Selvevalueringsrapport for

Centre for Fisheries and Aquaculture Management and Economics

Opdateret til 1-1-2004

1. Faglig præsentation og formål

FAME er et forsknings og Ph.D.-uddannelsesnetværk (forskerskole) indenfor Ressource- og fiskeriøkonomi og -forvaltning, som har til formål at styrke forskningen indenfor området. Dette sker ved at skabe et forum, hvor forskere og Ph.D.-studerende kan mødes og diskutere den nyeste og "state of art"-forskning og præsentere forskningsresultater samt arbejdspapirer. Herigennem får deltagerne muligheden for at udvide deres personlige netværk. Rammen er et omfattende udbud af Ph.D.-kurser og workshops, hvor deltagelse af førende internationale forskere dels sikrer en høj kvalitet i uddannelsesaktiviteterne rettet mod de Ph.D.-studerende dels sikrer den forskningsmæssige dialog og spredning af viden indenfor området. Gennem præsentation af deres Ph.D.-projekter får de deltagende Ph.D.-studerende feedback fra nogle af verdens førende eksperter indenfor området. Desuden gennemføres der en række Ph.D.-projekter under Fame.

Med de deltagende danske institutioner dækker forskerskolen i dag det forskningsmæssige spektrum indenfor fiskeri-, ressourceøkonomi og forvaltning. Netværket er i perioden blevet udvidet fra fire til fem danske partnere.

2. Baggrund og statistik

FAME har fulgt planen med hensyn til planlagte Ph.D.-kurser og workshops i perioden frem til 1-1-2004, nemlig 9 – 5 kurser, 1 seminar og 3 workshops – med deltagelse af samlet 135 Ph.D.-studerende, kandidatstuderende og forskere fra Danmark, Norden, Baltikum, Spanien, Tjekkiet og Thailand, hvoraf flere har været gengangere.

Tabel 2.1 Statistik over FAME´s aktiviteter (gengangere er frataget)

Antal aktiviteter	Antal deltagere	Internationale foredragsholdere	Antal Ph.D.-projekter		Antal publikationer
			Fame	Andre	
9	135	21	7	3	19

Tabel 2.2 Deltagernes geografiske fordeling og faglige status

Status Lande	Forsker	Ph.D.-studerende	Kandidatstuderende
Danmark	22	25	9
Baltikum	5	5	1
Norden	9	33	-
Europa	1	10	-
Andre	14	2	-

Yderligere oplysninger om aktiviteterne findes i bilag 1 bagerst.

3. Status

Under Fame er der pt. ansat 7 Ph.D.-studerende og en post doc-stilling er blevet besat per 1-1-2004.

Som nævnt tidligere har FAME gennemført de planlagte Ph.D.-kurser og workshops i perioden, nemlig 9 med deltagelse af 135 Ph.D.-studerende, kandidatstuderende og forskere. Der er lykkes at tiltrække udenlandske kapaciteter til at undervise/lave indlæg på Ph.D.-kurserne og workshopperne. Desuden har aktiviteterne også bidraget til at de Ph.D.-studerende får dannet sociale og faglige netværk på tværs af lande, uddannelsesinstitutioner og faggrænser, som på sigt gerne skulle føre til en højere grad af fagligt samarbejde.

FAME har fået bevilliget midler fra det nordiske forskningsråd (Norfa) over en treårig periode (2002 – 2004) til etablering af et nordisk netværk indenfor ressource og fiskeriøkonomi og – forvaltning med deltagelse af

nordiske forskere og forskningsinstitutioner. Derved er netværket udvidet til – under navnet Norfame også at omfatte en række nordiske forskningsinstitutioner, som indgår aktivt i samarbejdet.

I løbet af 2002 er de administrative, planlægningsmæssige og markedsføringsmæssige rutiner videreudviklet og tilpasset blandt andet som konsekvens af udvidelsen af netværket. Der er etableret faste procedurer for planlægningen af Ph.D.-kurser og workshops. Workshops får således en mere specifik karakter omkring smallere fagområder mens Ph.D.-kurserne får en bredere faglig og metodisk karakter. Desuden har netværket udpeget faglige ankermænd for hver aktivitet, således disse har det faglige ansvar og skal etablere kontakten til udenlandske kapaciteter og sikre deres deltagelse samt udarbejde egentlige kursusbeskrivelser. Den koordinerende funktion for forskerskolen er etableret og placeret på Syddansk Universitet – Esbjerg, som varetager de overordnede administrative, planlægningsmæssige og markedsføringsopgaver (fx fungerer markedsføringen via annoncering på Fames hjemmeside). Samtidig sendes invitationer ud via maillisterne, breve med plakater sendes til Ph.D.-koordinatorerne, annoncering på Norfas, EAFEs, IFFET og Fishnets hjemmeside. Disse initiativer har i høj grad medvirket til at styrke netværket organisatorisk og bidraget til dets internationalisering.

