

Ethiopia – Water for Private Sector Development

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[http://www.menschen-recht-wasser.de/downloads/Water for Food Hoering.pdf](http://www.menschen-recht-wasser.de/downloads/Water_for_Food_Hoering.pdf)

Hunger, aridity, flooding – Ethiopia is a particularly dramatic case of poverty and under-development. Almost half of the rural population suffers from chronic food insecurity. Year by year, six to eight per cent of the 70 million inhabitants are dependent on food aid. And if the rains fail the percentage is considerably higher.

Yet, the problem is not a lack of water. In the rugged mountainous region, with some peaks rising to over 4,500 metres, the precipitation ranges between 1,400 and 1,800 millimetres annually– twice as much as in Germany. Whereas, yet in the Great Rift Valley, which bisects the Ethiopian Plateau into the northwestern and the southeastern highlands, and the associated lowlands, the precipitation only reaches about 400 ml, or even less. Moreover, the rainfall is limited to only a few months, sometimes only weeks, a year. Due to the climatic change, the unpredictability and variation in precipitation have increased. Among the few rivers to carry water year round, one is the Awash River, which originates west of the capital Addis Ababa, and then flows east and disappears into the saline lakes near the Djibouti border. Another is the Tekezé, which flows into the Atbara River in Sudan, a tributary of the Nile River. But the largest river is the Abbay River, or Blue Nile, which originates at Lake Tana, which is the biggest lake of the country with a surface area of 3,600 km².

Land is equally plenty. But most people live in the densely populated highlands. The region was deforested and bare, steep mountainsides remained. The heavy rainfalls wash away the fertile topsoil, the natural capacity of the earth to soak up and store water is lost and the water cycle loses its balance. Each year flooding causes severe damage to streets, bridges and harvests.

The main cause for the problems, however, is the many years of neglect of agriculture, namely, of the small-scale rain-fed cultivation which 80 per cent of the population depends upon. After the military brought down Emperor Haile Selassie's feudalist regimen in 1974, land reforms, reforestation projects and development programs were initiated. But the pseudo-Socialist development regime of Derg's military government's war against Eritrea, and the Civil War, which finally led to the coup d'état in 1991, signified that money was spent on weapons instead of development programs, and destruction of infrastructure in many cases.

Environmental destruction, the precarious condition of agriculture, as well as insufficient infrastructure, have a direct impact on the country's economic development in general. Lost crops influence the price for staple foods and necessitate food imports and aid. Farmers are incapable of putting their products on the market, the marginal power generation of the few hydropower plants affects

development in other branches of economy. This is in addition to the water conflicts between urban and rural areas, agriculture and livestock production, and the economy and environment (see box).

Water Conflicts

- Principal source of water supply for Harar, a province town east of Addis Ababa, is Lake Alemaya. For a couple of years now, farmers in the region have increasingly been cultivating the narcotic “khat”, a cash crop, which became Ethiopia’s second biggest export crop. As a result of their water removal the lake has practically vanished, leaving the city no choice but to invest into a new supply.¹
- Nomadic herdsman in the arid lowlands lose their watering holes in the low plains due to the expansion of agriculture and the usage of wetlands. Especially during drought periods, they leave their traditional grazing lands, thus evoking further conflicts with the farmers.
- Since the 1960s water is withdrawn from the Awash, the most important river flowing east, for big cotton and sugarcane plantations. The consequences: in the arid, low rainfall region at the lower reaches, processes of desertification begin to show; Lake Abe, which is where the river ends, on the Djibouti border, has shrunk during the past 70 years to a third of its original size.

Since the Derg regime was overthrown in 1991, politics and economy slowly began looking up.² But so far, the rural areas have hardly benefited from stability and massive foreign aid. Hydro-engineer Gebreyes Haile is convinced, that one could feed everybody. Winfried Zarges, coordinator of a GTZ food security project, even goes a step further, by saying that the neighbouring countries could be supplied as well, and quite easily so, provided the available resources, i.e. water and soil in particular, were used more effectively.

1. Approaches to Agricultural Water Usage

The most widely applied form of water usage in Ethiopia is rain-fed cultivation. Subsistence or small farmers, sustaining 80 per cent of the population, provide 85 per cent of the agricultural production, three quarters of which is designated for themselves, and contribute almost half of the gross national product. Apart from the cereal *tef*, used for the preparation of *injera*, [a flat, spongy, and slightly sour bread that looks like a giant bubbly pancake the size of a serving tray], predominantly top grade coffee is being grown in the southwest highlands, accounting for about 70 per cent of the country’s export earnings.

