

Universities' Involvement in Aid to the Caribbean Countries

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RESUMEN

El Congreso de los Estados Unidos, aprobó, en 1975, la versión de la ley de Ayuda Exterior con las elaboraciones, sin precedente, de su Título XI; es decir, que reconocieron, por primera vez, el recurso valioso de nuestras universidades de enaldecir la postura internacional del país, con referencia especial a las pesquerías y las acuicultura. La Ley ha recibido amplia publicidad en la comunidad oceánica, principalmente a su implicación de fondos significantes. Existen implicaciones adicionales para esfuerzo cooperativo entre gobiernos, industria y organizaciones universitarias.

Esta será una presentación de la reacción hipotética de las universidades a este plan. El trabajo enfatizará, primero, el hecho de que las universidades norteamericanas han participado, estrechamente, en los programas norteamericanos de asistencia extranjera durante largo tiempo. En otras palabras, no hay nada novedoso en el concepto de participación universitaria en, o reacción a, ayuda extranjera.

Segundo, casi todas las universidades quieren participar. Con respecto a esto, sus metas generalmente se relacionan a: (a) ayuda al estudiante; (b) servicio al estado; (c) servicio a la nación; (d) enaltecimiento intelectual; (e) enriquecimiento de material; (f) adquisición de técnica cultural; (g) prestigio. Estas metas serán descritas como objetivos razonables por las universidades y se desarrollaran racionalmente en algunos de dichos acápites.

Comparado con agencias gubernamentales, las universidades deberán afrontar alguna desventaja en su posición de ser internacional: (a) pérdida temporal de profesores facultativos; (b) ajuste en programación educacional; (c) problemas culturales; (d) división de recursos entre estudiantes domésticos y extranjeros; (e) riesgo de verse involucrados en problemas en otros países.

Esta claro que, en asuntos relacionados con el océano, la pesquería es por sí el renglón más prominente en ayuda exterior. En muchos aspectos, los problemas son semejantes a los agrícolas; sin embargo, existen diferencias notables, tanto en política y técnicas, tanto nacional como local.

Redactar y ejecutar programas pesqueros en países en desarrollo, para sus propios beneficios, no es tan simple como parece. Las Universidades inmediatamente adquieren responsabilidad, tanto para, sí como para el país al que ayundan, y demás está decir, con el Gobierno de los Estados Unidos. Estas responsabilidades se expondrán con algunos detalles, en relación con el tratamiento de estudiantes, actitudes nacionales e internacionales, evasión de parroquialismo (entiéndase actitud local), reconocimiento de infraestructuras y comprensión de diferencias fundamentales, tales como clima. Alrededor de doce de estos problemas serán tratados, con referencia especial al Area del Caribe.

The history of marine science and technology in the Caribbean is extremely recent. If I might borrow a contribution from Dr. Louis Herrera, Assistant Secretary to the Intergovernmental Oceanographic Commission, "Up until two decades ago marine science in the Caribbean Sea and adjacent regions was virtually restricted to occasional cruises carried out by research institutions from the United States as part of more encompassing studies to under-

stand the dynamics of the Atlantic Ocean. With the advent of the International Geophysical Year, (1957-1958) the Latin American countries of the region were made aware of the intrinsic importance of the marine environment and of its potential role as a source of socioeconomic development. As a result, a number of small marine science centers were created during the late 50's and early 60's which soon became engaged in basic research, mainly in marine biology."¹

Dr. Herrera went on to say that while education and research in marine science grew and spread in the Caribbean, "there still exists a serious lack of scientists in most of the Caribbean countries, that in some cases there is no proper marine science infrastructure at all, and that even the largest centers have built-in weaknesses that manifest themselves far too often such as when a good scientist leaves and there is no replacement in sight, or when there is a service to be rendered and no one to take it on."

I can attest to this personally in that while directing the Navy's first oceanographic cruise through the Caribbean in 1950, I found a depressing dearth of previous activity and no data base at all on which to build.

Largely through the efforts of the Intergovernmental Oceanographic Commission, started in 1960, marine interests received a healthy boost throughout the Caribbean and in Central America. The Commission was largely responsible for the establishment of the Cooperative Investigations of the Caribbean and Adjacent Regions (CICAR) in 1968.

Actually CICAR proved at least as much of a catalyst as an end product in that the efforts of its member nations led to the establishment of its larger successor, the IOC Association for the Caribbean and adjacent Regions (IOCARIBE). At this point in time IOCARIBE encompasses 19 member nations, many of whom are represented at this meeting. A description of the nature, activities, and future plans of IOCARIBE are beyond the scope of this paper. It is mentioned merely to support a theme to be advanced later.