FAME bestræber sig på at få styrket sit netværk gennem tættere nationalt og internationalt samarbejde med fx det danske miljøøkonomiske netværk, etableringen af et nordisk netværk samt etablering af samarbejdsaftaler med udenlandske universiteter. Samarbejdspartnerne i FAME og Norfame afholdt i oktober et koordinationsmøde, hvor programmet 2003-04 blev planlagt. Der er indsendt ansøgning under EU´s 6. rammeprogram (Marie Curie) for at kunne udvide forskerskolens aktiviteter til også at omfatte europæiske forskere og Ph.D.-studerende.

Samarbejdet giver deltagerne mulighed for at finansiere en forskers eller Ph.D.-studerendes deltagelse i FAME s arrangementer samt til at trække på deltagende institutioners viden og erfaringer ved tilrettelæggelse af kurser og workshops, hvor det er relevant. Samarbejdet kan udvides til at gennemføre tværinstitutionelle forskningsprojekter, og det vil også være en mulighed for at lave fælles EU-ansøgninger. Konkret har samarbejdet ført til at FAME har ansat en thailandsk Ph.D.-studerende fra Kasethart University.

Udover det nordiske netværk er der indgået samarbejdsaftaler med:

Kasethart University Thailand

Dr. Ruangrai Tokrisna, Associate Professor and Chairman of International Program in Agricultural Economics, Department of Agricultural and Resource Economics
Dr. Penporn Janekarnkij, Director, Center of Applied Economic Research, Faculty of Economics

Barcelona University – Spanien

Professor Ramon Franquesa, Gabinete de Economía del Mar

University of Economics Prague

Doc.Ing. Petr Sauer, CSc., Head of Department of Environmental Economics

Hamburg University

Dr. Richard S.J. Tol Michael Otto Professor of Sustainability and Global Change Research Unit Sustainability and Global Change

Fame har desuden arrangeret et Fishnet seminar omkring Multioutput/multispecies modeling of fisheries på FØI med Professor Ola Flaaten (University of Tromsø) og Professor Veijo Kaitala (University of Jyväskylä) 1-10-2002.

4. Vurdering af aktiviteterne

Fame har afholdt de planlagte aktiviteter med særdeles positive evaluering til følge, se bilag 1. De positive evalueringer skyldes formentlig to forhold. For det første har det været nemt til at tiltrække førende udenlandske forskere til at undervise på kurser og deltage i workshops. For det andet er aktiviteterne gennemført som en kombination af forelæsninger, praktiske øvelser, problem based learning, Ph.D.-præsentationer og sociale arrangementer. Gæsteforelæserne har generelt set været begejstret for forskerskolens aktiviteter og udtrykt ønske om at vende tilbage. Tilsvarende er mange af deltagerne gengangere fra tidligere kurser og workshops.

Resultatet har været en spirende networking mellem de Ph.D.-studerende indbyrdes på tværs af institutioner og ikke mindst landegrænser. Kontakten mellem de Ph.D.-studerende og de udenlandske forelæsere har tilsvarende resulteret i enkelte publikationer og arrangement af enkelte udenlandsophold. I takt med de

Ph.D.-studerende når længere i deres forløb og får etableret kontakter og samarbejde med andre Ph.D.-studerende og forskere vil der også publiceres mere, så denne del af samarbejdet vil få større vægt.

Den administrative/planlægningsmæssige funktion i forskerskolen er etableret og fysisk placeret på Syddansk Universitet - Esbjerg og rammerne for samarbejdet er aftalt mellem den administrative enhed og deltagerne i forskerskolen. Dette arbejde fungerer fuldt tilfredsstillende.

