RONGEAD

Tanzanian Nile Perch Value Chain Baseline Study

Final Report

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Pêcheurs sur le Lac Victoria (source C.B.)

Introduction

This report synthetizes the work undertaken by Rongead and its partners on the Nile Perch Value chain (NPVC) in Tanzania during the past years. Rongead has been involved in Tanzania with its local partner Emedo since 2010. Since then, it has been working in Mwanza and Ukerewe regions with local fishing communities. Many studies were run, on the challenges (social, economic and environmental) faced by the Tanzanian fishing communities. In parallel, Rongead participated to development projects on biogas, fish-farming and trainings of fishing communities.

All this work led to the first international roundtable on Nile Perch that was held in Mwanza in April 2012. It gathered stakeholders from the upstream to the downstream of the NPVC: fishermen, representatives from the Beach Management Units, middlemen, representatives from fish processing industries, local authorities' officers, scientific experts, representatives from the civil society, representatives from the importers and retailers. This roundtable led to the signature of the Declaration of Mwanza – a declaration of intent – in which all the NPVC stakeholders agreed on the importance to support the NPVC to become more sustainable.

Following this roundtable, workshops and trainings were held in Ukerewe with fishing communities on environmental preservation. The workshops aimed to have the stakeholders think and discuss what actions should be taken to make the NPVC more sustainable at the fishery level. It produced a list of recommendations to be looked deeper into. The international roundtable and the workshops ensured that every stakeholder acknowledged what the challenges at stake on the NPVC are.

In February 2013, downstream stakeholders gathered in Paris to discuss what should be done to go from objectives to concrete. The actors expressed a strong interest in ecolabeling perspectives for Nile perch, as it could be an efficient tool to promote sustainability and for visibility, quality and differentiation on the international market.

With support from its partners and its strong network in Tanzania, Rongead decided to conduct this study to finalize the work already undertake. It aims to give a clear picture of the state of the NPVC, to identify the challenges and what are the possible solution. One objective of the mission was also to see. This work aims to give conclusions as neutral as possible on the challenges and potential solutions for the NPVC by taking into account the point of view every stakeholder.

It aims to be a key document to advice and to support decision on actions to be taken to make the NPVC more sustainable. It is also a basis of work and reflection for the organization of the second international roundtable on Nile perch and the preparation of a roadmap to work toward the sustainability of the NPVC.

Workshop with the local experts, Mwanza, July 25th 2013 (credi : Emedo)

1. Insights on the challenges the NPVC faces

Table 1 – Synthesis of the challenges of the Nile Perch Value Chain at the fishery level : This table is the synthesis of the literature and field work done by Rongead and its partners in Tanzania to identify what are the key challenges for the Nile Perch Value Chain at the fishery level.

	Challenges	Actors concerned
Environment and resource management	Pressure on the Nile perch stocks : risks of overfishing, reduction of the catches per fisherman	All the NPVC actors ; Authorities at every level
	IUU fishing and hazardous human activities lead to an increase pressure on the fish stocks	Fishermen, boart-owners, BMUs, DIstrict Authorities, Ministries and politicians
	Environmental issues: eutrophication, sedimentation, water pollution… Pressure on the Nile perch stocks.	Fishermen, Lake Victoria shore communities
	Most of the stakeholders have a limited understanding of the environmental and stock challenges in Lake Victoria	Fishing communities as a whole, Authorities and politicians
Income generation	Fishing creates employment for 200000 fishermen and 3ma people total indirectly	The Lake Victoria region population
	NP is highly substitutable and is in concurrency on the international fish market with other	All the NPVC stakeholders
	Recent decline in the price.	All the NPVC stakeholders
	Inequal capacities to access loans. Banks won't lend money to the small fishermen or boat-owners. This generates a dependency of the fishers on the fish processing industries for loans.	Fishermen, boat-owners, middlemen, fish processing industries ; Authorities ; Civil Society Organizations
	Many small-scale fishermen consider that they don't benefit from the wealth of the Nile perch industry	Fishermen, boat-owners, middlemen, fish processing industries
	There is a growing regional market for IUU fishing catches	The Lake Victoria region population ; regional, national and local authorities
Organization	The fishing communities and stakeholders are not organized	Fishermen, boat-owners, middlemen
	The BMUs are not representative of the fishing communities	Fishing community
Legal framework and law implementation	The BMUs are ineffective: no implementation of the law,underfunded, poor representation of the fishing community as a whole	Fishing community, local Authorities
	Monitoring, Surveillance and Control operations from the local authorities are poorly effective.	District Authorities ; fishing communities
	The fishing license fees system is not properly implemented.	District Authorities
	The money from the taxes that should go back to the communities does not.	District Authorities, Local Authorities
	The policies are poorly coordinated between the Districts, the Ministries, the scientific agencies and the EAC agencies.	Local authorities, scientific agencies, EAC agencies, Ministries
	Poor financial resource management	District Authorities, Local Authorities
	Poor data collection systems	District Authorities, Local Authorities, scientific authorities, BMUs
Relations between the stakeholders	Lack of transparency at every stage	Downstream level of the value chain : fishermen, boat-owners, middlemen, fish processing factories
	No information sharing between the stakeholders, lack of mutual trust between the stakeholders	Downstream level of the value chain : fishermen, boat-owners, middlemen, fish processing factories
Quality	Nile Perch is competitive because of the quality of the fillets	Fishermen, fish processing industries, importers and retailers
	Work could be done to prevent post-harvest losses	Fishermen, fish processing industries
	Internsational quality standards must be respected	All the NPVC stakeholders

