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REACTION TO EXTENSION ADVICE IN
FOUR AREAS OF EASTERN UGANDA

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REACTION TO EXTENSION ADVICE IN
FOUR AREAS OF EASTERN UGANDA

by
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This paper is based on a chapter in a report on the socio-economic factors affecting levels of cotton production in four areas of Eastern Uganda. A major finding of the report was that in the areas studied either overall shortage of land, or restrictive systems of tenure combined with lack of financial resources, limited any major expansion in acreage. The report also confirmed the general view that yields are much lower than could be realised if recommended practices were followed. Thus the most effective way of substantially increasing production is to increase yields by improving the standard of cultivation.

Any improvement in standards of cultivation necessarily involves changes in present methods and practices which can be brought about not merely by educating the farmers in improved techniques but by the farmers accepting and implementing them. In this the work of agricultural extension services are crucial.

At the time research was carried out the policy of the Agriculture Department in respect of cotton consisted of a series of prescribed practices in the form of rules for the good cultivation of cotton, the introduction of the use of insecticides, and the propagation of improved implements, particularly ox-drawn equipment. This policy has not been radically changed, although the rules, especially in respect of spacing, have been slightly amended, and since the inauguration of group farms and new tractor hire services centred on them, which came towards the end of the field-work period (1963), there has been greater stress placed on mechanical than ox-cultivation.

There were at that time also large numbers of expatriate staff, not only experts but District staff, whose attitudes permeated the whole staff pyramid down to the agricultural

assistant at sub-county level. Although fewer expatriates are present today, mostly in specialised capacities, many of these earlier attitudes still persist.

As has been indicated it was, and is, immediately evident to even a superficial observer that the various practices advised by the Agriculture Department are not being followed. This observation is borne out by the fact that actual yields are much lower than could be obtained if such practices were adopted. On the group farms, where methods of cultivation are more controlled, it was possible with the varieties of seed then in use to attain yields in the region of 800 lbs per acre, whereas the individual farmer obtains on average nearer 300 lbs. In the research sample (of 130) for whom reasonably accurate data was collected, only 2 persons harvested more than 800 lbs, a few (25) 400 to 500 lbs, and the remainder below this, some getting as little as 80 lbs an acre. These figures reveal the potential for increasing yields, especially if allowance is made for some over-estimation in the figures obtained.

The rules for the cultivation of cotton are simple, but they must be followed if yields are to be maximised. They are: plant early at specified times in each area, the land to be prepared at least 4 weeks prior to planting and dug over twice, the second time at least two weeks prior to planting; sow 5 seeds per hole at spacings of 3' x 1', alternatively to get the most benefit from spraying with insecticide or where it is sown by mechanical seeders, plant at a spacing of 26" x 6"; thin leaving two plants per hole for the wider spacing and 1 for the smaller; keep clean weeded and spray with insecticide 4 times at prescribed intervals; pick regularly when ready, sort and pack correctly; uproot old plants and burn on the field. These rules are propagated by the Agriculture Department through its extension services.

The Agriculture Department's extension programme is based on several untested assumptions about the attitudes and motivations of farmers, and limited by the number and

quality of extension staff, which also to some extent determines the nature of the programme itself. The main extension methods are individual advice, group meetings, courses, distribution of posters, pamphlets and booklets, radio talks and subsidy schemes. In relation to cotton, price is also used as far as possible to encourage production. By these means the farmer is informed about and encouraged to accept improved methods of cultivation.

The assumptions underlying these methods are that the farmer responds to money incentives, although it is not known at what level higher prices become an incentive, or what degree of increase in income. It is also assumed that the farmer will respond to the example of others who successfully make their farms more profitable, hence the policy of concentrating on a small number of progressive farmers who are expected to be a catalyst for change in the community. Another assumption is that visual aids and verbal exhortation are a suitable means for teaching farmers new methods, and that the present form in which they are produced and promulgated is effective.