Rain-fed cultivation means to be at the mercy of Nature. To diminish this and increase crops yields, a variety of possibilities is used to bring more water to the fields.

1 Harar Water Supply, ADB, 28 Mio. (CWRAS, 96)

2 But it suffered a serious setback from the armed boundary dispute with Eritrea end of the 1990s.

Using Flash Floods in the Segen Valley

The Konso people, one of the many smaller ethnic groups in the multinational state, have been living for generations on hilltops 600 km southwest of the capital Addis Ababa, not far from the Kenyan border. Over centuries, they have created artful stone terraced fields, which descend down the steep hillsides. Sufficient precipitation in spring and autumn, as well as a creative mixed cultivation system allows them to attain the highest possible yield from the small surfaces, without damaging the earth.

In spite of malaria, wild animals and the long and arduous paths back to their villages, some years ago the first of the Konso people moved down into the wide, fertile river valley, because the mountainsides no longer offered enough land, leaving many of them dependent on food aid. They cleared the thickets and shrubs in the wide plain between the Yando, Faro, and Segen Rivers and divided the land among themselves. Here every family was allotted at least one parcel of land in the front row, directly on the riverbank.

Due to the fact that rainfall in the valley is low or even stops before harvesting can begin, they've created dams/barrages made of rubble and sand sacks. Once the dark rain clouds start gathering up in the mountains, they know that the river will soon rise and they can re-route the water via a ramified system of channels onto their fields – an inexpensive system using mainly local material, while interfering only slightly with nature. “With good planning using the precipitation in the valley and in the mountains alone facilitates three crops a year”, declares Helmut Spohn, who works as an advisor for the Konso on behalf of Bread for the World.

A variety of Solutions

The Relief Society for Tigray, REST, likewise, uses this traditional system of „spate irrigation“, so that the farmers can provide their fields with extra water. In addition to that, it has developed a whole store of methods and technologies to “catch the precipitation” and bring more water on the farmland – both during the rainy season as additional irrigation for the cultivation of grain, as well as during the month-long dry season to facilitate a second harvest of cash crops.

For instance, reservoirs are being constructed by means of simple dams made of earth and stone, some of them up to 15 metres high and three hundred metres long; diesel pumps provide irrigation water from rivers carrying water all year long. Every family is allotted a quarter hectare of land, fruit tree seedlings and elephant grass for planting the earth walls, which separate the fields and slow down erosion. Advisors facilitate the creation of water users organizations, as well as the introduction of improved cultivation methods, and a frugal use of the unusually ample available but precious water. Some families try their luck with the cultivation of cotton, sesame and vegetables; the majority, however, plants chillies, a coveted commodity during the dry season on the nearby market of the small town Abi Adi. Downhill, below the irrigated fields, the groundwater table has risen in the meantime, due to infiltration. Farmers have drilled wells that are five, six metres deep. Using a treadle pump, they can now carry the water to their field and direct it into the furrows between the rows of chillies and cotton plants.

Each week prolonging the availability of water beyond the rainy season possibly provides more security and better earnings. Likewise, there is the possibility of increased financing for the further improvement of cultivation methods, the purchase of fertilizer and superior seeds, to buy a corrugated sheet roof for the stone cottage or a transistor radio. Hence REST regards water as an “entry point” for long-term rural development.

Mulugeta Berhanu, head of REST’s environment and agriculture department, is convinced, that “Tigray is not a hopeless case.” Certainly, the stony, rugged terrain is a challenge, he concedes. But as long as the people are inclined to stay, all possibilities are to be exhausted. Purely economic cost-benefit analysis alone can not be the determining factor here, rather, in choosing technology, ecological and social benefits should be considered.

The problems of irrigated agriculture

Modern irrigation, which would allow less dependence on rainfall, hardly exists in Ethiopia: a total of about 200,000 hectares benefits from medium-sized (two-thirds) and large-sized (one third) systems. One reason for that is the lack of money. Dams, like the Koka Dam across the Awash River built in 1960, cemented long-distance canals, and drainage are expensive. Moreover, irrigation places greater demands on water management in order to prevent arable land from salinisation and becoming swampy. Yet, the rather marginal implementation of irrigation in agriculture is also due to political reasons. In the past, Egypt has been particularly successful in torpedoing numerous plans for large-scale irrigation and dam projects on the Nile’s headwater by using diplomacy as well as threats, because every drop diverted onto the fields of Ethiopian farmers is feared to be lost to the farmers downstream in the Nile Valley. Whereas in Sudan and Egypt new areas in the desert are converted time and again into farmland with Nile water, the small farmers at the source, i.e., the Blue Nile and its tributaries, are left stranded for most or part of the year

In the mid-seventies the government and NGOs, like the Lutheran World Federation, realized a series of small- and medium-sized irrigation projects that were mostly managed by cooperatives and water users organizations. Due to lack of experience, as well as insufficient guidance by the state and marketing opportunities, many of them were neglected.

