PROBLEMS AND SOLUTIONS

GAINS AND LOSSES TO THE PARTNERS

James E. Carpenter, Director
Mississippi Cooperative Extension Service

I would like to talk first about the gains to the partners because I feel there are many more gains than losses in this relationship between the Cooperative Extension Service and the Sea Grant Advisory Service.

The Sea Grant-Land-Grant linkage implies to me more than a likeness in mission, i.e., Research, Teaching, Extension. It also implies a joining together to ultimately serve the people of this nation.

The biggest gains come from the joining together of the Sea Grant Advisory Service with the Cooperative Extension Service for the following reasons:

1. The Cooperative Extension Service has a long (70 years) history and tradition of effectively designing and delivering informal action education programs that meet the needs of the people being served.

2. The Cooperative Extension Service is statewide in scope, allowing a much broader coverage than would be possible without the linkage between the Cooperative Extension Service and the Sea Grant Advisory Service.

3. The Cooperative Extension Service is closely tied to the knowledge base of the land-grant system which allows access to research and technology that can be immediately applied in finding alternative solutions to problems faced by the Sea Grant Advisory Service staff.

4. In addition to the knowledge base ties, the Cooperative Extension Service has numerous resources that are directly applicable to the work of the Sea Grant Advisory Service. In our state, the best example that comes to mind is our Information Services Department which has provided support for publications; mass media, including radio, television, and newspapers; audio visual material; and other teaching aids. The Computer Application Services is another department that has been regularly utilized by the Sea Grant Advisory Service. We also have a Food and Fiber Center that works with the further processing of food and fiber products, including seafood, which has worked closely with the Sea Grant Advisory Service.

5. The linkage provided an opportunity for expanding the clientele base for the Cooperative Extension Service. In our state, the Sea Grant Advisory Service Program focuses in an area that has little agriculture, therefore, limiting to some extent the clientele that are involved with the Cooperative Extension Service on a continuing basis. The Sea Grant Advisory Service introduced MCES to a number of individuals and groups who have been made aware of the total scope of Cooperative Extension Service programs and now are regular users of our educational programs and services.
8. The linkage between the Sea Grant Advisory Service and the Cooperative Extension Service increases the political support base for both units. The location of Sea Grant Advisory Service in the Cooperative Extension Service adds credibility to the program, but also through this affiliation allows access to a substantial political base that supports Cooperative Extension Service programs.

In the losses column, the following items should be considered:

1. By creating the linkage between the Sea Grant Administration and the Cooperative Extension Service Administration, both sacrifice some loss in flexibility that each would have if full administrative control rested with either of the units. Any decisions end up being compromise decisions that take into account the needs of both organizations.

2. Program planning and reporting processes are complicated by the different requirements of both units. Different fiscal years further complicate these processes.

3. Accountability is more of a problem than it would be if the linkage between Sea Grant Advisory Service and Cooperative Extension Service did not exist. It requires more time and attention to assure that one partner does not neglect the other in the area of accountability.

4. The Sea Grant Advisory Service, in some cases, is such a small part of the total program of the Cooperative Extension Service, it runs the danger of being overlooked or neglected by the Administration and Supervisory Staff of the Cooperative Extension Service.

I would add that if this does happen, I would blame the Sea Grant Advisory Service Program Leader just as much as the Administrative Staff of the Cooperative Extension Service.

5. The Cooperative Extension Service has more of a program focus at the local level than does the Sea Grant Advisory Service which seems to have more concern for regional and national program emphasis.

I am pleased to be asked to be a member of this panel to address the gains and losses to the partners. I have tried to share with you some of the basic thoughts I have concerning this topic and will be pleased to try to respond to any questions or to elaborate on any of the points that I have covered in this brief time period.
GAINS AND LOSSES TO THE PARTNERS

Walter J. Walla, Asst. Director
Agriculture and Natural Resources
Texas Agricultural Extension Service

I appreciate the opportunity to present my views on the gains and losses in the marriage between Sea Grant and the Extension Service. I use the term "marriage" rather than partnership because marriage implies a closer association and greater responsibility on the part of the partners in order for the association to endure. In a marriage, there are gains and losses to both partners when the contract is made, but as in any successful marriage, the outcome is that both partners are stronger because of the union.

Let me outline from my short association with Sea Grant what I perceive to be the gains and losses to the partners:

Gains to Sea Grant

a. Increases the credibility of Sea Grant as a part of established educational entity.

b. Provides facilities and support (secretarial, office space, equipment, etc.) which allows Sea Grant to devote a greater portion of their limited resources to delivery of educational programs.

c. The whole information delivery system of Extension is at the disposal of Sea Grant (county extension agents, specialists in other areas, communications department, etc.).

d. Reduces the need for administrative overhead i.e., district directors supervise marine agents, etc.

Gains to Extension

a. Broadens extension's horizon in focusing on a non-traditional audience.

b. Broadens extension's support base at the local level.

c. Indirect effect of cross-fertilization of Extension—exposes staff to new innovative programming ideas.

Potential Losses for Sea Grant

a. For a small program, it becomes part of a large bureaucracy and efforts and concerns may be diluted.

b. Non-traditional budget process does not get Extension support at the National level.

c. Sea Grant has a difficult time conforming to Extension's reporting process.
Potential Losses for Extension

a. Draws on already strained resources.

b. Some administrators have difficulty relating to marine programs.

c. Administrative lines are generally a matrix which causes communications problems.

d. Non-traditional budgeting causes problems with Extension's accounting systems.

I have been associated with Extension twenty-three years and Sea Grant seven months, and some would question my views due to my lack of tenure with Sea Grant. But, in my short stay at this meeting and my tenure with Sea Grant, I feel that there have been problems in the past. Most have originated due to inequitable treatment of Sea Grant by Extension. I have learned through the years that most problems, or perceived problems, can be overcome through communications. This meeting sponsored by Sea Grant and ECOP is a step in the right direction. We need to continue this effort and foster increased communications. Just as in a successful marriage, both partners must realize that in order for the partnership to succeed, there has to be sacrifices made on both sides. But above all, both Sea Grant and Extension must be committed to making the partnership work. It's working in Texas, and I'm committed to making sure the partnership continues to work.
GAINS AND LOSSES TO THE PARTNERS

James C. Cato, Director
Florida Sea Grant College Program
University of Florida

Sea Grant has as one of its major missions the extension education of those people who use our marine resources. This mission is accomplished nationwide using a number of administrative structures and organizational patterns. One of these administrative structures utilizes a strong partnership with the Cooperative Extension Service within the Land Grant University of each state. This paper is written to examine some of the gains and losses of Sea Grant Extension and Advisory Programs operating within the framework of the Cooperative Extension Service.

These comments were formulated with input from about ten persons nationwide. They represent Sea Grant faculty at all levels from agents in the field through Sea Grant directors. Comments came from faculty working both within and outside the Cooperative Extension Service framework. Thus, the gains and losses are presented from the Sea Grant perspective.

Two other comments are in order. First, no attempt is made to distinguish between both real and imagined gains and losses. Even if they are imagined, they need consideration from an administrative viewpoint in order to minimize conflicts within the organization. I do not personally view some of them as gains and losses which merit much consideration. However, they are all presented in order for all partners to be aware of real or imagined problems which might arise. Second, as is normally consistent with human nature, more losses are normally seen than gains. This may or may not represent the true case. No weights are assigned or implied to any of the gains or losses.

Gains and losses presented are organized into a number of categories. These include administrative, programmatic, financial, professional development, evaluation, credit, personnel, fringe benefits and credibility. Each is presented below.

Administrative

Gains

1. Allows the use of an already established support system at state and local levels regarding clerical help, facilities and offices. Other support items include editing, graphic and media services.

