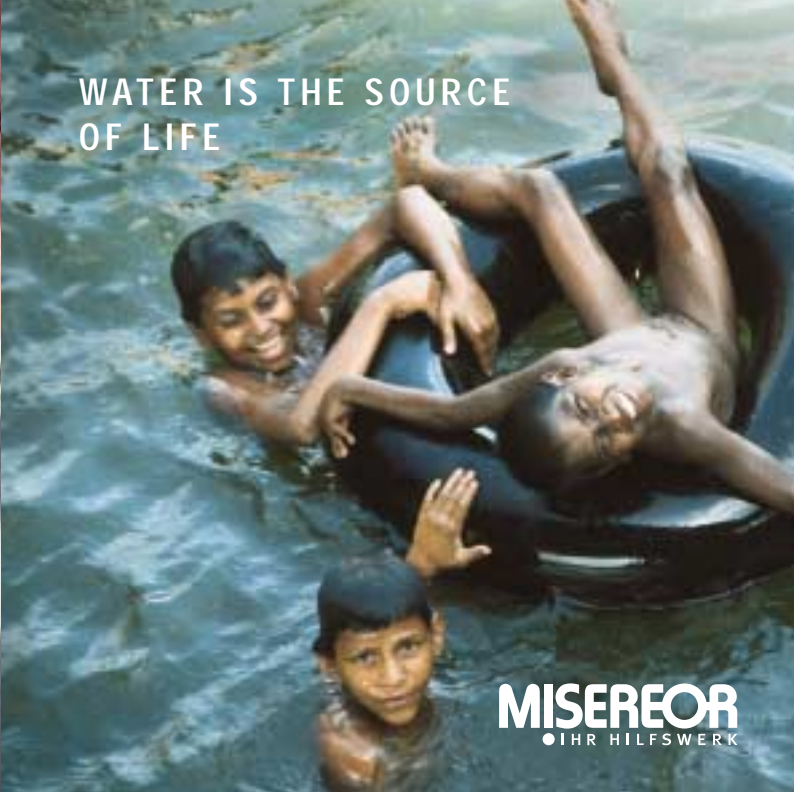




**MISEREOR**  
• IHR HILFSWERK

WATER IS THE SOURCE  
OF LIFE

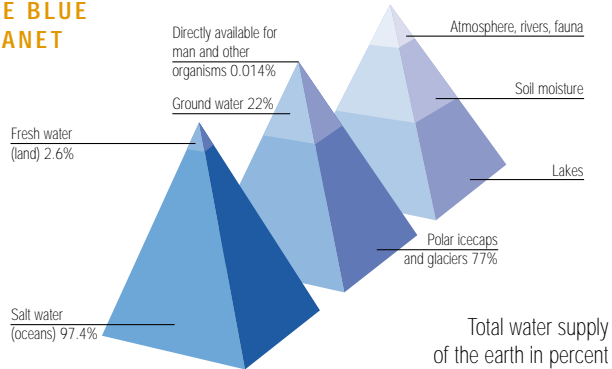


**MISEREOR**  
• IHR HILFSWERK

## WATER IS IN VERY SHORT SUPPLY

Roughly 39,000 cubic kilometres of water flow off our land masses every year, two-thirds of it soaking into the soil, where it becomes groundwater. While the world's total water supply is enormous, only a tiny fraction of it is available and usable by the human population. Scientists believe that water consumption over the next 25 years will be six times what it is today.

## THE BLUE PLANET



When the amount of available fresh water drops below 1,700 cubic meters per person per year, the result is water shortage. When this figure drops below 1,000 cubic meters, we speak of water scarcity. Around the world, roughly 1.2 billion people lack even marginally adequate access to drinking water. The United Nations estimates that this number could increase six-fold by the year 2025.

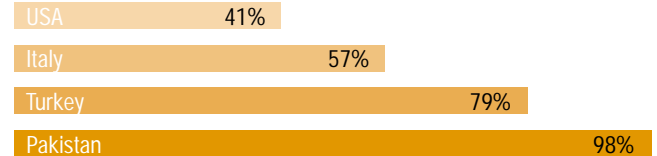
- Nearly 80 percent of all diseases in developing nations are associated with water shortages. Every year, poor sanitary conditions cost the lives of twelve million people.
- The lack of water causes severe food shortages.
- Water shortages are one cause of serious international and domestic conflicts.
- Water shortages trigger migration to cities and population explosions in metropolitan areas.
- Water shortages are a driving factor behind the overexploitation and destruction of natural resources.
- Water availability has become an instrument of power and oppression.



## AGRICULTURE IS THE LARGEST CONSUMER OF WATER RESOURCES

Most of the land used for agricultural purposes worldwide requires artificial irrigation. Without this, yields would drop dramatically, or the land could become unsuitable for agriculture altogether. The greatest need for irrigation is in the areas of the world where water is in especially short supply – arid and semi-arid zones.

