The Social Structure of the Agricultural Extension Service in the Western Province of Kenya*

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In his study of Bulambia Division in the Rungwe District of Tanzania, Bonno Thoden van Velzen found that the social structure of administration was itself a constraint on socialist and economic development. Government employees were seen by peasants and by themselves as a highly cohesive, mutually interdependent élite group. They had very frequent social contact with one another, apparently without regard to rank or speciality, but interacted much less often with the local peasants. Maintaining a relatively high standard of living and speaking Swahili among themselves, they had a paternalistic attitude toward peasants and were disdainful of doing any manual work. Those locals with whom government staff did have social contact were almost invariably rich farmers. Staff built up a symbiotic relationship with these rich peasants, which involved the latter providing land, food and assistance on government projects to the staff. They in their turn helped the well-off farmers with access to government aid, supported their dominance of local political institutions, and assisted in their conflicts with other peasants. The consequences of this social system were such that staff were themselves prime examples of inegalitarian behaviour and, in their support for the rich peasants, were reinforcing and accentuating inequality within the rural society. Their isolation from poorer peasants was such that they seemed to learn little from them and to provide them with relatively little in the way of direct positive benefits. The tension between rich and poorer peasants was such that we may infer that diffusion of innovations from the first to the second was limited.[1]

For convenience we can summarize Thoden van Velzen's argument in three propositions: (1) The distribution of extension benefits is skewed in favour of the wealthier farmers. (2) Part of the reason for the inegalitarian administration of these programmes is that the civil servants responsible for agricultural extension are part of an isolated, cohesive, social élite and that this involves them in a social class alliance and exchange of benefits with the

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1 H. U. E. Thoden van Velzen, "Staff, Kulak and Peasant", in L. R. Cliffe, J. S. Coleman and M. R. Doornbos (eds.), *Political Penetration in East Africa* (Nairobi: Oxford University Press, forthcoming).

richer farmers. (3) This favouritism accentuates rural inequality and may prevent the maximum possible economic growth.

Thoden van Velzen's work seems to us to be provocative and important. For this reason we propose to examine his propositions as they might apply to the administration of the extension services of the Ministry of Agriculture in the Western Province of Kenya. The data analysed here are drawn from two sources. The first is 213 interviews we conducted with junior extension staff and 25 interviews with senior staff of the Ministry in all of Western Province.[2] The former represent a 40 per cent random sample of all junior staff in the Province.[3] The latter comprise 85 per cent of all senior staff in the Province, other than those assigned to the Provincial headquarters of the Ministry. The excluded senior staff were either in the Mechanization Division, which is not examined here, or were very new to the Province at the time of interviewing. The second set of data examined here is drawn from a large survey of small farmers which the Agricultural Statistics Section of the Ministry of Finance and Economic Planning conducted during the 1970 long rains.[4] The survey gives us detailed information on 637 randomly selected farmers in Western Province.[5]

I. THE DISTRIBUTION OF EXTENSION BENEFITS

From an analysis of the Agricultural Statistics data we can gain an accurate picture of the distribution of various easily identified farm characteristics. The growing of hybrid maize is one of these. Maize is the basic food for the great majority of people in Western Province, and hybrid maize is a relatively recent but well-established agricultural innovation in the area. The package of hybrid seed and fertilizers was introduced in the Province in 1963, and hybrid maize (with or without chemical fertilizers) is now grown by 48 per cent of the farmers there. The return on the use of the hybrid and fertilizer package varies, but it is not likely to be less than a 100 per cent net profit over

2 These data were collected during 1970 and early 1971 while I was a Junior Research Fellow of the Institute for Development Studies of the University of Nairobi. The research project out of which these data are drawn has been supported generously by the Institute. I also would like to express my appreciation for the invaluable research assistance of Bernard Chahilu, Edwin A. Luchemo, Jack K. Tumwa and Humphries W'Opindi. Thanks are also due to Niels Roling and Peter Hopcraft for comments on earlier drafts of this paper.

3 Details of the sampling strategy followed may be found in David K. Leonard, Humphries W'Opindi, Edwin A. Luchemo and Jack K. Tumwa, "The Work Performance of Junior Agricultural Extension Staff in Western Province: Basic Tables" (Nairobi: Institute for Development Studies, University of Nairobi, 1971), p. 1. Note too that the settlement schemes in Kakamega and Bungoma were not studied and that on the basis of random selection, the Northern Division of Busia District did not fall in the sample.

4 We are extremely grateful to the Ministry for making these data available to us. The analysis and interpretation of these data are our complete responsibility, and the views expressed should not be interpreted as reflecting those of the Agricultural Statistics Section nor of the Kenya Government.

5 This number of 637 excludes interviews conducted on settlement schemes and in the Northern Division of Busia District. Neither of these had been included in our initial study of extension workers, and they were excluded here so as to give us comparable information between the two sets of material.

a farmer's extra cash investment. Thus, a farmer is likely to have accepted hybrid maize if he has been innovative over the last few years. Nonetheless, the use of hybrid seed varies from an estimated high of 80 per cent of the farms in Kimilili (Bungoma) and Lurambi (Kakamega) Divisions, where land holdings are large and maize is a major market crop, to a low of 4 per cent in the Central and Southern Divisions of Busia, where soil and climate are less favourable and where cassava competes with maize as a food staple.

Different cash producing farm enterprises are appropriate to each of the ecological zones in the Province, and the profitability of these enterprises varies considerably. Grade dairy cows have a very high return on investment, whereas the profitability of cotton is relatively low. The prices on the robusta type of coffee (but not the arabica) are so low now that many owners of these trees do not consider it profitable to care for them or to harvest the berries. Nonetheless, ownership of one of these farm enterprises does indicate that the farmer has had investment funds available at some point in the past and that he is now or was once deriving a cash income from his produce. This marks him as being of above average wealth in what is still a predominantly subsistence economy. Farmers with such cash producing farm enterprises constitute 15 per cent of the total in Western Province.

We can define a progressive farmer as one who both uses hybrid maize and has one or more cash producing farm enterprises. Only 10 per cent of the farmers in Western Province meet these two criteria. Our impression is that this definition approximates the minimum behaviour that agricultural staff in Western Province expect of what they call a progressive farmer. Such a farmer probably has been innovative over a fair period of time, has access to small amounts of capital, and is well-to-do relative to his neighbours. Conversely, we will define a man who has neither hybrid maize nor a cash enterprise as a non-innovator. In Western Province, 47 per cent of the farmers fall into this category. For these farmers the adoption of new farming methods is not a habit and access to investment capital is often a problem.

