

Mid-Term Project Review Report

Development cooperation between the Government of the Republic of
Indonesia and the Government of the Kingdom of Norway regarding

“Capacity Building in Fisheries and Aquaculture”

(INS-2094)

Final Report

Oslo, 07 November 2011

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Abbreviations and acronyms

ACIAR	Australian Centre for International Agricultural Research
AMFRD	Agency for Marine and Fisheries Research and Development
BPS	National Statistics Agency
Bupati	Regent (head of a district)
BPKP	Badan Pengawasan Keuangan dan Pembangunan
CAICI	Centre of Analysis for International Cooperation and Institutions (see PUSKITA)
CDCF	Centre for Development Cooperation in Fisheries of Norway
CTI	Coral Triangle Initiative
DGA	Directorate General of Aquaculture (see DJPB)
DIPA	Daftar Isian Pelaksanaan Anggaran (approved national budget government project)
DJPB	Direktorat Jenderal Perikanan Budidaya
DOF	Directorate of Fisheries (Norwegian institution)
EA	Executing Agency
FAO	Food and Agriculture Organization of the United Nations
FY	Fiscal Year (TA: Tahun Anggaran)
GOI	Government of Indonesia
IA	Implementing Agency
ICA	Institutional Cooperation Arrangement
ICSF	International Collective in Support of Fish Workers
IDR	Indonesian Rupiah
IGA	Indonesian Government Auditor (see BPKP)
IMR	Institute of Marine Research (Norway)
KEPPRES	Presidential Decree (Keputusan Presiden)
KKP	Kementerian Kelautan dan Perikanan
LIPI	Lembaga Ilmu Pengetahuan Indonesia (Indonesian Institute of Sciences)
LOI	Letter of Intent
LSSS	Large Scale Survey Systems
MEY	Maximum Economic Yield
MFA	Ministry of Foreign Affairs
MMAF	Ministry of Marine Affairs and Fisheries (see KKP)
MPS	Mini Purse Seiners
MSY	Maximum Sustainable Yield
NAG	Norwegian Auditor General
NOK	Norwegian Kroner
PD	Project Document
PPP	Private/Public Partnership
PUSKITA	Pusat Analisis Kerja Sama Internasional & Antarlembaga
RCFMC	Research Center for Fisheries Management and Conservation
SC	Steering Committee
ToR	Terms of Reference
USAID	United States Agency for International Development

Executive summary

The present project was initiated in 2006 following a meeting between the Indonesian Minister of Marine Affairs and Fisheries and the Norwegian Minister of Foreign Affairs. It builds on a long history of cooperation between the two countries that dates all the way back to 1980, when the research vessel “Dr. Fridtjof Nansen” carried out a fisheries survey along the coast of Sumatra.

The project identifies two areas of priority for Indonesia in its efforts to increase the sustainable production of food for its population: a) improved fisheries management and rebuilding of fish stocks for capture fisheries through the application of scientific methods of stock assessment as a basis for fisheries management decisions; and b) the development of modern, off-shore marine aquaculture.

The project focuses on capacity building and technology transfer in these two areas, and the original Project Document had very ambitious goals in this regard. It was realized when starting the planning of the project that ambitions were too big in relation to the resources and time available, and consequently these ambitions and the project’s planned activities were scaled down substantially during the Inception Workshop in February 2010. However, in so doing, some important activities – especially in the fisheries management component – were postponed. This was regrettable, but a proposed new project will be able to rectify this shortcoming.

Fisheries management activities that were reduced included competence building in stock assessment techniques and linkages to fisheries management. This linkage should be a focus in the new project that may be proposed.

Some delays in implementing activities did occur, such as the participation of two Indonesian researchers on a cruise with R/V “Dr. Fridtjof Nansen”, but factors outside the control of the project management were the main cause of this.

Building on previous experiences, the fisheries sub-project was able to improve the capacity of Indonesian scientists to plan, implement and analyse trawl and acoustic surveys to assess the status of fish stocks. This information forms the basis for future fisheries management interventions and has put in place important building blocks for future cooperation between the two countries.

In the aquaculture sub-project, the very ambitious objectives included in the original Project Document, such as the building of a national reference laboratory, were quite rightly reduced in the revised work plan, giving the project an opportunity to focus on hatchery production and improvements in this, and capacity building for Indonesian counterpart personnel. This change was suggested by the MMAF.

Development of fry production at the Lombok Station has shown progress and represents an improvement of earlier practices. The capacity building in the use of floating cages needs further development. The cages originally used were purchased from Singapore. However, during a storm they were all destroyed, and the project did not have the funds to purchase new cages.

A major element necessary for further development of the Indonesian marine aquaculture sector would be the development of a proper regulatory framework for the industry. It is therefore recommended that this be included as an important component of a new cooperation project.

The education component of the project – sending Indonesian students for Master studies in Norway – suffered delays for a number of reasons, but is now under way. The programme was delayed because of the fact that the universities changed their application deadlines, - and to some extent also the required qualifications. One student (fisheries) was recruited and started his studies in Bergen in August 2011 and will finish in June 2013. The candidate selected for aquaculture studies was not accepted by the University of Bergen, and no alternative candidate was proposed by MMAF. However, the original candidate was accepted at the University of Ghent, and received financial support from Belgium. He has now applied for a six-month internship in Norway. The project must now decide whether to postpone this part of the project by one year and select a new candidate¹, or to use the money available to fund the candidate presently in Ghent for his internship in Norway.

While the technical components of the project must be regarded as successful, the financial reporting as published through the Annual Reports is regarded as inadequate, both from the point of view of accountability and especially from the point of view of project management. Further investigations at IMR in Bergen after the visit to Jakarta revealed that financial reporting by IMR was up to date and acceptable. However, much of the detail in IMR's financial report was lost in the Annual Report, and some of the information given in the Annual report was reported incorrectly.

Activities reports were found to be detailed and informative, and indicated that most planned activities (as specified in the revised Work Plan dated February 2010) have been completed, with the exception of those specified above. The Work Plan for 2011 will be reported at the next Annual Meeting in 2012.

It may also be necessary to review the project management organization and the institutional setup for project management in future projects. It appears that communications between the professional level personnel is to some extent hindered by having to go through higher level officers. A new organizational structure is, therefore, proposed.

The original Project Document (from 2006) included little provision for gender or community related issues. This must be regarded as a flaw in the project design. However, both the Norwegian and the Indonesian partners are aware of this shortcoming, and are both committed to include such components in a new project.

The Review Team has found that the overall results of the project have been promising, and this work should be built on over a period of time. Norway can contribute significantly to the development of fisheries and aquaculture in Indonesia through continued capacity building.

The Directors General responsible for fisheries and aquaculture have both submitted suggestions for a new project and areas to concentrate on. According to statements made to the Review Team, MMAF has identified personnel to be included in these projects, and they have taken steps to allocate funds for their support. While the Review Team finds the suggestions somewhat ambitious, they will be important guidelines when planning a new project.

¹ NB: the deadline for applications is 1st of December, and at the time of the review, no alternative candidate had been proposed.

It is felt by the Review Team that a new project should have a longer time perspective with a project time frame of at least five years. Experience has shown that projects of a longer duration have a greater probability of lasting success.

The Review Team points out that the main focus of a new project should be on linking science and management decisions in the case of a new fisheries management sub-project and on mass production of fry production and a demonstration/training facility for off-shore cage culture in the case of the aquaculture sub-project.

With regard to gender and community issues, these should either be built into the new project design, or separated out in a separate project focusing on gender issues and community impacts of fisheries and aquaculture in Indonesia (see Appendix F for discussion on whether to have an integrated project or a separate project).

Regarding the financing of a new and larger project, it has been suggested that the possibility of using the so-called Rain Forest Fund should be explored. The Review Team has no information indicating whether or not this would be possible, but it is recommended that the possibility be explored.

The Review Team proposes that time and any funds still available should be used to develop a new project document as soon as possible and preferably so that new plans can be discussed at the next Annual Meeting in the beginning of 2012.

In implementing the recommendations of the Review Team, the following steps are envisaged:

Step 1: Develop scope and sources of funding in the next annual meeting (February 2012);

Step 2: Develop a proper Logical Framework and project document taking into consideration gender analysis as well as other aspects pointed out by the Review Team (detailed planning of the project components);

Step 3: Appraisal of project document;

Step 4: Approval for funding;

Step 5: Agreement between the Governments of Indonesia and Norway;

Step 6: Implementation, monitoring and evaluation.

1. Background

On 23 January 2006 a letter of intent between Indonesia and Norway was signed by the respective Ministers of Foreign Affairs aimed to “pursue opportunities for cooperation on marine and fisheries management with the aim to promoting sustainable and equitable use and conservation of the marine resources”. The Norwegian Ministry of Foreign Affairs allocated NOK 6 million for the planning and implementation of a project. On the basis of the outcomes and recommendations of a joint planning exercise between the Ministry of Marine Affairs and Fisheries (MMAF) and a Norwegian team in 2006, an agreement between the two countries on “Development cooperation concerning capacity building in fisheries and aquaculture” was signed on 27 April 2009. This bilateral agreement served as a basis for a contract on Institutional Cooperation between the Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia and the Institute of Marine Research (IMR), Norway, which was signed on 15 December 2009.

The Project was launched at an Inception Workshop in Jakarta in February 2010, at which time major changes to the Work Plan were agreed upon and formed the basis for the project. The technical components of the Project were planned to be completed at the end of 2011 with a further two years for the education component.

2. Review team and work schedule

The Review Team consisted of three persons:

Mr. Erik Hempel (Norwegian citizen) – Team Leader and Aquaculture specialist

Dr. Derek Staples (Australian citizen) – Fisheries specialist

Dr. Kyoko Kusakabe (Japanese citizen) – Community and Gender Issues specialist

The work was performed in four stages:

Stage	Tasks	Place	Dates
1.	Literature and documentation review	Home base	20/09 – 01/10/2011
2.	Field visit to Jakarta	Jakarta	29/09 – 13/10/2011
3.	Visit to IMR to clarify accounts and other matters	Bergen	01/11 – 02/11/2011
4.	Report finalization	Home base	15/10 – 07/11/2011

3. Purpose

The main purpose of the Mid-Term Review is to:

- Assess the progress and achievements on the implementation of the project according to the objectives and expected results as they appear in the agreement, the Project Document and other documents related to project scope and design amendments;
- Ascertain measures for improved project management and increased accountability;
- Facilitate learning by counterpart staff from the gained experiences;
- Consider relevant amendments to the present phase to ensure better achievements of goal and purpose of the Project;

- Identify specific areas/issues that could be relevant for future support in order to ensure long-term sustainability and to achieve the required impacts of the project on management of Indonesia's marine resources.

4. General observations

4.1. Project development and design

This is an unusual project in terms of development, design and preparation of work plans. Apparently, the project was first proposed and designed following the signing of the Letter of Intent in 2006, then put on the shelf for some time, and then finally became reality as a direct result of contacts at the highest political level. This has had consequences for the development and management of the project.

The original project design appears to have been overly optimistic and too ambitious and this is the main reason why the whole project was scaled down in February 2010, as reflected in the Work Plan for 2010 approved by the Inception Workshop. In the view of the Review Team, this downscaling was necessary in order to create a workable project with achievable objectives in relation to resources available, but better justification should have been provided in the minutes of the Inception Workshop.

Apparently, no appraisal of the Project Document was ever performed by Norad, and this is seen as a flaw in project preparations. An appraisal of the Project Document, performed by an experienced project manager, could have been done quickly. This does not normally require field visits and is an inexpensive way to secure quality control of the project design and plan.

