

Systems Planning for Extension

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"The effectiveness of Cooperative Extension Service in achieving its mission," according to the Joint USDA/NASULGC Extension Study Committee, "will be to a large extent determined by how well the staff integrates the entire process of continuing education with an over-all strategy of education." The strategy, according to the Committee, must include planning and preparation. More specifically, the Committee states that "as Extension programs expand into new areas and acquire more depth in old ones, there is continuing need for effective integration of research and extension activity. . . ." The demands for such undertakings suggest the need for more systematic means of planning. The author of this article proposes an Extension-research systems approach to planning.—The editor.*

COOPERATIVE EXTENSION now operates in a new era. This new era is characterized by the necessity to gather, select, organize, interpret, and disseminate a rapidly expanding volume of knowledge. The situation is complicated by the fact that Extension is attempting to deal with an increasing range and depth of problems.¹ To be viable, Extension programs must be planned accordingly.

The objectives of this paper are to: (1) describe the systems approach to program planning; (2) justify joint Extension-research participation in program planning, and (3) describe, schematically, an Extension-research systems approach to program planning which will facilitate a more effective flow of information from the researcher to the practitioner.

* *A People and a Spirit*, A Report of the Joint USDA/NASULGC Extension Study Committee (Fort Collins, Colorado: Printing and Publications Service, Colorado State University, November, 1968), p. 41.

¹ R. L. Bruce, "A Look at Program Planning," *Journal of Cooperative Extension*, II (Winter, 1964), 225.

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Throughout this paper, the terms of information dissemination, systems approach, and Extension program planning often will appear. These terms are not unrelated. In fact, they form a need-means-ends continuum upon which the paper rests. The generation of an increasing volume of information establishes Extension's need for a more effective method of disseminating this information. The systems approach is proposed as the means by which the need and desired end can be assimilated. A more systematized approach to Extension program planning is then proposed and outlined, representing the end product of this assimilation.

What Is the Systems Approach?

Despite some minor variations in terminology, most academicians refer to the systems approach as an entirely information-oriented management concept. More simply, they define the systems approach as managerial effort taken to initiate an operational program(s) which is designed specifically to generate a smooth, effective, and efficient flow of information from those providing it to those in need of it for decision-making purposes. Just as the telephone was designed to facilitate the mechanical flow of verbal information between communicating parties, the systems approach requires that an entire Extension program be designed to enhance the operational flow of all decision-making information amongst concerned individuals. Unlike the telephone, which is mechanically unable to distinguish an important call from an unimportant one, the systems approach allows for the analysis and classification (selection) of information prior to the act of communicating it.

The idea of an unrestricted and sustained flow of decision-making information fits well within an Extension program-planning format. In this context, "systems approach" is defined as a structured, interacting complex of Extension and research persons, facilities, and procedures designed to generate an orderly flow of pertinent information, collected from both intra- and extra-program sources, for dissemination and use as the basis for decision making in specified responsibility areas.

The terms "structured, interacting complex" denote that the systems approach is a carefully developed master plan for efficient information flow, with specific objectives and explicit recognition and use by research *and* Extension organizations. Experience has shown time after time that a good information system does not spontaneously evolve from within an organization; it is even less likely to appear between organizations. Instead, a conscious effort must be

made to incorporate, in an organized manner, such a bilateral system in each and every Extension program.²

The systems approach would require the services of "persons, facilities, and procedures"; that is, it would require the coordinated efforts of many disciplines and individuals, including: (1) research and Extension administration; (2) state and county Extension personnel; (3) experiment station research workers; (4) all research-Extension related services (i.e., information, editorial, audio-visual, etc.); (5) program (or project) coordinators.

"Specified responsibility areas," as used in this paper will, by choice, refer to agriculturally oriented Extension programs. This is not to imply, however, that the concept would be less applicable to other areas of Extension responsibility (e.g., home economics, community resource development, etc.).

