

INTERNATIONAL TRAINING DIVISION

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**GUYANA MANPOWER
DEVELOPMENT PROJECT:**

**An Evaluation of the
Impact of Training**

Course Development and Overseas Projects Unit
International Training Division
Office of International Cooperation and Development
United States Department of Agriculture

COOPERATING WITH

Guyana Ministry of Agriculture
and
U. S. Agency for International Development
Georgetown, Guyana

EXECUTIVE SUMMARY

The following report is an evaluation of a USDA short-course training project conducted in Guyana from January 1981 to July 1982. During the project, ten short-term training courses were presented by the International Training Division/OICD/USDA working under an agreement with AID/Georgetown and the Guyana Ministry of Agriculture and the Ministry of Public Service. The evaluation, carried out in August-September 1982, was designed to ascertain the degree to which course participants had actually implemented new skills, communicated new knowledge or changed attitudes as a result of the training. It was also designed to make recommendations on the type of training which can most positively effect skill levels of Guyanese managers and technicians.

Among the major findings of the evaluation related to the impact of training on the participants are the following:

- * The short courses achieved, to a substantial degree, the goals set out by the course planners and instructors, that is, participants learned the major concepts and skills taught in the courses and increased their levels of confidence in these skills.
- * Application of concepts and skills to the workplace, however, were negatively affected by the current socioeconomic difficulties that Guyana confronts.
- * Supervisory support proved to be most critical to the participants' ability to utilize new skills; logistical support with materials and transportation also proved important in helping participants implement new skills.
- * While there has been a tendency for participants to move from technical to managerial/supervisory duties, the degree of job mobility did not negatively affect the implementation of skills.
- * Participants reported a high degree of sharing of information learned in the courses with colleagues and subordinates. This indicates that a certain "spread effect" of the training has occurred.

Among the findings which related to the manner in which the courses were conducted and could be improved in the future were the following:

- * Among the factors cited as making the most contribution to the participants' learning was the practical and participatory nature of the training and the field experience. Field experience was a critical factor in building participants' confidence.

EVALUATION OF GUYANA MANPOWER DEVELOPMENT PROJECT:
IMPACT OF USDA TRAINING COURSES

International Training Division
Office of International Cooperation and Development
United States Department of Agriculture

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- * Written materials have proven to be very useful to the participants after the training period was finished.
- * Trainer effectiveness was increased by teaming them with Guyanese experts, especially in the development of local case studies.
- * Trainers with both theoretical and practical field experience were more effective than those with one or the other.
- * The mix of participants from different organizations encouraged the development of useful networks which continued to be utilized after the courses were over.

INTRODUCTION

In January 1981, an agreement was signed between the Office of International Cooperation and Development/USDA and AID/Georgetown for a series of training courses to be presented in Guyana. The aim of the courses was to expand the range of technical and managerial skills of staff within the Ministry of Agriculture and associated agencies. Over the following 18 months, a series of ten courses were presented under the project: three dealt with animal production, three with soil survey and analysis, two with management and two with extension communication. Two hundred and sixty four participants were trained at a cost of \$900/participant. Courses averaged three weeks in length.

In August 1982, two training administrators, Linda Lynch and Richard Davis, were sent by USDA to Guyana to evaluate these courses. Four broad issues were examined in this evaluation: (1) How useful was the training in retrospect? (2) Had information acquired in the course been shared with non-participants (farmers, coworkers, etc.)? (3) Had skills learned in the courses been applied? (4) What factors helped or hindered the application of those skills?

METHODOLOGY

General: In order to assess the impact of the courses on both individuals and agencies, and in order to gather information on the institutional context of the project, a methodology was devised which utilized the following elements:

** Review and analysis of documents, including project papers and final course reports and participants' evaluations, at USDA in Washington,

** Informal conversations with USDA coordinators and with course instructors,

** Open-ended interviews with course planners and coordinators at the Ministry of Agriculture and the Ministry of Public Service in Guyana. These individuals were contacted for two reasons: first, to get a broad picture of each course and to elicit information on their perception of course impact and second, to obtain assistance in locating and securing interviews with course participants,

** Formal survey instruments for a sample of participants from each course in order to obtain comparable information for each presentation,

** Group discussions, in-depth individual interviews and observation with the same sample of participants. Group interviews were carried out with three to six persons who had been participants in the same course. Each respondent was asked to fill out the short survey instrument, responses to which were then used by the interviewers to elicit further information and views in an open group discussion. In this way specific information and perceptions on the courses were obtained and interaction among group members could be observed. In addition, individual meetings took place with course participants who were unable to attend group interviews. These respondents were also asked to fill out the survey instrument after which they were engaged in an in-depth, open-ended interview.

