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Third World[1]Fisheries Resources: Who Cares?

How Can North American Fisheries Scientists Help Colleagues Around the World?

By Richard G. Dudley

Abstract

Fisheries scientists in the developing world are facing a crisis. They have few options for managing fisheries and few funds and support for implementing the options they have. University personnel operate with subsistence salaries, few books, no journals, and little research funding. At the same time fisheries resource issues are becoming more complex, and environmental problems more severe. Is it possible that North American Scientists, Agencies and the American Fisheries Society can do more to help the colleagues in need? What possibilities exist? Can they be improved and expanded?

Introduction

The purpose of this essay is to encourage North American fisheries scientists to think more about their colleagues in the Third World and the resources they are attempting to manage. AFS members hold a tremendous amount of knowledge that could be of importance in protecting and managing endangered resources in other parts of the world, but that this knowledge is unavailable to those who need it most. I am referring not only to technical knowledge about a species' or population's biology but also to the many approaches one can take toward management oriented research, possible options for organizing natural resource agencies, and ways in which fisheries information can be used in making decisions. While it would be foolish, in most cases, to try to transplant our North American approaches directly, we have a tremendous pool of useful ideas that can provide a starting point for better management. These ideas are of value to others who manage the world's fisheries resources only if they have access to them. As world communications become more sophisticated, our ability to communicate with biologists in other countries should become easier. Improved communication may allow us to assist in ways that were previously impossible. Meanwhile, we should do what we can, as opportunities arise, to encourage and assist Third World fisheries scientists.

Who Cares?

Given the seemingly insurmountable problems around the world, it is not surprising that we have become somewhat immune to reports of overpopulation and resource destruction that pervade the airwaves. We hope a few far off places are beyond the reaches of humankind-- Maybe the middle of Borneo, some atoll in the Pacific, or a small river in Brazil. Perhaps we support protection of coral reefs, rain forests, and wildlife by contributing to the

[1]The term "Third World" is, perhaps, obsolete. The collapse of the Second World's centrally planned economies, and the rise of the developing world's economic power has made distinctions less clear. Nevertheless, I use the term Third World here for the image it projects of people in lesser developed parts of the world struggling to improve their basic existence.

Richard Dudley is a fisheries consultant with experience in Africa, Asia and the Middle East. He is currently Team Leader of a Marine Sciences Education Project that is working to improve university training in marine sciences at six Indonesian Universities. He can be reached at Jalan Komplek Deplu III/6, Cilandak, Jakarta Selatan 12430, INDONESIA or c/o 14657 SW Teal Blvd. #226, Beaverton, Oregon 97007, USA or via E-mail on compuserve:76516,1660 or Internet:76516.1660@compuserve.com

World Wide Fund for Nature, Earth First!, Greenpeace or a multitude of similar organizations that share those goals with the hope that perhaps they can "save" some shreds of what was once there.

Unfortunately, people in the Third World often believe we have destroyed both their, and our own, resources. Via a combination of international television and our open approach to dealing with and discussing our own problems, it is no wonder that many Third World citizens believe that we have clear cut our last tree, caught our last fish and are now coming after theirs. Such broadcasts, out of cultural context, result in considerable misunderstanding about our success in managing natural resources. Our problems are often minor compared to problems elsewhere. We realize we have them, and we try to take appropriate actions, often successfully.

As fisheries professionals, shouldn't we be personally concerned about careful management and protection of the world's fisheries resources? Developing countries now account for almost 60% of the world's fish catch. In many of these countries, fisheries resources must be better managed and protected to provide income and food. Reasonable progress has been made. Fisheries agencies in many countries are trying their best to deal with major resource issues under difficult circumstances. Fisheries education is also improving. Nevertheless, North American scientists should provide more help to Third World colleagues, if management of Third World resources is to be successful.

This is not to say that everyone should drop what they are doing and run off to some distant country, but rather, as individuals, through our agencies and universities, and through our professional society, we should take advantage of opportunities that arise to provide assistance, support, advice, and friendship to our Third World colleagues. Even just providing moral support for Third World scientists working in rural areas can make the difference between success and failure. These opportunities can also provide opportunities for us to enlarge upon our own experiences with fisheries management and research.

After all, our common task is to improve management of our resources for current and future generations. North American scientists who consider their own jobs difficult should contemplate how well they could do their job without support from their agency, colleagues, professional society, and with their operating budgets cut by 95%.

The Real World

In the Field

Following is a brief composite view of a "typical" fisheries office comparable to a regional state or provincial office within North America. Assume you have just been assigned to this office as the regional management biologist, having just returned from three years of overseas training for your master's degree.

