SELECTING EXTENSION WORKERS FOR THE DEVELOPMENT OF SMALL SCALE FARMING IN THE WEST INDIES

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A pressing demand in the developing countries today is for an improvement in the level of living. In those countries in which agriculture provides the mainstay of the economy, emphasis is placed on enhancing the productivity and efficiency of the agricultural sector. "Governments ... recognise the importance of converting agriculture from bare subsistence to systems of intensive production to improve the health and nutrition of the people, to feed the people in commerce and employment and to expand and diversify production for export to earn foreign exchange. This can only be done by a complete transformation in agricultural practices ... The question is: how to harness the enthusiasm and cooperation of conservative peasant farmers to this programme of agricultural development." 2

In the agriculturally developed countries, and particularly in the United States of America, agricultural extension services have made great contributions to the rapid strides in agricultural development during the past half century. Kelsey and Hearne (1963) state that "there is little doubt that the professional extension worker has a major role in hastening the changes that lead to progress." 3

The key role of the agricultural extension worker in the development of their nation's economy has also been recognised by perceptive administrators and planners in the developing countries. For example, in referring specifically to the West Indies, Demas feels that a major problem of planning organisations and of administration is "an acute shortage, not only of engineers and middle-level personnel, but also of agricultural extension officers. The shortage of extension officers could be one of the biggest obstacles to the fulfilment of a plan relying so heavily on increased production and productivity in the domestic agricultural sector." 4

In a study of the factors which affect the success or failure of agricultural development projects in another developing country, Nigeria, Kidd (1968) 1 found that projects based on crops with a reliable market, a good prospect for economic payoff, sound technology, some form of financial assistance and well-organised educational efforts are more likely to prove successful. Findings of that study also indicated that knowledge and adoption of desirable innovations by farmers required the presence of an agricultural extension worker as farmers have more trust in agricultural workers than in other sources of information.

In the West Indies, government-instituted agricultural services came into being just before the turn of the century with the establishment in 1898 of the Imperial Department of Agriculture headquarters in Barbados. This Imperial Department, which resulted from the recommendations of the Royal Commission of 1897, 2 had jurisdiction over the Leeward and Windward Islands. In its early years the services of the Department were centered around the Botanic Gardens, and were concerned chiefly with making collections of local plants, introduction of new plants, and the propagation and distribution of economic plants.

It soon became evident, however, that whereas the planters were aware of and made use of the agricultural services available, the large body of small-scale cultivators, mainly because of their relatively isolated positions, were out of touch with the work carried on and the services available at the Botanic Gardens. In an effort to bring more direct influence to bear on these small-scale farmers, travelling agricultural instructors were appointed whose duties were to travel around the islands instructing farmers in methods of plant propagation and general improved agriculture.

Today, agricultural instructors, i.e. extension workers, are more than ever needed for the development of small-scale farming in the West Indies. On the effectiveness of these workers in influencing small-scale producers depends, more than on anything else, the success of programmes aimed at

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1 Kidd, David W., "Factors Affecting Farmers' Response to Extension in Western Nigeria". CSNRD REPORT NO: 30, Michigan State University 1968.

2 Report of the West India Royal Commission, H.M.S.O. London 1897, Cmd. 8655.
developing small-scale farming. As Frutchey commented about extension workers in the United States, so in the West Indies "the effectiveness of an educational institution depends primarily upon its teachers ... A good county extension agent means a good program, good methods, and good results ... The selection of effective agents is important in the efficient use of time and money in the successful operation of an extension education system."

The Survey

Because of this importance attached to the selection of effective extension workers, a study was carried out in 1968 to determine which characteristics in extension workers in the West Indies are associated with effective job performance. It was thought that the findings from such a study could assist extension administrators in their recruitment of new staff as well as in the re-development of in-service staff. In the region as a whole agricultural extension staff were required to perform (i) mainly advisory or educational functions, (ii) mainly service functions, or (iii) a combination of these two functions. All three typologies were to be found in Jamaica during the planning phase of the study. In the Agricultural Extension Department of the Ministry of Agriculture and Lands, "Advisory" officers were required to perform primarily educational functions whereas "Development" officers were concerned mainly with service and regulatory duties. In the two Land Authorities then in existence, extension officers were required to perform both educational and service functions. The study was therefore based in Jamaica as being representative of the extension situation in the West Indies.