IOCARIBE is, after all, one of the most advanced and sophisticated of all of the programs of the Intergovernmental Oceanographic Commission. It is one of the few to have its own full time director, Bob Lankford, and staff with headquarters in Trinidad. The member nations meet regularly, and the organization even started its own excellent newsletter, in June of this year. I commend it to all of you.

Another step forward in integration of the regional member nations in common cause took place in Mexico City 2½ years ago when the first of a series of regional meetings took place, whose purpose was to develop programs for education, training, and mutual assistance in marine science and technology. Last year's meeting in Costa Rica further reinforced the campaign for marine education. Since 1968, the Intergovernmental Oceanographic Commission has fostered a separate standing committee on this subject, TEMA, whose charter has encompassed the promotion and encouragement of education and training provided largely by the developed countries in behalf of the developing nations.

¹IOCARIBE Newsletter, Volume 1.

At the Mexico City meeting, under the skillful direction of Dr. Ayala Castañares, the developing nation representatives were encouraged to tabulate their outstanding needs in terms of training, equipment, and other topics. This, in fact, represented a major step forward in the international affairs of the ocean, because it was the first time that such information had been formally assessed and documented.

Following completion of the series of the regional meetings, the entire TEMA working group met at the United Nations on July 18, 1977. That meeting was productive of a number of resolutions relating to improvement of coordination between the Commission and the United Nations agencies such as UNESCO, FAO, IMMCO, and the UNEP: development of common standards and calibration techniques for instruments, promotion of documentation collections, and improvement of the fellowship program with particular reference to technician training.

One recommendation that might be singled out for special reference had to do with a National Training Contact system. At an earlier meeting of the full-working group, about 6 years ago, a resolution was passed to establish a network of national training contacts in each of the member nations of the IOC. It is the function of these contacts to provide information on education and training opportunities for students in the developing countries and to provide quick and convenient methods of contact between developed and developing countries. As Dr. Herrera has related, the system has not worked very well for a number of reasons thus far; nonetheless, there is a system and it is the only such system anywhere within the United Nations network.

Let me summarize developments to this point. There now exists a strong organization for coordination of the Caribbean and Central American countries for purposes of marine science and technology—IOCARIBE. There also exists an Intergovernmental Oceanographic Commission which appears always willing and ready to sponsor or encourage international programs in the Caribbean region. A network of national training contacts exists, the most successful meeting of which took place in this region in Mexico City. In other words, we have achieved enormous organization in the Caribbean; all we need now is a little action.

Now, let me reemphasize this note. There is nothing new in my or possibly any other proposal to be offered at this meeting. IOCARIBE and WECAF are two of the most effective coordinating enterprises in marine affairs today. Further, the World Data Centers, the FAO/IOC ASFIS (Aquatic Sciences and Fisheries Information System), and some of the National Systems such as Columbia's National Maritime Information Sub-System certainly provide adequate techniques for information and data storage and retrieval. Finally, we don't lack for communications or problem definition; the 1976 and 77 regional meetings in Mexico City, Costa Rica, and Martinique and their many local counterparts should certainly have given anyone who is interested an excellent idea of where the problems and opportunities are. The six generic IOCARIBE recommendations, respecting Marine Turtle Information; Data; Training and Education; Upwelling; and Fisheries Science support in the Antilles and Central America, certainly offer an excellent blueprint for effective

tive marine program planning.

The principal purpose of these remarks is to encourage and accelerate ongoing efforts to coordinate such planning for the lesser Antilles, as a single unit. This slide (Display) simply tabulates some of the findings from Bob Lankford's survey last year. It should be apparent that critical mass necessary for most effective utilization of resources is lacking at all of those sites. To put it another way, none of these states is large enough to be able to assess national opportunities over a spectrum of marine-related areas and to tie these to assisting thousands of needy people.

Taken together, however, these states do fulfill this criterion. Accordingly, I want to endorse and reinforce the concepts that have been advanced, of a multi-island program, developed with the assistance of a large, capable, and resourceful Sea Grant College.

By marvelous coincidence, at this most propitious time in history, the Congress of the United States has regularly renewed the Foreign Assistance Act but for the first time has added a marine emphasis to its Title XII. The principal intent of this new emphasis is to involve American universities in the AID system in all matters relating to applications of marine science and technology with the obvious emphasis to be on food.