Water used in agricultural irrigation as a percentage of total water consumption in selected countries:



Food production must expand 2 percent each year just to keep pace with population growth – and that is only to maintain the status quo. Experts believe that 1.5 billion people are slightly to severely undernourished. Continuous expansion of

cultivable land to increase production is unavoidable if we are to feed the world's population today and in the future. This will mean another enormous leap in the percentage of water already being used for agriculture.

At the same time, some countries are using up existing water resources much faster than they can be replaced, often at four times the rate of water replenishment. Libya, for example, consumes water at a rate nearly four times the speed at which rainfall can replace existing groundwater resources. Israel, the western United States, Senegal and Yemen are other regions that have disturbed the natural balance of their water resources.

At the same time, excessive use of improper irrigation methods has destroyed much agricultural land. Bound mineral deposits have made enormous areas of land too salty, and they will remain completely unsuitable for any agricultural purpose for a long time, if not for ever.





## WATER: THE STUFF OF WHICH CONFLICTS ARE MADE

Nearly 300 bodies of water cross national boundaries worldwide. The existence and quality of life of the people living in these regions depend on cooperation and equal access to this water:

- Shared responsibility is the only way to protect water supplies.
- Cooperation is the only way to develop usage strategies that ensure just access that is acceptable to everyone involved.

In the Near East, conflicts have been sparked by the use of water from the River Jordan, while similar problems have enveloped the region between the Euphrates and Tigris and along the Nile.

To this are added numerous local conflicts, including those

- between nomadic herdsman and farmers who irrigate their fields;
- between people living along rivers who argue over who should be allowed to draw water for irrigation purposes and how much;

- between upstream farmers and their downstream neighbours, who disagree on the quality of the water flowing from the former to the latter.

Then there are social conflicts that arise when

- marginalized population groups are denied access to drinking water, due to social disadvantages;
- women have to invest an enormous percentage of their energy in transporting water;
- low-income population groups lack the material resources to afford the high cost of water.





## WATER ISSUES AFFECT ALL OF MISEREOR'S DEVELOPMENT PROJECT AREAS

Because water is an indispensable basic human requirement, shortages of this resource affect all areas of development work. The examples below focus on the situation in rural areas. The listed goals make one thing clear: The question of water supply plays a central role everywhere.

### **GOAL:** Ensuring a stable food supply

Without adequate access to water, farmers in many regions cannot harvest a sufficient amount of food. Water availability is thus absolutely essential to support a growing population.

### **GOAL:** Reducing migration to the cities

Without adequate water supplies, people in rural areas can see no future for themselves in their regions, for adequate water resources are what gives hope of a better life in traditional farming communities. While other factors also come into play, the absence of this hope always forces people to look for better opportunities in the cities.

**GOAL: Preventing and finding peaceful solutions to conflicts**

Violent domestic conflicts (like civil war) are some of the most horrible forms of war. Rarely are they based on a single cause, but rather they are usually complicated by disputes at a multitude of levels. The question of one group's vital resources is almost always involved. The scarcer the water, the more often it will become the focus of violent attempts to gain possession. Maintaining peace in future will depend on the ability to develop just water usage strategies that prevent resorting to violence.

**GOAL: Creating jobs**

Lack of water means no jobs in rural areas. Without viable harvests, agricultural and food-processing workers are no longer needed, while local businesses see the ground cut out from under them.

**GOAL: Increasing rural income levels**

Without irrigation, many small family farms have no way to harvest sufficient food to sell. Lack of water forces farmers into a subsistence economy or worse.

**GOAL: Introducing sustainable land management methods and preventing ecological damage**

A region's water balance determines the volume of usable water. Sustainable water management means using all technical means possible to reduce water consump-

tion. It also means avoiding depletion of rivers and lakes as well as groundwater supplies to the extent that they can no longer be replenished by rainfall and inflow.

**GOAL: Establishing and strengthening forms of organization that give the poor the means for self-reliance**

Marginalized and socially disadvantaged population groups – especially women – need institutions that allow their voices to be heard and that protect their interests. When water is scarce, everyone must be involved in distributing it fairly and protecting it in an organized way.

**GOAL: Creating social equality between the powerful and disadvantaged**

Control over the water supply is an instrument of power. The scarcity of this resource is one reason more to strengthen civil societies as well as to demand and foster good government leadership, political and administrative transparency.

**GOAL: Gender equality – strengthening the role of women**

It is important to understand how roles and obligations are gender distributed as men and women live and work together (who has access to water and who has the power of disposal). A different sort of gender analysis is often necessary to meet the specific needs of women and children.



## SAMPLE PROJECTS

A few examples of specific MISEREOR projects demonstrate how this development organization meets the challenges of scarce drinking water resources.

### **BURKINA FASO:** Water management

For the past 20 years, MISEREOR has been supporting an extensive water management project in western Burkina Faso involving 400 villages with a total population of 1,000,000. Initially, the project focused solely on supplying the residents with drinking water, but then grew to embrace a number of actions that have had a positive effect on the region's entire water balance. Since 1979, workers have dug over 870 wells, built small dams, and constructed over 350 anti-erosion containment walls. Many farmers – men and women alike – helped reforest their region.

