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PEST-CONTROL PROGRAMMES AND CONSIDERATIONS IN THE PROCUREMENT AND USE OF PESTICIDES

SM/AFG/74/006

AFGHANISTAN.

AGENCY TERMINAL REPORT

Prepared for the Government of Afghanistan by the
United Nations Industrial Development Organization,
executing agency for the
United Nations Development Programme

United Nations Industrial Development Organization

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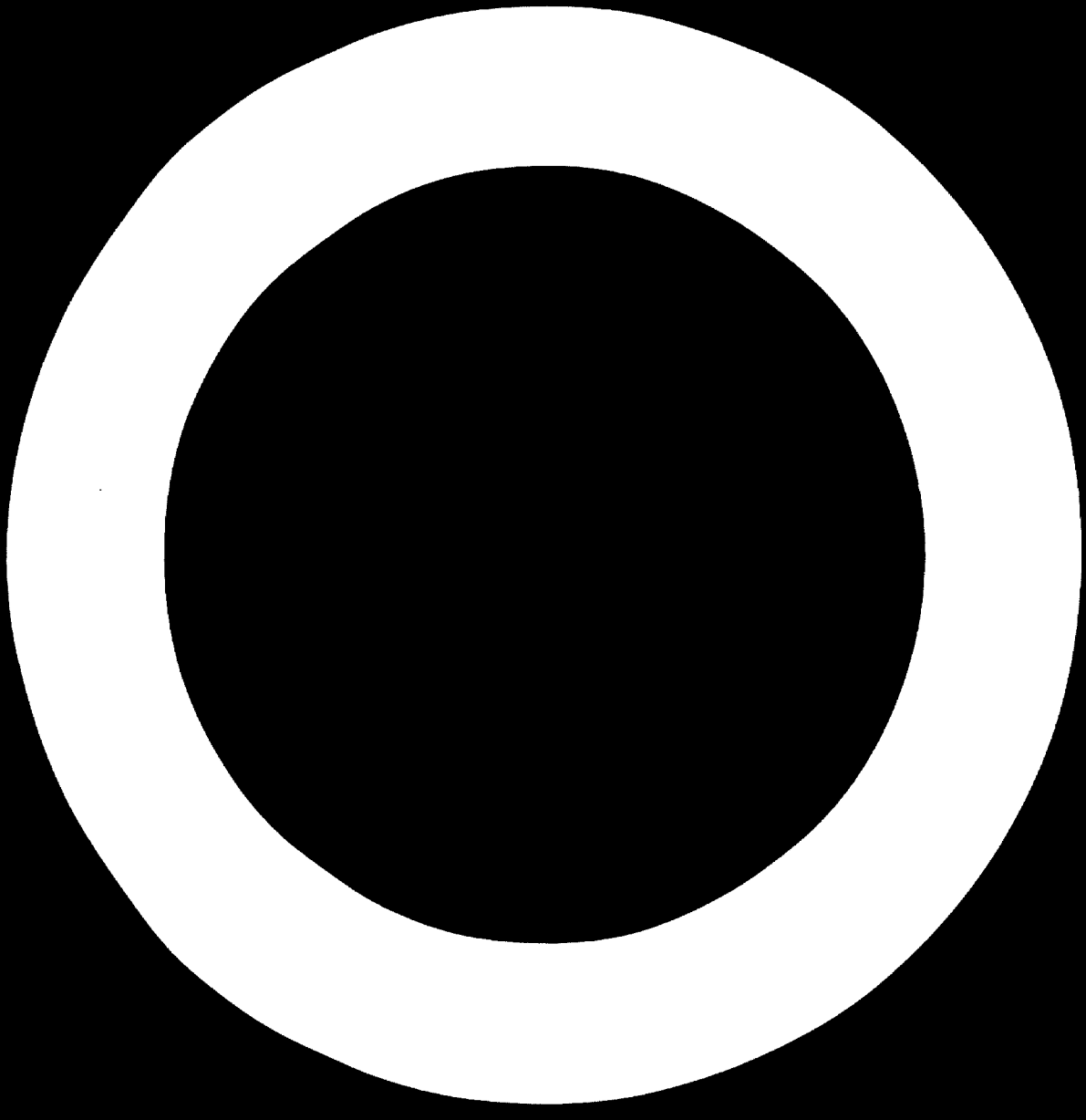

United Nations Development Programme

PEST-CONTROL PROGRAMMES AND CONSIDERATIONS IN THE PROCUREMENT AND USE OF PESTICIDES

(SM/AFG/74/008)

AFGHANISTAN

Project findings and recommendations

Prepared for the Government of Afghanistan
by the United Nations Industrial Development Organization,
executing agency for the United Nations Development Programme

Based on the work of Edward H. Smith, entomologist

United Nations Industrial Development Organization
Vienna, 1975

Notes

Reference to "dollars" ($) indicates United States dollars.

