



Improving the resilience of the inland fisher communities and aquatic systems to overfishing and water resources degradation in Benin

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Context

- +300.000** direct and indirect jobs are provided by fishing sector to community with intensive man power
- 32%** Of animal protein for human consumption is provided by fish
- 75%** Of the national fish production comes from inland fishing

Population Growth

- Increase of the pressure on aquatic resources
- 117 fishes/km² against 12-13 fishes/km² in West Africa

Pollution

- Degradation of habitats
- Deterioration of water composition

Climate change

- Modification of parameters – temperature, pH
- Effects on growth, reproduction and mortality of species

Application of regulation

- Utilization of prohibited fishing engines and technics

Consequence: High decrease of fish production from inland waters (D/Pêches, 2011).

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Objectives

- (1) **To assess the biophysical and socio-economic vulnerability** of inland fisher communities to the degradation of water resources caused by external factors (increasing population, polluting elements from urban areas and climate change conditions)
- (2) **To analyse existing formal and traditional regulations** for using the shared water resources and determine how to improve them
- (3) **To identify alternatives for fisher communities** to improve their resilience and be more food secure
- (4) **To identify and sustain gender related activities** that should contribute to an improved food security and create equitable conditions and opportunities for women

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Preliminary results

- A multi-stakeholder committee has been established during the inception workshop to exchange information and participate in the research activities
- 841 fishermen and 227 women involved in fishery activities were surveyed. Data collected encompass formal rules, ownership, rules sharing water resources, fish trading and constraints and mitigation
- The physic-chemical parameters of The two lagoons complex are collected. The average values are as follows: Depth: 0.7-3.2 m; Transparency: 0.21-0.89 m; Temperature: 25.9-27.30C; pH: 6.15-7.57; Dissolved oxygen: 4.6 mg/l-5.2 mg/l; Salinity: 0.5 g/l -1.6 g/l
- A total of 45 fish species distributed in 39 genera belonging to 28 families were recorded in the complex
- Fish fauna of the complex Nokoué-Lake/Lagoon Porto-Novo experience a high stress due to the anthropogenic activities
- A map showing the location of the surveyed fishermen is designed
- 3 MSc. and training courses were performed on the theme of the project at LHA

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Preliminary results of the survey

- Stress on inland water resources is imminent
 - 77% of the fishermen indicated that waters were overfished
 - 45% indicated that waters were polluted by cities, boats and other sources (like markets)
- Distressing high incidence of violent conflicts between fishery men,
 - 11% in their own community
 - 35% with other communities,
 - in both cases 50% of these conflicts end up violently.
- Approximately two third indicated that they did not trust that the government could be involved in the regulation of city pollution
- Hence, solutions should be sought in an active dialogue between fishermen leaders and leaders of the local community
- The project aims to play a mediating role by acting as a convener

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Challenge encountered

- Unavailability of
 - a good administrative map of the complex Lake Nokoué/Lagoon of Porto-Novo that delineates
 - different occupations (houses, roads, landmarks) until the village level
 - The coastal line of the two lagoons
 - Satellite images that can detect the amount of acacia's (required for assessment of wood needed and relation to deforestation)
- Possible solution, Scan of Benin. Aerial photos (in colours) with a resolution of 1mm - 2m.



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From output to outcome

- The method to use to move from output to outcome is described in the table [below](#)



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Research outputs	Focus: from to output to outcome	From to output to outcome
<p>New insights gained on regulatory rules of shared water resources</p> <p>Detailed knowledge gained on shared water resources vulnerability</p> <p>Knowledge gained on solutions for fisher communities to improve their resilience and be more food secure</p> <p>Insights on gender related issues</p>	<p>Research outcomes</p> <p>Outcome 1: Understanding of regulatory rules and vulnerability of shared water resources by fishermen is improved</p> <p>Outcome 2: Application of regulatory rules of shared water resources by fishermen is improved</p> <p>Outcome 3: Stakeholders have new resilient solutions that all improve the resilience of the fishery sector</p> <p>Outcome 4: Increased adoption of new/improved fishing techniques by fishermen</p> <p>Outcome 5: Understanding of gender related issues in the inland fishery sector by stakeholders is improved</p> <p>Outcome 6: The income of women involved in fishing activities has increased</p>	<p>From to output to outcome:</p> <ul style="list-style-type: none"> • Development of a technical report on the potential of lagoons, the profile of vulnerable groups and the most successful regulations under prevailing biophysical and socio-economic conditions • Development of a map indicating the spatial patterns of inland fishery • Development of knowledge products with recommendations on how to strengthen local institutions to cope with new challenges (policy briefs & co-authored manuscripts to international peer-reviewed journals) • Training workshop of the Representatives of fishermen, women, and relevant local and national fishery institutions on the inland fishing vulnerability and the regulatory rules of shared water resources • Development of data repository, with easy-to-use decision support tool to inform policy makers and stakeholders on the suitability of new fishery techniques and new interventions • Development of knowledge products (policy brief & evidence based extension materials) as integrated strategy for a sustainable development of the inland fishery activities in Benin • Development of a website for communication and dissemination of project findings • Impact evaluation searching if resilience solutions concerning sustainable new/improved fishing techniques regarding the shared water resources are used by institutions (public, private, research, NGOs) to support the fishery sector and applied by the fishermen to improve their resilience and food situation • Development of a report on gender related issues and division of tasks among household members with recommendations to create equitable conditions for male and female members of the household • Technical and market analyses of new/improved fishery techniques/technologies • Development of knowledge products (policy brief & evidence based extension materials) on economic opportunities for women in the fishery sector • Training workshop of the Representatives of fishermen, women, and relevant local and national fishery institutions on gender issues in the fishery sector • Training workshop of women on new/improved fishery techniques/technologies • Impact evaluation searching the increase of income of women involved in fisheries that adopt the new/improved techniques/technologies



Thank You

More information about the project
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