In its extension programme the Agriculture Department is faced by the major problem of a small number of staff - now 1 per sub-county and in some places (e.g. Bugisu) 1 per Meruka - each of whom has responsibility for large numbers of small farmers scattered over a wide area. Not only is the establishment small, but temporary vacancies often occur. Some personnel are seconded for special duties, others may be on leave and so on. Furthermore there is no standard size of sub-county either by area or population and some agricultural assistants may have to cover a much bigger area, or many more cultivators than others. Shortage of staff is another reason not only for concentrating aid on a small number of cultivators who are prepared to accept advice, but also for the reliance on propaganda methods rather than social work methods.

Before examining in detail the general range of factors influencing acceptance or rejection of extension advice, and analysing the variables involved in the implementation of particular aspects of it, there are some general points

which should be made. Firstly it has to be recognised that where almost the total rural population is engaged in farming (excepting infants), and where well over 90% of the country's population live in rural areas, a proportion either through age, infirmity or social situation are more or less incapable of improvement. In one village, for instance, out of 55 farmsteads, 15 were those of single men and 7 those of single women; the former group being composed mainly of as yet unmarried youngmen often still teenagers and a few old widowers, and the latter of divorcees and widows of mature age. It is suggested that persons in these groups are either not fully motivated, or able, to change their ways, or to improve their farms. In those places, notably Teso in this instance, where actual farmstead holders may appear more potentially active, the available land area within such farmsteads has still to be divided between all members of the family, some of whom are old or otherwise not in the social mainstream.

Secondly in relation to the conclusions reached here it should be remembered that the sample is a small one and one is therefore very frequently dealing with individual instances and inferring general principles from them: these conclusions really require testing with a much larger sample before they are more than hypotheses.

Thirdly one is dealing with the farmer's conscious reasons, which involve his levels of awareness and conceptualisation of his society and the norms of that society. By asking questions on a certain range of topics the researcher makes informants conscious of their importance and changes their awareness. By raising such questions he invites rationalisations of actions which are often performed thoughtlessly from habit. People seldom think of their reasons for doing things and one rationalisation may or may not be as real or relevant as another; it can only be tested by changing the situation or conditions so that this or that variable is altered.

It may be stated at the outset that knowledge of approved methods of cultivation was nearly universal in the sense that in response to direct questions about correct planting times, spacing etc. all informants were able to state

what was current extension advice. Although many of the rules for good cultivation had been in circulation for some time, even new recommendations, particularly in respect of use of insecticides quickly became common knowledge. Some changes in advice were on the other hand slower to percolate e.g. the smaller spacings. It may however be inferred that to a great extent, the agricultural extension service in its propaganda function has been effective.

Whilst, however, a farmer may be aware of better methods of cultivation and even have some idea of the reasons for doing things in a different way, very few indeed apply what they know. To change his usual practices the farmer has to break well-established habit and routines. He has to rely not on his own accumulated wisdom and experience but on what someone else says. It is much more secure to continue a well-known and well-tried practice than it is to venture on something new and untried; to take that step the individual requires sufficient impetus and motivation, and a degree of confidence in the outcome. To be effective an extension programme has to supply these things. At the time research was carried out the extension programme patently did not.

There appeared to be several categories of reasons why the farmer did not implement extension advice, and most of these involved lack of sufficient stimulus, motive or confidence.

1. The advice may, for various practical reasons, be impossible of implementation.
2. There may be too much extra effort involved in relation to too little extra expected profits, or for an uncertain return.
3. The farmer may doubt the efficacy of recommended practices. He may consider on the basis of his own experience he knows better than the adviser and can give practical reasons for adopting contrary practices. He may lack confidence in the adviser because he has a low status or because his personality does not invite confidence, or the manner in which the advice is given to him may not be sufficiently convincing.

4. The farmer may not understand the relationship between adopting advised methods of cultivation and obtaining more money from his farm; he may not believe that change in methods of cultivation boost his income.
5. The farmer may not be able to translate verbal information into practical action.
6. The farmer may not be the person doing the actual cultivation.