Environment and resources management

One of the most important challenges the NPVC faces is the one of fish stocks depletion. Even though there is no scientific consensus on the fact that there is depletion, most of the stakeholders mention it as a prior challenge for the NPVC. Three main factors seem to increase the pressure on the Lake:

- A too important fishing effort caused by the very important number of fishermen ;
- Illegal Unregistered Unsupervised (IUU) fishing activities. IUU fishing implies the use of illegal nets and lines that will catch not only the legal Nile perch (50-85cm) but also the younger ones, reducing the regeneration capacity of the Nile perch stock in the Lake ;
- Possible changes in the Lake ecosystem, with increased nutriments inputs leading to eutrophication, which seems to have a negative impact on the Nile perch. Sedimentation is also mentioned as a challenge for it destroys natural breeding areas. Both eutrophication and sedimentation seems to be related to the human activities on the shore: deforestation, farming, human rejects and waste…

Human activities whether they directly or indirectly impact the Nile perch seem to be quite hazardous regarding the fish stocks. These activities may be caused by a lack of information of the stakeholders, by non-willingness to have sustainable activities or to the incapacity to generate sufficient income out of legal fishing. IUU fishing is firmly condemned by the Tanzanian law. Still, its poor enforcement makes it ineffective to regulate the fisheries and foster sustainable activities.

Income generation

The Nile perch industry is very important for the Lake region. It employs more than 200 000 fishers and is a full or part-time activity for 3 000 000 people: transportation, processing, fishing gears and boats industry, fish punk processing, market selling… In total, more then 300 000 tons are fished each year (2008). An important share of these catches are sold on the international market.

The NPVC generates more than $260 million per year in Tanzania. Still, it is possible that the value added may be unequally shared among the NPVC stakeholders. At the fishery level, it seems that the fish workers and small-scale fishermen do not get an important share of the profits. This causes increased differences in the fishing capacities of the stakeholders: “It has been reported that motorized boats are more efficient, catching about 25 kg of fish per day, compared to 10 kg caught by non-motorized vessels.” (Kariuki, 2012) Small fishermen cannot access loans from banks nor have sufficient capital to invest in proper fishing material. . It is especially important for the Tanzanian stat which collect substantial taxes on exports.

With an important number of fishermen and a growing scarcity of fish, this leads to an ever increasing fishing efforts and stress. Many fishermen end up having no other choice but to practice IUU fishing. Let it be mentioned that some big boat-owners also have illegal fishing practices for the local market on a large scale. These IUU fishing are encouraged by the fact that there is a growing market for illegal fish at the regional level (Dar-es-Salaam region, Burundi, Rwanda, Congo…). Kariuki insists that there are changes on the NPVC which is taking new dimensions with new markets: “The increase in use of illegal gears, motorized vessels and fishermen suggests that fishing for Nile perch is still profitable. Previously driven by lucrative export prices for Nile perch, fishers now target undersize illegal Nile perch for the lucrative domestic and regional trade, which is estimated to exceed the export trade by volume and value.”

At a broader scale, the poverty issues in the Lake region leads to a weak economic mobility of the actors. Despite declining fish stocks, some stakeholders may continue or even develop predatory fishing techniques to generate incomes.

