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Evaluation of the Master in International Fisheries Management (IFM)

Two year university degree, Norwegian College of Fishery Science, Tromsø



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Preface

The IFM programme board of the Master Programme in International Fisheries Management (IFM) at the Norwegian College of Fishery Science has asked NIFU STEP *Studies in Innovation, Research and Education* for an evaluation of the study programme. The objectives of the evaluation have been to identify strengths and weaknesses of the programme with the intention to stimulate to improvements in the administrative and academic functioning of the programme. This report is the result of the evaluation.

The project leader at NIFU STEP was Per Olaf Aamodt, while the evaluation was carried out by Uta Bielfeldt. Thanks to all those associated to the IFM programme for finding time to provide valuable input into the evaluation.

Oslo, October 2005

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Executive Summary

Students, graduates and staff regard the work of the Masters Programme in International Fisheries Management (established 1998) a success and find it worth taking the effort to improve the programme. The source of dissatisfaction is in most cases either based on insufficient information or poorly coordinated action, while the academic standard is commonly approved by the interviewees. The NCFS has a long tradition for inter- or multidisciplinary education and research and is therefore an excellent institution for an interdisciplinary master programme for international students.

The IFM programme has – as the only programme taught in English at the NCFS – contributed to shape an international profile in teaching for the benefit of students from developing countries as well as European exchange students. It played an important role in the establishment of cooperation and exchange agreements with other universities and research institutions all over the world. In addition, the thesis and fieldwork conducted by the IFM students has been a valuable contribution to the research by the supervising staff.

- 1. Intake** Having its roots in professional courses on fisheries management for practitioners from developing countries, the IFM master programme aims at recruiting people believed to strengthen their home countries' fisheries sector in the future. Students have been taken in from 32 countries, including some Norwegian and Western-European students. Almost equal intake of both genders is realized. From 2000-2004 a number of 78 students graduated, 24 of them funded by NORAD, others by Quota scholarships. Limited by laboratory capacities 20 Students incl. 5 Norwegians or Western-European students are allowed per year. The title "International Fisheries Management" leads to misunderstanding among the students and thus is source of wrong expectation towards the programme's content. Especially the term "management" is misinterpreted as marketing.
- 2. Goals and Organisation of subjects:** The programme was designed as a *taught* multidisciplinary programme providing courses by the Institutes of Aquatic Biology, Fisheries Economy and Social Science & Marketing. The first semester is organised to complement the students' expected background either in biology or economics. While the whole first year is very much teaching oriented. The second year is mainly used for the master thesis and some additional courses. Over time the importance of fieldwork and the master thesis has increased. Also the focus of the study has widened from marine capture fisheries to inland and aquaculture. According to the graduates, the programme's goals are generally achieved through the multidisciplinary design.
- 3. Quality of teaching:** The first year is challenging for the students, but graduates and teachers are satisfied with the learning outcome and academic level of teaching. The students highly appreciate those parts of the programme engaging the individual student and their thesis work. The low drop out rate might also be interpreted as an indicator for good teaching.

- 4. Integration of subjects:** The multidisciplinary approach aims at imparting a holistic understanding of fisheries management. As mentioned above the overall academic quality of the programme is approved. Yet, the coordination of the disciplines involved leaves room for development. Most lectures and courses do not refer to the other disciplines involved although using similar terms. A minor course for the design of “country profiles” has proven to be truly interdisciplinary as all elements of the study were joined.
- 5. Field work:** Over the years field work has gained importance for the master thesis. This has not only increased the research focus of the programme, but is considered to have positive effects on the employability of graduates. In the field, students acquire detailed knowledge about their home countries fisheries and make contact with possible future employers. Unfortunately, they are insufficiently prepared for their field trip. Conscious integration of field work into the programme is suggested by offering courses on methodology *before* the students go to the field.
- 6. Student supervision:** Both teachers and graduates report a positive supervision experience for the master thesis. A lack of supervision in the early stage of the thesis research (field work) and the difficulties of finding research topic and a supervisor have been pointed out. In general, the quantity of supervision is very much dependent on the individual supervisor.
- 7. Administration and follow up:** The IFM students enjoy a special treatment and attention within the NCFS, since the two programme coordinators have exceptional role as personal contact as well as information source. For religious and cultural matters, some elements of the social programme have been criticised and could be replaced by more fisheries related ones. Playing a key role for the adjustment to Norwegian culture and study routines, the special situation of Norwegian IFM students ought to be acknowledged by preparing them for their responsibilities.
- 8. Procedures, budget and working of the board:** The IFM programme has its own budget managed by the board. At the same time, the programme is an “ordinary” part of the NCFS. This dual structure and a lack of formal communication routines for teaching staff have led to confusion about the extent of integration of the programme into the NCFS. Some efforts have to be made to enhance the understanding of the budget and reporting structure. In addition, the IFM students are interested in a better exchange between the students at IFM and NCFS.
- 9. Employability and relevance:** The graduates are highly satisfied with their IFM education. They have found relevant employment in various positions in fisheries ranging from local fisheries management over research to the United Nations. Several graduates teach and train students in their home country. Quota and European students usually take on temporary employment after graduation while NORAD students are guaranteed positions in their home institutions at the point of their return. They were either promoted or given a pay rise. In any case, IFM graduates hold more responsible positions today. For improvement, the graduates suggest enhanced elements of international fisheries law and marketing.

The evaluation in hand was ordered by the IFM programme board and carried out by NIFU *STEP Studies in Innovation, Research and Education*. It is mainly based on 39 interviews with students and staff, 12 questionnaires filled out by former students, supplemented by written documents such as statistics, agreements, course evaluations, budget plans, course descriptions, letters, presentations and minutes.

1 Introduction and background of the evaluation

The master programme in International Fisheries Management (IFM) is a two year university programme offered by the Norwegian College of Fishery Science (NCFS) in Tromsø. Students graduating from the programme are awarded a Master of Science (MSc) in International Fisheries Management. The aim of the IFM programme is the provision of interdisciplinary education in biological, economic and social approaches to fishery. While the main emphasis lies on biology and economics, additional classes bring technological, organisational and juridical aspects in the picture. The programme is constructed as a taught master, but also comprises a dissertation of 30 ECTS-credits.

