

Kingdom of Morocco

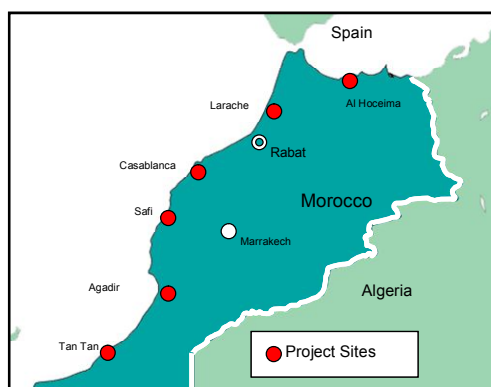
Ex-Post Evaluation of Japanese Technical Cooperation Project

**“The Project for the Establishment of an Extension System for Artisanal Fisheries”**

External Evaluator:

Hajime Onishi, Mitsubishi UFJ Research & Consulting

**1. Project Description**



Project Locations



Artisanal Fisherpersons and Extension Coordinator at Immessouane Village (Facilities in the back are constructed by PDA Project)

**1.1 Background**

As of the year 2000, the government of the Kingdom of Morocco recognized that the correction of income disparity among regions and the conservation of fishery resources were priority policy issues, and thus emphasized to support a capacity development of 48,000 artisanal fisherpersons in the fisheries sector. On the other hand, because of the lack of an extension worker system in the field of fisheries<sup>1</sup>, no specific extension project for artisanal fisherpersons had been started. Based on the background described above, the government requested project-type technical cooperation from the government of Japan for the development of extension programs to establish a new extension system appropriate to the local situation under which extension workers would efficiently engage in extension activities.

In response to this request, the Japan International Cooperation Agency (JICA) sent over a preliminary study team in March 2000 and a short-term study team in October 2000 to discuss the details of cooperation. In March 2001, a Record of Discussion (R/D) between the governments of Morocco and Japan was signed, and thus, for the purpose of achieving a state where “an efficient extension system is established and where extension

<sup>1</sup> To be more accurate, the authority to be responsible for the extension system had been determined by the government, but the contents of extension activities, the division of roles among agencies concerned, and the chain of command, etc., had not been clearly defined at that time. (Source: JICA [2001] Supplementary Study Report on the Project for the Establishment of an Extension System for Artisanal Fisheries in Morocco, pp.53)

activities are carried out in fishing villages”, a technical cooperation project commenced for a scheduled period of five years beginning in June 2001.

### 1.2 Project Outline

Overall Goal	To improve the socio-economic conditions of artisanal fisherpersons along with conservation of marine resources
Project Objective	To develop and establish extension system
Outputs	<ol style="list-style-type: none"> <li>1. Practices and situation of artisanal fisheries are understood.</li> <li>2. Extension programs on relevant themes for fisherpersons are developed.</li> <li>3. Curriculum and teaching materials are developed and technical capacity of Extension Coordinators (V/Cs) is improved.</li> <li>4. Extension activities are carried out effectively on selected sites.</li> <li>5. Monitoring, evaluation and feedback mechanism is established.</li> </ol>
Inputs	<p>Japanese Side:</p> <ol style="list-style-type: none"> <li>1. Experts: 19 experts in total For Long-Term: 8 experts, For Short-Term: 11 experts</li> <li>1. Trainees received: 15 trainees</li> <li>2. Trainees for Third-Country Training Programs: N/A</li> <li>3. Equipment: 56.4 million yen</li> <li>4. Local Cost: 90.3 million yen</li> <li>5. Others (incl. dispatch of related missions): Advisory Study (2002)</li> </ol> <p>Moroccan Side:</p> <ol style="list-style-type: none"> <li>1. 38 Counterparts (Long-Term: 9, Short-Term: 29)</li> <li>2. Extension Coordinator (V/C): 24 coordinators in total</li> <li>3. Extension Worker (V): 53 workers in total (at the time of project completion in 2006)</li> <li>4. Land and Facilities, Project Office and Utilities: Project office, etc.</li> <li>5. Local Cost: 54.6 million yen</li> </ol>

Total Cost	597.48 million yen
Period of Cooperation	June 2001 – May 2006
Executing Agency	Ministry of Fisheries (Ministere de l'Agriculture et de la Peche Maritime, MPM)
Cooperation Agency in Japan	Fisheries Agency of Japan

Related Projects	Study on Artisanal Fisheries Development Project (Development study) Larache Fishery Technology Improvement Center Construction Project (Grant aid project)
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### 1.3 Outline of the Terminal Evaluation

#### 1.3.1 Achievement of Overall Goal

Although the correction of regional disparities and the improvement of the livelihood of fisherpersons have not been observed as a result of the project, positive impacts (such as the realization of the purchase of tax-free gasoline, the cooperative purchase of low-priced fishing gear, and a consequent increase in income as a result, etc.) are expected to become evident as more fisherperson cooperatives are organized. Therefore, the improvement of the livelihood of fisherpersons and, eventually, the correction of regional disparities can be expected in the future.

#### 1.3.2 Achievement of Project Objective

Through the implementation of the project, the foundation of an extension system, which did not exist on the Moroccan side, has been established, and the system is being improved continuously under the ownership of the government of Morocco. The project objective is expected to be achieved by the completion of the project.

#### 1.3.3 Recommendations

A total of seven recommendations were made: three for the remaining period before the scheduled completion of the project in 2006 and four for the period after the completion of the project.

#### Recommendations before the termination of the Project

- To strengthen the institutional structure, personnel resources and budgetary allocation for the National Extension Center (CNVM) in order to further develop the extension activities,
- To share the outputs of the project with other potential beneficiaries (through the internet website, for example), and
- To conduct another baseline survey to understand the economic and social developments of artisanal fishery villages after the completion of the project.

