IIFET 2004 AD HOC WORKSHOP: DEVELOPING CASE STUDIES FOR FISHERY MANAGEMENT TRAINING

Laurie Jodice, Clemson University, jodicel@yahoo.com
Gil Sylvia, Coastal Oregon Marine Experiment Station, Oregon State University, gil.sylvia@oregonstate.edu
Lew G. Brown, University of North Carolina at Greensboro, lgbrown@uncg.edu
Michael Harte, Falkland Islands Government, mharte@sec.gov.fk

ABSTRACT

The top business management educators consider case teaching to be a highly effective means for building critical decision-making skills in future managers. Although this method holds significant potential, it is not commonly used in fisheries management education and training. The Training Managers for 21st Century Fisheries Initiative has identified development of case studies, similar to those used in business management education, as a priority strategy for producing leaders capable of innovative and integrative problem solving. To progress this strategy, the Developing Case Studies for Fishery Management Training workshop was held on July 25, 2004 in Tokyo, Japan, just prior to the IIFET 2004 conference. The workshop provided an introduction to writing and teaching decision-focused, field-researched cases. The primary goal was to develop greater pedagogical understanding of case teaching method for training fisheries management and seafood industry students, professionals, and stakeholders. The secondary goal was to explore how fisheries management-related economics data and analysis might be integrated into a teaching case. The discussion of Next Steps at the conclusion of the workshop suggested that participants recognized the potential educational contribution of case studies for training fisheries managers and stakeholders in concepts critical to 21st century fisheries management.

Keywords: teaching, case study, decision-focused, field-researched, managers

INTRODUCTION

Fishery management institutions and the seafood industries they regulate face unprecedented challenges. Fisheries managers are responsible for achieving sustainable fisheries including rebuilding stocks, implementing ecosystem-based approaches, sustaining coastal fishing communities, and increasing the cost-effectiveness of research and management. The seafood industry is facing unprecedented competitive pressure in domestic and global markets while adapting to stricter regulations, public pressure for conservation, and intensifying globalization of seafood trade. These 21st century challenges require managers and industry to work together as expert problem solvers, leaders, and innovators. Fisheries managers and industry must be capable of analyzing ecological and socioeconomic impacts of management decisions at domestic and international levels. Making decisions that address complex issues requires a wide range of biological, economic, legal, and social science knowledge and skills. Success also requires competency in working with a variety of stakeholders and advisors and addressing local, regional, national, and international management needs. However, fisheries agency and seafood industry managers are often ill-prepared to meet these challenges.

Fisheries management and industry experts agree that training curricula are presently insufficient to assure competency of current and future decision-makers and industry leaders (Jodice et al. 2003). In particular, most existing programs do not provide training that integrates leadership, critical decision-making, and systems level thinking with hands on experiential learning opportunities (Jodice and Sylvia 2003). The status of current fisheries management training has been discussed in-depth by sixty-three government, industry, academic, and non-governmental organization (NGO) leaders from Oceania, North America, and Europe who established the Training Managers for 21st Century Fisheries Initiative (Jodice
et al. 2003). The Initiative addresses capacity building measures necessary to meet management challenges of 21st century fisheries at international, national and regional levels.

The Initiative has eight consensus strategies and recommendations for developing management capacity through training (see Jodice et al. 2002, 2003). One of these strategies is the development of a case study library similar to those used by the top business management programs. The Developing Case Studies for Fishery Management Training workshop was delivered July 25, 2004, in Tokyo, Japan, prior to the IIFET 2004 conference. The workshop was designed to introduce education-based case writing and teaching in the area of fisheries economics and trade as a means to share international knowledge and infuse integrative decision-making in curricula for fisheries professionals, managers, students, and educators.

VALUE OF CASE METHOD TEACHING

The typical case used in fisheries management curricula is the published research case, which is an exploratory, descriptive, or explanatory presentation of empirical data representing a unique management problem (Yin 2003). Students usually read and discuss these cases just as they would other published research studies. This form of teaching has value—students learn to appreciate the complexity of multiple stakeholder perspectives and learn perspectives and paradigms that may be applied to new situations. However, this method is relatively inactive in that it does not put students in the situation of the decision-maker and compel them to face alternatives through integrative analysis and strategic problem solving.