2. Adds a new program area with the same basic goals to an existing educational system program. This avoids the potential problem that building another program with the same educational goals might be viewed as competitive.

Losses

1. There are sometimes too many supervisors involved. A multi-county Sea Grant agent may be responsible to eight county extension directors, two district directors, a marine extension program leader and a Sea Grant director. All have legitimate reasons for the agent to follow certain
guidelines. This is administratively cumbersome and also allows the agent to "play" one against the other. Extra work is required for the supervisors to "coordinate" their supervision.

2. Within the Cooperative Extension Service, all field agents are regimented to the same policies. Thus, resources available to Sea Grant affiliated agents (e.g., travel funds) may not be allowed for use since they are not available for other extension people. For example, a typical policy for field extension faculty is limited or no out-of-state travel for training or to give training regardless of the specialty or interest. This may be fine as Cooperative Extension Service policy but is contrary to Sea Grant which often encourages this since the program is small and networking across state programs is encouraged. Many marine agents were hired with a "specialty" in mind both in-state and regionally. This is a necessity in a new, small and growing program. Sea Grant also has semi-formal regional extension program capabilities.

3. The Cooperative Extension Service does not adapt quickly to changing requirements and opportunities. In some programs field agents may report to a different branch of the service than specialists. This may lead to little centralized Sea Grant control and make it a difficulty to respond to outside Sea Grant stimuli.

4. Sometimes leadership may appear ineffectual. A Sea Grant marine project leader may come from extension and serve Sea Grant part-time with loyalties primarily to extension thus leading to Sea Grant always being compromised. This is particularly true in the early years. It is too easy in this type system for too many non-Sea Grant demands to be placed on Sea Grant advisory leaders.

5. Sea Grant needs to operate like a small business and be able to seize upon opportunities and change direction rapidly. The Cooperative Extension Service operates like a large corporation using a detailed administration with long planning lead time and changes direction slowly. Thus, a small business is having to operate within the constraints of a large corporation. This may cause unproductive, time consuming requirements for extra communication and coordination.

6. Early in some Sea Grant and Cooperative Extension Service partnerships, the agreement came from the "top down". This caused problems in that Sea Grant faculty were secondarily responsible to Sea Grant needs. Over time, working from the "bottom up" with marine trained people has solved part of this problem.

7. The Cooperative Extension Service is a very strong "observer" of county political lines. Many marine activities are more regional in nature, for example, fisheries, shipping, etc.

8. The traditional extension agent relates to a land grant university specialist and/or agricultural experiment station. Sea Grant normally relates to all universities in the state or region. Sometimes extension administrators at various levels do not appreciate the significance of this relationship. Agents sometimes feel they do not get credit for working with faculty at other universities. They are forced to go to the "land grant" campus first
when they know there may be a better resource available at another location. They also must only go "out-of-state" with questions through the state extension specialist.

9. In the Sea Grant system, extension has a front line high priority and essentially drives itself alongside research and teaching. On non land grant campuses, research normally comes first. When a Sea Grant program based in a non land grant setting attempts to operate its advisory program in partnership with a Cooperative Extension Service in a land grant setting, conflicts sometimes arise.

Programmatic

Gains

1. Non-traditional multidisciplinary expertise from the Cooperative Extension Service becomes available for use in programs. Examples are using agricultural engineering in seafood processing, ornamental horticulture in coastal vegetation, and the already established 4-H program, rather than having to build this expertise within the Sea Grant Program. Without Cooperative Extension Service involvement, these resources might not be interested. Access also becomes available nationwide to Cooperative Extension Service resources and marine agents receive stimulation from interacting with a diverse staff of professional colleagues.

2. Instant access is gained to county commissioners and other local influential groups to help in program planning.

Losses

1. Sea Grant program planning sometimes is forced into traditional CES program planning and reporting categories which don't fit all Sea Grant program areas. This is also true in applied demonstration type projects.

2. The extension approach depends heavily on serving the right people. These normally are the community leaders and traditional agricultural constituencies. Some feel this may result in missed opportunities to place emphasis where the greatest need exists in the marine area. In addition, program focus may be diverted from marine audiences to those that comprise the traditional extension constituency such as landowners and agribusinesses.

3. Some view the Cooperative Extension Service as too commodity oriented, thus causing marine extension to focus on marine commodities and overlook the general marine resource areas as well as coastal engineering. Traditional Cooperative Extension Service program planners have sometimes been viewed as narrow-minded about marine programs.

4. Agents sometimes feel the depth of their programs (and expertise) is overlooked because of specificity of agricultural extension programs and that they become forced to work in some of these specific areas.
5. Programatically agents feel responsible to Sea Grant and administratively to extension. This creates conflicts.

6. Research perspectives and the integration of research, teaching and extension activities may be lessened unless specialist staff are housed in academic departments.

Financial

Gains

1. The financial resources of the established Cooperative Extension Service program can effectively be used to support, build and bail out (during grant delay periods) a Sea Grant advisory service. The provision of match is also not to be overlooked. The federal mail franking privilege creates financial savings. Housing, administrative support, and some salary support from local counties are provided by the Cooperative Extension Service with cost savings to Sea Grant and a direct line is open to soliciting and receiving both state and county appropriated extension funds for marine specific positions. However, the competition with agriculture within the Service for new funds is substantial. Integration of extension and Sea Grant programmatic and administrative planning also has the potential for cost saving.

Losses

1. The indirect costs on a federal Sea Grant advisory program budget might not be used to directly benefit the program. The Cooperative Extension Service receives the federal portion of extension funding without charging indirect costs. This is based on tradition, history and early agreements between the Land Grant Universities, the U.S.D.A. and the federal government. However, indirect costs for Sea Grant advisory efforts are charged by the university. Some question this differing arrangement for receiving federal funds for performing similar functions.

Professional Development

Gains

1. Sea Grant faculty are able to take advantage of training programs within the Cooperative Extension Service although there is often a problem with programs of interest being available or "making" due to the small number of marine agents involved in a traditional agricultural setting.

Losses

1. Agents and specialists may not have an appropriate professional home. The professional extension organizations are too agricultural oriented. Most staff meeting topics are not related to marine interests. Regional and statewide development programs often break with groups along commodity, discipline, or problem solving lines. The marine staff attending are not large enough to be a "group", yet they are required to attend.
2. Sometimes there are conflicts in dates regarding Cooperative Extension Service and Sea Grant training programs. Whose should take precedence?

Evaluation

Gains

1. The training opportunities, role models and the reward structure are based on advisory and extension activities.

Losses

1. The Sea Grant Director and advisory program leader may be removed from direct involvement of supervision and evaluation of advisory personnel from both input and seeing the results. Within the Cooperative Extension Service the existing framework may be satisfactory. However, there may be problems because of Sea Grant goals and objectives conflicting with those of the Cooperative Extension Service. In all other Cooperative Extension Service programs, the complete "drive" for the program comes from within (4-H, ENP, Community Development, Agriculture, etc.,) the system rather than partially from outside considering needs of an office (Sea Grant) in another federal department (Commerce).

2. Cooperative Extension Service people supervising agents are sometimes not comfortable as they know little about the subject matter of marine programs. Sea Grant agents sometimes feel that because of this, evaluations can differ among District Directors and others. Agents also sometimes feel that they are evaluated against agricultural agents on items that don't apply in the marine sector. The audiences are quite different and the marine audience is sometimes much more mobile (fishermen, shippers, etc.) Some audiences in Cooperative Extension Service come from tradition. Sea Grant is still building that tradition.