The original Project Document specified three major project components:

1. Aquaculture development;
2. Fisheries Management, including stock assessment; and
3. Education (Master studies in Norway for both aquaculture and fisheries).

4.2. Project management

Although project management is the responsibility of MMAF (ref. Agreement between Indonesia and Norway dated 27 April 2009), it appears that no *one* person or agency has, in reality, had this responsibility in the Project. No Terms of Reference for the Project Management (Manager) exists.

This lack of clarity of responsibilities does not help to secure efficient management of the project. A better solution would have been to have one Project Manager responsible for the entire project, in terms of implementation of activities, reporting of outputs and outcomes, as well as in terms of accounting.

While it is too late to make any changes in the management structure of the present project, it is suggested that a future project be given a more rational and effective management structure with better reporting procedures.

The Review Team suggests that two sub-project managers be appointed, one for aquaculture and one for fisheries. These managers should be placed at the correct level and they should be

professionals within their field with experience in project management, including financial and project activities reporting. These two managers should have the day-to-day responsibilities for the project and should report to a Project Director (the Director of the Centre for International Marine and Fisheries Cooperation), who is in charge of coordination of all foreign funded projects.

The Norwegian Embassy in Jakarta should have an overview function, but should not make any decisions regarding professional matters without consulting the implementing partners (MMAF and IMR/CDCF).

4.3. Budgeting and accounting

The only financial reports and accounting information available to the Review Team at the time of the field visit were the *“Agreed minutes of meeting between the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia and the Center for Development Cooperation in Fisheries of the Institute of Marine Research of the Kingdom of Norway on Indonesia – Norway Development Cooperation on Capacity Building in Fisheries and Aquaculture, Bali 16-17 February 2011”* and a revised Work Plan for the aquaculture sub-project provided in March 2011. These were in general lacking in detail and at times confusing. In cases of deviations from budget, no explanations were given. This should be rectified in the next Annual Report.

However, after returning to Norway, the Team Leader visited IMR/CDCF and examined the detailed accounts for the funds spent by the Norwegian implementing partner. In addition, the Team Leader was given a presentation of the cost control system in place, and found this as well as the detailed accounts in full order, again demonstrating the communication problems that exist in project management.

4.3.1. Accounting

The accounts reported in the Annual Report should be more detailed and with explanatory notes/comments. It is understood that IMR and MMAF have slightly different accounting setups and procedures, and rather than trying to combine these accounts into one reporting format (table) it would improve the overall clarity if both accounts were presented separately, and a summary table giving information for each activity be provided.

Because the financial statements in the Annual Report were available only for 2010, and bank statements were not available at all to the Review Team, the actual financial situation of the project at the time of the review is uncertain. According to the Agreement between Indonesia and Norway this should have been reported by MMAF and The Ministry of Foreign Affairs in Norway. The Review Team Leader has examined the accounts from the Norwegian implementing partner (IMR), but no such information was given by the Indonesian implementing partner.

4.3.2. Auditing

According to the Agreement between Indonesia and Norway dated 27 April 2009, the annual financial statements of the programme shall be audited by the Indonesian Government Auditor. This audit shall not cover the funds that are transferred to the Norwegian implementing partners, as these funds are subject to audit by the Norwegian Auditor General.

It is further stated in the agreement that an audit report shall be submitted by MMAF to MFA by April each year. No such audit report was presented to the Review Team, and it is assumed that no such audit has been performed at the time of the review.

With regard to the funds transferred to the Norwegian implementing partner, it was found that the Norwegian Auditor General does audit the IMR accounts, but it does not audit every single project operated by IMR. Thus the Project was so far not audited specifically by the Norwegian Auditor General.

4.3.3. Disbursements

According to the Agreement, and in line with normal Norwegian practice for such projects, an initial disbursement was made at the start of the project. Subsequent disbursements are then made every six months, following the presentation of acceptable accounts and financial statements for the previous six months and an agreed budget of expenditures for the following six months. This procedure has apparently been followed in this project, although the Review Team did not receive copies of the six-monthly accounts or budgets.

The following disbursements have been made:

Table 1: Disbursements made by the Norwegian Embassy

No	Year	Recipient	Amount (NOK)	Date	Accum. Amount	Rest
1	2010	MMAF	1,000,000	05/02/2010	1,000,000	4,170,576
2	2010	IMR	1,008,201	08/12/2010	2,008,201	3,162,375
3	2011	MMAF	1,355,844	23/09/2011	3,364,045	1,806,531
4	2011	MMAF	1,156,531	30/09/2011		
5	2011	MMAF	650,000	30/09/2011		
		SUM	5,170,576			

Source: Printout provided by the Embassy.

The last two disbursements, scheduled for September 2011, had not yet been made at the time of the Review Team’s visit. According to information given by the Embassy and confirmed by IMR/CDCF, invoices for 2011 had not yet been submitted, but would be done in November 2011.

The Review Team is not the first or only institution to point out these weaknesses in reporting. In a “Mandate for Annual Meeting Indonesia – Norway: Development Cooperation on Capacity Building in Fisheries and Aquaculture (INS-2094)”, signed by the Norwegian Ambassador on the 16th of February 2011, the same weaknesses were pointed out. However, IMR/CDCF claims not to have received this Mandate and was therefore not aware of its contents.

The Mandate requests:

- A more detailed activity plan and budget update (overview of expenditure) and a personnel schedule plan;
- Unspent funds (if any) may be reallocated to other priorities and should be subject to approval;
- The Work Plan should include numbering of activities that correspond to the numbering of associated budget lines;
- The budget for 2011 – 2012 is exceeding the remaining available allocation for the project.

The budget and work plan were approved on the condition that these improvements were implemented. We cannot see that these improvements have been implemented.

In spite of these shortcomings, the Review Team has no reason to believe that funds have been used inappropriately in this project.

5. Assessment of the project – fisheries component

Norwegian and Indonesian fisheries scientists have had a long history of cooperation in fisheries, starting with the Norwegian research vessel “Dr Fridtjof Nansen” survey off Sumatra in 1980. In 1995, the Indonesian Institute of Sciences (LIPI) contracted the construction of the research vessel “Baruna Jaya VIII” in Bergen, Norway, which was followed by a training programme, funded by Norway from 1998 to 2002. Following the tsunami in December 2004, another project aimed at assessing the impact of the tsunami on the resources was commissioned. The observations and results were reviewed at a workshop in December 2006 and an external review (carried out by Dr. Staples in collaboration with FAO) concluded that, although there were several areas for improvement, especially in communicating the results to the end users, it provided a firm basis on which to build further collaboration. In 2006, the two parties agreed to pursue opportunities for cooperation on marine and fisheries management with the aim of promoting sustainable and equitable use and conservation of the marine resources.

The fisheries component of the present project was originally designed on the basis of long term objectives and strategies determined by the Government of Indonesia with a view to facilitate the development of the fisheries sector by capacity transfer of special competences available in Norway. These competencies included (i) undertaking fisheries assessments using trawl surveys and acoustic techniques and (ii) utilizing the scientific results for fisheries management. The original project document included activities that covered both of these competencies and was aimed at *capacity building activities in fisheries management* and was budgeted for NOK 1,506,000 for the fisheries component. However, the Inception Workshop in February 2010 changed the focus of the project to cover only the first of the two competencies listed above with a budget of NOK 1,290,000.

For a detailed review of the individual activities, please see Appendix C.

5.1. Quality of project design

Due to budgetary restrictions, funds were not available to implement the original 2006 plan, and a choice had to be made. It was therefore decided that the focus at that point in time (February 2010) should be on capacity building in resource monitoring (including stock assessment), and then capacity building in linking this information to fisheries management decisions could be implemented at a later stage. The Agreed Minutes of the Inception Workshop, however, did not give reasons for the choice of activities chosen, but the logic appears sound.

The objective remained – “*Assistance provided to facilitate a number of specific capacity building activities in fisheries management and aquaculture successfully implemented within the indicated time frame and within budget*”. A number of important milestones in reaching this objective were changed.

In the original project document the milestones were:

1. Training course for stock assessment successfully implemented
2. The planned survey in the Bali Strait completed.
3. An indicative system of catch recording in the area developed and tested
4. The predictive fishing model validated
5. A workshop with stakeholders implemented
6. A final summing-up seminar implemented

However, in the inception meeting these were reduced to:

1. Training course for bio-acoustics successfully implemented;
2. The planned survey in the Bali Strait completed;
3. An indicative system of catch recording in the area developed and tested;
4. A final summing-up seminar/annual meeting implemented.

The main difference between the project as it was originally planned and what finally eventuated is the lack of any activities that would have linked the science with policy, decision making and fisheries management were postponed (assuming that there is a subsequent project). The original Project Document included development of fisheries models, a stakeholder meeting and a workshop on fisheries management, all critical activities to integrate the science with fisheries management and should be picked up in subsequent work. If these activities had to be dropped, then the objectives of the project should have been changed. Different stakeholders have different interpretation of what the project was supposed to deliver. For IMR, it appears that the new objective of the project was competence building for conducting surveys, not stock assessment using the results. Therefore, the assessment of the Bali sardine stock was not the objective, but rather it was the process of making such an assessment.

It is the opinion of the Review Team that the original project, as specified in the Project Document, was more useful in terms of meeting the need for improved fisheries management in Indonesia, and some of the original components should have been retained and savings made elsewhere (e.g. including analysis of the survey results to assess the state of Bali sardines and not funding two students to participate on another R/V "Fridtjof Nansen" cruise). One of the critical gaps in Indonesia (and indeed in many countries of Southeast Asia) is the communication of science into policy, fisheries management and decision making. This appeared to be appreciated in the earlier versions of the project, but was subsequently delayed to a possible later stage (new project).

The project design could also have benefited from a review of the literature and other research on Bali sardines. This species has been the focus of research and fisheries management planning over the last 20 years. Notable highlights have been monitoring of landings and stock assessments assisted by the Netherlands in the 1990s, a major workshop funded by Norway/FAO Profish project in 1999 that produced a draft fisheries management plan, and more recently fish landing monitoring, fishery assessments and development of innovative policy and management for several fisheries, including Bali sardines funded by ACIAR (Australia). The work started under the Coral Triangle Initiative (CTI) funded by USAID is also relevant.

Recommendation

That any subsequent proposals be based on a more rigorous logframe approach and also include objectives that assist in the translation and implementation of scientific results into decision making and fisheries management, based on a thorough review of previous and on-going work.

5.2. Project impacts

Through on-going interaction with IMR scientists, there is no doubt that the competence to carry out acoustic surveys has improved in the MMAF Research Center for Fisheries Management and Conservation (RCFMC). However, converting those data into meaningful information does not seem to have progressed at a similar rate, although some training in data analyses was provided to two students in Norway. The one Bali Strait survey has produced some interesting results that link changes in the distribution and abundance of sardines with climate changes (La Nina – El Nino oscillations). This may be useful in any analysis of the effects of fishing versus the effects of the environment on fish stocks, but without the former, there is little impact in terms of practical fisheries management.

