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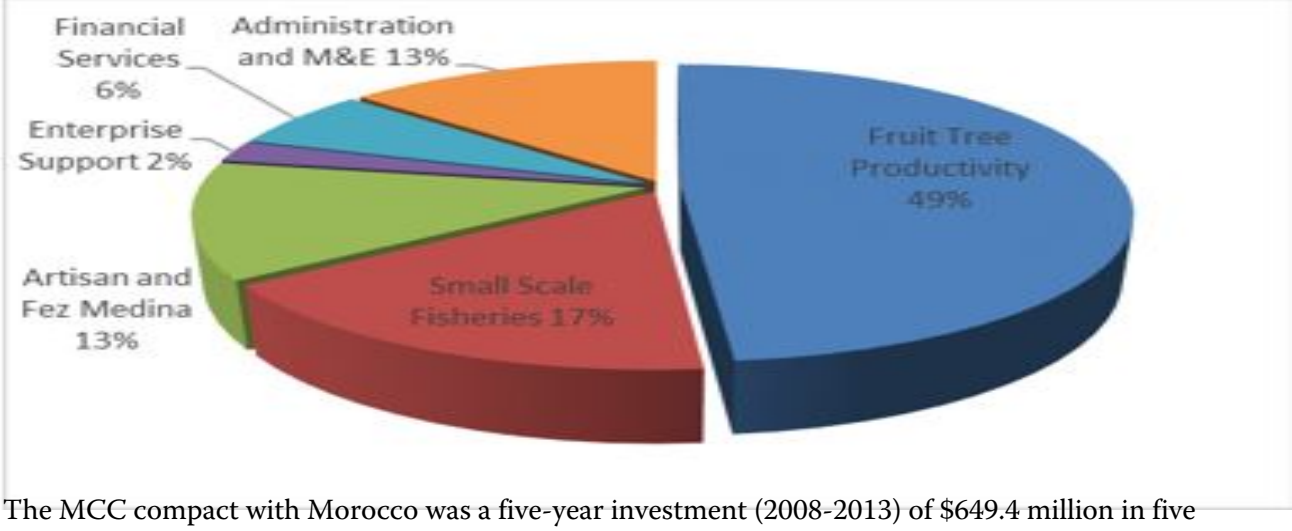
Abstract

The $111.3 million Small Scale Fisheries Project represented 17% of the total compact and aimed to transform the artisan fishing sector by modernizing the means of catching, storing, and marketing fish, thereby improving the quality of the catch, maintaining the value chain, and increasing fishers' access to both local and export markets. An estimated 25,400 people benefitted directly from the artisan fishery project, in large part due to the high performance of the training activity, which trained 132% of the targeted beneficiaries. The construction of fish landing sites and the equipment of ports with artisan fishery infrastructure allowed the artisan fishers to sell their catches at higher prices, and enabled a reduction in the cost of operations. In the port of Tan Tan and landing site of Tifnit, both completed and operational for nearly a year at the time of the evaluation, the increase in artisan fishers' incomes was 241% with respect to the target, and the increase in the average price of fish was 107% of the target. With respect to the baseline, the income of artisan fishers increased by 73% in the port and 54% in the landing site. Mobile fish vendors also benefitted from an increase in their income but less than originally targeted. While the volume of fish sold increased by 235% of the target, the increase of their incomes was only 66% of the target, and 41% with respect to the baseline. Over the same period, the income of mobile fish vendors who did not benefit from the project increased by 23%. It is estimated that, thanks to the project, the income of mobile fish vendors increased by 15% with respect to vendors who did not benefit from the project.

Measuring Results of the Small-Scale Fisheries Project in Morocco

In Context



The MCC compact with Morocco was a five-year investment (2008-2013) of $649.4 million in five projects: Fruit Tree Productivity, Small-scale Fisheries, Artisan and Fez Medina, Financial Services, and Enterprise Support.