Where cotton follows other crops planting may be delayed pending completion of harvesting of those other crops. This is particularly true of those with smaller acreages of land which impel them to make maximum use of what they have. In Busoga for instance, cotton commonly follows groundnuts which are more usually harvested in June. Farmers also wait for the rains and since these are variable in their coming this may inhibit early planting.

Social obligations may delay any activity. In particular the customary mourning period for close relatives of a deceased person may be long. In Teso one informant did not work for nearly a year after his wife died. He depended on the help of his two sons, not the children of that wife. Another informant in Busoga did not work for three months after his mother died, by which time the weeds had almost obliterated the cotton. More frequently people go for a week or more to weep by the grave. When a funeral or burial takes place in a village, not only relatives but all the neighbours desist from work and take part in the ceremonies.

Another practical reason for not carrying out advised procedures occurs when farmers are unable to obtain the wherewithal to do so. In 1962 many farmers were unable to obtain pumps for spraying their cotton at the right times for the right number of times. The level of income is so small that even the subsidised cost of a pump (about 30/- at that time) was prohibitive, and there were frequently difficulties experienced in buying such equipment, or having it repaired. A dealer might not be in the vicinity, or anyone with the knowledge and spare parts to put faulty equipment right. This was more of a problem in Teso where

farmers were interested in a wider range of ox-equipment.

Cotton is a crop requiring a heavy input of labour spread over a comparatively long period of time. Cotton requires almost continuous attention during its period of growth, and picking and sorting may also be spread over as much as two months for the same plot. At any time the vagaries of the weather, from droughts to hailstorms, may damage or even wipe out the crop. There is little certainty in the return one may get whatever one may do, however zealously one may follow the rules. It is also a crop about which farmers think they know something, if not everything. They have grown it, often their fathers or even grandfathers have grown it. They know, bitterly, its ups and downs.

Against this knowledge the expected additional profit must be very high to tempt the farmer to leave the charted path. Yet it has never been demonstrated exactly how much extra one can make by following any or all of the advice given by the Agriculture Department. This is especially true when some farmers, without appearing to do anything different from their fellows, are in fact getting a yield about as high as is technically possible. The farmers, were told typically, plant early etcetera and you will get more cotton - they were not told how much. What was worse was that in relation to planting dates for instance, the advice was not given specifically enough to be meaningful. They were advised 'plant in May - or June, or July, but not later'.

The Agricultural Assistants themselves seem not to take their own advice, at least in the case of those whose farms were seen. And in South Busoga where farmers are on average more highly educated, and in the case of some progressive farmers elsewhere, the Agriculture Assistant may have to deal with those having a wider general knowledge than himself, more wealth and standing in the local community. Sometimes the Agriculture Assistant has an unimpressive personality and is incapable of giving guidance to others; he resorts to orders and threats to exact compliance from those he deals

with.

Another type of problem is when the farmer is unable to bridge the gap between words and actions. He is told to plant at certain spacings but the relationship between 1ft and a certain size of gap between plants escapes him. In other words he cannot visualise 1 ft. This lack of meaningful relation of ideas to reality may also be a handicap in respect of some operations for other crops, most possibly in relation to quality and grading. The farmer does not have the expertise for some types of new activity; any practice or method requiring the operation of a new skill, however slight in scope, requires detailed individual instruction: the type of individual attention which the Agriculture Extension Service is least able to give with their present limited staff establishment.

In some areas laborers or young children carry out some, or all, cultivating operations. Young children are more frequently the ones to plant cotton, following their elders who dig the holes. Where they do, they usually drop in too many seeds at a time. Labourers, whose wages are minimal, care only to finish the work as quickly as possible. They are unlikely to do those parts of the work well, when unsupervised, where quality as well as quantity of work is needed.

It is useful to look at how these several categories of factor operate in particular instances. The particular cases deal with reasons for acceptance or rejection of recommendations in respect of planting dates, spacing and spraying of cotton, in each of the four areas; and of reaction to mechanisation.