Credit

Gains

1. Who gets program credit is very important to a program. With an up-front agreement both the Cooperative Extension Service and Sea Grant benefit from a high visibility in the marine area. In fact, the Cooperative Extension Service may benefit relatively more from having a marine component. With effective credit, Sea Grant can gain more avenues to recognition and credit through the Cooperative Extension Service visibility system.

Losses

1. Everyone is expected to market Sea Grant/Cooperative Extension Service/County Extension/University etc. at the same time. This is difficult.

2. Marine extension loyalties are divided between Sea Grant and Cooperative Extension Service. Some staff may be hesitant to identify too closely
with Sea Grant, because of pressure from the Cooperative Extension Service which neutralizes the effort to build a strong image for Sea Grant. Sometimes this leads to all loyalties going to extend the needs of Cooperative Extension. When Cooperative Extension does not want to share credit a real problem exists. This extends to appropriate credit on letterheads, business cards, publications, etc.

Personnel

Gains

1. Personnel services are provided by the existing experienced system.

2. An extension service career ladder (sometimes with tenure) with a peer evaluation system exists.

Losses

1. The personnel system and methods for filling positions is very slow which creates problems for a small program.

Fringe Benefits

Gains

1. Federal retirement is a major consideration for some personnel.

Credibility

Gains

1. Good rapport with local officials and political leaders is derived largely from association with the Cooperative Extension Service, an established organization that is known and trusted at the local level. This system spreading across counties is particularly important to program development.

Losses

1. The local power base may be highly agriculture oriented and in fact may resist sharing resources to help support a marine program. Land based urban and rural clientele may be used to broaden programs. Marine programs are coastal, more specific and have smaller audiences. This may be perceived as being a credibility problem.

Each of the items discussed is intended to represent items in a shopping list of what might be gains and losses from the Sea Grant perspective of operating within the Cooperative Extension Service. Whether they actually exist, or the intensity of the gain or loss, will depend on the state of maturity of the partners and of those faculty and administrators operating within the programs. Hopefully, this discussion will aid as Sea Grant and Cooperative Extension Service partnerships do grow and develop where that is the chosen method of operation.
GAINS AND LOSSES

B. J. Copeland, Director
UNC Sea Grant College Program
North Carolina State University

We have been asked to comment on our view of the gains and losses of having or not having the Sea Grant Marine Advisory Services incorporated into the Cooperative Extension Program. In our case, at the University of North Carolina, the Marine Advisory Services is within the Sea Grant College; and, the Sea Grant College is a component within the University System composed of sixteen campuses. Traditionally, within our system the land grant university (i.e., North Carolina State University) has the responsibility for administering the cooperative extension service in North Carolina. Additionally, North Carolina A&T University, which is a constituent campus of the University of North Carolina, has responsibility for administering the 1890 extension program. In addition to the Agriculture Extension Service there are several other extension programs within the University. The School of Textiles at NCSU has an extension program, the NCSU School of Forest Resources has an extension program, the NCSU School of Engineering has an industrial extension program, the NCSU Division of Lifelong Education has responsibility for a variety of extension activities, there is a multi-college Furniture Institute that carries on extension programs, Western Carolina University has an Institute for Mountain Living with extension responsibilities, East Carolina University has an Economic Development Institute that carries out extension programs, and so forth. All these programs are administered through Deans to Vice Chancellors to Chancellors, to ultimately, the Vice President of the University System for Research and Public Service Programs; who is, incidentally, the same administrator who has responsibility for the Sea Grant College.

When Sea Grant first began in North Carolina in 1970 the Marine Advisory Services was composed of three projects administered just like any other project within a granting program. The Agricultural Extension Service had a project in seafood processing and handling through the North Carolina State University Food Science Department. The Industrial Extension Service within the North Carolina State University School of Engineering had a project in fisheries harvesting including gear and boats. The third project was part of the Division of Continuing Education at East Carolina University. It had the first marine agent and was located in northeastern North Carolina to deal with the diverse fisheries there. Eventually, we organized a Sea Grant College Marine Advisory Services Program which was recognized by the University as an entity comparable to other extension programs within other schools of the University. The only "project" left today is the seafood processing project in the North Carolina State University Food Science Department, but it answers administratively to the Director of our Marine Advisory Services. We worked out a memorandum of understanding between the Agricultural Extension Service and the Sea Grant Program to facilitate several cooperative ventures which have worked very well.

I will direct my comments from the standpoint of a Marine Advisory Services administered directly by the Sea Grant College. Therefore, when I talk about gains I will do that in the context of gains by being separate from the extension service and when I talk about losses I will do that in the context of losses by not being part of agricultural extension.
The Gains

One important gain by having a Marine Advisory Services administered through the Sea Grant College is the reduction in length of the administrative chain. In MAS, we have an administrative chain of only two links: i.e., the Director of Marine Advisory Services answers to the Director of the Sea Grant College who answers to the Vice President of the University for Research and Public Service Programs. This enables policy and operations to proceed rapidly and if we need to change directions we can do so quickly. This is a real plus in a rapidly changing and recently developing field of marine extension. This also includes the added advantage of having the undivided attention of the Sea Grant administrator for Marine Advisory Services. We can write better proposals and we can better integrate the Marine Advisory activities within the goals of the Sea Grant Program.

Another important gain is the elimination of layers of bureaucracy. The Agriculture Extension Service is a very large organization, at our place they have over 800 FTE's. The inherent bureaucracy in an organization that large is very time consuming and complex. A lot of time is spent in various layers of staff and administrative meetings. The nature of Marine Advisory Services is such that interregional and interstate activities must occur and the bureaucratic layering for approvals of staff travel and staff activities can be a hindrance.

A third gain is to not be lost in a huge agency with different priorities. The extension service is a long standing, eminently successful operation, but they are not apt to change very quickly to accommodate a strange, multidisciplinary program like marine sciences. Marine sciences, by its nature, is multidisciplinary and involves a different set of clientele than what the Extension Service has traditionally responded to. Sometimes there are conflicts between the agricultural interests and the fishing interests and we believe that this can be more reasonably solved by cooperating at the top than it can by being integrated at the bottom.

The Losses

One major loss from not being a part of the Extension Service is not taking advantage of an ongoing, visible operation. The Extension Service is a long standing, highly thought of adventure and the Marine Advisory Services could take advantage of that track record and high visibility. The development of a small autonomous organization characteristic of many of our Marine Advisory Services Programs is a difficult task, given the fact that people normally recognize the university as having one extension program. It takes time and a good job of public relations to overcome that loss.

Another loss is possibly financial. The Extension Service has done an excellent job in incorporating county and local funds into the total operation support of the extension program. The Marine Advisory Services, operating on its own, has great difficulty in taking advantage of that possibility.

A third loss could be the missing out on long-term tradition. Land Grant Universities and the Extension Service, along with increasing citizen's awareness, all grew up together over several decades of development. That fine tradition may have several advantages although it might also have several disadvantages. Depending on how the Marine Advisory Services conducts itself, that long-standing tradition could be overcome by a first class organization and program.
On Balance

The crucial question regarding how we should proceed into the future revolves around the balance of the gains and losses from being separate or integrated. I would argue that that question cannot be answered unless one takes into consideration the nature of one's university, the nature of one's clientele, various priorities and how the program is financed before the question can be answered in a general case. In our case, we believe that the gains of doing our own thing outweighs the losses of being separate.
GAINS AND LOSSES TO THE PARTNERS

Dale Baker, Director
Minnesota Sea Grant Extension Program

Before I talk about Gains and Losses to the Partners, I would like to give you a brief overview of the Sea Grant Extension Program in Minnesota. The gains and losses which I refer to today come from our being a part of the Agricultural Extension Service in Minnesota. It is important to understand that gains and losses will be individualized depending on the program's history, the administrative structures within the State, and the personalities involved.