The evaluation in hand was ordered by the IFM programme board and carried out by the Oslo based NIFU STEP *Studies in Innovation, Research and Education*. In line with the terms of reference, the evaluation report aims to:

- present a short background of the programme,
- summarise the problems and challenges confronting the IFM study,
- And provide suggestions for improvement of the study plan, intake of students as well as the administrative set-up of the programme.

In detail, the IFM board asked for the

- 1) summary and assessment of intake procedures, with special attention on the mix of students, the required qualifications, the priorities signalled by NORAD and SIU as well as the internal NCFS procedures.
- 2) Assessment of the organisation of subjects (classes and seminars) in respect to the overriding goals of the study
- 3) Assessment of quality of teaching and teaching materials, both relative to the level of competence of the students as well as in relation to the more general goals of the study, including the role of the Norwegian students in the IFM study
- 4) Review of the integration of various subjects, especially how economics, biology, and administration succeed in attacking various management problems from different angles
- 5) Assessment of the role and function of “fieldwork” as it is presently carried out, that is, as the data collection in the respective home countries, largely without detailed supervision.
- 6) Evaluation of the quality and quantity of student supervision (for the master thesis)
- 7) Assessment of the administration of the programme, including the social elements, with particular emphasis on how the students have been followed up in their adjustment to Norwegian culture and Norwegian study routines
- 8) Assessment of the management procedures, in particular the working of the board, including the budget and reporting processes

- 9) Assessment of the relevance of the study for selected graduates in terms of job acquisition after their return, or alternatively job promotion in their previous employment (including Norwegians).

1.1 Data

During a two week visit of the NCFS (June 2005), 20 interviews (of an average of 45 minutes) were conducted with current students and recent graduates from 14 different countries. Two former Norwegian students in the IFM programme were also interviewed on the spot.

Among the interviewed teaching staff were Bjørn Hersoug (social sciences coordinator and head of IFM board), Jørgen Christiansen (IFM board), Arne Eide (IFM board and economics coordinator), Jorge Santos (biology coordinator), Are Sydnes, Roger Larsen, Malcolm Jobling, Ola Flåten and Petter Holm.

The IFM programme coordinators Ane-Marie Hektoen and Kirsten Zachariassen have both been interviewed and were contact person during the NIFUSTEP visit at site.

Interviews with the administrative staff of the NCFS included Knut Heen (rector), Kari Riddervold (director), Terje Aspen (assistant director), Morten Sætran (leader of student administration), Signe Annie Sønvisen (international office) and May Kongsli (accounting).

The evaluation is mainly based on these 39 interviews, supplemented by written documents such as statistics, agreements, course evaluations, budget plans, course descriptions, letters, presentations and minutes. Special attention though is paid to the interviews with students. In order to assess the relevance of the study for graduates in relation to their employability and job opportunities, a questionnaire (15 open questions) was sent out by email to all former students with known email address. By September 1st twelve of them had replied.

This report is based on notes from the above mentioned interviews and document. This summary draft report is to be commented by the IFM staff.

2 Description of the programme

2.1 Historical background

In 1972, the Norwegian College of Fishery Science was established as an interdisciplinary institution with special national tasks in relation to the fisheries sector. The Troms region being one of the main fisheries regions in coastal Norway was considered a suitable location for the college. Especially the education of practitioners for fisheries management was of mutual interest.

The IFM programme was designed in the spirit of the Norwegian *fiskerikandidat* programme originally offered by the NCFS.

From 1991-1992 short courses in fisheries management were offered for practitioners from developing countries in Norway. In the three months the course dealt with main issues of fisheries management and was met with great interest by the developing countries. However, the course was mainly taught from a Norwegian perspective and experience (“for mye norsk og torsk”). In 1993, the course therefore moved to Namibia and was taught for five years in cooperation with the Southern African Development Community (SADC). In that period the teaching staff from Tromsø was gradually reduced (from 14 to 3) and replaced by staff from the various participating countries.

A rising local demand for a formal university degree led to the design of a bachelor programme in fisheries management at the University of Namibia. This setup was supported by Norwegian Agency for Development Cooperation (NORAD).

The IFM programme in Tromsø which is the subject for this evaluation deals with was designed to be multidisciplinary graduate study building upon the bachelor level from different disciplines. It was launched in 1998.

The NCFS has by now developed an international profile. Beside the IFM programme and the Nordplus and Socrates collaboration, the NCFS has signed agreements for cooperation with universities in Namibia, South-Africa, Nicaragua, Guatemala, Mozambique, Vietnam, China and Russia and Sri Lanka.

2.2 Student recruitment

Originally designed as a programme for foreign students, Norwegian students have been admitted already in 2000, when the need for a stronger link to the Norwegian environment was stated. It was also meant to “normalise” the study as part of the NCFS performance. Some of the students are from Western Europe taking either part in some courses (Erasmus students) or as ordinary IFM students like the Norwegians.

This has also implications on the size of the classes: Initially laid out for 15 international students, additional five students joined in, so the programme is to date calculated for 20 students. This is a maximum, dictated by laboratory and vessel capacity.

There are two types of scholarship available for students from developing countries and Eastern Europe: The NORAD and the Quota programmes. While NORAD students have a central intake procedure through established channels of cooperation providing a job guarantee for the time after graduation, Quota students have been able to apply as individuals. In case the Quota student does not return to his or her home country, the scholarship is turned into a loan after the regulations of the Norwegian State Educational Loan Fund (*Lånkassen*).

24 NORAD funded graduates have completed the IFM programme in the period 2000-2004. They come from twelve different countries. The total number of IFM graduates from 2000 to 2004 is 78 with origins in 27 countries. A high proportion of female graduates namely 45 per cent indicates that there is paid attention to gender issues within the programme design.

Students have been recruited from four different continents. Former and present students come from: China, Ghana, Norway, Tanzania, Russia, Ethiopia, India, Namibia, Malawi, Vietnam, Peru, South Africa, Spain, Sri Lanka, Uganda, Bangladesh, Columbia, Denmark, Ecuador, Eritrea, Guatemala, Cameroon, Nepal, Nicaragua, Portugal, Sudan, Cuba, Great Britain, Indonesia, Netherlands and the Faeroe Islands.

The official target persons for the programme are people with links to universities, public institutions, non-governmental institutions, private sector enterprises, and research institutions.