Planting

(i) Bukedi: Informants planted most of their cotton late. The reasons were mixed. Firstly, when the hoe is used to prepare land for cultivation, planting has to be done at rather long intervals, as only a small amount of land can be prepared at any one time. Thus people plant a little in May, a little in June, a little in July and even some in August and early September.

Nearly everyone appeared to be aware of the necessity to plant early - at least as an item of extension advice. As one said: "May is the best month for planting", but he went on "I plant May to July, then finish. I am only able to cultivate one plot at a time. Even if I had a plough I wouldn't plant all in one month. It is necessary to plant in all three months because of differences in the weather - you could lose everything if it was all planted at once". Thus intellectual preference is combined with physical necessity. Another farmer said, "I plant little by little as I can manage", which is perhaps a more accurate description of the usual process of cultivation; in other words little thought is given to the theoretical reasons for particular methods. Most cultivators in fact keep digging until bit by bit they have finished their land. They will thus start planting when they have finished one part of their land and continue planting until they have come to the end of their holdings, or when the season is too advanced for further planting, which may be in September.

On the other hand 9 of the cultivators in the sample of 26 had such small farms that all their cotton planting had to follow harvesting of another crop. This meant that the earliest they could plant their cotton was in late June.

(ii) Central Busoga: The reasons for so many farmers planting their cotton later than the recommended date were similar to those in Bukedi. They also follow the practice of hoeing the land bit by bit, and some have to wait to harvest crops before planting their cotton. The view was again expressed by some that it is essential to spread planting over several months because of the uncertain weather. They went further to say that the best month for planting depended on the weather in any year and was not a fixed event.

(iii) South Busoga: At the time research was carried out May was the recommended month for planting cotton. Most farmers resisted this advice stating that if cotton was planted too early it grew too quickly and became too bushy, thus making it difficult to harvest. The cotton often

became spoilt because the branches of the bushes tangled in one another, and there could be fewer bolls to a bush because the plant had wasted its strength growing big instead of fruiting. Subsequently the Agriculture Department accepted the fact that June is the earliest month in which cotton can profitably be planted in the area.

It is also a fact that coffee is the main cash crop in the part of South Busoga where research was carried out. Cotton is grown merely to make a little extra money on land not being utilised for anything more profitable. Generally cotton follows another crop and thus planting is delayed until the earlier crop has been harvested. Most often planting ^{is} carried out in July.

(iv) Teso: People in Teso were perhaps more keenly aware of the need for early planting than cultivators in the other areas, partly perhaps due to the effectiveness of extension propaganda, but also a result of the familiarity of the farmer with his less favourable environment and the comparatively shorter period of the rains. In an area where the plough is invariably used to prepare land for planting it is also possible to plant crops over a shorter period of time than where the hoe only is used. A farmer may in fact open all the land he is intending to plant with cotton at almost the same time.

The main factor inhibiting early planting, at the time research was carried out, was the system of seed distribution. Distribution was phased in order to make sure that seed was not wasted and fairly rigid rules laid down for the amount of each allocation, varying each year and to some extent apparently determined by the supply of seed. At that time half a debe of cotton was given to each cultivator each month, at monthly intervals.

The year 1961 was very bad for cotton and as a result there was a shortage of seed in 1962. Because of this very little was allocated in the first distribution (in April) and this caused a degree of panic which culminated in the distribution

centres being stormed. The informants in the Teso sample in the ensuing dislocation failed to get any seed at all for their first plantings. In May again, due to some administrative error, not enough seed was sent to the distribution centre and the farmers were again without seed, by which time they had been forced to beg or buy some from neighbouring villages in order to plant the fields they had already ploughed.

Since throughout this time the extension service staff were stressing the need for early planting, the inevitable reaction of the cultivators was a reduction in what confidence they had in the Agricultural staff. As one said simply: "If they want us to plant early why don't they give us the seed?"