#### Recommendations after the completion of the Project

- To give incentives to extension workers (ex. awarding best practices) based on the appropriate recognition of the importance of extension workers' roles,
- To develop extension activities considering the needs of the women in fishing

villages,

- To conduct resource management activities covering coastal and offshore fishery, and
- To immediately complete the planned PDA<sup>2</sup> project, which is being promoted by the Moroccan government, on the ground that PDA and activities by fisherperson's cooperatives are closely related each other.

## **2. Outline of the Evaluation Study**

### **2.1 External Evaluator**

Hajime Onishi (Mitsubishi UFJ Research & Consulting Co., Ltd.)

### **2.2 Duration of Evaluation Study**

The following study was conducted for the ex-post evaluation.

Duration of the Study: January 2010 – November 2010

Duration of the Field Study: February 22, 2010 – March 7, 2010, July 19, 2010 – July 21, 2010

### **2.3 Constraints during the Evaluation Study**

It was difficult to conduct studies at two locations among the project sites, due to the political and security situation. These sites are excluded from the field survey<sup>3</sup> and beneficiary survey<sup>4</sup>.

## **3. Results of the Evaluation (Overall Rating: A)**

### **3.1 Relevance (Rating: a)**

#### **3.1.1 Relevance with the Development Plan of Morocco**

Consistency with the national development policy, etc.: At the time of project planning in 2001, the Socio-economic Development Plan (2000–2004) emphasized poverty reduction and the correction of economic disparities as important policy, and were highly consistent with the overall goal of the project aiming at improving the living and socio-economic conditions of artisanal fisherpersons. As of the completion of the project in 2006, the National Initiative on Human Development, established in May 2005 by His Majesty King Mohamed VI, set the objectives of reducing poverty and promoting

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<sup>2</sup> “Points Débarquement Aménagé”: A project to construct 66 fish-landing facilities (a fish-landing site, auction market, outboard motor storage, meeting hall, etc.) in the next 10 years from 2007; these facilities are expected to serve as the bases for the fishing activities of artisanal fisherpersons.

<sup>3</sup> In this post evaluation study, i) interviews with government officials, ii) site investigation (including interviews with artisanal fisherpersons at three (3) target fishery villages of the project), iii) beneficiary survey (conducted through a face-to-face interview) are conducted.

<sup>4</sup> The details of the beneficiary survey are as follows:

- Sampling method: Two-stage stratified random sampling
- Number of Samples: 151 samples in total (110 for artisanal fisherperson, 30 for fish whole sellers and 11 for others including fisherman's wives)
- Locations of survey: Moulay Bousalham, Diky, Tifnit and Immessouane (These are all target fishery villages of the project.)

equality, indicating no significant change in the overall national policy. Therefore, the overall goal of the project remains highly consistent with the national policy. (The Socio-economic Development Plan has not been drawn up after the 2000–2004 version.)

Consistency with the development strategies, etc., of the fisheries sector: At the time of project planning in 2001, the Five-Year Development Plan (2000–2004) of the Ministry of Fisheries (MPM) emphasized correction of regional disparities, poverty reduction, and education and training, and set the objective of promoting the education of artisanal fisherpersons, which coincided with the overall goal of the project. As of the completion of the project in 2006, the New Three-Year Development Plan (2005–2007) of the MPM also emphasized the improvement and expansion of the social security system for artisanal fisherpersons. Therefore, the overall goal of the project remains highly consistent.

Additionally, under the abovementioned fish-landing site development project (PDA) carried out by the government of Morocco, various fisheries-related facilities (auction markets, lodging facilities for fisherpersons, warehouses, fuel storage, etc.) are being constructed in artisanal fishing villages. These basic infrastructures support the extension activities of the project.

### 3.1.2 Relevance with the Development Needs of Morocco

As of 2001, when the project was planned, extension activities initiated by the MPM have not developed into systematic activities, and there was an extremely strong need for the capacity-building of 48,000 artisanal fisherpersons all over Morocco through extension activities.

As of 2006, when the project was completed (according to the results of the beneficiary survey as mentioned later in the section on “Impact”), the income of artisanal fisherpersons was still unstable, indicating that the need for the improvement of fishing-related skills through extension activities still applied.

### 3.1.3 Relevance with Japan’s ODA Policy

Both at the time of project planning in 2001 and at the time of project completion in 2006, the government of Japan and the government of Morocco agreed on the following three points as part of the priority areas of assistance: i) assistance for the development and promotion of agriculture and fisheries; ii) assistance in the field of regional development aimed at poverty reduction; and iii) assistance for social development. These priority areas have not been changed since 1999, and therefore, the project remains highly consistent. These facts indicate that the project was highly consistent with Japan’s ODA policy.

This project has been highly relevant with the country’s development plan, development needs, as well as Japan’s ODA policy, therefore its relevance is high.

### 3.2 Effectiveness (Rating: a)

The effectiveness of a project is evaluated comprehensively from three points of view: i) whether the planned outputs (in the case of this project, Output 1 to Output 5, as detailed below) have been obtained, ii) whether each of the above outputs contributed to the achievement of the project objective in its achievement process, and iii) whether the project objective has been achieved through i) and ii) above.

An “extension system” mentioned in the project objective, which is to achieve a state where “an efficient extension system is established and extension activities are carried out in fishing villages”, is defined in the preliminary short-term study conducted in October 2000 as “a cycle of i) analysis of the current situation and problems in artisanal fisheries regarding specific issues → ii) development of extension programs (program plan, methods, teaching materials, etc.) → iii) training of extension workers → iv) extension activities → v) monitoring and evaluation of extension programs → vi) problem analysis of other/new issues → vii) development of extension programs on other/new issues”.<sup>5</sup>

#### 3.2.1 Project Outputs

3.2.1.1 Output 1: Clarification of current situation of artisanal fisheries (Practices and situation of artisanal fisheries are understood.)