Table 1—THE DISTRIBUTION OF AGRICULTURAL ENTERPRISES AMONG FARMS IN WESTERN PROVINCE

	Have Cash Farm Enterprise	No Cash Farm Enterprise	Totals
Have Hybrid Maize	10%	38%	48%
Have No Hybrid Maize	5%	47%	52%
Totals	15%	85%	

Based on a weighted sample of 637 farms. Excludes Northern Division, Busia and the settlement schemes in Bungoma and Kakamega Districts. Data collected by the Agricultural Statistics Section of the Ministry of Finance and Economic Planning during the 1970 long rains.

A cash farm enterprise is defined as one of the following: grade cattle, coffee, cotton or tea.

Table 2—THE CATTLE HOLDINGS OF NON-INNOVATIVE, MIDDLE AND PROGRESSIVE FARMERS IN WESTERN PROVINCE

Number of Cattle	Non-innovative Farmers: Neither cash crop nor hybrid maize	Middle Farmers: Cash crop but no hybrid maize	Middle Farmers: Hybrid maize but no cash crop	Progressive Farmers: Hybrid maize and a cash crop	All Farmers
0	198 (63%)	32 (67%)	77 (35%)	4 (8%)	311 (49%)
1–4	56 (18%)	7 (14%)	54 (24%)	19 (37%)	136 (21%)
5 or more	58 (19%)	9 (19%)	91 (41%)	29 (56%)	187 (30%)
TOTALS	312 (100%)	48 (100%)	222 (100%)	52 (100%)	634 (100%)

Of course, it does not follow automatically from a farmer's being progressive that he is relatively rich. For this reason the Agricultural Statistics Section's survey data on cattle holdings is particularly interesting. In the past cattle were overwhelmingly the symbol and substance of wealth in rural Kenya. Although this traditional attachment to cattle has diminished in Western Province, a Luhya's wealth is still likely to be reflected in his livestock holdings. Thus, it is interesting to note that those who grow hybrid maize in Western Province are twice as likely to have five or more cattle as those who do not grow it. (For the purposes of this exercise one grade cow is counted as equal to two local cattle, the difference in their market value.) Furthermore, those whom we have defined as progressive farmers are one-eighth as likely to have no cattle as those whom we have labelled non-innovative. (See Table 2.)

Thus we see a fairly clear relationship between progressiveness and wealth. The only exception is that small category of farmers who have adopted a cash crop but not hybrid maize. These are very much like the poor farmers in their livestock wealth. The bulk of farmers in this category raise cotton in Busia. Southern Busia is almost devoid of livestock because of tsetse fly. Furthermore, as cotton seed was provided free to the grower, until recently it was the one cash crop which did not require a capital investment to plant and hence was accessible to the poor. Unfortunately, cash investment was required for insecticides if the plant was to produce good yields, so many farmers in this category were disappointed by their harvest and remained poor.[6]

Having identified the proportions of farmers who can be called progressive and non-innovative, we now have a base line against which to compare the actual distribution of agricultural extension services. The basic technique of extension in Western Province is visits to individual farmers. On average, 2.9 days in an agent's five-day week will be spent on this activity.[7] In our interviews we asked each staff member who works in direct contact with farmers to name for us all the farmers to whom he had paid extension visits in the previous week. For each of these farmers we then inquired as to whether he grew hybrid maize and as to whether he had a cash farm enterprise. In the Province as a whole, the average extension agent spends 57 per cent of his visits with progressive farmers (who are 10 per cent of all farmers) and 6 per cent of his visits with non-innovative ones (47 per cent of the total). Thus extension attention is very greatly skewed in favour of the more progressive and wealthier farmers, exactly as Thoden van Velzen found in Rungwe, Tanzania. Furthermore, the concentration on progressive farmers is achieved at the expense of the non-innovative ones. Farmers who have either hybrid maize or a cash crop but not both are 43 per cent of the total and extension agents devote an average of 37 per cent of their visits to them.

6 I am grateful to my colleague W. Ouma Oyugi for this insight, which he gained during research in South Nyanza.

7 D. K. Leonard, "Organizational Structures for Productivity in Agricultural Extension", in D. K. Leonard (ed.), *Rural Administration in Kenya* (Nairobi: East African Literature Bureau, forthcoming).

A farmer in this middle category, who has shown some innovative drive, has about one-seventh the chance that a progressive farmer has of receiving an extension visit. But his odds are still 6.5 times those of a non-innovative farmer, who has 1/44th the chance of a progressive farmer. (See Fig. 1.)

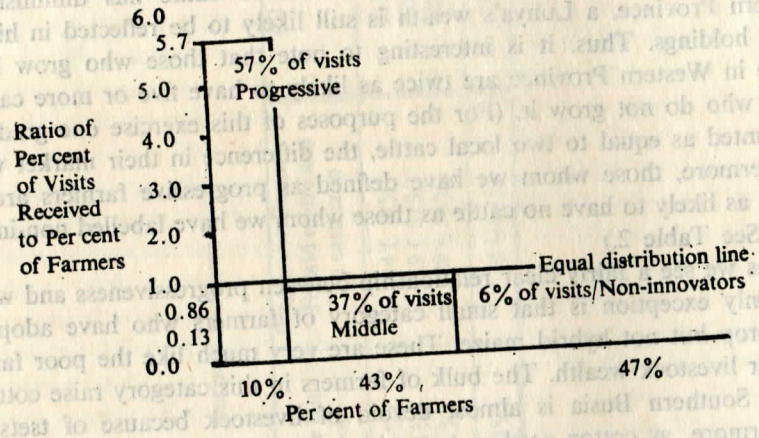

Figure 1—THE DISTRIBUTION OF AGRICULTURAL EXTENSION VISITS BETWEEN PROGRESSIVE, MIDDLE AND NON-INNOVATIVE FARMERS.

II. THE SOCIAL SYSTEMS OF THE AGRICULTURAL STAFF

We have accepted Thoden van Velzen's proposition that the distribution of extension benefits is skewed in favour of the more progressive and wealthier farmers. We now need to examine his proposition that this inegalitarian behaviour is partly caused by the fact that agricultural extension agents are part of an isolated, cohesive social élite. This requires that we begin with a detailed analysis of the social structure of the Ministry of Agriculture in Western Province.