In the case of acoustic training, high participation in this programme from other countries made it impossible to get a place for the “students” from Indonesia in February 2010 as planned, but after discussing various solutions it was agreed that two students from Indonesia should participate in training at Simrad in Tønsberg in August - September 2010. The acoustic training was reported to be very comprehensive and useful for the two “students” that participated and they were able to bring back their experience and new knowledge to apply to the Bali sardine survey. However, most of the activities that involved improving the human capacity only benefited a small number of “students” and it is difficult to assess the project’s impact at a higher institutional level. The training of two students on R/V “Dr. Fridtjof Nansen” in August 2010 was delayed because of various problems and will probably take place in 2011 – 2012. This postponement will not have any negative effects on the completion of the project.

5.3. Success likelihood

A lack of clear objectives and indicators makes assessment of success difficult. If the objective was to improve the collection and analyses of scientific data, then it could be assessed as successful. However, if the objective was to provide a basis for better fisheries management, it has not met this objective at the time of this review. However, noting that the work plan for 2011 includes the production of a report on the 2011 Bali Strait survey and subsequent expert evaluation of the report as well as fishery modelling and expert evaluation of the fishery model, this could be overcome to some extent, if completed this year.

The Annual Meeting is a very important activity in the project, as the minutes of the meeting and the Annual Report are the only documented source of project achievements. Without this, monitoring and evaluation (M&E) would not be possible. As recommended earlier, a better logframe and measurable indicators would also assist in M&E. Having generic milestones, for example - “Planned survey in the Bali Strait completed” - are not very useful in assessing the project, including the efficiency of implementation.

5.4. Implementation efficiency

Those activities that have already been implemented seem to have been effective in the narrow sense. Most importantly, they have built good working relationships and have resulted in increased trust, mutual respect and confidence. This is a major achievement brought about by dedication and commitment on both sides.

At the time of this review, several activities have not yet been started and the project is due to finish in three months. These include participation of Indonesian scientists on a R/V “Dr. Fridtjof Nansen” cruise (considerable effort has been spent to make this happen and visa are now being arranged for this to be completed in 2011), the second research cruise in the Bali Straits and fisheries modelling as part of activity 2.4 “Conducting registration of catch landings and fishery modelling”. The Work Plan for 2011 also includes an expert review of the 2011 Bali Strait survey report, and an expert evaluation of the fishery model, but because of delays in the project implementation, these have not yet been carried out.

Project management is a concern and singled out as a separate topic in this review. In the fisheries component, the financial statement as presented in the Annual Report is difficult to understand (see table below for the Indonesian contribution); it is not clear what the column “Balance at year end 2011” refers to and how it was calculated. Further, the financial statement for Norway has not been completed in the agreed minutes of the February 2011 meeting. It would appear that the budget was underspent for 2010 with only 50% of the allocated Indonesian budget for that year being spent. About 17% (NOK 100,000) of this underspent amount is due to the re-scheduling of the “Dr. Fridtjof Nansen” cruise as costs were lower than anticipated.

Table 2: Financial Statement for 2010; Fisheries – Indonesian responsibility

		Total budget (2010-2013)		Budget 2010	Actual 2010	Difference	Budget 2011	Balance at year end 2011
		Nor + Ind	Ind					
1	Competency building acoustics	100,000	100,000	100,000	42,922	57,078	-	57,078*
2	Participation on F/F Nansen	100,000	100,000	100,000	-	100,000	100,000	100,000
3	Survey Bali Strait	800,000	600,000	300,000	178,067	121,933	420,000	1,933
4	Catch landings and modelling	240,000	140,000	80,774	65,222	15,552	132,000	[57,222]
	Grand total	1,290,000	940,000	580,774	286,211	294,564	652,000	101,789

Note: [] denotes minus balance

*) Since this activity is completed, 57,078 are available for other purposes.

Source: Agreed minutes of meeting, Bali 16-17 February 2011

Table 3: Financial statement for 2010: Fisheries – Norwegian responsibility

		Total budget (2010-2013)		Budget 2010	Actual 2010	Difference	Budget 2011	Balance at year end 2011
		Nor + Ind	Nor					
1	Competency building acoustics	610,660	360,660	170,124	164,320	5,804	196,340	-
2	Participation on R/V Dr. Fridtjof Nansen	100,000						
3	Survey Bali Strait	800,000	200,000	-			200,000	-
4	Catch landings and modelling	240,000	100,000				100,000	-
	Grand total	1,290,000	350,000	50,000	50,000		300,000	-

Source: Agreed minutes of meeting, Bali 16-17 February 2011

Recommendation

That the outstanding activities be completed in 2011 and reported through the Annual Meeting planned for 2012. A more complete and up-to-date financial reporting by both implementing partners should be achieved.

5.5. Sustainability of the project

The long-term association of IMR scientists with scientists from MMAF/RCFMC has resulted in increased capacity to carry out acoustic surveys, and provided the Indonesian Government continues its financial support to these surveys and research vessels, these skills and competency will continue to be put to good use.

However, the future of the recording of catch landings in the Bali Straits is less certain. It is currently supported by both NORAD and ACIAR, but unlikely to continue after these projects finish. To improve the sustainability of this activity, it should be more closely linked to the ongoing monitoring carried out under the national system for the collection of fisheries data in Indonesia, which was established in the mid 1970s. Catch data are collected by DKP enumerators through a system of sampling from landing site markets (TPI) or fishery ports (PPP / PPI) and could be cross-checked with the data being recorded under this project. The national data has the potential to provide a long time series needed for fisheries modelling and assessment.

5.6. Spin-offs and non-anticipated effects

The most obvious positive spin-off is the increased knowledge being gained by MMAF officials about fisheries management in other parts of the world, especially in Norway. Although the model used to manage fisheries in Norway (intensive surveys, stock assessments, and the setting of Total Allowable Catches (TACs) and quotas) may not be relevant to the multi-species/multi-gear small scale fisheries in Indonesia, the overall concepts such as ensuring the fishing capacity is commensurate with productivity of the fish stock are very relevant.

On the negative side, the fact that the project encouraged scientists to continue to collect data and information, without linking it to fisheries management is a shortcoming. MMAF/RCFMC holds a regular meeting with fishermen in the Bali Straits to report their findings, but there are few mechanisms whereby scientific advice can be linked with fisheries management and implemented.

This aspect should be included in a new project.

5.7. Potential required amendments

At this stage of the project (only 3 months left), it is not relevant to suggest any amendments other than encourage the completion of all of the activities planned, in particular the "Dr. Fridtjof Nansen" cruise, the Bali Strait survey, fishery modelling and expert evaluation of the model.

6. Aquaculture sub-project

Indonesia has a great potential in marine aquaculture. However, most (more than 90%) of the country's aquaculture activities are focused on small-scale operations, and the potential to increase this production rapidly is considered limited. Therefore, Indonesian authorities have expressed a

desire to develop modern, off-shore aquaculture of finfish. This is an area where Norway is very advanced, and it was therefore natural for Indonesia to request assistance from Norway in this field.

The overall objective of the aquaculture sub-project is to *provide assistance in providing training and expertise to undertake analysis of challenges and strategic options and thereby increase development and governance of Indonesian aquaculture.*

In the original Project Document, two areas of priority were identified:

1. Marine aquaculture development, with a focus on juvenile production; and
2. Development of a National Health Programme and Reference Laboratory.

However, in the Inception meeting in February 2010, the objectives and scope of the aquaculture project were scaled down. The Work Plan agreed upon during the Inception Meeting thus included the following activities:

1. Development of fry production, Lombok Station;
2. Competence building in aquaculture and governance;
3. The organization of an aquaculture seminar.

The total budget for these activities amounted to NOK 2,966,390.

6.1. Quality of project design

The original Project Document was quite ambitious, and included impressive tasks in the National Health Programme, such as development of a national Fish Health Reference Laboratory and assistance to control Koi Herpes Virus diseases. Clearly, these ambitions had to be scaled down, and this was done in the Inception Workshop in February 2010. These changes were necessary and they were made in spite of the fact that no formal appraisal of the original Project Document was ever done.

6.2. Project impacts

With the reduced – and more realistic – objectives, the aquaculture sub-project was designed to achieve these new objectives within the time frame and budgets given:

- Diagnose the Lombok facilities and operations regarding production of humpback grouper;
- Analyze problems connected to broodstock, maturation and egg quality;
- Analyze challenges in fry production including understanding of causes of deformities;
- Analyze challenges related to replacement of trash fish with formulated feed;
- Analyze challenges related to improvement of growth in grow-out, especially the feed component.

The new project design of 2010 must be regarded as good and practical, realistic and with a high probability of success, although it falls short of the intentions of the original Project Document.

For a detailed review of the individual objectives, please see Appendix D. It is quite clear from the various reports and the Review Team's discussions with various affected personnel that the level of competence among the Indonesian researchers and personnel has been significantly improved.

Major improvements in the operations of the Lombok Station hatchery have been achieved, a number of challenges have been identified, and the Norwegian experts and the Indonesian personnel are together working to solve the various problems.

Work on grow-out farms, on the other hand, appears to have been limited. The cage system originally installed was purchased from Singapore, consisting of square floating cages. However, during a storm all the cages were destroyed, and the Project did not have funds to replace them. However, locally made cages are now in use, and feeding trials are being done. The grow-out operation with pompano seems promising, while there are growth rate problems with humpback grouper. Although humpback grouper is apparently an attractive species from a market point of view, there are still a number of problems in production, such as growth rate, FCR and deformities.

The training component in aquaculture consisted of several activities, and the original idea was to build competence in aquaculture governance. This has been done through a number of activities, including analysis of the situation and needs, as well as workshops for senior officials.

The major aquaculture activity planned was a seminar for Indonesian experts in Bergen in September 2010. The seminar was attended by high level officials. The seminar gave the participants insight into a number of challenges as well as opportunities, such as the requirements of doing grow-out in offshore locations, the fact that Indonesia has numerous locations that would be suitable for such grow-out operations, provided the adequate technology and operational procedures are followed, the need for a proper regulatory framework, the importance of fish health and environmental monitoring and the need for long-term development and cooperation.

There has been important progress on the Indonesian counterpart's understanding and appreciation of proper (health and hygiene) production procedures. This work needs to be intensified in a new project. It would be very important that the Indonesian counterpart gain experience in operating larger floating cages and related equipment.

It is now felt that the governance component – especially the establishment of a regulatory framework – needs serious attention.

6.3. Success likelihood

Based on the revised project design, the likelihood of success must be regarded as quite high. The implementing institutions (IMR and MMAF) have a history of cooperation, and the IMR have a broad experience in implementing such projects in the South East Asian region.

It is important that one concentrates on only a few species for further development, otherwise the resources will not be adequate. In the preparation of a new project, the parties should elaborate on a more efficient cooperation model and objectives, including organization and the functions of the managers.

6.4. Implementation efficiency

The diagnostic and technical training activities undertaken have been efficiently implemented due to the previous experience of the personnel involved, both on the Norwegian and the Indonesian side.

Experts from Norway have visited the Lombok Station several times and completed a diagnostic report, identifying challenges and suggesting improvements. In general, the Norwegian experts

found the staff members very competent and enthusiastic and the physical facilities relatively good. Specific suggestions on the improvement of water quality, broodstock diet, increasing the number of spawning females, parasite treatment and stress handling and other issues have been offered by the Norwegian experts, and these are in the process of being implemented by their Indonesian counterparts.

The operational aspects had some shortcomings with regard to lack of focus and organizational structure. It will be important to keep a sharper focus on prioritizing tasks and species. Substantial investments have been made, and it is therefore important that these are utilized efficiently.

