

The effectiveness of project performance budgeting system in agricultural management

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Abstract

The Project Performance Budgeting System was introduced into the Western State Ministry of Agriculture and Natural Resources in April 1974, superseding a general purpose programming strategy. This study evaluated the impact of P.P.B.S. on problems previously found to dampen the effectiveness of agricultural services. Data were collected through in-depth interviews with headquarters' administrators, through questionnaires distributed to field officers, and through interviews with farmers.

It was found that under P.P.B.S., inadequate and late supply of inputs was still a problem and that poor flow of inputs led to poor relationships with farmers and detracted from the job commitment of agents. On the other hand the new reporting system was found to be easier for field officers to work with providing useful information for evaluation, although administrators said that it increased their paper work. It was found that the impact of programmes on farmers is measured only indirectly under P.P.B.S. and that the system should be modified to accommodate feed back from farmers. Also, fewer farmers are dealt with more intensively. The possible usefulness of P.P.B.S. in staff evaluation was studied.

A number of recommendations for improving the system were made.

Introduction

Programming agricultural development necessitates choosing among alternatives in the management of the agricultural sector's scarce resources so as to yield the optimum benefit to the entire economy. Prior to 1974, a general purpose programming strategy was used in the Western State by which appropriations were made to organisations and their units. Since April, 1974 when the Project Performance Budgeting System (P.P.B.S.) was introduced to the Ministry of Agricultural and Natural Resources on an experimental basis, allocations of funds, materials, and personnel have been made to specific projects regardless of their locations within the organisation.

A considerable body of literature exists examining the effectiveness of the Western State Extension Service's operation under the general purpose programming strategy. Factors influencing the effectiveness of the services at three levels, the farmers', the institutions and the agents', have been examined to some extent.

Research into farmers' adoption behaviour had shown that the presence of money incentive was one of the main reasons for adopting a new practice, while lack of economic incentive discouraged adoption. Closely tied to incentive is the availability of markets (Williams, 1969; Kidd, 1968). Other important factors were the means necessary for adoption. These included capital, land, and adequate supply of inputs. Finally, contact with extension agents, respect for them, and exposure to successful demonstrations were found to influence adoption (Williams, 1969; Kidd, 1968 and Basu, 1969).

At the institutional level, too few agents, resulting in too many duties and decreased contact with farmers had been cited as a problem (Ogunfowora, 1968; Williams and Williams 1972). Lack of adequate financing, particularly in regard to provision of transport allowances, working materials, office equipment and office personnel had been found to dampen effectiveness (Williams & Williams, 1972).

The bureaucratic structure of the extension services had also been criticized. One outcome of this structure was the tendency for programmes to originate from the top of the Ministry rather than from farmers' problems. Williams and Williams found that most agents relied heavily on programmes from headquarters, although some did include personal observations. A minority based their programmes on ideas emerging from farmers' meetings or discussions with leaders (Williams and Williams, 1972). Kidd found that reports and records made by extension workers showed a lack of feedback from farmers. Only nine out of ninety-two agents reported that information from farmers had been used to improve programmes (Kidd, 1968).

One of the main factors operating at the agents' level is job satisfaction. While most agents interviewed by Kidd were satisfied with the job itself, three-fourths felt that they were not being properly rewarded for doing a good job. Selection for promotion and training was the main cause of dissatisfaction with 54 percent feeling that the procedure was unfair. Only 3 percent of the agents felt that personal influence was considered in selection, most mentioning efficiency,

ability reports, and educational qualifications as the most important criteria used (Kidd, 1968). This may mean that while the criteria were fair, agents felt that they were not accurately evaluated on them. It may also mean that the agents did not see their jobs in terms of the criteria, or that the criteria were not clearly defined. It was noted that those assigned to a special scheme had better attitudes to their careers than agents assigned to general extension duties (Kidd, 1968). This may be due to the clearer definitions of what is expected and the more adequate provision of support from the Ministry for special schemes.