The $111.3 million Small Scale Fisheries Project represented 17% of the total compact and aimed to transform the artisan fishing sector by modernizing the means of catching, storing, and marketing fish, thereby improving the quality of the catch, maintaining the value chain, and increasing fishers' access to both local and export markets. The project included the following activities:

- Development of Fish Landing Sites and Port Facilities Activity consisting of building fish landing sites and equipping ports with artisanal fishery infrastructure, as well as providing technical training with regards to fish regulations, preservation of fish resources, proper hygiene, product handling, quality preservation, small business management, formation of associations/cooperatives of fish vendors, and access to financial services;
- Development of Wholesale Fish Markets Activity through construction of a network of 5 fish wholesale markets ;
- Support to Mobile Fish Vendors Activity through training and subsidies for acquiring motorcycles equipped with insulated ice chests; and
- Funding of a pilot project to women cooperatives to integrate them in the value chain.

This paper summarizes the results of the performance evaluation of the Small Scale Fisheries Project and

its corresponding activities.

Program Logic

The objective of the Small-scale Fisheries Project was to improve the quality of fish moving through domestic channels and to assure the sustainable use of fishing resources. The investment sought to modernize the conditions for landing, storing, and marketing fish, thereby improving the quality of the catch, maintaining the value chain, and increasing fishers' access to both local and export markets.

The logic of the project is as follows:

Inputs	Outputs	Immediate outcomes	Ultimate impact
MCC funding used to hire technical assistance to carry out studies and contractors to construct fish landing sites, to equip ports with artisan fishery infrastructure, to construct a network of wholesale markets, to train mobile fish vendors and provide them motorcycles equipped with insulated ice boxes, and to fund pilot projects to integrate women to the fish value chain.	§ 11 Landing sites are constructed § 11 Ports equipped with artisan fishery infrastructure, § 15.000 fishers trained § 5 Fish whole sale market constructed § 1300 mobile fish vendors equipped with motorcycles with insulated ice boxes § Two pilot for women project funded	§ Quality of fish is improved at all stages of the value chain § Fishers are benefitting from better prices for their catches § Cost of fishing operations decreased § Mobile fish vendors increased the volume of fish marketed and are receiving better prices of the fish sold	§ Fishers' income is improved § Mobile fish vendors' income is improved § Fish consumption is increased in cities where wholesale markets are built. § The income of Women working operating in the value chain is improved

There were several key assumptions underlying the small scale fisheries program logic during the design of the investment:

- Improving the performance of the small-scale fishing value chain necessitates addressing the constraints of each level of the chain;
- Empowering artisan fishers, through preserving the quality of their catches, marketing their catches at fair prices, and training and organizing them in cooperatives is the way to a more equitable distribution of value-added and therefore a mechanism for alleviating poverty, while stimulating growth, in the artisan fishery sector;

- Preserving the quality and the value of fish while enlarging the domestic market can be assured through the construction of a network of fish wholesale markets, which would increase fish consumption particularly in inland cities; and
- Artisan fishers market their fish at landing sites and ports that are then channeled to fish wholesale markets and then to consumers through mobile fish vendors.

Measuring Results

MCC uses multiple sources to measure results. Monitoring data is used during compact implementation. Independent evaluations are generally completed post-compact. Monitoring data is typically generated by the program implementers, and specifically covers the program participants who received treatment through the compact. MCC conducts performance evaluations to assess whether the program was adequately designed to meet the needs of the program beneficiaries and how the program was implemented.

Monitoring Results

The project largely achieved its stated targets. While the Compact initially estimated 25,000 beneficiaries, 25,400 people benefitted directly from the artisan fishery project. This achievement of beneficiary targets was notable given that the targeted number of sites constructed decreased from 39 to 27 sites (22 Ports and PDAs and 5 Wholesale Markets) at program restructuring in 2011. This is due to the high performance of the training activity, which trained 132% of the targeted beneficiaries.