With regard to the indicator “extension themes, based upon the situation and needs of artisanal fisherpersons, are selected”, most of the eight interviewed extension coordinators (hereinafter referred to as the “V/Cs”) and extension workers (hereinafter referred to as the “Vs”)<sup>6</sup> mentioned that “appropriate themes were selected”. Also in the beneficiary survey to the artisanal fisherpersons who are the recipients of the extension programs, all of the 81 fisherpersons surveyed answered “themes were selected appropriately” or “themes were selected almost appropriately”<sup>7</sup>.

Table-1: Views of Artisanal Fisherpersons on the Selection of Extension Themes (N=81)

Responses	No. of Respondents	%
6 themes were selected appropriately.	49	60.5
6 themes were selected almost appropriately.	32	39.5
6 themes were not appropriately selected.	0	0.0
No answers / No opinions	0	0.0
Total	81	100.0

Source: Results of social impact assessment survey

<sup>5</sup> Source: JICA (2001) Supplementary Study Report on the Project for the Establishment of an Extension System for Artisanal Fisheries in Morocco

<sup>6</sup> The breakdown of the eight interviewees is: three (3) for Larache National Extension Center (incl. one V/C), two (2) for Casablanca Regional Extension Center (incl. one V/C) and three (3) for Agadir Regional Extension Center (incl. one V/C).

<sup>7</sup> Out of 6 themes (Cooperatives formulation, Outboard engine maintenance, Marine safety, Hygiene and quality control, Fishery technique, Fishery resource conservation), outboard engine maintenance, marine safety and fishery technique were answered as “very useful”. (Source: Results of social impact assessment survey)

Based on the above results, it is concluded that the extension themes were selected appropriately. This fact also proves the accuracy of the results of the baseline survey. In response to the recommendations made in the mid-term evaluation in 2004, an additional baseline survey was conducted. It seems that the baseline survey for this project including the additional survey was conducted so precisely that it resulted in the selection of extension themes for which fisherpersons had strong needs.

### 3.2.1.2 Output 2: Development of extension programs for fisherpersons (Extension programs on relevant themes for fisherpersons are developed.)

Although there is no documented program, the curriculum (program plan), teaching materials for the training of the V/Cs, teaching materials for the training of fisherpersons, and visual aids for the mobile class had been developed for each of the six selected themes before the completion of the project in 2006. The V/Cs and Vs consider that these plans and teaching materials as a whole constitute a program, and each worker uses various teaching materials as appropriate at their own discretion. In this way, the extension activities are implemented in accordance with the program plan.

With regard to the quality of the extension programs, an interview survey was conducted with the artisanal fisherpersons who are the recipient of the programs. As shown below, all of the interviewed fisherpersons answered “the contents of the programs are useful” or “mostly useful”.

Table-2: Views of Artisanal Fisherpersons on the Contents of Extension Programs (N=81)

Responses	No. of Respondents	%
The contents of extension programs are useful.	50	61.7
The contents of extension programs are mostly useful.	31	38.3
The contents of extension programs are not useful.	0	0.0
No answers / No opinions	0	0.0
Total	81	100.0

Source: Results of social impact assessment survey

From the above, it is concluded that extension programs were developed appropriately as planned.

### 3.2.1.3 Output 3: Improvement of V/C’s technical capacity (Curriculum and teaching materials are developed and technical capacity of V/Cs is improved.)

By the time of the completion of the project in 2006, 23 types of training sessions were provided to the V/Cs. With respect to the degree of understanding of the extension programs and the technical capacity of the V/Cs, many respondents of the interview survey to the MPM answered that “there is no problem”<sup>8</sup>. In the beneficiary survey to

<sup>8</sup> The termination evaluation (conducted in 2007) also came to the conclusion that there was almost no problem.

artisanal fisherpersons, all of the fisherpersons who received extension programs and covered by the beneficiary survey answered that they were “satisfied with the technical skills and capacity of the V/Cs” or “mostly satisfied”. In addition, V/C’s level of understandings of each theme was mostly satisfied by them. (For the details, refer to two tables below.)

Table-3: Views of Artisanal Fisherpersons on the Technical Skills and Capacity of the V/Cs (N=81)

Responses	No. of Respondents	%
Satisfied with the technical skills and capacity of the V/Cs	51	63.0
Mostly satisfied with the technical skills and capacity of the V/Cs	30	37.0
Not satisfied with the technical skills and capacity of the V/Cs	0	0.0
No answers / No opinions	0	0.0
Total	81	100.0

Source: Results of social impact assessment survey

Table-4: Views of Artisanal Fisherpersons on V/C’s Understandings of Themes (N=81)

Responses	No. of Respondents	%
V/C’s understandings of each theme are appropriate.	51	63.0
V/C’s understandings of each theme are almost appropriate.	29	35.8
V/C’s understandings of each theme are not appropriate.	1	1.2
No answers / No opinions	0	0.0
合計	81	100.0

Source: Results of social impact assessment survey

These results of the beneficiary survey show the situation as of 2010. Considering also that the technical capacity of the V/Cs was highly evaluated in the termination evaluation, it is concluded that the degree of understanding of the extension programs and the technical capacity of the V/Cs have improved through the various activities of the project.

3.2.1.4 Output 4: Expansion of extension activities (Extension activities are carried out effectively on selected sites.)

It is confirmed that: i) a sufficient number of mobile units’ classes were held (increased from 76 in 2001 to 187 in 2004, 299 in 2005, and 224 in 2006), ii) the women’s group activity promotion program was carried out, iii) fisherperson group activity presentation meetings were held, iv) inspection visits to advanced sites were conducted, and v) the technical localization project (the “Mini Project”) was implemented<sup>9</sup>. With respect to the effectiveness of the mobile class, all of the fisherpersons who received extension programs and covered by the beneficiary survey answered that “the mobile class is effective in understanding the extension programs” or that it was “effective to some

<sup>9</sup> The number of mobile units’ classes was confirmed by the field survey of this post evaluation. For the other results of ii), iii), iv) and v), the actual performance was already confirmed by the terminal evaluation.



extent”. In addition, the quality of teaching materials of mobile units was satisfied by them. (For the details, refer to two tables below.)