The factors reviewed above were well known to the Ministry of Agriculture and as early as 1970, the ground work was being laid for a new programming system. Because some new knowledge was required for working with P.P.B.S., extensive training arrangements were made ranging from formal university education to short, on-the-job training to prepare the personnel (Akinyele, 1976a). On April 1, 1974, P.P.B.S. was introduced in the Ministry on an experimental basis. The initials P.P.B.S. have been used in two ways. P.P.B.S., as used in this paper, refers to the Project Performance Budgeting System which was adopted by the former Western State Government. It is the system commonly used in countries like Nigeria which have distinct planning agencies to carry out the function of long and medium term planning. Given the development plan already prepared, the implementation agencies use Programme or Project Performance Budgeting to draw up their budgets for the plan.

This system should not be confused with Planning-Programming-Budgeting System which is used in countries like the U.S. and Canada where planning is a by-product of the budgetary process.

P.P.B.S. is a system which aims at helping an organization make better decisions on alternative ways of allocating resources to attain government objectives. Its essence is a mechanism for systematically gathering analysing, and presenting relevant information as to the full implications (costs and benefits) of major alternative courses of action. Through P.P.B.S., piecemeal fragmented, and last minute programme evaluation which characterised traditional planning and budgeting processes can be minimized.

Under P.P.B.S. the bases for assessing requests for allocations, for motivating staff, for evaluating performance, and for re-appraising long-term plans are definitive targets (e.g. to reduce the cost of pro-

ducing one dozen eggs to 15k by 1977, or to increase production of maize in X division by 100 percent with current resources). The aims are to objectify budget allocations, improve accountability in relation to productivity and provide a basis for reviewing previous expenditure (Federal Republic of Nigeria, 1974).

Thus, the major characteristics and advantages which distinguish P.P.B.S. from the former systems of general purpose planning are:

1. It focuses on identifying the fundamental objectives of the government and relating all activities, regardless of organisational placement, to these. Thus, the provisions of the development plan are translated into concrete operational programmes of work within the framework of the budgeting processes of governments.
2. Future year implications are explicitly considered taking all the programme elements into account. This is in contrast to the incremental budgeting used under the former general purpose programming strategy. With incremental budgeting, the past year's budgets are simply reduced or expanded by a certain percentage.
3. All the inputs needed for a project, as well as all the costs of the inputs have to be specified in advance, together with the time-phasing of the needs.
4. Systematic analysis of alternatives and implementation of projects is ensured (Akinyele, 1976b).
5. The outcome of programmes is the basis for evaluation. Under P.P.B.S., it is assumed that unless outcomes are evaluated specifically, the results may be suboptimal or undesirable. This is in contrast to the assumption of general purpose programming, that one can evaluate the process itself to determine its performance and desirability.

The objective of this study, therefore, is to evaluate the effectiveness of P.P.P.S. in alleviating the problems of agricultural management described above, at the farmers', the institutions' and the extension workers' levels. Specifically, the objectives of this study are:

1. To assess the degree to which inputs, including various materials, extension staff, and financing, are available under P.P.B.S.
2. To determine the effects of input availability on agents' outputs, relationships with farmers, job evaluation, and job satisfaction.

3. To assess the relative ease of working with P.P.B.S., the advantages and short-comings of the reporting system, and its relationship to Ministry goals and staff evaluation.
4. To solicit suggestions as to how agricultural management can be improved under P.P.B.S.

Methodology

Between July 1974 and February 1976 data were gathered from two categories of staff (the administrators and the field level workers) employed by the former Western State Ministry of Agriculture and Natural Resources (M.A.N.R.). In January, 1977 further data were collected from farmers.

The information from the administrators was solicited using an open-ended interview guide. Since only the headquarters administrators, numbering five, were involved, they were all interviewed.

The data from the field level workers were collected using a combination of closed-ended and open-ended questions. Personal visits were made by the two researchers to the twenty-four agricultural divisions in the state to distribute the questionnaires to selected officers. In each division, the divisional agricultural officer was requested to provide information on each of the P.P.B.S. projects included in our sample which was being carried on in that division. In addition, three field level operators (in most cases, an Agricultural Superintendent plus two Agricultural Assistants) were asked to provide data on each project they were involved with. The projects included in our sample were: rice, maize, cassava, banana/plantain, pineapples, cocoa (C.D.U.) kola seedlings, coffee seedlings, oilpalm seedlings, beef (finishing), poultry, sheep and goat and rural dairy. The selection of the projects, based on the level of appropriation to each project, was such that projects with varying levels of appropriations were represented in the sample. The completed questionnaires were returned by post. However, because a number of field level workers were responsible for more than one project only 78 usable questionnaires were completed and returned by this group of respondents.