Sea Grant Extension in Minnesota was initiated eleven years ago. The program was initiated as a joint effort of the University of Minnesota, Agricultural Extension Service, and the Continuing Education and Extension Program. The two programs shared in providing matching funds and an administrative structure. The Sea Grant Extension program is located at the University of Minnesota Duluth Campus which is 150 miles from the twin cities campuses where both the Sea Grant Directors office and the Agricultural Extension Service are headquartered. The Minnesota SGEP has utilized Agricultural Extensions Area Extension Agent concept and has five area extension agents located on the UMD campus. We also have one Sea Grant Extension Specialist (45% time) who is located in the Fisheries Department in St. Paul. These area extension agents have different marine backgrounds and have specific subject matter responsibilities. Each agent geographically covers the entire Minnesota coastal area.

Minnesota Sea Grant has had a research component and a Sea Grant Director for the past several years. Continuing Education and Extension made a decision that SGEP did not fit their mission and decided three years ago that they did not want to be a partner and dropped their financial support. Today Sea Grant Extension agents have Agricultural appointments and their efforts are coordinated by both Agricultural Extension and the Sea Grant Program.

The gains and losses which I will discuss today are ones that have been discussed internally with the Minnesota Sea Grant agents. I have grouped all my losses under the heading:

We Are Neither Fish Nor Fowl

1. Being part of both Agricultural Extension and Sea Grant Extension caused increased "organizational maintenance". This organizational maintenance amounts to, by our agents calculation, 20% of our total effort, or in simpler terms, 1 day a week is spent on this endeavor. These efforts include program development, staff meetings, district conferences, staff development, etc. Many of these organization maintenance items are a given time commitment regardless of the partnership. Minnesota SGEP and Ag. Extension have addressed the question of increased "bureaucracy" brought about being a member of Agricultural Extension. Recently areas of increased organizational maintenance demands because we are a part of Ag. Extension, as perceived by the agents, on their time were resolved by making district extension meetings optional, making Ag. Extension staff development offerings optional, and combining the Ag. Extension and Sea Grant planning process together. We, therefore, have resolved this problem in Minnesota to our satisfaction.
2. We don't nicely fit into the Ag. Extension organization. In Minnesota in the past there have been three clearly defined program components Ag., 4-H and Home Ec. The fourth area, CNRD (where Sea Grant enters the organization) has been less well defined and has the appearance of being a "catch all" area for programs which don't nicely fit into other areas. In the past year it is my impression that Minnesota has taken a much clearer look at its CNRD program area and worked at defining its mission. This will definitely benefit Sea Grant Extension.

3. Sea Grant Extension Agents cannot get continuous appointments with the Agricultural Extension Service. The rational is used, that because Sea Grant Extension budgets flow from a different source (i.e., Dept. of Commerce) Ag. Extension cannot offer a continuous appointment (similar to a tenure commitment) to Sea Grant Extension personnel. Ag. Extension States have less control over Sea Grant dollars than they do over their traditional funding sources. Continuing appointments may also become a thing of the past for Ag. Extension personnel and term appointments (3 or 5 years) are what we are looking at for the future.

4. There are no professional organizations within the Agricultural Extension Service for Sea Grant Extension personnel. Agriculture, Youth and Home Economics have their own professional organization, CNRD or Sea Grant have not formed one. I would argue that the onus lies on Sea Grant and CNRD personnel to see that an organization is formed.

5. Problems with establishing identity. Are we Sea Grant agents, or Ag. Extension Agents? Both, are questions which we have been asked in the past. Many Ag. Extension County Agents are unsure how we fit into the system. Time and continuous contact with Agricultural Extension personnel at meetings and conferences should resolve this problem.

6. The Sea Grant Extension Program sometimes faces double jeopardy. There are sometimes differing expectations from Sea Grant and Ag. Extension and the Sea Grant Extension program gets caught in between. The solution to this problem lies in better communication and laying out clear cut expectations.

Conclusions:

The losses because of the partnership in the case of Minnesota do not bring about programmatic losses but most likely result in higher stress levels to Sea Grant Extension personnel. Gains because of the Partnership. Gains have been grouped under the heading.

The Fowl are Willing to Share their Homes and Food with the Fish

1. Training and Staff Development capabilities are something which Minnesota Agricultural Extension excels. Sea Grant Extension personnel take advantage of training and staff development programs offered by Ag. Extension throughout the year. These programs are excellent and meet a lot of our needs. They do not meet many of our programmatic needs but on a Great Lakes regional basis we are able to meet specific programmatic needs of our agents. Our agents also offer staff development offerings to other county agents.

2. We have clear access to county staff and specialists for program support and delivery. County agents located in all 87 Minnesota Counties and hundreds of
state specialists in St. Paul, amounts to a tremendous human resource, talent base and communication network.

3. Through the Agriculture Extension Service we have the ability to reach clientele through other professionals. It is not only Sea Grant Extension personnel who deliver Sea Grant programs. We are able to rely on county extension staff to deliver a variety of our program efforts.

4. We have the access to salary dollars, staff support money and program support dollars. Twenty percent of the salaries of our extension agents are paid by the Ag. Extension Service. We have the access and take advantage of a large amount of program support (i.e., franking privilege) and staff support (travel support) for a variety of Sea Grant Extension efforts.

5. Use of the Agricultural Extension appointment and fringe benefits. All Sea Grant Extension staff have a federal appointment and fringe benefit package offered by the Agricultural Service. We have all the benefits, rights and privileges of these appointments. These appointments are specifically designed for individuals with extension responsibilities. These types of appointments also carry the right to go on single and double quarter study leaves. Appointments within other parts of the University could be negative for individuals and extension responsibilities.

6. There is a sense of belonging to a large organization which can provide a lot of support. This relationship leads up to believe we are part of a major organization with a variety of career paths. This same sense of belonging could never be duplicated with a small organization such as Minnesota Sea Grant in Minnesota.

7. Personnel evaluations and salary determinations are done by the Agricultural Extension system. This system is specifically developed for extension personnel and fits Sea Grant Extension responsibilities. Many evaluation systems which are used within the University do not fit individuals with Extension responsibilities.

Conclusion:

It is my strong impression that being a part of the Agricultural Extension in Minnesota is a major benefit and the gain greatly out weighs the losses.
GAINS AND LOSSES TO THE PARTNERS

John H. Judd
Michigan Sea Grant Extension

By the way of introduction, Michigan Sea Grant was initiated in 1969 as a program of the University of Michigan. Sea Grant Extension (SGE) was a part of the overall program, but had no link to Cooperative Extension (CES). In 1977, we developed a cooperative program between the University of Michigan and Michigan State University. At that time, SGE was tied to CES. Agents are now a part of CES and are designated as District Extension Sea Grant Agents. The Program Leader also serves as Associate Program Director for Natural Resources and Public Policy within CES.

With that as background, I would like to address some of the gains and losses as perceived from the standpoint of a program that is both a part of CES, yet very much a part of the Michigan Sea Grant College Program.

CES/SGE: POSITIVES OF CO-HABITATION

1. **Identification with the Education Role of CES** - As a part of CES, we are within a recognized group, known for its aid to people. Extension County Offices are known as the place to go to get help and information. Agents act as a conduit to bring Sea Grant Extension into contact with clientele and to feed problems to SGE agents.

2. **Advantage of an Existing Network of Workers and Structure in Place** - In many cases, knowledgeable agents are already in the field. SGE agents can call upon this expertise as well as aid these agents in their efforts. We have found this to be the case in such program areas as tourism and fisheries. A cadre of specialists on campus can be called upon for research and expertise. These individuals have the land grant philosophy and established and proven educational abilities. There is also an on campus support system of publications and in-service training. CES can also provide a media backup for the agents in the form of a news release network as well as radio and video coverage.