I would now like to discuss with you a number of aspects of implementation of Title XII with particular reference to University involvement, since the Act clearly designates American Sea Grant Colleges as the vehicles through which the Act is to be operated. In several reviews and surveys, it has been established that American universities are extremely eager to participate in foreign assistance programs and there is no question that they look primarily to Central and South America to further their ambitions.

The question might reasonably be asked at this point: Why should universities go to such trouble, i.e. involving themselves in foreign affairs? After all, viewed superficially the benefits to the university would appear outweighed by the drawbacks. For instance, these types of programs result in the loss of valued faculty members for varying but considerable period of times. Because of the importance of these kinds of projects, however, it is only the best people who should be entrusted with the assignments, and they are, of course, the ones who can least be spared.

By the same reasoning, teaching schedules must be adjusted to accommodate foreign countries who may need "catch-up" assistance. The universities must pay particular attention to special cultural problems such as language and religious barriers. And, of course, the universities must run risks of becoming inadvertently involved in less productive activities within the countries they are seeking to help.

Actually there turn out to be a number of factors which appear to outweigh the drawbacks rather handsomely. In the first place, most university representatives appear to feel that involvement in foreign programs will result in professional advancement; this may be gained, for instance, from studies of previously unplumbed regions in a number of sciences.

A second factor relates to intellectual curiosity, and in a closely related sense many faculty members have intensely cosmopolitan interests. In other

words, they are motivated as much by a human desire to see how people live in other parts of the world as by their desires to augment their store of knowledge. A number of our scientists have mentioned that they welcome most of all the opportunity to apply experience gained in other countries to their own technological cultural and economical problems.

There are two other factors that are extremely difficult to assess, much less to quantify. The first is prestige. About all that can be said by way of explanation is to observe that in modern society aiding developing countries is considered to be socially desirable. Hopefully, one day archaeologists and anthropologists may consider this to be the highlight of today's civilization and representative of man's noblest aspirations.

Finally, service to our own country is extremely important and the philosophy embraces both aesthetic and material ingredients. In the first place, altruism is anything but dead in the United States, if it were, for instance, we would not be meeting here today. Most people, when they are willing to think in such terms, really want to assist their country toward achievement of its goals. Clearly, it's in the national interest to educate and train people from other countries; to help guide their scientific programs; to assist them in facing problems and opportunities; and to provide material and philosophical encouragement to them in developing their domestic public services.

To summarize, participation in all of these efforts is a long-standing tradition among American universities, and members of the marine community can point with particular pride to their recently born but already healthy tradition of strong and effective partnerships with universities in developing countries.

Since this is, after all, a meeting on fisheries, what I'd like now to do is to review some principles which might be applied to the universities' planning processes, since they are the agents through which the A.I.D. program will mostly be directed throughout the Caribbean region. To diagnose these problems and opportunities in depth would take far more time than we have here today. Accordingly, I'm going to review them no more than by abstract and make copies of the explanations available to anyone desiring same.

- a) Foreign students invited to American universities should be treated without special privilege but with thoughtful consideration. Problems assigned to them should be relevant to their local needs. If possible, they should be assigned to work with or under someone who is personally experienced in problems and needs of the country of origin. Overtraining should be avoided by minimizing the use of highly sophisticated equipment which might be unavailable in the trainee's country of origin.
- b) The more careful the planning between the principals of the respective countries the more productive will be the training program.
- c) If the student is recalled by his country of origin in the middle of his training program, the inconvenience must be accepted philosophically as a matter of practical need; overall the process should be viewed as beneficial.
- d) All dealings should be as direct as possible; the use of middlemen and go-betweens should be minimized.

- e) Possibly the most important principle that American universities ought to observe is that it is far more important to build the capacity for problem solving than to solve the problem directly for the partner developing country.
- f) While once upon a time the sciences of biology, geology, physics, and chemistry comprised the totality of education and training, the growing sophistication of marine technology has given rise to institutional problems that are in some cases more complicated than technical problems. Accordingly, the social sciences must now be considered the partners of the natural sciences as significant components of these training programs
- g) It is terribly important that the practitioners of assistance programs recognize infrastructures and secondary and tertiary reactions to activities. For instance, significant fishing harbor improvement may result in vastly increased usage. This, in turn, may place succeeding demands on local lumber industries; require newer improved roads; occasion service industry expansion such as stores and repair shops; and perhaps even require a new school. These possibilities should be explored carefully in the planning process; their development should not be left to chance.
- h) The Advisory or Extension Service procedure is relatively underutilized in most developing countries. Particularly the American Land and Sea Grant Colleges have had much experience in formulating best procedures. Thus far it has been noticed that the developing countries' governments who have already established such services are very enthusiastic and give these their highest priorities. Accordingly, American universities should constantly seek to create and expand such programs wherever possible.