> Your office has 10 empty desks and five mostly empty book shelves. You brought some of your graduate school textbooks with you, but after having paid a 100% import duty for them, you decide to keep them at home where they will be safe. Anyway, they are in English, and only one of your staff has studied that language.
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> Your office staff of eight is friendly and enthusiastic. They are so proud of you. Unfortunately, paper and pencils are in short supply, and this month's budget of $500 (including salaries) has not yet been received from the capitol. Your staff is not particularly surprised about this; they are already owed three months' salary.
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> Last month's reports cannot be distributed because photocopying at a local store is much too expensive (though it seems very cheap compared to prices you paid while at graduate school). Your staff did type an "original" and a carbon copy, but you notice the original is a carbon copy, too,

since there was no typewriter ribbon. You commend your staff for being creative! Thus, only two copies of the report are available, but you hope the provincial office will make some copies. You use your own money to mail it to the capitol. You remind yourself to be more careful; you don't have that lavish graduate student fellowship anymore!

You think back to the new computers you saw in the central fisheries office in the capitol and of your job to collect and summarize catch statistics. The director general of fisheries had said that next year the new aid project might even be able to supply one computer to each provincial office. Since you are a newly returned graduate, your regional office might also be on the list! He wasn't sure about software, though -- that might have to wait.

You realize that because your agency's funding is extremely low, so are salaries. Your $150 per month is more than double what your office staff earn. Consequently, many of your staff have other jobs that require their attention, and they may have to leave the office from time to time to attend to their other business. You would like to send them to the field so they can collect the travel allowance of $5 per day, but the budget is too small. Anyway, if you did that, they would have to give up their outside jobs.

Your office's vehicle, though 8 years old, is a prized four-wheel-drive that can be used only with special permission. Usually it is in use by your boss for personal and official functions, and sometimes it is borrowed by other agencies for important visitors. It is in the provincial capitol now with your boss. The newer office motorbike is used for local transport and for taking children of employees to school or the hospital. Use of these two vehicles for field data collection is very rare, and they certainly cannot be relied upon for a regular sampling program. Maybe you can use the motor bike next Wednesday.

A group of villagers from nearby arrives to greet you. You recognize some of them as classmates from elementary school, from before you went away to high school in the provincial capitol. They seem so old. You all go outside and sit under a big tree. You offer them all cigarettes. They want to know when the government is going to give them the new fishing gear promised by the governor last year. You look puzzled. You were under the impression the fishery was already overfished. They tell you about the governor's promise made during his speech at the dedication of the new ice machine. They also mention that the ice machine needs a spare part; would you know where to get one? After a lengthy discussion and much story telling, you thank them for coming, and promise to do your best to help them. They are very happy with your reply. They knew you would help them. They say you understand their problems because you are from their area.

An hour later your uncle, a local official, stops in to visit and have a cup of tea. He congratulates you on your important new job. He hints that your cousin needs a job, too, and your office would be a good place for him since he took a typing course two years ago. You almost point out that your cousin has no fisheries training, but you suddenly realize -- neither does anyone else. You say that you'd love to hire your cousin, but that there are no open positions, and the budget is so small anyway.

The phone rings, and after a frantic search for a key to your boss's office you manage to answer it. It is your boss calling from the capitol. He has great news: the salary money is on its way, and everyone will be paid on time with 50% of their back pay as well. You thank him, hang up, and try to call

> your spouse to relay the good news, but the telephone is locked for outgoing calls, and the boss has the key. It doesn't really matter though -- you are suddenly a hero. You just arrived and now every one is being paid. You are a big success. Everyone is running off to tell their families the good news: you have come back home!

Too cute? Perhaps, but realistic. Many fisheries scientists in developing countries face problems that divert their attention from resource issues. Most basic essentials, as we have come to expect them, are not available. Their order of priority becomes: (1) yourself and your family, (2)your extended family and office staff second, (3)the fishing communities, and (4)the fishery resource, In reality those in developed countries have similar priorities they just don't have to worry about the first two very often.

Where Is the Ivory Tower?

A similar scenario faces a faculty member returning to a home university from a stay in North America: serious academic culture shock. Salaries are very low, resulting in most faculty seeking supplemental employment. This, in turn, requires faculty and administrators to work off campus for extended periods, possibly most of the time, sometimes at other campuses. Consequently, classes are often scheduled as one long lecture per week with little time for laboratory sessions, even if suitable facilities are available.

Class textbooks are a rarity since students and many faculty can't afford them. Even marginally useful texts may be locked up because they are valuable. Very few texts are available in the local language, and few if any address local subjects. Particularly good texts may be made unavailable to students because they constitute the only source of knowledge that differentiates the teacher from the student. Photocopied handouts are only available in the very best classes, while field trips may occur only once per year if at all. Of course, journals are much too expensive.

Although research funding provides a possibility for supplementing low salaries, such funding is almost unknown except for top faculty. In any case, funding sufficient for management- oriented field projects is extremely rare.

Dedicated and innovative faculty survive, and even thrive, on these challenges when given positive feedback and encouragement. Unfortunately, economic survival, rather than teaching and research, is the primary underlying concern of those who would otherwise be professional colleagues. Without professional contacts and support, even the dedicated eventually tire.

How Can You Help?