Med henblik på udvidelse af forskerskolens internationale aktiviteter er der etableret en række samarbejdsaftaler med udenlandske universiteter og institutter, som enten supplerer eller komplementere forskerskolens kompetencer. Det er lykkedes at etablere et nordisk netværk med støtte fra Norfa. Bevillingen fra Norfa har gjort, at netværket har kunnet udvide aktiviteterne fra de oprindelige 2 kurser og workshops per år til 4 kurser og workshops per år., hvilket klart har styrket netværket.

Netværket er med andre ord udviklet og udvidet i perioden. Ved starten var under halvdelen af Ph.D.-stipendierne besat og samarbejdet i netværket var nyt.

5. Fremtid

På baggrund af forskerskolens aktiviteter og erfaringer på nuværende tidspunkt anbefales det, at aktiviteterne skal fortsætte – også fordi de langsigtede gevinster ved et sådant samarbejde antageligt først realiseres efter minimum 4 – 5 år, fordi indlejringen af erfaringer og viden er en tidskrævende proces, når det sker i et samarbejde mellem mange relativt små forskningsmiljøer. De personlige relationer mellem forskere og Ph.D.-studerende som på sigt skal udmøntes i konkrete projekter, samarbejde og publiceringer er en tidskrævende proces.

Tabel 5.1 viser de planlagte kurser og workshops, som skal gennemføres i 2004 og forår 2005. Der arbejdes stadig med den samme skabelon, nemlig 2 workshops og 2 Ph.D.-kurser per år frem til og med 2005. Foreløbigt er et Ph.D.-kursus planlagt i 2005.

Tabel 5.1 Planlagte kurser og workshops

2004 26 - 28 January	Workshop on New Policies and Options in Fisheries Management
9 - 13 February 15 - 19 March	Ph.D.-Course on Topics in Resource Economics
21 - 24 March	Ph.D.-Course on Income, Wealth, and the Maximum Principle
11 - 13 June	Workshop on Bio Diversity: Management, Economic and the Marine View
2005	Ph.D.-Course on Seafood Markets - Applied Market Analysis

Det er planen, at deltagerne i forskerskolen i foråret 2004 skal diskutere det fremtidige samarbejdes indhold, form og finansiering. FAME har i den forbindelse indsendt ansøgning under EU´s 6 rammeprogram (Marie Curie) for at kunne udvide forskerskolens aktiviteter også at omfatte europæiske forskere og Ph.D.-studerende. Derfor styrker forskerskolen også sine internationale aktiviteter ved at etablere en række samarbejdsaftaler med andre relevante udenlandske institutioner, som kan styrke mulighederne for at få bevillingerne fra EU. Desuden er det hensigten at ansøge om midler til 4 og 5 år hos Norfa til fortsættelse af det nordiske netværk.

Det anbefales, at der fra dansk side fortsat ydes støtte til netværksaktiviteterne, herunder Ph.D.-stipendier, administration og planlægning. Det vil være nødvendigt i et samarbejdsmiljø mellem flere små forsknings- og uddannelsesinstitutioner og vil med det internationale samarbejde betyde en stærk dansk position indenfor feltet.

Bilag 1: An overview of Fames activities and evaluations 2001 – 2003

Activities	Foreign lecturer	Number of participants	Evaluation	Ects -points
Workshop Property Rights and Institutional Changes	Professor Daniel Bromley University of Wisconsin-Madison	21	No evaluation of the workshop	5
Ph.D.-Course Dynamic Analysis and Applications in Resource and Environmental Economics	Professor Jim Wilen University of California, Davis	12	92%good or excellent	5
Ph.D.-Course Markets for Aquaculture Products	Professor Frank Asche Stavanger University College	10	100% good or excellent	5
Ph.D.-Course Economic Valuation of Natural Resources and Environmental Goods	Associate Professor Ståle Navrud Professor Nancy Bockstael Professor Ivar Strand Project leader, Dr. Liisa H. Tyrväinen	22	88 % good or excellent	5
Workshop Theoretical and Practical Issues of Bio-Economic Modeling	Professor Ola Flåten Professor Jim Kirkley Veijo Kaitala	30	70% good or excellent	5
Ph.D.-Course International Trade, Resources and Environment	Professor Graciela Chichilnisky Professor Rögnvaldur Hannesson	22	95% good or excellent	5
Workshop Climate Changes with Focus on Natural Resources	Professor Charles Kolstad Professor Jon Sutinen Senior Researcher Kirsten Halsnæs	30	82% good or excellent	5