Top business management programs have resolved this limitation by building their curricula and teaching method around decision-focused cases specifically prepared to provide a framework for learning decision-making skills. This form of case teaching is considered an important and effective means for preparing future and existing managers for real life critical thinking and strategic problem solving. These cases are field-research-based, but are considered more valuable in that they take a real-world situation—an actual decision faced by a real organization and real people—and put the student in that situation. The student, facing the complex problem and set of difficult choices, must then identify alternatives and apply concepts and theories from the field of study to develop recommendations. The student must defend his/her recommendations and focus on implementation steps. Practitioners of this case method of teaching believe that there is no more powerful learning tool. According to Teaching and the Case Method (Barnes, Christensen, and Hansen 1994) published by Harvard Business School:

Lectures about judgment typically have limited impact. Reading about problems or memorizing principles does little to prepare the practitioner—architect, doctor, or manager—to apply concepts and knowledge to the complexity of real-life problems. Discussion teaching [through the use of cases] helps achieve that objective. It puts the students in an active learning mode, challenges them to accept substantial responsibility for their own education, and gives them first-hand appreciation of, and experience with, the application of knowledge to practice.

Case method teaching allows students to practice applying their knowledge and skills much as lab experiments do in the physical sciences. Preparation of these cases often involves background research, literature review, and interviews with the real individuals in the organization (either through site visit or by phone). These cases also include a teaching “note” which provides instructors with guidelines, learning objectives, key references and other suggestions. The teaching note is critical toward enabling use by other educators or trainers.

At this time, case method teaching is rarely used in fisheries and seafood management education probably because most teaching professionals in fisheries come from disciplinary science backgrounds (biology, ecology, and resource economics) which do not typically use this method. The National Center for Case Study Teaching in Science (http://ublib.buffalo.edu/libraries/projects/cases/case.html) at the University at
Buffalo, State University of New York, is really the only major effort toward developing case method in science education. They initiated development of science teaching cases 15 years ago as a way to humanize science and illustrate scientific methodology and values in undergraduate science courses. However, these types of cases are still insufficient for training fisheries managers and industry professionals. Case method as utilized by business schools promises to be a powerful tool for building critical thinking and team analysis skills necessary for effectively addressing complex fisheries issues. There is a need to develop appropriate case studies in fisheries management and economics and to educate the professional teachers on development and application of cases.

Many national and international organizations and institutions have recognized the need to strengthen fisheries management training programs (Jodice et al. 2003, Rassam and Eisler 2001). Continuing education and professional training has been identified as a significant need for U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries administrative and management staff as well as stakeholders (industry and public representatives) nominated to serve on regional fisheries management councils (NOAA Fisheries, 2003, U.S. Commission on Ocean Policy, 2004). In addition, the New Zealand Ministry of Fisheries recently conducted a training needs assessment of agency managers and identified strategies for professional training. There is also significant support for strengthening training for developing nations. For example, the support unit for International Fisheries and Aquatic Research (SIFAR) in the Fisheries Department of the Food and Agricultural Organization (FAO) is responsible for the ACP Fish II capacity building initiative for African, Caribbean, and Pacific countries (SIFAR, 2003). The focus of ACP Fish II is strengthening fisheries sectoral policy development and implementation to achieve sustainable and optimal management of fisheries in ACP countries. This SIFAR initiative includes facilitating formation of learning networks among communities of practice and creation of a knowledge exchange system (KES) to improve access to information. Establishing a case study program for lesson learning and defining best practices is integral to this project.

Strengthening training is a complex task given that the definition of “fisheries manager” has broadened in response to evolving institutions and increased participation in management. The definition now includes many types of players who significantly participate in the management process. Depending on the governance system, there are many classes of “managers”, with varying levels of accountability and authority—1) stakeholders, 2) stakeholder representatives, 3) directors of private sector/NGO groups, 4) mid-level government managers, 5) lead managers of government agencies, 6) elected policymakers, and 7) policy analysts and institutional designers (Jodice et al. 2003). Developing training programs for this range of managers will require flexibility, creativity and innovation. Because the case teaching method is readily adaptable to different skill levels and audiences, it holds significant potential for creating engaging and hierarchical training curricula for continuing education and professional training programs.

