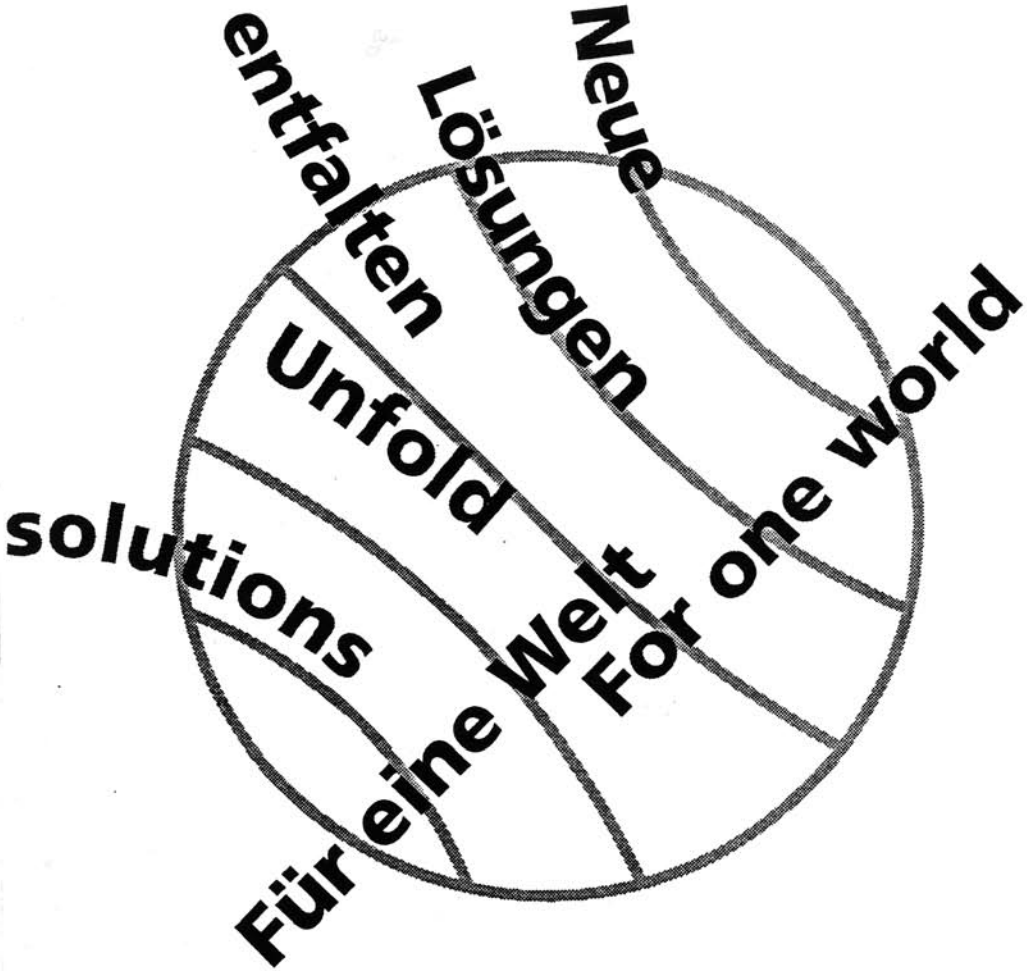
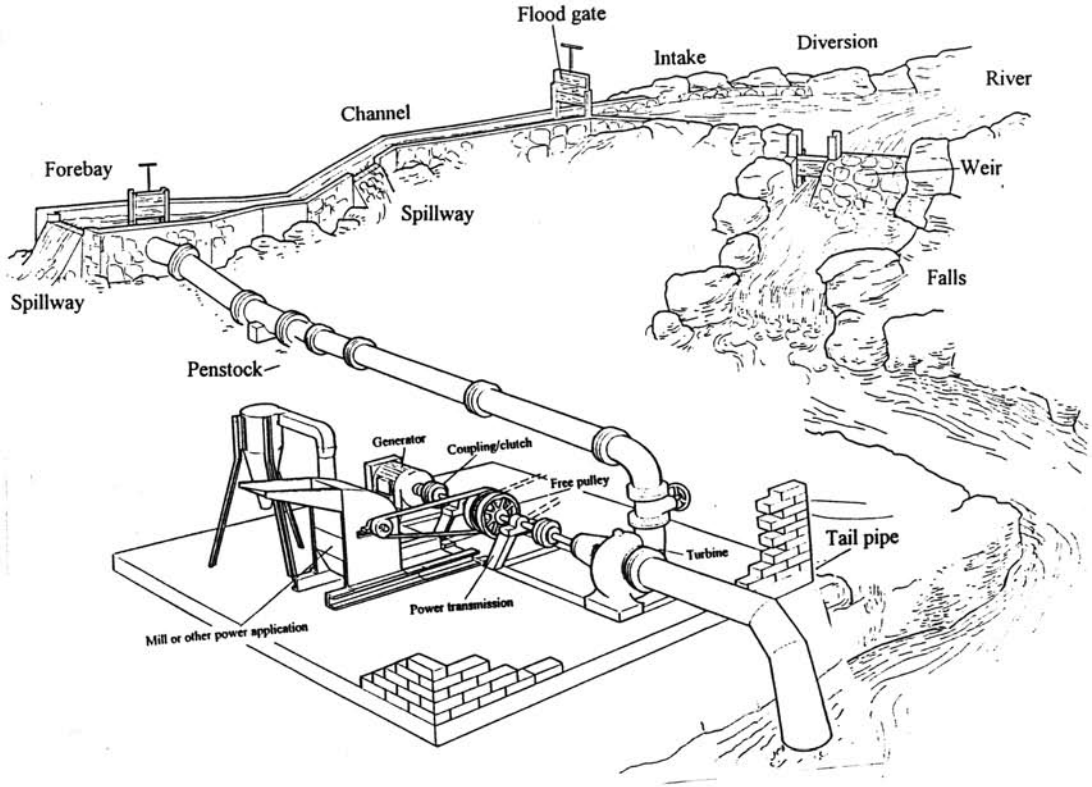