Activities	Foreign lecturer	Number of participants	Evaluation	Ects -points
Ph.D.-Course Alternative approach to Cost-Benefit Analysis The Human dimension	Associate Professor Alistair J. Bath Dr Joslin L. Moore Professor Carsten Rahbek Professor Clifford Russell	27	65% good or excellent	5
Seminar Total value of recreational fisheries	Associate Professor Eva Roth Professor Anna Liisa Toivonen	29	No evaluation	None
Fishnet lectures Multioutput/ Multispecies modelling of Fisheries	Professor Ola Flaaten Professor Veijo Kaitala	%	%	
Fishnet lectures Productivity Growth and Technical Change in Common Pool Natural Resource Industries: Accounting for the Environment and Joint Production	Adjunct Professor Dale Squires	%	%	

Bilag 2: Presentation of Projects

1. Tipparat Pongthanapanich

"Optimum Coastal Land Use in Krabi" – Ph-D.-project

2. Erik Lindebo

"Managing Capacity in Fisheries" – Ph-D.-project

3. Elisabeth Hermann Frederiksen

"Endogenous Growth Theory and the Relation to Hartwick's Rule" – Ph-D.-project

4. Jesper Levring Andersen

"The application of production functions in bioeconomic models" – Ph-D.-project

5. Max Nielsen

"International seafood trade liberalisation" – Ph-D.-project

6. Jacob Ladenburg

"Welfare Economic Valuation of the externalities of wind power production- an evaluation of economically efficient substitution patterns between locations" – Ph-D.-project

7. Jens Kjærsgaard

"Management of renewable resources: incorporating multiple objectives" – Ph-D.-project

8. Urs Steiner Brandt

"The political economy of regulation of fish stocks under climatologically uncertainties" – Post Doc Project

1. Tipparat Pongthanapanich "Optimum Coastal Land Use in Krabi" – Ph-D.-project

Previous work and result

My study has been started since September 1st, 2002. The main tasks were done mostly on developing of Ph.D.-research project and planning of the study programme. The project is proposed the topic on "Optimum Coastal Land Use in Krabi, Thailand: Mathematical Programming Approach". The preliminary field survey was implemented in March, 2002. The data collected will be used to improve the entire research framework.

One Ph.D.-course work on "Economic Valuation of Natural Resources and Environmental Goods" held by FAME in SDU-Esbjerg was taken during 13th-17th May 2002.

In addition, two workshops were attended. First, the FAME workshop on "Theoretical and Practical Issues of Bio-Economic Modeling" Sep 30th - Oct 2nd, 2002 in Roskilde. The workshop gives the knowledge relevant on two main parts: 1) efficiency and productivity analysis in a bio-economic context and 2) the bio-economic and economic model demonstration and experiences. This workshop does not only provide sources of knowledge on bio-economic model but also a useful connection amongst experts and Ph.D.-students. Second, the workshop on "Education and Training on Coastal Zone Management", 11th – 12th Nov, 2002 in SDU, Esbjerg. It aims to mainly discuss on three issues: 1) the identification of the activity status quo; 2) evaluating the cooperation strengths and weakness of the program; and 3) developing the outline of future cooperation amongst the North Sea University Network. Teaching work on the topic of "The Economic Perspective on Tourism management" was given to international students in SDU Esbjerg during April 2003.

Work on Process and Plan

The Ph.D.-course on "Mathematical programming for Economic Analysis in Natural Resources" is now taking started from May to August 2003. After the course, one article is expected to be developed which aimed to review literatures on theories, and applications of Mathematical Programming can be applied in the research project.

The workshop on "Climate Changes with Focus on Natural Resources" by FAME will be attended in June 2003. The research project idea will also be presented in this workshop.

Other 4 courses are planned: 1) "Cost-Benefit Analysis on Human Dimension" by FAME in September 2003; 2) "Welfare Economic" and 3) "Economic Valuation". The last two are 4-5 week course each arranged by EEU, Göteborg University which are expected to open in September until November 2004. 4) Course on "Topics in Resource Economics": 9-13 Feb and 15-19 Mar 2004, NHH/FAME, Bergen is on-going.

Publication List

Pongthanapanich T. (2003). Review of Mathematical Programming for Coastal Land Use Optimization. IME working paper no. 52/03.