Organization

The study also reveals that the NPVC actors are poorly organized at the upstream level. There are no fishermen cooperatives or unions to participate in price negotiations, loans accessing and generation or trainings. The are no small-scale fishermen organizations at the landing site level nor are there organizations gathering the small-scale fishermen and fish workers, the small and big boat-owners, the middlemen, the fish processing industries and the authorities. As a consequence, the information is poorly shared within the NPVC and it is very hard to coordinate collective actions toward the resource.

The Beach Management Units were implemented by the Lake Victoria Fishing Organization in Tanzania, Kenya and Uganda to be organizations for the actors mentioned above. They were supposed to coordinate the actors and to participate in the fisheries resource management and surveillance. Still, even though their prerogatives are interesting, the lack of means in the implementation of the BMU failed to lead to concrete positive results. The BMUs are not representative of the fishing communities and they don't have the money to conduct their activities.

Legal framework and law implementation

Like with the BMUs, the problem is not the Law itself but its implementation (at all levels)

The fishery law states that the District should collect taxes and license fees. The license fees are supposed to be a tool to both generate income for the District functioning and to regulate the fisheries. It appears that mainly the first purpose is regarded by those in charge. Furthermore, out of the money collected, a share should go back to the communities and to the BMUs. The local actors mention that this money is rarely given back to the communities.

Monitoring, Surveillance and Control activities are performed by the District Authorities. They receive guidelines from the Ministry of Livestock and Fisheries Development and report to the Prime Minister's Office. . There are too few members of staff, poorly trained and without the financial capacities to perform their MSC tasks. It is also mentioned that even though some IUU fishers are caught, very few go to trials and are sanctioned. Furthermore, it seems that bribery is a main issue preventing the correct implementation of the Law.

The study also reveals the complexity of the Tanzanian political system regarding fisheries. There seems to be little coordination between the Ministry of Livestock and Fisheries Development (producing guidelines on fisheries management) and the District authorities (implementing the law at the fishery level). Coordination also seems to be poor between the scientific agencies and the District authorities.

Relations between the stakeholders

The study reveals that globally on the NPVC there is a relative lack of trust between the actors with a strong tendency of the stakeholders to put the blame on others. It points out the strong opacity on the NPVC. Most of the actors does not have access to sufficient information on the price or on the ecosystem. This leads to many behaviors from the stakeholders prejudicial to the NPVC. Furthermore, the actors often act in individually rational ways that have negative impact at the fishery level. Multi-stakeholders initiatives would permit the actors to get to share the problems they face, their views and expectations of the NPVC like it was done in April 2012 in Mwanza at the 1st International Roundtable on Sustainable Nile Perch. Such events are the basis for further discussions and the implementation of effective actions to improve the value and supply chains.

Quality

The intrinsic quality of the filets and their price is what make the Nile perch competitive on the global market.

The 1997-2000 sanitary crisis on the NPVC has participated to increase the quality level of the Nile perches exported (there was a ban on Nile perch due to the presence of salmonella in 1998 and the possible presence of organochlorine residues in 1999in the fish imported). The factory has to guarantee the quality of the

fish from the beach to the end of the factory transformation chain. Actors mentions losses from fishes that are rejected by the processing industries for quality reasons. The industries buy and select the fish proper for the exportation. The rest is rejected and the fishers will not be paid for it.

KEY POINTS:

- Important stress on the Nile perch stocks
- Poor wealth repartition on the NPVC
- Lack of trust and communication between the actors of the NPVC
- Increasing IUU fishing practices
- Increasing demand for IUU fishing products on the regional Market
- A good legal framework ineffective because of lack of means in implementation and monitoring
- All the small-scale fishermen are not traditional fishermen. The typology of the fishing folk is very complex and diverse. They do not necessarily have a traditional and long-term approach of their activity and of the resource.

Considering these challenges for the Nile Perch Value Chain, the next part aims to present and describe the various solutions sorted out with all upstream stakeholders, such as improving the fisheries regulation system, organizing the fishing folks and communities and promoting the diversification of the income generating activities in the Lake region.

Workshop with the fishing communities members, Ukerewe, June 29th 2013 (credit: C.B.)