Under the systems approach, therefore, the county worker's most critical role would be that of an analyst. As an analyst, the county agent would engage in two-way communications: He would analyze and express his client's needs and, in return, communicate pertinent information to a client as it becomes available. "It is, after all, only through analysis that an agent can comprehend the client's definition of a problem and assist him in its solution," according to Gallaher.³

Administrators and specialists will find that the systems approach will demand their direct help and guidance through insuring that planning requirements and procedures are flexible enough to permit experimentation. Within the context of a dynamic system, Bruce's statement that "standard procedures are often the fossils of obsolete methods"⁴ becomes a critical truth. Finally, administrators and specialists will have to sharpen their wits and become more precise in interpreting informational needs and assigning program priorities.

What is not so clear is the determination of the most effective means of designing and implementing the system. In fact, design and application problems are probably the major roadblocks to a more rapid diffusion of the systems approach to the commercial sector of our economy. Alas, we must admit that the question is not generically answerable, as each state's research-Extension complex will find it advantageous to design, implement, and administer a system in a way that is tailor-made to fulfill its particular needs and areas of responsibility.

² *Ibid.*, pp. 222-23.

³ Art Gallaher, Jr., "The Agent as an Analyst," *Journal of Cooperative Extension*, V (Winter, 1967), 215.

⁴ Bruce, *op. cit.*, p. 225.

What About Applied Research?

Where does applied research fit into Extension program planning? If the program-planning concept—with its basis of integrated decision making—were uniformly practiced and implemented, the answer would seem clear. Research personnel would be asked to analyze specified problematical relationships existing within the many functional areas of agricultural production, marketing, and management, while Extension program planning would envelop an attempt to gather, organize, select, interpret, and disseminate the information thereby generated in a coordinated and systematic process. Unfortunately, this simplistic approach to program planning often is not readily adaptable to problems of the “real world.”

In reality, Extension, under consultation with its clientele and interested researchers, should bear the initial responsibility for problem identification and priority assignment. The priority problems thereby established would determine research needs. These research needs should then serve to stimulate the establishment of program objectives and formulation of an optimum “plan of attack.” Such objectives and plans would grow out of a consideration of (1) clientele abilities and needs, (2) subject matter, (3) the social and economic milieu in which the clientele live, and (4) institutional policies and procedures.

In a second major stage, researchers should assist by predicting the results of alternative recommendations made to the practitioners via the Extension program. As the research effort is extended full cycle, periodic post-action studies should be conducted by Extension *and* research personnel to evaluate each phase of the resulting Extension program and to substantiate (or refute) the original research premises. As such, research would provide a vital link in the control, modification, and/or redirection of each Extension program. In addition, this joint research-Extension systems approach would identify areas where a turnabout in research efforts might increase the effectiveness of an existing Extension program. Finally, this interaction between research and Extension would provide an informal series of checks and balances which would facilitate and, more likely, enhance the flow of selective knowledge from the university laboratories to the practitioner.

Control, modification, and/or redirection of both research and Extension must encourage participant “feedback” and provide the basis for the reformulation of succeeding stages of the overall program. This *modus operandi* merely underscores the fact that pro-

gram planning is an ongoing experience or, in modern terminology, a dynamic system.

Within the systems approach, formulative and evaluative information flow can also originate from outside each specific program area. For example, such external factors as personnel experience and long-standing institutional policies—although they are normally only considered as limiting agents—would fulfill a vital role in the total program-planning system. Consideration of *all* factors would bring the cycle back to the formulative role of research and Extension as joint program coordinating agencies. Each program decision should be thought of as an input in the dynamic system, with research and Extension acting together as an agent to assist in phasing the inputs. The common goal of the decision inputs is the satisfaction of audience needs and desires—which brings the matter back to the program-planning concept, and makes for a complete package of information generation, assembly, selection, interpretation, and dissemination.

Two limitations must be recognized at this time. First, confronting the client with a deluge of information, although it may have been efficiently delivered, provides no assurance of the client's ability to select, from the deluge, that information which is most needed. Extension's involvement in the selection process, therefore, is critical to the success of the system and ultimate information utilization by the clientele.

Second, the systems approach to Extension program planning, as here proposed, will provide only limited enhancement (the provision of more, more useful, and more timely information) for client motivation and understanding of that information which has been disseminated. While the systems approach would not guarantee client understanding and motivation, barriers to the orderly flow of information would be less likely to appear under this kind of a research-Extension working relationship.