2. Erik Lindebo "Managing Capacity in Fisheries" – Ph-D.-project

Thesis Outline

Introduction

Paper 1: Capacity indicators of the European fishing fleet: Analytical approaches and data aggregation

Status: Completion by July 2003

Publishing: Forthcoming EAFE 2003 conference proceedings

Paper 2: Economic and physical measures of capacity: A comparative analysis of Danish trawlers

Status: Completed 2002

Publishing: Forthcoming IIFET 2002 conference proceedings

Paper 3: Economic capacity of the Danish fishing industry, 1996-2001

Status: Completion by December 2003

Publishing: Send to refereed journal

Paper 4: Capacity analysis of the North Sea flatfish fishery: An industry allocation model approach

Status: Completion by July 2003

Publishing: Special Issue in Marine Resource Economics on fishing capacity 2003/04

Paper 5: The groundfish fishery of Georges Bank: An examination of management and overcapacity issues

Status: Completed 2002

Publishing: FOI Working Paper 13/2002

Paper 6: Future perspectives of EU fisheries management

Status: Completion by December 2003

Publishing: Special Issue in Marine Resource Economics on fishing capacity 2003/04

Other publications

Frost, H. and Lindebo, E. (2003). "Alternative Management Systems in EU Fisheries". Report from Danish Research Institute of Food Economics, FOI report 148, 2003.

Lindebo, E., H. Frost and J. Løkkegaard (2002) "Common Fisheries Policy reform - A new capacity policy". FOI Report 141, 2002.

Curriculum vitae (incl. list of publications, conferences, courses and workshops)

http://www.foi.dk/cv/fisk-afd/erikl-filer/erikl.htm

3. Elisabeth Hermann Frederiksen "Endogenous Growth Theory and the Relation to Hartwick's Rule" – Ph-D.-project

The project aims at extending well-known results from neoclassical growth theory about sustained growth and natural resource utilisation in a new setting of endogenous growth theory.

Results (completed tasks)

- Literature collecting and reviewing.
- Completed tree Ph.D.-courses: "Economic Valuation of Natural Resources and Environmental Goods" and "International Trade, Resources and Environment" both invited by FAME; and "Topics on Liquidity, Business cycle, and Monetary Policy", invited by KU.
- Courses: Macroeconomics (Fall 2002), Microeconomics and Advanced Growth Economics (spring 2003; NB: exams in June).
- Teaching Macroeconomics 2nd yr. at Mathematical Economics, University of Copenhagen.
- Refereeing (Scand. Jour. of Econ.).
- Attended five workshops: EEA (Venice), EDGE Jamboree (Copenhagen and Roskilde), FAME (Roskilde), and SØM (Copenhagen).
- I have been discussant on three different papers at Ph.D.-seminars.
- Formed a study group on natural resource economics, growth, externalities and taxation.

The remaining tasks

Spring 2004: Taking exams in *Advanced Growth Economics* and *Microeconomics.* Workshop: "Climate Change with Focus on Natural Resources: The biological Dimensions and the Economic Consequences" invited by FAME. Ph.D.-course: "Problems in the Economic History of Europe in the 20th Century" invited by KU.

Fall 2003: Teaching Macroeconomics 2nd yr. at Mathematical Economics, University of Copenhagen. Starting writing on the first paper.

Spring 2004: Visiting student at Department of Economics, Columbia University, New York.

Fall 2004: Writing.

Spring 2005: Writing and finishing up.

4. Jesper Levring Andersen "The application of production functions in bioeconomic models" – Ph-D.-project

The Ph.D. is supposed to be composed of the following articles

- **Determininants of fishermen's behaviour**
  Status: The paper is currently under preparation. Expected to be presented at a conference and published as a working paper at the Danish Institute of Food Economics.
- **The inclusion of stocks in multi-species fisheries: The case of Danish seiners**
  Status: The paper is completed and accepted for publication in Marine Resource Economics. Currently correcting in relation to comments from referees.
- **Quota Trading and Profitability in Fisheries: Theoretical Models and Empirics from Denmark**
  Status: The paper is completed and submitted to Journal of Environmental Economics and Management. Currently waiting for referee comments.
- **Gains from implementing an individual quota system in Danish fisheries**
  Status: The paper is almost completed. Will be submitted for publication in Marine Policy, and presented at a relevant conference.
- **Rational inefficiency in fisheries**
  Status: The paper is almost completed. Will be presented at a conference in April and afterwards submitted for publication in Journal of Productivity Analysis.
- **Using Random Utility Models to predict fishermen's behaviour**
  Status: Work on this paper has not yet started. However, workplan has been determined.

