

PESTICIDES AND THEIR UTILISATION

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A PROFILE FOR UGANDA

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Abstract—The paper is a report of an on-going investigation into the quality and quantity of pesticides imported into Uganda and how candidate pesticides for importation are selected. Also under investigation is the method of distribution of the pesticides from importers to farmers and their management at the farm.

The investigation reveals that owing to improper documentation by the importers, it is at present virtually impossible to establish the quantities of pesticide imports. The study also shows that the present system does not allow for proper supervision of the quality of pesticides used in the country. It highlights the need for revision of the laws and setting up of an infrastructure to facilitate this supervision.

The study shows that although most farmers would be conscious of the toxicity of these pesticides, they are largely unaware of the possible long-term effects of poor handling of the pesticides, both to themselves and to the environment.

Key Words: Uganda, pesticides, imports, decision-making, distribution to farmers, quality-control, safety in handling

INTRODUCTION

Most of the known deaths due to pesticide poisoning occur in the Third World Countries, and there is no doubt that a good proportion of these deaths generally passes unknown. It is often argued that such deaths are very few when compared with the millions who die from infectious diseases and from causes due to malnutrition. The argument goes that pesticides help to decrease such deaths by eradicating disease-causing agents like mosquitoes and tsetse, and by reducing pest damage, thereby making more food available.

Another way of looking at the issue is to consider whether such poisonous exposures are avoidable or whether they are an inevitable consequence of pesticide usage. This approach calls for judgement between benefits and risks, pointing to practical ways of reducing hazards associated with the use of pesticides, and this in turn calls for a highly organised information system on, for example, pesticide imports, the way they are packed and labelled, their storage both in depots and on farms, cases of poisoning if any and how these have occurred etc.

The Ugandan case

The author cannot claim to be the first to have raised the issue of lack of organised information about matters relating to the pesticide industry in Uganda. The issue was first raised in 1974 at a meeting convened by the then Chief Medical Officer (C.M.O.). Matters discussed at that meeting included:

(i) The issue of the quality and quantity of pesticide imports. It was the general view at that meeting that these aspects of pesticides imported in the country were difficult to assess as there were many importers to whose records investigators had no access, and in

the absence of a legal requirement for such records to be released on demand.

(ii) The need for basic guidelines on precautionary measures to be followed by pesticide handlers.

(iii) The lack of any kind of monitor for pesticide residue levels in the environment.

A further meeting was held in 1975 at which the above problems were reiterated and a proposal for setting up a National Pesticide Board accepted by those present. The Board, it was suggested would among other things supervise pesticide imports, ensure that there are adequate instructions for their proper handling and storage, educate farmers and the public on safety measures, and even monitor the environment for possible pollution. That, unfortunately, was the end of the initiative, so that the situation is the same today as it was then.

It is not clear what motivated the C.M.O. to initiate these discussions or the pesticide industry in Uganda. There had apparently been no study of the problem on which he could have based his decision to call the meetings. One can only take it that he was a very well-informed man who saw gaps in the control mechanism and was concerned about the elimination of these gaps.

The author is very grateful to this C.M.O.'s initiative, for it is this that stimulated him to develop interest in studying the problem, addressed initially to some of the issues raised at the C.M.O.'s meetings; more particularly to the following:

(1) What administrative controls exist on the nature of pesticide imports.

(2) The types and quantities of pesticides that are imported, who imports them and how they are distributed country-wide to reach farmers.

(3) How safely the farmers and other handlers fare with these pesticides.

In this report, the term "pesticides" refers to acaricides, fungicides, herbicides and insecticides (excluding household aerosols) because only these were subject to this investigation.

METHODS

Visits were made to the offices suspected to have dealings with the pesticide industry to request for information required. The offices visited included those of government departments, business companies and co-operatives. Also visited were a number of progressive farmers with whom matters relating to pesticide application and storage were discussed.

OBSERVATIONS

Pesticide imports since 1970

Except for the brief period between 1977 and 1978, pesticide imports by Uganda have consistently been lower than those of 1970. Figure 1 shows the relative quantities throughout the period to 1980. The decline was probably partly due to a fall in demand for the pesticides following a loss of enthusiasm amongst farmers for export-crop production, and partly due to shortages of cash to purchase the chemicals from manufacturers. The dramatic rise in 1977-1978 was probably a consequence of the high coffee prices of the time, which earned the country more hard-cash than was usual, thus allowing for more purchases of pesticides.