Table-5: Views of Artisanal Fisherpersons on the Effectiveness of Mobile Units (N=81)

Responses	No. of Respondents	%
The mobile class is effective in understanding the extension programs.	55	67.9
The mobile class is effective to some extent in understanding the extension programs.	26	32.1
The mobile class is not effective in understanding the extension programs.	0	0.0
No answers / No opinions	0	0.0
Total	81	100.0

Source: Results of social impact assessment survey

Table-6: Views of Artisanal Fisherpersons on Teaching Material of Mobile Units (N=81)

Responses	No. of Respondents	%
Satisfied with teaching material of mobile units	51	63.0
Mostly satisfied with teaching material of mobile units	30	37.0
Not satisfied with teaching material of mobile units	0	0.0
No answers / No opinions	0	0.0
Total	81	100.0

Source: Results of social impact assessment survey

The facts described above show that the extension activities produced satisfactory results, and Output 4 is considered to have been obtained. As pointed out in the termination evaluation report, the preliminary survey was not enough in that the project intended that women in fishing villages would be the target, in spite of the fact that female involvement in fisheries is limited due to the cultural and social background of Morocco. For these and other reasons, it was reported that the abovementioned “women’s group activity promotion program” was extremely difficult to implement<sup>10</sup>. The same fact was pointed out in the hearing to those concerned with the field survey conducted this time<sup>11</sup>.

### 3.2.1.5 Output 5: Establishment of feedback mechanism of extension activities (Monitoring, evaluation and feedback mechanism is established.)

The monitoring, evaluation, and feedback mechanism of extension activities is defined in this post evaluation as such that the “V/Cs visit the selected sites on a regular basis and grasp the socio-economic conditions of artisanal fisherpersons, based on which the V/Cs suggest new extension themes to fisherpersons and implement extension activities on their own initiative”<sup>12</sup>.

<sup>10</sup> Details are provided in p.30, p.33, and p.35, etc., of the termination evaluation report.

<sup>11</sup> Source: Results of interviews with the MPM, CNVM, and the V/Cs.

<sup>12</sup> This definition is almost same as that of the “extension mechanism” (which is already mentioned), and this output is considered to be an essential part of this project. The achievement situation of this output as of 2010 is to be analyzed again in the section on “Sustainability” in the latter part.

Table-7: Views of Artisanal Fisherpersons on the Establishment of Feedback Mechanism as of 2010 (N=81)

Responses	No. of Respondents	%
V/C visits our village regularly and recommends new theme frequently.	2	2.5
V/C visits our village irregularly and recommends new theme occasionally.	57	70.4
V/C rarely visit our village and rarely recommend new theme.	19	23.5
V/C never visit our village and nor recommend new theme.	3	3.6
Total	81	100.0

Source: Results of social impact assessment survey

As to whether such a feedback mechanism as described above has been established, many respondents of the interview survey to the V/Cs, Vs, and the MPM answered that “the mechanism has been established appropriately.” As a basis of the judgment that the mechanism has been established, many respondents mentioned the “quarterly holding of the V/C liaison conference” and the “sharing of various information between the V/Cs and Vs”. On the other hand, artisanal fisherpersons answered in the beneficiary survey that the V/Cs and Vs did not visit them so often and that only a limited number of suggestions were made for new extension themes (see the above table for details).

These answers from artisanal fisherpersons reflect the situation as of 2010. The fact that a limited number of suggestions for new themes have been made to date may indicate that the same tendency as observed in these answers also existed at the time of the completion of the project in 2006.

Based on the observations described above, it is assumed (not concluded) that the frequency of the monitoring activities of the V/Cs and Vs was not so high in 2006. However, considering that some suggestions were made for new themes in line with the needs of fisherpersons, the feedback mechanism is considered to have been established to some extent. Therefore, it is concluded that this output has been partially obtained.

### 3.2.2 Achievement of Project Objective

In order to measure the achievement of the project objective, which is to achieve a state where “an efficient extension system is established and where extension activities are carried out in fishing villages”, three indicators (the number of active groups of artisanal fisherpersons, amount of government budget executed for extension activities, and the number of activities carried out by the government by itself) have been selected beforehand. Achievement of the project objective is assessed comprehensively by examining these indicators and from the previously mentioned two points of view: i) whether the planned outputs have been obtained; and ii) whether each of the above outputs contributed to the achievement of the project objective.

#### 3.2.2.1 Indicator 1: Number of active group from the selected sites will increase.

In this survey, no definite data concerning this indicator has been obtained. According

to the termination evaluation, more than two cooperatives were newly organized as of 2006, and inspection visits to advance fishing villages and exchange activities through the meetings of the leaders of fisherperson organizations were conducted, indicating the active involvement of fisherpersons. Based on these facts, it is concluded that Indicator 1 has been attained.

3.2.2.2 Indicator 2: Amount of budget planned and executed by the MPM will increase compared to 2001

As the information concerning the budget appropriated and executed for the extension activities as of when the project started (2001) is not available, it is difficult to make a comparison of before and after project implementation. However, the budget dedicated to the National Fisheries Extension Center (CNVM), which did not exist before, is now appropriated starting from 2006. In addition, the amount of such budget has been increasing (see the section on “Sustainability” for details). Based on these facts, it is concluded that Indicator 2 has been attained.

3.2.2.3 Indicator 3: Extension activities implemented by the MPM themselves will increase compared to 2001.

It is impossible to assess the achievement of this indicator because no definite data regarding this indicator has been obtained in this survey. When the “number of extension activities carried out by the Moroccan government by itself” is read as the “number of extension activities carried out through this project”, the number of activities sharply increased from 76 in 2001 to 224 in 2006, as mentioned in Section 3.2.1.4.