Sampling:

Since a representative sample from each course was desired, participants to be interviewed were chosen from a randomly selected quota sample, stratified by course. Each course's list of participants was redrawn in random fashion. The evaluators attempted to interview at least the first five names on the list, utilizing the MOA and PSM course coordinators to locate the individuals.

This strategy worked reasonably well, given time and transport constraints. Because many extension workers were spread throughout the country, a number of people from areas other than Georgetown were interviewed. Respondents included members of many departments of MOA, PSM, semiautonomous agencies and the private sector (See attachment A for complete list). There were some noticeable gaps, however; participants from Guysuco and the Guyana Rice Board were not interviewed due to time constraints.

The goal of interviewing at least five participants from each course was met; 51 participants were interviewed with both the written schedule and informal interview while six other participants were interviewed using only the informal interview. Also included is information from a partially completed interview which was terminated because of an emergency call concerning a sick animal. One participant in the selected sample refused to be interviewed.

FINDINGS

1. Short courses generally achieved objectives set by course planners and coordinators. Course planners and coordinators within the Ministry of Agriculture (MOA) and the Public Service Ministry, as well as AID/Georgetown staff, discussed the short course training program in terms of Guyana's overall training needs. There was general agreement that in-country short courses were complementary to, and not a substitute for, long-term training efforts. Thus, evaluation of the short courses had to be linked to a broad perspective on Guyanese institutions and public-sector personnel training.

Course planners and coordinators generally perceived the function of the short courses to be (1) building confidence in new and/or young employees and (2) building and updating technical and managerial skills. The first goal, building confidence, was mentioned by all those interviewed as the most important goal of training and especially so by Dr. McKenzie and Dr. Granger (MOA). They noted that the extension and other service staffs of the MOA are staffed by young assistants, recruited from the Guyanese School of Agriculture, with limited farm experience. This is particularly true in veterinary service, for example, where most assistants have an urban background and have had little training in dealing effectively with farmers. These assistants are viewed as having few technical or communication skills for dealing effectively with farmers who generally have much more experience.

This view of a young and inexperienced staff at the level where farm contact is made was confirmed by a profile of participants from the animal science courses, most of whom are employed in the veterinary livestock division. These participants were young, averaging only five to six years of professional work experience, and had an average of two to three years of experience in their current jobs. The most experienced person from the cattle course sample, for example, had been on the job only three years.

The course planners and coordinators indicated that this first goal, increasing participants' confidence, was achieved: without exception, those interviewed felt that participants had gained an "acceptable amount" of confidence in their knowledge of the subject matter and in their ability to communicate that to others with whom they work. In informal

interviews, participants were asked what they were doing differently as a result of the course. Forty percent of the respondents reported that they had greater confidence in themselves. In general, this greater confidence was expressed in the area of improved communication with farmers or with colleagues. Statements were made to the effect that "meetings are going better," that they feel "more at ease with farmers," that they were "listening to farmers first," etc. Respondents who did not mention such communication skills did mention that the technical skills which had been acquired through the courses provided them with a greater degree of selfconfidence.

The degree to which specific skills were updated through the courses is difficult to generalize given the range of courses presented during the project. Short reviews of each course are contained in a separate report available from ITD/OICD. Respondents were asked, however, the degree to which they were able, as a result of training, to apply new skills to their jobs. The assumption here was that if skills were being utilized, then they had been "learned." On a 5 point scale, responses ranged from 3.0 to 4.0 with the mean being 3.5. This implies that skills learned in the courses were being utilized at a more than moderate rate. Two tendencies might be noted in these scores. First participants in the soils courses rated their ability to apply skills higher than participants in other courses. Second, participants in more recent courses rated their ability to apply skills at about the same level as participants from earlier courses. It did not appear that the quantitative measures were biased by the time lapse between course completion and the evaluation.