The research sample consisted of all extension officers who had been employed in that capacity for a minimum of two years, at the time of the survey, with the Department of Agricultural Extension of the Ministry of Agriculture and Lands. Thirty advisory officers and fifty-two development officers of the Extension Department met these criteria. In addition, the seventeen extension officers employed with one of the Land Authorities, all of whom met the tenure criterion, were included in the sample. The research sample thus totalled ninety-nine. The personal interview method was used for data collection.

The dependent variable in the study was job performance or professional effectiveness of extension workers. The ratings of relevant qualified persons were used to measure job performance, viz. supervisors' ratings, peer ratings, and the rating by farmers' leaders in the extension officer's district. In addition supervisors were required to rank extension officers in each of the three groups. Because of very high and statistically significant correlations of supervisors overall rating with (i) farmers' overall rating ($r = .76$, $p = .01$), peer nomination ($r = .52$, $p = .01$), and (iii) supervisors' ranking of subjects ($tau = .93$, $p = .00003$; $tau = .74$, $p = .0002$; and $tau = .85$, $p = .00003$ for advisory, development and land authority extension officers respectively), supervisors' overall rating was adopted as the best single, most valid measure of the performance of extension officers.

There are basically three occasions in which administrators need information about extension officers to help them arrive at decisions. The first is at the time of recruitment, when this information is needed to aid in the selection of the best from among candidates. There is usually available to selectors at this time such background information about applicants as education and previous experiences. Information about extension workers is also required for decision-making when there is need to re-deploy or transfer in-service officers. At this time administrators also have at their disposal information concerning officers' experiences and practices while in service, e.g. in-service training courses attended, years of tenure and membership in community organisations. Thirdly, at periods of staff review for purposes of promotion information is needed on which to base an evaluation of each officer. It is generally the practice to base such decisions on reports by supervisors.

It is also possible that self-evaluation by extension officers could provide some useful information to administrators. Furthermore, there are personality variables such as attitudes and the degree of openness or closedness of the mind which may be measured either before recruitment or during an officer's tenure, and which may be useful predictors of performance.

Taking all these into consideration it was decided to categorise the independent variables of the study into five groups: pre-service background variables, in-service background variables, personality variables, supervisor-rated variables and self-rated variables. The findings of the study are briefly discussed under these headings.

Pre-Service Background Variables

Education: Two levels of agricultural education were encountered among the research sample: graduates of the Jamaica School of Agriculture and non-graduates of the School. Among advisory and development officers the number on non-graduates

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1 Fred P. Frutchey, "The Development of an Aptitude Test for the Selection of County Agricultural Agents". USDA Division of Extension Research and Training mimeograph, 1965, p. 3.

was relatively small (2 out of 30 and 5 out of 52 respectively) Among the Land Authority group there were 9 graduates and 8 non-graduates of the School.

The very skewed distribution by education among advisory and development officers makes a valid interpretation of discrimination on job performance within these groups extremely difficult. The more even distribution among Land Authority officers makes an interpretation more feasible. This should be borne in mind in considering the following interpretation of the data.

Correlation analysis of the data showed that among advisory and development officers there was practically no relationship between job performance and level of education ($r = .02$ and $r = .06$ respectively). Among Land Authority officers, however, there was a correlation of .52 between job performance and education, and this was statistically significant at the .03 level. It may therefore be concluded that among extension workers in Jamaica there is the tendency for graduates of the Jamaica School of Agriculture to perform better than non-graduates. However, it is necessary to note that there are some glaring individual exceptions to this general tendency.

Work Experience: Kelsey and Hearne (1963) reported on research results in the United States and enlightened experience which suggested that experiences such as farm background, teaching, and work in related fields all had value in relation to the predictability of job performance.

Analysis of variance tests showed no significant difference on job performance between extension workers who had no prior work experience, those who had prior teaching experience and those who had experience in other fields ($p = .87, .94$ and .24 for advisory, development and land authority officers respectively). In accordance with the suggestion that "even though a result is not significant, estimating whether or not a fairly high degree of association may in fact be present gives a clue to the experimenter", Omega squared ($\Omega^2$) values were computed for all groups. These showed that the proportion of variability in job performance that may be attributed to no experience, teaching experience or other prior experience is zero for advisory officers, zero for development officers and 28 per cent for land authority officers. Among the land authority officers the highest mean job performance score (4.25 from a possible maximum of 5.00) was obtained by the group with no prior job experience. Those with prior experience other than teaching were next with a mean of 3.36, while those with prior teaching experience had the lowest group mean of 3.00. This suggested a negative relationship between teaching experience and job performance under conditions such as existed on the land authority.