The data from the farmers were collected by a trained interviewer* using closed and open-ended questions on a pre-tested interview schedule. One-hundred-and-twenty-one farmers were drawn by simple random sample from eight villages in the former Western State. The villages were purposively selected to include locations of the projects previously mentioned.

* the authors are grateful to Mr. A.A. Abiodun for his assistance with this part of the study.

The data were analysed using frequency counts, percentages and graphs.

Results

Availability of inputs

Field level workers were asked to describe the adequacy and timeliness of various inputs needed for their projects. Table 1 shows that there was some degree of inavailability for all inputs listed. The situation for extension staff seemed to be the best since most respondents said that they had enough staff for their projects. The other inputs listed were said to be adequately available in less than half of the cases. Loans and credit were not adequate or timely for any project.

Certain items were not available at all to most of the officers who needed them. These were chemicals, processing and storage materials.

TABLE 1: STAFF COMMENTS ON AVAILABILITY OF INPUTS: (PERCENTAGE OF REMARKS CONCERNING PROJECTS WHERE INPUTS WERE NEEDED)

	Total amount needed was available on time	Total amount needed was available but late	Not enough was available	Not enough was available and was late	Not available at all
Planting Materials (n = 119)	44	14	20	17	5
Chemicals for Pest and Weed Control (n = 71)	20	14	7	4	55
Fertilizers (n = 104)	20	31	31	14	14
Extension Staff (n = 107)	57	8	33	2	
Loans and Credit (n = 95)		18	9	56	17
Tractors (n = 99)	7	20	11	37	25
Processing Materials (n = 85)	8	5	12	5	70
Storage Facilities (n = 64)	6	2	22	6	64
Money Appropriated to Project (n = 105)	19	31	9	33	8
Labourers (n = 109)	41	10	30	17	2
Transportation (n = 110)	17	10	28	22	23

Loans and credit which are required for the timely performance of several agricultural operations were said to be both late and insufficient in most cases. Other inputs which tended towards lateness and inadequacy were tractors and financial appropriations. Looking at credit and tractors, it was found that the supply of these was worse for maize than for other projects. Credit and tractors were said to be late and insufficient by 74 percent and 51 percent of the maize project officers respectively. Money appropriated was found to be late and small most often for the smaller projects, banana/plantain (75 percent) and pineapples (67 percent).

The situation at the ministry outstations was reflected in the farmers' responses on input availability. Table 2 shows farmers' comments on the availability of inputs which were needed for Ministry sponsored projects during the 1975/76 planting seasons.

TABLE 2: FARMERS' COMMENTS ON AVAILABILITY OF INPUTS: (PERCENTAGE OF REMARKS CONCERNING PROJECTS WHERE INPUTS WERE NEEDED*)

Inputs	Extent of Adequacy and Timely Supply				
	Total amount needed was available on time	Total amount needed was available but late	Not enough was available	Not enough was available and was late	Not available at all
Planting Materials (n = 66)	25	7	20	14	32
Chemicals for Pest and Weed Control (n = 71)	15	3	22	18	42
Fertilizers (n = 66)	23	11	22	7	32
Extension Staff (n = 71)	2	1	32	27	38
Loans and Credit (n = 71)	4	2	14	16	64
Tractors (n = 68)	1	1	12	11	75
Processing Materials (n = 70)	0	0	4	30	98
Storage Facilities (n = 70)	0	0	4	3	93
Market Information (n = 72)	2	3	4	4	87
Information on Fisheries and Forestry Production (n = 11)	0	6	6	0	88
Benefits of Livestock (n = 62)	1	2	6	5	86
Livestock Feeds (n = 63)	1	0	3	2	94

* Only the 73 farmers who participated in ministry projects commented on inputs.

