Sustainable Management of Water and Fish Resources in Burkina Faso | SUSFISH

Enumeration of results

- More than 75 fish species and 61 families of macro-invertebrates have been identified and their spatial distribution described in Burkina Faso's first common list. Auchenoglanis gen. and Hydrocynus gen could be used as sentinel genera. Clariassp and Sarothorodonsp increase with pressures, unlike other species, e.g. Alestessp and Schilbesp., which are sensitive and decrease in number as pressures arise.

- The first time pressures on aquatic ecosystems were classified and recorded in a scientific database located at the University of Ouagadougou. Fish and benthic invertebrates based assessment methods for waters under human pressure are under development.

- Discovered important differences between the communities of benthic invertebrates in rivers and reservoirs. Water plant habitats exhibit a higher richness and diversity of taxa than sedimentary habitats.

- Showed biological assessment of bodies of water in Burkina Faso to be feasible. Two possible ways were considered: 1) adapting an existing method, or 2) developing an original methodology.

- Definition of reference sites in typologically similar rivers and areas. Ascertained that a larger dataset comprising good, moderate and bad sites in different areas is necessary for future investigations.

- Showed that habitat and human pressures influence biodiversity.

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- Increased knowledge about fish and benthic invertebrates – sampling method, taxonomy, distribution, ecology, and conservation status. Adaptation of determination keys for BF.

- Development and implementation of a standardized monitoring system is necessary to protect waters and the environment.

- A national metadatabase with information on fish, fisheries and aquatic environment is developed: virtual and physical databases and libraries were identified. A minimum of 205 references were recorded, covering fish, fisheries, legislation, gender, aquatic biodiversity and red lists of fish and macro-invertebrates. More than 13 000 individual fish were sampled and stored.

- Adequate biological assessment methods enabling policy makers and managers to enforce appropriate management plans will help to raise public awareness for the protection of water sources.

- An official (IUCN red) list of fish species and invertebrates and a national database of metainformation on existing biophysical characteristics of fisheries, the diversity and conservation status of fish species and benthic invertebrates, the pressures on fish populations and methods of water assessment based on fish and macro invertebrates are under development.

- The population of direct fisheries stakeholders is estimated at about 32,700 persons (14% are women and 82 % men), 3,000 fishmongers (54% are woman). Between groups of stakeholders some disparities in the access to fish resources are noticeable: man vs. women, allochthon vs autochthons, youth vs. elderly. As a consequence preliminary results show unequal representation in decision-making committees and restricted access to information about laws, regulations and rights in the fisheries among those groups of society.

- The SUSFISH project aimed to integrate gender issues at all stages of research. This approach required new networks, new forms of cooperation to accord equal status to both genders, and target women explicitly as important actors. During the reporting period the project team decided to focus on this challenge and to use gender sensitivity in order to contribute to a better understanding of social practice, complex interrelations of power relations and strategies of inclusion and exclusion in the fisheries and water sectors.

- The results of social science research show first, that macro-level policies and legislation are not known at regional and local levels. The national organization in charge of fisheries is unknown as well because no tangible activity is undertaken in the field or to target the direct stakeholders. The field police fisheries officers (foresters) are not inclined to work on fisheries in the areas of monitoring, surveillance and control. As a result, prohibited fishing methods are increasingly used. Second, both “republican” e.g. European democratic, and traditional institutions make relatively important contributions to the governance of water and fish resources. But the two systems have to be harmonized

- Fisheries management report submitted to the government (e.g. fisheries undertakings and their negative consequences like stocking are not known at regional, provincial and local level, meaning that an adjustment of policies, legislation and institutions must be undertaken towards sustainability in fisheries management).

- The stakeholders are organized in familial units of production and processing, and organized in local, provincial, regional and national association.

- Strategy for the integration of gender in the fisheries and water management was developed and submitted to the ministry (e.g. role of men and women in fisheries and fish processing, economic activities of women like loans to fisherman, trading).

- Women who fish and process fish earn 464,966.67 F (709 Euros) per year, which represents 84.5% of their total income. More than half of the money is used to feed the family. Women involvement in fisheries contributes to improving the diet quality and especially to reduce the number months where the household is in food insecurity.

- For the first time SUSFISH analysed the income situation in fisheries. Fishermen have usually several economic activities, from fishing a fisherman earns about 7.7 Euros/day.

- Poor hygienic conditions surround fish products. Consequently at microbiological level, Staphylococcusaureusis abundant mainly on smoked fish, faecal coliforms and fungus. We also found Shigellasp., E. coli, and Salmonella sp. in some fish. Fried and toasted fish were not contaminated by parasites, but we noticed a massive presence of Mucidae larva on smoked fish, trematoda and some nematoda on fresh fish.
- Biological, social and economic implications due to the creation of reservoirs.

- Two dualistic frames are met in the management of natural resources: the republican system that is legal and the traditional one that is legitimised.

- Strengthening cooperation between partners institutions within Burkina and International (e.g. Benin, Ivory Coast, Belgium, France CIRAD, USA and Austria)
- We observed that in Burkina Faso, fish intake contributes to improving food and nutrition security. Income from fish sales also helps improve the household food and nutrition security.

- As for capacity building and education strengthening, about 23 students (2 doctoral) and more than 20 masters) have been involved in SUSFISH. Several others are expected to be assisted.

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