on the downstream population, both directly and indirectly.

- *Directly*, it will end the annual flood, upon which all residents of the Omo flood plain and delta are dependent for their livelihoods (SOGREAH, 2010: 37).
- *Indirectly*, it will displace many of these people from their existing farmland and grazing areas, through the development of large-scale irrigation schemes which will eventually occupy over 300,000 hectares in the lower Omo Valley. Since the Omo supplies 90 per cent of the water entering Lake Turkana, irrigation on this scale will significantly reduce the level of the Lake, and increase its salinity. This in turn will adversely affect the livelihoods of another 300,000 or so people who live in northern Kenya and who depend on the lake for pastoralism and fishing (Johnston, 2010).

Any dam-building project that displaces a large number of people, and/or restricts their access to vital resources, would normally be expected to include a comprehensive plan to improve or at least maintain their long-term economic and social well-being. The downstream 'mitigation plan' so far proposed by the Gibe 3 project falls very far short of this expectation. It seems to be assumed by the project managers that those who are displaced from their land, livelihoods and resources will automatically benefit from generalised economic development and 'modern' forms of agriculture. But this assumption is contradicted by what we know of other cases, from countless academic studies and *ex-post* assessment reports by development agencies. These show that projects which displace people but do not include comprehensive and fully budgeted livelihood reconstruction and development plans will result – at best - in the increased impoverishment of the affected population.

Not much time is left to avoid such an outcome in the lower Omo. The filling of the dam reservoir is expected to begin in June 2012 and the first of its ten turbines to begin operating in September 2013. Work should therefore begin as soon as possible on the preparation of a livelihood reconstruction and development plan for the downstream population. This would aim to ensure that those who will carry the main burden of the project, on behalf of the nation at large, will be the first to benefit from it. The purpose of this paper is to explain why such a plan is needed and to suggest specific steps that should be taken now to make it possible.

The direct impact: elimination of the annual flood

All the groups living along the lower Omo (Bodi, Mursi, Kwegu, Muguji, Kara, Nyangatom and Daasanach) depend on 'flood retreat' or 'recession' agriculture. Some (e.g. Daasanach and Kara) are able to produce all the grain they need from flood cultivation while others (e.g. Bodi and Mursi) must supplement it with rain-fed cultivation. But none could survive without the contribution made by flood cultivation to the household economy. The Daasanach, who live in the more arid southern part of the lower basin, also depend on the flood for the annual rejuvenation of their dry-season pastures.

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The dependence of the downstream population on the annual flood was not recognised by the Gibe 3 project until two years after dam construction had begun, when a revised *Environmental and Social Impact Assessment* (ESIA) was completed (CESI, 2009), together with an *Additional study of downstream impacts* (Agriconsulting S.p.A., 2009). The solution proposed was an artificial or ‘controlled’ flood, to be released annually over a ten day period and timed to coincide with the natural flood. This was expected to ‘mitigate.....all adverse effects’ on the livelihood systems of the downstream population, although additional measures were also proposed (mainly small-scale irrigation schemes) in case the artificial flood had to be ‘partially withheld due to unforeseen circumstances’. It later emerged that the controlled flood, although presented in the ESIA as the centre-piece of the downstream ‘mitigation plan’, would in fact be a temporary measure, to be withdrawn ‘when deemed appropriate’. This information was contained in a press release issued by the dam builder (Salini Costruttori, 2010) but has not, to the best of my knowledge, been officially confirmed by the Gibe 3 project office.²