2. Insights on the solutions to improve the NPVC

Table 2: Synthesis of the solutions proposed by the NPVC stakeholders to tackle the various challenges the supply chain and fisheries face

	Solutions	Actors concerned
Environment and resource management	Advocacy with politicians on the importance to manage the resources for sustainable territorial development	CSO ; Authorities at every level
	Implement quotas, fishing zones or seasons could be a successful tool to manage the stocks if properly implemented	Fishermen, boat-owners, fish processing factories, BMUs ; Scientific agencies ; EAC agencies ; national, District and local Authorities ; Kenyan and Ugandan authorities
	Awareness rising campains with the fishermen and the communities on the threats of illegal fishing and of environment harming activities	CSO ; Fishing communities, BMUs ; local and District authorities ; Politicians
	Develop proper data collection system and fish stocks information systems	Fishermen, boat-owners, fish processing factories, BMUs ; Scientific agencies ; EAC agencies ; national, District and local Authorities ; Kenyan and Ugandan authorities
	Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks	CSO ; national, district and local authorities ; fishing comunities ; other economic actors
Income generation	Develop the entrepreneurship skills of the fishing communities	CSO ; fishing communities ; District and local Authorities
	Develop community banking systems	CSO ; fishing communities ; District and local Authorities
	Develop a fish price information system	Fishermen, boat-owners, fish processing factories ; EAC agencies ; national, District and local Authorities ; Kenyan and Ugandan authorities ; importers
	Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks	CSO ; national, district and local authorities ; fishing comunities ; other economic actors
	Ensure that the weighting scales are properly managed	Fishermen, BMUs ; middlemen, fish processing industries ; local and District authorities
Organization	Organize the fishermen to give them negotitation and community problems solving capacities	CSO ; fishing communities, BMUs ; District and local authorities
	Reinforce the Beach Management Units	CSO ; fishing communities, BMUs ; District and local authorities
Legal framework and law implementation	Ensure that all stakeholders know their duties and rights	CSO ; fishing communities, BMUS ; District and local Authorities
	Reinforce Monitoring, Surveillance and Control activities	District and local Authorities ; BMUs, fishing communities ; CSO
	Promote the reinforcement of policies coordination	BMUs ; Scientific agencies ; EAC agencies ; national, District and local Authorities ; Kenyan and Ugandan authorities ; CSO
Relations between the stakeholders	Promote information sharing systems	CSO ; all the stakeholders from the NP supply chain ; national, District and local authorities
	Promote the relations between the NPVC stakeholders	CSO ; all the stakeholders from the NP supply chain ; national, District and local authorities
Quality	Ensure that all the relevant stakeholders are well-informed of the fish international quality standards	Fishermen, middlemen, BMUs, fish processing industries
	Ensure that all the relevant stakeholders are well-informed of the post-harvest fish conservation good practices	Fishermen, middlemen, BMUs, fish processing industries

Environment and resources management

The priority is to ensure all the fishing community has a good understanding of the challenges at stake considering the Lake ecosystem and Nile perch stocks preservation. Without the population having a proper understanding of the resource system, it seems very unlikely to implement fishery management measures that could be endorsed by the actors willingly. **In fact, the study show that the management system will be more effective if the actors from the fisheries participate in their elaboration.** (for more information, see C.B. master thesis on the subject)

Various management tools can be used to manage the resource system: quotas, restrictions in the number of fishermen, fishing zones/seasons... These can be effective and useful tools to preserve the fish stocks. In order to be effective, they have to be properly implemented which requires prior scientific studies and compliance of all the actors to the law. It also implies that they can properly be enforced and controlled. The enforcement might be an issue for the MSC units of the government do not seem to be sufficient to properly enforce these measures.

Co-management (in opposition with top-down management) systems could be effective to develop and implement sustainable resource exploitation systems. When the actors are included in the decision and implementation process, they are more likely to implement and follow the policies that have been designed. This type of management systems can prove to be cost-effective. There are numerous examples in fisheries around the world in which co-management successfully participated in the development of sustainable fishing practices (for instance fish stock co-management through protected marine areas in Senegal : http://www.terre-citoyenne.org/index.php?id=1047).

Income generation

The fishing communities as a whole (with a focus on the fish workers and the small-scale fishermen) need to be empowered on several points:

- Awareness raising on the organization of the whole value-chain ;
- Leadership and organization trainings, in order for them to be able to develop and sustain unions or fishermen groups to advocate ;
- Awareness raising of their legal rights and duties: BMUs, what are the prerogatives of the District, what are the sanctions for IUU fishing…
- Business management capacity building (entrepreneurship, accountancy…) in order for the actors to be more aware and capable to develop and manage businesses.