3. **Sea Grant's contribution to the CES System** - SGE can go a long way toward enriching the perspectives of CES staff on all levels. Broadening of CES horizons results in the Extension staff becoming involved with new clientele or with previous clientele in new ways. CES agents have aided groups and individuals in such areas as underwater park planning, coastal tourism and coastal community development. We have also helped to add new directions to ongoing programs. For example, we have aided in the planning development and teaching of a 4-H Great Lakes Camp for teen leaders. Because SGE has gone through five years of zero funding, we have had to place great emphasis on program evaluation and documentation of results. We have become a catalyst and an example for a greater emphasis on evaluation by many programs within CES.

4. **Professional Belonging and Career Opportunities** - Sea Grant agents feel a greater sense of professional belonging by being a part of CES. There are established role models through which new agent staff can more quickly learn to become a part of the extension team. CES provides broader
opportunities for career development and a career ladder for professional advancement. Within our system, there is greater job security through continuing employment after six years within the program.

OPPORTUNITIES

Although there are perceived problems of Sea Grant Extension being within Cooperative Extension Service, these can perhaps best be seen as opportunities where both SGE and CES can benefit through changes or modifications.

1. **Sea Grant Extension as a "step child" of Land Grant -** Agriculture, Home Economics, and 4-H form the major portion of most Cooperative Extension Programs. Natural Resources, as a fourth program area, is generally much smaller. In some instances, it becomes the catch-all for any programs that do not have a home. When SGE falls within any one of the program areas, it is to a great extent lost within the larger system that is CES.

2. **Program Visibility -** As mentioned above, SGE is usually a part of one of the larger program areas within CES. As such, many times it carries the titles of both SGE and CES. This adds to the difficulty of identifying SGE to the various publics that make up our clientele. There is also the difficulty of conveying the concept of SGE/CES joint effort to new clientele.

3. **Voids in Inservice Training -** Many of the Extension inservice and staff development programs are not appropriate for SGE, yet agents are expected to attend as a part of their job requirement. In addition, regional planning meetings leave a void as far as SGE is concerned. A number of SGE programs have developed their own sessions for inservice. We now find that agents from other program areas are attending our sessions.

4. **Evaluation of Agents and Programs -** In the early years of SGE/CES cooperation, some administrators found it difficult to evaluate SGE agents and programs. Many times CES personnel had the wrong perception of Sea Grant's role and agents were not looked upon as a true part of CES. By educating the administration concerning Sea Grant, what we do and why we do it, this is no longer a problem. There still remains, however, the requirement for dual reporting. CES and SGE reporting years are, in our case, six months out of phase. This requires two sets of annual reports and also, two sets of plans of work.

5. **Multiple Administration -** Because ours is a cooperative program between two universities, SGE must be responsive to both, as well as to CES. We are involved with different funding sources, each with its own set of matching and reporting requirements, as well as different annual start dates. Finally, each institution has its own philosophy regarding administration, research, education and extension.
ASSessING NEEDS

ASSessING NEEDS

Andrew J. Weber, National Program Leader
Natural Resources and Rural Development Unit
Extension Service, USDA

Let me begin by providing some clarification of the title of my discussion this afternoon. This is not intended to be a discussion of the latest state-of-the-art for conducting needs assessments. There are others here in the audience that are better qualified than I am to address that topic. The recent handbook authored by Midge Smith entitled "Identifying and Prioritizing Citizen Needs for Extension Program Development" is clear, concise and I commend it to you for your use.

I prefer to explore with you some of the more subtler aspects of needs assessments that we either take for granted or tend to overlook. You and I live and work in an information society. Our programs transfer information and knowledge. Communications are a fundamental and essential element of every dimension of Extension programming. Within this context needs assessments are or can be a powerful tool. The emphasis here is on the word tool.

Formally, we might define a needs assessment as a process that produces several products. These products include an identification of needs segment, a segment that prioritizes needs and a selection segment from which programs will be developed. The most basic element of this definition is the term process. There are times when it appears to me that we are long on technology and short on process. Within the context of needs assessments, process has a number of different connotations. From my perspective, it implies involvement, planning, communicating, listening (and hearing), responding, decision-making, and legitimizing just to name a few. I do not want to imply that process is an end in itself. However, a complete and comprehensive process is what gives the product that is produced power.

Since the frame of reference of most of you here is that of a program manager, let me make my point with a series of questions. Keep score for me. Answer the following questions with respect to your own programs. Can you articulate local needs that Extension Marine Programs can have an impact on? Do you have local support for Extension Marine Programs that address these needs?

Does this local support include influentials (at least elected and appointed local officials) in local communities and/or counties. Have clientele and local influentials participated in identifying and prioritizing needs and developing program strategies.

Let's focus at the State level for a moment. How does your State staff know what the needs of local clientele are? Are State level decision-makers aware of what the local issues, needs and priorities are? How do you establish program priorities? Who has legitimimized them? Can clientele needs, issues and program priorities for your State be aggregated with other States to form regional or national statements of needs, issues and program priorities?
I can go on and on with questions. How many have you answered yes to? Often we lament the lack of support for our programs. However, this lack of support more often than not can be traced to the fact that we have not utilized a very effective process in the assessment of clientele needs or development of programs. If your answers to the questions were negative, examine the process that you use. Does one exist? How can it be improved?
ACCESSING CLIENT'S NEEDS AND INCORPORATING THESE NEEDS IN PROGRAM DEVELOPMENT

Donald E. Sweat, Agent
Florida Sea Grant Extension Program

ABSTRACT

Florida Marine Extension Agents plan annual programming based on needs identified by various client groups; local and state agencies and local advisory committees.

Additionally, state staff and specialists are compiling statewide needs identified by an agencies' liaison committee as well as an industry advisory committee.

These identified needs are discussed at an annual Marine Agents' planning conference, and when deemed of regional or statewide importance, are coordinated into major statewide programs with specialist involvement.
PROGRAM EVALUATION

EVALUATING MARINE ADVISORY AND SEA GRANT PROGRAMS
TWELVE CARDINAL SINS

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Evaluation is a sinful profession, especially if you define "sin" as an act committed willfully or negligently which prevents the best possible results to accrue from the study of a program. Of course we evaluators are not to blame—we just get caught up in the sins of programmers who willfully or negligently commit acts which prevent the best possible results to accrue from programs! Actually, neither evaluators nor programmers can "throw the first stone" for both, working together, can prevent most of the sins which occur in evaluating extension programs.

What I want to talk with you about today is planning Marine Advisory evaluations to be useful, feasible, ethical, and accurate.¹

Useful means someone wants the information—some decision(s) will be affected;

Feasible means the information is delivered at the time to be of use and at a cost that is reasonable;

Ethical means it was done fairly—people's rights were not violated; and

Accurate means the data are credible—they can be used with confidence.

The discussion is couched in terms of actions which keep evaluations from being useful and/or feasible and/or ethical and/or accurate. These are the Cardinal Sins of Program Evaluation.

Sin I: Designing an evaluation without first having a clear definition of the program.

The primary problem the Florida Cooperative Extension Service (CES) has found with conducting impact studies is the lack of clear program design or program logic which lays out a logical, plausible path to problem amelioration. This problem is common to field studies, especially those of programs aimed at reducing people's needs. Sometimes energetic professionals are anxious to get on with doing something to meet pressing needs and do not take the time to establish firm empirical bases for what gets done and/or the way it gets done.

Another reason the rationale tends to be omitted is that funding for Sea Grant and other programs gets continued on the basis of documentation of need not on documentation of program success in satisfying those needs or in improving marine situations.