The author was interested to know whether pesticide merchants are totally free to import any chemicals of their choice or whether there is some degree of control by any organ of government on the types of chemicals that can be purchased from abroad. Important in this regard are the decision makers on candidate chemical imports, and the criteria they base their choices on. For private importers the issue is a simple one since in their case, maximisation of profits

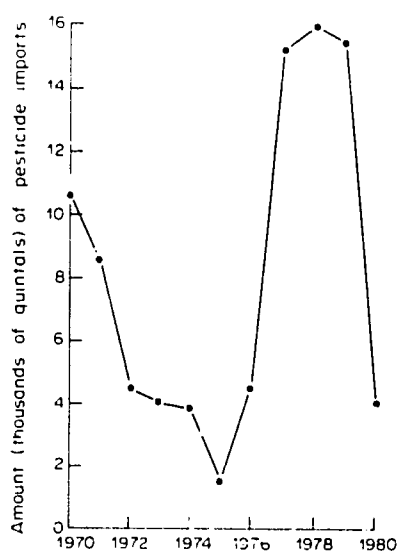


Fig. 1. The relative quantities of pesticides (fungicides, insecticides, acaricides and fungicides) imported into Uganda since 1970. (Source: East African Community Annual Reports; Ministry of Finance Annual Reports.)

will probably always be the primary objective. For government departments or co-operatives, however, the chemicals chosen should be reasonably cheap, safe to handle, effective etc., since in their case the interest of farmers should be paramount. The point is that for government agencies a lot more information should be required about a candidate chemical before deciding on its importation. From what could be gathered, however, this appears not to be the case. Officials of both government and co-operatives interviewed indicated that in their respective departments, candidate pesticide imports have always been selected by one of a few very senior officers. In no case was there an institutional committee of technocrats and or others with specialised knowledge of the chemicals involved in the choice of pesticides to be imported.

When the choice of chemicals is made, there are two options to the next stage of actual importation. The officer(s) may advertise and subsequently award tenders. Such tenders may be international, involving either the manufacturers or multinational companies. Apparently, all the multinationals operating in Uganda today (and there are at least six dealing wholly in pesticides) are engaged in this business of competing for tenders; and owing to the limited business, this competition is quite fierce. Several Company Executives explained to the author how resentful they were to what they say are unfair deals between some of their competitors and some of the decision-makers of the user organisations, i.e. government departments or co-operatives. The other option is for the user organisation itself to purchase its requirements from manufacturers or their agents outside the country. This option is unfortunately taken much less often, although one would imagine it is the cheaper. Lobbying by companies requiring the business may be part of the cause.

Decision-making on pesticide imports, therefore, is very simple. In some cases the one or few decision-makers may even be people who are little aware of the wider implications of indiscriminate pesticide usage. Yet, there is so far no initiative on the part of either the public or national leaders calling for a streamlining of policies on pesticides, a matter that is already taken seriously in many countries of the world, including even some of Uganda's neighbours. One can only speculate that this indifference may be due to general unawareness of the risks, both personal and environmental, which can be associated with improper use and handling of pesticides.

Pesticide distribution

Pesticides reach farmers through either the departmental extension staff who are supposed to sell and advise on their usage, or through the co-operative societies scattered throughout the country from which farmer-members purchase the pesticides. Some farmers obtain their requirements directly from importing companies although this practice is afforded mainly by the more wealthy farmers.

The involvement of multinational companies in the actual distribution of pesticides is currently extremely small. As indicated earlier, most of them are mainly engaged as intermediaries between manufacturers and government departments or co-operatives; the

latter then do the distribution. This little contact between farmers and private companies probably has its roots in the government subsidies on agricultural in-puts which obviously make the marketability of unsubsidised staff very low. But another reason may be that the demand for pesticides is so much higher than the supply that the companies are able to make profits without engaging in the distribution business.

Looking ahead into the future, one may regard this little contact between companies and farmers as perhaps a blessing in disguise. The present government policy is to encourage farmers to use lots of pesticides. The situation is such that any available chemicals are quickly sold off apparently with little or no discrimination, so that the quantities used are controlled only by their limited availability. Experience from, for example, South-East Asia indicates how uncontrolled exposure of farmers to pesticide merchants can result in excessive use of the chemicals (Banpot, personal communication). The lesson here is that as the economy of Uganda begins to pick up and lots of farmers gain interest in pesticide usage, the authorities must ensure that only acceptable chemicals can reach the farmers who in turn must use them correctly. That can only be achieved if contact between the farmers and private chemical companies is maintained at low level and the farmer is educated.

Quantities of pesticides used

Amongst the acute inadequacies in Uganda today is lack of proper documentation. The gravity of the problem no doubt varies from one importer to another, but all those consulted had some degree of confusion on the quantities and costs of their merchandise. In other words, it is not possible to give a reliable estimate of the actual quantities of pesticides used in the country (but some rough estimates are available from the author who is still trying to gather more information). Probably the most reliable data is that given in Fig. 1, but even that has the limitation that the unit of measure (quntal) does not tell the actual quantities in terms of litres or kilograms, but instead expresses these in terms of packaging. Hence its usefulness is limited to comparing imports for different years. Obviously the only way to overcome this problem is for the authorities to institute proper systems of documentation, i.e. ones that facilitate the retrieval of even detailed information as and when it is required.

Pesticide handling and safety

There is apparently no act amongst the laws of Uganda which refers specifically to the sale and distribution of pesticides. The probable acts in this regard would perhaps be the Food and Drugs Act, the Dangerous Drugs Act and the Pharmacy and Poisons Act; but they all make no reference to pesticides. The closest reference that could be found is in the Distribution and Price of Goods Act (1970) in which it is stated of drugs, foodstuffs, etc. that:

- (a) The Minister may fix the retail price of a commodity.
- (b) The Minister may prohibit the sale of any imported commodity if to do so is in the interest of consumers.

