



Training course “Fisheries data collection and analysis”

**Capacity Development and Institutional Change Programme
Wageningen International, the Netherlands**

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December 2007

Wageningen International



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1. Introduction

The course “Fisheries data collection and analysis” was organised by the Programme for Capacity development & Institutional Change of Wageningen International in cooperation with Wageningen University – Aquaculture and Fisheries Group. The course was held at the Wageningen International Congress Centre from 1 – 19 October 2007. Funding was provided by Ministry of LNV, Programme Cluster International, project BO 10-005-12. Participants’ costs (course fee, board & lodging, travel, etc) were paid by the Netherlands Ministry of Foreign Affairs through NUFFIC’s Netherlands Fellowship Programme, by CTA – Technical Centre for Agricultural and Rural Cooperation ACP-EU, and by some of the institutions in which the participants are working (indicated as “others” in the last column of Annex 2. The course included 6 days of field work during which Hotel “t Tolhuus” in Warder (province of North Holland) was the base from which activities took place.

2. Objectives of the course

The course focuses on information about fishers, fish stocks and fisheries catch & effort data. The availability of such information in an accessible form is important for the management of capture fisheries.

The course discusses the information needs, sources of information, methods and techniques used to obtain the information.

The objectives of the course have been described as follows:

After the course the participants

- are able to appraise which information is essential for fisheries management:
- are able to apply some tools and techniques to collect data from various stakeholders;
- are better equipped to process fisheries data and prepare such data for evaluation.

3. Programme, lecturers and methods used

The programme of the course is attached (Annex 1). The lecturers and facilitators were staff from Wageningen University - Aquaculture & Fisheries Group (Ir. P.A.M. van Zwieten), Wageningen IMARES (Dr. L. van Hoof, Dr. W. van Densen) and from Wageningen International (Ir. I. Gevers, Ir. P.G.M. van der Heijden). Technical assistance of various kinds was rendered by Mrs I. Poolman, Mr P. Puister and Mrs L. de Vries (all Wageningen International). The programme was coordinated by Mr. P.G.M. van der Heijden.

Being aware of the varied origin, educational background and experience of the participants some general and important topics relating to fisheries management (such as recent developments in fisheries, important paradigms and fisheries co-management) were presented in the first week of the course. The aim of this is to bring all participants on an equal level regarding these aspects of fisheries management. To become familiar with the fisheries and work background of each

participant all were invited to present in the first week their own work situation and/or the fisheries situation they deal with in their job.

Wageningen University, Aquaculture and Fisheries Group was responsible for the component on collection and processing of fisheries catch and effort data in this course (5,5 days). This component took place in week 1, week 2 and 3. It included a 1.5 days role play in which fishermen and government representatives were each given their own fisheries data set and interests, and together had to negotiate and agree on a set of fisheries regulations to deal with a fisheries management issue in a lake. The aim of this role play was to become aware of the effects of having different information and interests (as a person and as an important stakeholder group on fisheries management) on the negotiation results leading to fisheries management regulations.

Socio-economic data needs for fisheries management were discussed by a lecturer from Wageningen IMARES. Certain tools and techniques such as stakeholder analysis and semi-structured interviews that can be used to collect fisheries and socio-economic information from various stakeholders were discussed by Wageningen International staff. The techniques were practised during a 5 days rapid rural appraisal exercise that took place along Lake IJssel, Hollands largest lake. Having heard the general background of this lake and its fisheries the participants were asked to look during this exercise deeper into the effectiveness (from the point of view from the various stakeholder groups) of 2 management measures that had been implemented some years ago. After 2 days of data collection from a wide range of stakeholders by means of semi-structured interviews and review of secondary information followed by 2 days of intensive analysis of the collected information the participants presented the results of this brief study on the last day of this exercise and prepared a brief report of their findings.

Besides from lectures/presentations and discussions several fisheries management related films were shown. The participants were also asked to discuss each day with their "buddy" which parts of the day's programme had been particularly interesting and useful for them. They were advised to report the outcome of this brief exchange in their course logbook and use this logbook to prepare the personal action plan. The action plans were presented during the last day of the course.

Besides from the educational subjects the participants took part in some social events such as a walk through Wageningen during the first day of the course, and a farewell dinner in the last week of the course. It has to be mentioned that the atmosphere that developed during the course was very pleasant. Testimony to this is the frequent jokes that are still exchanged via e-mail almost 2 months after the training course ended.

4. Participants

Seventeen participants from 8 countries took part in the training course. Their names and background are listed in Annex 2.

5. Action plans

Soft copies of the action plans of the participants are accompanying this report. The course coordinator intends to follow up on the execution of the action plans 3 and 6 months after the end of the training course. Purpose of this follow-up is to find out what part of the action plan has indeed been executed, and what prevented the implementation of the part that was not executed.