The large-size irrigation systems, created mainly in the 1960s for the cultivation of sugar cane and cotton, suffer as well from mismanagement, soil erosion and salinization. “There is no framework capacity for modern irrigation management,” says GTZ employee, Winfried Zarges. In the meantime, some of them become re-privatized. Most of them receive their water from the Awash, the lower reaches of which are already showing serious environmental problems (see box: Conflicts).

2. Governmental Water Policy

Aided by numerous policy and strategy papers, as well as advised and supported by the World Bank, the African Development Bank and the European Union, the Ethiopian government has defined the framework for legal and institutional reforms

of the water sector.³ Several development projects are pushing for the extension and development of the different areas, including urban water supplies and irrigated agriculture in particular.

The investment needs for the realization of the Water Sector Development Programme is estimated at 8 billion US\$ for a period of 15 years, with about 1.7 billion accounting for irrigation. The goals set are for both food security, as well as an increase in the cultivation of raw materials and export products. Another aim is to win over the private sector more and more for investments.

Within the scope of said food security strategy, the government puts some emphasis on rain-fed agriculture. Support for improved cultivation methods and the expansion of micro water infrastructure are supposed to increase productivity and reduce the danger of crop losses. For this, the government largely relies on NGOs and bilateral donors like Ireland, France and Belgium, as well as self-help initiatives of the local population. But according to the Sustainable Development and Poverty Reduction Program, SDPRP rain-fed cultivation alone is not enough to provide food security (87).

Sledge hammer rainwater harvesting

The Sustainable Development and Poverty Reduction Program and other programs give high priority to “rainwater harvesting” in improving the irrigation of small farms. Based on the recommendations made by a Canadian business consultancy this includes the “household ponds”, which now are scattered across the hills of some of the highland regions like a cratered landscape after the government declared their creation part of the official program. The small water reservoirs are supposed to help save the crop in case the rain doesn't suffice. For the excavation of the holes, the families frequently receive some corn rations. To line the cavity with plastic foil or cement they often have to procure a loan. In the meantime, the ponds proved for the most part to be too small to save the crop in case of emergency; and most of the water evaporates uselessly.

Therefore, irrigated farmland is to be more than doubled, to 274,000 hectares by the year 2016. About half the land is supposed to offer small farmers the opportunity to put in a second crop during the dry season, apart from the rain-fed cultivation.⁴ The other part of the newly irrigated area, 150,000 hectares, will be made available for 26 medium- and large-sized irrigation systems. This is consistent with the intentions of the government to place “increasing emphasis on the development of large and medium-scale irrigation systems in the medium to long-term” (WSDP, 30). Calculations indicate, that if half of this area were used for the cultivation of grain, the national food deficit would be reduced by 11 per cent,

3 These are primarily the Water Sector Development Programme (WSDP), the Water Resources Management Plan (WRMP) and the action plans based upon, the Sustainable Development and Poverty Reduction Program (SDPRP, July 2002), and the government's Food Security Strategy (March 2002), as well as the Country Assistance Strategy (CAS), and in particular the World Bank's Country Water Resources Assistance Strategy (CWRAS, March 2005).

4 Numbers slightly diverge in the WSDP, see page 30. According to data from the Sustainable Development and Poverty Reduction Program (SDPRP), currently (2002-2005) about 24.000 hectare small-scale irrigation systems are to be developed for 93,000 families.

5 FAO-Aquastat. The United Nation's Food and Agriculture Organization (FAO) estimates the total potential for irrigated agriculture to be about 5.7 million hectares, the economically feasible area however, only at 2.7 million hectares.

and, thus, food security would be improved of its own accord. Within the scope of its “Agricultural Development Led Industrialisation (ADLI)” strategy the government will open up new areas for large-scale agricultural production in order to encourage commercial farming (Food Security Strategy, 11).

Increasingly, the end users are to be involved in the management and funding of irrigation projects. Thus, the Water Sector Development Programme plans to introduce cost coverage and cost sharing: 20 per cent is envisioned for small projects, and in major projects the users are to shoulder 10 per cent, and private investors another 10 per cent. Likewise, the Water Resources Management Plan states: “All irrigation projects should include the development of appropriate cost recovery systems and mechanisms” (1).⁶

Initially, an additional 90,000 hectares of land are to be developed with the Awash River, the water of which has already been used for several major national and private farms. The nomads, who are grazing their herds in large areas of that region at the lower reaches of the Awash, shall be relocated and resettled.