A Proposal

As Bruce states, "It is much easier to point out the supposed shortcomings of our program-building process than it is to propose workable remedies."⁵ Nevertheless, we would be delinquent in our duties if we did not try.

The increasing volume of information flowing from our university research divisions is likely to continue. If the goal of extending university knowledge off campus is to be realized, Cooperative Exten-

⁵ *Ibid.*, p. 223.

sion workers must plan and organize their programs in such a manner so as to accommodate and facilitate this increased flow of information. To properly serve the future agricultural audience, Extension must see that this expanded volume of information is (1) suitable to the audience's needs, (2) sufficient in quantity and quality to assist in solving production, marketing, and management problems, and (3) provided in time for the recipient to take remedial action.

A schematic diagram of a proposed Extension program-planning system which would facilitate a more efficient flow of information is presented in Figure 1. Extension programs evolving from within this framework would be planned around the major objective of improving information gathering, organization, selection, interpretation, and dissemination.

Phase I

In this proposed system, Phase I is titled program formulation and is composed of:

1. Information external to the specific program, such as expert advice from professional disciplines (e.g., government, credit, law, etc.) supplemental to the program content. For example, in formulating an agribusiness management Extension program, specialists and agents may wish to consult with local bankers, accountants, lawyers, and others outside the Extension complex.
2. Research needs, as identified by the county analyst in accordance with established priorities (as previously discussed) and tempered by current research capabilities (i.e., an Extension program cannot rest upon "hoped-for results" which researchers are not yet capable of providing). Following our example noted in "1" above, an agricultural economics researcher might be invited to join Extension program planners in an attempt to delineate those agribusiness management problems which are researchable within the limits of existing priorities and present research capabilities.
3. Stored information awaiting the activation of a new program, i.e., the utilization of the vast supply of valuable information which has been generated as a result of a multitude of previously conducted programs. Again following our example, this joint Extension-research team would cover past research efforts and Extension programs in agribusiness management in search of knowledge which might prove applicable to current problems.