Other topics of relevance

- All the necessary courses have been taken.
- Papers have been presented at a range of conferences.

5. Max Nielsen "International seafood trade liberalisation" – Ph-D.-project

Trade liberalisation and resource sustainability

The first part of the Ph.D.-project analyse the implications of liberalising international seafood trade, focusing on the effects of relaxing trade policies on resource sustainability and welfare. Seafood products are treated as renewable resources with externalities in the production process. The methodological basis is Partial and General Equilibrium Models focusing on a renewable resource based good, such as a fish stock and the methodology is used to analyse the effects of liberalising the European cod trade. Preliminary results indicate that welfare gains do not always result from trade liberalisation and emphasise the critical role of the level of exploitation of fish stocks, on the management system in place and of the structure of the fisheries and markets.

Identifying market structures, market integration and demand

The second part of the Ph.D.-project analyse the link between market integration, product aggregation and demand thereby focusing on the identification of the market structure of international fish markets. The methodological basis is time series econometrics (co-integration) used on non-stationary data to test for market integration and to estimate Inverse Almost Ideal Demand Systems. The methodology is used to test for market linkages on the first hand market for whitefish in Europe and to identify the structure of the European herring market. The results indicate that consistent estimation and analyses of fish markets, including analyses of supply, demand and the price formation process, might necessarily take the international integration of markets into account.

Present publications

Nielsen, M. (2002), Trade liberalisation and resource sustainability, paper presented at the 11th Conference at the International Institute of Fisheries Economics and Trade in Wellington, New Zealand.

Nielsen, M. (2002), Tariff measures, in OECD, *Liberalising Fisheries Markets – Scope and Effects*, Paris, ISBN 92-64-19986-1.

Present publications

Nielsen, M. (2002), Price formation on the European first-hand whitefish market, paper presented at the 14th Conference of the European Association of Fisheries Economists in Faro, Portugal.

Nielsen, M. (2002), Price formation and market integration on the European first-hand whitefish market, submitted to *Marine Resource Economics*.

Nielsen, M. (2003), Market integration and demand: analysis of the European herring market, paper presented at the 14th Conference of the European Association of Fisheries Economists in Brest, France.

Jensen, F., Nielsen, M. and Roth, E. (2003), Application of the Inverse Almost Ideal Demand System to welfare analysis, paper presented at the 14th Conference of the European Association of Fisheries Economists in Brest, France. Also published as working paper 43/2003 from the Department of Environmental and Business Economics, South Danish University and submitted to *Marine Resource Economics*.

Jensen, F., Nielsen, M. and Roth, E. (2004), A Cost-Benefit Analysis of a Public Labelling Scheme of Fish Quality. Also published as working paper 53/2004 from the Department of Environmental and Business Economics, South Danish University and submitted to *Environmental and Resource Economics*.

6. Jacob Ladenburg "Welfare Economic Valuation of the externalities of wind power production- an evaluation of economically efficient substitution patterns between locations" – Ph-D.-project

The focus of the project is to elicit values of the externalities of wind mills on land and off-shore, by using the choice experiment and hedonic method. These values are to be used in an analysis of economic efficient substitution patterns between existing land based windmills and future off-shore wind mills.

Publication list in relation to Ph.D.-project

- None

Publication list other

Dubgaard, A.; Ladenburg, J.; Strange, N. og J. Tranberg (2003)*:"Samfundsmæssig Prioriteringsanalyse af Retableringen af Yderligere 100.000 hektar Vandløbsnære Engarealer i Danske Ådale*", Den Kgl. Veterinær- og Landbohøjskole, Institut for Økonomi, Skov og Landskab.

Dubgaard, A.; Kallesøe, M. F.; Ladenburg, J. and M.L. Petersen:"Cost-benefit analysis of the Skjern River restoration in Denmark," in R. Brouwer & D. Pearce (Eds.): *Cost-Benefit Analysis and Water Resources Management*, Edward Elgar Publishing, Cheltenham, UK. [Forthcoming]

Results (completed tasks)

Literature collecting and reviewing (still in progress).

- Completed one Ph.D.-course: Ph.D.-Course on Environmental Project Appraisal and Implementation - Combining Cost Benefit Analysis and Human Dimensions Assessment, invited by FAME.
- Courses: Microeconomics (spring 2004; NB: exams in June).
- Development of questionnaire to use in eliciting preferences for visual externalities of off-shore windfarms completed by the end of March. 2004.