A whole series of new dam projects are planned or already under construction within the scope of the development programs, which are to facilitate, apart from power generation, the aspired expansion of irrigated agriculture (see box).

Dam Projects in Ethiopia
<ul style="list-style-type: none"> • Koga, tributary of the Blue Nile, commenced in 2001, irrigation for 6000 hectare, 42 million US\$, loan from the African Development Bank (ADB) • Tekeze, 225 MW, designed for irrigation, expenses: 224 million US\$, Chinese construction company, loan from Chinese government • Gilgel Gibe I, inaugurated in 2004, 184 MW, supported by the World Bank • Gilgel Gibe II, 420 MW, part of the World Bank-assisted Ethiopia Energy II, cost: 259 million US\$, funded by Italian government (277 million \$US), European Investment Bank (EIB) • Finchaa IV, stage IV under construction • Gojeb, 150 MW, cost: 270-300 million US\$, first private sector funded hydro-electric plant (IPP) by investors from the Middle East • Bir-Kog, 36 million US\$, loan from ADB • Tis Abbay II, 73 MW, small irrigation project planned • Beles, multi-purpose dam, 460 MW, 7000 ha irrigation, 540 million US\$, 70% funded by Italian government • Feasibility studies for Baro (Multi-purpose dam, 650 MW) and Karadobi (1000-1600 MW), both part of the Nile Basin Initiative, are being funded by the Norwegian government (1.4 million US\$)
<p>Sources: IRN; Fortune, July 10, 2005; CWRAS; several articles in newspapers</p>

3. World Bank Aid: CWRAS

⁶ The Sustainable Development and Poverty Reduction Program has also designated full cost coverage, cost sharing and self-funding of programs and projects for water services. (85)

The World Bank regards Ethiopia as a focal point of its renewed comprehensive water policy.⁷ "Managing Water Resources to Maximize Sustainable Growth" is the programmatic title of the World Bank's Country Water Resources Assistance Strategy for Ethiopia (CWRAS) that has also influenced government policy.⁸ According to an assessment by the World Bank, low "water security" due to high variation in the amount of precipitation, lack of storage capacity, and thus unreliable availability of water, increase the poverty rate by 25 per cent. Moreover, the World Bank says, that it is costing the Ethiopian economy about 40 per cent of its growth potential and "leaving growth rates hostage to hydrology" (CWRAS, xv). Thus, water resources development and management of the water supply (...) "remain at the heart of the struggle for sustainable development, growth and poverty reduction" (xiv).

To achieve this the strategy recommends a series of "strategic shifts", or rather a concentration of efforts on "areas that stand out as priority investments" (xvi): by investing in infrastructure, institutions and management capabilities "water security" will be increased. In addition to that, the strategy mentions improving marketing opportunities, expanding the private sector's participation and comprehensive macroeconomic structure reforms as a means to reduce the dependency on precipitation and unreliable water availability. It also recommends that the Bank invest more intensely than it has so far in improving drinking water supply and wastewater disposal, as well as into watershed management projects.

Infrastructure

To develop the storage capacity of small, medium and major systems "must be seen as a development priority across the entire economy" in order to improve water availability year-round and control the discharge. Compared to South Africa, with 750 cubic metres of storage capacity per capita, not to mention developed countries like the United States with 6,150 cubic metres, Ethiopia ranges way behind with its 43 cubic metres of average storage capacity.

Here major dams in particular require public funding, since such investments amortise and are only profitable in the long run – if at all – hence, interest on part of private investors is rather small. The finances required to attain the standard of South Africa, considered a rough measure for water security, are estimated at 35

7 Apart from the World Bank and the African Development Bank, which pursues similar approaches, several bilateral donors are active in the water sector, including France and Norway. For the German Development Cooperation (EZ) the sustainable use of natural resources for food security has been agreed upon as one of three focal points. In Amhara, Tigray and Oromiya soil conservation measures are being realized, the GTZ is developing, among other things, concepts for soil and water protection, the *Kreditanstalt für Wiederaufbau*, (KfW Development Bank for Reconstruction) is funding, e.g., a small WSS project in three cities.

8 Draft, June 2005. It has been elaborated jointly by the IFPRI, the IWMI and a few Ethiopian scientists and government ministers. The preparation of such country strategies originates in the Water Resources Sector Strategy, adopted by the World Bank in 2003. Objective: To improve the orientation and coordination of several World Bank programs and to support the government in realising its policy and strategies in the water sector. Such Country Water Resources Assistance Strategies (CWRAS), currently available or in progress for 14 countries, are to be adjusted to the specific situations and needs in each country. Hence they vary from country to country. Yet, the Ethiopian CWRAS allows an initial insight into current priorities and ideas of the World Bank in the water sector.

billions US\$ (CWRAS, 33), that is five times the current gross national product of Ethiopia.