2. The application of concepts and skills learned or reinforced by the courses has been greatly hampered by current socioeconomic difficulties in Guyana. The negative effect of current socioeconomic conditions in Guyana on utilization of skills and concepts is seen in a number of ways. First, the depressed agricultural economy does not support the range of production activities for which participants were trained. This is most obvious in the livestock production courses. For example, the depressed nature of the poultry industry, its lack of foreign exchange to purchase feed and hatching eggs, has virtually eliminated small and large scale private producers from the market. Participants in the poultry production course simply no longer have a clientele to serve. The same has been true in other production oriented courses.

Second, the lack of a stable institutional environment has reduced essential support for application of new skills. This is true, for example, in the extension service which has undergone a continuing reorganization in which regional heads now play an increasingly important role. Since extension activities are now funded through regional budgets and since regional funds for any activity are very scarce, extension workers are generally "on hold." In addition, extensive lay-offs throughout the public sector have contributed to a heightened anxiety level over basic job security. Thus participants have felt themselves pulled in a variety of directions, a situation not conducive to experimentation with new skills related to the agency's overall mission.

3. In spite of such constraints, participants noted that supervisory support was the most helpful factor in the application of skills to the job situation. Important, but less critical, were factors related to sufficient supplies and transportation. Participants' ability to implement skills learned in the courses is strongly linked to ongoing support, or lack thereof, from supervisors. While this does not seem surprising, the responses of participants, when asked about factors which helped their application of skills, proved to be of interest. Fifty per cent of respondents claimed that the most important factor was supervisory support, thirty-four per cent claimed sufficient supplies and twenty three per cent claimed sufficient transportation.

The importance of supervisory support is emphasized when comparing participants' rating of their ability to use new skills with factors that helped them do so (Table 1). Those who mentioned the presence of supervisory support rated their ability to utilize skills the highest; the absence of supervisory support resulted in a low rate of utilization. Further, the absence or presence of supervisory support produces a greater range of utilization rates than the absence or presence of logistical support such as transportation and supplies.

TABLE 1: ABILITY TO UTILIZE NEW SKILLS RELATED TO PRESENCE OR ABSENCE OF ADMINISTRATIVE SUPPORT*

<u>Type of Support</u>	<u>Present</u>	<u>Absent</u>
Supervisory	4.08	2.72
Transportation	3.64	2.38
Supplies	3.71	3.45

* Based on 5 point scale from low (1) to high (5) utilization

Given the greater concentration of ministry personnel in Georgetown, it might be supposed that supervisory support and ability to utilize new skills would be greater in that area than in more remote locations. Comparing skill utilization with location, however, revealed only a slight correlation; respondents from Georgetown noted both the highest and lowest rates of skill utilization (see Table II).

TABLE II. ABILITY TO UTILIZE NEW SKILLS RELATED TO JOB LOCATION*

Skill Utilization	Georgetown**	Outside Georgetown
Mean of all respondents	3.75	3.27
Mean of respondents claiming supervisor support	4.20	3.50
Mean of respondents claiming lack of supervisor support	2.70	3.14

* Based on 5 point scale from low (1) to high (5) utilization. **Georgetown includes Mon Repos and Triumph.

While Table II notes a slight difference between participants from Georgetown and those outside of Georgetown, a more marked difference is that between Georgetown participants who did or did not have supervisory support. Utilization rates of participants from outside Georgetown were higher perhaps because those employees have less expectations of supervisory support over all. One respondent from outside Georgetown rated himself very high as a user of new skills, commenting "I am alone; I am expected to do everything. So I use everything I learned."

4. The impact of training does not appear to have been negatively effected by job mobility subsequent to participation in the courses. A problem of concern to course planners and coordinators was keeping trained personnel in the ministry and related organizations. Comments from course coordinators led the investigators to believe that staff turnover was particularly serious. Such a situation would have

implications for training in similar situations and might suggest that training in communication or managerial skills might be better suited to a highly mobile work force than technically oriented courses.

While respondents were asked their job experience subsequent to participation in a training course, this represented a built-in bias since participants who had emigrated, left the ministry, or "dropped out" were not included in the sample. Course coordinators, therefore, were asked to indicate the whereabouts of all participants. This uncovered less movement than expected, though some categories, such as general extensionists, showed more turnover than others, such as veterinary livestock assistants.