Reference to "tons" is to metric tons.

WP - wettable powder

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SUMMARY

Pest problems of Afghanistan pose major obstacles to the improvement of health and agricultural production.

The data required as a prerequisite to comprehensive planning are limited, or in some cases, non-existent. The trained personnel required to implement programmes at several levels is not available. There are serious deficiencies in institutional framework which limit the utilization of existing personnel resources in various agencies.

The pest complex in Afghanistan is extensive, but the country enjoys freedom from some major pests. Other pests at present seem to cause relatively low levels of injury. The country is particularly vulnerable to introduction of pests from abroad because there is no quarantine programme. In addition, it is vulnerable to intensified attack by domestic pests whose pest status may be altered by pesticide pressure, resulting in development of resistance and disruption in the ecosystem.

As agricultural programmes increase the use of irrigation, improved seed, fertilizer and management practices, the use of pesticides will become a more important component of the agricultural technology. The urgent sense of need for action should be weighed against the consequences of ill-conceived action.

In light of these factors, it is recommended that primary emphasis be placed on training personnel and accumulating the data that are required for decisions regarding control programmes and specific pesticide needs and the best means of obtaining them.

A proposal of the Food and Agriculture Organization of the United Nations (FAO) in connexion with UNDP project AFG/74/012, for strengthening plant protection services seems well designed, with some modification, to meet the need in this area. It would seem desirable to postpone construction of a formulation plant until needs in both medical and agricultural pest control could be assessed. In the meantime, an evaluation of domestic products which might be suitable in pesticide formulation should proceed, including sulphur for fungicide use. In addition, the United Nations Industrial Development Organization (UNIDO) and FAO should consider jointly the regional pesticide needs and appropriate steps to fulfil them. The steps appropriate for UNIDO in the specific situation which exists in Afghanistan are essentially those identified for countries which are least advanced in the use and production of pesticides.

INTRODUCTION

The need to improve control of medical and agricultural pests in Afghanistan has been generally recognized and several studies have been conducted to provide guidelines for improvement. A team from the United States Agency for International Development (AID) studied plant-protection programmes in Afghanistan, Iran, Pakistan and Turkey in 1972.[1] Their recommendations seem entirely appropriate, although the scope of their study gave limited attention to the matter of formulation and supply of pesticides. In 1974, a UNIDO/FAO team conducted a prefeasibility survey of pesticide production and use.[2] This survey confirmed the need for strengthening training, survey and quarantine and offered the specific recommendation that, "FAO, Rome, should immediately draft a project document to establish a project for strengthening the plant protection services of Afghanistan ...." Such a document has been drafted (AFG/74/014).

Another recommendation was for "... a feasibility study for the erection of a demonstration pesticide formulation plant". This recommendation has been debated, the debate centring chiefly on questions of economics, capacity, flexibility and timing.

The mission (SM/AFG/74/008) conducted over a period April - 5 May 1975 had the following objectives:

(a) Review with appropriate ministries the present and projected needs for pesticides;

(b) Review with appropriate ministries the economic feasibility of formulating pesticides in Afghanistan;

(c) Advise the Government on steps to be taken to meet its pesticide needs.

The individuals and agencies visited during the course of this study are listed in the annex.

The major points stressed during the briefing in Vienna were as follows:

(a) Gathering by the expert of statistics on pesticide use;

(b) The advantages of formulating pesticides within Afghanistan, a land-locked country;

1/ W. S. Sachler and others, Plant Protection in Turkey, Iran, Afghanistan and Pakistan (Berkeley, California, United States Agency for International Development, University of California, 1972).