It can be seen that the most frequent description of all inputs was that they were not available at all. The first eight inputs listed in tables 1 and 2 are the same, being inputs needed by both staff and farmers for projects. Although the data from farmers was collected later than the responses from staff, the first column shows that input supply to the farmers level was generally less adequate and timely than it was to the ministry outstations. There were two exceptions. Fertilizer, which became a special item under Operation Feed the Nation, and which was sold by private dealers, was found to be more available to farmers than to staff. Likewise, a few farmers were able to find adequate and timely credit.

Special attention must be drawn to availability of extension staff. Although 33% of staff respondents and 32% of farmer respondents commented on a staff shortage, the majority of ministry employees felt that staffing was adequate while the majority of farmers said that it was inadequate and in fact, 33% of the farmers who were participating in ministry projects had not had any contact with ministry staff.

Most of the farmers who needed them did not receive either marketing information or information on fisheries or forestry production. Most of the farmers who were involved in animal production did not have improved breeds or feeds available to them.

The data presented so far indicate a discrepancy between input supply at the farmers' level and the ministry level which may not be irradicable until supply to the ministries is improved. The severity of the situation shown in Table 1 depends on the actual amounts of inputs needed and the amounts obtained as well as the degrees of lateness in terms of the growing season. Officers were asked to supply information on the actual amounts needed and supplies obtained. From the few data available, the percentages of requirements obtained were calculated. These are presented in Table 3. As can be seen from the wide range of values and the small response, more work needs to be done on this area. However, available data show that the average proportion supplied was low.

TABLE 3: ADEQUACY OF INPUTS

Inputs	Percentage of Requirement Obtained	
	Range	Mean
Fertilizer (n = 19)	0-100	52
Labour (n = 6)	20-72	44
Loans and Credit (n = 10)	0-100	42
Rice seeds (n = 10)	0-100	37
Maize seeds (n = 12)	0-100	33
Tractors (n = 24)	0-100	17
Chemicals (n = 9)	0-25	3

A few officers also supplied data on the dates inputs were needed and supplied. From this information, figures 1-IV were drawn and the average time differences between need and supply were calculated for four inputs. In the figures, the numerals stand for months (e.g. Month 4 = April) and the diagonal line represents the ideal distribution wherein inputs would be supplied when needed.