In 1963 the cultivators in the survey village again experienced difficulty in getting seed, and since the distribution is made on the direction of the agricultural staff, naturally the farmers blamed the local agricultural officers for this. Again they said "how can we plant early if we have no seed?". The Agriculture Department claimed that much seed was wasted by farmers planting too many seeds per hole, but from observations carried out this did not appear to be a general practice although there were of course exceptions of the kind already referred to.

Spacing

(i) Bukedi: All informants claimed to have planted at the correct spacing even when it was demonstrated to them that this was not so. They claimed that 'small birds' or 'small animals' had eaten the other seeds, or that they had simply not germinated; and they continued to adhere to these explanations when it was pointed out that it was a very choosy small animal that had eaten only the seeds in apparently alternate holes.

The method used for planting cotton is in fact more probably what determines spacing. Spacing is not accurately measured with anything but judged by eye, and

whereas the space between rows is more or less 3', that between plants is at least half again as much as it should be. When planting the holes are dug with a hoe - step hoe, step hoe, step hoe and so on - and thus the spacing is the most convenient distance between hoe holes. It proved difficult without cutting off ones toes to dig at 1 ft. spacings and totally impossible, using the hoe, to plant at 6" spacings.

No reason appeared to have been given to the farmers for the recommended spacings, and with the exception of some progressive farmers none had heard of the then newly introduced 26"x 6" spacing. Very little publicity was given to the new recommendation. Those progressive farmers who at that time tried using the hand-operated mechanical seeder with the intention of thinning to 6" spacings experienced such poor germination that there were often several feet rather than inches between plants.

(ii) Central Busoga: Spacing was seen to be much the same as in Bukedi and the same reasons were given. In addition they claimed that if the plants were closer together than this the cotton could become damaged when it was weeded because the plants branch excessively. The smaller spacing was at that time not yet recommended for Busoga.

(iii) South Busoga: Spacing was also much similar to elsewhere being 3' x 1½' - 2'. It was claimed that due to the fertility of the soil the plants grew too bushy if they were planted too close together, and that this not only made weeding difficult but also damaged the bolls. It was however observed that no one was interested to measure spacing exactly; cultivators plant at the most convenient distance they can using the hoe.

One farmer did try using a measuring stick for planting, but in this instance the distance tended to be greater than the stick as the cultivator was trying to plant as quickly as possible, so the result was the same as for those who made no such effort.

(iv) Teso: In nearly every field spacing was poor, the spacing between plants being more usually 2 ft. However all farmers claimed to have planted at the recommended spacing. When it is demonstrated that this is not so they also claimed that 'small animals ate the others' in spite of the fact that the wider spacing is a regular and not patchy occurrence. They are apparently unable to visualise what 1 ft. looks like on the ground. It is also a fact that originally wider spacings were recommended and it is possible that present spacings are merely a continuation of previous practice.

Although in Teso most people planted in lines against a rope the Agricultural Department had not thought to provide measured ropes to facilitate better spacing.

Spraying

(i) Bukedi: There was a great interest in spraying with insecticide when this was first introduced and most of those who could obtained the loan of a pump to spray their cotton. However there were not enough pumps available and those in the sample who sprayed were only able to do so once or twice. Due to the enterprise of the then District Agricultural Officer every miruka had been supplied with a pump but this was clearly inadequate for the number of people who wanted to use it. However people were so persuaded of the value of spraying that in 1964, 3 or 4 people in the survey village purchased pumps which they then rented out to others as well as using them for themselves.

Much of the interest in spraying initially arose from the fact that free Dudumaki had been an election promise of the U.P.C. and it was therefore given the widest publicity by accepted leaders of the people. Another factor in its acceptance is that fact that it was understood to be a 'medicine' to counteract the illness of plants and the value of medicine in general is well appreciated: it is also something added, or extra, from which an extra yield could therefore be expected.

The year previous to its introduction (1952) had also been a particularly bad one for lygus which also strengthened the motivation to use Dudumaki, and there was much discussion comparing adjacent fields of sprayed and unsprayed cotton in which the merits of Dudumaki were confirmed.