(c) Retailers must display prominently, conspicuously and legibly prices of goods.

Whereas part (b) could perhaps be invoked against any undesirable pesticides, the impression obtained from talking with many government and co-operative officials is that they have actually never had cases of prohibited pesticides. This is perhaps not surprising especially in a situation where the one or few decision-makers may not even have sufficient background knowledge to arouse their suspicion against any pesticides. The requirement for conspicuous labelling in part (c) does not include information about pesticides and or instructions for their safe handling, again probably a reflection of the general unawareness of the problem on part of the legislators.

These, however, are regulations enacted in the early 1970s and earlier, before concern for the environment, especially in the Third World Countries had become widespread. The difference is that this concern has up to now not "caught on" in Uganda. Yet it is necessary for the legislature to review these regulations so as to "catch up" with the rest of the world. There is, for example, need for a properly enforced informative system of package labelling, possibly in a few of the local languages. This would augment the efforts of the few people like extension workers, co-operative officials and others who are concerned about the farmers' safe usage of pesticides.

The need for greater concern for pesticide handlers is borne out from some of the information provided by farmers themselves. For example, of the 32 farmers interviewed, 11 (44%) admitted keeping insecticides and acaricides in their living houses. Although most of these had given warning to members of their household against tampering with the chemicals, these warnings appeared to be intended for preservation of the chemicals rather than for prevention of accidental poisoning. Only two (6%) farmers had some sort of protective clothing (hand-gloves, old clothes, gum boots, face masks etc.) for use while handling the chemicals; and 21 (66%) admitted using the chemicals for unrecommended uses such as spraying houses against fleas, spraying against bedbugs, mixing powdery chemicals with produce in storage to prevent granary pests, etc. Whereas such people are no doubt aware of the toxicity of these chemicals and probably exercise great care to prevent accidental poisoning, they are certainly unaware that under such circumstances contamination by small quantities of these chemicals is unavoidable and that this could accumulate to levels which might later cause problems to individuals and the environment.

DISCUSSION AND CONCLUSION

With regard to the quantities of pesticides used in Uganda, these have certainly not reached a stage causing concern. It is pertinent to compare usage in the three neighbouring East African countries, and Fig. 2 is presented for this purpose. Although the data is not very recent, the situation for Uganda at least has not markedly changed, showing that the quantities of pesticides used are still very low so that with care, these could be increased markedly without

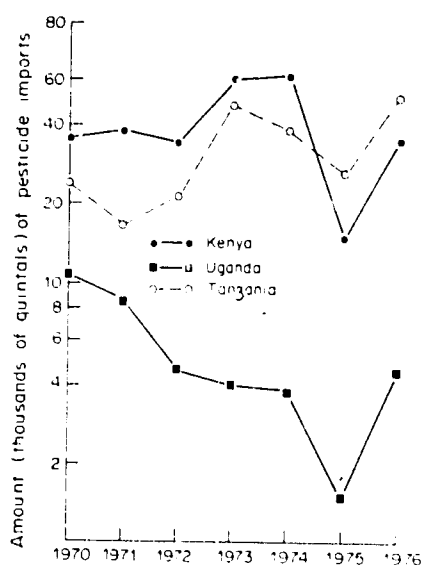


Fig. 2. The relative amounts of pesticides used in Kenya, Uganda and Tanzania from 1970 to 1976.

causing harm either to individuals or the environment. But the issue of quality is a more difficult one. The number of candidate pesticides is great and they appear under many different trade names. To illustrate this, the Uganda Co-operative Central Union alone imported pesticides under 28, 22 and 17 trade names during 1978, 1979 and 1980, respectively in spite of the fact that these were the war years for the country when business activity was minimum. Some of these chemicals may be unsuitable for the Ugandan situation if for example they are highly toxic, or if their persistence is limited under the local conditions; it is hard to know. For information on pesticides, Ugandans at present have to rely on the pesticides marketing agents (usually the multinationals), who obviously have a profit motive and are therefore unlikely to divulge any unwelcome news

about a pesticide they wish to sell. But like in other developing countries, Ugandan leaders need to recognise and act upon their responsibility to ensure that the potential threat of pesticides to individuals and the environment is not allowed to grow. Unfortunately, there is an apparent lack of coherent policies on pesticide and environmental issues. There is, therefore, immediate need for government to formulate regulations which ensure that only environmentally acceptable chemicals are imported, albeit within the context of available resources. Farmers need to be educated about all types of hazards associated with pesticides. Apart from using public news media, legislation requiring that packages be clearly labelled with safety measures, preferably in the applicator's own language, would assist greatly. Above all, the authorities in Uganda should think seriously about setting up an agency akin to the National Pesticide Board suggested at the C.M.O.'s meetings nearly 10 years ago. Such a board would go a long way to laying down a foundation on which the people of Uganda could in future use pesticides in safety to themselves and to their environment.

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