A description of a program framework is important to an evaluation for several reasons: (1) It is hard to design an evaluation for something if you do not know what it is. (2) A program generally has intermediate objectives that must be met before overall goals are achieved. Having the program described and causal linkages noted allows for data collection to occur at the most opportune times to capture results and in time to make program adjustments if expected outcomes are not occurring. (3) If a program does not achieve its objectives, the lack of program design will prevent one from knowing if the cause is system failure or theory failure. System failure would be if the causal sequence was not set in motion; i.e., the intended activities were not implemented. Theory failure would be if the activities were the wrong ones for the intended outcomes. An example of system failure in the St. Johns County, Florida, Marine Advisory Program could be if the Marine Agent did not make information available to fishermen on ways they could increase their successful decisions about where to fish. Theory failure would be if the reason fishermen were not catching more fish related to equipment or regulatory problems rather than inadequate information for decision making. (4) Describing a program before designing the evaluation of effects would require a great deal of time to detect. (5) This assessment may also avoid the waste of resources spent on evaluating a program that never got off the ground while at the same time increasing accountability. Accountability refers to evidence that there is indeed a target population that can be dealt with by means of the program; that this population is important either because of its size or the intensity of the problem; and that the program is actually being undertaken with the target population.

Evaluations can be done which do not require clear program frameworks. However, evaluations designed to determine if programs are effective require a clear delineation of what the program is trying to do—clear objectives. And, if we want at the same time to collect information for program improvement—for changing the course of programs—then the strategies or activities planned and carried out to meet the goals must also be specified.

**Sin II: Measuring something that does not exist - - Type III Error.**

How a program is expected to be by those removed from the point of direct intervention or how it is described in written documents may be substantially different from how it is in the field. Program descriptions can be inaccurate as a result of a people problem or a programming problem. People problems may be of three types: (1) dreaming—they describe what they want to happen; (2) making a mistake—they think something is going on which is not, a key program characteristics are accidently omitted; and (3) lying—they describe what they want others to believe is happening. The programming problem stems from the fact that problems and situations change. The wisest course of action six months after a plan has been written may not be what was planned.

The point here is that some checking should be done to see if what is planned is actually what is being carried out, before large sums of money are spent on designing data collection instruments, collecting data, and then discovering that what was


"measured" was not being implemented. This may not mean that what is going on in the field is bad or inconsequential. However, in the public arena such a finding may be hard to distinguish from program failure and may have adverse effects on whatever program does exist.

Sin III: Measuring something no one cares about—Type IV Error.7

Sin IV: Failing to identify and consult stakeholders.8

The mere fact that data can be collected does not mean they will be useful or that anyone will note their existence. Every question in an evaluation should be traceable to some definite use by some specific person(s). Credible evaluations are very resource intensive. They use resources that might have been spent on program delivery had the evaluations not been done. "Nice to knows" have no place when resources are scarce.

Measuring something that is inconsequential or that no one cares about (Sin III) is likely to result from ignoring stakeholders (Sin IV) but may result anyway if the stakeholders are not approached early in the evaluation planning and if they are not helped to answer the right questions: Who? What? When? How?:

WHO is the evaluation for? Who wants the information? Who are the stakeholders?

WHAT do they want to know?

WHEN do they need/want the information?

HOW do they prefer to learn the results?

A word of warning about stakeholders, if they are persons other than those implementing the evaluation: One cannot afford to carry out evaluations without considering stakeholder wants/needs nor can one assume that they know exactly what they want or what an evaluation can deliver with a reasonable amount of resources. However, they should be given the opportunity to communicate their evaluation needs and to receive estimates of costs to deliver that information with some specified degree of accuracy. Expectations should be explored early on and re-explored as the evaluation progresses.

Be aware that a request for data on the "results" of a program may not be specific enough for an evaluation to meet stakeholder needs. For example, in one Marine Advisory program in St. Johns County, Florida, "results" could be reported as the number of cubic feet of sand dunes resulting from the placement of the trees on the beach or the change in the rate of erosion now as compared to when the trees were not there or the value of a bridge that did not wash away this year as a result of the sand dunes being in place. Program staff may need to educate stakeholders about what results/impacts are possible and then question them carefully to clarify what will best meet their needs.

7. Ibid.
Sin V: Allowing demands of the evaluation to outweigh the payoffs.

This is a sin that causes staff resentment and wasted resources on incomplete and/or inadequate data collection. Evaluations require a great deal of planning and careful execution for results to be credible. Non-committed implementors can sabotage evaluations by collecting the wrong information or by collecting the right information at the wrong times or by simply doing nothing. Excuses can always be found, for example, day-to-day demands of running the program. Thus, it is important to consider in advance what rewards can accrue from evaluations for the organization and for those who carry them out.

Staff should be encouraged to get involved, to be selfish and go after something they want, e.g. to create awareness of their programs to higher administration; for concrete evidence to justify additional resources; for data to use to write a paper so one can travel to a professional association meeting and/or for a publication which most consider necessary for academic survival. At the same time, the CES organization should look for ways to make evaluations pay off for the staff, e.g., a category in the performance appraisal process which recognizes the collection of useful data—not just any data but useful data.

The point here is that evaluations need clear goals just as much as do programs. And, if they are not begun with definite specifications about what needs to be different when they are finished, they are not likely to cause any differences or to satisfy anyone’s needs.

Sin VI: Failing to set standards or comparisons against which to judge program results.

Standards are the yardsticks against which program results are measured. They are helpful as a basis for interpreting purely descriptive information about a program or service, as a means for making decisions about what we are evaluating, and as a way of communicating with others what we value in our programs.9

Setting standards before data are collected increases the clarity of the information desired from the evaluation, protects against claims that findings are either irrelevant or insufficient to indicate program performance, and forces program managers and decision makers to be honest and realistic about program expectations.

Evaluation at its most basic level involves just two procedures: measuring something and comparing the findings to some expectation or standard.10 It is generally not the absolute value of something that is measured which is significant but the difference between the value and that of some other comparable program, person, or organization. Thus, the intended purpose of standards is comparison.

Program staff need to take on the job of defining standards for their programs. Unless they define what they are trying to accomplish they will not know if they have succeeded or failed and they run the risk of having others set standards for them when evaluations are to be done.

Sin VII: Allowing the evaluation to confine the program.

Design flexibility is a requirement for field studies. That is not an admonition to "make it up as you go", but does suggest that some planned procedures will almost always be found to be unfeasible and some preplanned questions will turn out to be of less interest than those that emerge as data are gathered and more is learned about a program. The totality of the evaluation project should be envisioned at the start but the plans should not be hardened until sufficient data warrant such a direction.

Evaluations have to be as dynamic and fluid as the programs they are designed to assess. We cannot control program situations and have them have relevance for drawing conclusions for what would have happened in uncontrolled situations—which is the norm for Extension. If conclusions are to be valid, evaluations must assess what occurs naturally.

Sin VIII: Coveting one evaluation design or approach.

There is no one best design. There can be no absolute judgement about what is practical. What is entirely feasible in one situation is entirely impractical in another. Each evaluation setting should be approached as a problem to be solved—and the resulting design should reflect the best thinking about the problem as opposed to an attempt to follow a prescriptive design or model. The prerequisite for this situational responsiveness is a firm grounding in fundamentals—in knowing a lot of possibilities and alternatives and coming up with a unique combination to fit each setting.

Sin IX: Worshipping numbers.

Recent discussions with individuals in the Marine Advisory area—as well as with those in other areas—have recalled for me the need for balance in the types of data collected. There seems to be an enchantment with the use of numerical formulae to arrive at estimations of program impact and an over use of dollars as the variable reported. The prevailing enchantment with numbers sometimes leads to an underestimate of the value of clear and logical reasoning. So much effort is put into collecting and processing statistical descriptions that little time is left to think about overall patterns and other types of significance, e.g., practical, social.