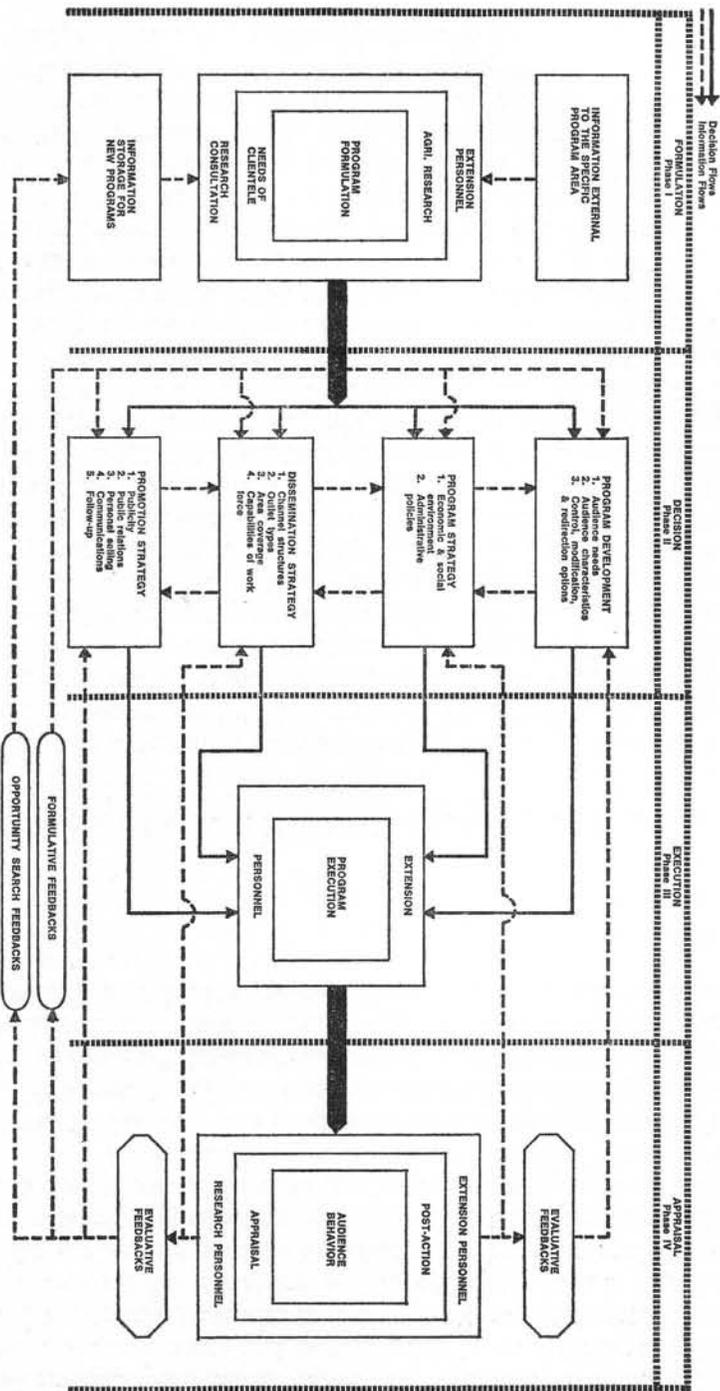


Figure 1. Schematic diagram of a proposed Extension program-planning system.

Program formulation, in its beginning stages, may only consist of assembling a series of ideas, concepts, and policies. Soon, however, program planning (decision flows) must move into additional areas of consideration. Movement into Phase II is thereby warranted.

Phase II

The decision phase is composed of the following four sub-phases:

1. Program development.
2. Program strategy.
3. Program dissemination strategy.
4. Program promotion strategy.

You will note in Figure 1 that these four sub-phases are not mutually exclusive events, as informational flows (dotted lines) occur in a reverse fashion between them.

Program development involves explicit recognition of audience characteristics and needs. It also involves the consideration of alternative programs, i.e., modified programs which may prove more effective than the original. Program strategy involves a progression of the initial development sub-phase into a consideration of the socioeconomic and institutional environments within which the program must operate. Strategies are devised to function within the limits of socioeconomic restraints and current administrative policies. However, in some cases, the strategy may be designed to encourage a shift in current administrative policy when it is deemed necessary for the ultimate success of the program. Dissemination strategy necessitates the study of (1) existing channels of information distribution, (2) types of informational outlets, (3) size and general characteristics of the setting in which clients live, and (4) the capabilities of the disseminators.

Finally, promotional strategy is devised. Here the "media" efforts which are to precede, accompany, and follow the dissemination process are considered and assembled. This sub-phase involves press releases, formal program announcements, follow-up communications, etc. More simply, activity is initiated whereby a select clientele is informed of the initiation of an Extension program related to specific needs. Similar promotional strategy is devised for program occurrence and program completion.

In our example, program planners would combine all development, strategy, dissemination, and promotion plans into a workable package. This package would describe the proposed agribusiness management Extension program in terms of form, size, scope, in-

tent, composition, etc. At this point, researchers would predict the expected outcome of applying this package.

Phase III

Execution

The decision-making process inherent in program planning then progresses into the execution phase. Extension personnel conduct and coordinate this "action phase" which, depending on the program format, may be state, county, or local in scope.

Our illustrative agribusiness management Extension program is now an active one. For all practical purposes, the program has temporarily left the planning environment, as specialists and agents execute the dictates of the decision phase of the system.

Phase IV

Evaluation of Audience Behavior

Program execution is not the final phase of our system, however, as audience behavior must now be observed and evaluated in an effort to identify changes (if any) resulting from the program. This phase is at least as important as those preceding it. An evaluation of program results (evaluative feedback) should eventually be expressed as information flow in a formulative context (formulative feedback), and the information thereby derived combined with alternative program data (opportunity search feedback) and used to supplement later program planning (i.e., a return to Phase I for the initiation of plans for additional programs).

An important procedural suggestion relates to the post-action appraisal of audiences behavior. Historically this appraisal has been conducted by Extension personnel and the results used almost exclusively by Extension administration.⁶ As a result, researchers have no way of determining:

1. If their efforts proved of practical importance.
2. If their knowledge was extended in a timely and efficient manner.
3. If their "laboratory findings" were found to be valid (or invalid) through general application.
4. If a redirection of their efforts, or those of Extension personnel, was warranted.