Let us start with an outline of the formal structure of agricultural administration. (See Fig. 2.) At the district level, the Ministry is headed by a District Agricultural Officer (DAO). He is supported at the headquarters by several specialist personnel of both degree (Agricultural or Veterinary Officer) and diploma levels (Assistant Agricultural or Livestock Officer). In charge of each division is an Assistant Agricultural Officer (AAO), who is sometimes joined by a Livestock Officer (LO). At the divisional headquarters there are usually a few holders of certificates in agriculture (Agricultural Assistants—AAs) or veterinary medicine (Animal Health Assistants—AHAs). These AAs and AHAs will be performing specialist duties, such as processing IDA loans, farm planning, and organizing 4-K Clubs. Very occasionally these AAs and AHAs may be assisted by a Junior Agricultural Assistant (JAA) or Junior Animal Health Assistant (JAHA), who lack any formally recognized training in agriculture. Each location will have a team of extension workers, varying in size from seven to twenty-one. The agricultural part of this team will be headed by a

Location Agricultural Assistant (LAA) and will be comprised of AAs and JAAs. In addition, the Veterinary Division will be represented by one to seven AHAs and JAHAs. Most of this team will be assigned to specific sub-locations for general extension work, although the Animal Health personnel and one or two Agricultural ones may work on a speciality, such as coffee or cotton, over the entire location.

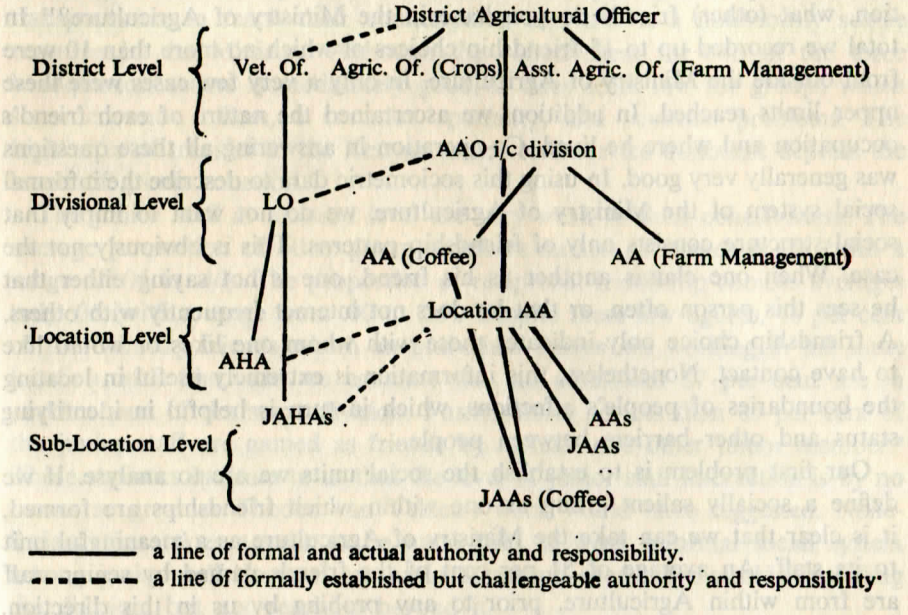

Fig. 2—AN EXAMPLE OF A 'TYPICAL' ORGANIZATION CHART FOR THE MINISTRY OF AGRICULTURE IN WESTERN PROVINCE.

The Animal Health personnel used to have an autonomous organization from that of the agriculture staff, although the basic characteristics of the two groups are quite similar. Rather than further complicate the following presentation with two parallel sets of statistics, we will exclude the junior veterinary staff from our analysis from here forward.

Following the generally accepted convention, we will term those staff who have degrees or diplomas senior staff and those who have certificates or no formal training junior staff. To state it another way, those whose title includes the word "Officer" are *senior staff* and those whose designation involves the word "Assistant" are *junior staff*. As a rule, junior staff work in or near their home area, while senior staff work outside it. In order to more easily discuss the AAs who are in charge of locations or on divisional duties (and who enjoy superior status and responsibility to the other junior staff) we will label them *senior AAs*.

So much for formal hierarchies. What then are the characteristics of the informal social system of the agricultural administration? Our main data for studying this question are the friendship choices of staff. At the end of each

interview, which was very much work oriented, we asked, "Now finally, we find that an extension agent's work is often helped or hindered by his personal relations with those around him. For this reason we would be grateful if you would name for us your friends whom you see regularly." Where the respondent was unclear, we stated that we were interested in his friends in this general geographical area and that our question included all types of friends. After this first query was answered, we probed with "Now, in addition, what (other) friends do you have in the Ministry of Agriculture?" In total we recorded up to 15 friendship choices of which no more than 10 were from outside the Ministry of Agriculture. In only a very few cases were these upper limits reached. In addition, we ascertained the nature of each friend's occupation and where he lived. Co-operation in answering all these questions was generally very good. In using this sociometric data to describe the informal social system of the Ministry of Agriculture, we do not want to imply that social structure consists only of friendship patterns. This is obviously not the case. When one claims another as his friend, one is not saying either that he sees this person often, or that he does not interact frequently with others. A friendship choice only indicates those with whom one likes or would like to have contact. Nonetheless, this information is extremely useful in locating the boundaries of people's affections, which in turn is helpful in identifying status and other barriers between people.

Our first problem is to establish the social units we are to analyse. If we define a socially salient group as one within which friendships are formed, it is clear that we can take the Ministry of Agriculture as a meaningful unit to its staff. An average of 51 per cent of the friends named by senior staff are from within Agriculture, prior to any probing by us in this direction. Junior staff named an average of 24 per cent, which indicates a less intense but still significant social involvement in the Ministry. For senior staff, an average of 37 per cent of their friends are in other government employment and only 12 per cent are not civil servants. Junior staff named an average of 35 per cent in other government employment and 41 per cent outside of the civil service. Thoden van Velzen's proposition that government employees are enmeshed in an almost exclusively civil servant social circuit is verified for the senior staff. Junior staff in Western Province are only predominately involved in government circles, however, and retain a significant number of contacts outside. One explanation for the difference between junior and senior staff in this regard is that the latter are more distant from their place of birth, and, more importantly, live in Government staff compounds.

The Ministry of Agriculture itself is not a single social unit. The senior staff at district headquarters tend to be a socially cohesive group, and this social system reaches out in a weak but distinct manner to include the senior staff in the divisions. Kerlinger suggests that we measure the cohesiveness of a group by the proportion of reciprocal friendship choices made out of the number possible.[8] On this measure the ratio among the headquarters staffs

8 Fred N. Kerlinger, *Foundations of Behavioural Research* (New York: Holt, Rinehart and Winston, 1964), p. 559.

of the three districts are .30, .33, and .17. The figures for the whole senior staff in these districts are .19, .13, and .06. Another way to measure the same phenomenon is to give the average proportion of other group members which individuals name as their friends. Here the headquarters' figures are .42, .50, and .30, while those for the full districts are .36, .30, and .16. The involvement of the divisional AAOs and LOs in a district-wide senior staff social system is clearly weak, although existent. This is not surprising as they would need transportation to reach their counterparts, and this is a notoriously scarce resource in the Ministry. Although the cohesiveness for two of the three headquarters teams is moderately good, it does seem low for groups which share common offices, a common speciality, and common problems. The high rates of transfer in the Kenyan senior civil service doubtless depress the levels of group cohesion.