Once prepared, cases may be disseminated through various publications or online databases, such as the European Case Clearing House (http://www.ecch.cranfield.ac.uk/), or the Case Research Journal (CRJ) of the North American Case Research Association (NACRA). Publication in top case study libraries and journals typically allows the author(s) to share the copyright and royalties. Cases in CRJ are peer reviewed. Also, a number of custom publishing operations, like Prentice Hall, Wylie, and others, take the CRJ cases and put them in their case databases. These cases and teaching manual are then available to anyone worldwide for a nominal royalty fee (approximately $2-$3.00/copy). If an author writes a good case that is widely adopted, the author gets an annual check from NACRA. This is an additional financial incentive for case development. If a case is adopted for a textbook, the fee ($250) is also split with the author. Other publication/dissemination possibilities for fisheries management cases include Marine Resource Economics or similar resource management journals. Cases could also be made available via an IIFET or FAO sponsored website or publication.
PRE-WORKSHOP NEEDS ASSESSMENT

Members of IIFET, NAAFE, and participants in the Training Managers for 21st Century Fisheries Initiative listserv (trainfishmngr@lists.oregonstate.edu), were invited to complete an online survey regarding case study writing and teaching experience and training needs. Results were used to design the agenda and determine potential interest in attending a one day workshop in Tokyo, Japan, prior to the IIFET 2004 International Conference. There were 23 survey respondents, 18 of which indicated interest in attending the proposed Tokyo workshop and 11 of which had experience with case study preparation and publication—in most cases this meant research case studies as defined by Yin (2003) for use in qualitative analysis. The highest priority training interests were:

- Developing standards of excellence
- Developing case formats
- Identifying quality criteria for fisheries economics and trade cases
- Understanding how to use cases in professional development
- Learning the basics of teaching a case
- Learning the basics of writing a case
- Understanding the case development process

Of the 23 respondents, 7 registered and 4 actually attended the workshop. However, some of the respondents sent representatives from their agency or institution.

PARTICIPATION

Co-sponsorship by the Oregon State University Coastal Oregon Marine Experiment Station and IIFET 2004 Japan/Tokyo University of Marine Science and Industry allowed for participation at no extra cost to participants. Forty-three individuals registered for the workshop (some on the workshop day), and 25 participated in the full session. Workshop participants included top government and academic experts in marine resource economics and management from the U.S., Canada, New Zealand, Australia, Falkland Islands, Dominican Republic, Thailand, Korea, Italy, and Russia. A few additional non registrants observed during the morning session due to interest, but needed to leave to attend other afternoon meetings. NOAA Fisheries also supported involvement of three agency economists in assisting with workshop development and delivery.

The workshop development committee included:

- Gil Sylvia, Coastal Marine Experiment Oregon Station, Oregon State University
- Michael Harte, Chief Economist, Falkland Islands Government
- Laura Jodice, Clemson University & Program Assistant, Training Managers for 21st Century Fisheries Initiative
- Eric Thunberg, Economist, Social Sciences Branch, NOAA Fisheries Northeast Fisheries Science Center, Woods Hole
- Cindy Thomson, Fisheries Economics Team Leader, NOAA Fisheries Southwest Fisheries Science Center, Santa Cruz Laboratory
- David Tomberlin, Economist, NOAA - National Marine Fisheries Service Southwest Fisheries Science Center, Santa Cruz Laboratory
WORKSHOP DESCRIPTION

Because there are no experts in case development in the fisheries disciplines it was necessary and appropriate to borrow an instructor from the discipline with a legacy of using the case method in education. The steering committee sought recommendations from expert trainers involved with the European Case Clearing House, which is the largest international case database for cases from the top business management schools. Dr. Lew G. Brown, was one of the top recommendations for our project and was selected for the IIFET workshop for his training expertise as well as interest in partnering with the fisheries management training initiative. Lew is Associate Professor of Marketing in the Department of Business Administration, Joseph M. Bryan School of Business and Economics, University of North Carolina at Greensboro. He teaches and consults in the area of marketing management and strategic marketing and is a member of the North American Case Research Association (NACRA) and served as its president for 2001-02. He also serves on the Editorial Review Board for the Case Research Journal, and received the Journal’s Outstanding Reviewer Award for 1999. His cases have appeared in numerous textbooks and electronic case databases. He has offered seminars on case research, writing, and teaching at numerous U.S. universities and has had a long-term relationship with the 30-campus Monterrey Tec university system in Mexico where he has been a part of that university’s effort to make cases one of the four principle instruction methods for all courses.

Goals and objectives

Typical case study writing and teaching workshops in business management are between 3 to 7 days long, primarily to allow for development and presentation of several draft cases. Because the IIFET workshop time slot was restricted to one day, we focused on providing participants with enough background for promoting development and use of fisheries management cases. The hope was also to attract participation in a future in-depth workshop that will allow writers to bring “half-baked” ideas and prepare draft cases under guided expert instruction.