The problems mentioned above often compound themselves to create barriers to the effective flow of information. Misunder-

⁶ Dan D. M. Ragle, Roger G. Barker, and Arthur Johnson, "Measuring Extension's Impact," *Journal of Cooperative Extension*, V (Fall, 1967), 178-86.

standings soon arise between research and Extension as to what information is needed, provided, and useful. Time gaps in informational flows appear and persist until the next program formulation begins.

To solve this problem, Phase IV of the systems approach to Extension program planning, as here proposed, required joint research-Extension participation in the post-action audience behavior appraisal (see Figure 1). Evaluative and formulative feedback for future program planning, resulting from a joint appraisal, precludes the emergence of the time gaps mentioned above. Within this system, both research and Extension has a means for continual augmentation of future program planning, thereby allowing the increased volume of information to flow unhindered into the hands of the intended recipient. In short, the traditional distinctions between research and Extension functions are molded into a research-Extension problem-solving complex to which a dynamic systems approach to program planning becomes relevant.

Referring again to our illustrative example, we would find that researchers have rejoined Extensionists in a post-action appraisal of the success (or failure) of the agribusiness management program. In short, the researchers compare their expected outcome (Phase II) with the actual outcome. Information gained from this comparison may then be used to redirect future research and/or Extension efforts. In essence, this program has also reentered the planning environment as the results (feedback) of this joint Extension-research appraisal are stored for use in planning subsequent programs.

Conclusion

As was so poignantly noted by McIntyre,⁷ Extension workers, like many college professors, now find themselves spending so much time accumulating knowledge that they fail in the more important aspect of their profession—that of extending this knowledge to those in need of it.

There exists ample evidence that client decision making is becoming more complex, making the need for a systematic approach to information creation, assembly, selection, interpretation, and dissemination all the greater. For example, Cooperative Extension is constantly confronted with problems arising from the growing complexity of the larger scale agricultural enterprises that have to be managed. Also, as increasing competition confronts each agricultural

⁷ William J. McIntyre, "The Ultimate Weapon," *Journal of Cooperative Extension*, III (Fall, 1965), 148.

operation from across existing environment frontiers—whether they be geographic, economic, or social in nature—the information requirements of these enterprises are substantially increased. In fact, it would not seem unlikely that the most critical constraint affecting the future of our agricultural economy will be our ability to effectively communicate pertinent decision-making information to those in need of it.

However, the most compelling argument for a systems approach to Extension program planning is the “information explosion” itself. For example, agricultural production, marketing, and management information is surpassing, in volume alone, our ability to organize, interpret, and disseminate it—thanks to the diligent efforts of our researchers. We cannot turn off this flow. Instead we had better learn to gather, select, coordinate, and distribute this information in a more efficient manner. Our Extension programs must be planned to meet this contingency. The time has come to use the systems approach which can link research and Extension personnel together in achieving more effective clientele education.

ALL OF ADULT LEARNING, perhaps all learning, takes place in two roles mainly, that of the student, that of the member. The member role is I suspect both historically and psychologically prior, the student's role is an artifice, a consciously created means of accomplishing a specific task. Each has its own characteristics. The student role is that associated with the formal system, it is the form of that system, it is individual, self-conscious, isolated, and largely on a cash for service basis. The student comes in order to become something he is not, he is both a ward of and a dependent on the system. He is largely engaged in preparations for some future situation. The member on the other hand is a person who in the company of others has decided that there is something to be done, and in the course of doing it discovers that some new competence is required. The role is collective, generally sufficed with some fraternal satisfaction, generally unselfconscious, and inextricably mixed with action; knowledge or resources are chosen by the members and the goals defined by them in company of expert assistance. It is unselfconscious, often highly selfish, and the member participates not because he is not something he should be but because he wants something done that is not being done. —ALLAN M. THOMAS

AT EVERY CROSSING on the road that leads to the future, each progressive spirit is opposed by a thousand appointed to guard the past. —MAETERLINCK