The junior staff at location level are very weak in their cohesiveness. The average proportion of other group members named as friends is .26 (with a range of .06 to .46). The proportion of reciprocal friendship choices averages only .06 (with a range from .00 to .25). Despite these low figures, 46 per cent of the Ministry friends whom an individual names are working in the same location with him, and we estimate that an additional 27 per cent are in another part of the same division. Furthermore, no less than 85 per cent of the junior staff are named as friends by at least one other junior member.[9] These statistics indicate to us that the level of junior staff interaction is by no means as great as Thoden van Velzen's work would have suggested. Nonetheless, there does appear to be some kind of weak informal social system among junior staff, focused on the location and even more weakly including the division, but not reaching beyond it.

But do the senior and junior staff social systems overlap? If they do, they are certainly not cohesive, for only one officer (an AAO) made a reciprocal friendship choice with a junior staff member. If we include all of the senior staff in our analysis, the statistics show clearly that they do not belong to the junior staff social systems and vice versa. But we wish to argue that the Luhya, i.e., local members of senior staff are involved in the junior staff systems, weak as they are, and that the others are isolated from them. In order to make the point, let us compare the two groups of senior staff with the senior AAs, who are the junior staff with any comparable status and visibility. Table 3 shows how the Luhya senior staff are seen in ways very similar to the senior AAs while both are quite different from the non-Luhya senior staff. Table 4 takes the point further by demonstrating that Luhya senior staff themselves relate socially to their juniors much more than do their non-local colleagues. All of this means that Luhya members of senior staff, especially if they are stationed in a division, are often part of the divisional informal social system of the junior staff (although not quite as much as their senior AAs are). The other senior staff are isolated from their sub-

9 As our sampling unit was the location and not the division we only rarely interviewed all the staff in a division. This means that some staff may have had friends who would have named them but whom we missed.

Table 3—THE FREQUENCY WITH WHICH ONE IS NAMED A FRIEND BY JUNIOR STAFF

	Average Times Chosen	Number in Category
Non-Luhya Senior Staff	1.79	14
Luhya Senior Staff	4.48	11
Senior AAs	4.21	34
Other AAs	3.82	45
JAAs	2.16	89

Table 4—FREQUENCY WITH WHICH ONE NAMES NON-SENIOR AAS AND JAAS AS FRIENDS

	Average Number of Choices	Number in Category
Non-Luhya Senior Staff	.21	14
Luhya Senior Staff	1.27	11
Senior AAs	2.41	31

ordinates' informal networks. Thus for any one area there are two distinct social systems, a junior and a senior one, and usually only the Luhya senior staff enjoy the possibility of overlapping membership. On a divisional basis, it is clear that Thoden van Velzen's suggestion that the staff social system is strongly cohesive and undivided is not applicable to Western Province.

Having established their distinctness, let us now proceed to analyse the senior and junior staff systems separately. We might begin by asking what is the social status of the people with whom senior staff associate. The pattern is quite different between those stationed at the district headquarters and those in the divisions. Table 5 analyses the friends chosen outside of agriculture and presents the average per cent chosen at each status level. We see that district senior staff draw 83 per cent of their friends from people of equivalent status to themselves, in effect the highest status group in the area. Socially speaking, this makes them very isolated from the realities of their areas. The divisional staff name friends in this high level group only 49 per cent of the time. Nonetheless, this is far in excess of the 14 per cent or less

Table 5—AVERAGE PERCENTAGE OF FRIENDS CHOSEN FROM EACH STATUS CATEGORY

Position or Status Equivalent of Friends	Respondent		
	District Senior Staff	Divisional Senior Staff	All Senior Staff
District head of dept.	61%	13%	37%
Divisional head of dept. or district aide	22	36	29
Chiefs, teachers	10	20	15
Lesser employees, traders, farmers	7	30	19

named in this category by senior AAs, and supports the hypothesis that when divisional senior staff do interact with farmers, the farmers are almost certainly rich ones.

Turning again to the junior staff social systems, we have already established that these groups are not very cohesive or intense, drawing only 24 per cent of their members' friendship choices. The social units seem concentrated on the location although they involve divisional level interaction as well. Approximately 73 per cent of the friends that junior staff name in the Ministry live within their home division and 46 per cent are members of their location work group. Junior staff friendships with non-Ministry people are even less cosmopolitan. Forty-five per cent of these live in the extension agent's home sub-location, and 30 per cent more are from within his location.

What is the social status of the friends with whom the junior staff interact socially, and, by inference, what social status do they assign to themselves? We asked respondents to tell us what kind of work each friend does. On this basis each non-Ministry friend was assigned to one of four predetermined status categories and the percentage of friends in these categories was calculated for each respondent.[10] Table 6 defines the four categories and gives the average per cent of friends in each one. From these figures it seems clear

Table 6—THE AVERAGE PERCENTAGE OF NON-MINISTRY FRIENDS NAMED BY JUNIOR STAFF IN VARIOUS STATUS CATEGORIES

Percentage	Category	Exemplary Definition
7	High	Chiefs, headmasters, county councillors, big businessmen, other relatively well-to-do.
39	Upper Middle	School teachers, sub-chiefs, moderate businessmen, big farmers, middle salaried group.
33	Middle	Small businessmen, traders, moderate farmers, lesser employed.
20	Low	Average farmers.

that junior staff see themselves as part of the rural élite, but in the lower or middle part of that group. The data confirm our impression that they belong to a status a bit lower than that of a primary school teacher. As the Western Province progressive farmer fits more into the middle status group, the agricultural extension agent is probably more often his social equal rather than his status superior, contrary to what is suggested by Thoden van Velzen's analysis. Nonetheless, these data do support his assertion that staff associate very largely with the richer peasants in their social contacts with farmers. The

10 My Luhya research assistants and I established these categories on the basis of our perceptions of status differentia in Western Province. They are judgemental only and are open to criticism, even though we believe them to be basically accurate. The main problem with the classification system concerns the placement of farmers who are not running large commercial enterprises. Generally, what we have here termed the progressive farmers would have been put in the middle category and all others in the low one. Unfortunately, there were doubtless errors of judgement here when the coding was done in the interview. We believe that this problem was not serious enough to invalidate the results.

approximately 90 per cent of the rural population which falls into the Low Status category receives only 20 per cent of the friendship choices.