Timeliness of Inputs

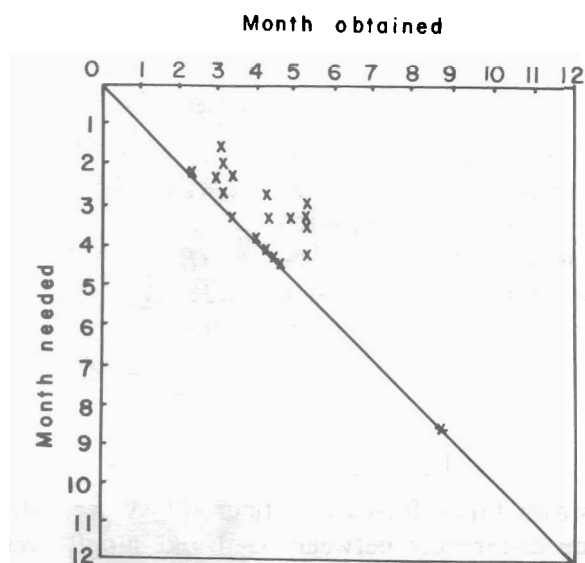


Fig.I. Rice and maize seed

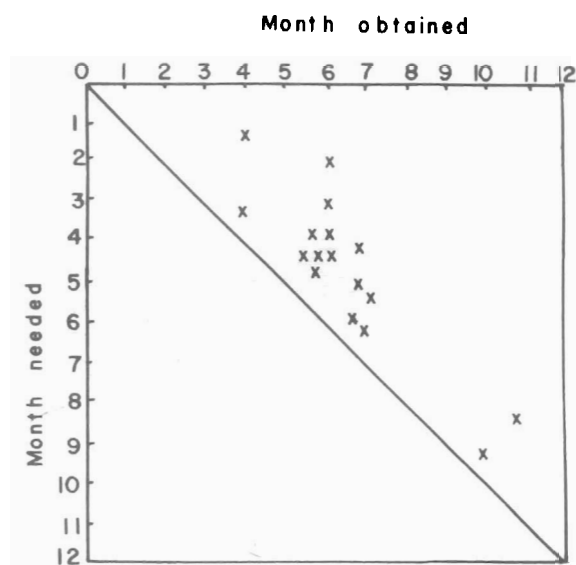


Fig. II. Fertilizer

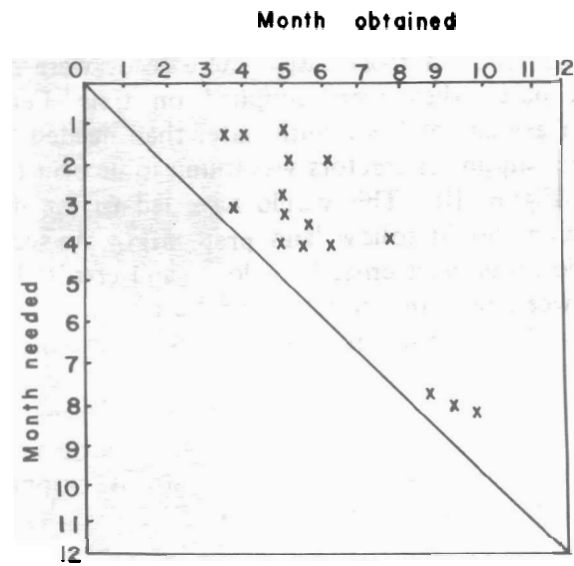


Fig. III. Tractors

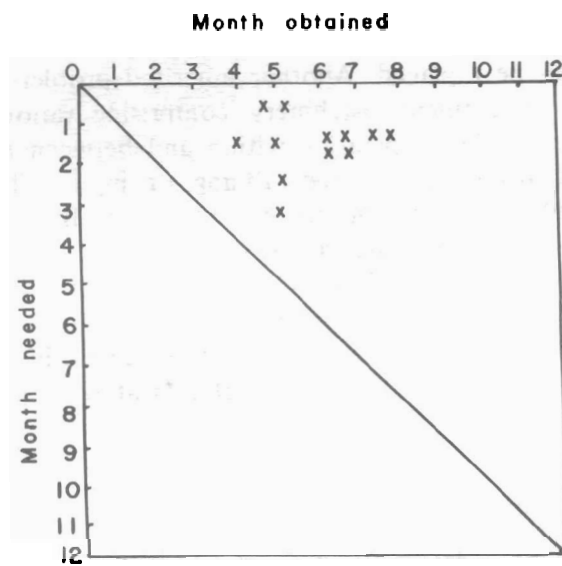


Fig. IV. Loans and Credit

As shown in Figure 1, the supply of rice and maize seeds was quite timely. On the average, maize seeds were 0.8 months late and rice was 0.7 months late. In most cases where seeds were supplied to multiplication plots, they were supplied on time. Fertilizer was supplied at an average of 1.8 months later than needed (Figure II). On the average, supply of tractors was found to be over two months behind time (Figure III). This would have led to the delay of all operations which should follow land preparation. As seen in figure IV, the situation was most critical for loans and credit. The average time lapse between need and supply was 5.2 months.

Interviews with administrative staff who were responsible for the overall supervision and coordination of agricultural programmes in the state substantiated the information provided by field level workers, and shed some light on the problems concerning input supply. Except for the provision of administrative supplies, it was generally said that other inputs have not been easier to supply under the new system.

Three types of problems were elucidated. First were problems in adjusting to the new system. Many inputs were supplied late because they were requested late. In other cases, inputs were requested by geographical division rather than by project. Secondly there were some problems inherited from the former system. One of such was the carrying over of old equipment which existed on record, but which needed to be replaced. Another inherited problem was the co-existence of government machinery comprising various procedures and general orders, operating within and between ministries which militated against the proper timing of inputs. The third category of problem concerned inputs over which the Ministry had no control. Examples of these are roads which were built by other agencies, and fertilizers which were in short supply throughout the world.