2/ C. Popa and W. J. Magee "Pre-feasibility survey of pesticide production and use in certain countries in the ECAFE region" (IS/RAS/71/984).

(c) The advantages of standardizing petsicides and formulations used in developing countries;

(d) Evaluation by the expert of the use of DDT, which despite the environmental hazards posed, occupies an important role in malaria control;

(e) Consideration of the feasibility of producing pyrethrin in Afghanistan;

(f) Identification of qualified counterparts who could provide further information not readily available in the course of this mission;

(g) Consideration of a pesticide formulation centre, with a quality control laboratory, which might play an important central role in the introduction of well selected pesticides and their safe, judicious and efficient use;

(h) Consideration of the fact that in Afghanistan, the bulk of insecticides used are for public health programmes and that there is a high potential use of sulphur as a fungicide and 2,4-D as a herbicide;

(i) Review of the present status of industrial development in Afghanistan, together with the background of the project. The differing views of UNDP, New York, and UNIDO on the feasibility of a formulating plant were cited.

In-depth study of the major factors relating to pesticide use and availability was, of course, impossible in the time allocated. The effort of the present study was directed to an assessment of pest-control programmes in health and agriculture on the assumption that such an assessment is required as a prerequisite to considering pesticide needs and how these can best be met. An alternative approach would be to conduct a study in which matters of industrial development are the primary consideration with the status of pest control secondary. The background and experience of the consultant oriented him to the former approach and it was in the context of this philosophical orientation that the assignment was undertaken. It was evident in UNIDO briefing and debriefing that there was difference of opinion as to which orientation was appropriate.

The major efforts of this study were directed towards:

(a) Gaining an overview of the status of pest control for pests of medical and agricultural importance;

(b) Determining the data base which would be useful in making decisions regarding pesticide needs and availability;

(c) Verifying the major conclusions reached in earlier studies;

(d) Reconciling the findings of this study with established policy of the several agencies having a role in pest control (UNIDO, UNDP, FAO and others), and offering recommendations pertinent to the total pest-control programme.

FINDINGS

The major factors which relate to pest control and pesticide use in medical and agricultural programmes are briefly discussed in the following paragraphs.

The pest complex and status of control in Afghanistan

Much of Afghanistan is relatively free of major agricultural pests and of the pest species present, many account for low levels of injury. For instance, both rice and grapes are free of serious insect pests. This situation possibly reflects the natural balance in the ecosystem and the freedom from the disruptive effects of intensive pesticide pressure. Where intensive selective pressure has been applied, as in malaria control, the expected pattern of resistance has followed, four of the five mosquito vector species being highly resistant to DDT.

Inventories of disease and insect pests of plants have been provided by S. B. Lal[3/] and Z. A. Seddiqi.[4/] Little is known of the nematodes associated with plants or the crop damage caused by them. Similarly, weed science is not well developed and a survey of major weed problems is needed.

Plans for agricultural development call for intensified use of pesticides. This is the next logical step in the emerging technology as the use of improved seed, fertilizer, irrigation and culture become generally accepted. It would be most unfortunate if pesticide use runs ahead of the development of trained staff which can exercise its influence in the proper use of pesticides. With no effective quarantine programme, lax registration regulations, and inadequate plant-protection programmes, the likelihood of introducing new pests or intensifying the pest status of native pests is high.

Organizational framework for plant protection

Responsibility for work in this area at the national level is assigned to the Department of Plant Protection and Quarantine, Agricultural Division, Ministry of Agriculture and Irrigation. Its main responsibilities are for: pesticide

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3/ S. B. Lal, Plant Diseases in Afghanistan, publication No. 2 (Plant Protection Association of Afghanistan, 1973).

4/ Z. A. Seddiqi, Crop Pests in Afghanistan (Insects), publication No. 1 (Plant Protection Association of Afghanistan, 1973).

registration; quarantine; pest surveys; large-scale area programmes for control of epidemic outbreaks; demonstration of control techniques; recommendations; and credit to farmers participating in certain pest-control programmes.

In each of the 28 provinces, programmes are conducted under the direction of a Director General assisted by a small staff of 5 to 10 individuals. The staff of the Department numbers 465, of which 14 have training at the Bachelor of Science level.