6. Evaluation results

The participants were requested to fill in each week an evaluation form in which the subjects that were discussed that week could be scored on the following aspects:

- the way the subject was presented
- to what extent it increased the knowledge/skills
- how relevant the subject was for the participant's work
- if it was too easy / difficult
- if the time allotted to this subject was insufficient/just right or too much.

The participants could give a score from 1 to 5. For the first 3 aspects a higher score means a more positive opinion. For the last 2 aspects a score of 3.0 is optimal, meaning that the subject was not too easy or too difficult, and that the allotted was just right. In addition the participants were invited to note additional comments they might have about the subjects of the week on the forms. The average scores given by the participants for the different course elements is listed in ANNEX 3 – 5.

On "Quality of the hand-outs":

The weekly evaluation forms include a column in which a score for the quality of the hand-outs can be given. At retrospect it has to be admitted that such column is a remnant of the past. At present it seldom happens that lecturers write a summary of their lecture; instead the Power Point is commonly used and on request the participant can receive a print-out of the presentation before or during the session in which the presentation takes place. However, many lecturers manage to finish the preparation of their class and their Power point presentation only the day before. Also, many participants are content with receiving the presentation only as a soft-copy on CD at the end of the course, and in this way the paper consumption during the course is reduced. Hence the average score for this aspect in the tables of Annex 3 is often based on the marks given by only 1 or 2 participants.

In a plenary session during the last day of the course the whole group of 17 participants were invited to give suggestions for improvements. The suggestions are listed in Annex 6.

7. Additional remarks

After we received the news, just a few days before the start of the course, that the expected participant from Guyana could not come to Wageningen it was fortunate that Mrs Murray from Jamaica could arrange her travel and visa on such a short

notice. She arrived late during the first week but managed to catch up and blend in very well in the group.

ANNEXES

Annex 1	The course programme
Annex 2	The participants
Annex 3	Average evaluation score of all participants week 1
Annex 4	Average evaluation score of all participants week 2
Annex 5	Average evaluation score of all participants week 3
Annex 6	Suggestions for improvement

ANNEX 1 The course programme

Week 1	Monday 1 Oct	Tuesday 2 Oct	Wednesday 3 Oct	Thursday 4 Oct	Friday 5 Oct	Saturday 6 Oct	Sunday 7 Oct
Morning Registratie: 8.30 opening 10.00 hr koffie 10.45 hr	1.1 Registration 1.2 Introduction of participants 10.00 hr Opening of the course	1.6 Fisheries Co-management; (PvdH) 1.7 Ecosystem based approach to Fisheries management (PvdH)	1.9 The quality of the decision making process from a biological perspective (van Zwieten)	1. 11 Fish. Data collection: participants' situation	Management on the basis of science or fisheries statistics? (W. van Densen IMARES IJmuiden)		Social trip to Amsterdam
Afternoon	1.4 Fisheries management: a brief history (PvdH) 1.5 Paradigms & Objectives (PvdH) Walk through Wageningen 16.30 / 18.00	1.8 The quality of the decision making process from a biological perspective (Van Zwieten)	1.10 Trends: ability to perceive trends and spatial variation (Van Zwieten)	1.12 Information tools for fisheries management: models and indicators (Van Zwieten)	1.14 Working with data in data limited situations (Van Zwieten)		
Evening			1. 11 Fish. Data collection: participants' situation	1. 11 Fish. Data collection: participants' situation			

Week 2:

Week 2	Monday 8 Oct	Tuesday 9 Oct	Wednesday 10 Oct	Thursday 11 Oct	Friday 12 Oct	Saturday 13 Oct	Sunday 14 Oct
Morning	2.1 Social and economic data: needs & methods (L van Hoof)	2.3 Stakeholder analysis (WI) Ingrid Gevers	2.4 Rapid Rural Appraisal (WI) Ingrid Gevers	2.6 Field work: Data collection	2.6 Field work: data collection	2. 7 Field work / data analysis	2.7 Field data analysis
Afternoon	2.2 Graphical communication of information (AFI) Van Zwieten	2.3 Stake holder analysis (Cont.) Ingrid Gevers	To field work area:	Field work: data collection	Field work: data collection	Field data analysis	2.8 Preparation of presentation
Evening			2.5 RRA Methods & Techniques (WI)				

Week 3:

Week 3	Monday 15 Oct	Tuesday 16 Oct	Wednesday 17 Oct	Thursday 18 Oct	Friday 19 Oct	Saturday 20 Oct	Sunday 21 Oct
Morning	3.1 Presentation of results to stakeholders	3.2 Looking back to field work Fisheries films	3.4 Role play (van Zwieten & van Densen)	3.4 Role play: information and interest in co-managing fisheries (v. Zwieten & van Densen)	3.6 Action plan presentations		
Afternoon	Return to Wageningen	3.3 Working with data-limited situations (van Zwieten)	3.4 Role play (cont) (v. Zwieten & van Densen)	3.5 Working in data-limited situations (van Zwieten)	3.6 Written evaluation 3.7 Course evaluation (plenary) 3.8 Closing		
Evening				Farewell party			