The learning objectives for this one day workshop included:

- Understanding how to develop and use a field-researched, decision-focused case
- Understanding how a case is used to create innovative and effective training for fisheries managers and decision-makers
- Understanding the process of writing a case and the associated instructor’s manual
- Identifying issues around which to develop cases using actual organizations
- Promoting case study teaching as a valuable training tool for capacity building in fisheries management

Curriculum

The workshop was an overview of the methodologies and best practices for structuring and publishing field-research-based, teaching cases. Methods highlighted approaches which could incorporate economic data, models, and analytical techniques. This introduction to case method included the following topics:

- Overview of how to write a case
  - Writing cases that “sing” (Unleashing your hidden creative writing desires)
  - Finding the right topic
  - Matching the topic to the training objective and audience
  - Conceptualizing the case
  - Gathering data
  - Structuring the case
  - Writing the teaching manual
  - Discussion of JNRLSE published case examples
Why use case study in training for capacity building?
- What is a case?
- Role of cases in education and training
- Value of using cases for education and training
- Different types of cases for different purposes (difference between research case and teaching case)
- Why focus on the field-research-based, decision-focused case?

Two basic marketing cases were used to demonstrate case writing and teaching principles. These cases were:

- Trap-Ease America: The Big Cheese of Mousetraps”—This case is designed to teach basic marketing concepts and was used to introduce participants to the decision-focused, field-research based case.
- “XYZ Design Company: A Problem of Ethics?”—This case was used for small group discussion where participants could apply principles presented during the morning session in analysis of a demonstration case and then reconvene to share analyses.

The workshop culminated with an opportunity for participants to apply the basic case method principles they learned to a case focused on a fisheries management issue. For this, the organizers enlisted the help of NOAA Fisheries economist, Eric Thunberg, who had no prior experience with writing a decision-focused teaching case. Eric built upon his extensive knowledge of buyback programs and partnered with Lew Brown to create an “in preparation” demonstration case. During the workshop, participants in small groups reviewed his draft opening to the case and were asked how they might further develop the case, with focus on integration of economic data and a selected class or type of fisheries manager. A few weeks prior to the workshop, registrants received this draft case and were also asked to review the other workshop demonstration cases, all still available at www.oregonstate/dept/trainfishmngr/casestudy.html. This strategy was meant to offset language barriers inherent to an international audience and allow for efficient use of workshop time.

EVALUATION AND NEXT STEPS

Participants were actively engaged throughout the workshop as indicated by the stimulating discussion throughout the day and positive evaluation results. Participants praised the instructor as being one of the best aspects of the workshop and particularly enjoyed his clear presentation of case writing principles. They appreciated the opportunity to learn from a business management educator and understand the value of the case teaching method. They also appreciated the multiple opportunities for discussion and the level of international involvement. By the end of the workshop, participants clearly viewed case teaching as a valuable tool for fisheries management training, but felt this strategy must be considered part of a broader training initiative. They also noted that the case method would be a unique tool for providing trainees with some perspective on the emotions and feelings of stakeholders faced with a difficult decision.

While many liked the efficiency of the one day workshop, they also recognized this allowed little time for more intensive review of good cases, particularly relevant fisheries cases. Participants felt the two business marketing demonstration cases were very instructive toward understanding case writing and teaching principles. Although some audience participants were frustrated in discussing a less than fully developed fishery management-related case, they developed greater appreciation for the time and attention required to write a quality case. Participants expressed interest in more case examples related to fisheries management tools and processes, marketing issues, and public policy and other governance issues. They were also interested in more information on how to integrate technical material (economics data and analysis) into cases. Some would have liked more time for review of case-related issues prior to the workshop. Also, since this was an international workshop, participants suggested making the curriculum more attractive to non-North Americans and broadening the focus to include teaching and case
issues in less developed countries. Participants understood these desires could be better accommodated by a longer, more in-depth workshop. However, providing good examples of appropriate cases in fisheries (relative to developing and developed countries) requires their actual creation.

There was concern about the difficulty of compiling a large number of cases without incentives for writing, particularly given the time limitations and work demands for most potential writers. Incentives might include professional recognition and funding in the form of grants or fellowships. Participants suggested taking advantage of the breadth and diversity of expertise among IIFET members and that some cases might be created through conversion of IIFET papers. Some suggested case topics that would focus on business management in the seafood industry, aquaculture, processing sector issues, individual fishing quota (IFQs), seafood marketing issues (e.g. HACCP regulations for seafood), and market price swings.