The likely effectiveness of the proposed controlled flood was, in any case, seriously questioned in an independent review of the Gibe 3 documentation, commissioned by the European Investment Bank (EIB). This review concluded that the controlled flood had been ‘planned.....without fully qualifying the problem and without studying its effectiveness which may be considered....the major weakness of the downstream mitigation plan’ (SOGREAH, 2010: 122).³ The review also pointed out that there was ‘almost no detail’ in the project documents on the ‘additional’ mitigation measures to be implemented in the downstream area and that information needed to design an effective downstream mitigation plan was ‘still dramatically missing’ (SOGREAH, 2010: 120). It was recommended that a number of further studies be carried out to make good these deficiencies, and that a detailed ‘livelihood development plan’ should be prepared ‘for the proper presentation of baseline data, impacts and plans to restore/improve the livelihoods’ of the downstream population (SOGREAH, 2010: 122). Following the decision of the Industrial and Commercial Bank of China, in July 2010, to offer a 450,000 USD loan to the project, the EIB decided against any further consideration of financing support and the additional studies recommended in the SOGREAH review were not proceeded with.

The continuing lack of a convincing livelihoods reconstruction and development plan for the downstream population must ring alarm bells for anyone familiar with the extensive literature on the human and environmental costs of large dams. This literature provides overwhelming evidence that the poorest, most vulnerable and most marginalized members of a country’s population, particularly ethnic minorities, are disproportionately affected by large dams and that most of those affected become even poorer, more vulnerable and more marginalized as a result. On present evidence, it is difficult to imagine that the Gibe 3 project will have a different outcome for the people of the lower Omo.

The indirect impact: large-scale irrigated plantations

The indirect impact of the dam on the downstream population threatens to be even more severe than its direct impact. On 25 January 2011 the Prime Minister made a speech in Jinka, the capital of South Omo Zone, in which he announced that ‘the government is planning...to establish a 150,000 hectare sugar cane development in this area, starting this year’. This would be made possible by the regulation of the Omo flow by Gibe 3. A few days later it was reported in *Addis Fortune* (30 January 2011) that the Ethiopian Sugar Development

² It was, however, verbally confirmed at a meeting I had in December 2010 at the Ministry of Water and Energy.

³ The authors of the SOGREAH review appear to have been unaware that the controlled flood was intended by the dam builder to be a temporary measure only.

Corporation had been allocated a 250,000 ha plot in South Omo Zone, of which 150,000 ha were suitable for the production of sugar cane. This was expected to be enough to keep six sugar factories in operation and to provide work for tens of thousands of migrant workers. Since around 70,000 ha in the southern part of the lower basin have already been leased to private investors, we must assume that at least 300,000 ha will be devoted to irrigated agriculture in the lower Omo in due course.

The Prime Minister also announced that local agro-pastoralists, who will lose all their best agricultural land and much of their best grazing land to the plantations, 'will be given some fertile land from this irrigation system which can be used for their own cultivation'. It has now become clear that what is intended is the resettlement of this formerly transhumant population in permanent villages, situated along irrigation canals, in line with the government's long-term pastoral development policy of 'phased voluntary sedentarization' (FDRE, 2002:5). The number of prospective resettlers was not mentioned in the speech but, according to the 2007 census, the total agro-pastoral population of the South Omo Zone (Bodi, Mursi, Nyangatom and Daasanach) amounts to just under 90,000 individuals (FDRE, 2008, Table 5: 98-99), which is almost certainly an under-estimate.

In making his announcement, the Prime Minister referred to 'the good results' achieved by large-scale irrigation in the Afar Region. Unfortunately, these results have been far from good for local people. Studies of the impact of commercial plantations on Karrayyu and Afar pastoralists in the Awash Valley have shown beyond any doubt that the majority of the local population has become poorer and more vulnerable to food insecurity as a result. The forced displacement of herders from their grazing lands and the loss of access to watering points along the Awash River have put increased pressure on resources, leading to land degradation, violent conflict between neighbouring groups and increased vulnerability to drought. Employment opportunities on sugar estates have been monopolised by migrant workers from the highlands and settlement schemes for local pastoralists have benefited only a handful of rich herd owners. (Kloos, 1982; Ayelew and Getachew, 2009; Kloos et al. 2010).