Hence, The IFM programme has established cooperation with research and educational institutions in Namibia, South Africa, Cuba, Vietnam, Mozambique and China.

Having a developmental focus in the IFM programme the official aim for recruitment: to choose “people that will benefit from further education in order to strengthen the fisheries sector in their respective countries”.

Among the academic requirements for enrolment are a Bachelor of Science, Bachelor of Arts, Cand.mag. Degree or equivalent education of at least three years, of which at least two years must be undertaken at university level. Candidates from the following disciplines are taken in: biology, ecology, economics, organisation or law. Previous knowledge on statistics is required.

All lectures are given in English, therefore a score of 500 points in the *Test of English as a Foreign Language* (TOEFL) is the minimum requirement (or 5 points in *International English Language Testing System* (IELTS)).

2.3 Content of the programme

The programme was designed as a *taught programme* for practitioners aiming at enabling them for the development of their home countries' fisheries. Three institutes within the NCFS work together in that programme: The Institute of Aquatic Biology (IAB), the Institute of Fisheries Economy (IFØ) and the Institute of Social Sciences and Marketing (ISAM).

Depending on their disciplinary background, students take either an introductory course in biology or economics. The course should be complementary to the previous education.

Biology classes deal with fisheries biology, harvest technology and ecology. Economics concentrate mainly on fisheries economics. And the social sciences deal with fisheries development, fisheries management and the generation of country profiles. Methodological courses deal with data analysis and the use of computers for research. After the completion of the fieldwork a research seminar aims to assist the students in the process of academic writing.

2.4 Summarised plan of study (official programme description)

Semester	Course	Code	Credits
1.	Computer basics	BIO-3551	0
1.	Biology and ecology	BIO-3552	15 optional
1.	Basic economics	SOK-3551	15 optional
1.	Fisheries biology and harvest technology	BIO-3553	10
1.	Introduction to fisheries development	SVF-3551	5
2.	Country profiles (fisheries development)	SVF-3552	5
2.	Fisheries economics	SOK-3552	15
2.	Fisheries ecology	BIO-3554	10
3.	Fisheries and data analysis	BIO-3555	5
3.	Fisheries and aquaculture management	SVF-3553	15
3.	Research seminar	SOK-3553	10
4.	Master thesis	FSK-3910	30

2.5 Changes over time

The programme underwent some changes since it was set up in 1998. The most visible change was the increase in student numbers in 2000. The expansion of the IFM programme came about when Norwegian and Western European applicants were allowed to join the programme. Their number is limited to five, but they have brought about changes in the internal class organisation. As a link between Western European academic culture and being a student in an international programme they take a specific role.

A second – less visible – change has come about when the taught content was extended. While originally only marine capture fisheries were in the focus, today also inland fisheries and aquaculture have found their place in the curriculum.

Thirdly, fieldwork has gained an increasing importance for the master thesis. While the programme had initially been designed as a taught master with a thesis based on on-hand statistics and secondary literature, the students are now expected to conduct data gathering in the field. For most students, that means carrying out interview and data gathering in their home countries between the second and the third semester of the IFM programme.

3 Functions of the programme

To start with a general positive result of this evaluation, the students, graduates and teachers are satisfied with the academic quality of the programme as both the overall qualification of students and teachers are concerned. However most of them see room for improvement in the outline of the programme.

In the following chapter we therefore take a closer look at intake and grouping of students, on the organisation of subjects, teaching methods and material.

3.1 Intake procedures & expectations:

Asked where they got to know about the IFM programme, the students responded with a large variety of answers. The most common first channel was friends and colleagues or a notice board, while the channel for more detailed information is clearly the internet. That means that the information provided on the IFM homepage is crucial.

As described above applicants are required to have previous knowledge in social sciences, economics or biology. It is however a challenge for the recruiting team to estimate the actual competences behind the formal diplomas handed in.

It has been a question whether there should be focus on the intake of academically brilliant students or on development aid to fisheries nations. The programme aims at the improvement of fisheries management. That has important influence on the recruitment to the IFM programme. Following this logic, applications from brilliant students of non-fishing nations have to be turned down. This also means that the IFM programme does not aim to produce future researchers (and thus does not want its graduates to continue with a Ph.D. study) but wants its graduates to return to their home countries and work for improvement of their fishery sector. Hence, the programme aims at recruiting brilliant students from important fishing nations not striving for an academic career.

The IFM programme aims at equal recruitment of both genders. And indeed a good gender relation of 45% female graduates is one of the important assets of the IFM.

The interviews with the students and graduates have shown, that most of them expected the IFM programme to be something else: especially the term *management* sounded very business related to them. In the eyes of the IFM board this is based on a misunderstanding on behalf of the students: Fisheries management is the international term used to describe government (often in cooperation with industry) management of state owned resources.

Being asked for the *international* dimension of fisheries management, the students were not sure what to answer: international students, the nature of the subject, the law, industry and

markets? The official explanations and expressed goal of the programme is, that the students should be acquainted with fishing industries in various countries with very different management set-ups. And since small-scale fisheries dominate most developing countries the IFM programme wants to place special emphasis on their management.

3.2 Organisation and integration of subjects

Regarding the organisation of subjects within the IFM programme, we take a closer look at the differentiation and options, and the relationship between the disciplines. This involves the question to what extent the programme is interdisciplinary or multidisciplinary.

Currently, biology courses account for 40 ECTS-credits in form of 5 BIO-courses. Discounting the statistical course, 35 ECTS-credits of actual biology are taught. Economics sum 40 ECTS-credits up for 3 courses of which 30 credits are taught on actual economics. The social sciences have 25 ECTS-credits for 3 courses at their disposal. In addition to the taught courses the master thesis accounts for additional 30credits.

Students with educational background in biology related disciplines would earn 25 ECTS-credits on biology, 40 on economics and 25 on social sciences, while students with a background in economics would take 40 ECTS-credits in biology and 25 in each economics and social sciences. The highly heterogeneous student line-up challenges the division into groups with different backgrounds.

The intake from different disciplines effects learning in the first year. The students have – according to their background – difficulties in the new discipline. Regarding the multidisciplinary recruitment policy it is not surprising, that their judgment on the courses ranges from “Economics was too hard” to “Economics was too easy”.