Is it then true that agricultural extension staff visit progressive farmers because these are their acquaintances or are the people most like themselves socially? Our limited evidence indicates that the answer is no. There is no positive correlation between the percentages of an agent's high and upper middle status friends and the proportion of his visits which he devotes to progressive farmers ($r = -.12$, Sig.$= .08$). If anything, there is a slight tendency for those who name the smallest percentage of friends in the high and upper middle groups to give a larger proportion of their time to progressive farmers than do the staff who identify more with the élite. Nor does it seem credible to argue, as Thoden van Velzen does, that extension services are being provided to progressive farmers in Western Province as a reward for their help in official and private affairs. This exchange of benefits does occur in Kenya, but it will not serve as a dominant explanatory variable.[11] As can be seen in Table 7, those services that are most desirable to progressive farmers—loans and veterinary medicine—are better distributed among the classes of farmers than are the other types of extension visits. We will discuss the distribution of veterinary services in greater detail later. It is sufficient to note here that although progressives receive an average of 57 per cent of all extension visits, only 39 per cent of the loan investigations are made on their farms. If the coveted extension services were basically being given to those who would "pay" for them, the distribution of items such as loan investigations would show an even greater skew in favour of the wealthier farmers than do the less desired services. Since the opposite is the case, we conclude that "pay-offs" do not exert a major influence on the total pattern of extension visits. Other, more powerful, factors appear to be at work.

Table 7—AVERAGE PERCENTAGE OF EXTENSION VISITS TO PROGRESSIVE AND POOR FARMERS BY AGENTS WITH DIFFERING FUNCTIONS

Function:	Average % to Progressive Farmers	Average % to Non-innovative Farmers
General (88)	60	3
Coffee (10)	91	0
Animal Husbandry (7)	57	0
Supervisory (13)	52	4
IDA Loans (19)	39	5
Cotton (9)	57	19
Veterinary (32)	51	17
All (178)	57	6

11 Mr. D. N. Olewe, now of the Institute for Development Studies, University of Nairobi, has some information on such trading of favours in the co-operatives in the Kisumu area.

III. THE PROGRESSIVE FARMER STRATEGY

What then are the causes of the emphasis that is placed on progressive farmers in extension work? The most important factor is the strategy which agents have consciously and openly adopted for their work. In a Tanzania-wide opinion survey of farmer contact extension agents, R. G. Saylor found that 87 per cent agree with the statement: "If I worked most of the time with a few of the better farmers, I would get better results." This opinion was expressed despite the fact that it runs contrary to the official policy of the Tanzanian Ministry of Agriculture, Food and Co-operatives.[12] That junior staff should support an hierarchically disapproved strategy so openly indicates that they believe there are strong, legitimate arguments behind it. The progressive farmer strategy enjoys deep support among extension professionals at all levels in East Africa and is an important determinant of their behaviour.[13]

Nonetheless, it may be that the strategy is mistaken. To investigate this possibility, we need to examine the major justifications for the progressive farmer approach. There are two major sets of supporting arguments. The first arises out of the diffusion of innovations school. Progressive farmers are not only those most receptive to agricultural change; they also represent the informal leadership of their communities on technological matters. Innovations proved on their farms will diffuse to the other farmers in the area through a natural process of social communication. Therefore, extension agent concentration upon progressive farmers simply represents a highly efficient technique for eventually reaching all farmers.[14] The members of this school of thought hence see the progressive farmer strategy as achieving a wide distribution of benefits to the entire farming community.

The second set of arguments is most frequently offered by economists. Here, extension services are seen as only one of a number of agricultural inputs and the focus of concern is upon their most economic use. Progressive farmers have a number of characteristics which make them the most efficient target of agricultural extension: they are psychologically predisposed to change and so require less persuasion; they have access to the other inputs necessary for innovation (especially capital) and thus are quicker to change once they are convinced; in East Africa they typically own larger farms and the adopted innovation will, therefore, be applied to a larger acreage. For all these reasons, more agricultural output will be achieved for the average visit to a progressive than will be gained per visit to other farmers. Thus the

12 R. G. Saylor, "An Opinion Survey of Bwana Shambas in Tanzania" (Dar es Salaam: Economic Research Bureau, University of Dar es Salaam, 1970), pp. 12, 17.

13 That what we have reported of extension behaviour in Western Province is consistent with intended action was firmly driven home in a discussion we had with Mr. Kimani, the Provincial Director of Agriculture, and Mr. Gatheru, the Provincial Farm Management Officer. Both men are in positions too high for them to be influenced in this policy decision by the social persuasions or favours of local farmers.

14 Cf. F. E. Emery and O. A. Oeser, *Information, Decision and Action* (Melbourne: Melbourne University Press, 1958).

economic arguments for the progressive farmer strategy do not depend upon its achieving a wide distribution of benefits. Extension is conceived of as a tool for economic growth, not social welfare.[15]

The wide distribution of benefits promised by the diffusion of innovations argument depends upon two conditions that often are not met in Western Kenya: (1) all or most farmers will eventually be able to adopt the proposed innovation; and (2) there are no significant social barriers to the communication of agricultural practices from progressives to others. Hybrid maize has been the model for most diffusion of innovations thinking.[16] As maize is the staple food crop in East Africa, it is likely that hybrid varieties will ultimately be grown on most small farms in the region. But this wide potential spread is not a common characteristic of agricultural innovations. Coffee and tea are more typical of the new crops offered to farmers in Africa. Only a small proportion of all farmers will ever grow either. When African growers in Kenya were finally permitted to raise coffee, the innovation began to spread rapidly, the market became saturated, and new plantings were prohibited. Hence progressives were not just the first to adopt this innovation; they were the only ones. Tea illustrates a slightly different pattern. When the crop was first introduced to smallholders in Kenya, the price of cuttings was subsidized and the minimum area to be planted was one-quarter acre. Smallholder tea is still being expanded, but since the innovation is established, cuttings are now being sold at their full cost and the minimum planting is one acre.[17] Thus the investment was made easy and was subsidized for the relatively well-to-do progressives; it is not for the poorer mass of farmers. The conclusion is that access to extension services and the early adoption of an innovation is not simply a temporary advantage; it often represents a permanent gain in the basic profitability of the progressive's farm relative to that of his neighbour's.[18]

The second condition upon which the diffusion of innovations depends is a free flow of agricultural information in the farming community. We have reason to suspect that this condition is often unfulfilled in Western Kenya, although our data base here is too weak for our discussion to be conclusive. Early in our research we interviewed a small random sample of farmers in the Vihiga Division of Western Province. We did find that at least some farmers who have no personal contact with extension workers are getting new agricultural information from other farmers who do have such contacts. Thus diffusion of new information does occur. Nonetheless, it seems to us that this

15 The greater part of my insights into these two sets of justifications have come from frequent discussions and occasional arguments with those who offer them. I am particularly grateful for the intellectual stimulation offered by the economists and communication specialists in the Institute for Development Studies of the University of Nairobi.