3.2.2.4 Degree of the output’s contribution to achieve Project objective

As stated in Section 3.2.1, more than satisfactory results have been achieved for all of Outputs 1 to 5 with the exception of Output 5. These outputs form the basis of the present extension system for artisanal fisheries by the MPM and are essential factors in the implementation of the extension system. As for Output 5, a feedback mechanism has been established to some extent.

Therefore, it is concluded that each output made great contributions to the establishment of the extension system.

3.2.2.5 Conclusions

As stated above, it is confirmed that almost all outputs have been attained, and it is concluded that each output made great contributions to the establishment of the extension system. In relation to budget appropriation and execution by the government, among Indicators 1–3, which measure the achievement of the project objective, the budget dedicated to the CNVM has been appropriated starting from 2006. Although there is a

view that “the amount remains inadequate” (CNVM), the “financial support for the implementation of extension activities” that was not provided before is now realized.

This project has largely achieved its objectives, therefore its effectiveness is high.

### 3.3 Impact

#### 3.3.1 Achievement of Overall Goal

Two indicators have been specified beforehand to measure the achievement of the overall goal: i) regional differences of income are to be corrected by 2010; and ii) knowledge about coastal fishery resources is to be disseminated by 2010. In this survey, it was difficult to obtain significant macro data concerning i) and ii) above (e.g., data on the household income of artisanal fisherpersons in the coastal area of Morocco and data on changes in the fish catches of coastal fishing). In this section, therefore, the achievement state of i) and ii) is assessed mainly based on the results of the social impact assessment survey.

#### Changes in the standard of living of artisanal fisherpersons

The results of the social impact assessment survey shown below demonstrate that the income of the surveyed fisherpersons has not necessarily increased through the implementation of the project. Further, it cannot be said that there is a significant change in household income before and after the implementation of the project. On the other hand, over 70% of the respondents said that the “fish catch has not increased”, and mentioned “sluggish fishing activities due to the rise of fuel costs” as one of the reasons for this. If fuel costs had not skyrocketed, household income of fisherpersons would have increased much more than that in the current level.

Table-8: Household Income before and after the Project (N=110)

Responses	No. of Respondents	%
Our income has drastically increased after the Project.	30	27
Our income has increased but to a limited extent after the Project.	19	17
Our income has not increased after the Project.	41	38
No answers / No opinions	20	18
Total	110	100

Source: Results of social impact assessment survey

Table-9: Fishery Yield before and after the Project (N=110)

Responses	No. of Respondents	%
Fishery yield has increased after the Project.	30	27
Fishery yield has not necessarily increased after the Project.	80	73
No answers / No opinions	0	0
Total	110	100

Source: Results of social impact assessment survey

Regarding the fuel necessary for the operation of outboard motors, the MPM, the National Fisheries Office (ONP), and Moroccan customs agreed in December 2008 to “exempt” artisanal fisherpersons from taxation on the purchase of fuel. On the other hand, in a fishing village covered by the PDA project where a gas filling station has been constructed under that project, fisherpersons still cannot enjoy the benefit of tax exemption because of the delay in the arrival of the assigned customs officer. Additionally, it is pointed out that “the application process of selling tax-free gasoline is too complicated for fisherpersons to carry out by themselves”.

#### Acquisition of knowledge regarding coastal fisheries by artisanal fisherpersons

The results of the social impact assessment survey shown below indicate that the acquisition of knowledge regarding coastal fisheries through participation in the extension programs has a positive impact on the fishing activities of artisanal fisherpersons. It seems obvious that artisanal fisherpersons have gained certain knowledge.

Table-10: Views of Artisanal Fisherpersons on the Effects of Extension Programs on Fishing Activities (N=110)

Responses	No. of Respondents	%
Extension programs have contributed to our fishing activities.	75	68.2
Extension programs have not contributed to our fishing activities.	4	3.6
No answers / No opinions	31	28.2
Total	110	100.0

Source: Results of social impact assessment survey

Table-11: Detailed Contribution to Fishing Activities (N=75, A question to those who answered some contributions in the table above)

Responses	No. of Respondents	%
Learning of maintenance skills of outboard engines	67 / 75	89.3
Understanding of importance of maritime safety	64 / 75	85.3
Better understanding of fishing techniques and management	62 / 75	82.7
Better knowledge of hygiene	42 / 75	56.0
Learning of GPS usage	30 / 75	40.0

Source: Results of social impact assessment survey

Note: Multiple answers

#### Implication of cooperative activities on artisanal fisherpersons

As shown below, the results of the social impact assessment survey indicate that the establishment of cooperatives, relating to Output-4 of this project, greatly contributed to the improvement of the business environment of fisherpersons. Based on these results, it is concluded that the establishment of cooperatives and related activities had a positive impact on artisanal fisherpersons.

Table-12: Views of Artisanal Fisherpersons on the Impact by the Establishment of Cooperatives (N=110)

Responses	No. of Respondents	%
The establishment of cooperatives has affected the fishing activities.	83	75.5
The establishment of cooperatives has not affected the fishing activities.	4	3.6
No answers / No opinions	23	20.9
Total	110	100.0

Source: Results of social impact assessment survey

Table-13: Detailed Impacts by the Establishment of Cooperatives (N=83, A question to those who answered some impacts in the above table)

Responses	No. of Respondents	%
Being able to receive more financial support than before	32 / 83	38.6
Being able to receive more technical support (incl. maintenance support) than before	23 / 83	27.7
Being able to use more equipment (boat, outboard engines, fishing instruments, etc.) than before	31 / 83	37.3
Being able to share fishing knowledge and techniques	37 / 83	44.6
Being able to sell the fish more expensive than before	14 / 83	16.9

Source: Results of social impact assessment survey

Note: Multiple answers

### 3.3.2 Other Impacts

As a result of the interview with artisanal fisherpersons, the following comments are received as positive impacts.