Of the participants who were interviewed, only ten per cent changed jobs since taking the course. However, nearly 40% claimed to have assumed additional responsibilities since they took their course, slightly more than half claimed that additional supervisory/administrative duties had been given them while the rest claimed additional technical duties. The important factor to be considered in looking at job mobility, therefore, is the balance between individuals who do leave an organization or related organization and those who move up by obtaining additional responsibilities within the bureaucracy. In the latter case, job mobility does not necessarily limit the utilization of skills learned in training.

5. Participants reported a high degree of information sharing with colleagues subsequent to the course; this indicates that a certain "spread effect" of training has occurred.

Participants were asked if they had shared information gained in the course and, if so, in what ways. Ninety-four per cent of respondents claimed that they had shared information learned in the course. The most commonly cited mechanism for sharing information was through informal conversation and on-the-job contacts, though nearly 30% also mentioned other training activities.

One example of this "spread effect" was mentioned by a respondent who had attended the Transfer of Technology course which stressed farmer-scientist linkages in the research process. As a result of the USDA course, this participant had redesigned a training program carried out by the Ministry of Agriculture's Fishery Division for small scale fishermen. The redesign resulted in greater participation of fishermen in the program and a dramatically increased attendance (95%) for the length of the FAO-funded program, far above the historically low attendance record.

A major concern of the evaluators was to identify those aspects of the training program which were perceived by the course planners, coordinators and participants as contributing to a positive impact on participants' confidence and skills. The following findings relate to that concern.

6. USDA'S participatory style of training, utilizing practical, hands-on experience and field work, was judged to be very successful by the course participants. Ministry of Agriculture coordinators and participants felt that a participatory approach, stressing hands-on practice of skills, was both appropriate and useful to them. In this regard, field work was perceived as the most valuable training technique used in the courses. As one informant stated, "Classwork is fine, but it doesn't really mean anything until you actually see the soil in the field and feel it in your hands."

Respondents rated the usefulness of the field work at 4.3 on a 5 point scale, though a few rated field work as low as 2.0. This variability appeared on the same field trip with higher scores, so that participants appear to react differently based on their previous experience. This indicates the need for different, as well as extensive, field experiences during a course.

Field experience which included literal "hands-on" experience was judged most helpful in giving veterinary and extension workers more insight into problems faced by farmers. One respondent put it this way, "Less shirt-jacs, and more work boots." For example, respondents from the swine production course mentioned that the experience of evaluating swine hygiene practices on farms during the field trip and of utilizing carcass evaluation guidelines during those trips proved to be of great value.

The field experience proved to be valuable to other respondents beyond the actual work carried out. One respondent from the soil survey course mentioned that the soils and contours in his own region were not similar to those in Kimbia where the soil survey field work was done. Consequently, he felt that the solutions proposed there would not work in his region. In fact, the respondent felt that nearly all the technical content of the course was of questionable applicability, yet he found the course to be very useful. The reason, he explained, is that, until the course, he had virtually no field experience, and the time spent in the field gave him the confidence and the "feel" for soil conditions which he had previously lacked.

The effectiveness of this style of training is also borne out by respondents' criticisms of those courses where they felt more practical experience could have been provided. In the audio-visual equipment maintenance workshop, some respondents pointed out that there were too many people in the class for everyone to get "enough" time with each piece of equipment. Respondents from the soils analysis course mentioned that, while the greenhouse fieldwork was valuable, each of them would have liked to have taken a soil sample and done an analysis from start to finish.

7. Written materials proved to be very useful to participants after, as well as during, the course. Respondents rated the utility of written materials at 4.17 on a 5 point scale. Difficulty in obtaining current information on topics treated in the courses inspired numerous requests for additional materials from both trainers and USDA evaluators. After the course, the materials appear to have served as important reference works for participants. Strategies for assuring a continued flow of information following upon a course should be explored.

8. Training teams were most useful when training skills were combined with technical knowledge and practical experience. Team effectiveness was greatly improved by precourse visits which allowed instructors to work with MOA and other officials on course objectives and content before working on the initial course design. Team effectiveness could have been further improved by utilizing more local resource people. Trainers generally received very high marks from course planners, coordinators and participants. The strategy of recruiting teams with technical knowledge and practical experience was appropriate. However, practical experience could not be viewed as a substitute for training or teaching experience.