It seemed possible however, that whereas at the subsidised price of 5/- a tin many people were able to purchase one, at a higher price fewer people would be able to avail themselves of the opportunity since the time in the year when spraying needs to be carried out is also one of the more extreme shortage of ready money.

(ii) Central Busoga: Lack of pumps was a major inhibiting factor in the survey village in spite of a great deal of interest expressed in using Dudumaki. In addition there was at that time no Agricultural Assistant to explain firstly where and how to obtain Dudumaki and then to give instruction in the technique of spraying. The researcher took the initiative to purchase a pump which was made freely available to those who wanted to use it and assistance was also given to those who wanted to obtain tins of Dudumaki since the nearest supplier was about 5 miles from the village. However although the pump was put in charge of a teacher many problems were experienced in streamlining the schedule of loans, since often borrowers failed to return it on time.

In spite of the comparative wealth of some of the farmers they appeared reluctant to spend money on buying a pump until they had had proof of the beneficial results of using Dudumaki, but the following year one or two, including the teacher did purchase one.

(iii) South Busoga: Little interest was evidenced in the use of Dudumaki, nor did the Agriculture Assistant provide much encouragement for farmers to do so. Whilst no particular reason was given for this indifference, it is probable that the fact that cotton is not the main cash crop, and that even an improvement in its yield would not add materially to farmers' incomes, may at least partially account for it.

(ix) Teso: Farmers in Teso were completely convinced of the value of spraying though they did not always understand how it could improve yields. It is medicine something added, and from something added there will be a promotion of growth, that is how they saw it. However whilst nearly everyone in the sample sprayed their cotton they did not do so the correct number of times. Only one or two people in the vicinity purchased pumps, which they hired out when not using them themselves. In addition they did not seem to appreciate the need to spray the requisite number of times since neither were the available pumps in continuous use, nor was the amount charged for both pump and insecticide high, at -/50 a time, in relation to the availability of cash for other purposes - mostly drinking parties.

It was suggested at that time that many farmers were misusing Dudumaki, which was heavily subsidised. It was alleged that they gave it to cattle as medicine, and used it to catch fish and other things, but no instances of this nature were recorded in any of the areas under study. In Bukedi it was occasionally used to get rid of white ants from houses, but generally reports of misuse seemed much exaggerated.

Mechanisation

At the time research was carried out the Agriculture Department held the view that farmers were reluctant to use implements other than the hoe. This was not borne out by this study. What is more accurate is that farmers are only interested in new equipment which will lighten their labour for those operations where they themselves feel their work is hardest and most difficult. They are also selective as to the nature of the equipment they want.

For instance farmers in Teso wanted something which would help them to manure their fields: they were not interested in seeders and wooders of whose value they were not convinced and for which they did not feel a real need. In South Busoga farmers asked for better tractor hire services "we want tractors for loan, why are they only in certain areas?", and "can the Government bring more mechanised cultivation".

cultivation". They did not want oxen for ploughing. They did not have enough land for pasturage and they were inexperienced in handling these animals.

In Bukedi on the other hand, where not only is grazing land available, but many people already have cattle, two farmers in the sample requested assistance to obtain ploughs, and three others obtained trained oxen and ploughs on their own initiative without extension help. They explained that it was not only possible to finish preparing their fields for planting very quickly, but they could hire their equipment to others and thus augment their income.

It is however a fact that farmers are slow to acquire labour-saving equipment, where suitable and desired items are available. Any equipment costs money and proportionally to the average income in most areas costs more than most farmers can afford. Running costs, or the costs of hire, have also to be balanced against expected returns. The farmer has to be sure that the anticipated production will bear the cost of these implements in addition to evaluating whether the increase in leisure time or the increased ease of handling previously arduous tasks on the farm make the extra expenditure worthwhile.

There is a tendency for the policy of the Agriculture Department to go through periodic cycles when particular types of equipment are promoted, rather than to examine the needs of farmers in particular places and to develop the best equipment to facilitate the tasks where the burden of labour is felt by the farmers themselves to be heaviest. In addition little attempt has so far been made to relate the nature and cost of equipment to the size of farm unit and the type of crops being cultivated on it.