Such an expansion of infrastructure ought to have “relative priority” compared to a comprehensive development of management capabilities (xiii). For developing countries like Ethiopia, the World Bank stated under reference to its Water Resources Sector Strategy (World Bank 2003), it “may do better to adopt a principled and pragmatic approach to management while putting greater emphasis on concurrent infrastructure investments” (xiii). In this case, the World Bank strategy functions as an advocate on behalf of countries like Ethiopia to other donors from developed countries that would attach greater importance to the development of management than to the expansion of infrastructure.

Multi-purpose dams

Wherever possible, the new infrastructure projects in the water sector were to serve both power generation and agriculture. Such multi-purpose dams are regarded as a “powerful investment”, because they “can provide resilience both by directly regulating flows and by promoting structural shifts in the economy” (CWRAS, xv). So far the World Bank is only directly involved two Ethiopian dam projects: the hydro-power plant Gilgel Gibe I, which has been inaugurated in the meantime, and the construction of the Gilgel Gibe II Dam with a planned capacity of 400 MW. But that is about to change:

“The far-reaching potential benefits of multi-purpose dam development, and the unique qualifications of the Bank to support these investments, strongly recommends support of multipurpose dam development with an emphasis on hydropower generation and interconnection in the Nile River Basin as a first priority for future Bank assistance in water resource management.” (72)

Due to own experience, the World Bank knows about the “risks” of such major projects. Thus, the CWRAS concedes, that the necessary resettlements and negative effects on the environment could cause opposition and protests in Ethiopia and on international level. But the Bank is convinced *ex ante*, and without thorough examination, that many locations “pose moderate environmental and social impacts” only. (70) And the World Bank makes reference to its “rigorous safeguard policies“, which, in the case of such negative effects, would help to reduce and lighten them, even if “these requirements are sometimes viewed as onerous by our clients, and may be perceived to slow project preparation and add costs to the bottom line.” (71)⁹

One crucial requirement in order to accomplish this is further rapid progress in the Nile Basin Initiative (NBI), which is substantially supported by the World Bank.¹⁰ A

9 Organizations like the IRN complain, however, that the World Bank has not accepted the by far more comprehensive recommendations of the World Commission on Dams, WCD, for the construction of new dams. On the contrary, under the pressure of its clients, the Bank has even begun to mitigate its active environmental and social standards, see, for example, Bosshard 2004.

10 True, the Ethiopian government, which has an increased interest in the initiative, operates as facilitator, but the financial means for the Nile Basin Trust Fund to finance the activities originate from foreign donors like the ADB, CIDA, United Kingdom, Netherlands and Scandinavian countries, coordinated

significant objective is to end opposition by the littoral states of the Nile's lower reaches to its use by Ethiopia, and likewise by Uganda and Tanzania. This has already been met with success: the NBI Council of Ministers has in the interim accepted four hydropower and four irrigation development projects proposed by Ethiopia on the headwater of the Blue Nile (see box).

Nile Basin Initiative

"Recently, due to international law, which supports equitable utilization of the water resources, positive progress has been observed in that riparian countries are deciding on common water development programs. Thus, the Nile Basin Initiative was created and a Strategic Action Program prepared. The aim is to help create an enabling environment for action through building trust and skill, as well as delivering concrete development projects involving two or more countries. Projects are selected by individual riparian countries for implementation and submitted to the Council of Ministers of the Nile Basin Initiative for the approval. "The council has already accepted four hydropower and four irrigation development projects proposed by Ethiopia. Sudan, Ethiopia and Egypt have also adopted a strategy of cooperation in which all projects to be launched on the river should seek the common benefit of all member states."

Source: FAO-Aquastat

Energy

According to an estimate of the World Bank, only two per cent of the "economically justifiable" potential for hydropower plants assessed for 30,000 MW of production are currently in use (vi). Not only would more power advance the necessary structural change, but it would also protect the environment by burning less biomass, thus reducing deforestation and soil degradation. Investment needs for the designated expansion: almost 2 billion US\$ (WSDP, ES, 37).

Utilization of all planned or commenced hydropower plants, however, would exceed Ethiopia's energy needs by far. Yet, the World Bank defends the high investments, because apart from producing foreign exchange earnings, power export into the adjacent countries might as well – true to the intention of the NBI's "common benefit" concept – prove useful for the riparian countries at the lower reaches of the Nile, and, hence, meet with their consent.