Since this is, after all, a fisheries conference, I would like now to highlight a few special principles that American universities ought to observe in helping their sister universities in the LDC's develop their own fisheries technology. While this information has been gleaned from a number of my colleagues in several universities, I would like to give particular credit to Frank Williams whose lore is unsurpassed by anyone in our business.

First, the most obvious need is for individuals trained to evaluate the types of resources available within the jurisdiction of the developing countries and within those countries' own perspectives. Second, the target stocks should be high priced if export is intended, or low priced if local consumption is the goal. Third, design of low cost fishing harbors ought to have high priority.

Fourth, American universities often tend to forget that developing countries are in tropical and subtropical climates, and differences in climate between the American university and its counterpart in the developing country can make a significant difference in technological approach. There must be people available in the developing countries who can adapt temperate climate gear to tropical climates. Fifth, most fishery scientists do not receive enough training in fishing gear. Sixth, the degree of specialization of the vessel varies with the endurance which is required. While there are a few specialists in the United States who can assist developing countries in operating

aboard these fishing vessels, there are probably more and better technicians in other countries. The same philosophy having to do with climatic changes for gear is especially critical respecting the fixed equipment aboard ship which ought to be mechanical rather than hydraulic or electric.

Seventh, persons should be learned in the mores of the country they visit to help. For instance, sometimes a good product is simply unacceptable in a particular country. Trained people must consider carefully all of these ramifications before introducing a new product. Eighth, more training is needed in the basic economics of tropical fisheries products. Techniques should not be introduced which might change local practices radically; in other words, new techniques should not be introduced unless one knows what one is doing. Ninth, we need more special short courses, instructors versed in physical oceanography, training programs to convert natural resource scientists into fishery scientists, and information on stocks and migration.

Finally, joint cooperative efforts should be promoted and advanced. Joint ventures are best conducted between the developing country's staff and the United States university's staff. The foreign countries naturally want more say in planning and developing the courses.

While the A.I.D. Title XII Program has been developing its administrative methodology, the universities have become alarmed over what they perceive to be a doctrine of excluding education from the program. Universities normally view the divorce of education from research to be extremely short-sighted. In turn, the agency finds it necessary to keep reminding the universities that this is a "collaborative research" program. The university involved in the project is expected to contribute its own resources over and above what it is being remunerated for by the government. This makes it all the more desirable, of course, for the university to propose projects in which its faculty members are personally interested and which will result in benefits of some form or other to themselves. In this connection, one conclusion I have come to over the past several years of affiliating with the IOC/TEMA program, is that an outstanding characteristic of the conventional A.I.D. program relates to its traffic in bodies.

For instance, either an American professor visits the developing country to guide research or to offer courses of instruction, or the developing country sends students to the United States under various forms of scholarships and fellowships. Typically, at the end of the training period the professor or student returns home, respectively, and then what have we left for follow-through? My own experiences have revealed a distressing lack of interest or attention to the necessary program maintenance.

Of particular importance, it seems to me, is documentation. I have found all too often that when the period of training is over, the amount of written material available to the student is distressingly small, and there are some instances where the trained students must rely on personal friendships as the only slender pipelines through which meager supplies of documents can flow.

Accordingly, I have designed and proposed a documentation brokerage system which would involve the following procedures: (1) An agreement would be established between my own university and a developing country

whereby we would jointly survey the developing country's documentation needs. These would relate to textbooks, reprints, technical reports, technical or semi-technical journals, and other references. (2) Our own agent would then return home, and through a typical marine resources information center in the American university, he would then scan the literature to determine an optimal selection of the most valuable kinds of literature in terms of the developing country's needs. (3) We would undertake to supply this at no or minimal cost to the developing country for a period of 1 year following which... (4) An assessment would be made of the merits of the system.

To test the idea, I have used the National Training Contact network to pose the opportunity to my colleagues in Indonesia, Philippines, Egypt, Nigeria, Kenya, Colombia, and Dominican Republic. The results have been positive, and it is now up to me to promote the project through one or another sponsor in the United States government.

Needless to say, comments, suggestions and recommendations from my colleagues in the Caribbean regions would be exceptionally helpful to me in this process, and it is with this that I leave you now.