The project ended in September 2013 with the following results:

Indicator	Level	Baseline	Actual achieved	Target	Percent Complete
Average price of fish at landing sites' auction halls (DH/kg)	Outcome	35.2	40.82	40.47	107%
Number of boats using new landings sites and port infrastructure	Output	–	2,057	4,368	47%
Number of PDAs and ports available to fishers	Output	–	22	22	100%
Number of artisan fishers who received a training certificate	Output	–	19,750	15,000	132%
Number of wholesale markets operational	Output	–	4	5	80%

Quantity of fish sold by mobile fish vendors (Kg/day)	Outcome	79.21	97.84	87.14	235%
Number of active mobile fish vendors trained and equipped by the project	Output	–	933	1,300	72%
Pilot projects launched	Output	–	2	4	50%
Number of marine protected areas created	Output	–	3	3	100%

The average completion rate of output and outcome indicators is 103 percent of their targets, and 5 of the 9 indicators met or exceeded their targets.

Evaluation Questions

The evaluation was designed to answer questions such as:

- Did the project allow artisan fishers to sell their catches at higher prices compared to the baseline?
- Did the project allow artisan fishers to reduce their cost of operations?
- Did the project contribute to an increase in artisan fishers' income?
- Did the project contribute to an increase of mobile fish vendors' income?
- Did artisan fishers adopt the techniques recommended by the project?
- Did fish consumption increase in cities where fish wholesale markets were built?

Evaluation Results

The construction of fish landing sites and the equipment of ports with artisan fishery infrastructure allowed the artisan fishers to sell their catches at higher prices, partially explained by the auction halls which guarantee fair prices. Furthermore, the facilities enabled a reduction in the cost of operations. Two sites (one port and one landing site) were completed and operational for nearly a year. In these two sites, the increase in artisan fishers' incomes was 241% with respect to the target. The increase in the average price of fish was 107% of the target. With respect to the baseline, the income of artisan fishers increased by 73% or 17,186 Dh in the port of Tan Tan, and 54% or 11,409 Dh in the landing site of Tifnit. [1]

Mobile fish vendors also benefitted from an increase in their income but of only 66% of targeted increase. The total impact of the project in terms of the income of mobile fish vendors, calculated through a rough difference-in-difference, was estimated at 5850 Dh, an increase of 15% for project beneficiaries compared to the income of the non-beneficiaries. Much of the increase was linked to an increase in the volume of fish sold by 235% of the target.

Evaluator	IOS Partners, Inc

Methodology	*Pre-post*
Evaluation Period	May to November 2013
Immediate Outcomes	• Average price of fish at landing sites' auction halls increased by 107% of target • Quantity of fish sold by mobile fish vendors (per day) increased by 235% of target
Impacts	• Net annual income of boats at PDAs and ports increased by 54% in Tifnit and 73% in Tan Tan; the average increase was estimated at 241% of the targeted increase • Net annual income of mobile fish vendors increased by 15%; 66% of the targeted increase

The evaluation made a number of recommendations based on its qualitative findings about the process of project implementation, which are summarized below:

- **Careful selection of project sites:** The environmental and social assessments related to landing sites, port and fish wholesale market revealed many difficulties in the proposed sites related to land ownership issues and the suitability of the sites for the project infrastructure. The proposed sites could have been more carefully studied prior to site selection. It is recommended that project sites be selected only when these studies are completed and major issues are resolved. The evaluators stated that the statistics and information on the project sites were collected on site, and they were not analyzed in comparison to the government's record keeping. During the course of the evaluation, the most difficult indicators to track were for mobile fish-markets. Statistics had to be compared with beneficiaries, non-beneficiaries, and an initial reference point.

- **Post-Compact maintenance:** The infrastructure installed during the course of the project requires maintenance and management, which will also require continued support to the beneficiaries of the infrastructure, which should be clearly agreed with beneficiaries and responsible government entities.

- **Practical rather than theoretical trainings:** Artisan fishers' training should include more field training and technical assistance instead of 100% indoor based training. This could be possible if fewer modules are programmed.

- **Convenient timing of trainings:** Compensation to fisherman for incomes lost during training

activities was an unforeseen complexity of the program. One way to avoid this complex issue is to adapt the training timeline to fishers' activities, while setting realistic targets about attendance.

- **Supporting legislation**: Legislation could have been adopted to create disincentives to illegal fishing and black market sales.