Spring 2004

Ph.D.-Courses

- "Discrete Choice Analysis: Predicting Demand and Market Shares". Organised by Operations Research Group ROSO and EPEL Industry Liaison Program Cast. Lecturers: **Moshe Ben-Akiva**, MIT, **Michel Bierlaire**, Swiss Inst. of Technology, Lausanne, **Denis Bolduc**, Univ. Laval, Québec and **Dan McFadden**.
- **"Course in Discrete Choice Experiments", The Royal Veterinary and Agricultural University, June 7-18 2004, not yet available, invited by KVL and Fame.**

Ph.D.-project

- Analysing data from the questionnaire.
- Start analysis of present economic substitution possibilities between off-shore and land based windmills.

- Gather data from real estates sales in the vicinity of windmills (land based) to be used in a hedonic analysis of the influence of externalities from wind farms on real estate prices.

Fall 2004

Ph.D.-Courses

- Not yet determined, different courses optional (econometrics/GIS/Regression analysis).

Ph.D.-project

- Write report on the optimal off-shore windfarm location with regards to visual externalities.
- Begin article on the visual impact on off-shore windparks, journal not yet determined.
- Analyses of present substation possibilities finished - the analysis should preferable qualify to a working paper at the Unit of Economics, FOI/KVL.
- Hedonic analysis started.
- (Preparation for questionnaire on preferences on windmill location (land or off-shore) - implementation depends on the results from the other surveys).

Spring 2005

Ph.D.-Courses

- Not yet determined, different courses optional (econometrics/GIS/Regression analysis).

Ph.D.-project

- Hedonic analysis finished.
- Article on visual externalities finished.

Fall 2005

- Expected visiting study at Berkeley University California, planning ongoing.

Spring 2006 and Fall 2006

- Writing and finishing up.

7. Jens Kjærsgaard "Management of renewable resources: incorporating multiple objectives" – Ph-D.-project

Commenced Ph.D.: February 1, 2004.

The project aims at eliciting optimal management of renewable resources, when several conflicting objectives are taken into consideration. The objectives may be economic, environmental or political. The topic is approached by operational research and the economic objective is going to serve as point of reference.

Completed activities

- FAME Ph.D.-Course, March 2003 in Esbjerg. "International Trade, Resources and the Environment".
- FAME Ph.D.-Course, Nov. 2003 in Esbjerg. "Environmental Project Appraisal and Implementation Combining Economic Efficiency Analysis and Human Dimensions".
- FISHNET Seminar, January 2004 in København. "Fish, humans and ethics".
- Workshop, January 2004 in Roskilde. "New policies and Options in Fisheries Management".

Publications: See Curriculum vitae http://www.foi.dk/cv/Fisk-afd/Jens/jens.htm

Future and ongoing activities

- FAME Ph.D.-Course, Feb. and March 2004 in Bergen. "Topics in Resource Economics".
- Write literature review.
- EAFE conference, April 2004 in Rome.
- Write papers.
- Visit foreign research institution.

8. Urs Steiner Brandt "The political economy of regulation of fish stocks under climatologically uncertainties" – Post Doc Project

The political economy of regulation of fish stocks under climatologically uncertainties

In my three years attachment to FAME, my research will focus on the following:

The main research effort will devoted to answer the question of how regulation schemes can be designed that can cope with the inherent uncertainty about the future development in the fish stock due to the above mentioned expected fluctuations and trends in wind and temperature pattern in the North Sea (and the North Atlantic).

Such changes are normally attributed to on the one hand the non-permanent fluctuation in temperature and prevailing wind (among others possible affected by the activity of the sun) and on the other hand the expected increasing trend in temperature due to global warming affects the size of the fish stock in the North Sea (and the North Atlantic).

However, regulation is embedded in a political economy context: When designing regulation, we must be aware of the constraints described by political feasibility, analysed in the framework of the political economy of regulation: Interest groups by their ability to shape regulation in own favour (rent seeking activities) by taking advantage of such uncertainties.

Regulation must also be seen an international context: When designing regulation, we must also be aware the international dimension of the open access property of fish stock makes it a transboundary externality problem. The uncertainty defined above also restricts the set of solutions that can be implemented internationally.