An example of a case in which the needs and wishes of the farmers was frustrated may be given. The farmers of the South Busoga sample were mainly coffee cultivators who on many occasions expressed their need to have a mechanical coffee weeder. In 1963 the Harvestmaster, which was particularly designed for work in coffee plantations, was being tested at Namalere who recommended the implement as being suitable for

use in Uganda. They however advised that before buying the implement farmers should be given a course in how to run and maintain it, which course they were prepared to run if this were arranged by the District Agricultural Officer. The District Agriculture Officer was advised of this and promised to have the farms of those interested inspected in order to ascertain their suitability for the Harvestmaster before their owners could be allowed to attend the training course at Namalere. A certain officer was delegated to carry out this task.

After a lapse of three months two of the farmers complained that no one had come to see them. The Agriculture Officer on the other hand claimed they had been. He cited as proof an interview he had held in his office with a third farmer, whom he had persuaded to buy an ox-plough instead since the farmer had "only saved 1000/- whereas the cost of the Harvestmaster with Government subsidy is 1800/-". The Agriculture Officer added: "we told him we did not advise it as we don't think much of it (the Harvestmaster)". The matter rested there. None of the farmers ever got a Harvestmaster, and the Agriculture Department later admitted that ox cultivation was proving a failure in Busoga since the oxen were not used frequently enough to keep them in training.

As has been pointed out the extension programme of the Agriculture Department derives from certain assumptions; that the farmer will change his ways of doing things if he can make more money by this; that he will copy the methods of those who farm more profitably; that the farmer only needs to be informed of potentialities and possibilities to do better and this will by itself be sufficient stimulus to change.

What has been so far demonstrated however is that whilst the farmer is motivated by the prospect of increased income, he is not convinced either of the prospect or of the need to change by mere information. Furthermore the source and manner in which the information is given may nullify its effects. There must be practical demonstration where the

effort or risk involved seem to him considerable. There must be practical instruction where change involves any type of new skill.

In seeking to initiate changes in methods of cultivation the Agriculture Department have tended to concentrate their attention on small numbers of farmers, who at the time the research was carried out were termed emergent and progressive. Only the latter qualified to obtain loans from official sources. It was considered that other farmers would be motivated to follow the example of progressive farmers when they saw how well they were doing by carrying out the advice of the Department staff.

Today the Agriculture Department is less sanguine about this possibility, since there has been little evidence of any major move towards such imitation.

Progressiveness is not perhaps well measured by the fact that the Agriculture Department labels a particular farmer as 'progressive' - receptive of advice and therefore eligible for a farm loan - since particularly in South Busoga many farmers asking for advice and interested to improve were not so classified and were unable to get such assistance; there was thus a greater potential for change than was being exploited by the extension services at that time. It should also be noted that the standard of cultivation of the progressive and ordinary farmer was in no way different. It was impossible to determine merely by looking at their respective fields into which category they came.

That the criteria of progressiveness was not understood by the cultivators and that furthermore progressive farmers were not looked to as examples by the average cultivator is best illustrated by the comments of the farmers themselves. In Central Busoga some people asked "what is a progressive farmer?" and one man said he wanted to become a 'progressive farmer' when in fact he wanted a job with the Agriculture Department. In South Busoga some hostility was expressed towards progressive farmers. It was claimed that the Agriculture Department "does not want to care for the well being of the farmers - they are only interested in big acreages".

Again: "If you have one child at Makerere and one only finishes primary do you not care equally for both? The Government offers the subsidy scheme mainly to progressive farmers (who it is implied are better off than others), why not to all cultivators so as to raise the well being of farming?" It was a fact that progressive farmers in the sample had on average larger farms than the normal cultivator. People complained further: "It is not right that only progressive farmers should prosper."

In Bukedi the progressive farmer was the object of envy rather than emulation. One progressive farmer, who had been involved in successive land cases, said that they were a result of his neighbours and relatives becoming jealous that he was now doing well: they wanted to get some of the land he had developed. They wanted to pull him back to their level rather than try to rise to his. Another young man said he had to employ labourers of other tribes because local people did not want to work to enrich a younger man.