- **Gender integration:** As was previously indicated, the project was challenged in integrating gender equity into the project's design. Data collected demonstrated that some of the cultural realities in approaching women were not properly considered in conceptualizing their role in the project. For example, women are often expected to get their husband's permission for participation in business activities. Decisions relating to fish sales are often taken in coordination with their spouses. Future projects should recognize that activities should provide a space for men along with their wives, whenever participation of women is a priority. Integration of women into the workplace not only requires the support of husbands and family members, but it also requires government support to conduct campaigns, improve the business environment through human resources best practices, and involving women who are already engaged in cooperatives to become interlocutors to other women entrepreneurs.

Lessons Learned

- **Construction:** The Project demonstrated that Morocco's National Fisheries Office (ONP) can build facilities at a faster pace that it has historically. During the 5-year term of the Compact, ONP constructed five (5) wholesale fish markets, four of which are operational. In the prior decade it had constructed two. The Project also resulted in the addition of eleven (11) improved landing sites, nine (9) of which are operational, to a network that is eventually to cover 60 locations. ONP supervised the construction of 25 prior to the Compact. Moroccan firms were able to compete successfully for contracts based on a FIDIC [2] template. Installing regional supervisors with the requisite engineering and construction management skills helped ONP oversee these works and accelerated the pace of implementation. Construction activities also benefitted from substantial oversight from MCC staff and the MCC Independent Engineer.

- **Expectations of Beneficiaries:** At several locations the intended beneficiaries are not yet using the improved facilities constructed by the Project. There was insufficient space at both Agadir and Mohammedia to construct enough lockers to accommodate all the boats registered at these ports. The cooperatives responsible for allocating these facilities have been reluctant or unwilling to do so. This is difficult for outsiders – MCC, MCA Morocco and ONP – to understand given that the cooperatives were well aware of the situation prior to the start of construction. In retrospect it appears that the Project did less than it should have to help the cooperatives at each location make

acceptable allocation and rationing decisions and to manage the expectations of their members. Thus far ONP has been unable to resolve these problems during the Post-Compact period.

- **Political Challenges:** The Project faced numerous challenges which fell outside of ONP's perceived manageable interest and caused delays in project implementation. It took a great deal of time to resolve land issues at several sites, which delayed construction or eventually forced the Project to abandon a proposed site. ONP and MCA Morocco were unable to resolve a dispute between two local jurisdictions –the location for the old wholesale market serving Rabat and the site of the new market – and as a result a $4.5 million investment remains inoperative. MCA Morocco was unable to mobilize its board of directors, which included the Head of Government and relevant ministers, to resolve this matter expeditiously. Similarly, the wholesale market at Beni Mellal sat idle for several months after provisional acceptance while it awaited a royal commissioning that was rescheduled several times.

- **Marine Protected Areas:** The beneficiaries of the Project's three pilot marine protected areas responded quickly and positively to these interventions. There was general recognition among small-scale fishers that the stocks are not as abundant as they were "when they started fishing with their grandfathers" and that this state of affairs requires attention. The fishers understand that their livelihoods are at stake if the stocks are not allowed to re-generate. This component appears to be a powerful nexus between long-term economic growth and natural resource conservation.

- **Mobile Vendors:** The Project too quickly abandoned the requirement for beneficiaries of the mobile vendor activity to cover 30 percent of the cost of new equipment (3-wheel motorbike and ice chest) with their own funds or loans, primarily from micro-finance institutions. The National Institute for Human Development (INDH) made up the difference. However, this served to limit the number of beneficiaries. The activity trained and equipped 933 mobile vendors, significantly less than the original target of 2,000. Working to ensure adequate credit access of project beneficiaries may have helped improve the number of vendors successfully equipped by the project.

Next Steps

MCC is pursuing a continued independent evaluation of various activities within the Small-scale Fisheries Project, which will be carried out by Grant Thornton in partnership with Ios Partners. Continued evaluation of these activities will give an opportunity to explore the projects' sustainability and to measure productivity and ecosystem impacts which may have accrued after the Compact's end date in late 2013.

Endnotes

1. For reference, at Compact closure the Moroccan Dirham (Dh) to USD exchange rate was 8.4 Dh = 1 USD
2. Fédération Internationale Des Ingénieurs-Conseils/International Federation of Consulting Engineers