As mentioned above the IFM-programme covers marine capture fisheries, aquaculture and inland fisheries. In 1998 it started with marine capture, took in inland (capture) fisheries and added in the end aquaculture.

Several students have complained about the lack of options or that they got to know about their options too late. There are some courses taught in English IFM can take (e.g. the aquaculture course with the other NCFS-students after the first biology course). However most students have more than enough mastering the obligatory courses.

Due to the mix of students the perspective on what they expected – and thus were satisfied or unhappy with is very wide. Some took the programme in order to deepen their previous knowledge in a discipline, some to get a wider perspective. (Two students with a background in biology actually wanted to supplement their education with the other fields offered in the

course, but when they saw the excellent equipment in the NCFS laboratories, they went rather for their own discipline.)

Many students have expressed a need for a stronger emphasis on social sciences including law within the IFM programme. Especially, the graduates who have entered the labour market say they need more knowledge about social and juridical aspects of fisheries management. Almost all students miss elements of business management. Some even want to establish their own organisation or business on the long run. Others want to work in large scale fisheries, where international fisheries law is crucial.

Beside the challenge of bringing students from different disciplines on one level, the level of competence differs also among the students within one discipline. The biology staff maintains the argument that all students should follow the first semester course on biology, so both the students with no background in biology and those having some come to the same level. Experience has shown that the majority of students with a background in biology have little knowledge about marine biology and thus need the course.

There is also a deficit in handling of statistics and data gathering. Students and teachers agree that even though previous knowledge on statistics is required for the application, most students do not actually prove knowledge on statistics.

Regarding the issue of concentration either on teaching and practical matters or research orientation in the master programme, the students have a blurred picture. On the one hand the students miss practical knowledge, but at the other hand most of them want to do a PhD. That is a dilemma because the programme is designed and organised to train practitioners and does not aim for PhDs in the future either.

On the subject of interdisciplinary teaching, the students point at the fact that the three disciplines involved use similar terminology, but mean different things. This leads to confusion among the students. The teachers themselves report that there is little communication on this topic in between the programme staff.

3.3 Language problems

Both teachers and students report the level of English proficiency is often not sufficient, so the academic quality and exchange suffer during the first year. Graduates from the programme report on difficulties during their thesis writing. Twelve of the 20 interviewed students report severe language problems and would like to take additional courses. The IFM board disclaims responsibility for that, since any student having extra capacity is free to take any additional course.

Not knowing about this option some students complained that Norwegian classes are offered, while they find English classes more helpful. However, Norwegian classes are not useless, but are perceived as a great possibility for an additional job qualification – by some students! These students acknowledge the importance of Norway as major player in international fisheries and hope to make use of their study stay in Tromsø. So does e.g. a Chinese student dream of a manager position in a Norwegian company in her home country. The Russian students from Northern Russia are similarly interested in good relationship to the Norwegian neighbour.

Nevertheless, improved command of languages is also regarded one of the appreciated fringe benefits of this programme.

3.4 Major question: Taught or research master?

The official programme description states the following: “The programme is teaching-intensive with courses (comprising 90 credits) and a research project (30 credits), with more emphasis on course work than on the individual research project.” That is a rather diplomatic expression and displays the rather undecided state of the study at the moment.

3.5 Fieldwork

As stated above the IFM programme was designed as a *taught* programme, but shifted informally emphasis on the research thesis stressing fieldwork. There is an enormous time constraint for the data gathering and thesis later on. Due to the tight programme in the first semesters, there is little time for preparation of fieldwork.

The official programme description says that “students are required to do a two-month period of fieldwork in their home country in association with their Master thesis. [...] It is considered advantageous that the dissertation concerns a topic related to the student’s home country or has a direct application there.”

The great majority of students and graduates appreciate fieldwork as an extremely useful element of the IFM programme. Beside valuable experience in data collection and getting to know fisheries in their home countries, particularly the networking effect is important to them. Graduates report positive effects of these contacts on the application process after the graduation.

However, many students would like not to return home but to continue their studies and do a Ph.D. after graduation. This wish clearly contradicts the intentions of the IFM programme and NORAD. The IFM board advises students striving for a PhD to apply for programmes providing research training.

Following the official description of the programme, “Norwegian students are encouraged to do their fieldwork in developing countries or in Eastern Europe.” This is a great motivational factor for those applying to the programme. They expect in a way to be assisted in the organisation. Although the financial contribution to such an enterprise is limited to a small share of the costs, the NCFS can assist these students through contacts and institutional agreements.

3.6 Supervision of fieldwork and master thesis

While the supervision for the master thesis generally is rated high among former students and fresh graduates, the preparation and supervision in the time of the data gathering is considered very poor.

The first year of the master programme is challenging for the students. They have to cope with a tight class schedule and exams in the main subjects and simultaneously adapt to a new living environment and study culture. In the current study outline they also have to find a topic and a supervisor for their thesis and prepare their fieldwork, although the 1998 design of the programme did not include fieldwork in the individual student’s home county.

Finding a topic with an interesting and viable research questions as well as finding supervision for the master thesis is not easy for both Norwegians and foreign students. However, the time pressure in the IFM programme lets the students feel desperate quickly.

Most of the former students are very satisfied with their supervision, although some claim that the amount of time and effort varies enormously between the teachers (not between the students supervised). Some feel therefore the obligations in the supervision relationship should be more rule-based or coordinated. The official time budget for supervision of a master thesis at the NCFS is 60 hours. Following the teachers, most IFM students get much more.

Likewise, supervisors are generally satisfied with the students they oversee. Although there is a lack of experience in scientific writing, language skills and time, most students seem to meet the standards of the supervisors. The IFM-students are described as generally more determined than other students.

Regarding fieldwork, supervisors are thankful for new insights from different settings. With one exception the interviewed teaching staff voted in favour of the fieldwork element and thus a research based master programme. They find the results worth the effort, however see room for improvement in the preparation for data collection in the field.

3.7 Country profiles – an interdisciplinary course?

When asked which course they personally found most interesting and helpful in the programme, the majority of students and graduates named the course on “Country Profiles” (SVF-3552). One could call this a surprising answer since the programme board regards it as a minor course and rewards only 5 ECTS-credits for its completion.