**People from all the villages participated in educational programs dealing with the following questions:** How can we protect our water? What do appropriate agricultural and horticultural practices mean for us? How do we achieve fair and optimum distribution of our scarce water resources?

The farmers formed so-called water committees to handle well upkeep and maintenance and, most importantly, to help protect the environment. This project owes its success to the remarkable initiative of the local population, who took responsibility for the project from the very beginning, deciding on and carrying out the activities.





### **BRAZIL:** Peasants gain access to water

The Sertao is a belt of arid land several hundred kilometres wide. It covers Brazil's entire north-eastern region, stretching along the narrow humid coastal zone. Despite clear-cutting of the coastal forests, which has shortened the intervals between periodic droughts, the region does have adequate amounts of water. Major rivers, like the Sao Francisco and the Paranaiba, along with enormous reservoirs, maintain sufficient levels to bridge dry periods. However, this water is unevenly distributed: State-run irrigation projects serve the exclusive interests of large land-owners with their export-oriented agriculture. Very little is left over for the peasants, 70 percent of whom lack even basic schooling.

### **THE MISEREOR PROJECT INVOLVES THREE MAIN AREAS:**

#### ■ Research

In cooperation with the Institute for Locally Adapted Agriculture and Animal Husbandry in Juzaeiro/Bahia, scientists systematically compiled and tested all findings related to locally adapted agriculture and animal husbandry in climate zones like the Sertao, then prepared the results in a way that could be used by the rural population.

#### ■ Education

A training centre teaches farmers (both men and women) how to build rain storage

ponds and cisterns; raise sheep, goats, pigs and chickens; and achieve the highest crop yields on the farm and in the garden.

#### ■ Political expression

The project helps peasants – both men and women – develop common forms of political expression. They receive advice and assistance when large land-owners try to appropriate their land, and they can obtain legal advice in fighting for their interests.

#### **ETHIOPIA:** Clean water for good health

The Ada Woreda region of Ethiopia suffers an extended dry period year after year. When the ponds dry up, local residents – mainly the women – have to walk long hours to fetch water. When full, a clay jug can weigh as much as 40 kilograms – a load that even the strongest back cannot tolerate without injury in the long run. The water is usually contaminated, while the hardship in procurement makes it too precious a commodity for adequate hygiene. This situation leaves the people in an extremely poor state of health. Common conditions include gastrointestinal diseases.

Recent projects have included drilling deep wells, installing underwater pumps, laying pipelines, connecting generators, and building pumping stations in regional centres. Local tradesmen attend training courses to learn how to maintain the pumps and supply systems.





### **KENYA:** Women build a water tank

Women in Rift Valley, which lies 200 kilometres north-west of Kenya's capital Nairobi, are developing their own water supply system. In groups of 30-40, the women help each other out by building a separate water supply system for each member.

The materials needed to build a water tank cost roughly 1,000 German marks, 33% of which is supplied by MISEREOR. The women save money to buy the materials for each tank, then help each other build it.

A sufficient supply of water right outside their door means that families are healthier and better nourished. It also relieves the women of an enormous burden and saves them time. News of the project's success has spread rapidly, and new groups are forming all the time.

Although the first few groups have already achieved their goals, this does not mean the end of their cooperative efforts. As success proves just how effective cooperation can be, the groups keep setting new goals.

## **BANGLADESH:** Water can bring disaster

Bangladesh is one of the poorest countries in Asia. Its population of 120 million lives in very tight quarters, with 835 people per square kilometre (as opposed to 250 per square kilometre in Germany).

This population density forces people to live in regions that are regularly devastated by flooding. The Great Flood of 1998 placed a full two-thirds of the country under water. Twenty-five million people lost everything in the floods – their crops, houses and livestock – while bridges, roads, schools, hospitals, fish ponds and rice fields suffered serious damage.

MISEREOR provides the financial means for so-called revolving credit funds that help flood victims build a better future. An important focus of the project involves renovating and reinforcing dykes. Money from these funds go to the following support efforts:

- Job creation to help restore village infrastructure with the objective of providing the poorest people with an income over the winter months;
- Interim loans to help overcome the current crisis;
- subsidies for seed or livestock acquisition.



## MISEREOR: THE POOR ALWAYS COME FIRST

MISEREOR is a Catholic development organization that helps people in Germany contribute to justice and solidarity with the poor and oppressed in Africa, Asia and Latin America. Projects support and promote local initiatives, irrespective of nationality, religion or gender. Within Germany itself, MISEREOR carries out the Church's mission to raise awareness of the global causes and structures of poverty as well as to fight them – through education, publicity and political lobbying.

Please contact us if:

- you have a project you want to start yourself;
- you need advice and assistance for a project;
- you would like more information;
- you would like to make a donation in support of our work.

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