The same studies make it clear that the impoverishment of the local population by irrigation development in the Awash Valley could have been avoided if two conditions had been met. First, detailed feasibility studies and socio-economic impact assessments should have been completed and made publicly available, *before* the plans were finalised. Second, local people (not just administrators) should have been genuinely involved in the consultation and planning process and their needs and interests should have been fully and systematically addressed, *from the start*. There is no evidence that these lessons have been learnt by those planning sugar plantations in the lower Omo. Here, the planning process has been entirely top-down, the implementation process continues to be surrounded by a wall of secrecy and strenuous efforts are reportedly being made by local administrators to stifle criticism from local people.⁴ In short, a project which will deprive thousands of people of vital subsistence resources is being pushed through in great haste and without the consent, collaboration or even prior knowledge of the affected population. It is difficult, in these circumstances, to see how irrigation development in the Omo Valley will have less disastrous consequences for local people and the environment than it has had in the Awash Valley.

Finally, the intended scale of irrigation development in the lower Omo makes it necessary to revise our estimate of the population likely to be affected by Gibe 3. Since the Omo accounts for 90 per cent of the inflow into Lake Turkana, any significant abstraction from the river will reduce the level of the lake and increase its salinity. No attempt was made in the ESIA to calculate the impact of potential irrigation schemes on the lake level but a calculation was made in an independent report commissioned by the African Development Bank (Avery,

⁴ According to credible reports coming from the area, these efforts have included the heavy-handed use of direct physical intimidation by military units.

2010). Data presented in this report suggest that an irrigated area of 150,000 ha in the lower basin would lead to a drop in lake level of twenty metres (3-14), leading to more than a halving of the lake's volume and more than a doubling of its salinity level (2-50). Since we now know that the irrigated area is eventually expected to reach more than 300,000 ha, these estimates must be regarded as conservative.

Such a drastic drop in lake level and volume would have a damaging impact on the livelihoods of around half a million people who are dependent on the lake for water, pasturage and fisheries and who live mainly in Kenya. It could also lead to violent trans-boundary conflict between neighbouring groups, because of increased competition for these vital resources (Johnston, 2010). Nor is it difficult to imagine an interminable dispute developing between Ethiopia and Kenya over the equitable use of the water resources of the Omo Basin, as the impact of irrigation schemes on the level of Lake Turkana becomes increasingly apparent.

What should be done?

There is a powerful economic argument to be made for the Gibe 3 dam and, in general, for the rapid expansion of Ethiopia's under-utilised hydropower and irrigation potential. But there are also powerful arguments, on both ethical and pragmatic grounds, for ensuring that large-scale river-basin development projects provide genuine and sustainable development opportunities for affected people.

The ethical argument is that these are the people who must carry the main burden of the project, on behalf of the nation at large. The pragmatic argument is that large-scale development projects which ignore standard safeguards intended to protect the environment and the rights and interests of affected people are likely to (a) impoverish these people still further; (b) create irreversible and unnecessary environmental damage; and (c) tarnish the public image and international standing of the state in question. Unless something is done to avoid these outcomes, and given the relatively large size of the affected population and the high international visibility of the lower Omo,⁵ it is likely that Gibe 3 will become yet another 'disgracing stain on development itself' (Cernea, 2008:1) and a classic case of how *not* to go about river-basin development. To say the least, this will not make it any easier for Ethiopia to achieve its ambitious energy generation goals, which depend so heavily on hydropower.

Those responsible for planning the dam and the plantations are undoubtedly as keen to improve the lives of local people as they are to strengthen the national economy. Indeed, they see these two aims as indissolubly linked. Unfortunately, however, it is far from unusual for the most well-intentioned and comprehensive schemes to improve the human condition to end in tragic consequences for those whom they were intended to benefit (Scott, 1998). This is what I fear will happen to the people of the lower Omo unless urgent - but still feasible - steps are taken to ensure that the dam and the irrigation schemes bring real and sustainable economic benefits to the local population. All large-scale development projects are likely to have some unintended consequences. But not all such consequences are either unforeseeable or unavoidable, if sufficient attention is paid to the reasons for past failures and if the appropriate lessons are learnt.