Here again, there is a need to strengthen fish workers groups or unions. For instance, the community organized as a group could be an actor capable to negotiate the price of the fish,to receive training for improving quality and to have a better control over the weighting scales. Furthermore, such groups could also be the relevant organizations to provide the fishing community with a banking system capable to give them loans. These systems known as SACCOS already exist in Tanzania in many rural communities. One can imagine for instance fishing communities investing in their own fish stocking (even processing) systems which would be a real benefit at the community level.

Such banking systems could also be supportive of the diversification of income generating activities by the populations. These activities would permit to reduce the pressure on fish resources of the Lake and to improve the global income of the populations.

Organization

Regarding what has been said above on the need for the fishing actors to work together and organize in order to improve the NPVC, it seems that BMUs, if they were properly implemented and managed, could be interesting tools to gather the fishing communities' actors and foster the development of such initiatives. It has to be considered whether the BMUs should be reformed or if new organizations should be created.

Legal framework and law implementation

The Authorities at all level are key actors of the management of the NPVC. Actions must be done in order for them to work closely with all the actors from the NPVC. Prior actions would consist in ensuring that there is a common understanding of the challenges at stake for the NPVC and the importance to tackle them and to develop concrete actions in order to sustain the whole value and supply chain.
Furthermore, the Authorities must be supported in their MSC and fisheries management actions. An advocacy work should be done for the Authorities to integrate all the actors of the value chain to the definition of the fisheries law and its enforcement.

Relations between the stakeholders

Considering the actual opacity on the NPVC, it is primordial that more information sharing systems and habits develop on the NPVC. This seems to be compulsory in order for the NPVC to regulate and to organize in ways that could promote sustainable practices.

Quality

Trainings must be performed in order to sensitize the actors on the good practices to preserve the quality of their catches and thus add value to their activity.

3. Synthesis of the challenges and proposed solutions for the NPVC

Table 3: Synthesis of the challenges and solutions proposed by the stakeholders of the NPVC to improve the supply chain and the fisheries.

	Challenges	Solutions
Environment and resource management	Pressure on the Nile perch stocks : risks of over fishing, reduction of the catches/per fisherman	Advocacy with politicians on the importance to manage the resources for sustainable territorial development
	IUU fishing and hazardous human activities lead to an increase pressure on the fish stocks	Implement quotas, fishing zones or seasons could be a successful tool to manage the stocks if properly implemented
	Environmental issues: eutrophication, sedimentation, water pollution… Pressure on the Nile perch stocks.	Awareness rising campains with the fishermen and the communities on the threats of illegal fishing and of environment harming activities
	Most of the stakeholders have a limiter understanding of the environmental and stock challenges in Lake Victoria	Develop proper data collection system and fish stocks information systems
		Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks
Income generation	Fishing creates employment for 200000 fishermen and 3ma people total indirectly	Develop the entrepreneurship skills of the fishing communities
	NP is highly substitutable and is in concurrency on the international fish market with other fish (panga, cod…).	Develop community banking systems
	Recent decline in the price.	Develop a fish price information system
	Inequal capacities to access loans. Banks won't lend money to the small fishermen or boat-owners.	Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks
	Many small-scale fishermen consider that they don't benefit from the wealth of the Nile	Ensure that the weighting scales are properly managed
	There is a growing regional market for IUU fishing catches	
Organization	The fishing communities and stakeholders are not organized	Organize the fishermen to give them negotitation and community problems solving
	The BMUs are not representative of the fishing communities	Reinforce the Beach Management Units
Legal framework and law implementation	The BMUs are ineffective: no implementation of the law,underfunded, poor representation of the fishing community as a whole	Ensure that all stakeholders know their duties and rights
	Monitoring, Surveillance and Control operations from the local authorities are poorly	Reinforce Monitoring, Surveillance and Control activities
	The fishing license fees system is not properly implemented.	Promote the reinforcement of policies coordination
	The money from the taxes that should go back to the communities does not.	
	The policies are poorly coordinated between the Districts, the Ministries, the scientific agencies and the EAC agencies.	
	Poor financial resource management	
	Poor data collection systems	
Relations between the stakeholders	Lack of transparency at every stage	Promote information sharing systems
	No information sharing between the stakeholders	Promote the relations between the NPVC stakeholders
Quality	Nile Perch is competitive because of the quality of the fillets	Ensure that all the relevant stakeholders are well-informed of the fish international quality
	Work could be done to prevent post-harvest losses	Ensure that all the relevant stakeholders are well-informed of the post-harvest fish conservation good practices
	Internsational quality standards must be respected	