Program staff should not force qualitative impacts into quantitative molds for reporting nor should efforts on qualitative impacts be decreased just so more numbers can be reported. What does need to be done, though, is to exert more effort in defining exactly what the impacts (qualitative and quantitative) are and finding ways to know if they have occurred. As was pointed out in Sin VI, program staff have the responsibility to define the means by which their programs can be evaluated. If numbers (or dollars) are not appropriate, what is?

Sin X: Collecting evaluative data from subjects who are not a part of the targeted audience.

This Sin is likely to result from programmers failing to identify exactly who programs are for. When it occurs, a program will appear to have less impact than may be the case. For example, among the potential audience for a Marine Advisory program are at least four groups:

Older fishermen who, because of age, are winding down their operations. The amount of change to be expected from them is minimal. They are likely to want to be reducing expenditures and to have little interest in adopting new technologies.

Hobby or part-time fishermen most of whom work full-time in other jobs and fish on weekends. The amount of change to be expected may be minimal because of lack of technical ability, lack of appropriate equipment, and/or lack of real interest in fishing as a business.

Sports fishermen who compete with commercial fishermen with fish sales but are not required to abide by the same rules and regulations, e.g., the current problem in Florida with overproduction of King Mackerel.

Commercial fishermen who are seriously pursuing fishing as a way to earn a living. They will make any changes that can be shown to be profitable if the risks are not too high.

The point here is that if evaluative data are collected from all four types, the level of success may appear minimal or nonexistent. Instead data should be collected from those who are actually targets of a program—those who have the interest and ability to do new things. It also means that they have to be identified and programming efforts focused to insure sufficient reason to expect impact to have occurred.12

Sin XI: Using the whole population when a sample would be adequate.

A large amount of resources is wasted by collecting evaluative data from more persons or situations than are necessary to satisfy those who are asking questions about programs. An equal amount may be wasted and suspect conclusions drawn when more are initially contacted than resources will allow for follow up.

Sampling can save time, money, and other resources; increase the speed with which data are collected and summarized; and increase the accuracy of results.13 At a time when the need for accountability is high and the amount of resources low, sampling becomes a very viable alternative.

Each evaluation situation should be considered individually. It is not always necessary to strive for .05 or .01 levels of significance. It depends on who has an interest in the findings and how the findings will be used. Budget analyst types and most journals tend to recognize .05 or better as a necessity for credibility. However, county level officials may be satisfied with .10 or an even greater risk.

The same can be said for accuracy. When operating at the 95% confidence level and the concern is drawing conclusions about a large population, the difference in an accuracy rate of ±5% and ±10% is 300 respondents, e.g., if the population is relatively homogeneous on the topic of interest, 100 respondents selected randomly and heard from can yield ±10% accuracy with 95% confidence whereas 400 are required for ±5%.14

14. Ibid.

Showing immediate impact seems to be the interest of just about everyone now that CES is facing more competition for resources. Some of that may be required but longer-term studies need to be set up if the organization is not to be under more pressure later on.

CES may need to adopt the Gallo wine slogan and promise to "collect no data until it is time." Unfortunately this could mean waiting 15 years or longer to determine the ultimate impact of some agricultural technology. Marine and Sea Grant personnel have similar long-term concerns. For example, Florida's beach erosion did not occur in one year nor is it going to be abated in one year.

Longer-term studies should have several intermediate check points when data can be collected and reported. What this will require is a clear program rationale—a hypothesis trail, if you will—which identifies precursors of the ultimate impacts. These can be checked at the most opportune times for CES to be accountable but more importantly, at the best times to know if programs are on track and people's needs are being satisfied.

This paper is focused on some of the actions which prevent Marine Advisory and Sea Grant efforts from being all they can be. The sins are the same for almost any program area. Marine Advisory and Sea Grant programs experience similar evaluation problems to other areas because they have similar programming problems. However, some are experienced in a different way or to a greater intensity, e.g., identifying and consulting stakeholders may be a greater concern here than in the other program areas because of the separateness of Sea Grant funding and the specificity with which funds must be spent.

Pogo had a saying which seems to fit Extension's state of affairs in program evaluation: "We have met the enemy and he is us!" Avoiding programming sins will go far in making it possible to avoid evaluation sins.
QUANTIFYING EFFECTIVENESS

Stanley Hecker
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Mississippi-Alabama Sea Grant Consortium

Abstract:
There is little consistency among programs in the means used to determine and then present effectiveness of their educational outreach offerings. A need exists for a simple technique that could be used universally. Utilizing some of the concepts of multi-attribute utility technology described by Edwards and Newman (1982) and some suggestions on the acquisition of feedback discussed by Wilkins (1980), a simple mathematical expression is presented which permits quantification of effectiveness of educational offerings. The expression is unit norm referenced in order to permit comparisons to be made of offerings of any size.

Introduction.

I think we must all accept the fact that there is a need to evaluate our efforts, if for no reason than to determine if particular undertakings should be repeated in the future. Practical evaluations should provide the type of information which will lend itself to comparison. In these austere times, the comparison can become a very important decision actor in the preparation of annual and long range plans. The point to bear in mind is that it is essential to be cost effective in order to fit the plans into ever-decreasing real budgets.

Over the years, the work evaluation has conjured up visions of the bad guys versus the good guys. Evaluations, though should be considered as tools or bits of advice which if viewed in a non-adversarial contact can help us to do better jobs. To further advance the nonadversarial view, we should recognize that we can do our own evaluation. They need not be done by the experts from out of town. Self evaluation has the added benefit of giving a greater insight into the effectiveness of both the undertaking and the planning process which led to the decision to conduct it.

Some of the higher undertaking of advisory/extension programs are workshops, meetings, and short courses. This discussion will address some thoughts on evaluating them and presenting the results in a form that can readily be used for comparison.

In beginning this discussion, it is important to accept the fact that the object of the programs is to motivate some form of beneficial change in the audience. Additionally, it must be understood that the change may not occur immediately following the program. Under these conditions, it becomes necessary to observe the audience over some pre-established period of time. Practically speaking, it is almost impossible to observe all of the attendees during the time period decided on. Using conventional statistical procedures, it is a relatively simple matter to randomly select a representative sample of the audience for observation.

Some may question the added level of effort needed to conduct the observations. This should not be viewed as a difficult or costly task. Agents are in the field daily making contact with their constituencies. They should make a conscious effort to visit with members of the sample population to conduct the observations necessary for the evaluation.
What is it that we are trying to recognize?

Bennett (1975) has suggested a seven level hierarchy of effectiveness indicators. This hierarchy is shown in figure 1.

1. End Result
2. Practice Change
3. Knowledge, Attitude, Skills, and Aspiration Change
4. Reactions
5. People Involvement
6. Activities
7. Inputs, Time and Money

Figure 1

Improvement in the quality of life attributable to information acquired at a program offering might be considered the highest form of effectiveness indicator, or an end result. The audience member at this level might exhibit the characteristics of an improved economic situation or be more efficient in the pursuit of his or her profession.

A step down from this level might be the case of a person who changes a longstanding practice due to program information.

A desire for additional information may have been caused by the whetting of a person's intellectual appetite on a particular subject. This might be considered a parallel to knowledge, attitude, skills, and aspiration (KASA) change.

The reaction level might be recognized when a person talks about attending or commits himself to attend a program after being exposed to an announcement.

In order for a program to realize any measure of effectiveness, there must be an audience. Therefore people will always be involved.

Necessary for the effective functioning of any advisory/extension organization are its activities. These include the day to day contacts with the constituency to determine needs and to publicize programs along with the planning and presentation of program offerings.