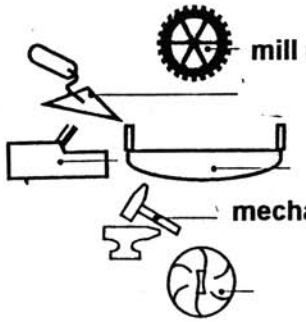


Typical water power plant layout

Partnership for food security and development

- Training and support of craftsmen for the introduction of new technologies
- Support for formation of interest groups (chambers, associations)
- Community partnerships for introduction of mills

The crafts around the mill:



mill manufacturer - build and install the mill

masons - construct weirs, canals and mill house

carpenter - prepare the roof, windows, doors and furniture

mechanics, smiths - build gates and sluices, screens and penstock

miller - operates and manages the mill

Development around the mill

- The watermill - usually a communal project - encourages the selfhelp activities of communities, mobilizes local resources and initiates sustainable development.
- The locally grown agricultural products are processed for subsistance and sales.
- The water turbine provides the power drive for pumps, saw mills, workshops and other power dependent processes.
- Electrification is introduced, starting with lighting in the evening, continuing with connection to power use thus developing a „local grid".
- Local crafts are stimulated, new technologies are introduced, the power source promotes the mechanisation and contributes economic growth for the benefit of the communities.
- Community projects like schools, water supply, electrification, social services can be financed with income from the water mill.
- Small shops for goods of the daily use are opened near the mill. Nurseries for trees are established for sales of trees to meet the requirement of reforestry - as forest have widely disappeared in the densly populated areas.

Energy supply is the fundament of any technical progress and can be provided by water power even in remote locations. Water power has been the most vital energy source over centuries in the countries with industrial development. It has lost its importance with the invention of engines and grid based electrification. By introducing water power an energy source became available in villages, serving the mill for flour preparation as well as other agricultural processing such as hulling or oil expelling.

Pumps serve in reverse operation as turbines - a new technique for simple, sturdy and cheap power drives. This power source can as well be utilized for water pumping, for wood cutting saw mills or machines that are required by the crafts and help to create new job opportunities. Whereas the maize mills and machines are driven directly mechanically during day time, a generator can be connected to provide light in the evening; this is a first step to introduce electricity. Water powered mills stand at the beginning of economic development, a fact that can be compared with the development in industrialized countries. Introduction of water power creates new sources of income in remote locations and provides the base for development towards self-reliance.

A technology transfer from industrial countries can be problematic as in rural areas simple reliable technologies are required and only sophisticated solutions may be offered from the West. For the integration of an acceptable technology, solutions have to be adapted to local environment and conditions to be transparent and simple.

We have chosen this task to transfer appropriate technology for development projects.

HYDRO POWER

new solutions
in Appropriate Technology Concepts

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