While recognising that some of these problems might be alleviated in the future it is well to look at their effects at the time of the study.

Effects of inavailability of inputs

Field officers were asked to describe the effects of late or inadequate supplies on various aspects of their work, their promotion prospects, and their attitudes to work. The results are summarised on Table 4.

**TABLE 4: EFFECTS OF INAVAILABILITY OF INPUTS
ON OUTPUT**

<i>Crops and Livestock (n = 78)</i>	<i>Percentage</i>
Target not reached/low yield/complete failure	85.9
No effect	2.6
No answer	11.5
<i>Completion of projects within the the growing season (n = 78)</i>	
Delay hindered completion	76.9
Delay did not hinder completion	
– if weather is good	2.6
– production may be low	2.6
– local or personal resources improvised	11.5
No answer	6.4
<i>Relationship with farmers (n = 83)</i>	
Loss of confidence/lack of cooperation	77.1
Late planting/inability to reach target	13.3
Cordial (no explanation)	1.2
Neutral	1.2
No answer	7.2
<i>Evaluation of work (n = 78)</i>	
Inavailability of input was taken into consideration	
– when evaluation affects superior officers	2.6
– when I have reason considered justifiable	74.4
No, inavailability never taken into consideration	15.4
Don't know	5.1
No answer	2.6
<i>Career orientation (n = 78)</i>	
Inavailability of input may affect promotion prospects/commitment to work	82.1
Does not, except for sympathy with farmers	12.8
No answer	5.1

The majority said that shortages and delays resulted in the crops and livestock production falling short of the target, or even failing completely. This was associated with inability to complete the projects within the growing season. Consequently, most of officers said they lost the confidence and/or cooperation of farmers.

However, most of the workers felt that problems of supply were taken into consideration when superior officers evaluated their work. In spite of this, most respondents said that lack of supplies had an adverse effect on their attitudes to their careers by reducing commitments to work and hope for promotion.

Suggestions for improving input supply

Extension workers and farmers were asked for their opinions as to how problems in input availability could be alleviated. The purpose of the open-ended question was two-fold: first to identify those problems which were uppermost on respondents' minds, and secondly to elicit practical suggestions for improvement.

As expected, most farmers wanted more timely, more abundant, and highly subsidized distribution of material inputs including planting materials, fertilizers, chemicals, and tractors. They felt that these could be provided by increasing the numbers of distribution centres and agents. What was not expected was that farmers mentioned technical advice and education as inputs and wanted information about livestock management, fertilizers, chemicals, food processing, and marketing. They felt that wider educational coverage could be provided if the numbers of agents were increased. Supply of credit was the problem most frequently mentioned by farmers, most (70) of whom were concerned for more equitable distribution of loans. Several said that late provision of loans and short repayment periods deterred many farmers from applying for credit. They suggested longer repayment periods and linked to this, provision of credit for building storage facilities. A few farmers suggested the provision of credit for private ownership of tractors.

The extension workers made more concrete suggestions, but like the farmers, did not see how input supply could be improved without substantially increasing government expenditure. Agents said that a high priority should be given to making a fresh start with a large investment in vehicles, storage and processing facilities, and other hardware. They also suggested increasing the number of seed multiplication plots, appointing more agents to cope with fertilizer distribution, and providing heavy subsidies for fertilizer and chemi-

als. Most of the extension workers said that increased use should be made of mechanization to alleviate labour problems, and many felt that tractors hiring units should be made more efficient, possibly by following the Nigerian Tobacco Company system. Agents mentioned timely supply of capital as the main prerequisite to making other inputs available. Many suggested that credit agents need to be supervised rigorously and some said that operation of a loan scheme under non-governmental agents should be tried. Most of the workers suggested that the use of Local Purchase Orders, which caused costly delays, be abolished.

Ease of working with P.P.B.S.