Problems like those outlined above cannot be easily solved, nor can their underlying causes be easily understood. Also, overall solutions to basic development problems (including resource management) are best addressed by local people. But rather than worrying about what we can't do, we can concentrate on what we can do. The relevant question is: How can North American scientists assist their developing world colleagues?

"Foreign" Students

Scientists working at North American universities probably have the most contact with scientists from the Third World, and therefore have the most opportunity to influence future management of those fisheries resources. Many foreign students who study in North America are on leave from management agencies or universities at home. They are generally very grateful to have a chance to study here. Let's not disappoint them.

North American colleagues should strive to provide friendship and encouragement as well as the required academic guidance. Try to understand a student's home country situation. Look for resource situations here that, though necessarily different from

theirs, may have parallels. For example, investigate work opportunities within North American resource agencies or universities. Be sure to invite your guests to give lectures and seminars about fisheries research and management in their home country.

Help foreign students find a way to carry out their degree research in their home country. Though generally administratively and logistically difficult, I have found this approach to be worth the extra effort and funding. Also, sets of practical manuals, texts, and perhaps a computer and software might be provided as part of a fellowship program.

The first year or two immediately after a foreign student returns home is critical. Continuing links with their colleagues in North America can sometimes do wonders. Assist them in seeking continuing support for their work via cooperative research projects or other means. One example is the Canadian International Development Research Centre's Asian Regional Science and Technology Program. It is directed specifically at all aspects of coastal marine science. This program funds small projects developed and implemented by local staff with some limited input from "western" scientists.[3] It might be ideal for funding follow-up projects with former graduate students.

Another option is for North American faculty to take a sabbatical at a university in a developing country in order to work side by side with developing country scientists. The well known Fulbright program is a possible source of such funding for U.S. based faculty. North American faculty can also consider, when appropriate, including developing country scientists in their research proposals. This might broaden the perspective of both parties.

Sometimes a carefully worded letter from a foreign "expert" is very useful back home. Offer assistance, be specific, follow-up. You can offer to assist in finding specific references, or finding contacts with specific expertise. Understand that developing country scientists may not have the support you have: Making a phone call, or sending an international letter may be impossible or very expensive. A library search, and follow-up are usually impossible. No matter what happens, attempt to stay in contact! These connections can also reveal new opportunities that might expand your own horizons in teaching and research.

The Agency Role

Our agencies are a showcase of natural resource management in action. Foreign guests should have an opportunity for meaningful visits to your agency so they can see how "it" is done. Offer your support to Canadian or U.S. agencies funding foreign visitors. Suggest meaningful site visits, work study arrangements, field experiences. International agencies sometimes have funds to support such activities. Also, participate in workshops for foreign guests. We all have tight work schedules, but remember that parallel agencies, and personnel, in other countries need your ideas. They attempt to protect and manage resources just as you do. Any new insights and suggestions are useful, and you may gain some useful insights yourself.

As an example, I was recently working in a large country that wants to decentralize its natural resource agencies. I found that the natural resource agency personnel were very interested in finding out how we make decisions without direct central control. Workings of our state, provincial or regional offices, or regional management councils would be of significant interest. Who makes decisions? How are decisions reached? How are management plans approved? Who is responsible for writing them? Surely we have useful examples for their consideration.

Certainly we can't spend all our time giving tours and greeting guests, but when the opportunity comes keep the potential benefits in mind.

[3]For more information contact Dr. Brian Davy, Associate Director, Environment and Natural Resources Division, International Development Research Centre, P.O. Box 8500, 250 Albert Street, Ottawa, Ontario, K1G 3H9, CANADA

How Can AFS Help?

As a professional organization, what can the American Fisheries Society (AFS) do to assist developing country colleagues? AFS was not designed to provide technical assistance or advice, and several national, international and other organizations already attempt that. Also, AFS is not a global organization, nor should it be one.

But AFS can encourage and assist interested AFS members in becoming more active in developing world fisheries issues. AFS can serve members by keeping them better informed of significant third world resource issues, and via our International Section, by advertising opportunities for working with these issues. AFS can help to bridge the gap between those having easy access to information and those who lack that access. AFS can also encourage and support existing professional fisheries societies in developing countries or regions (e.g. The Asian Fisheries Society and the Fisheries Society of Africa) and can also help create new ones. These societies can, in turn, provide local fisheries scientists with professional support.

AFS's International Fisheries Section[4] (IFS) has fledging programs to distribute journals and AFS publications to needy institutions. These programs could use your help. IFS has also proposed an AFS "Bridge to Mexico" program which would increase AFS contacts and activities in Mexico.

The current status of the worlds fisheries resources demands that we, some of the worlds most highly educated and skilled resource managers, take positive action both individually and collectively. It is unlikely that those in the third world will succeed in protecting and managing resources there without our encouragement and help. Methods of providing that help are not obvious, but we should be innovative and make use of all opportunities as they arise.

[4]AFS members interested in Joining the International Fisheries Section should send US$5.00 to James B. Reynolds, Chair, IFS Membership Committee, 4627 Harvard Circle, Anchorage, AK 99709.