The Department's effectiveness is limited by number of personnel and level of specialization. There appears to be little or no co-ordination between the Department of Plant Protection and the Department of Extension and Agricultural Development, the Department of Research, and faculty of Agriculture, Kabul University.

Plant protection resources and their co-ordination

An effective programme of plant protection requires inputs at many levels and by many agencies; these inputs include research, extension, regulation by units within the Ministry of Agriculture and Irrigation, teaching by university faculty, funding through the Agricultural Development Bank, industrial resources through the Ministry of Mines and Industry, and inputs of goods and services from the private sector. The co-ordination of these resources is essential. Present levels of co-ordination are inadequate. The proposed programme for strengthening plant protection might well serve as a focal point for the identification and encouragement of co-ordination from the various agencies charged with responsibility in these areas.

Quarantine laws and enforcement

The country is currently without a quarantine law. At the same time, it seeks to promote tourism and imports the supplies needed to accelerate development in the industrial and agricultural sector. As commerce with the outside world grows, the advantages of geographic isolation conferred by terrain features and location will diminish. It is imperative that a programme of quarantine be initiated at the earliest opportunity. It should be added that the need is recognized by the appropriate agencies and plans are being made within the Department of Plant Protection to meet this need.

Pesticide regulation

The existing policy and practices are virtually ineffective in regulating the use of pesticides. This is true at all levels - importation, distribution and grower use. It seems essential to adopt regulations which provide reasonable protection in terms of the consumer of products, the individual applying pesticides, and the ecosystem, which as indicated elsewhere now includes some highly advantageous balances. Much attention has been given in other countries to pesticide registration, labelling and implementing regulations and the experience gained could serve as a useful guide in Afghanistan.

The private sector

There are four pesticide firms operating in Afghanistan. They represent several major firms whose full range of pesticides is available for distribution if sales potential justifies. To date, volume has been light, although representatives anticipate increased volume as pesticide use follows the earlier steps in emerging technology such as use of fertilizers, improved seed, irrigation etc. Some firms provide their own programme of grower information and recommendations.

The representative of one major company which produces and formulates pesticides from a European base indicated that his company watched the possibility of local formulation and would undoubtedly begin when volume and other factors conferred economic advantage.

Registration of pesticides is based largely on submitting samples together with the toxicological and performance data acquired in the process of registration elsewhere. It appears that the evaluation of such data is perfunctory.

Interaction between industry personnel and plant protection staffs in the Ministry of Agriculture is limited and on an informal basis. There appears to be no "official" recommendation which might serve as a guide to distributors.

It is recognized that the private sector can play an important role in fulfilling the pesticide needs of Afghanistan and that healthy competition would enhance the services provided. The Government has recognized industry's role and sought to encourage it by making pesticide importations duty free. While encouraging industry, it should be recognized that the organizational

structure and expertise for effective regulation does not exist. Should industry participation and promotion, which is anticipated as a consequence of the maturing technology, run ahead of effective regulation, the results might well be the over-use of pesticides with the attendant ills of human hazard, pest resistance and ecological disruption. There appears to be a need for better identification of industry's role in working with the Ministry of Agriculture, the Agricultural Development Bank and other agencies.

Public health programmes

It is generally recognised that malaria control is a prerequisite to agricultural and industrial development in Afghanistan. In recognition of this fact, a Malaria Eradication Programme was initiated in 1958. In negotiating UNDP assistance to the programme during 1974, the Government decided that major modification was required and that the goal should be control rather than eradication. A number of factors accounted for this change of emphasis, including the fact that four of the five mosquito vector species are highly resistant to DDT. The long-range and immediate objectives of the new programme will be to concentrate anti-malarial measures in areas of greatest socio-economic importance having high malariogenic potential.

The levels of insecticide use planned for 1975 are DDT (75% WP) 106 tons and malathion (50% WP) 176 tons, at a cost of $1,280 and $2,000 per ton, respectively. These levels are considerably below the estimates of 500-600 tons of DDT and 300 tons malathion per year for the period 1975-1978 as projected by C. Popa and W. J. Magee.5/

There appears to be considerable uncertainty regarding the use of insecticides in the malaria-control programme based on the factors of cost, effectiveness and control strategy. The belief is held by some individuals in the Ministry of Health that future programmes should rely less on insecticide use and more on basic health services. While it is difficult to visualize effective control programmes without major reliance on insecticides, these views should be considered in attempting to project plans for the future. Quite clearly, some major decisions must be made in the near future on control strategy, agency roles and sources of support. These decisions should provide a basis for projecting insecticide needs with greater accuracy than can be done at the present time.