6.5. Sustainability of the project

The potential of Indonesian marine off-shore aquaculture is in general viewed as excellent. However, the successful development of this sector will depend to a very great extent on the ability of authorities and practitioners to practice sustainable methods of marine aquaculture, including the existence of a proper regulatory framework and the ability to enforce this, proper health and hygiene practices, aquaculture management at the individual farm level, and the use of sustainable inputs, such as for example formulated feeds.

Experience from other countries has indicated that a proper regulatory framework and the resources and capability to enforce these regulations are paramount to the successful development of the sector. Indonesia does not today have a fully built out regulatory framework for aquaculture.

It is important to point out that this project is very well suited to the Indonesian priorities in this field. Both the fisheries and the aquaculture project are in direct response to Indonesian strategic plan for this sector; the projects are a timely response to the need for modernization of the sectors, and both projects are concerned with exploiting the potential of Indonesia, both within fisheries, and especially in marine aquaculture. In spite of the enormous potential for marine aquaculture, there are at present only three companies engaged in modern, large scale marine aquaculture. At the same time, it should be realized that 80 – 90 % of the countries aquaculture potential lies in marine areas.

Recommendation:

Future assistance from Norway should include the development of a regulatory framework, including laws and regulations for marine aquaculture.

6.6. Spin-offs and non-anticipated effects

The spin-offs of the sub-project that are visible include better aquaculture management and increased attention to proper health and hygiene practices, and an increased understanding of these and other scientifically based practices in aquaculture. Repeated presentations and seminars have opened the eyes of several investors and aquaculture practitioners to the importance of these procedures.

6.7. Potential required amendments

At such as late stage in the project, we do not believe that any amendments can practically implemented, with the exceptions of improved project and financial reporting.

7. Education component

It was planned to send two students to Norway for Master studies, one in fisheries and one in aquaculture, starting in August 2011 and ending in June 2013. Due to various difficulties and unforeseen occurrences (such as the change of application dates by the universities), the training of students in Norway was delayed. Two candidates were selected, and one of them is presently studying at the University of Bergen. The other student was not accepted by the Norwegian universities, but obtained a scholarship from Belgium and was sent to the University in Ghent, Belgium, instead. This student has now applied for a six-month internship at Austevoll in Norway. This could be paid for by the Project, but then there would not be enough funds to pay for a Master student as planned. Therefore, one now has the option of:

- A) fund the Ghent student for his six-month internship in Norway, or
- B) Select a new Master study candidate for a two year study in Norway.

However, the second option is quickly disappearing, as the application deadline for Norwegian universities is December 1st, and no new candidate has so far been identified or proposed by MMAF.

8. Gender and community issues

In the original Project Document, gender and community issues were mentioned only briefly, almost as an after-thought:

“Gender equality is an important goal both for Indonesian and Norwegian authorities. This goal should also be reflected in the Project, in terms of offering study possibilities and training for women and men. Special attention should be paid to the selection of candidates for training courses and education (Master) in order to secure this goal.”

The Agreement between the two governments signed on 27 April 2009 makes no mention of gender or community issues. In the Agreed Minutes of the Inception Workshop (3 – 5 February 2010) there is no mention of gender or community issues at all, and the revised Work Plan and Budget 2010 – 2011 approved at the Inception Workshop includes no activities related to gender or community issues.

In the Terms of Reference for the Review, specific questions relating to gender issues were posed. In the following we shall respond to these questions.

8.1. Has the project design identified barriers to women’s participation in the programme?

In the project design, there is no mention of gender equality or women’s participation, and there has been no gender analysis or reporting on gender issues. There has been no gender analysis being done, and no strategy has been described to facilitate gender equality. There has been no activity planned for integrating gender aspects, and no budget for gender-related issues.

8.2. Have any new gender equality issues arisen during the implementation of the project?

Although it is understood that gender and community issues came as an after-thought for this project, there has been no revision in activities and budget even after the recognition of this oversight. No particular person was assigned to look at gender and community issues.

There have been two efforts that have been made to address gender equality issues during the implementation of the project: one is to include women staff in the project. The Project Manager responsible for the Project on the Norwegian side is a woman. One woman from Indonesia was included in the tour to Norway in September 2010 (one among the seven). The other is to have gender presentations in the seminar. Two presentations on gender issues was included in the seminar in Bergen in May 2011 (see programme for the seminar in Appendix H).

8.3. Have both women's and men's potential been adequately utilised in the project implementation phase?

In terms of community involvement, there was again no mentioning in this project. Technology sharing or utilizing local farmers' knowledge on fisheries and aquaculture has not been taken into consideration. There has been no reflection on how the project is going to influence the community/ fishers/ fish farmers. A stakeholder workshop was planned originally (Work Plan dated 2006) in the project, but this was dropped because of lack of funds.

8.4. Have women been ensured equal access to decision making in the project?

There have been initiatives in promoting gender equality in the MMAF. In 2007, a gender assessment report was written, and in 2009, a Gender Mainstreaming Team was established in MMAF. A gender mainstreaming team (also called gender working group) has been trained by the Ministry of Women's Empowerment, and will be conducting a gender budget analysis next year. MMAF is one of the seven ministries selected by the Ministry of Women's Empowerment to conduct a gender budget analysis, showing the importance and the readiness of the ministry to engage in such gender mainstreaming exercises. The Research Centre for Marine and Fisheries Socio-Economic of the Agency for Marine and Fisheries Research and Development has conducted gender analysis in fisheries and aquaculture since 2006, and published two books on gender issues in 2008 and 2009. They also publish a bi-annual journal that carries articles on gender analysis in fisheries and aquaculture. However, such internal resources in the ministry were not utilized in this project.

8.5. Have means and resources been distributed equitable between women and men?

Women are active participants of fisheries and aquaculture, not only limited to processing and marketing, but also fishing itself and all kinds of work in aquaculture (including harvesting). It is also widely acknowledged in Indonesia that women are the financial managers of the households, and it is for the benefit of the well-being of the household members especially children if women have more income that they have control on. However, such contribution of women has not been considered in this project.

8.6. Has the project enhanced women's access to education and training?

There was no mentioning of capacity building for women researchers specifically, and very few women have benefited from the exchange and other training activities under this project.

8.7. Does the project’s reporting mechanism contain gender-disaggregated data?”

There has been no gender disaggregated data that has been collected and reported. No impact analysis has been done on the new technology on women and men.

It is possible to present some disaggregated data on gender related issues, such as for example the time spent by women on the project. This has not been done, but it can easily be produced if a gender analysis should be done.

Recommendation:

In a new project gender and community issues should be included in the project design, and specific activities, with related budgets, should be planned. Gender and community issues can either be built into the other activities as a cross-cutting issue, or one may consider developing a separate project focusing on gender issues and community impacts in Indonesian fisheries and aquaculture.

9. Future Norwegian support

It is felt that this project, which must be regarded as only a pilot project, is progressing well in its technical aspects, and should be continued on a larger scale. It is clearly in line with Indonesian priorities and development plans, and with some adjustments a new project document should be prepared and funding sought.

The Director General of Fisheries as well as the Director General for Aquaculture have both submitted suggestions for what a new project should include. Since these proposals are official Indonesian contributions to the future work, we include them here.

9.1. Project components

Various components have been discussed. The Review Team feels that it would be wise to keep ambitions at a realistic level, and have therefore selected the most logical components to include in a new project:

- Fisheries management based on science;
- Aquaculture development, including mass production of fry and a demonstration off-shore floating cage farm.

As a cross-cutting issue, the gender and community aspects should be built into these two main activities.

9.1.1. Fisheries management

The Director General for Fisheries has proposed a number of components to be included in a new project.

- Recovery of fish stocks in Indonesia;
- Development of MINAPOLITAN⁷ for capture fisheries;
- Fishermen empowerment and alternative livelihood programme;
- Development of responsible small scale fishing boats;
- Fishing port development (implementation of Mall and Waterfront city concepts);

⁷ MINAPOLITAN is a designated area/community for fisheries/aquaculture activities.

- Strengthening database of national fishing licensing system;
- Fisheries certification and port state measure implementation.

While these items will have to be operationalized further before they can be included in a new Project Document, they give an indication of Indonesian objectives and priorities. In the following, the Review Team points out some activities that may fit into this overall concept.

The Review Team recommends that another fisheries project be developed to build on the cooperation established in this and previous projects. The timing for this is appropriate as the MMAF plans to increase Indonesia's fish production to 22.39 million tonnes by 2015, a significant jump from the 14.87 million tonnes targeted next year.

We propose that the following fields of expertise should be focused on in the new project:

Analyses of acoustic survey results for stock assessments

Continuing with the Bali sardine fishery as a pilot fishery, elements of this component should include improving the capacity to assess the status of the stock through modelling and application of existing data (including catch rate data collection by the existing project and by the National Statistics reporting, environmental data and survey data).

Communicating scientific results to decision makers

So that scientific surveys and results are used in planning and fisheries management, there is a need to improve the skills and tools of scientists to communicate more clearly with policy makers and fisheries managers.

Improving fisheries management

This is part of an ongoing need in Indonesia, but Norway's expertise could be used to improve the capacity to conduct and implement better fisheries management planning. In collaboration with other partners (again using Bali Strait as the pilot), build capacity and infrastructure for fisheries management in Indonesia at the national, provincial and local levels. This would involve facilitating participation of major stakeholders in fisheries management;

Understanding the market chain

To improve the management of fisheries in Indonesia, more focus is needed on other links in the supply chain, not just harvesting. Increased socio-economic benefits are not necessarily linked to just increasing production. There is a need for more research and information on the market chain, especially on the link between capture fisheries and its use in aquaculture feeds to increase aquaculture production. This component could pick up on many of the gender and community issues not covered in the present project.

At a recent meeting of the Director General Capture Fisheries with the IMR in Bergen on September 28th 2011 the goal of development of sustainable fisheries management was discussed including "Systems for scientific management advice in capture fisheries". Part of the production increase should be met through improved fisheries management, where counter to intuition, increased production can be achieved by reducing fishing on stocks that are already overexploited. This will also lead to lower costs, increased economic efficiency and improved livelihoods of fishermen and fishing communities.

This is also an excellent topic for future Norway/Indonesia cooperation and also provides a good opportunity for collaboration with other projects, in particular, the ACIAR (Australia) funded project that is aimed at “developing new approaches to fisheries assessment and management in Indonesia, particularly in regard to improving the policy and management frameworks for dealing with the problem of IUU fishing”. The USAID funded fisheries Project under the CTI is also relevant.

Continuing with the Bali sardine fishery as a pilot fishery, elements of any future projects should include:

1. Improving the capacity to assess the status of the stock through modelling and application of existing data (including catch rate data collection for National Statistics reporting, environmental data and survey data);
2. Building capacity and infrastructure for fisheries management in Indonesia at the national, provincial and local levels;
3. Improving the capacity to conduct and implement better fisheries management planning;
4. Facilitating participation of major stakeholders in fisheries management;
5. Improving skills and tools of scientists to communicate more clearly with policy makers and fisheries managers;
6. Research and information on the market chain, especially on the production of fish meal that can be used to support increased aquaculture production.

9.1.2. Aquaculture

The Director General for Aquaculture has suggested that the following components should be considered for a new project:

- Seaweed culture expansion – job creation, carbon capture, gender issues, poor people oriented and value added issues;
- Pilot project for mass production of juveniles;
- Pilot cage farm, ocean based and of the Norwegian style;
- Fish health management, including vaccines and genetics;
- Environmental monitoring;
- Feed development, including sustainable of Indonesian stocks;
- Regulatory advice;
- Competence building across the board;
- Project management.