The estimated proportion of variability of job performance which could be accounted for by differences in prior experience in extension related fields (e.g. work as an Instructor with the Jamaica Agricultural Society) was found to be zero for advisory officers, 2 per cent for development officers and 10 per cent for land authority officers.

Among development officers those with no prior experience, as had already been determined, had the highest group mean or 4.25. The group mean for those who had prior experience in extension related fields was next highest, 3.60, while those with prior experience in other areas had a group mean of 3.12. There was thus an indication that among officers with prior work experiences, those with experience in extension related fields tended to perform better than the others, but less well than officers with no prior experience.

4-H Experience: Duncan1 reported a quite consistent relationship between job performance and prior 4-H participation by agricultural extension agents in Wisconsin. The Jamaica study revealed very low associations between 4-H experience and job performance of extension workers in that country, but the trend was similar to that found among Wisconsin agents. With advisory and development officers the correlation coefficients were -.06 and -.16 respectively. With land authority officers the correlation was practically zero (i.e. .01).

Rural Background: Onyango2 as well as Kelsey and Herne3 suggest that farm or rural background should have value in predicting job performance among extension workers. In the study, subjects were classified into four categories on a rural-urban continuum according to the location of their place of residence up to age ten. The categories were, in descending order of scored value, isolated farm, village or small rural town, large rural town (i.e. capital of a parish), and city.

Correlation analysis disclosed that among advisory officers association of childhood residential location with job performance was very nearly zero. With development officers there was a very

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low positive correlation of .10 ($p = .46$), and with land authority officers a positive $r$ of .21 ($p = .42$) was observed. The findings thus indicated a weak tendency, particularly among land authority staff, for job performance to be positively correlated with rural background.

In-Service Background Variables

Tenure: Among development officers there was found a statistically significant relationship of .42 ($p = .01$) between job performance and the number of consecutive years of extension work an officer had had in his particular organization (i.e. the extension department). Positive relationships were also revealed between job performance and tenure among advisory officers ($r = .28$) and land authority officers ($r = .22$), but these were not significant at the .05 level. The data therefore showed that among extension agents there is a tendency for those with longer tenure to be rated among the high job performers. This trend is most pronounced among land authority officers.

Extension Courses: All advisory officers had received in-service courses in extension. There were some who had been exposed to extension courses from other sources, e.g. at the Jamaica School of Agriculture and abroad. An analysis of variance test of the data, using exposure to one source and exposure to more than one source as the two categories of the independent variable, showed a .22 significance level of the $F$-ratio with an $W$ of .01.

Similar analysis of variance tests were carried out for development and land authority officers, with no courses in extension as a third category of the independent variable. Among development officers the significance level of the computed $f$-ratio was .15, with an $W$ of .03 indicating a low predictability of performance on the basis of exposure to extension courses. A similar low association was revealed between the variables among land authority officers. The significance level of the $F$-ratio was .28 and the estimated $W^2$ was .04. There was thus found to be a consistently low but positive association (as determined by group means) between job-performance and exposure to extension courses.

Identification with the Group: It was felt that the more an individual identified himself with the community, the greater his chance of gaining the confidence and cooperation of his clients and of his influencing their behaviour. Furthermore, the greater his sense of belonging to the community the more committed he is apt to feel toward the development of the community. It was therefore hypothesised that there is a positive relationship between identification with the group and job performance.

The data showed no significant relationship between a subject’s job performance and his stated feeling of identification with the extension community for which he was responsible. The relationship was zero for land authority officers. However, among both advisory ($r = .14$) and development officers ($r = .18$) the figures suggest a tendency for high identification with the group to be associated with high job-performance.