Irrigated agriculture

Furthermore – continuing with the cost-benefit-analysis – those energy proceeds could improve the financial balance sheet of multipurpose dams, and thus increase the economic carrying capacity of irrigation investments (xv). The Ethiopian potential for an expansion in irrigated agriculture is estimated at approximately 3.5 million hectares¹¹. It is hardly fully tapped with less than five per cent presently in use. In addition to that, the Bank also sees a great potential for large-area mechanized rain-fed cultivation, following the example of the developed

by the World Bank. The German government has also supported this initiative, for example, in 2001, with 3 million DM.

11 Same as the energy potential, such estimates have to be considered carefully. How much of it can be "economically justifiable" used not only depends on the costs, but also on social, political, ecological and many factors more. Moreover, estimates as such take economical interests into consideration.

countries¹². Accessible farmland is mainly in the Ethiopian lowlands in the East and West, which at present is still frequently used by herdsmen like the Somali, Afar and Borana.

Financing irrigation would reduce agriculture's dependency on variable precipitation, improve food security and provide agro-products for the domestic market. As a result, farming prices could be stabilized and investments in agriculture, as well as non-agricultural areas, be furthered (CWRAS, 63).

Commercialisation

Apart from the insufficient water-infrastructure, the deficient transportation system and commercialization potential play a pivotal role in Ethiopia's economic problems. After many years of civil war, the infrastructure is still underdeveloped: The few good traffic arteries are connected to the capital Addis Ababa, many of which are impassable or even destroyed during the rainy season, so for the most part the commerce potential is locally confined. During critical times, food surplus from one region frequently can't reach another region, hence, leading to a situation where farmers in one area can't sell their crops or can do so only at low prices locally, while people in other areas have to rely on food aid.

For that reason, the CWRAS regards marketing as another important focus of massive investments. Hence the transportation sector accounts for the largest item (596 million US\$) in the World Bank portfolio (fiscal year 2005), followed by agriculture/rural development with 309 million US\$ (CWRAS 68).

Traditional concepts of water resource management would, at best, regard the expansion of marketing avenues as a matter of minor importance, states the Bank. Yet, they can assist in shifting "the economy from subsistence agriculture to an economy that can produce and market agricultural surplus and support value-added processing services." Therefore they should "be considered potentially powerful hydrologic risk-management investments." (73f)

Private sector participation

The infrastructure investments recommendations are supposed to create conditions for stronger participation of private companies "that will enhance productivity" (CWRAS, viii). Public spending on infrastructure, not immediately profitable like dams, roads or canals, is to create the security for subsequent private investments to advance economic growth: irrigated agriculture with secured water supply "at reasonable costs" (CWRAS, 35). The expansion of marketing opportunities and an improved energy supply offer "incentives and opportunity for farmers to transition out of subsistence agriculture into surplus/commercial agriculture and non-agricultural activities" (CWRAS xvi).

The Bank recommends reforms in the water sector with the objectives of a stronger involvement of the private sector in other strategy papers as well. In the Country Economic Memorandum (CEM), the government is requested to advance rehabilitation, or rather completion, of commenced dams and irrigation systems in order to win over private investors. The privatization of state-operated farms

12 See Country Economic Memorandum, quoted in: CWRAS, 68.

should be accelerated and “suitable public goods” made available, so as to attract private investments, for instance in mechanized agriculture, it says.

Structural reforms

In addition to that, the government is requested to accelerate appropriate policy environment to develop irrigation agriculture. That includes a further liberalization of investment policy so as to improve the conditions of foreign and domestic investors, secured right of ownership – including land – and right of water usage. The abrogation of existing restrictions is considered as one significant incentive for private participation and agricultural development (38). So far farmers are not allowed to sell land they've been allotted by the state. One of the reasons is the government's fear of a decreased rural population, owing to the farmers' selling their land out of desperation or due to the lack of agricultural investment possibilities. The World Bank, as well as other donors, is seriously pressuring the government into changing the right of ownership, thus facilitating sales.

4. “Big benefits” – But who gains?

The World Bank, with its claim of achieving sustainable growth through improved water resources management, clearly focuses on expanding infrastructure and economic structural change. Power generation, irrigated agriculture and roads for commercialisation are supposed to boost the economy and create conditions for private investments.