4. Label as a tool for sustainable fisheries: what prospects for the Tanzanian Nile perch?

A label is a market tool that can support good practices in value chains. The label helps to differentiate products that follow certain rules.
Considering the Tanzanian Nile Perch, the Naturland label is already being implemented. This label was developed by the German NGO Naturland and the GIZ in 2007 in collaboration with actors from the NPVC: fishermen representatives, importers, fish processing industries representatives... The label was especially designed for the Nile perch fisheries. It is already being implemented in Tanzania in 7 landing sites. It was launched in the Kagera region. Vic Fish was the first fish processing industry to get involved. The label is now starting to scale up around the Lake. The information hereafter on Naturland are based on Naturland charter and audits, on field visits with Vic Fish staff members, and on an interview with Naturland consultant in Tanzania.

Considering the label, there are several points that must not be forgotten considering the Tanzanian fisheries characteristics. They could otherwise be major loopholes to the proper implementation of a potential label in the Tanzanian fisheries.

- The Tanzanian fisheries cannot be regarded as sustainable in the actual context. A label should not only differentiate but should promote and support the implementation of sustainable practices on the value chain. Otherwise, the risk is that the label cannot be considered as sustainable for it has no real impact on the sustainability of the fish stocks. Rongead's vision is that a label should not only be a market tool but also a sustainable fisheries promotion and development tool.
- Despite a will to focus the fishermen directly, it is important to acknowledge and admit that the fishermen themselves cannot fulfill to all the practical requirements to implement the label. First of all, they don't have access to the information and they cannot provide all the required documents to the certification body. Furthermore, they do not have the capacity to invest in order to change their fishing practices, in accordance with a label requirements. A label would imply that they change their boats or nets for instance, but most small-scale fishermen do not have the capacity to buy new gears.
- It must not be forgotten that most fishermen are not boat-owners. Either they work for a small or a big boat-owner. This implies that the boat-owner has a major role to play. All the upstream actors are very connected with strong links to the industry for instance.
- There is a growing regional market for illegal catches, competing with the exports of legal fishes to Western countries. In order to sustain the legal value chain, the label should propose incentives to the fishermen.
- Unfortunately, as the study has shown, it is unlikely that the training/strengthening of the enforcement would be sufficient to promote sustainable fisheries.
- Non-sustainable fishing practices have many explanations and causes, among which the poverty of the fishing communities and their lack of involvement by the authorities in the fish stock management. The effectiveness of the label would also be related its capacity to remedy to these causes of non-sustainable fishing practices.
- Certification is a key issue. Even though it is difficult in developing countries to implement proper certification, certification by a third-party body is the corner-stone of a relevant and credible label. The question is to know who will pay for the certification.
- Premium price is the final key issue. The question is to know whether or not there will be one, who will pay for it, and how the money will be reallocated in the value chain.

Considering these different points, here is what can be concluded on the Naturland label already implemented:

- It is specific to the Nile perch and thus has a good focus on the challenges of the value chain ;
- It implies a strict control of the fishing practices at the landing site level ;
- The communities indirectly benefit from the label. Nearby the landing sites where the label is implemented, the community is supported with infrastructures such as kindergarten, shallow wells, sanitation facilities…
- It is scaling up in other areas of the Lake Victoria.

Despite positive impacts, there are several limits to be pointed out of for the Naturland label:

- The persons interviewed acknowledged that despite the fact that good practices are being followed, at the actual scale of the label, there is no real impact on the fish stocks ;
- The fishing communities are targeted but reached indirectly: they do not really choose to implement sustainable practices. The fish processing industry negotiate new contracts with the boat owners to whom they buy the fish to ensure sustainable practices are being followed by the crews at a certain landing sites. The fishermen have signed new contracts, but they haven't chosen to go sustainable willingly. There is no real empowerment of the communities. Still, "in exchange" for the sustainable practices, they receive a little premium price and benefit from community infrastructures investments.
- The Authorities are not involved in the implementation of the label, even though their territory benefits from the project and the sustainable practices in the fisheries. Actors suggested that private-public partnerships should be considered to foster the scaling-up and the industries interest for the label.

Kindergarten in Bukoba District - Naturland ecolabel project implemented by Vicfish (credit: C.B.)