16 Cf. E. M. Rogers, *The Diffusion of Innovations* (New York: The Free Press, 1962).

17 Private communication from Jeffery Steeves, who has been doing research on the Kenya Tea Development Authority.

18 Similar conclusions on permanent income disadvantages to late, less well-off adopters have been reached in investigations on the diffusion of miracle rice in India. See E. M. Rogers, J. R. Ascroft and N. E. Roling, *Diffusion of Innovations in Brazil, Nigeria and India* (East Lansing, Michigan: Department of Communications, Michigan State University, 1970), pp. 4-53 to 4-55.

secondhand information often loses something vital in the process of transmission. The several farmers whom we interviewed who had heard of a hybrid maize innovation only through other farmers had no idea if the change would increase yields. Without yield information, an innovation discussed with others carries little conviction and is unlikely to be adopted.[19] Yet it is uncommon for farmers in Western Province to reveal freely the amount of profit they have made from an innovation. Publicized income differentials may give rise to a higher tax assessment, increased social obligations, jealousies, or even rare accusations of witchcraft. Thus most Luhya farmers probably require a new institutional context in which discussions on profitability are expected in order to talk readily about yields.[20] Visits from professional agricultural change agents and meetings organized by them are the main social settings in which the crucial question of returns will be treated in many parts of Western Province. The informal channels for the dissemination of agricultural information are, therefore, not as strong as the diffusion of innovations theory presupposes. Of course, a good new agricultural practice will still spread despite the weakness of the informal information system, but general acceptance will be slower than would otherwise be the case.

If there are barriers to the free, informal communication of agricultural information, it would seem undesirable to apply a strategy of working almost exclusively with progressives. When a broadly applicable innovation, such as hybrid maize, is first being introduced, it might be thought wise to begin with the progressive farmers as those most able and willing to take the associated risks. Once the new practice has gained a foothold, however, it would seem rational to shift attention toward the less innovative farmers so as to speed up the spread of adoption. It can be inferred from Table 7 (presented earlier) that such a strategic change in focus does not occur. General extension agents, who carry the burden of work on hybrid maize, give only a tiny proportion of their time to the half of the Province's farmers who do not grow it. Further, they devote at least as many visits to progressives as do their specialist colleagues, who would have much more justification for working with an advanced clientele. Presumably, the general agents are trying to achieve improvements in the technical standard of cultivation on the farms of the adopters rather than spreading hybrid maize to the present non-adopters. This set of priorities is difficult to justify by any criteria, as the marginal increase in output is usually greater with adoption of the new variety than it is from improvements in the quality of cultivation.

From the foregoing, it should be clear that the progressive farmer strategy does not provide the extensive distribution of benefits that its diffusion advocates have claimed. A broader range of extension contacts would prob-

19 David K. Leonard with Bernard Chahilu and Jack Tumwa, "Some Hypotheses Concerning the Impact of Kenya Government Agricultural Extension on Small Farmers" (Nairobi: Institute for Development Studies, University of Nairobi, 1970), pp. 6, 7, 10-12, 13.

20 I am indebted to former Chief Mathew Mweresi for this particular point and to him and former locational clerk Benjamin Kapitain for confirming my intuition on this general problem.

ably lead to profitable innovations achieving widespread acceptance more rapidly. Further, that the bulk of these services is being provided to the progressive and wealthier farmers means that they also are helping to increase the gap between the rich and the poor. We do not mean here that rural inequality is caused by the agricultural extension services. The farmers who are already somewhat better off than their neighbours are in the best position to invest in new, profitable farm enterprises, and we must expect that they will do so and hence increase their wealth. If the farm economy is based on land, labour, capital and knowledge, those who have more of these will make more money from their farming. But it does not follow that those who have the most of the first three should also be provided with a disproportionate advantage by extension workers with respect to technical knowledge.

We believe that the middle group of farmers may be a more appropriate focus for extension than the progressives, for reasons of both equity and maximum diffusion. There is good reason to believe that poorer farmers will be quicker to adopt agricultural innovations from farmers who are basically like themselves than they will from the socially élite progressives. Although evidence is lacking, it also seems likely that profitable innovations will spread faster from less innovative to progressive farmers than they do in the other direction.[21] A highly innovative farmer with access to reasonable amounts of capital (and this is the definition of a progressive) will be quick to hear of profitable new products and techniques and will seek them out for himself from a neighbour. This self-drive does not characterize the middle or non-innovative farmers to anything like the same extent. When one is dealing with agricultural changes that are capable of general acceptance, we therefore suggest that adoption will be maximized in the long run by avoiding those farmers most anxious to innovate and concentrating on those who would normally be considered marginal.

But, of course, we have already pointed out that most agricultural innovations can only be adopted by a small proportion of the farming population. Furthermore, many of these new products and techniques require access to above average amounts of land and capital if they are to be adopted. Wide acceptance is not a relevant criterion for assessing extension strategy on such innovations. Nonetheless, we believe that middle farmers are still the appropriate focus of attention for many of these change programmes as well. There seem to be a significant number of middle farmers who have sufficient land and capital for certain innovations and who are passed over in the rush to their progressive neighbours, who have the most of these resources.[22] Both a better distribution of wealth and a more specialized small farm economy will

21 Some of the extension experiments being conducted by Joseph Ascroft and his colleagues in the current Kenyan Special Rural Development Programme should cast light on these two propositions.

22 The argument here for a focus on the middle farmer leaves the poor farmer, who lacks adequate capital, out in the cold. In view of the permanent and cumulative additions to rural equality caused by the constant repetition of this innovation process, it at least needs to be investigated whether subsidized credit now may not be preferable to public welfare later.

be gained if farmers who already have a major cash crop are bypassed in the extension of new ones.

We have shown serious deficiencies in the diffusion of innovations justifications offered for the progressive farmer strategy as currently practised in Kenya. It is based upon certain assumptions which are often invalid in Western Province. As a consequence, the wide distribution of benefits aimed at by the diffusion strategy could probably be better achieved through a focus on the middle, not the progressive farmers.