5/ C. Popa and W. J. Magee, op. cit.

Credit and agricultural development

Pesticide use cannot expand to meet the need without expanding credit. The Agricultural Development Bank is prepared to meet this need although a number of difficulties exist. Many farmers have not been convinced of the benefits to be derived from use of pesticides, although this situation is improving due in part to the conspicuous success in use of fertilizer in crop production and the use of sulphur in control of anthracnose on grapes. A deterring factor is the fact that some farmers have come to look to the Government to provide pesticides as an extension of "demonstration" programmes financed solely by the Government.

The fertilizer-loan programme has encountered difficulty with repayment, only about half of the loans having been repaid in 1973. Approximately 95% of all fertilizer purchased is obtained through loan and it is assumed that a similar pattern would apply in the procurement of pesticides.

The Bank is not an appropriate agency to promote the use of pesticides. Consideration has been given to letting the Bank serve as an agency to procure and finance, and its affiliate organization, the Afghanistan Fertilizer Company, serve as distributor and promoter, drawing on its staff of 300 distributors. It is also envisioned that the company's activities could expand to include pesticide application equipment as well as fertilizer and pesticides.

The Bank would expect to procure pesticides through the representatives of major pesticide companies doing business in Afghanistan and, therefore, is in a position to enlist the resources of the private sector in meeting the need.

The Bank's experience to date in handling pesticides has been unsatisfactory owing to the diversity of pesticides, low volume of use and difficulties in estimating stocks required for specific purposes. As a result of the latter, overstocking has occurred with attendant problems of carry-over, storage and deterioration.

Marked progress in the use of pesticides requires credit, and this in turn requires promotion and sound information on the quantities of pesticides needed.

Pesticide needs and data base

The data are not readily available on present and projected pesticide needs; it is not clear whether certain data are non-existent or merely unobtainable. For instance, data on pesticide importations were not obtainable from the Central

Statistics Office which has recently assumed responsibility for these records. Their experience in computerizing data had encountered some of the difficulties well known in developed countries. The computer printouts showed insecticides coded under "insecticides and disinfectants".

There appears to be differing opinions on the extent of pesticide use on various commodities and projected needs. Generalities could be offered, such as the continued use of sulphur for control of anthracnose on grapes, and increase in hectares planted to grapes. The major pesticides and quantities currently used are as follows:

Pesticide	Formulation	Quantity (Metric tons)	Use
DDT	75% WP	106	Malaria control
Malathion	50% WP	176	Malaria control
BHC	Dust (3% Gamma)	200	Grasshoppers
Sulphur	Dust	1000	Anthracnose on grapes

In addition to these major uses, largely under government-sponsored programmes, the private sector also supplies pesticides to individual farmers but this source represents a minor part of the total supply. The striking features of these data are the relatively low quantities of pesticides used and the uncertainty of future trends, with the exception of sulphur.

Another difficulty is concerned with deriving future benefits from the major pest-control programmes. The differences in the roles and control strategies of the various agencies, and in the orientation of personnel engaged in such diverse activities as grasshopper control, public health and control of diseases in grapes, prevents the accumulation of experience with a broad application to the pest problems of the country.

Industrial considerations, manufacture and formulation of pesticides

The general level of industrial development in Afghanistan is low. With respect to the chemical industry, development would appear to be at Stage 1 as defined in UNIDO monograph No. 8, Chemical Industry.[6/] No technical pesticides are produced in Afghanistan and the chemical industry lacks the infrastructure to make this a viable option in the immediate future.

6/ United Nations publication, Sales No. 69.II.B.39, vol. 8.

Similarly, peeticidee are not being formulated at present. Solvente are not produced locally, but could be imported from neighbouring countrise. Inert carriere such as talc, kaolin and limestone are available from domeetic sources, but their physical and chemical characteristics have not been determined.

Afghanistan has sulphur deposits. Sulphur is also available through the proceeeing of natural gas. The potential of theee sources for fungicide uee as well ae industrial uses, should be determined.