5. What can an ecolabel accomplish?

	Challenges	Solutions	Can an ecolabel be a solution?
Environment and resource management	Pressure on the Nile perch stocks : risks of over fishing, reduction of the catches per fisherman	Advocacy with politicians on the importance to manage the resources for sustainable territorial development	
	IUU fishing and hazardous human activities lead to an increase pressure on the fish stocks	Implement quotas, fishing zones or seasons could be a successful tool to manage the stocks if properly implemented	
	Environmental issues: eutrophication, sedimentation, water pollution… Pressure on the Nile perch stocks.	Awareness rising campains with the fishermen and the communities on the threats of illegal fishing and of environment harming activities	
	Most of the stakeholders have a limiter understanding of the environmental and stock challenges in Lake Victoria	Develop proper data collection system and fish stocks information systems	
		Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks	
Income generation	Fishing creates employment for 200000 fishermen and 3ma people total indirectly	Develop the entrepreneurship skills of the fishing communities	
	NP is highly substitutable and is in concurrency on the international fish market with other fish (panga, cod…).	Develop community banking systems	
	Recent decline in the price.	Develop a fish price information system	
	Inequal capacities to access loans. Banks won't lend money to the small fishermen or boat-owners.	Promote other fishing activities (dagaa for instance) and other activities to reduce the dependency on Nile perch while preserving the stocks	
	Many small-scale fishermen consider that they don't benefit from the wealth of the Nile perch industry	Ensure that the weighting scales are properly managed	
	There is a growing regional market for IUU fishing catches		
Organization	The fishing communities and stakeholders are not organized	Organize the fishermen to give them negotitation and community problems solving capacities	
	The BMUs are not representative of the fishing communities	Reinforce the Beach Management Units	
Legal framework and law implemen-tation	The BMUs are ineffective: no implementation of the law,underfunded, poor representation of the fishing community as a whole	Ensure that all stakeholders know their duties and rights	
	Monitoring, Surveillance and Control operations from the local authorities are poorly effective.	Reinforce Monitoring, Surveillance and Control activities	
	The fishing license fees system is not properly implemented.	Promote the reinforcement of policies coordination	
	The money from the taxes that should go back to the communities does not.		
	The policies are poorly coordinated between the Districts, the Ministries, the scientific agencies and the EAC agencies.		
	Poor financial resource management		
	Poor data collection systems		
Relations between the stakeholders	Lack of transparency at every stage	Promote information sharing systems	
	No information sharing between the stakeholders	Promote the relations between the NPVC stakeholders	
Quality	Nile Perch is competitive because of the quality of the fillets	Ensure that all the relevant stakeholders are well-informed of the fish international quality standards	
	Work could be done to prevent post-harvest losses	Ensure that all the relevant stakeholders are well-informed of the post-harvest fish conservation good practices	
	Internsational quality standards must be respected		

An Ecolabel can be a useful tool to promote and support sustainability in international value and supply chains. There are interesting prospects for its implementation on the Nile Perch Value Chain. The ecolabel can:

- Reinforce the understanding the populations have of the resource system in order to foster sustainable practices at the grassroots level ;
- Reinforce the interest of the fishers for sustainability through direct or indirect economic incentives ;
- Promote and support the organization of the fishing folks ;
- Support the work toward a better repartition of the value toward the NPVC ;
- Foster the integration of all the actors of the fisheries within the negotiation and resource management reflection and systems ;
- Reinforce the good practices toward good quality fish and reduced post-harvest losses ;
- Be the platform for NPVC wide initiatives.

Still, the ecolabel is unlikely to:

- Have a sufficient scale of action to impact the whole Nile perch stock on which it depends ;
- Be effective in preventing and controlling IUU fishing outside the certified landing sites ;
- Modify the legal framework or its implementation. The label relies on the national legal framework, but it cannot force sanctions on illegal fishers ;
- Provide sufficient financial support to the communities.

In the global vs. local market scenario that is developing, a label has to be able to offer sufficient outcomes for the fishing folks. If there are no real benefits for the population, many might simply not be interested to implement it, even though it might lead to a further stress on the Nile perch stocks. Furthermore, it must be acknowledged that implementing the label is complex, expensive and time-consuming that may cause some actors to be reluctant to participate.

Ecolabeled landing site in Bukoba District (credit: C.B.)