Precourse visits allowed trainers to carry out basic needs assessments with MOA officials and, in some cases, potential participants. Course objectives and content were decided upon during these visits, after which the instructors began to work on overall design and decide upon appropriate materials. Informants, however, felt that greater use could have been made of additional Guyanese inputs in course planning and implementation. Familiarity with local conditions could only be partially achieved in precourse visits and in-country preparation time. Use of Guyanese experts, especially when dealing with local examples and organizations, would have increased effectiveness as well as spread responsibility for any followup.

9. Selection of participants from "target" and "non-target" populations limited direct application of skills learned in courses, but also broadened understanding, networks and information sharing. These were important spin-offs of the course presentations. Participant selection for the courses included both "target" and "non-target" audiences, a distinction suggested by Dr. Granger of the Division of Soils, Ministry of Agriculture. Target participants were chosen because information and skills emphasized in the course were directly related to their jobs. These participants are those most likely to utilize new skills and are those upon whom the course would be expected to have greatest impact. Non-target participants are those for whom the course content is only indirectly related and for whom the training is a broadening experience. These participants are not expected to utilize new skills directly but are rather expected to have a greater appreciation of them and understand where they fit in a total system. A "target" participant in the Soil Survey I Course would be an individual who carries out soil surveys; in the same course, a "non-target" participant would be one who works in a soil analysis laboratory who should know how soil samples are collected. Non-target participants in these courses also included individuals drawn from parastatal corporations and agencies outside the Ministry of Agriculture.

From interviews with both types of participants, it appears that non-target participants, naturally enough, had lower scores on "ability to utilize new skills." It also appears, however, that these same participants were able to expand their understanding of a body of knowledge and technique, that they did expand their networks across agency and ministry boundaries, and that these networks continue to be activated for sharing/trading information and resources. The evaluation process itself reinforced these links. During group interviews, one respondent from the Ministry of Education received a promise of assistance from an extension agent in the Ministry of Agriculture. In another case, one respondent offered to help another who was having difficulty in obtaining audio-visual supplies. Establishment of such linkages is an important spin-off of the participant selection process.

10. The importance placed by respondents upon supervisory support to be able to implement new skills indicates that supervisors should be more actively involved in planning and presenting courses when subordinates are targeted for training. Supervisory support after a course is completed is easier to obtain by having supervisory input into the course during its planning phase. Supervisors should be consulted

on their expectations for training's impact on their subordinates; they should also be informed as much as possible concerning course goals and objectives. The participation of supervisors in a final session of the course was utilized in several courses as a mechanism for giving participants an opportunity to explain what had been done in the course. This session also made it possible to open a discussion with supervisors over proposed changes in the areas where new skills had been learned. A further benefit from this type of session was in the "legitimization" of innovation within the work environment, again based upon the experience of participants in the course.

SUMMARY

The overall impact of the training courses conducted under the Manpower Training Project on course participants has been positive. The 51 respondents to the evaluation survey felt that they had increased their levels of confidence in their abilities on the job, and that their ability to utilize new skills has been moderately successful. Ability to utilize new skills has been hampered by the number of non-target participants in the selection process as well as by the continued socioeconomic difficulties in which Guyanese organizations find themselves enmeshed. Apart from the course itself, the most important element for the implementation of skills on the job was the support of the participants' supervisor, less important were logistical support in terms of transportation and supplies. Job mobility does not seem to have had a major negative impact on the training program and a certain degree of "spread effect" has occurred through informal contacts on the job between participants and their colleagues.

The major factors which led to successful course presentations included an emphasis upon practical skills, a participatory training style and field experience. Trainer effectiveness was increased through the use of precourse visits and the use of teams combining technical and training expertise. Further involvement of local resource people would have made the training of greater relevance to Guyanese conditions. Written materials were rated as very useful by the respondents. Finally, the selection of participants from both target and non-target audiences led to somewhat less direct application of skills but such selection did expand knowledge and helped to form networks for resource and information sharing across agency and ministerial boundaries.

Recommendations for future training activities by USDA, the Government of Guyana and AID/Georgetown include (1) a continued emphasis upon practical, participatory training with fieldwork playing a prominent role, (2) greater emphasis upon supervisor involvement in course planning as a means of gaining support for participants, (3) continued use of precourse visit to insure that local resource people and officials are involved in the early stages of course design, (4) continued careful selection of participants and inclusion of non-target participants when useful, (5) continued combining of technical and administrative/communication skills within the same course, and (6) greater use of local resource people in course planning and implementation.

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