In contrast, in Teso, the progressive farmer did in fact act more effectively as an example to his immediate neighbours, but he was more evidently looked to as an example in those practices which noticeably improved his income or reduced the effort of labour.

The attitude towards the progressive farmer in the other three areas seemed to stem from the fact that they were singled out for attention and loans from the Agriculture Department more because they had larger acreages than because they followed extension advice. One Agriculture Officer confirmed this approach when he commented of a particular farmer who was anxious to improve his farm: "although he is a good farmer, what can be done to improve so small an acreage?" Once he has been given a loan the progressive farmer is felt to have advantages which others do not share and if he does well it is thought to be because of this money, therefore those who do not get loans cannot copy him.

The average Uganda farmer in the areas studied in fact showed himself to be extremely individualistic and self-reliant. All wanted more money but were pessimistic that those practices being advocated by the Agriculture Department could really improve their income very much. Often they have been hearing much the same advice over and over again until the edge has dulled. The impetus to change cannot come from the over-familiar.

It is perhaps worth referring again to the most successful of the recommendations analysed here - the introduction of Dudumaki - and identifying the elements on this success. There was a massive publicity campaign carried out initially by popular leaders. The product itself was obviously worth more than the money paid for it and was to be used to combat a pest well-recognised by the farmers. Its effects were readily and quickly visible when sprayed and unsprayed fields were compared. The ultimate difference in yield was also easily demonstrable. The deficiencies in the scheme were of an organisational nature mainly concentrated in two areas; distribution and instruction.

Those recommendations were least successful which lacked the particular stimulus of a campaign, but had been repeated over a period of time without effect, and whose results were neither well defined nor demonstrated; where also there was a large element of chance due to uncertainties of the weather; or where the advice conflicted with the practical possibility of implementing it.

To summarise, anything new involves risk. If the farmer is told to plant his cotton at a time he personally feels is not the right one, he is being asked to risk almost his total annual income. His adviser risks nothing. Not only must the farmer have confidence in the person advising him, but in his source of information. This is not often the case, especially where administrative bungles have occurred in the past.

Where a new crop is being introduced the farmer has no alternative but to take proffered advice. In the case of cotton, which has almost the status of an indigenous crop, and where several generations of cultivators have now been growing it, the farmer feels he knows something about its proper cultivation. Often he sees the very person, the Agriculture Assistant, who is advising him to do things in a certain way is not following his own precepts. Or the officer is unable to explain to him why he should change. Or the officer does not have the personality to persuade and command the confidence of others.

Extension programmes have to be redevise to eliminate as far as possible the risk to the farmer, to develop the confidence of the farmers in the advice of the Agriculture Department, and in its officers. They should be geared to practical demonstration and to the interest of the farmer. Much of the Agriculture Department policy is geared to the national rather than the individual interest. There are campaigns to increase production of cotton, with the objective of raising more foreign exchange - not of raising farm incomes. The farmer feels that it is the Government that wants more cotton for the good of the Government; he does not feel the Government is interested in helping him to increase his income.

Advice should also have the impact and stimulus of being something new, something dynamic, not illiciting the reaction 'I've heard all that before'.

The Extension programme needs to be reorganised, possibly utilising auxiliary volunteer teams, so that campaigns are backed with the most effective instruction and demonstration possible at the village level.

It appeared that there were two crucial factors to the success of an extension programme:

- (1) adequate demonstration of the effectiveness of particular methods or combinations of techniques; and
- (2) a well-defined return sufficiently large and sure to make the additional effort worth while.

In conclusion, I would like to say that any criticisms which may have been made here of the Agriculture Department are offered in a constructive spirit, and are not intended to detract from the very real achievements of the extension services of the Department, which have often been undervalued and underestimated. It should also be pointed out that the newest approach to extension work incorporates some of the ideas **suggested** above.

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