In targeting areas of cooperation for a new project, one has to take into account the needs, priorities and objectives of Indonesia on the one hand, and the expertise existing in Norway on the other hand. While small-scale aquaculture accounts for about 90% of the total aquaculture activity of Indonesia today, this sector cannot help realize the ambitions of the Government. Only modern, science-based aquaculture such as represented by Norway can do that. Consequently, we propose that the following fields of expertise should be focused on in the new project:

Developing a proper regulatory framework for sustainable aquaculture

This is a challenge that is now urgent to address. Without the proper regulatory framework in place, one runs the risk of damaging excellent sites for aquaculture, and this could be very costly, both for the government and for the private sector operators. It is therefore proposed that a central component in the aquaculture sub-project

Hatchery development and mass production of fry

Experience with the hatchery at Lombok has been good, and the development of a large scale hatchery for finfish fry production should be part of a new project. However, it is suggested that the hatchery be located in the Riau region, as this is closer to the market and has better infrastructure for the efficient utilization of the hatchery production.

Marine grown-out farm

In connection with the hatchery, a full-scale ocean-based grow-out farm should be established and run, producing market attractive finfish such as barramundi, pompano or grouper. This should also be located in the Riau region because of close proximity to the market or good logistics solutions to reach international and domestic markets (Singapore).

Project management

As pointed out in this review, some changes in project management and accounting will have to be made, including improved reporting procedures and the timely submission of accounts and audit reports. Project management procedures and organization should also be improved, with clearer lines of authority and responsibility.

9.1.3. Gender and community issues

Gender and community issues can be meaningfully integrated in the new project through incorporating the following points (see Appendix F for justification and detail explanation of these recommendations).

1. Need to conduct gender analysis and participatory planning before the project agreement in order to ensure incorporation of gender aspects in project design.
2. Capacity building on gender analysis is needed since no one has been systematically trained on gender issues in MMAF.
3. Women's economic empowerment through aquaculture, especially through small-scale fish farming and sea weed processing and marketing as well as by strengthening financial management capacity of women in fishing communities. Involving women to make sure that they will benefit from the technological improvement under this project is necessary.
4. Linking research with practice: Training of aquaculture/ fisheries extension officers on effective communication with women and men in the village and community organizing.
5. Assign gender and community focal points in the project to follow up on gender equality issues in the project
6. Working across departments/ agencies in MMAF. MMAF has much internal capacity to integrate gender in the project, and this needs to be utilized.

7. Monitoring impact of technology on gender relations is most important. New technologies and practices can bring unexpected changes (both positive/ negative), and it should be monitored carefully.

9.2. Project organization

As is evident from the above, project organization has been an area which seems to have a lot of potential for improvement. Project partners have had problems with communication and it is obvious that a somewhat different organizational model must be developed in order to secure an efficient implementation of the new project.

This organization must also follow the present Indonesian organizational structure and procedures, but must be flexible enough to allow a better flow of information.

The Director of the Centre for International Marine and Fisheries Cooperation has the overall responsibility for all foreign-sponsored fisheries projects in Indonesia. In order to secure proper coordination of these projects, this overall coordination function is necessary, and the Director of CIMFC should remain the Project Director. But in view of the fact that this position has a great number of projects to oversee, the day-to-day operational responsibility should be placed with someone at a level below this Director. It is therefore suggested that two sub-project managers, one for aquaculture and one for fisheries, be appointed. These project managers must be professionals in their respective fields, and should report to the Project Director.

The Norwegian Embassy, as representative of the Donor, also has an important control function. But the Embassy should not be directly involved in making professional decisions in the Project, and if the Embassy's advice is sought in specific cases, all parties involved in the operational implementation of the Project – especially the two sub-project managers and their counterparts - should be informed and/or consulted.

9.3. Financing

A larger and longer lasting project such as has been proposed will require substantial financing. In this connection, the idea of using funds from the so-called Rain Forest Fund has been introduced by the Indonesian as well as the Norwegian side. The Review Team does not know enough about this fund to give any opinion on the idea. However, it is recommended that the possibility be further explored.

9.4. Developing a new project

At the time of the Review Team's visit to Indonesia, there were only a few months left of the Project's planned life span. If a new project is to be proposed, and if it is to build on the experiences and results of the present project, it is urgent that planning for the new project is started as soon as possible.

It is therefore proposed that this work be started immediately, and that a preliminary proposal be presented at the next Annual Meeting in early 2012.

Appendix A: Terms of Reference

Terms of reference for a mid-term review of the project INS-2094 INS-06/035 “Development cooperation concerning capacity building in fisheries and aquaculture”

1. Background

On 23 January 2006 a letter of intent between Indonesia and Norway was signed by the respective ministers of foreign affairs aimed - to “pursue opportunities for cooperation on marine and fisheries management with the aim to promoting sustainable and equitable use and conservation of the marine resources”. The Norwegian Ministry of Foreign Affairs allocated 6 million NOK for the planning and implementation of a project. On the basis of the outcomes and recommendations of a joint planning exercise in 2006 between the Ministry of Marine Affairs and Fisheries (MMAF) and a Norwegian team an agreement between the two countries on “Development cooperation concerning capacity building in fisheries and aquaculture” was signed on 27 April 2009. This bilateral agreement served as a basis for a contract on Institutional Cooperation between the Ministry of Marine Affairs and Fisheries (MMAF), Indonesia and the Institute of Marine Research, Norway, was signed on 15 December 2009. The Project Document for this cooperation is attached as Annex 1.

2. Description of the Project

The goal of the project is: Building competence in the field of fisheries management (including stock assessment) and aquaculture aiming at contributing to sustainable development of Indonesian marine resources.

The specific purpose of the project is: To facilitate the implementation of specific capacity building activities in fisheries management and aquaculture within the indicated time frame and budget.

The agreement included financial support from Norway of NOK 5.2 million for the period 2009-2012. The Indonesian side would contribute the required personnel, office facilities etc. in Indonesia.

An inception workshop was conducted in Indonesia in February 2010. The minutes of the work shop are shown in Annex 2. The first Annual Meeting for this project was conducted in February 2011. According to the agreement an end of project review should be undertaken. However, at the Annual Meeting the parties agreed to undertake a less comprehensive Mid-term Review in the second half of 2011. The reason for this was the delayed start-up of the project and a slight change of character with respect to the agreement as reflected in the Project Document (PD) of 2007.

3. Purpose

The main purpose of the Mid-term Review is to;

- Assess the progress and achievements on the implementation of the project according to the objectives and expected results as they appear in the agreement, PD and other project documents related to project scope and design amendments;
- Ascertain measures for improved project management and increased accountability;
- Facilitate learning of counterpart staff from the gained experiences;
- Consider relevant amendments to the present phase to ensure better achievements of goal and purpose of the Project;
- Identify specific areas/issues that could be relevant for future support in order to ensure long-term sustainability and to achieve the required impacts of the project on management of Indonesia's marine resources

The review will assess outputs and impacts of the project against its objectives, and determine whether the project is on track. In this instance impact, relevance and sustainability will be assessed in the context of the challenges facing the sustainable management of the Country's fisheries and aquaculture.

4. Scope of work

The assignment will include but not necessarily limited to the following tasks:

- Assess the quality of the project design in terms of relevance of the objectives, scope of activities, and performance indicators of the two project components with respect to the requirements, needs and priorities of Indonesian Authorities as well as consistencies within a regional and global priority context and priorities for Norwegian development assistance;
- Analyse the impacts of the project in terms of improved institutional capacity and performance;
- Ascertain whether the goal and purpose of the project are likely to be achieved and what indicators are used as the basis for the conclusions;
- Assess the efficiency of the implementation of the activities, related to the expected specific outputs in the Agreement and Project Document;
- Assess the sustainability of the project components and long-term benefits;
- Review possible spin-off and non-anticipated effects of the project, positive or negative;
- Identify, assess and discuss possible required amendments to the present phase of the project to ensure goal/purpose achievement as well as specific activities which may be proposed for future funding.
- Discuss the rationale, contents and modalities of possible future Norwegian support to fisheries management and aquaculture in light of other donor supported projects within the same areas. Make recommendations on the above;

In particular the team shall review the women and gender aspects of the project:

- Has the project design identified barriers to women's participation in the programme?
- Have any new gender equality issues arisen during the implementation of the project?
- Have both women's and men's potential been adequately utilised in the project implementation phase?

- Have women been ensured equal access to decision making in the project?
- Have means and resources been distributed equitable between women and men?
- Has the project enhanced women's access to education and training?
- Does the project's reporting mechanism contain gender-disaggregated data?

Based on the above gender assessment the team should suggest how gender aspects can be enhanced within the framework of the project.

5. Implementation

The Consultant Team

The review team will carry out the assignment in close collaboration with the Ministry of Marine Affairs and Fisheries. The assignment will include a visit to Indonesia. The team will consult with the IMR during the course of the assignment.

The review team should cover the following expertise and typically not exceed three persons, of whom minimum one person should be from the region:

- Aquaculture management including legal and regulatory functions ,
- Fisheries expertise (stock assessment and fisheries management),
- Community and socio-economics,
- Women/gender competence in gender equality issues

Organisation of the Review

The team will acquaint themselves with the existing documents relating to the project, i.a. Project Document, Agreement, Contract(s), minutes from meetings, reports etc. Information shall also be sourced through meetings with the various relevant stakeholders, beneficiaries, the Norwegian Embassy in Jakarta etc. The team is also required to consult with the International Collective in Support of Fish Workers (ICSF) based in Chennai, India, particularly on issues pertaining to community and gender aspects.

The Consultant in consultation with MMAF and the Embassy in Jakarta will prepare a draft travel and meeting programme for the visit.

The Consultants are expected to arrange their own transportation within Jakarta. The Embassy may assist in booking hotel rooms, tickets for travel outside Jakarta. MMAF shall arrange for the necessary meetings for the team in Indonesia.

The team will have a meeting with the Embassy early in the assignment as well as before the team leaves Indonesia.

6. Timing and reporting

The total workload of the assignment shall not exceed 9 staff-weeks (total of 370 work hours) including preparation, fieldwork and reporting. It is up to the Consultant to distribute the time budget among the team members.

The fieldwork will be carried out during one to two weeks in Indonesia from ...to ... 2011 (earliest 22 September and latest 31 October).

The main conclusions from the assignment shall be presented and discussed at a meeting with the MMAF and the Embassy before the team leaves Indonesia. A draft report in English shall be forwarded electronically to the Embassy, MMAF and Norad by 15th of October 2011. Comments from the Embassy, MMAF and Norad shall be given within 2 weeks after the submission of the draft report. The final report shall be submitted electronically by 31st of October 2011. The report, excluding an executive summary and annexes, shall not exceed 20 pages.

Department for Climate, Environment and Natural Resources, Norad 8 July 2011

Appendix B: Persons interviewed

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Appendix C: Review of project activities – fisheries sub-project

Activity 2.1: Competence building acoustics;

The original plan for 2010 was for Indonesian students to join a training course in Mauritius tentatively in February 2010; or alternatively, a training course will be held in Indonesia.

However, due to high participation from Mauritius it was not possible to include students from other regions in the Mauritius course. Two students from Indonesia, therefore, were chosen to participate at the acoustic training course with Simrad in Tønsberg, Norway, from 29th August to 3rd September, 2010. This resulted in them gaining firsthand experience with staff at Simrad, and they also established personal relationship to experts from Norway.