- Some artisanal fishery cooperatives are active in pursuing income sources other than fisheries. (For example, the operation of seafood restaurants or the growing and sale of Argan oil, a specialty product of the southern region, are being planned by some cooperatives.) The extension activities under the project may have indirectly encouraged the independent and autonomous activities of fisherpersons.
- The mobile units that are used for extension activities are also used for literacy education activities for artisanal fisherpersons.

Throughout the implementation of the project, no negative impact on artisanal fisherpersons has been generated in terms of environmental and social aspects.

## 3.4 Efficiency (Rating: a)

### 3.4.1 Inputs

#### 3.4.1.1 Elements of Inputs

The table below shows a comparison between planned and actual inputs. The amount of inputs of the Japanese side was almost as planned. As for the amount inputs of the Moroccan side, the number of the V/Cs and Vs increased from 18 to 24 and from 38 to 53, respectively, and in total, a larger amount of inputs than initially planned was secured.

Table-14: Comparison of Inputs before and after the Project

Elements of Inputs	Plan	Actual Performance	Difference
<b>1. Moroccan Side</b>			
<b>(1) Counterpart Assigned</b>			
a) Long-term	6 types of counterparts such as Project Director, Project Manager, etc.	9 counterparts in total	N/A
b) Short-term	To be appointed when necessary	29 counterparts in total	N/A
c) V/C and V	V/C: 18 staff (3 X 6 Centers) V: 38 staff	V/C: 24 staff (3 X 8 Centers) V: 53 staff	V/C: 6 V: 15
(2) Land, Building and Facilities	Related facilities at Larach CQPM	The sam	As planned
(3) Local Costs	To be decided	54.6 million yen	N/A
<b>2. Japanese Side</b>			
<b>(1) Experts</b>			
a) Long-term Experts	4 types of experts such as Chief Advisor, Extension Activities, Fisherpersion Education, and Coordinator	8 experts in total (2 Chief Advisor, 2 Extension Activities, 2 Fisherpersion Education, 1 Coordinator and 1 Regional Development)	N/A
b) Short-term Experts	To be appointed when necessary	11 experts in total	N/A
(2) Trainees received	2 to 3 trainees per year	15 trainees in total (3 per year)	As planned
(3) Equipment	Extension acitivities-related, Audio & Visual aids, etc.	26 types, 56.4 million yen in total	N/A
(4) Operational Costs	To be decided	90.3 million yen in total	N/A

Source: JICA internal documents, Answers to the questionnaire to MPM, Answers to the questionnaire to CNVM, etc.

### (1) Amount of inputs

When asked about the adequacy of the quality and quantity of the inputs, the Moroccan counterparts—the MPM and the Larache National Fisheries Extension Center (CNVM)—both answered “almost no problem”, as shown in the table below<sup>13</sup>. From the above, it is concluded that the amount of inputs (personnel and equipment) was generally adequate.

Table-15: Views of Executing Agency on the Relevance of the Amount of Inputs

Questions to MPM/CNVM	Response by MPM	Response by CNVM
The number of JICA experts dispatched (both long-term and short-term ones), duration of dispatching and their expertise	Almost appropriate	The number of experts was appropriate, but duration and expertise were the issue <sup>14</sup> .
The number of Moroccan side counterparts assigned, duration of assignments and their expertise	Almost appropriate	Almost appropriate
Types, capacity and volume of equipment provided (incl.	Appropriate	Almost appropriate

<sup>13</sup> Responses to the questionnaire to the MPM and CNVM

<sup>14</sup> The CNVM commented that an “extension was needed” for the period of the dispatch of Japanese experts and that the qualification and specialist knowledge of some of the Japanese experts were “regrettably below the level required for efficient implementation of the project, and they had some problem in their communication ability”. (Source: Results of hearings to the CNVM)

Questions to MPM/CNVM	Response by MPM	Response by CNVM
vehicles and other instruments)		
The number of trainees sent to Japan, contents of training programs in Japan and duration of training courses	Almost appropriate	Almost appropriate

Source: Answers to the questionnaires to MPM and CNVM

## (2) Timing of inputs

There was almost no problem with the timing of the inputs. However, the efficient implementation of the project may have been hindered somewhat by the following two factors.

- The absence of a chief advisor in the early stage of the project saw negative impacts on the project (such as delays in decision-making concerning the acquisition of equipment and a lack of communication between the Japanese experts and the Moroccan side, etc.).
- The Moroccan side pointed out the poor communication ability of some of the Japanese experts and the need for interpreters<sup>15</sup>.

The Input of human resources is indispensable in carrying out extension activities in a certain scale. The increase in counterparts on the Moroccan side (the increase of the V/Cs and Vs) greatly contributed to the achievement of the project objective and therefore is considered an appropriate input.

### 3.4.1.2 Project Cost

The total amount of cooperation, including the dispatching costs for experts, etc., was 597.48 million yen. With regard to the amount and timing of disbursement, the MPM and CNVM commented that “there was almost no problem”<sup>16</sup>. Therefore, it is concluded that the amount of cooperation was appropriate<sup>17</sup>.

### 3.4.1.3 Period of Cooperation

There was no change in the period of cooperation, which was planned as five years, at the time of completion. When asked about the appropriateness of the period of cooperation, the MPM and CNVM answered that “there was no problem regarding the period of cooperation and the timing of the commencement/completion of the project”<sup>18</sup>. Therefore, it is concluded that there was no problem regarding the period of cooperation.

<sup>15</sup> Additionally, it was pointed out that the “poor communication ability of some of the Japanese experts somewhat indirectly impeded the establishment of a favorable cooperative relationship between the Japanese experts and the Moroccan counterparts”. (Source: Results of hearings to the MPM and CNVM)

<sup>16</sup> Source: Responses to the questionnaire to the MPM and CNVM

<sup>17</sup> The CNVM commented that “if additional budget had been appropriated to the local operation cost of the Japanese side and the local cost of the Moroccan side, it would have been possible to acquire more equipment and thereby carry out additional activities”. (Source: Results of hearings to the CNVM)

<sup>18</sup> Source: Responses to the questionnaire to the MPM and CNVM



The inputs are appropriate for producing outputs and achieving the project objective, therefore efficiency of the project is high.