⁵ In 1980 the Lower Omo Valley was declared a UNESCO World Heritage Site, in recognition of its 'fundamental importance in the study of human evolution' which has made it 'renowned the world over' (<http://whc.unesco.org/en/list/17>). Amongst other discoveries, the oldest known fossil remains of *Homo sapiens* were found in the lower Omo in 1968, making this the oldest landscape known to have been inhabited by modern humans anywhere in the world.

Some of the responsible government officials I have spoken to seemed to assume that the downstream population would benefit automatically from the dam, as a result of general infrastructural development and agricultural innovation in the lower Omo, coupled with the devolution of budgetary responsibility to the *wereda* level. This unfortunately ignores (a) the evidence of countless empirical studies which show that most people displaced by big dams and large-scale irrigation schemes become worse off as a result; (b) the radical nature of the transition local people will be expected to make in order to take advantage of new economic opportunities and agricultural technologies; and (c) the essentially top-down nature of state-sponsored development in Ethiopia, of which the present case is a classic example.

What can be done to reverse this pattern in the lower Omo, even at this late hour?⁶

- First, the additional investigations recommended by the SOGREAH review should be completed as soon as possible. These would include a hydrological assessment of the cumulative effects of the planned cascade of dams along the Omo (i.e., Gibe 3, 4 and 5) and a socio-economic and ecological survey of the Omo river downstream of Gibe 3, in the Omo delta and around Lake Turkana. These studies would provide the data needed to design a sustainable livelihood reconstruction and development programme, based on the commercialisation of irrigated small-holder agriculture, fisheries and livestock production.
- Second, the present plan for commercial sugar-cane plantations, which is already being implemented,⁷ should be put on hold while a livelihood development programme is being designed. This will allow detailed land capability studies and socio-economic impact assessments to be completed and *made available for public discussion and consultation*. If it is concluded that the resettlement of project-affected people is unavoidable, a detailed and fully budgeted compensation and resettlement plan should also be prepared, *in consultation with potential resettlers*.
- Third, the well known public health risks associated with large-scale irrigation schemes should be fully investigated. These include the increased transmission potential of vector-borne diseases (especially malaria which is already endemic in the lower Omo), the spread of disease agents (such as HIV) through the influx of large numbers of migrant workers, and the contamination of ground and surface water by factory emissions, fertilizers and crop protection chemicals. In the Awash Valley, below the Koka High Dam, the pollution of water resources by pesticides, herbicides and fertilizers used on commercial farms has been a particular problem for local people who have to use irrigation canals for all their domestic purposes as well as for watering their livestock (Kloos et al. 2010: 261-2).

The above measures should be completed before plans are finalised and project implementation begins. This will enable the irrigation schemes and the resettlement programme to be planned in an open and transparent way that takes fully into account the needs and interests of local people. Above all, it is vital that affected communities are *genuinely* consulted - i.e. not simply informed of decisions that have already been made by the planners. This will require both the political will to involve local people in the decision-making process and a thorough knowledge and understanding of traditional decision-making

⁶ In a meeting with Azeb Asnake, Gibe 3 Project Manager, in December 2010, she explained that there will be no controlled flood in August/September 2012 because the water in the reservoir will not have reached a level at which it could be released through the dam spillway. Subsequent controlled floods will presumably be ruled out by the large-scale irrigation development that was announced in January 2011 by the Prime Minister.

⁷ Work is reported to have begun on service roads for the main canals, on accommodation for migrant workers and on a barrage across the Omo to divert irrigation water into the canals.

institutions (Acreman, 2000:36). Although this will involve a big investment of time and resources, the value of such an effort cannot be over-estimated. There is simply no other way to ensure that river-basin development in the lower Omo becomes a genuine development opportunity for local people, while minimising the risk of irreversible damage to the environment.

I therefore urge the Ethiopian government to take the steps outlined above as soon as possible, to prevent a predictable but avoidable human and environmental tragedy from occurring in the lower Omo.

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