Plant Protection Aesociation of Afghanistan

The Association was formed in 1971 with the objective of promoting informal exchange of information on pest problems, needs and control programmee. It appeare to have been very promising as a vehicle for communication, ite success being all the more impreesive considering the limited communication between agencies of Government whose assigned missions would imply the need for liaison and communication. However, by government decree, in 1973 the charter of this association was revoked, as were the charters of other bodies. It seems appropriate that such organizations should have government approval and encouragement.

II. DISCUSSION

Findings and rationale

The points cited above clearly establish that the essential components required to determine pesticide needs and to procure, finance, distribute and apply pesticides, are not available at this time. It is further evident that if use runs ahead of regulation and education, serious consequences might occur.

Viewing the issue of pesticide formulation from the perspective of pest control, accurate answers to the following questions should be known:

(a) Which pesticides are needed?

(b) Which formulation should be used?

(c) What are the trends in pesticide use?

(d) What is comparative cost of local formulation versus import?

(e) Can needs best be met on a regional or national basis?

Against this check-list, some facts stand out. DDT will likely occupy a less significant role in malaria control because of insect resistance. Its undesirable environmental features would likely be outweighed provided it was highly effective. Some shift from DDT to malathion is expected. Malathion is more expensive, more difficult to formulate and less stable. Neither of these insecticides is appropriate for extensive agricultural use, but each for different reasons.

BHC dust has been provided through co-operative agreement with the Union of Soviet Socialist Republics. The effectiveness and likely future of these programmes could not be readily determined.

Sulphur seems certain of expanded use, but its domestic production would require both processing and formulation. Considerable information is needed to assess the practicality of such an undertaking. Recognising the usefulness of sulphur, both as a fungicide and as a basic material of the chemical industry, it would seem appropriate to determine the feasibility of processing it from domestic sources.

Looking beyond these major pesticides, usage is spread among a wide assortment of pesticides and formulations with low total volume.

With respect to cost/benefit considerations, there are wide variations in estimates of potential savings by domestic formulation, estimates proposed by

industry representatives being considerably lower than those proposed by C. Popa and W. J. Magee.[1] To obtain realistic estimates would appear to pose no special problem once agreement was reached on such fundamental questions as the pesticides to be formulated, formulations to be provided and the schedule of production.

Clearly, the domestic formulation of pesticides in Afghanistan is a desirable goal. However, the combination of factors cited is believed to favour further fact-finding and programme development before proceeding with plant construction.

To the various uncertainties already cited should be added another consideration which involves no significant commitment of time or funds, namely a study with FAO of the advantages and disadvantages of regional versus domestic plans for meeting pesticide needs.

Response to specific points raised during briefing

Statistics on needs and use are essential and some problems in obtaining them have been cited. Domestic formulation is more advantageous than import. Steps towards this goal should be made as rapidly as certain prerequisites can be met. While there are advantages to standardizing both pesticide and formulation, this principle has limited application in light of specific pesticides and formulations for specific purposes.

It is believed that the disadvantages of DDT from an environmental point of view are outweighted by other advantages. The primary question now is one of effectiveness.

Pyrethrum production in Afghanistan should be considered as an option in agricultural production, but this possibility has limited application to the immediate problem.

While a pesticide formulation centre with quality-control laboratory can, under certain conditions, play an important central role in the introduction of well-selected pesticides, it must be recognized that the safe, judicious and efficient use involves many steps beyond formulation and a comprehensive programme in pest control is required to insure reasonable progress in all of these areas.

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[1] C. Popa and W. J. Magee, op. cit.

While the potential for herbicides, nematicidee and other pesticides is recognized, no dramatic increase is envisioned. The experience gained in strengthening the entire structure for pesticide use can accelerate their orderly assimilation into the emerging technology.

Pesticide needs and UNIDO policy

Recognizing that the rationale offered in the foregoing may be oriented more to the perspective of pest-control principles than industrial development, the established policy of UNIDO as it relatee to these matters should be considered.