The economic arguments for the progressive farmer strategy now must be faced. It is much more difficult to find logical fault with this set of justifications, for the inegalitarianism of the approach is openly accepted. "Betting on the strong" maximizes economic growth. Since the Kenya Government acknowledges that its first concern is with growth,[23] it is legitimate to challenge its agricultural extension employees only if their distribution of services goes beyond that which growth alone would justify.

It may be useful here to examine a part of the extension services where the economic argument can be divorced from the diffusion one. Such a case is offered by the veterinary services. Visits by Animal Health personnel to individual farms are made almost exclusively for the treatment of cattle disease. As less than half a per cent of the cattle in Western Province in 1970 were of the economically highly prized grade variety, the cattle needing treatment may be considered as broadly equal in terms of their innovation demonstration effect. The Ministry of Finance and Economic Planning survey which we quoted earlier indicates that the progressive 10 per cent of the Western Province farmers own approximately 16 per cent of the cattle. Yet their farms receive 51 per cent of the veterinary calls. On the other hand, non-innovative farmers own about 33 per cent of all cattle and receive only 17 per cent of the attention of the Animal Health personnel. As can be seen from Fig. 3, veterinary services are distributed relatively equally between middle and non-innovative cattle owners. Progressive farmers, however, receive over five times better service than these other two categories do. The top to bottom ratio of 6:1 would seem a vast improvement on the 44:1 observed for strictly agricultural services. But the latter had the diffusion of innovations theory as a rationale, while the former does not.

Are there grounds of economic efficiency which might support this inequal distribution of veterinary services? A first response may be that progressives have larger herds and that a visit to one of their farms will be more efficient because of the greater number of cattle treated at one time. But this argument would be invalid for there is actually very little difference in herd size between the categories of farmers *for those actually owning cattle.* Non-innovative cattle-owners have an average of 5.9 head; middle farmers, 6.4; and progressive ones, 6.6. The overall inequalities in cattle wealth between these groups, that were discussed earlier in conjunction with Table 2, were largely caused by the differing proportions of those with no cattle in each category.

23 Cf. Tom Mboya, "Sessional Paper No. 10—It is African and it is Socialism?", *East Africa Journal*, Vol. VI, No. 5 (May, 1969), pp. 15, 16.

Further justifications for the skewed distribution of veterinary calls might be as follows: The progressive farmers probably take better care of their cattle, so that their cows will generally be producing more milk and have greater economic value. They also will be more likely to dispose of the economically relatively unproductive males, so that their herds will frequently be more valuable on these grounds as well. Finally, the better-off farmers are more likely to be willing to pay the small amounts of money necessary for medicines. Each of these arguments is basically valid and between them we can doubtless account for a substantial proportion of the differences in veterinary services provided to the three categories of farmers. Nonetheless, the distribution in Fig. 3 has one feature which makes one reluctant to accept these economic explanations as adequate: whereas there is a substantial gap between the services provided to progressives and the other farmers, there is very little inequality in the distribution of visits between middle and non-innovative farmers. As middle farmers are situated between progressives and non-innovators in the modernity of their agricultural practices, it seems reasonable to expect that they would also be somewhere midway in their animal husbandry. If this is so, however, it would be economically efficient for them to receive less services than the progressives but they should also be getting more than the non-innovators. But this is not the case. Thus we are led to suspect that there are additional, non-economic grounds which lead to a special emphasis upon progressives. Our belief is that although economic efficiency criteria can be used to justify a substantial stress on progressive farmers in the distribution of both agricultural and veterinary services, the actual favourable allocation goes beyond that which is "economically rational".

IV. THE CAUSES OF EXTENSION BIAS

What factors other than extension strategy might lead to a skew in services toward the progressives? The most important reason is probably that progressive farmers are the ones most likely to complain to a senior officer if extension is not provided to them. Junior staff do only a small amount of work and seem to sometimes organize themselves informally to reduce the amount of effort they put into their jobs.[24] As the work of visiting farmers is carried out in a very wide area, the junior staff are largely free of any supervision. Complaints are one of the very few ways which an Assistant Agricultural Officer has of judging whether or not his subordinates are on the job. Thus the rational extension strategy for the agent who wishes to minimize his effort is to see the complainers and forget the rest. By virtue of their relative wealth and their past innovativeness, the progressive farmers are among the few who will have the self-confidence actually to complain to an officer. Thus the progressives do have a power advantage. But it is not one born of a social class alliance, exchange of benefits, or political influence. Their