### 3.5 Sustainability (Rating: b)

#### 3.5.1 Related Policy toward the Project

In September 2009, a development strategy for the fisheries sector for the target year of 2020 (the Halieutis Plan) was formulated. In this strategy, job creation for the poverty group in the fisheries sector, including artisanal fisherpersons, is listed among priority objectives, and therefore, the overall goal of the project is highly consistent. The Socio-economic Development Plan, known as the five-year national plan, has not been drawn up after the 2000–2004 version.

#### 3.5.2 Institutional and Operational Aspects of the Executing Agency

There is no significant change in the organizational structure, and the structure to maintain the present level and frequency of extension activities is secured. The table below shows the number of employees at the Larache National Fisheries Extension Center (CNVM) and at the eight Regional Fisheries Extension Centers (CRVM) located across the country.

Table-16: Number of Staff in CNVM and CRVM

Year	Number of Staff		Of which, who are involved in extension activities	
2006	CNVM: 4	CRVM: 24	CNVM: 3	CRVM: 24
2007	CNVM: 4	CRVM: 24	CNVM: 3	CRVM: 24
2008	CNVM: 4	CRVM: 24	CNVM: 3	CRVM: 24
2009	CNVM: 4	CRVM: 24	CNVM: 3	CRVM: 24

Source: Answers to the questionnaire to CNVM

Table-17: Number of V/Cs and Vs

Year	V/C in Total	Full-Time V/C	V/Cs in Total	Full-Time V/Cs
2006	8	8	53	16
2007	8	8	53	16
2008	8	8	53	16
2009	8	8	53	16

Source: Answers to the questionnaire to CNVM

Since the completion of the project, a certain amount of extension activities have been accumulated to date (see Table-18 for the number of extension activities carried out after the completion of the project to present). This fact proves that the implementation structure of the executing agency and the implementation cycle of extension activities are working without any problem.

However, according to the results of the beneficiary survey, the views of artisanal fisherpersons do not necessarily correspond with the record of activities shown in the table below. Only 28% of the respondent fisherpersons answered that “extension activities

are carried out on a regular basis at present”, whereas those who answered “extension activities are rarely carried out or carried out on a non-regular basis” accounted for 47% of all respondents<sup>19</sup>. There seems to be a gap between the extension activities that were actually carried out and the perception of artisanal fisherpersons on the beneficiary side. Among the various factors that may have created this perception gap, the following are considered the two main factors: i) problems unique to the sample sites selected for the beneficiary survey (there may be regional differences in the frequency of extension activities), and ii) a reflection of the further need of fisherpersons for extension activities.

Table-18: Records of Extension Activities (from 2006 up to now)

Year	Number of Extension Activities Conducted	Number of Target Sites	Number of Participants in Total
2006	224	63	20,082
2007	260	66	18,312
2008	209	66	11,500
2009	211	58	12,051

Source: Answers to the questionnaire to CNVM and MPM internal documents

Note): The number of extension activities is equal to that of mobile classes.

Table-19: Views of Artisanal Fisherpersons on the Frequency of Extension Activities (N=110)

Responses	No. of Respondents	%
Extension activities are regularly conducted.	31	28
Extension activities are irregularly conducted.	36	33
Extension activities are rarely conducted.	15	14
No answers / No opinions	28	25
Total	110	100

Source: Results of social impact assessment survey

Note): The number of extension activities is equal to that of mobile classes

Additionally, when it comes to the issue of the future development and reinforcement of extension activities, further strengthening of the organizational structure, mainly through the increase of employees, will be a little difficult because new recruitment is suspended due to the limitation of the number of employees allowed, etc. Therefore, measures to improve the quality of each worker and the efficiency of extension activities will be needed for the future.

### 3.5.3 Technical Aspects of the Executing Agency

The following facts have been confirmed, and there seems to be no problem regarding the technical level of the employees concerned that may affect the continuation of their activities.

- The training of the V/Cs and Vs was conducted on a continuous basis even after the

<sup>19</sup> Note that the frequency of monitoring activities by extension workers is shown in Table-7 (Views of Artisanal Fisherpersons on the Establishment of Feedback Mechanism). The responses of fisherpersons shown in Table-19 and Table-7 are indicating a similar tendency.

completion of the project<sup>20</sup>.

- The MPM says that “there is no problem” with the technical capacity of the V/Cs and Vs. Additionally, according to the beneficiary survey, the technical capacity of the V/Cs and Vs is highly evaluated by artisanal fisherpersons at present (for details, see Output 3 in the section on “Effectiveness”).
- With respect to the transmission of skills, in the interviews with the V/Cs and Vs, they said that “skills are transmitted by retiring workers mostly without problem”.

Table-20: Training Courses Provided for V/Cs and Vs after 2006 (New theme only)

Year	Training courses for V/Cs	Training courses for Vs
2006	2	2
2007	2	2
2008	5	5
2009	2	2

Source: Answers to the questionnaire to CNVM

### 3.5.4 Financial Aspects of the Executing Agency

The budget allocated to the CNVM after 2006 is shown below. The budget for extension activities, which was included in the budget of the ITPM up to 2005, is now appropriated exclusively to the CNVM (expended for transportation costs, maintenance costs, and fuel costs for mobile units, etc.), starting from 2006. The amount of budget has been increasing, as shown below.

Table-21: Budget Allocation to CNVM

(Unit: Moroccan Dirham)

Year	Budget Allocation
2006	100,000
2007	120,000
2008	140,000
2009	180,000

Source: Answers to the questionnaire to CNVM

However, the CNVM says that “Our budget request has not been approved in the full amount. An additional source of revenue is needed in reinforcing extension activities.” At present, nearly half of the V/Cs and Vs are not paid remuneration for extension activities, and such a situation restricts the expansion of the activities<sup>21</sup>. About half of the V/Cs and Vs also serve as teachers of the ITPM and are paid teacher salaries.