Inputs, time, and money are vital factors for any program. The assessment of the needs of the constituency goes on continuously and provides a significant portion of the input to the annual and long range plans. The plans include, among other things, the time allocations for the staff and the budgets necessary to operate.

In order to collect information that may be used to evaluate offerings, Wilkins (1980) expressed the opinion that there are three levels of attending that agents in the field use in observing clientele: passive, receptive, and inquisitive. He associated the three attention levels with the seven levels of Bennett's hierarchy as shown in figure 2.
End Result
Inquisitive Practice Change
KASA Change
Receptive Reactions
People Involvement
Passive Activities
Inputs, Time, and Money

Figure 2

It is evident that increasing effort is needed to develop evidence of attainment of the higher levels of Bennett's hierarchy. Wilkins (1980) explains that as evidence of attainment of the higher levels is acquired, effectiveness of the program is more clearly demonstrated.

Up to this point, the discussion has centered about effectiveness indicators and attention levels to recognize attainment. As stated earlier, it is necessary to present evaluative information on any offering so that it can be compared to any other regardless of size. Although the classic anecdotal method of establishing effectiveness through selective interviews is generally a delight to read, it does not lend itself to ready comparison. The simplest comparative method is one whose output is referenced to a common datum. Perhaps the only technique that does lend itself to that type of comparison is the odious mathematical approach.

How to get there from here?

What we really have is a case of identifying impacts on people which can be attributed to an advisory/extension offering. People are our datum and the impacts we are seeking can be developed as response ratios with respect to the audience at the offering. End results, practice changes, and KASA changes were felt to represent the significant impacts.

The response ratios can be readily derived by dividing the number of observed changes in the sample population by the total sample population.

\[
\text{End result} = \frac{\text{End results}}{\text{population}}
\]

\[
\text{Practice change ratio} = \frac{\text{Practice changes}}{\text{population}}
\]

\[
\text{KASAS change ratio} = \frac{\text{KASA changes}}{\text{population}}
\]

It is readily apparent that if every member of the sample population exhibited a change in any of the response factors, that ratio would be equal to one. A simplistic approach to quantifying effectiveness might be to sum the three ratios and divide by three.

This process, though disregards the fact that the response factors are not all of equal importance and that there are a number of other factors that contribute to overall effectiveness. In order to overcome this shortcoming, the response ratios and
the other contributing factors should be weighted with respect to their levels of importance.

Hecker (1984) felt that modification of the multi-attribute utility technology process discussed by Edwards and Newman (1982) offered promise since it provided for a unit norm referenced weighting scheme. Simplification of the process calls for preparing a list of all of the times contributing to the end being sought. In the case of our evaluation, this list consists of the seven levels of Bennett's (1975) hierarchy of effectiveness indicators, with slight modification. These were then organized into subcategories with the three attention levels suggested by Wilkins (1980) providing the group relationships.

The groupings are then presented in a verbal value attribute diagram with the modification made by Hecker (1984).

The value attribute diagram is now used as the foundation for a weighting scheme. A number of techniques were considered and the ratio weighting method was selected. In ratio weighting, the relative importance of each attribute must be established. The least important is assigned a base value of 10 and the others are ranked by comparing their importance with the lowest.

```
End Result
Inquisitive   Practice Change
            KASA Change
Receptive     Reactions
            Audience Interest
            People Involvement
Passive      Activities
            Inputs, Time, and Money
```

Figure 3

Using suggestions gleaned from discussions with a number of Advisory Program Leaders, it was decided that the receptive level of attention was five times as important and the inquisitive level twenty times as important as the passive level of attention. The ratings of 10, 50, and 200 were summed and the contribution of each to the sum became its ratio weight. The ratio weights derived by this process are:

```
Inquisitive  0.769
Receptive    0.192
Passive      0.038
```

The same process was used with each of the hierarchical groups of effectiveness indicators associated with each of the attention levels as modified by Hecker (1984).
Figure 4 is a value attribute diagram containing the ratio weights of the attention levels, the effectiveness indicators, and their products.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Ratio 1</th>
<th>Ratio 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquisitive</td>
<td>0.769</td>
<td></td>
</tr>
<tr>
<td>Practice Change</td>
<td>0.3</td>
<td>0.231</td>
</tr>
<tr>
<td>KASA change</td>
<td>0.2</td>
<td>0.154</td>
</tr>
<tr>
<td>Reactions</td>
<td>0.545</td>
<td>0.105</td>
</tr>
<tr>
<td>Receptive</td>
<td>0.192</td>
<td></td>
</tr>
<tr>
<td>Audience Interest</td>
<td>0.455</td>
<td>0.087</td>
</tr>
<tr>
<td>People Involvement</td>
<td>0.556</td>
<td>0.021</td>
</tr>
<tr>
<td>Passive</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>0.333</td>
<td>0.013</td>
</tr>
<tr>
<td>Inputs, Time, Money</td>
<td>0.111</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Figure 4

As experience is gained in this technique, the importance ranks and ratio weights can be refined until such time as little or no change appears in the values.

The product.

As the weighting scheme was being developed, a great deal of thought was given to the means of applying the factors that might be considered less than significant with respect to eventual changes in the audience. At the respective level of attention, reactions and audience interest might be expected to occur at all educational offerings. They could probably be determined by means of a questionnaire or post test. Since at that time the audience is still caught up with the scope of the program offering, it was felt that they would vary little from offering to offering.

The three effectiveness indicators at the passive level of attention are necessary ingredients for any offering to occur. They along with the two at the receptive level were considered to be essentially constant for all offerings. Their weights were summed into a single value which is assumed to be constant.

Using this constant, the response ratios, and the attribute weights of the significant responses, a simple mathematical expression for effectiveness was derived.

\[
\text{Effectiveness} = 0.23 + 0.154 \frac{K}{P} + 0.231 \frac{B}{P} + 0.385 \frac{E}{P}
\]

where

\[
0.23 = \text{constant based on the sum of the less significant factors}
\]

\[
0.154 = \text{KASA change attribute weight}
\]
\begin{align*}
K/P &= \text{KASA change to sample population response ratio} \\
0.231 &= \text{Practice change attribute weight} \\
B/P &= \text{Practice change to sample population response ratio} \\
0.385 &= \text{End result attribute weight} \\
E/P &= \text{End result to sample population response ratio}
\end{align*}

Data was collected during the latter part of 1983 and early 1984 in fifteen Advisory Service programs. The data on twenty-six offerings was applied to the mathematical expression. Effectiveness ranged from a low of 0.236 to a high of 0.590.

Conclusion.

The object of this paper was to explain a practical technique of quantifying effectiveness of workshops, meetings, and short courses that would lend itself to comparison. While this objective was achieved conceptually, it is necessary to emphasize to our program personnel the essential nature of accurate feedback from the field. The excellent paper by Wilkins (1980) can provide a better understanding of the need for and the means of collecting feedback on our clientele. Improved understanding of needed numerical information to parallel anecdotal feedback will probably result in higher effectiveness scores than those indicated by the 1983/1984 data.

Effectiveness based on the 1983/1984 data seemed to indicate that it may not be necessary to maximize exposure to information. It may only be necessary to have a positive thinking audience that is willing to accept and try changes that could be beneficial.

One personal observation from a number of discussions with Advisory Service personnel is the general lack of enthusiasm for any form of evaluation. This is a problem that must be overcome perhaps through a concerted education program.

This paper suggests one technique for quantifying effectiveness. Others can and will be developed to respond to the increasing demand for accountability for the expenditure of public funds.

It is important that the process of evaluation and quantification of the results be started so that experience can be gained.

References