Participants were asked to indicate personal goals for application of workshop concepts. Responses reflected significant potential for future progress and indicated potential value from the following activities: 1) participate in case writing projects and training for different types of managers, such as new managers in a national fisheries ministry, and representative committees, such as industry groups, community commissions, etc; 2) identify potential cases from personal experience, such as cases on collective action, Alaska salmon marketing, shellfish fisheries, or marine mammal issues; 3) provide the workshop information to other scholars/colleagues; 4) write cases with colleagues such as new policy analysts in a fisheries agency; 5) experiment with cases in a classroom environment or other training program; 6) participate in reviewing other course participant’s fisheries case studies; 7) publish a case; and, 8) evaluate the case method relative to other training methods used in home country or institution.

A majority of participants were positive about engaging in a more in-depth advanced training in case writing or teaching. They learned about the NACRA annual meeting which includes opportunities for writers to receive feedback from small expert review panels. Many workshop participants expressed interest in this type of peer review activity to aid their case writing efforts. Participants also desired greater understanding about how they might design and adapt cases to specific audiences, including state level (U.S.) fisheries managers, graduate level fisheries management students, fishery communities (e.g. health management and co-management), or for other professional training or outreach situations.

By the end of the workshop, participants clearly recognized the value of creating rigorous, high quality cases for use in training fisheries managers and industry in concepts critical to 21st century fisheries management. When asked for recommendations for next steps, particularly for IIFET involvement, participants suggested an IIFET summer institute using case studies as core material, an IIFET case workshop where writers submit draft cases and receive feedback, and development of an IIFET and FAO partnership. Advancing the case development strategy will require some form of central coordination to facilitate creation of a framework and standards for fisheries management cases. Participants also stressed the importance of identifying the target audience (i.e. potential customer) and the product when designing cases. Thus, a comprehensive training needs assessment, which identifies skill and knowledge gaps and training priorities, must also be completed to guide the overall case development process. Participants were also interested in exploring the interdisciplinary case (or “integrative case”) approach for fisheries education. This type of case is also developed in business management programs where educators from several disciplines team up to research, write, and teach a case.
CONCLUSION

The IIFET conference and similar international and domestic meetings often provide valuable opportunities to discuss fisheries management and economics principles. Rarely do academicians and managers have an opportunity to learn new techniques for outreach and education delivery. Nevertheless, the definition of “fisheries manager” has broadened and training programs need to be innovative, engaging, efficient, and adaptable. Therefore, “training the trainers” is just as important as training the managers when developing capacity for 21st Century fisheries management. The Developing Case Studies for Fishery Management Training at the IIFET 2004 conference was an initial step toward this type of capacity building.

Based on input from workshop participants, next steps include:

- Investigate and develop sponsorship for one or more collaborative one-week comprehensive writing and teaching workshops
- Continue partnership development through follow-up with participants regarding personal success and initiation of efforts in their home organizations or institutions
- Develop funding and additional incentives as part of a supportive infrastructure to further progress case development
- Further explore the role of IIFET in facilitating the case study development strategy
- Progress the needs assessment/gap analysis strategy to strengthen the case development initiative
- Initiate a process for formation of a common framework and standards for fisheries management cases.

Development of case studies and teaching capacity is a tangible goal with high potential for multinational and multi-institutional involvement and contribution. Future partnership between IIFET and the Training Managers for 21st Century Fisheries Initiative could include focus on case writing and teaching workshops as well as other similar programs for educators. However, assuring involvement and progress with the case development strategy will require domestic and international commitment and partnership.

ACKNOWLEDGEMENTS

Special thanks go to the IIFET 2004 Japan organizing committee, especially Yoshiaki Matsuda and Shoko Amano, for their valuable assistance with onsite arrangements and facilitating communication with the IIFET 2004 organizing committee. Ann Shriver’s assistance throughout the workshop planning process was also particularly valuable. We thank Tokyo University of Marine Science and Technology, the Oregon State University Coastal Oregon Marine Experiment Station, and NOAA Fisheries for supporting the workshop. We thank NOAA Fisheries economist Eric Thunberg for his valiant effort to create a buyback case for demonstration in the workshop, as well as economists David Tomberlin and Cindy Thomson for their input. Finally, we thank the workshop participants for taking time to join us on a hot humid Sunday in Tokyo.

REFERENCES