As reasons for their choice the interviewees mentioned:

- I got to know a lot about my own country.
- I got to know about the others’ countries – and that was a real international experience. We had a lot more understanding for each other afterwards.
- It was the only interdisciplinary course, since all three disciplines have to be integrated in a country profile.
- The course was a good preparation for the fieldwork.
- The teaching and especially the students’ oral presentation was very good.

The only drop of bitterness was the shortness of the course and the insufficient English proficiencies among the students.

Since the interdisciplinary element was the outstanding advantage of the course – and something other courses lack – the course could be given a better position within the overall design of the programme and serve even more as a link between the disciplines. In addition, it might help to highlight the individual – broad and varied – qualities. That again is an important motivational trigger.

A stronger focus on social sciences and law is also supported by an evaluation committee in the Norwegian Research Council stating in its 2001 report on fisheries management research in Norway, that the social sciences can contribute with an interesting perspective.

3.8 Recruitment and promotion after graduation

Although the data does not allow for representative conclusions, the replies from the former IFM students give a fairly positive picture.

Most foreign graduates report a salary rise due to their new degree. While some have returned to their previous working places, others have obtained new positions either in state agencies, business, interest organisations, or even with the United Nations. For all of them the IFM programme was regarded relevant to their work.

Already during the programme, the students feel a clear distinction between those with a job promised after their return (NORAD students) and those not having one (Quota and others).

European students, including the Norwegians, have a less enthusiastic perspective on the job market. Due to the general high level of education in Western society, they are more sceptical whether the actual competences obtained are sufficient on the job market. Thus, the latter group advocates a stronger focus on juridical aspects and large scale fisheries management.

4 Organisation of the programme

The IFM programme board is very proud that the drop out from the programme is very low. About 90 per cent of the IFM students follow the whole programme in the given time frame and are awarded a Master of Science (M.Sc.) in International Fisheries Management. The students may leave the programme after one year, upon which they receive a transcript of records on the completed courses. However, that has been the exception. The low drop out rate could be considered as an indicator for high programme quality.

4.1 Intake

The two year master programme starts in August every year. Application deadlines are for Quota and NORAD December, for Norwegian students April. Formal requirements is a B.Sc., B.A., Cand.mag or equivalent education (at least two years at university level).

For the annual intake to the IFM programme between 200 and 300 applications are sent in.

Intake is processed in the following steps:

- 1) All NORAD applications are addressed to SIU in Bergen, where they are registered. Other applications go directly to the University of Tromsø.
- 2) The international office at the University of Tromsø checks and verifies the documents.
- 3) The IFM- programme coordinators take a look at the applications (ranks them, but does not communicate this ranking to the board before they have read the applications themselves)
- 4) The IFM board reads the applications, discusses them with programme coordinators and makes decision on intake. (Teachers are ad hoc involved in reading, sorting, and ranking of the applications.)
- 5) The central intake office at the University of Tromsø sends out responses to applicants.

4.2 Problems with the intake

The following aspects have been described as problematic in the intake criteria and procedure:

- The English proficiency is not sufficient although the applicants pass the requested tests.
- Marks and degrees tell little about actual competences.
- The quality of the students is difficult to evaluate without meeting them.
- When choosing the candidates the preferences have to be ranked between academic quality and the aims of development help. This is a problem

expected to be solved in the future when only candidates from participating institutions will be selected.

- The students come from very different geographical regions. The geographical composition of the class is a challenge. Yet, students from fishing nations are prioritised.

Closer cooperation between NCFS and its partners in the respective countries might improve the situation although the teachers say there is no significant difference between quota and NORAD students when it comes to scientific competences. Sometimes the Quota students are even regarded more eager in their studies since they chose the programme voluntarily and do not have a job guarantee.

4.3 Funding scheme

The funding scheme of the IFM-programme is mainly based on two pillars: The University of Tromsø and the NORAD-support. While the University of Tromsø finances two full time positions (to date held by the biology and the economics disciplinary coordinators), the external part of the IFM budget covers the rest of the teaching and the programme coordinators. The originally halve position for a programme coordinator was extended to a full position by 2003 – with the NCFS financing 25 per cent.

That means that the NORAD budget plays a pivotal role for the function of the programme to date covering estimated 3500 working hours for NCFS teachers within the IFM programme.¹ Changes in the overall funding of Norwegian higher education by the *Quality Reform* will also cause changes in the financial equipment of the Quota-students. As it is the case for the Norwegian students, “money follows the (Quota) graduates”. Considering the low drop out rate and efficiency, these changes can have a positive financial effect for the programme and thus the NCFS. According to the IFM board, their programme has been responsible for one third of the NCFS study credits during the last years.

Improvising the teaching through the IFM external budget not only causes organisational problems within the IFM programme, but also within the rest of the NCFS. Teachers outside the IFM programme have criticised the use of almost two full positions (1500h) on IFM that were originally intended to cover other educational purposes (namely the Norwegian “fiskerikandidat”).

The founding team of the programme see a serious misunderstanding among the NCFS colleagues: “The programme was accepted on what we got, underfunded or not. The NCFS Board said YES, and that’s it! Everybody would have liked to see more resources but what we got were two positions+1/2 administrative staff+ generous funding from NORAD.”

¹ Thus, the ongoing NORAD-evaluation is followed with great concern for the future of the IFM-programme.

This criticism on funding and organisation of teaching was especially raised during the somewhat “chaotic years 2000- autumn 2003” (interviewee) and things seem to have improved a by 2004. Nevertheless, the situation is not considered entirely satisfying yet.

Teaching staff consist of:

- The IFM-programme applied for six positions from the UiTø, but only got two. The rest of the teaching has to be managed by the existing staff capacities at NCFS.
- One disciplinary coordinator in biology (UiTø)
- One disciplinary coordinator in economics (UiTø)
- One disciplinary coordinator in social science (IFM)
- “Hired” staff mostly from NCFS (IFM)

Administrative staff

Two programme coordinators share one full position (75% externally funded, 25% financed by NCFS), both 50% positions). They serve as administrative support of the IFM board and are the students’ contact persons for most matters.

4.4 The coordination of teaching - “Too many cooks spoil the broth”

The organisation of the teaching has been criticised in the interviews among teaching staff. Communication has been described as personal contact with few elements of formal communication. IFM-courses are rather loosely coupled to the institutes’ regular teaching and decoupled from the institutes teaching budget. This is a particular problem for IAB and has been a minor one problem for the other institutes.