Information on whether P.P.B.S. was relatively easier to work with than the previous system shows that most administrators found it more time consuming in terms of paper work, and only one found it simpler. However, most found the forms useful and even found that some aspects of their work such as evaluating officers' efficiency, were made simpler. At the time of the interview, the proforma were being streamlined and problems such as the allocation of man-days among projects were being worked out.

Field officer found the system easier to work with. Their remarks are summarised in Table 5. According to these data, approximately 40 percent of the respondents were unconditionally convinced that P.P.B.S. is easier than the previous system, while another 30 percent found it easier only if inputs were available on time. While the problem of inputs is crucial, this problem existed prior to P.P.B.S. and so we may conclude that once supplies are adequate, P.P.B.S. will be preferred by 70 percent of the field officers.

TABLE 5: RELATIVE EASE OF WORKING WITH P.P.B.S.
AS SEEN BY FIELD OFFICERS

<i>Responses</i>	<i>Percentage of Remarks (n = 83*)</i>
Easier,	
– because it encourages specialisation	8.4
– because it makes instant assessment possible	31.3
– if inputs are released on time	30.1
More difficult	
– but still preferable because of better result	2.4
– because it makes too much demand on agents and farmers	7.2
– because one can't use initiative	13.3
Don't know	1.2
No answer	6.0
Total	100.0

*Some respondents gave more than one answer.

Specific questions were asked as to the usefulness of the monthly projects reports included in P.P.B.S. A large majority (84.6 percent) said that such reports helped in the assessment of progress, failure, and problems. Another 10.3 percent attributed the usefulness of the reports to the facts and figures they contain, while 2.6 percent said they were useful at the implementation stage. Only 2.6 percent of the field workers did not give any comment.

When asked whether there were any things which were not presently included on the forms, but which should go on the monthly reports, 14 percent of the field officers, made suggestions. Most of these wanted to be able to record farmers' problems and their reactions to various aspects of the projects. Some wanted to record their own problems and suggestions for solution while others wanted space for weather information. About 26 percent said they were satisfied with the present forms and 33 percent did not express any opinion.

Relationship of reporting system to organisational goals

Administrators were asked to discuss the effect of using progress reports, which deal with physical and financial achievements, on the implementation of Ministry goals listed in the 1970-74 Development Plan, (Federal Republic of Nigeria, 1970) which assume that the work of the MANR must have some impact on farmers.

It appears from the administrators' responses that impact on farmers was measured indirectly through demand for improved seeds, tractors, etc. It was also measured by hectareage under production, though not by yield. In this way, impact on farmers remained important under the new system. However, it was achieved not through broad educational efforts but through concentrated work with a few selected farmers who were expected to have a multiplying effect. On the whole, administrators felt that less time was being spent with all farmers, but that each farmer involved in a project received more attention than he had gotten under the previous system.

At the field level, 71.8 percent of the officers said that they had been spending more time with farmers because of the extra demands in terms of closer supervision, acquisition of necessary materials, etc. made by the modern technology involved in P.P.B.S. Another 11.5 percent indicated the expenditure of less time with farmers because of the specialization involved, while 5 percent gave similar answers

but attributed it to the numerous reports called for in the use of P.P.B.S. About 9 percent did not respond to the question, while 2.6 percent said that P.P.B.S. did not alter their allotment of time. The policy of concentrating efforts on fewer farmers may have accounted for the farmers' remarks about the extent of contact they had with ministry officials after the introduction of P.P.B.S. as compared with contact in previous years. The largest proportion of farmers (40%) said that their contact with extension workers was more frequent after P.P.B.S. came into use. Thirty-four percent reported that there was no change in frequency of contact, and of these, over three-fourths had never had any contact with extension workers. Another 25% reported that the extent of contact decreased: 12% said that contact was less frequent and 13% said that contact had ceased. On the whole, staff contact had improved for 40% of the farmers, while an almost equal number (39%) had no contact at all. See table 6.