6. Recommendations

To conclude this study, Rongead came up with several recommendations and priority activities in order to tackle the identified challenges and implement the solutions toward more sustainability in the Tanzanian Nile perch fisheries. Rongead recommends that the following points are emphasized:

- Empower the communities as a way to reinforce sustainable practices ;
- Involve the fishing folks in the fisheries management system to reinforce the efficiency of the regulation ;
- Work with the authorities in the implementation of the projects. They are key actors of the NPVC at the grassroots level. The authorities produce scientific and collect data, and they are responsible for the production and the enforcement of the legal framework. They must be included in reflections on co-management in the NPVC.
- Foster initiatives between the upstream and downstream actors to ensure there is a common understanding of the challenges at every stage of the NPVC by every actor. This common acknowledgment of the issues at stake is the first step to the design and implementation of concrete solutions that can benefit all the actors.

Considering this study, priority actions are:

- Trainings with fishing communities and fishing folks on :
    - Environmental challenges in the Lake zone: the dangers of overfishing, breeding seasons and zones, eutrophication, sedimentation, water pollution… this requires a consensus between the various authorities and scientists on the challenges the Lake faces ;
    - The legal framework on fisheries ;
    - The Nile Perch Value Chain : the actors need to have a proper understandings of the whole supply chain
    - Organizational skills: organization management, leadership, support in the planning and organization of the first meetings, etc.
- Working to the reinforcement of the relations between the stakeholders. The objective is to have a strong network of involved stakeholders that can work together to the coordination, implementation and supervision of different actions.

It might also be interesting to consider meetings and trainings with the actors from the Tanzanian authorities in order to ensure there is a shared understanding of the challenges at stake and to identify actions that can be done hand-in-hand with them.

Fishing boats in Kagera (credit : C.B.)

Annex 1: Beach Management Units

The Beach Management Units were created at the Lake Victoria Fishing Organization level and implemented in fisheries all around Lake Victoria **to foster sustainable fishing practices and reinforce the control of fishing activities**. The first BMUs appeared in Tanzania in 1998. Considering the different missions it was given, it seems that they **are not fully effective**. The following table presents the different challenges the BMUs may be facing in their implementation and functioning. The analysis is based on what was mentioned by the field actors interviewed and in the literature. It must be acknowledged that all BMUs are managed differently. This table aims to give a global picture of the functioning of BMUs and might not be perfectly representative of every specific case.

BMUs Prerogatives (Kolding 2008 ; LVFO 2005)	**BMUs effective functioning**
Represent all the actors of the fishing communities. The composition of a BMU is defined by the Tanzanian law	Most of the time not respected. It seems that the elected representatives do not represent the fishing folks. Furthermore, some fishermen seem to ignore they have a role to play in the BMU. By law, all fishing folks are BMU members
Ensure the beaches remain clean	The present study is not capable of assessing this point
Collect data on fishing	Done by some BMUs. Still, it seems that the data are often not reliable
Inspect the fishing boats and ensure they are all registered	Seems to be partially done, even though fraud may exist in some cases
Sustainable financial resource management in order to develop several activities among which monthly meetings with all the BMUs members	Ineffective. Such meetings rarely seem to be held, especially those which include all the fishing communities.
Propose modifications of the fisheries Law to the Authorities	No such case was mentioned.
Manage Monitoring, Surveillance and Control (MSC) activities in collaboration with the authorities	Ineffective. There is a lack of means to enforce a proper control of the fishing activities.

Among the challenges the BMU face, the following seem to be the most important:

- They do not represent the whole fishing communities ;
- There is a poor resource management and they do not have sufficient resources to efficiently complete their tasks ;
- The relations between the BMUs and Authorities might not be at their best which can slow down cooperation and reduce the efficiency of MSC activities.

Annex 2: Nile perch stocks evolution

The following tables permit to understand the global trends of the Nile perch stocks evolution in the Lake. Still, it must ba acknowledged that at the current time there is no consensus on the state of the fish stocks. For some, there is an important decline, for others the stock is stable. Furthermore, some scientists believe that the stock depletion is related to overfishing whereas others consider the depletion could be caused by ecosystem changes in the Lake Victoria.

	1950	1999	2001	2005	2008	2010
NP stock (T)	introduction	1,9 M	1,2 M	554 000	270 000	400 000 (?)

	2007	2008	2009	2010
Export UE (T)	52 000	42 000		31 600
Total catch (T)	319 000	311 000	316 000	291 000

30 % of the catchs = 60% of the value

Export market = 300 million $

Average activity rate in factories : 45%