Community Membership and Participation: An individual’s membership in non-professional community organisations and the frequency of his participation in the functions of these organisations are regarded as indications of his sense of belonging to the community. A score for membership and participation in community organisations was developed for each subject. Among none of the groups was a statistically significant relationship found between this variable and job-performance. However, the data for development officers ($r = .22$) and advisory officers ($r = .11$) indicated a tendency for high job-performance to be associated with high membership and participation scores. Among land authority officers high participation in community organisations tended to be associated with low job-performance. This finding is contrary to expectations and may reflect that, under the intensive system operating in the land authority, concentration on any activity, other than the specific projects of the authority, tends to detract from a subject’s level of performance.

Self-Improvement: This variable was taken to be the extent to which an individual makes positive efforts to pursue activities which will improve his professional and general proficiency, i.e. increase his level of knowledge and skills in matters relating to agricultural extension or any other field. Each subject was awarded a score based on his reading habits, subscriptions to periodicals, correspondence courses, and other organised classes followed. It was felt that those extension workers who demonstrated qualities of being continuing learners would also possess high achievement motivation. Since their profession provides them with an avenue for achievement, continuing learners or those scoring high on self-improvement were expected to be among the high scorers on job-performance.

This expectation was realised among development officers. A positive correlation of .38 ($p = .01$) was exhibited between self-improvement score and job-performance score among these officers. Among advisory officers there was shown a weak, statistically non-significant negative correlation of .12.

The difference in results obtained for advisory and development officers may be explained by the training policy of the Department of Agricultural Extension at the time. All advisory officers re-
ceived induction training which included extension and agricultural subject-matter areas. They also received regular in-service training, at least once a year. In addition, advisory officers were required to conduct residential training courses for groups of farmers from their area at various times during the year. The combined result of all these was to force the advisory officer to be a continuing learner, at least as far as his profession was concerned, and this therefore tended to obliterate the effects of individual differences in self-improvement.

Among the development officers, however, no induction courses were prescribed, there were no in-service training programmes, and there was no need to keep abreast of developments in order to conduct training programmes for farmers. The result was that individual differences became manifest, as evidenced by the significant relationship between job-performance and self-improvement.

Still a different situation existed with the land authority officers. The findings (r = -0.12) indicated that, as with community participation and identification with the group, any activity which might cause an officer to stray from the specific, intensely conducted projects of the land authority tended to detract from the quality of his job-performance.

Thus, in summary, high scorers on self-improvement among development officers were rated high on job-performance, among advisory officers there was no relationship, and with development officers there was a tendency for actively continuing learners to be rated low on job-performance.

Orientation to Extension as a Career: A score was awarded for this variable on the basis of subject's responses to a four-item question. Only among land authority officers was a relationship indicated between the variables i.e. r = 0.42, p = .09. For both advisory and development officers the observed correlation was so low as could be considered zero. These relationships are probably attributable to the poor morale which existed among advisory and development officers at the time of the survey, and the relatively higher morale exhibited among the land authority staff. Advisory and development staff were very dissatisfied with work conditions, primarily those relating to salary and opportunities for promotion. By association, therefore, they were disenchanted with extension as a career. When such a situation exists both high and low performers are liable to express a low opinion on extension as a career, hence there is not likely to be any association between performance rating and score on extension as a career.

One more indication of the differences in level of morale among the groups is worth mentioning.

In an organisation in which morale is high there is likely to be free and frequent communication of ideas, views and opinions between staff of all ranks. In such an organisation there is likely to be a high degree of congruence of opinions and professional beliefs between supervisors and workers. In the land authority, the extension officers' self-rating of their performance shows a high degree of congruence with their supervisor's rating of their performance (r = .71, p = .01). On the other hand, in an organisation in which morale is low it should be expected that either individuals keep to themselves and intra-organisational communication ceases or exists at a very low level, or if communication continues there is likely to be a high degree of conflict. In either event the probable result is a lack of congruence between the opinions and beliefs of administration and staff. Among advisory officers the correlation between supervisor's ratings of officers and officers' self-ratings of their performance was for all practical purposes zero. Among development officers the relationship was not very much better (r = .25, p = .08).

Personality Variables

Dogmatism, belief in the cause, concern with power and status, and attitude toward farmers were the four personality variables examined. Dogmatism was operationalised as the degree of openness or closedness of an individual's belief system and measured by the individual's score on the Rokeach Dogmatism Scale, Form E. Belief in the cause was taken to mean the extent to which an individual holds the viewpoint that in order for life to be meaningful one must identify with or believe in some cause. Reference to 'the cause' is non-specific.