Working well where regular personal contact is established these communication procedures cause confusion and even irritation in less customary relations. In the past the unclear responsibilities have been the bone of contention.

Teaching is organised – very much ad hoc by personal contact through the disciplinary coordinators. At the same time the programme board (largely congruent with the coordinators) decides on budget for teaching and the departments organise the teaching for other programmes. This triangle is a real challenge.

Bargaining on teaching budgets is time consuming and exhausting for the teacher in the middle.

Teaching staff has three contacts and these do not necessary relate to each other: “The institute pays my wage, the coordinators ask whether I am willing to teach in the IFM programme and the IFM board sits on the money. We have three cooks not talking to each other. And you know, too many cooks spoil the broth.”

The head of the IFM board traces the bargaining as a problematic issue back to the conception of the IFM programme as something special. If accepted as an ordinary NCFE programme, most problems in this respect would disappear. He calls this perception based on a misunderstanding of the status of the study. "NORAD has granted money to get something produced, the IFM Board secures value for money. Without any specific NORAD funding the programme would not have existed."

Teaching personnel changes over time and so change content of teaching, teaching materials and personal teaching skills. Some of the teachers have conducted courses since the programme started in 1998, while others have not taught a class before. The individual teacher has mainly full responsibility for his teaching and takes care for updating and adjustment of teaching material as well – in case of biology – organisation of laboratories and the field trip to the Lofoten islands.

In order to do so routines and reliable information on number of students, amount of teaching and responsibilities within the programme has to be provided. This might reduce the impression of a "lottery from year to year".

Teaching material is arranged and updated by the individual teachers. There is no overall programme coordination of the teaching material. This means that the material ranges as the teaching qualities range. Some teachers make the effort to arrange for special readers with pedagogical structure; while in other classes students find it difficult to link the assigned reading to the content presented during the lecture. (English proficiency is an issue here, too.) Some teachers have raised the question whether the board knows, what is taught at the grass root level.

4.5 High communication costs

The terms of references for this evaluation mention a certain fatigue among the founding fathers of the programme. That is – after 6 years – no surprise:

- The coordination of teaching is mainly based on personal contact and effort among the coordinators and the teaching staff.
- Due to its lack of routines, the coordination of the programme is personally tiring and even frustrating – especially when high personal involvement meets with disapproval from the colleagues at the NCFS. That is especially the case for the biology department.
- The IFM runs a double structure with its own budget within the NCFS. Despite its special status as the largest externally funded project at the NCFS. The head of IFM board recognizes more of an advantage than a dilemma in this. “Since the IFM board knows where the problems are, we can allocate money accordingly, within the given budget. More studies at NFH should be run according to this model, not less!”

4.6 Role of the Norwegian students

Some Norwegian students and graduates have expressed their wish for improvement in a letter to the NCFS (dated 03.05.2005). These 4-6 (former) students have met a couple of times to discuss issues they think could help to improve the programme. Their perspective corresponds in largely to what the foreign students expressed in the interviews.

The Norwegian students are especially interested in a clarification of their role in the programme, since they are officially students, but unspoken a help to both the administrative and the teaching staff. They become interpreters for daily Norwegian university life and a helping hand for other issues. While the administrative leadership is conscious about the relieving effect of the Norwegians in the class, the individual student meets the situation unprepared. Before they are aware of their specific responsibilities they become class spokespersons and group leaders within the class. The Norwegian students feel dually excluded both from the international and from the NCFS-sphere. Acknowledged the specific responsibility Norwegian students have in the programme, their concerns should be taken seriously. They like to assist their foreign colleagues, but ask for a better preparation and support by the IFM-staff.

4.7 Field trip

Both, biology staff and students agree that the trip promotes the understanding of fisheries technology. Spending time on a vessel and working together has both social and disciplinary aspects. Some students said that maybe there was too much focus on the social features and that they would have liked to do more project work while being on the ship. Since most

students asked for more elements of social science in the study, the trip could be extended or supplemented by social science elements.

While the students were unhappy with the trip taking place in the dark time of the year, the researchers were excited about the fish they caught and the programme coordinators emphasised the positive fact, that there is a student activity in that time.

Internet and electronic registration

Technical difficulties with new technology for student course registration and information at the UiTø created a lot of confusion, extra work and thus irritation and annoyance among both students and staff. Some of these technical problems came with the launch of the new system and are evened out by now. The calendar tool supports students and staff and can help to avoid confusion. However, regular updating of this central system stays a challenge.

In addition, the students ask for more detailed information on the net and are especially interested in additional information on choice opportunities for courses, exams, deadlines, rules for exceptions, juridical institutions and complaint management.

4.8 Adjustment to the Norwegian lifestyle

Travelling and living in a country that is completely different from the place one comes from is a challenge for everyone. Due to its geographical position, Tromsø seems to be extra challenging for students from developing countries. The food and climate is completely different from what they are used to, and so is the price level. The latter is an important hindrance for social activities, since most students choose to rather send money home than spend it.

The students are well received by IFM-staff at arrival and accompanied to their student home. Apart from minor problems at their side (with insufficient clothing, weekend arrivals and a lack bed sheets), the students felt very welcome.

The UiTø does a very good job in the introductory week in order to help the students to understand some basic elements of culture and (university) lifestyle in Norway. At the same time the students get to know each other. The Norwegian IFM-students claim that this is one reason why they feel double exclusion. They are expected to integrate in a already formed group and are simultaneously expected to act as cultural interpreters without knowing what the foreign students already have been told.

The introductory meeting at the NCFS in the second week seems to be packed with information the students are not capable to process after a week with new impressions. At the same time the information passed on is crucial for the studies. The students learn about their choices, exam procedures, teaching, their rights and the expectations they have to meet. In

order to avoid later confusion and additional coordination, the same information should be accessible on the intranet and handed out in the beginning. More technical information on library, reading rooms, key cards, provided material, book and copy regime should be included.

Cultural differences are the topic of a seminar in the second semester of the IFM-programme. Most students found it very helpful and enjoyed the international experience. They learn about cultural value patterns, culture shock and mutual respect. They are also told about Norwegian values like equality and short power distance, but mentioned in the interviews, that they could not recognize these values in university life. The fine distinctions are a real challenge for the students and require a higher awareness among the IFM-staff for the real needs of the students. Although class room discussion and critique is welcome, the foreign students do not open up for that in public. To give an example: the students felt uncomfortable discussing the evaluation results in class. Opposite to the Norwegian habit of open dialogue, students interpreted the conversation as sign of disrespect towards the anonymous remarks of the evaluation.