### 3.5.5 Continuity of Effectiveness / Impact

The scope of this project is to establish the institutional system of training V/Cs and Vs at nine premises including the national and regional extension centers. As already explained in Section 3.5.2, the structure to maintain the present level and frequency of

<sup>20</sup> Specifically, training on new themes is provided on a regular basis. See Table-16 for details. Study tours, etc., are also conducted as part of training. (Source: Results of hearings to the CNVM)

<sup>21</sup> Gradual reduction of motivation for continuing extension activities, for example.

extension activities is mostly secured. The capacity of each extension workers, which is the key element for securing the sustainability of extension system as a whole, was highly evaluated by the beneficiaries as shown in Table-3. It seems that these facts demonstrate that CNVM, a central control hub of the extension system, is functioning smoothly at this moment.

Considering that a certain number of extension activities are confirmed to have been carried out (although there are some issues regarding the recruitment of personnel to replace workers reaching retirement age and additional training for newcomers), there seems to be almost no problem in ensuring sustainability in organizational and technical aspects. Regarding financial aspects, further budgetary measures are necessary, and therefore, little concern remains over sustainability.

Regarding the provided equipment, a shortage of spare parts is pointed out for some equipment. Additionally, some of the ice-making machines provided under the technical localization project (the “Mini Project”), which was implemented as part of this project, are not in use because of the shortage of an ice-making capacity<sup>22</sup>.

With respect to the three recommendations made in the termination evaluation: i) “it would be effective to properly recognize the important role played by the Vs and give incentive for their activities (e.g., awarding good performance)”, ii) “it is important to promote extension activities taking into consideration the needs of women in fishing villages”, and iii) “resource management activities covering coastal and offshore fisheries are needed”, additional long-term experts from JICA are being dispatched for the development of resource management activities, and extension programs are expected to be carried out in combination with resource management activities. For the recommendations of i) and ii) of the above, specific measures were not taken.

Some problems have been observed in the financial aspects of the executing agency, and the continuity of the project effects is fair.

## **4. Conclusion, Lessons Learned and Recommendations**

### **4.1 Conclusion**

The contents of the project are highly consistent with the national policy, and the project objective has been achieved, as of the completion of the project in 2006. Although there was little difficulty during the implementation process of the project and some concern remains over financial sustainability, no specific problem has been found regarding the operation and maintenance system. In addition, a lot of positive impacts have been produced, including some regarding the overall goal.

In light of the above, this project is evaluated to be highly satisfactory.

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<sup>22</sup> Larger ice-making machines have additionally been procured at some cooperatives.

## **4.2 Recommendations**

### 4.2.1 Recommendations to the Executing Agency

#### Recommendation-1

As already mentioned, the recruitment of new V/Cs and Vs was suspended as of July 2010 as an indirect consequence of the limitation of the number of employees. Financial support for these workers involved in extension activities is also limited. Given these restrictions of various resources, it would be a realistic strategy to carry out extension activities by utilizing the existing resources more efficiently and effectively rather than inputting new resources on a large scale. To be specific, it would be effective to re-examine the extension target sites covered by each of the eight Regional Extension Centers and reduce the number of sites, if appropriate<sup>23</sup>. Additionally, it is advisable to consider ways to utilize the equipment provided under the “Mini Project” technical localization project more effectively.

#### Recommendation-2

In this project, nearly half of the V/Cs and Vs are not paid remuneration (such as a per-diem allowance) for extension activities at present, and such a situation restricts the expansion of the activities. It is advisable to pay allowance to each worker in order to maintain their motivation.

#### Recommendation-3

According to the results of the social impact assessment survey, no significant change is observed in household income before and after the implementation of the project, and many fisherpersons point out “sluggish fishing activities due to the rise of fuel costs” as one of the reasons for this.

Regarding the fuel necessary for the operation of outboard motors, as mentioned above, the MPM, ONP, and Moroccan customs agreed on a tax exemption. As was pointed out in the interview with beneficiaries saying that “if tax exemption on fuel was applied, our income would increase by 40%”, the effect of tax exemption on the livelihood of artisanal fisherpersons would be tremendous. However, in a fishing village covered by the PDA project, fisherpersons still cannot enjoy the benefit of tax exemption because of the delay in the arrival of the assigned customs officer. Also pointed out is that “the tax exemption application process is too complicated.”

In light of the above, the MPM should immediately: i) provide concrete assistance services in expediting the tax exemption application process (e.g., preparing the application form on behalf of fisherpersons) and ii) hold dialogue with customs with a view to facilitating the introduction of tax exemption.

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<sup>23</sup> It is possible to efficiently utilize the limited resources for the smaller number of target sites, due to the reduction of the number of sites to be visited.

### **4.3 Lessons Learned**

#### **(1) Quality of the base line survey (Better understanding of beneficiaries' needs)**

The high quality of the baseline survey of the project (the accuracy in understanding the needs of the beneficiaries) greatly contributed to the selection of extension themes that are highly needed by fisherpersons. While there is the opinion that “too much time was spent before the start of the extension activities”, conducting an intensive baseline survey turned out to be one of the factors that led to the success of this project, although a “preparation period” including the baseline survey took rather a long time.

When formulating and implementing similar projects containing extension activities in the future, it is advisable to take enough time for the baseline survey to grasp the needs of the beneficiaries. In addition, it is advisable to evaluate the accuracy of the baseline survey in the mid-term evaluation without exception and, if any problem is found, recommend that additional survey be conducted.

#### **(2) Issues on gender**

As was pointed out in the termination evaluation report, the preliminary survey on the activities of female artisanal fisherpersons (including the baseline survey) conducted in the early stage of the project was not enough, and as a result, it was extremely difficult to carry out activities targeting women.

Therefore, when implementing similar projects in Muslim regions, in particular, it is essential to precisely understand the cultural and social background of the recipient country.