Concern with power and status was regarded as the extent to which an individual dogmatically holds the viewpoint that it is important to acquire power and attain positions of high status in life. Both this variable and belief in the cause are sub-dimensions of the individual belief system as measured by the Rokeach Dogmatism Scale, and were measured by the responses to clusters of statements specifically designed by Rokeach and his associates to measure these dimensions of the belief system.

Attitude toward farmers was taken as the extent to which an individual holds low and negative or high and positive beliefs and feelings about farmers in general. This variable was measured by the scores obtained on an 18-item attitude scale specifically developed by the author for this study.

One more indication of the differences in level of morale among the groups is worth mentioning.

Dogmatism: It was thought that the functions of an advisory officer were more personality-influenced and those of the development officer more role-influenced. It was therefore predicted that there would be a negative relationship between job performance and dogmatism among advisory officers, and no relationship between these variables among development officers. The data supported these predictions. Among advisory officers there was found a negative although statistically non-significant correlation ($r = -0.24, p = 0.20$), whereas with development officers the correlation was practically zero ($r = -0.05, p = 0.74$). Among land authority officers, as with advisory officers, there was a negative but statistically non-significant correlation ($r = -0.33, p = 0.20$). The data thus revealed that among both advisory and land authority staff there was a tendency for the less dogmatic, more open-minded officers to be rated high on job performance, whereas with development officers there was no relationship between the variables.

Belief in the Cause: It was predicted that there would be a positive relationship for advisory officers and no relationship among development officers between this variable and job performance. The data fully supported this prediction viz, for advisory officers the findings were $r = 0.44, p = 0.01$, and for development officers $r = 0.01, p = 0.95$. Land authority officers also showed a tendency for those with high belief in the cause to be also high job-performers, but the findings were not statistically significant ($r = 0.35, p = 0.17$).

Concern with Power and Status: The data obtained from the study revealed a tendency for development officers who are greatly concerned with the acquisition and use of power to be among the highly rated job-performers ($r = 0.19$). Among advisory officers and land authority staff the reverse trend was observed ($r = -0.12$ in both cases). However, none of these correlations was statistically significant ($r = 0.05$).

Attitude towards Farmers: It was advanced that an extension officer's attitude towards farmers in general would influence the quality of his interaction with his clients and hence the level of his performance. It was therefore hypothesised that among extension workers in Jamaica, attitude towards farmers and job-performance was positively related. The data revealed consistently positive, but relatively low and statistically non-significant correlations for all three groups: for both advisory and development officers $r = 0.11$ and for land authority officers $r = 0.37$.

**Supervisor-Rated Variables**

In addition to giving an overall rating of each individual officer, supervisors were required to rate each subject on initiative, reliability, emotional balance, communication skill, cooperation with other workers in the field, technical skill and leadership influence in the community. These were all factors which a review of literature indicated had been found to be associated with job performance of change agents or educators in various parts of the world. Table 1 summarises the findings from the data relation to these variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Advisory Officers (N = 30)</th>
<th>Development Officers (N = 52)</th>
<th>Land Authority Officers (N = 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative</td>
<td>0.69**</td>
<td>0.73**</td>
<td>0.91**</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.91**</td>
<td>0.81**</td>
<td>0.90**</td>
</tr>
<tr>
<td>Emotional Balance</td>
<td>0.84**</td>
<td>0.75**</td>
<td>0.90**</td>
</tr>
<tr>
<td>Communication Skill</td>
<td>0.81**</td>
<td>0.79**</td>
<td>0.92**</td>
</tr>
<tr>
<td>Cooperation</td>
<td>0.65**</td>
<td>0.72**</td>
<td>0.62**</td>
</tr>
<tr>
<td>Technical Skill</td>
<td>0.56**</td>
<td>0.54**</td>
<td>0.76**</td>
</tr>
<tr>
<td>Leadership Influence</td>
<td>0.55**</td>
<td>0.61**</td>
<td>0.88**</td>
</tr>
</tbody>
</table>

Note: Correlations are expressed as Pearsonian r.

**Indicates statistical significance at or beyond the .01 level.

The table shows that consistently high and statistically significant correlations were found between job-performance and supervisor-rated variables. This could be interpreted to mean that extension supervisors place much emphasis on the value of these variables for bringing about effective job-performance among staff. Alternatively, it could be taken to mean that supervisors form an impression of individual staff members and the 'halo' effect operates in their rating of these subjects on individual variables. The previously discussed high agreement between supervisors' rating and their ranking of subjects leads the investigator to reject the latter alternative interpretation in favour of the former.