Training was aimed at building capacity to conduct surveys using acoustics method in order to assess fisheries resources. The activity was carried out within budget and savings from this activity transferred to sub-project 4 (see below). The training of fisheries acoustics was organized by SIMRAD and MAREC, Norway. Two researchers from Agency of Marine and Fisheries Research and Development (AMFRD), namely Mohr. Natsir and Mr. Asep Priatna participated.

The training focused on acoustics terminology, calibration, survey theory, practical survey and survey analysis. The training activities was designed to improve the capacity of participant to collect data by using multi-frequency echo sounder SIMRAD EK60, data processing and analysis with software LSSS (the Large Scale Survey System). The training was attended by researchers and scientists in the field of fisheries, biology, oceanography, software development, SIMRAD and experts and senior researchers from IMR Bergen.

The activities during training included presentations, practical/lab work and synthesizes.

A full report is at Appendix 2.1 of the Agreed Minutes of the Progress Meeting held in Bali 16-17 February, 2011.

No further training was planned for 2011.

Activity 2.2: Competence building – participation in a survey with R/V “Dr. Fridtjof Nansen”;

The original plan for 2010 was to provide training of 1-2 students through participation in Trans-boundary Pelagic Survey in Africa by the Norwegian Research Vessel, “Dr. Fridtjof Nansen”, tentatively 15th July – 15th August 2010.

The activity met with logistic difficulties and several attempts to reschedule were made, including:

- Cruise outside West Africa, June 2010 – feedback arrived too late for students to apply for visa;
- Cruise outside Mauritius, 16.09-26.09 on demersal fish - feedback arrived too late for students to apply for visa;
- Cruise outside Pakistan in October 2010 on the small pelagic resources. Negative feedback because the ship was fully booked by students from Pakistan;

- Cruise outside Norway, in September 2011, on pelagic fish;
- Cruise outside west Africa, in June 2011, on demersal fish; and
- This activity had to be rescheduled to 2011.

Activity 2.3: Survey in Bali Strait and expert evaluation of acoustic biomass of sardine

Acoustic surveys in Bali Straits Area using Indonesian Research Vessel were planned for October 2010 and April 2011. The surveys are organized by MMAF and Norwegian experts will help out with evaluation of the survey in 2011.

The cruise was conducted in November-December 2010. Acoustics data were collected using SIMRAD EY60 with 120 KHz Transducer as well as CTD operation, plankton sampling and larvae sampling on board the vessel.

The length of acoustic track during Cruise 1 was 185 nautical mile, total number of CTD station was 13 stations and total of plankton and larvae stations were 14 stations while length of acoustic track during Cruise 2 was 196 nautical mile, total number of CTD station was 20 stations and total of plankton and larvae stations were 20 stations.

Data from the 2010 survey were compared with data collected in September 1998 that used the R/V “Baruna Jaya 04”. Fish stock abundance estimated from acoustic survey in 2010 was lower abundance in almost all sub areas compared with 1998, except in sub area 4 in the 25-50 m layer.

This difference was interpreted as an early indication that fish tend to move to deeper parts with higher salinity during La Nina episode. Higher fish density tends to be found in higher salinity water (around 34 PSU). During La Nina episode big volumes of water with low salinity caused by runoff occurs resulting in the surface being dominated by low salinity water and the fish will swim deeper to find water with higher salinity in the 25-50 depth zone.

This is the preliminary finding from the data collected in November and December 2010, and will be used to answer why, during La Nina episode, lemuru sardine catches tend to decrease. Several explanations were proposed (i) fish occupy the deeper part of the water outside operation range of the fishing gear (ii) fish tend to move to other places with higher salinity during La-Nina episode. These two hypotheses will be tested using all scientific evidence from previous studies and the next survey during the implementation of this project.

A full report of the survey is at Appendix 2.3 of the Agreed Minutes of the Progress Meeting held in Bali 16-17 February, 2011.

Survey 2 has been postponed and is planned for late 2011.

Activity 2.4: Conducting registration of catch landings and fisheries modelling

Recording of catch landings started in April 2010, as planned. Data on catches and vessels are collected daily from selected fish landing places in the coastal areas around Bali Strait. The activity involves:

- Training of enumerators;

- Collecting data on fleet structure and fishing gear;
- Collecting data on catch per boat, species composition, fishing gear used, number of crew, fishing duration, and fishing ground position;
- Biological measurements (length, weight, maturity) of Bali sardines; and
- Collecting data on vessel logistics, fishing cost and fish prices.

Limited data were collected during August – December 2010 because the La Niña episode reduced the amount of fishing that occurred during the normal fishing season. Three kinds of gears are used to exploit 'lemuru' Bali Sardine (*Sardinella lemuru*), i.e. mini purse seiners (MPS), payang (seine net) and bagan (lift net). MPS usually fish in the dark moon period; bagan operate everyday in a certain moon corresponding to a recruitment period in this fishery. Sampling is mainly located in TPI (landing place) Muncar, TPI Kalimoro and TPI Sampangan for purse seines fishery, at TPI Kalimoro and Muncar for payang, and Muncar for bagan. All the field activity for data collection was carried out based on "sampling procedure", and was recorded by four enumerators in Muncar, Banyuwangi.

The target of mini purse seine in Bali Strait is Bali sardine (*S. lemuru*). The monitoring during August-December 2010 indicated that Bali sardine (*S. lemuru*) and little tuna (*Thunnus tonggol*) are the two main species caught - 35% and 50% of the total catch, respectively.

The total of catch by vessel variable with about 9% of the total trips (65 trips) unsuccessful. The average catch recorded was about 1,254 kg/trip/vessel.

Length composition data can be obtained from 3 - 12 fishing vessels per month resulting in samples of 366-1453 fish/month. The size of sardine was ranged from 9.5 cm (fork-length) to 20 cm.

Measurement of some biological characteristics such as body length, weight, sex, visual gonad maturity and gonad weight were also carried out, but because the majority of fish are small size/young fish, no reproductive data could be collected.

Appendix D: Review of project activities – aquaculture sub-project

Activity 1.1. Development of fry production – Lombok station

The 2010 Workplan included visits to the Lombok Station by a team of Norwegian experts to diagnose the facilities and operations regarding production of humpback grouper, brood stock, fry and grow-out stages. The diagnosis should also analyze broodstock, maturation and egg quality, as well as challenges in fry production, especially the causes of deformities. The expert team would also look into the replacement of trash fish with formulated feeds and the feed components in the grow-out stage.

There were two visits to the Lombok Station in 2010, each including two expert groups from Norway. Each expert group consisted of three experts.

The reports from these visits indicate that progress was made on all challenges mentioned above. The experts found that the Lombok Station was well run and organized. The staff was well qualified and motivated, and the physical facilities were of a relatively good standard.

It was found that the broodstock was kept in unfiltered water from low depth, and this was considered a major risk factor. Disinfection by using iodine proved ineffective, and high egg mortality was experienced. Specific solutions were suggested by the experts.

The use of trash fish for the broodstock was pointed out as a major risk factor both in terms of hygiene, nutrient composition and availability. However, the use of trash fish was necessary, as the broodstock would not readily accept formulated feeds without going through a weaning period. The need to develop a diet for wild-captured broodstock was pointed out in order to avoid depending on trash fish in the future.

In fry production, the expert team pointed out some of the challenges related to water quality. Water treatment (sand filter, ozone treatment and UV treatment) of the seawater was introduced and was found to be adequate for larval production in terms of avoiding pathogens from entering the larval tanks. It was suggested to improve water treatment in fish nursery facilities by introducing particle filtration systems. It was also suggested to increase the use of new water into the tanks to improve the water quality.

Some biosecurity risks were pointed out and solutions suggested. Disinfection routines were drawn up and procedures to avoid transferring disease from one area to another were set up.

Activity 1.2. On-growing in floating cages

A system of using floating cages with suspended nets were introduced for the on-growing stages of grouper farming. The cage systems were considered adequate by the visiting experts, but they suggested to use larger circular cages for pompano growing. Furthermore, some focus was suggested on developing feed diets and feed regimes that would work better for grow-out of humpback grouper. The experts also suggested testing some high quality commercial fish feeds.

There was a problem with a high occurrence (nearly 10%) of deformities in humpbacks during the on-growing stage. The Norwegian experts believe this may be caused by physiological stress and/or

nutritional deficiencies. However, there are still no final conclusions as to what causes these deformities, and the experts have suggested various measures to test different possibilities.

The idea of building a national fish health laboratory was abandoned during the Inception Workshop, but fish health still remains very much in focus in the project. Procedures for handling wild-caught broodstock as well as broodstock imported from various regions have been established, and on-the-job training of personnel in fish health practices has been undertaken.

Activity 1.3. Competence building in aquaculture development and governance

The original plan included to undertake an analysis of challenges and strategic options for development and governance of Indonesian aquaculture. The major activity under this category was to be a workshop for Indonesian experts held in Bergen in September 2010.

The workshop was held with participation by high-level public servants led by the Director General of Aquaculture.

A broad range of subjects were covered in the workshop, and Norwegian experts from a number of institutions and companies were invited to speak and to participate in the discussions. They covered the Norwegian aquaculture regulatory system, fish health management, vaccination, breeding, transmission of disease and pathogens, disease prevention, genetic modification, management of fresh water lakes, pollution from fish farms and pollution prevention, and zoning in aquaculture management.

The Indonesian participants concluded that they learned a lot about open-water aquaculture, and that it could be done in Indonesia, provided the proper regulatory framework was in place, and that fish health management procedures (such as zoning, fallowing, site rotation etc.) were introduced. The importance of environmental monitoring was found to be crucial. The group concluded that a long-term cooperation between Indonesia and Norway would be desirable and beneficial for the development of modern marine aquaculture on a large scale in Indonesia.

Appendix E: Review of project activities – training activities

The original Project Document specified three types of activities in this field:

1. Master education of two students from Indonesia in Norway (one in aquaculture and one in fisheries management)
2. Short courses in Indonesia
3. Study tours to Norway

This plan was reduced in the Inception Workshop, and would only include sending two students to Norway for a Masters Degree education, one in aquaculture and one in fisheries. The plan was that the students would start their studies in August 2011 and complete them by June 2013. The budget allocated amounts to NOK 400,000 per student, i.e. NOK 800,000 in total.

This plan met with some problems due to external forces. The universities in Norway unexpectedly changed their application dates from spring 2011 to December 2010, thus making it difficult for the Indonesian candidates to submit their applications in time. However, at the time of the Review Team's visit to Jakarta, we were informed that the fisheries management student (Adriana A. Utama) was in fact in Bergen and had started his studies, which will be completed by June 2013. The candidate selected for the aquaculture studies (Romi Novriadi) was not accepted by the University of Bergen. He was instead accepted by the University of Ghent in Belgium, and received a scholarship from Belgium. He has since applied for an internship at Austevoll in Norway.

One of the problems with recruiting candidates for these studies was the lack of proficiency in English among the candidates. This is an absolute must for students who are going to study abroad.

Appendix F: Gender and community component

Assessment of the present project

Noting that fisheries and aquaculture is one of the livelihood activities that has a large potential for increasing income, capacity building of women and women's involvement in fisheries and aquaculture is important. However, as the Norad gender review⁸ pointed out, this project is "gender blind". Even during the project meeting with the review team, gender and community issues were not mentioned/included in the presentation or taken up as a discussion point. When asked, the team was told that women's role in seed production was an important area to look into. However, there has been no effort in addressing gender equality in capacity building in seed production during the life of the project (we acknowledge that the actual implementation period was very short). The lack of focus or a general concern for the importance of gender and community issues shows that there is a lack of gender analysis being done during the project and a lack of understanding of how to integrate gender equality perspectives.