Several UNIDO documents relate directly or indirectly to the question at hand. These include: Chemical Industry, monograph No. 8 (United Nations, Sales No. E.69.II.B.39, vol. 8); "Pesticides; report of a workshop, Vienna, 28 May-1 June 1973" (ID/WG, 154/27); and Pesticides in the Green Revolution; UNIDO's Role (PI/36/Rev. 1). The latter publication is particularly pertinent. Also pertinent is Resolution M (sub-committee B4) of the Ad Hoc Government Consultations on Peeticides in Agriculture and Public Health, held under the auspices of FAO in Rome, 7-11 April 1975.

It seems clear from the evidence cited, that Afghanistan falls in Category 1 as described in the document Pesticides in the Green Revolution; UNIDO's Role. This description and the steps which UNIDO proposed for consideration in such cases are given below. After each proposed step, comments on how the step might apply to the specific situation in Afghanistan are underecored.

"Category 1

The first category, consisting of developing countries with no pesticide manufacturing industry and a very modest current pesticide consumption, number some two or three dozen smaller countries, mostly engaged in traditional agricultural activities with a sizable subsistence or non-market sector. The agricultural and industrial infrastructure is very weak or non-existent. The sale of pesticides within the country is in the hands of small shopkeepers who know little about toxicity, shelf-life or the proper application thereof.

" Although the exact circumstances vary from country to country, it is believed that only a few of these countries will have the demand for pesticide increase sufficiently during the next decade to justify any manufacturing activities beyond simple repackaging and possibly some basic formulation of common pesticides with low toxicity levels. However, there are a number of steps that countries in this category can take with UNIDO assistance in order to improve the supply of pesticides, and thus the efficiency of agricultural crop production and the economy as a whole.

"(1) Collect information of the country's potential pesticide requirements, carry out a cost and benefit analysis and prepare a forecast report for the next decade. FAO can be consulted and approached for assistance at this stage of development."

This is an appropriate step which could be accomplished with UNIDO assistance within the ecope of the proposed project for strengthening plant protection services. Special consideration would need to be given to public-health needs which are not included in the project cited.

"(2) Adapt or establish quality standards for all imported pesticides (in co-operation with FAO)."

Appropriate.

"(3) Establish, if possible, a quality control laboratory to examine imported pesticides and check pesticide residues in export crops and food shipments. If the lack of facilities and trained personnel makes this impracticable, importers shall be required to produce certificatee which can be checked together with the pesticide residuee in exported food products by an inetitute in a third country. An alternative solution would be to eetablish a regional control laboratory."

Appropriate.

"(4) Provide training opportunities in developed countries for quality control technicians, while the local training of persons involved in the field application of peeticides can be arranged with the aseistance of FAO."

Appropriate.

"(5) Organise a bulk-purchase scheme for important pesticides thus obtaining better financial terms, and at the same time set up packaging centres and an efficient distribution system by expanding existing channels or by creating new outlets."

The needs cited here might well be considered within the scope of the programme of purchase, credit and dietribution discussed in chapter I under "Credit and agricultural development".

"(6) Examine the price structure and suggest suitable legislation to control exorbitant profit margins and other unfair trade practices to promote the use of pesticides. This can be done by a government authority in co-operation with UNIDO."

Appropriate within the ecope of responsibility for pesticide regulation by agencies of Government.

"(7) Coneideration should be giver to the organized cropping and production of naturally occurring botanical pesticides such as rotenon (derrie), sabadilla, ryania, quassia, pyrethrins, nicotine."

While this recommendation has merit in terms of long-range industrial and agricultural development through the growing and processing of these botanical sources of insecticides, it has limited pertinence to the question before us. This view is based on two factors: (a) the extended time-scale for production assuming favourable conditions, (b) the limited use of these insecticides in control of pests to public health and agriculture in Afghanistan.

The possibilities of producing these botanicals were cited with enthusiasm by individuals in the Ministry of Agriculture. These possibilities should be explored, but as an option in agricultural production and industrial development rather than as a solution to immediate pesticide needs.

> "(8) Draft a legal provision pertaining to import quality control, price control and credit policies encouraging the proper use of pesticides, trade regulations for toxic pesticides, including proper warning, packaging and distribution of pesticides, and the training of key personnel involved in the control, distribution and commerce of pesticides. Such provisions should also anticipate local manufacture and provide for its proper development and management."

Appropriate, and a needed adjunct to No. 5.