TABLE 6: FARMERS' REMARKS ON EXTENT OF CONTACT
WITH EXTENSION WORKERS

<i>Frequency of Contact After April 1974 Compared with Before P.P.B.S.</i>	<i>Respondents</i>	
	<i>No.</i>	<i>%</i>
More frequent contact	49	40
Same frequency of contact	10	8
No contact after as none before	32	26
Less frequent contact	14	12
No contact after but contact before	16	13
Total	121	100

Effects of P.P.B.S. on staff evaluation procedures

As described in the introduction, staff selection procedures had been a source of dissatisfaction among field agents. Administrators were asked to discuss whether P.P.B.S. would affect selection procedures, how it might be used, and how they viewed annual confidential reports.

Most Administrators felt that after some years, P.P.B.S. will be useful in evaluating efficiency, careful work, or technical and personal ingenuity. However, one pointed out the difficulty of comparing agents who work on different projects in different zones, or with different sets of clientele.

It was generally felt that the annual confidential report did not reflect the problems of agriculture and that it should be tailored to the profession or even to specific projects in order to be meaningful. In addition, it was recognized that there are human problems inherent in a system based on subjective appraisal.

It was suggested that project reports might be used as a basis for filling annual confidential reports, or that both may be reviewed together. It was further said that while objective criteria are needed, these can best be applied in the field, possibly by a team of assessors.

Discussion and conclusions

Before drawing any conclusion based on the data presented, it is important to mention the limitations of this study. The first is the small size of the staff sample used for analysis. The problem of low returns peculiar to data collecting instruments expected to be returned by mail, was made worse by the frequent re-location of staff necessitated by the newness of the system. Due to low returns from extension staff, comparisons among projects or divisions were not done for most results.

Another important limitation is the absence of comparable base line data on the variable examined in this study. Thus, while our present study shows that most of the problems of the Extension Services identified earlier have not been solved, it is difficult to say whether the situation has improved with the introduction of P.P.B.S. In this line, our own study may be used as a baseline for continuing evaluation.

However, even with these limitations, some conclusions can be drawn. Inavailability of needed inputs has been identified as a major deterrent to project success. The problem of availability of credit

may be alleviated through the current establishment of rural banks, but the supply of manpower, hardware, and other material inputs must be handled within the MANR of the three states which were established from the former Western State after this study began. Infact, many of the suggestions, regarding inputs, made by respondents are already being operationalized through agro-service centres.

These units will have to account for project success in planning input requirements, since the success of P.P.B.S. projects increases the demands on supply institutions. Infact, demand for seeds and other materials is used as a measure of project success. Thus, to the extent that shortages of inputs reflect the impact of projects on farmers, one might say that what is called for is more optimistic projections.

Aside from the problem of inputs, a problem which was not caused by P.P.B.S., and the problem of additional paper work for administrators, the system appears to integrate agricultural planning and evaluation and make both easier. In addition, it may offer some hope of a more satisfactory selection procedure.

However, an important question of orientation has been raised by this study. Who is to be the immediate beneficiary of agricultural programming? The farmer seems to be under-emphasized in the planning, evaluation, and implementation of programmes. Responses from the MANR indicate that P.P.B.S. emphasis on production and efficiency has resulted in the neglect of extension work. Sixty percent of the farmers reported that frequency of contact with extension agents has not increased since the introduction of P.P.B.S. and many cited advice and information as needed inputs.

In view of the strong association found in other studies between farmers' contact with agents and their adoption rates, it is suggested that extension be re-emphasized and treated as a P.P.B.S. project using education and adoption variables for programming and evaluation. It is realised that this will require long term planning and major financing.

In the meantime, there is room for improving the implementation of the present policy of concentrating efforts on fewer farmers. The study found that under P.P.B.S., planning is still done along hierachical lines as in the former system. The improvement offered so far is that planning is based on detailed feedback. The system could be further improved if this feedback included a wider range of variables. It was suggested by the field officers themselves, that more

provision be made on report forms for details of farmers' problems and reactions. Other variables which should be included are those which measure the effects of ministry output on farmer productivity.

Evaluation of either the physical impact of specific production projects or the educational impact of extension projects will require additional and specially trained staff. It is recommended that a special unit be established within the MANR for objective assessment of P.P.B.S. projects at the farmers' level. As was already suggested by ministry administrators, this unit could also carry out fair evaluation of staff performance.

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