The lack of gender analysis and data as well as lack of gender training leads to a shallow understanding and stereotyping of women's role in fisheries and aquaculture that does not help in empowering women in this sector. It is often the case that under the name of "gender", women's participation is limited to pre-conceived notions of women's role. For example, in the ADB project managed by MMAF that the review team visited, only women who do not have husbands are included as members of fish farmers' group (although some women do have husbands, but in that case, husbands are not involved in aquaculture), or women's groups are automatically defined as fish processors' group. Although the project design itself does not limit women and women's groups' role as such, the limitation comes from how the project implementers understand gender issues. This is not to criticize the ADB project, since we visited only one small part of the project and do not have a full understanding of the project, but this project is referred to in order to illustrate the pitfalls that gender and development projects often fall into, which is an important lesson for the Norwegian cooperation to take into consideration for future project formulation.

Therefore, it is important that a wider knowledge and understanding of gender issues and how to achieve gender equality and women's empowerment is facilitated in MMAF. Stereotyping of women's role can be even more problematic when fish processing is promoted to women's group without careful consideration of market and profitability aspects. When we design projects, it is important not to increase women's workload without substantially increasing women's income.

MMAF actually has an internal capability to conduct gender training, although no-one has received any structured training on gender analysis, but it has so far not been utilized for the current project. This is a missed opportunity and a waste of resources.

It has also been recognized that because gender and community aspects were included as an after-thought, it has not been clarified or discussed in the project documents what exactly is the gender and community objectives. What do we want to achieve through incorporating gender and community aspects in the project? Is it food security? Employment creation? Or intensive production

⁸ Maal, Bodil and Hanne Lotte Moen (2011) "Gender review: Royal Norwegian Embassy Jakarta", June 2011.

through modern technology and investment? Again, this is difficult to do without any gender analysis or information on gender and community issues.

Political commitment is important for the success of gender integration. Lack of political commitment comes both from lack of information and analysis as well as lack of interest among leaders and lack of pressure to make these leaders take action. There is a general lack of these three aspects in many development projects, but this project seems to suffer from extreme deficit in all of these three areas. However, the fact that the project has included a gender and community expert in the evaluation team does show the partners' seriousness in improving this component, which is an encouraging sign for improved project activities in the future.

The government's policy on MINAPOLITAN plans to organize fish farmers' groups and coordinate infrastructure development around aquaculture. Such expression of importance to small holders are encouraging from a perspective of community participation and gives opportunity for gender equality promotion, if designed carefully.

Possible avenues to promote gender equality and community participation/ empowerment through fisheries/ aquaculture development

One question is whether to organize a separate gender and community project or to have gender and community aspects incorporated into the overall fisheries and aquaculture project. The advantage of having a separate gender and community project is that it ensures a non-diverted attention and resources provided to these issues. The disadvantage is that the total resources that are allocated to such a project can be limited, and also the initiative can be isolated from mainstream fisheries and aquaculture projects. The advantage of integrating a gender and community component into the overall fisheries and aquaculture project is that it can influence the way these projects are designed so that it can be more pro-gender and pro-poor. The disadvantage is that it can be limited to lip services and be marginalized in the project, especially if there is no competent staff assigned to oversee these activities. It is important that people who are going to design the project weigh in these advantages and disadvantage when deciding the approach for addressing gender and community aspects.

The recommendations below are already listed in the main text. Here, we will elaborate on these points to justify and illustrate the importance.

(1) Gender analysis and participatory planning

It is important that good understanding of gender issues are shared among the MMAF officers as well as the Norwegian counterparts in charge of the project. For this purpose, it is necessary to conduct gender analysis, and based on the analysis, go through a gender planning process. This needs to be done as a training workshop of the people in charge of the project and needs to be done *before* the project agreement is finalized. Based on the gender plan, gender indicators need to be set, which would be used for monitoring and evaluation.

A similar process should be undertaken for community development and participation. We need community participation and capacity analysis and a community development plan, involving fishers, fish farmers, researchers and officers, both women and men.

Both of these can be led by the Research Centre for Marine and Fisheries Socio-Economic, which has the capacity to conduct socio-economic action research.

It is suggested that if there is some budget that can be spared for gender and community initiatives in the current phase, a gender and community analysis be done during this phase. If not, a specific budget needs to be allocated for gender and community analysis before finalizing the new project design.

(2) Capacity building on gender analysis

The Research Centre for Marine and Fisheries Socio-Economic has conducted gender analysis on fisheries and aquaculture, but their researchers have not gone through systematic training on gender analysis. It is thus important to improve the gender analysis capacity in this center. This center, together with the Ministry of Women's Empowerment and NGOs, can provide gender training and support gender analysis for other members involved in the project.

(3) Women's economic empowerment through aquaculture

Since fish processing has some serious problems in terms of marketing, the project can consider alternative areas for income generation where women can have better control of their income as well as improve their technical knowledge and skills.

(a) Small-scale fish farming

By facilitating access to good quality seed (through better distribution system and credit access) as well as aquaculture extension services, small holders will be able to achieve a stable income from aquaculture and can minimize the risk of losing their production. Especially ensuring access for women farmers in poor families is of importance, not only because of gender and social equality concerns, but also because if the distribution of seeds and extension services are designed for these most disadvantaged people, it will be useful for all fish farmers both women and men, rich and poor.

(b) Seaweed processing and marketing

Seaweed is one of the aquatic products that women play an important role in, especially in the planting and post-harvesting process. This will create an opportunity where women are more in control of the income.

Seaweed needs little start-up capital, it is easier to transport, and has fewer problems in the market. There are more processing options compared to fish.

However, there is a need to study the market and the value chain in order to explore the potential. The Research Centre for Marine and Fisheries Socio-Economic is currently conducting a value-chain analysis of sea weed production, and this can be utilized for future project.

(c) Strengthening financial management capacity of women in fishing communities

Since women are the main financial managers in households in Indonesia, it is important that women have better control of household income. In fishing communities, it is often the

case that women have less access to men's income especially when men get paid for their catch. It is important to put into the design in fisheries management a scheme where women would be able to have better access and control over the income from fishing.

(4) Linking research with practice: Training of aquaculture/ fisheries extension officers

As was discussed above, the present scheme does not establish any communication between fisheries stations and the surrounding communities. Hence, fish farmers in the area do not benefit from the activities in the fisheries station.

If the Norwegian assistance is to continue with the fisheries station, there is a need to strengthen extension activities in the surrounding areas. This will enable the station to conduct research and trials that will be more suitable to the needs of the people they are supposed to serve.

Extension officers are still very few in MMAF. At the same time, MMAF has a policy to increase the number of extension officers to three fold. These extension officers need training on community organizing and communication, especially on gender sensitivity.

There is a need to strengthen linkages between research and extension. Both researchers and extension officers need to be trained to communicate the research findings to fishing community effectively.

(5) Assigning gender and community focal points

One of the reasons why no attention was given to gender and community issues in the current project is because of the lack of persons who are in charge of these issues. It is strongly recommended that a person in charge of integrating gender equality and community participation is assigned both in Norway and in Indonesia. This person needs to be provided with adequate training in gender analysis and community participation diagnosis and methods so that they will be able to work effectively.

(6) Working across departments/agencies

It is important that Norwegian cooperation does not duplicate what others are doing, but complement other inputs so that we can have a concerted effort in bringing out changes Indonesia. For example, the ADB project works in the same fisheries station as Norwegian cooperation. However, how these two complement each other is not mentioned in documents or explained during interviews.

It has also been realized that there is a lot of expertise inside the Ministry but scattered across offices, agencies and departments. It is important that the Norwegian cooperation is able to facilitate working across departments to make the best use of the internal resources. For this an active coordinator is necessary to bring people together.

The Norwegian Embassy supports other gender-focused projects in Indonesia. Facilitating the fisheries/aquaculture project to these gender projects can help in motivating staff in the fisheries/aquaculture project to promote gender equality in their project.

(7) Monitoring impact of technology on gender relations

Especially when the project is going to introduce new technology and practices, it is important to monitor how these technologies and practices can impact on gender relations and community cohesion. With all good intentions, new technology and practices can have unexpected consequences, both positive and negative. The project needs to have a gender and community monitoring system in place in order to detect such changes and correct it if it is negative, and facilitate it if it is positive. For this purpose, reporting system needs to include gender indicators and gender disaggregated data so that changes are regularly recorded and analyzed.

Some areas of special concern is women's access and control over resources (financial, water, land, etc.). It is noted that only 30% of land titles are under women's name in Indonesia⁹. Another area that might need special attention is in the area of job creation. Is the project creating decent jobs for both women and men? In general, women's wages are around 30% lower than that of men in Indonesia. Is the project strengthening or widening such gender wage gap? The third area is food security. Is the project depriving women and children of fish and other aquatic resources for home consumption? Or is the increased income able to improve their nutritional status?

⁹ ADB gender assessment in Indonesia (2006).

Appendix G: Documents reviewed

Project document: Capacity building in fisheries management and aquaculture. MMAF December 2006. Update dated 28 March 2007.

Agreement between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia regarding development cooperation concerning “Capacity Building in Fisheries and Aquaculture”, signed in Oslo on 27 April 2009.

Institutional Cooperation Arrangement between The Ministry of Marine Affairs and Fisheries of Indonesia (MMAF) and The Norwegian Institute of Marine Research (IMR) regarding Development Cooperation concerning Capacity Building in Fisheries and Aquaculture. Signed on 15th December 2009.

Agreed minutes of Inception Workshop between The Ministry of Marine Affairs and Fisheries of the Republic of Indonesia and the Center for Development Cooperation in Fisheries of the Institute of Marine Research of the Kingdom of Norway. Jakarta, 3-5 February 2010.

Ministry of Marine Affairs and Fisheries of Indonesia and Centre for Development Cooperation in Fisheries of Norway: **Indonesia – Norway Bilateral Cooperation in Fisheries Management and Development Programme Work Plan and Budget 2010 – 2011.** Jakarta 3 – 5 February 2010.

Annual Report 2010 for Indonesia – Norway: Development Cooperation on Capacity Building in Fisheries and Aquaculture. Bali, 18 February 2011.

Record of discussion between The Ministry of Marine Affairs and Fisheries of the Republic of Indonesia and The Norwegian Institute of Marine Research on Indonesia-Norway project meeting evaluation and future project discussion. Jakarta, 6th of October 2011.

Prof. Birgitta Nordberg, Mr. Hans Aase and Mr. Finn Christian Skjennum: **A diagnosis report of Lombok facilities, operations and input factors.** August 2010.

Ketut Sugama: **Speech at workshop on building aquaculture development and governance.** Bergen, September 9th 2010.

Ketut Sugama: **An overview and challenges of Indonesian aquaculture and governance.** Presentation at a seminar in Bergen, September 9th 2010.

Agreed Minutes of Progress Meeting in Bali, 16 – 17 February 2011.

Maal, Bodil and Hanne Lotte Moen: **Gender Review.** Royal Norwegian Embassy, Jakarta, June 2011.

Appendix H: Gender seminar in Bergen May 2011

Minutes

Indonesian Norwegian Cooperation Meeting

Bergen 24. May 2011

Participants: From MMAF Mr. Agung and Mr. Nuzirwan. From IMR Ms. Kathrine Michalsen and Mr. Rolf Engelsen.

Mr. Agung delivered hard copies of the Annual Report for 2010. He promised to send a digital copy as soon as possible.