ANNEX 2. List of participants

	Name	Country	Age	Education	Employer	Job /tasks	Funding
1	Mrs Eskedar Tariku	Ethiopia	38	MSc Aquaculture (Gent)	Zeway Fisheries Resources Research Centre	Ass researcher on all aspects of fisheries	NFP
	Mrs Remy Herlindah	Indonesia	37	M Appl. Sc. Australian Maritime College (Living Marine Resources)	Mulawarman University	Lecturer various fisheries subjects incl. Data Analysis	NFP
3	Mrs Irma Kesaulya	Indonesia	41	PhD candidate Biological Oceanography, (Flinders Univ, Australia); MSc Marine Ecology, University of Brussels)	University of Pattimura	Lecturer, Research & Community Service	NFP
4	Mrs Carolyn Lwenya	Kenya	36	MPhil Moi University, Environm. human ecology	Kenya Marine & Fisheries Research Institute (Kisumu)	Lecturer / researcher (Biological Oceanography)	NFP
5	Mr Joshua Abiodun	Nigeria	36	MSc Statistics, Doing PhD in Fisheries Statistics	Nat. Institute for Freshwater Fisheries Research (New Bussa)	Prin. Research Officer, does frame & catch assessment surveys inland waters	NFP
6	Ms Ogunkua Modupe Adeyemi	Nigeria	56	MSc Aquaculture (in Wageningen!)	Ondo State Agric Dev't project	Dep. Director, Fisheries Services, supervises fish. data collection	NFP
7	Mr Jospeh Sululu	Tanzania	30	BSc Aquat. Environm. Science & Conservation	Tanzania Fisheries Research Institute	Researcher, coastal waters, stock assessment.	NFP
8	Mrs Kathy Baier-Lockhart	Turk & Caicos Islands	34	BSC Biol & Environm Studies, USA	Dep't of Environm. & Coast. Resources	Scientific Officer, does stock assessment.	others
9	Mr Armando Tembo	Mozambique	30	BSc Economics, Intern. Univ. of Africa in Sudan	Min of Fisheries, dep't of Planning & Statistics	Establish Internal service of statistics collection	others
10	Mrs Elsa da Gloria Patria	Mozambique	30	BSc Biology & Chemistry	Dep't of Fish Man't, Ministry of Fisheries	Sen. Technician, data collection & analysis	others
11	Mr Herminio Tembe	Mozambique	45	MSc Fisheries Science, Hull University (UK)	Dep't of Economics, Min. of Fisheries	Nat. Directorate for Fisheries Economics	others

12	Ms Anginette Murray	Jamaica	32	MSc in ??	Fisheries Division, Ministry of Agriculture & Lands	Marine research Analyst	CTA
13	Mr Roy Aseka	Kenya	36	BSc Botany/Zoology (Panjab Univ)	Dep't of Fisheries, Min of Livestock & Fisheries Dev't	Sen. Fish. Officer, Data Collection, Extension, etc	CTA
14	Mr Cyrus Mageria	Kenya	26 ?	MSc Aquaculture, Wageningen University	Ministry of Livestock & Fisheries	Fisheries data collection, pre of stat bulletins	CTA
15	Mr Stephen NDegwa	Kenya	35	BSc Fisheries	Min. of Livestock & Fisheries	Data collection	CTA
16	Mr Ebere Erondu	Nigeria	51	PhD Fisheries	University of Port Harcourt	Sen. Lecturer, Fisheries & Aquaculture subjects	CTA
17	Mr Anthony Nlewadim	Nigeria	46	PhD Fish Breeding & Genetics	Michael Okpara University	Sen. Lecturer in various Fisheries subjects	CTA

ANNEX 3 Average evaluation score of all participants week 1.

Date	WEEK 1 Activity	1	2	3	4	5	6
		Presentation of subject (1...5)	Increase of knowledge/skills (1...5)	Relevance to your work (1...5)	Quality of Handout (1...5)	Difficulty (1...5)	Time allotment (1...5)
1/10	Fisheries management: a historic perspective	4.4	4.1	4.3	4.3	2.2	3.1
	Paradigms & Objectives of fisheries management	4.4	4.0	4.4	4.3	2.7	3.0
2/10	Fisheries Co-management Ecosystem based approach to Fisheries management	3.9	3.9	4.4	3.9	2.9	2.9
	The quality of the decision making process from a biological perspective	3.8	4.1	4.4	3.8	3.3	2.8
3/10	The quality of the decision making process from a biological perspective	3.7	4.0	4.6	3.9	3.1	2.7
	Trends: ability to perceive trends and spatial variation	3.9	4.1	4.7	3.8	3.2	2.5
	Participants' situation	4.3	4.3	4.3	3.4	2.3	2.5
4/10	Information: tools for fisheries management: models and indicators	4.1	4.2	4.6	3.7	3.2	2.4
	Participants' situation	4.1	4.3	4.5	4.0	2.5	2.9
5/10	Management on the basis of science or fisheries statistics?	4.6	4.3	4.7	3.8	3.1	2.7
	Working with data in data limited situations	4.4	4.5	4.6	3.6	3.2	2.3