That corresponds with the rebound formulated in the Water Resources Sector Strategy and Infrastructure Action Plan: though holding “high risks”, investments in dam and other major infrastructure would at the same time yield “high rewards.”¹³ Therefore, the World Bank is obliged to accept said risks; it says, e.g., in the WRSS:

“There is broad agreement that an essential part of good development practice is the assessment of risks. Most practitioners, however, believe that the application of the precautionary principle would be a recipe for paralysis and that few development projects would ever be undertaken if such an approach to risk were taken. (...) There are strong concerns from governments, the private sector and many Bank staff, that when development risks are high, and Bank engagement is particularly valuable and important, the Bank must ensure, that it is a risk mitigator, not a risk multiplier.” (World Bank 2004b, 46).

Here the World Bank, as the driving force for economic growth by implementing, e.g., commercial agriculture, counts on the domestic and foreign private sector. Governments and donors are supposed to provide the necessary infrastructural outline conditions. In other words: non-profitable costs are to be shouldered by the treasury, while the companies will pocket private proceeds.

13 For criticism of the so-called “high risk/high reward strategy“ see for example, Environmental Defense et al (2003)

From the World Bank's point of view, the strategic focus on prerequisites for economic growth, ostensibly to boost the private sector, makes quite a bit of sense. Because a water and agricultural policy focusing mainly on economically speaking "premium picks", like multipurpose dams and major irrigation projects, offers the prospect of showing high returns on the investment. If the calculation works at all, the promised "high rewards" will materialize only for the state, private companies, and last but not least, the World Bank and other financiers, to be repayed on the loans they have granted.

With expanding the infrastructure the CWRAS focuses on the limited approach of a "supply-side" resource management in contrast to the comprehensive approach of an Integrated Water Resources Management (IWRM). The organization of management capabilities – regardless if for resource management or planned irrigation projects – is explicitly identified as of lower priority. Equally, other areas like watershed rehabilitation remain lower ranking. Yet, Ethiopian water experts, like former government official Habtamu, are convinced that for Ethiopia "software is more important than hardware," meaning an improvement of management skills, agricultural advice services and adjusted cultivation methods.

Environmental protection

Observing the Ethiopian water situation from an integrated point of view makes clear that the problems start in the highlands. Deforestation and soil erosion cause the massive precipitation to directly runoff, not giving small farmers a chance to make use of it. Consequently, this water is not available during the dry season. Desertification due to topsoil removal threatens to drastically reduce the useful function of dams drastically, as well as to rapidly devalue the high investments.

An example for this was the government's plan to build a dam close to the province town Karete, 600 km to the southwest of Addis Ababa, through the Yando Faro River to facilitate a year-round irrigation in the fertile valley of the river. Matter of expense: 50 millions Birr, that is almost 5 million Euro. However, hydraulic engineer Gebreyes Haile, called in as an advisor, pointed out that without implementing complex and expensive stabilization and erosion protection measures, the storage lake would silt up in a matter of few years. Hence, the project fell through.

Environmental protection measures that tackle the problems at the source are crucial here, says Gebreyes Haile. That includes, for instance, blocking the numerous, often running twenty to thirty metres wide, erosion gullies. These deep furrows sweep down the mountainsides. Fields, trees and houses are swept away by the torrents when it rains, allowing prosperity only to the farmers at the lower reaches of the rivers. Conservation measures like terraces and forestation could hold the water and allow it to drain into the soil, which still proves to be best water storage of all. Often new, year-round sources emerge after a short while at the bottom of such stabilized gullies – for drinking water and small-surface irrigation.

Measures for "gully control/gully sheeting" can be carried out rather economically with local material and by self-help. For the most part, the rural population is well aware of the erosion issue. But there are only technical guidelines for erosion control, no legal consequences if they are ignored. Moreover, it is not guaranteed

that investments remain “in the family” due to only limited rights of land usage. The solution to that is not necessarily private property, as demanded by the donors. The possibility of inheriting usage rights would suffice, in the opinion of Helmut Spohn.

In Tigray, in the North of Ethiopia, the municipal government has resorted to drastic measures. To slow down the erosion that robs the farmers of soil fertility and fields, it has without further ado closed off some areas at the mountainsides. No livestock, no collecting of firewood is allowed in these enclosures. Only during the rainy season the grass may be cut. In no time at all, the undergrowth regenerated, the roots holding the soil, the rainwater absorbs better, and flows more slowly, without causing damage downhill into rivulets and rivers.

But measures for watershed protection are a subordinate matter in the World Bank’s strategy. Even the CWRAS states that it is striking that there is no dedicated watershed support in World Bank portfolio (69). If the Bank sees need for action at all, this is in regions, where dam or roadwork projects are being realized, that which is in support of its infrastructure strategy.