**Self-Rated Variables**

Confidence in oneself generates the confidence of others in oneself if such self-confidence is soundly based. However, if this self-confidence is falsely asserted, i.e. if it is based on false values, the result is likely to be loss of confidence by others in the individual. In the study, self-confidence was defined as the degree to which an individual believes that his professional training, background, and level of knowledge and skills in important subject-matter areas qualify him to perform adequately as an extension officer. Each subject was required to rate his own performance,
using his perception of the level of performance of other officers as his criterion. He was also required to comment upon the adequacy of his training to permit him to perform a satisfactory job, as well as to rate his felt need for training in such areas as public speaking, the use of extension teaching aids and agricultural subject-matter areas. Scores were assigned for each response and a composite self-confidence score determined for each subject.

The data showed a statistically significant (at the .01 level) correlation of .38 between performance and self-confidence among development officers. No significant relationships were observed between the variables among advisory officers (r = .08) or land authority officers (r = .20). Thus, among development officers those with a high degree of self-confidence were more likely to be among the most effective, whereas with land authority officers there was a tendency towards the reverse.

**SUMMARY AND IMPLICATIONS**

Three groups of agricultural extension officers were studied in Jamaica: advisory officers who performed purely educational work, development officers who carried out service and regulatory functions, and land authority officers who were required to perform both these functions. Taken together these groups were considered to be representative of the tasks performed by the conditions surrounding extension officers in Jamaica in particular and the West Indies in general. The purpose of the study was to determine the factors associated with effective job-performance among these workers so as to provide some clues to extension administrators in their recruitment and deployment of staff.

Among advisory officers statistically significant and positive relationships were found between performance and belief in the cause, initiative, reliability, emotional balance, technical skill, leadership influence, communication skill and cooperation. No relationship was found between self-confidence and performance. Although the strength of the relationships were not statistically significant, the data indicated that with advisory officers effective performers tended to have a favourable attitude towards farmers, to be identified with their extension community and to participate in non-professional community organisations within that community and to have open rather than closed minds and tended not to be unduly concerned with the acquisition of power or the attainment of positions of high status in life. Those with longer service in extension also tended to be among the better performers.

The development officers who were rated as effective performers were found to have high levels of initiative, reliability, self-improvement (i.e., continued learning), emotional balance, technical skill, communication skill, co-operation, leadership influence in the community, and to have longer tenure in the organisation (all statistically significant relationships). The data also indicated that efficient development officers tended towards being positive in their attitude towards farmers, identified with their extension community and participated in community organisation, had a high concern for acquiring power and high status, being older, and had a farm or rural rather than an urban background.

The highly rated land authority extension officers were found more likely to be graduates of the Jamaica School of Agriculture than non-graduates, and were also rated high on initiative, reliability, emotional balance, technical skill, communication skill, cooperation and leadership influence. There was also a tendency for these officers to have a high sense of belief in the cause, favourable attitudes towards farmers, long tenure, a farm or rural background, an open mind and to have no prior work experience. They tended not to be overly concerned with power and status, neither to participate in community organisations nor in self-improvement efforts and they expressed inadequacy of their training for the effective performance of their jobs.

The results of the study suggest to the extension administrator the possibility of devising recruitment procedures which necessitate obtaining information on background factors of job applicants. Such information could be used in assessing an applicant's potential performance in extension. Simple application forms could be designed for obtaining the necessary information. Further, instead of, or in addition to, the character recommendations now required of all applicants, simple tests could be devised for mapping the personality characteristics which were found in this study to be correlated with performance. These tests could be administered at the time of interviewing applicants. However, because of the present shortage of recruits to extension in Jamaica and the West Indies generally, this procedure may have to be used not for the selection of the best from among many, but for the best placement of those who are attracted to the extension services.

The results also give indications on which to base training programmes. Within the group of self-rated variables, for example, it was found that public speaking, writing and the use of teaching aids tended to be related with performance among land authority officers. This would suggest that for officers under similar conditions of service these subjects should be included in in-service training programmes.

Another administrative implication is the possibility of standardising the method of assessing staff. Since supervisors appear to take a common