24 Leonard, "Organizational Structures for Productivity in Agricultural Extension".

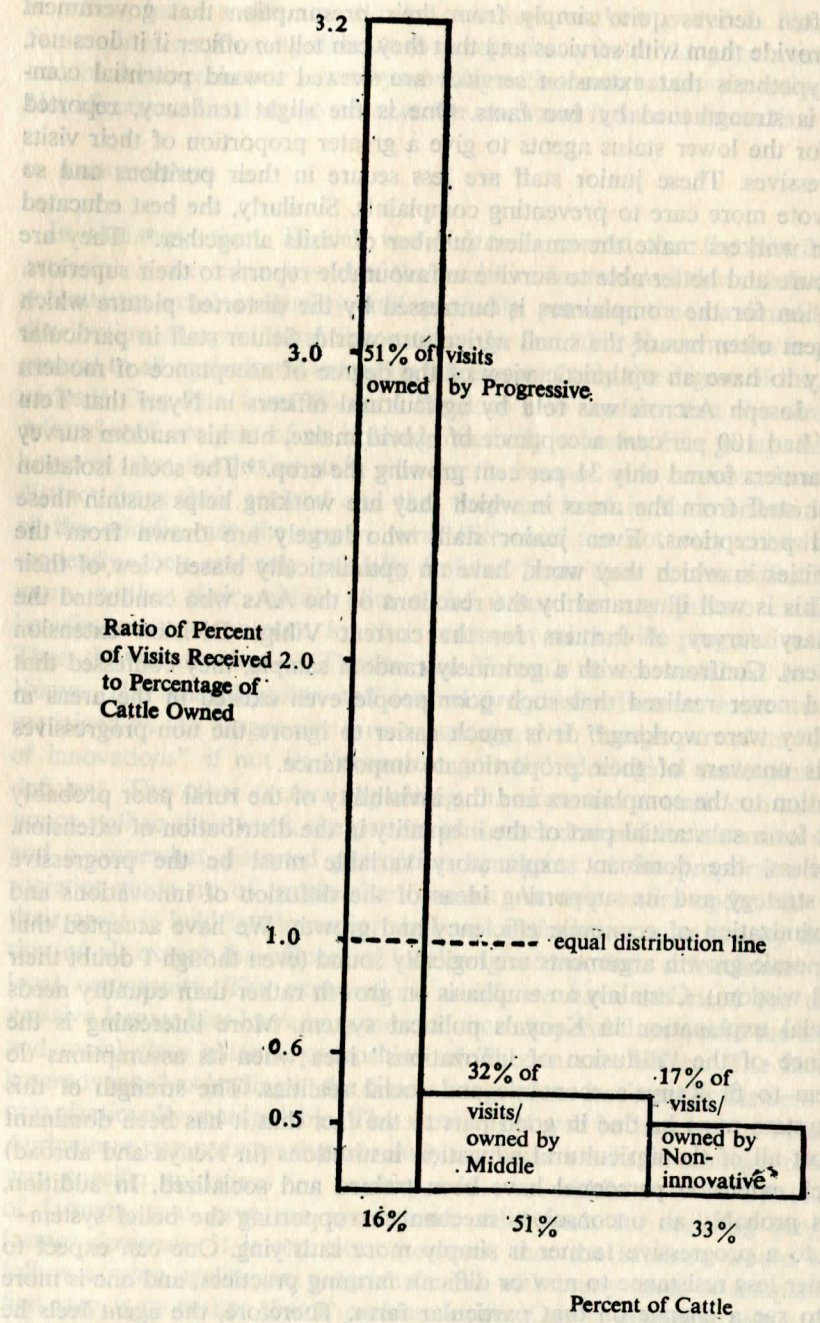

Figure 3—THE DISTRIBUTION OF VETERINARY EXTENSION VISITS BETWEEN CATTLE OWNED BY PROGRESSIVE, MIDDLE, AND NON-INNOVATIVE FARMERS

power often derives quite simply from their presumption that government should provide them with services and that they can tell an officer if it does not.

Our hypothesis that extension services are skewed toward potential complainers is strengthened by two facts. One is the slight tendency, reported earlier, for the lower status agents to give a greater proportion of their visits to progressives. These junior staff are less secure in their positions and so must devote more care to preventing complaints. Similarly, the best educated extension workers make the smallest number of visits altogether.[25] They are more secure and better able to survive unfavourable reports to their superiors.

Extension for the complainers is buttressed by the distorted picture which government often has of the small agriculture world. Senior staff in particular are likely to have an optimistic view of the degree of acceptance of modern farming. Joseph Ascroft was told by agricultural officers in Nyeri that Tetu Division had 100 per cent acceptance of hybrid maize, but his random survey of 354 farmers found only 31 per cent growing the crop.[26] The social isolation of senior staff from the areas in which they are working helps sustain these distorted perceptions. Even junior staff, who largely are drawn from the communities in which they work, have an optimistically biased view of their areas. This is well illustrated by the reactions of the AAs who conducted the preliminary survey of farmers for the current Vihiga Division extension experiment. Confronted with a genuinely random sample, they confessed that they had never realized that such poor people even existed in the areas in which they were working.[27] It is much easier to ignore the non-progressives if one is unaware of their proportionate importance.

Attention to the complainers and the invisibility of the rural poor probably account for a substantial part of the inequality in the distribution of extension. Nonetheless, the dominant explanatory variable must be the progressive farmer strategy and its supporting ideas of the diffusion of innovations and the maximization of economic efficiency and growth. We have accepted that the economic growth arguments are logically sound (even though I doubt their political wisdom). Certainly an emphasis on growth rather than equality needs no special explanation in Kenya's political system. More interesting is the acceptance of the "diffusion of innovations" idea when its assumptions do not seem to fit Kenya's economic and social realities. The strength of this belief system must be due in good part to the fact that it has been dominant in almost all of the agricultural education institutions (in Kenya and abroad) in which extension personnel have been trained and socialized. In addition, there is probably an unconscious mechanism supporting the belief system—a visit to a progressive farmer is simply more satisfying. One can expect to encounter less resistance to new or difficult farming practices, and one is more likely to see a change on that particular farm. Therefore, the agent feels he

25 Ibid.
26 Joseph Ascroft, "The Tetu Extension Pilot Project" (paper read at the Workshop on Strategies for Improving Rural Welfare, University of Nairobi, 1971), p. 17.
27 Private communication from Peter Moock, Institute for Development Studies evaluator of the Special Rural Development Programme in Viriga.

is getting better results, as did the extension workers polled in Tanzania by Saylor. It is emotionally difficult to accept that a better long-run, total impact may be achieved in one's area by working with somewhat less receptive farmers. Net effects are hard to see whereas the contacted farmer is immediate and real.

V. CONCLUSIONS

In summary, then, Thoden van Velzen is correct that the distribution of extension is skewed in favour of the wealthier farmers and that this favouritism accentuates rural inequality and probably prevents the maximum possible distribution of agricultural innovations. In fact, this phenomenon is probably general to all agricultural extension systems and only the degree of the problem varies.[28] Our data from Western Province also confirm that the senior agricultural staff are part of an isolated, relatively cohesive élite group. We found, however, that the junior staff, who are in contact with farmers, form groups distinct from their seniors' and that they are local in their orientation, part of the middle, not the upper, rural élite, and are not very cohesive. Consequently, they are only partially isolated from their communities. Furthermore, neither their middle élite social status nor any private exchange of benefits seems to account for their stress on work with progressive farmers. Thus this proposition of Thoden van Velzen's is not sustained in Western Kenya. The bias of junior staff toward progressive farmers seems to be best explained by the progressive farmer strategy, even though part of its "diffusion of innovations" if not its "economic growth" ideological underpinnings are deficient. The other factors explaining the skew are a weak commitment of junior staff to their work, the pattern of farmer demand for extension services, and a somewhat distorted perception by agents of the proportion of rural societies made up of progressive farmers. An even more optimistic view of their areas is held by the senior staff and is doubtless sustained by the isolation of all except the officers of local origin from their subordinates and the local community. The explanations which we have advanced for the progressive farmer bias leave us somewhat more hopeful than would the exchange and social class alliance proposition of Thoden van Velzen. The factors we have advanced as leading to the disadvantage of the less wealthy farmers may be organizationally manipulable. The skew might well be lessened by Ministry of Agriculture programmes that carefully redefined extension strategy, developed very specific guidelines for working with the middle or even bottom rungs of farmers, and gave the agent some solid basis for resisting progressive farmer demands. It is not clear, however, that the Ministry would want to follow a more egalitarian programme. As with many cases of inequality, the first step is to realize that a problem exists. Out of consciousness can come debate and a deliberate political decision rather than an unwitting drift dictated by past beliefs and domestic pressures.

28 Cf. E. M. Rogers, J. R. Ascroft and N. E. Roling, *Diffusion of Innovations in Brazil, Nigeria and India*, pp. 4-53 to 4-55.