Note: for column 1 to 4 a score of 5.0 is optimal, for column 5 and 6 a score of 3.0 is optimal.

ANNEX 4 Average evaluation score of all participants week 2

Date	WEEK 2 Activity	1	2	3	4	5	6
		Presentation of subject (1...5)	Increase of knowledge/skills (1...5)	Relevance to your work (1...5)	Quality of Handout (1...5)	Difficulty (1...5)	Time allotment (1...5)
07/10	Visit to Amsterdam + Zaanse Schans	4.7	3.9	2.4	3.0	1.6	2.9
08/10	Working with data in data limited situations	4.2	4.3	4.1	4.1	3.0	2.2
	Graphical communication of information	4.3	4.1	4.2	3.8	3.1	2.4
09/10	Stakeholder analysis	4.6	4.4	4.2	4.0	2.8	2.9
10/10	Rapid Rural Appraisal	4.3	4.6	4.0	4.0	2.7	2.9
11/10	Field work: Data collection	4.4	4.4	4.1	4.0	2.5	2.9
12/10	Field work: Data collection	4.4	4.3	4.1	3.9	2.3	2.9
13/10	Field work: Data analysis	4.2	4.3	4.1	3.7	2.7	2.8
14/10	Field work data analysis	4.1	4.4	4.1	3.8	2.6	2.9
	Preparation of presentation	4.3	4.4	4.2	3.7	2.5	2.9

Note: for column 1 to 4 a score of 5.0 is optimal, for column 5 and 6 a score of 3.0 is optimal

Annex 5 Average evaluation score of all participants week 3

Date	WEEK 3 Activity	1	2	3	4	5	6
		Presentation of subject (1...5)	Increase of knowledge/skills (1...5)	Relevance to your work (1...5)	Quality of Handout (1...5)	Difficulty (1...5)	Time allotment (1...5)
15/10	Presentation of results to stakeholders Participants	4.4	4.2	3.7	3.9	2.4	2.9
16/10	Looking back to field work vd Heijden	4.2	3.8	3.4	3.8	1.8	2.8
	Forum: fisheries information vd Heijden	4.3	4.2	3.7	4.5	1.7	3.0
	Social and economic data: needs & methods Van Hoof	4.4	4.2	4.7	4.0	2.4	2.7
17/10	Role play Van Zwieten / Van Densen	4.4	4.4	3.8	4.1	2.6	2.7
18/10	Role play: information and interest in co- managing fisheries Van Zwieten / Van Densen	4.7	4.4	4.1	3.9	2.6	2.9
	Action plan presentations	4.6	4.7	4.3	4.0	2.3	3.1
19/10	Action plan presentations	4.5	4.2	4.2	4.0	2.2	3.1
	Written evaluation	4.8	3.8	3.6	4.3	2.6	3.0
	Course evaluation (plenary)	4.6	4.0	4.4	4.0	2.3	3.1

Note: for column 1 to 4 a score of 5.0 is optimal, for column 5 and 6 a score of 3.0 is optimal

ANNEX 6.

Session: suggestions for improvement (19 October 2007)

After being invited to give suggestions for improvement of the course as a whole the following suggestions were received from the group of 17 participants:

- _ there should be more time/subjects on fisheries data analysis, especially more opportunity to practice on the computer
 - some subjects were too abstract, it should be made more lively.
 - not all participants are on a equal level, there could be some more time devoted to the basic models and to data collection
 - the topic of data collection (methods, design of collection scheme, etc) was not covered well and should be treated in more detail in the future..
 - participants should be advised before they come to the course on what level or what models are expected to be known
 - The title does not fully reflect the content: in the course also management subjects are discussed, such as stakeholder analysis, etc. (Other participants had read the course brochure and were aware that not only catch & effort data but also collection of information about fishers would be covered in the course).
 - I had expected more information about data analysis software, with demonstrations etc.
 - I would have liked to have manuals on fisheries data analysis, to take home (her part of Ethiopia is not well connected to the internet, down-loads from FAO website are not easily done).
 - strongly recommended to maintain the part in the course in which we can work on our own data.
 - try to finish last day at noon, to allow time for shopping and packing.
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