4.9 Student coordination

In the IFM-programme, the programme coordinators are very helpful for students with personal and social challenges. The coordinators have exceptional role as personal contact as well as information source. The two women are very enthusiastic about their work. That is generally appreciated by the students. However, this personal consulting consumes a lot of time and might even lead to less integration of the IFM-students in the Norwegian environment since help is easy to get. There is a thin red line between enabling and disabling for cultural adjustment. One African student said: “Although it sometimes is very lonely, I rather overcome difficulties alone, because that is when I learn most.”

The role of the coordinators is perceived undefined something between a treasurer (for the scholarship funds, thus a respect person) and a family member (thus a trust person). Due to their previous experiences, students have varying interpretations of how much power the programme coordinators actually have. That makes them sensitive about equal treatment and shows a more explicit communication of the tasks (and power) of a programme coordinator.

The coordinators’ office is open every day and has an open door policy. (Holidays and leaves should therefore be indicated on the internet.). It can be highlighted that IFM students get much more attention and resources than any other group of students at the university.

4.10 Social activities

The social activities are important tools to create group coherence. Currently the following activities are organized beyond the introductory week:

- Welcome party

- Christmas party
- Christmas stay with a Norwegian family
- Easter party
- Ice skating
- Boat trip
- Boat trip to Lofoten (both study trip and social activity)
- A course on intercultural communication
- and the graduation

Some students have their difficulties with the programme:

- The dates collide with exams.
- The dates are linked to Christian holidays.
- Cultural traditions clash: Muslims can not drink or dance in mixed public. Some religions require strict mourning periods when a relative dies.
- The social programme is organized top-down (by the programme coordinators)

This means that the party format for social activities might not be appropriate to the IFM-students. The Norwegian students have come up with suggestions for alternative activities:

- Norwegian camp fire trip
- Skiing trip
- Ice fishing
- Fishing trips in traditional boats
- Planetarium show
- Whaling
- Tromsø museum

The IFM students also asked for more freedom to organise events themselves. This is highly appreciated by the board and programme coordinators.

4.11 External challenges for the IFM-programme

The upcoming external challenges for the IFM programme are mainly linked to policy changes in the funding institutions. Firstly, the Quota programme shifts its focus from individual to institutional selection processes, where partner institutions in the countries of cooperating gain importance. Secondly, the NORAD programme is object of a thorough evaluation, after which basic pillars of the scholarship system might be revised. This could have severe implications on today's IFM funding model.

Thirdly, graduated Quota students – like the Norwegians – cause a cash flow according to the Quality Reform.

The final challenge though will be the overall strategy of the NCFS as the interdisciplinary profile makes NCFS special within the University of Tromsø. Drawing its main advantage from its multidisciplinary environment, the IFM programme is strongly dependent on the strength of the NCFS to keep it up in the future.

5 Conclusion and recommended tasks to tackle the challenges

Students, graduates and staff regard the work of the IFM programme a success and a definitely find it worth taking the effort to improve the programme. The source of dissatisfaction is in most cases either based on insufficient information or poorly coordinated action, while the academic standard is commonly approved by the interviewees. The NCFS has a long tradition for inter- or multidisciplinary education and research and is therefore an excellent institution for an interdisciplinary master programme for international students. Additionally, as one of the largest fisheries nations, Norway should have a specific responsibility for capacity building in this field.

The IFM programme has – as the only programme taught in English at the NCFS – contributed to shape an international profile in teaching for the benefit of students from developing countries as well as European exchange students. It played an important role in the establishment of cooperation and exchange agreements with other universities and research institutions all over the world. In addition, the thesis and fieldwork conducted by the IFM students has been a valuable contribution to the research by the supervising staff.

The IFM programme is already clearly an asset for the NCFS. Being the only international programme offered by the NCFS, the programme also makes the whole NCFS more attractive to foreign students and thus international exchange programmes. This again is for the benefit of the Norwegian students.

The following recommendations fill in, where this evaluation report points at room for improvement of its organisation and integration:

5.1 General decision

Decide on general aim of the programme: **either *taught* master** with no field work and Norway based data acquisition **or the conscious integration of field work** into the programme by offering courses on methodology *before* the students go to the field. The positive response by the students and the fringe benefits point in direction of the latter strategy. Partner institutions in the respective countries can help to improve supervision during field work.

5.2 Marketing

Be aware of the **label** of the IFM programme! The name of the programme might lead to expectations that can not be fulfilled. When keeping the name be clear in the course description. In order to avoid disappointment on both sides, a new marketing strategy has to address the following issues:

- **What is meant by *international*?** Is it students coming from all over the world? Is it country studies? Is it the nature of the fish not respecting national borderlines?
- **What is meant by *fisheries*?** What kind of fish? What kind of water? Capture or culture?
- **What is meant by *management*?** The disciplines have different understanding of this term. Is it about state regulation, development of small scale fisheries, supra- and international law, or about business? If the board does not want to integrate more elements of business management in the programme, it should be clearly stated in the programme description.
- The IFM programme is – fieldwork based thesis or not – a fisheries management education, not primarily a research education and definitely not meant as PhD preparation. Advertising has to be clear about what type of students NCFS would like to attract.

5.3 Concentrate content and develop strategy

Today's programme covers everything from maritime capture fisheries to fresh water aquaculture, from Barents Sea to Cape Horn, from small scale to large scale fisheries, from industrial to development countries. That is a lot within two years considered that the programme is also multidisciplinary. A thorough review of the disciplinary strength and an open discussion on the future strategy can help to highlight the excellent conditions for such a programme at the NCFS.

In order to achieve concentration, a **strategy seminar** should be hold after the evaluation by the Danish Institute for Fisheries Management.

A clearer strategy for the programme will also help to develop a better **intake strategy**. At the present state it is difficult to come up with suggestions. The currently discussed closer cooperation with partner institutions is only partially helpful for the recruitment of future students while more effective when it comes to the supervision of field work activities.

The teachers and students are generally satisfied with the intake of students. As in other classes there are excellent and less excellent students in the programme. Most students get to know the programme either via internet or by acquaintance.