Moreover, major irrigation projects may cause further environmental problems. Ethiopian scientists caution that if even more water is withdrawn from the already intensely used Awash river, this might cause dramatic changes in climate and ecology, like for instance the further drying up of wetlands, thus threatening the environment and living conditions (Tadesse et al, 2004, 1).

Small-scale agriculture

With their policy, the government and World Bank announced it will create “incentives and opportunities” for farmers to shift from subsistence farming into commercial agriculture and surplus production. But irrigated agriculture hardly helps solve the problems of small farmers.

It completely ignores, for instance, the needs of rain-fed cultivation, in spite of the grave problems here and its importance for poverty reduction, food security and environment. What these farmers really would need is a simple, inexpensive water infrastructure adapted to the local realities, adjusted cultivation methods, and access to nearby markets. According to Helmut Spohn, priority should be given to the construction tens of thousands of micro dams and river barrages, like those built by REST or the Konso people, instead of focussing on a handful of big dams and rushed methods like the household ponds, most of which were useless.

Though a settlement of small-scale farmers is envisaged in the new irrigation systems, as well as the creation of cooperatives, attempts in the past often enough have been realized half-heartedly, in a top-down and bureaucratic manner. They frequently failed, because of lacking management skills to control these complex systems, insufficient advice services and economic problems.

Still the old mistakes are being repeated again: The Koga irrigation project, for instance, shall be handed over to 10,000 farm families ready to use. In the opinion of irrigation expert Habtamu, such projects are doing a disservice to the country, because they’re planned and executed without the participation of the population.

Instead, financially strong farmers and plantations will be the beneficiaries of the expanded irrigation, who make sure that they'll get the favoured locations with good soil and the new irrigation possibilities. The World Bank is well aware of that, but doesn't care to ruminate about the danger of "only a small set of farmers being in the position to take advantage of" an improved infrastructure (CWRAS 64).

So it is only logical, even if unrealistic, that the World Bank recommends the farmers to seek out non-agricultural activities:

"Solutions to water resources challenges need to be sought outside the "water sector", with a greater emphasis on alternative livelihoods to decrease the share of the population most vulnerable to hydrological shocks." (xvi)

Resettlements

The water and agriculture strategy realised by the government and World Bank in Ethiopia, moreover, signifies massive resettlements and work migration, because in the often only sparsely populated lowland regions enough manpower for the commercial farms does not exist.

In this way, for instance 1.5 million people from the drought-ridden highland are to be resettled into the Western Ethiopian region Wollega, where irrigation projects are planned (Berger 2005, 49). In addition to that, according to government data, 300,000 families could find work in the new irrigation projects – even if most of them only seasonal. Plus the nomadic people, whose grazing land and watering holes are affected by the irrigation projects, have to be compensated and settled down so as to avoid conflicts.

Justified with the food insecurity in the highland, the government now plans such relocations and resettlements on a large scale – in spite of the bad reputation they gained during the Derg regime. Therefore, the World Bank remains hesitant about her decision to support them directly, and still "debates" with the government. On principle, the Bank considers voluntary resettlements into regions with less risks and high productivity as necessary (CWRAS, 66).

Food security

It is clear, that the aspired expansion of irrigated agriculture won't solve the problems of food insecurity. In light of the low prices for staple foods, investments only become profitable through the cultivation of high-value products (cash crops). Here too, the World Bank beholds problems: "Crops to be grown under irrigation should be carefully selected to maximize the return from investment. Most cereals may not be as profitable as cash crops (cotton, sugarcane, etc.)" – without, however, drawing any conclusions from this insight (CWRAS 35). In contrast to that, Gebreyes Haile demands in the interest of food security to cultivate "corn instead of cotton" (that is mainly staple foods) on the productive irrigation areas, instead of industrial raw materials and products for export.

But development already turned in another direction: on a privatized former state farm not far from Addis Ababa and its international airport a German breeder is

currently growing begonia-seedlings, a German-Israeli joint venture grows flowers, and an Arabian-owned poultry farm cultivates forage corn.¹⁴

As a result, this situation threatens a bi-partition of water and agricultural policy similar to the commercialization of urban water economy: public and private investors, water and land, follow the promise of profit and go, where the state can make foreign exchange earnings, thus improving its debt service capacity (also towards the World Bank).

In contrast to that, the development of small-scale farming could make an immediate, if not crucial, contribution to food security and poverty reduction. Yet, it hardly offers any investment potential, earnings and foreign exchange, that is, to support it with public funds – including the necessary subsidies – would be costly, but without proceeds. Small-scale farming is neither profitable for the state nor the private sector nor the World Bank.

14 According to the WSDP, 18 private irrigation systems with a total of 6000 hectares existed already in early 2000.