Master Student in Fisheries; air ticket to be covered by grant allocated to MMAF.

Master Student in Aquaculture; Romi Novriadi has been accepted by the University of Ghent. It was agreed that Mr. Agung should check upon the cost of taking a Master degree in Ghent compared to the budget allocated. This amount, NOK 400.000, has to cover for all student cost as well as administrative cost. The funds related to this student should be handled by Indonesia given that he will study in Ghent. Kathrine Michalsen shall inform the Embassy in relation to change of plans for the student.

It was agreed to elaborate on a Project Information Folder. A draft is to be supplied by KM. he printing is to be undertaken by MMAF.

Mr. Agung asked for a revised invitation letter concerning the group expected to arrive in Norway June 15. RE promised to send a new invitation as soon as possible.

The program for the Jakarta seminar (4. October hotel Borobodur) was discussed. The Norwegian presentation program is ok. The Indonesian part seems to be ok. However, Mr. Agung asked for more time to see if there were other suggestions from other parts of the MMAF. The program is attached below. First there will be opening remarks from the Embassy and MMAF. Mr. Agung will come back on the Indonesian presentations as soon as possible.

1. Status, development goals and challenges in relation to Indonesian aquaculture; representative from Ministry of Marine Affairs and Fisheries xxx Indonesia
2. The development of the Norwegian salmon farming industry; Representative from the Norwegian Export Council, Tromsø
3. Modern cages for "offshore" use: Representative from Aqualine AS, Trondheim (market leader in cage technology) contact person Market Director Hans Olav Ruø

4. Disease prevention (development of a disease resistant brood stock; the IPN case): Director for Research and Development, Aquagen AS Dr, Nina Santi, Trondheim (this year's price winner in aquaculture innovation in Norway)
5. Market development - Norwegian salmon and the sushi/sashimi market; Director Bjørn Erik Olsen, Nofima, Tromsø
6. Challenges in Indonesian species selection for fish farming; is there a tropical salmon? representative from Ministry of Marine Affairs and Fisheries xxx Indonesia
7. Aquaculture governance - the Norwegian model; Director Jens Chr. Holm, Directorate of Fisheries
8. Feeding the future – sustainable feed input in fish farming; contact CEO Knut Nesse, Skretting
9. Future cooperation Norway - Indonesia in aquaculture Development – some suggestions; Representative for Institute of Marine Research, Bergen, contact person Rolf Engelsen

MMAF and IMR will be co-organizing the seminar as asked for by the Embassy.

The new project 2012-2016

This project will be implemented by MMAF and IMR. A 3 page project presentation is needed as seen from the Indonesian side (for “blue book” purpose). RE is asked to write a draft based upon the discussions between the two parties. The Indonesian DG of Aquaculture, Dr. Sugama, will manage the Indonesian elaboration of the new project. It is anticipated that he will allocate funding for the Indonesian project document elaboration (2011) and the project start-up in 2012. His office should also set up a small expert group (organization) for project document elaboration as well as project start-up. These experts should be the direct counterpart for the Norwegian experts (Rolf Engelsen, Kathrine Michalsen and eventually others).

The Embassy of Norway will undertake a review of the present project as a background document for evaluation of a new project.

Suggested Project Activities:

1. Development of mass-production of fingerlings in an intensive hatchery hereunder clarification of management systems to supply fingerlings to small farmers and big cage farming
2. Development of Indonesian feed production based upon national resources. Could Bali sardine be used as feed for the fish farm industry? Could waste from fishing industry be used as basis for production of fish feed?
3. Development of small farms to create livelihood opportunities in “rain forest areas”
4. Evaluation of potential and feasibility for “offshore” fish farming by identification of site classes/site conditions, aquaculture sites/areas and zoning of such areas including elaboration of a test case for offshore big cage fish farming

5. Sustainable seafood production – seaweed (food and co2-catch), mussels (food and biological cleaning)
6. Development of government regulations for aquaculture areas and zones
7. Competence building
8. Project coordination
9. Fisheries. Monitoring (abundance), surveillance (catch reports) and assessment (quotas allowed to fish) of the Bali sardine stock.
10. Gender issues

The Gender Project at University of Bergen was presented by Anne Marit Skarsbø. Mr. Agung presented “Gender mainstreaming in Marine and Fisheries sector”. It was agreed to look for opportunities to increase female project participation as well as encouraging women participation in the expanding aquaculture industry hereunder small scale farming (rain forest areas), hatchery operations and fish health management, aquaculture governance and competence building.

Bergen 24. June 2011

Agung Tri Prasetyo

Nuzirwan Thaib

Kathrine Michalsen

Rolf Engelsen

Attachment:

Agenda;

09.30 - 10.00 Ongoing project;

- Annual report 2010
- Master student aquaculture
- Information folder- pictures, presentations

10.00 - 11.00 New project;

- Project elaboration
- Discussion

11 -12 Seminar in relation to Seafood dinner in Jakarta 4.October

12.00 - 13.30 Lunch together with the Director of CDCF

13.30 - 14.30 Presentation of the Gender Project at University of Bergen- Anne Marit Skarsbø

14.30-15.30 Discussions and signing of minutes from the meeting

Appendix I: Financial report 2010 and Budget 2011

Overview Budget	Total	Total	Budget	Actuals	Budget	Balance
Norway	Budget (2010-2013)	Budget	2010	2010	2011	year end 2011
	NOR+INDO(NOK)	NOR (NOK)	NOR (NOK)	NOR (NOK)	NOR (NOK)	NOR (NOK)
1. Aquaculture						
1.1 Development of fry production, Lombok station = total sum	1,205,900	1,130,900	526,779	404,871	726,029	-
travel expences			295,211	211,127	232,409	
salary			196,400	140,277	458,620	
equipment (nor + indo)			35,168	53,467		
external demands (personell, tecnology etc)					35,000	
1.2 Competence building aquaculture development and governance; workshop and follow up process = total sum	610,660	360,660	170,124	164,320	196,340	-
travel expences				130,840	31,193	
salary			170,124	25,027	165,147	
external demands (personell, tecnology etc)				8,453		
1.3 Aquaculture seminar = total sum	203,830	173,830	-	-	173830	-
travel expences and education					74,654	
salary			-	-	99,176	
external demands (personell, tecnology etc)			-			
Grand total aquaculture	2,020,390	1,665,390	696,903	569,191	1,096,199	-
2. Fisheries						
2.1 Competence building-bioacoustics = total sum	150,000	50,000	50,000	50,000		-
travel expences and education						

salary						
external demands (personell, tecnology etc)			50,000	50,000		
2.2 Competence building-participation on a survey with F/F Nansen = total sum	100,000					
travel expences and education						
salary						
external demands (personell, tecnology etc)						
2.3 Survey in the Bali strait = total sum	800,000	200,000	-		200,000	-
travel expences and education						
salary					200,000	
external demands (personell, tecnology etc)						
2.4 Recording of catch landings and fishery modeling= total sum	240,000	100,000			100,000	-
travel expences and education						
salary					100,000	
external demands (personell, tecnology etc)						
Grand total fisheries	1,290,000	350,000	50,000	50,000	300,000	-
3. Education						
3.1 Master studies Norway (Aquaculture) = total sum, see numbers						
3.1 Master studies Norway (Fisheries) = total sum						
Grand total education	800,000					
4. Project coordination						
4.1 project management, coordination and dissemination= total sum	550,000	350,000	110,000.00	88,670.00	100,000.00	161,330.00
travel expences						
salary			110,000	88,670.00	100,000	
external demands (personell, tecnology etc)						
Accomodation						

4.2 and 4.3 Annual meeting and steering committee meeting	470,000	320,000	150,000.00	208,834.00	111,150.00	16.00
travel expences			60,000	85,833.00	85,000	
salary			90,000.00	123,001.00	26,150	
external demands (personell, tecnology etc)						
Accomodation						
Grand total project coordination	1,020,000	670,000	260,000	297,504	211,150	161,346.00
Unallocated	69,610					
Grand total Norway (without education)		2,685,390	1,006,903	916,695	1,607,349	

Overview Budget	Total Budget (2010-2013)	Total Budget	Budget 2010	Actuals 2010	Budget 2011	Balance year end 2011
Indonesia	NOR+INDO(NOK)	INDO (NOK)	INDO (NOK)	INDO (NOK)	INDO (NOK)	INDO (NOK)
1. Aquaculture						
1.1 Development of fry production, Lombok station = total sum	1,205,900	75,000	19,328.47	18,408.42	97,932	-41,340.74
travel expences			14,352.82	14,184.16	45,808	
salary			3,061.94	3,061.94	6,207	
equipment (nor + indo)		75,000	-	-	44,414	
external demands (personell, tecnology etc)			1,913.71	1,162.32	1,503	
1.2 Competence building aquaculture development and governance; workshop and follow up process = total sum	610,660	250,000	239,213.70	197,484.26	-	52,515.74
travel expences		250,000	239,213.70	197,484.26	-	

salary					-	
external demands (personell, tecnologia etc)					-	
1.3 Aquaculture seminar = total sum	203,830	30,000	-	-	41,175	-11,175.00
travel expences and education					8,689	
salary			-	-	8,179	
external demands (personell, tecnologia etc)				-	24,307	
Grand total aquaculture	2,020,390	355,000	258,542	215,893	139,107	-
2. Fisheries						
2.1 Competence building-bioacoustics = total sum	150,000	100,000	100,000	42,921.57		57,078.43
travel expences and education			100,000	42,921.57		
salary						
external demands (personell, tecnologia etc)						
2.2 Competence building-participation on a survey with F/F Nansen = total sum	100,000	100,000	100,000	-	100,000	-
travel expences and education						
salary						
external demands (personell, tecnologia etc)						
2.3 Survey in the Bali strait = total sum	800,000	600,000	300,000.00	178,067.00	420,000	1,933.00
travel expences and education			81,395.81	70,644.78	250,000	
salary			14,352.82	14,352.82	20,000	
external demands (personell, tecnologia etc)			185,948.78	90,559.93	150,000	
2.4 Recording of catch landings and fishery modeling= total sum	240,000	140,000	80,774.49	65,222.41	132,000	-57,222.41

travel expences and education			33,170.97	20,492.64	120,000	
salary			42,133.51	42,133.51	12,000	
external demands (personell, tecnologia etc)			5,470.02	2,596.27		
Grand total fisheries	1,290,000	940,000	580,774	286,211	652,000	1,789.02
3. Education						
3.1 Master studies Norway (Aquaculture) = total sum						
3.1 Master studies Norway (Fisheries) = total sum						
Grand total education						
4. Project coordination						
4.1 project management, coordination and dissemination	550,000	200,000	102,179.33	102,133.66	80,712.12	17,154.22
travel expences			46,905.02	46,905.02	39,657	
salary			37,508.71	37,508.71	13,544	
external demands (personell, tecnologia etc)			7,272.10	7,226.42	7,892	
Accomodation			10,493.51	10,493.51	19,620	
4.2 and 4.3 Annual meeting and steering comittee meeting	470,000	150,000	72,039.68	67,591.70	69,623.94	12,784.36
travel expences			20,036.54	19,749.48	36,809	
salary			23,538.63	21,050.81	12,025	
external demands (personell, tecnologia etc)			15,068.55	13,395.45	7,183	

Accomodation			13,395.97	13,395.97	13,607	
Grand total project coordination	1,020,000	350,000	174,219	169,725	150,336	29,938.58
Unallocated	69,610					