5.4 Interdisciplinarity and communication

The **interdisciplinary elements** in the programme are generally too little developed. A change in strategy should involve a special attention to teachers since there is no clear definition of interdisciplinary collaboration. The staff of the Centre for Marine Resource Management is enthusiastic about their interdisciplinary research. This could be “contagious” for the teaching.

Thus, a high student involvement in actual learning has to be encouraged. The students liked the course on “Country profiles” a lot, both because they were extremely involved in the teaching and because of the interdisciplinarity implied.

There seems to be a lack of **formal communication routines** for teaching staff and students, such as extended reliable and updated information on the intranet. An internal newsletter and information meetings can hold staff and NCFS leadership updated.

To address matters of the overall organisation, a firm **line of command and clear responsibilities** would help to structure decision-making among IFM-Board, institutes, disciplinary and programme coordinators – and the rest of the NCFS. An academic programme coordinator with interdisciplinary profile could become a scientific contact person and the programme coordinators could handle social affairs. The interdisciplinary academic coordinator could offer a course with interdisciplinary profile bridging the disciplines and take responsibility for informing students about teaching matters.

Acknowledge the special situation of Norwegian students in the programme and prepare them for their responsibilities. A one day seminar, where programme coordinators and second year Norwegian IFM students share their experience, probably is enough.

The **IFM programme could be better integrated into the NCFS**. Both the Norwegian and the IFM students are interested in a better exchange between the students at IFM and NCFS. In addition, the NCFS leadership has uttered the wish for a stronger administrative integration to overcome the double structure several interviewees have called a “state in the state”. In line with the new studies at the NCFS some modules can be shared by several programmes.

Joint actions have to be taken by the IFM board and the NCFS leadership:

If the programme is established as an ordinary part of NCFS activities (although with a special funding structure), they have to **explain that model** more clearly to the staff. The latter still consider the IFM programme as something special because of its funding.

The relationship of IFM budget and the NCFS budget has to be discussed.

Resources additional to the incentives offered through the general system of higher education can only be acquired through more active selling through specific NORAD programmes.

Better integration of the IFM students into the NCFS environment can be achieved by **opening the classes** for others. It might be reasonable to integrate the classes better into the rest of the NCFS lectures. Both teachers and students appreciated the presence of exchange students in the class and would like to open up for Norwegians, too.

The IFM students are not aware of the choices and **options** they have within the NCFS. Enhanced information will help them make their decisions. There are courses taught in English like the first semester introduction into aquaculture.

So far, class representatives in student council had to be Norwegians has upset some students. In the IFM programme both foreign and Norwegian students have suggested sending **foreign students as representatives**. This might confront the NCFS-students with the foreign students and their need for integration, but leads also to language difficulties.

By creating a “**buddy**”-system (*fadderuke*) for the IFM students the workload for coordinators and Norwegian IFM-students decreases in the first weeks. It also helps to bring together Norwegian and foreign students.

Most foreign students are not familiar with the various **voluntary student groups** at Norwegian universities. By means of inviting the groups within the NCFS to present their work (in English) the IFM-students could be encourage to join these groups.

5.5 Thesis and supervision

Staff and students have agreed that the preparation of the fieldwork and thesis in general has to be improved. Three actions can be taken to tackle the challenges of fieldwork and finding topic and supervision

Firstly, a meeting for the preparation of the thesis can smooth down anxiety among the students. In such a meeting, research topics can be suggested by staff, terms of supervision and examination rules can be explained. Capacity among supervisors is limited – for IFM students as well as all other students – however the IFM students have a tighter time frame. Secondly, teachers and possible supervisors (e.g. from the neighbouring “Fiskeriforskning”) outline research areas for master theses and place them on the website. There should also be a list of the finished master theses under the supervisors’ profiles.

Thirdly, fieldwork has to be prepared in a course on research design and data gathering.

The cooperation with **partner institutions in the respective (development) countries** seems to work well, but can even be extended. The field work (if decided for it) could be partially based and supervised at these institutions. Some of the students have already used the present

opportunities and report this experience as very useful both for the access to data and the contacts in the field.

5.6 Rules and sanctioning

Several students were unhappy with blurred rules and sanctioning in the IFM programme. They experienced inconsistency among the staff involved in the programme. Unlike treatment of students was one of the frequently criticised issues in the interviews with students. The following recommendations might help to tackle this problem:

- Make rules more clear and communicate them also to the teaching staff.
- Tell the students more clearly about their rights and obligations.
- Come up with sanctions to misbehaviour. The students feel after a while they can get away with anything, since the intake as a student almost automatically leads to the master degree.

5.7 Social and additional programme

The IFM programme should open up for a different kind of **social programme** and coordinate the dates with the exams.

Social events could be integrated in the educational part of the programme and be used as field trips. Parties are highly problematic considered the variety of cultural and religious background within the batches.

Social events could also be organised by the batches themselves, or by the second year students for the first year students.

A scientific role play over a couple of days could combine academic and social gathering and could help to build up team work. An event like this would especially be helpful to keep up spirit in the dark time.

There is a gap between research and practise which could be overcome by inviting external partners. Many companies have lately designed strategies for social responsibility and corporate governance, so they might be willing to make an effort in this direction. Three actions can be taken:

Firstly, invite speakers from business, administration, and politics for a weekly seminar on Friday afternoon (open to the NCFS public), some might even like to organise a weekend seminar. To give an example, it could be interesting to discuss the social impact of fisheries in Northern Norway with the mayor of Skjervøy.

Secondly, integrate some of the partners in the field trips (or make the social events in the programme to field trips to these partners).

Thirdly, offer of short internships 1-2 weeks, where IFM-students gain some insight (and write a report).

5.8 Evaluation

This **external evaluation** of the programme has been appreciated by most of the interview partners as they considered their matters being taken up for discussion. For regular evaluation and improvement, **internal evaluation** is the tool to be employed. That has happened during the last years. Yet, the students did not feel comfortable with it. They want their concerns to be kept anonymously and feel uneasy being confronted them with the result of the course evaluation in a discussion round. Opposite to the Norwegians, foreign students experience oral discussions of the results negatively and interpret it as a sign that their (written) criticism is not taken seriously. They would rather like to see an action plan for changes.