III. CONCLUSION AND RECOMMENDATIONS

The pest problems of Afghanistan are not well defined, although there is the growing awareness that pesticides can become a major factor in the emerging agricultural technology. This needs to be considered in the context of the favourable situation whereby many crops are currently without major pests, a situation which could change drastically through the introduction of new pests or alteration of the population dynamics of existing pests. In assessing this vulnerability, it is noted that there is currently no quarantine programme to prevent the introduction of pests and no effective system for regulating the importation, distribution and use of pesticides. The capability to monitor pesticide residues on commodities and in the environment does not exist. There is a very limited staff with expertise in development and implementation of pest-control strategies. The ultimate users of pesticides in agriculture are the many growers with small acreages, limited training and limited capital. Thus, pest-control programmes are on the threshold of expanded pesticide use, but without the safeguards required to avoid objectional side effects of major proportions.

These factors, in conclusion, do not provide a bright picture for short-range gains. The single most obvious need is for trained personnel capable of placing pest control on a sound basis. This need has been recognized in development of the proposal for strengthening plant protection services. This proposal is basically sound, but appears to need additional features to enhance co-ordination of all resources in plant protection, not merely those in the Department of Plant Protection.

This plan does not give specific attention to the problem of supplying pesticides. It would seem desirable to add a component which would consider total pesticide needs, the role of government and industry in supplying them, possibilities of regional co-operation, and co-operation between the private sector and Department of Plant Protection.

Recommendations

It is recommended that:

1. (a) The project "Strengthening Plant Protection Services" (AFG/74/014), with modification, be initiated at the earliest practical date;

(b) The project be modified in two respects: (1) provide an organizational structure which would enhance co-ordination of plant protection and related crop-production programmes within the Ministry and in other agencies having resources in pest control, (2) add a component providing for joint effort with UNIDO to determine needs and co-ordinate efforts to supply pesticides with attention given to the role of the government and private sectors.

2. The Ministry of Mines and Industry with UNIDO assistance take steps to determine the physical and chemical properties of domestic materials which might be useful as diluents in the formulation of pesticides.

3. The Ministry of Mines and Industry with UNIDO assistance consider the feasibility of processing sulphur from natural deposits and from natural gas refining for use as fungicides and in industry.

4. Contacts be made with FAO to determine the possibilities of regional co-operation in the formulation and supply of pesticides as listed in Resolution M, Pesticides in Agriculture and Public Health, FAO, Rome, 7-11 April 1975.

5. After a reasonable period of time devoted to data gathering and assessment through the programme strengthening plant protection services, consultations be held with UNIDO and FAO to consider the feasibility of constructing a formulation plant in Afghanistan. This recommendation is predicated on the assumption of evolution from Category 1 to Category 2 in a reasonable period of time.

6. At the earliest opportunity, the Plant Protection Association of Afghanistan be re-organized to continue its positive efforts at informal co-ordination and mutual support within the various sectors of plant protection.

Annex

INDIVIDUALS AND AGENCIES CONTACTED DURING UNIDO MISSION (AFG/74/008) 24 April - 5 May 1975

A. A. Abawi, Vice President, Department of Industries, Ministry of Mines and Industries

A. Anam, President, Forestry and Viticulture

G. M. Baheer, Staff Officer, Central Statistics Office

F. A. Christal, Technical officer, WHO

J. R. Cullen, Entomologist, WHO

Dr. A. N. Djelantik, Senior malariologist, WHO

Josef Duester, General Manager, Agricultural Development Bank, Kabul

A. K. Hakimi, President, Central Statistics Office

N. M. Jalal, President of Agricultural Extension Evaluation

S. B. Lal, Plant Pathologist, Indian Technical and Economic Cooperation Program

K. Laleeg, Acting Dean, Faculty of Agriculture, University of Kabul

A. Marmann, Technical Consultant, CINA Co. Ltd

Ali Mohammade, President, Department of Plant Protection, Ministry of Agriculture

Abdulah Naik, General President of Extension and Agricultural Development, Ministry of Agriculture and Irrigation

M. Aref Noori, President, Department of Research, Ministry of Agriculture

Z. A. Seddiqi, Entomologist, Indian Technical and Economic Cooperation Program

K. C. Sen, Project Manager, Industrial Services, Ministry of Mines and Industries

A. Shansabe, Vice President, Department of Plant Protection, Ministry of Agriculture

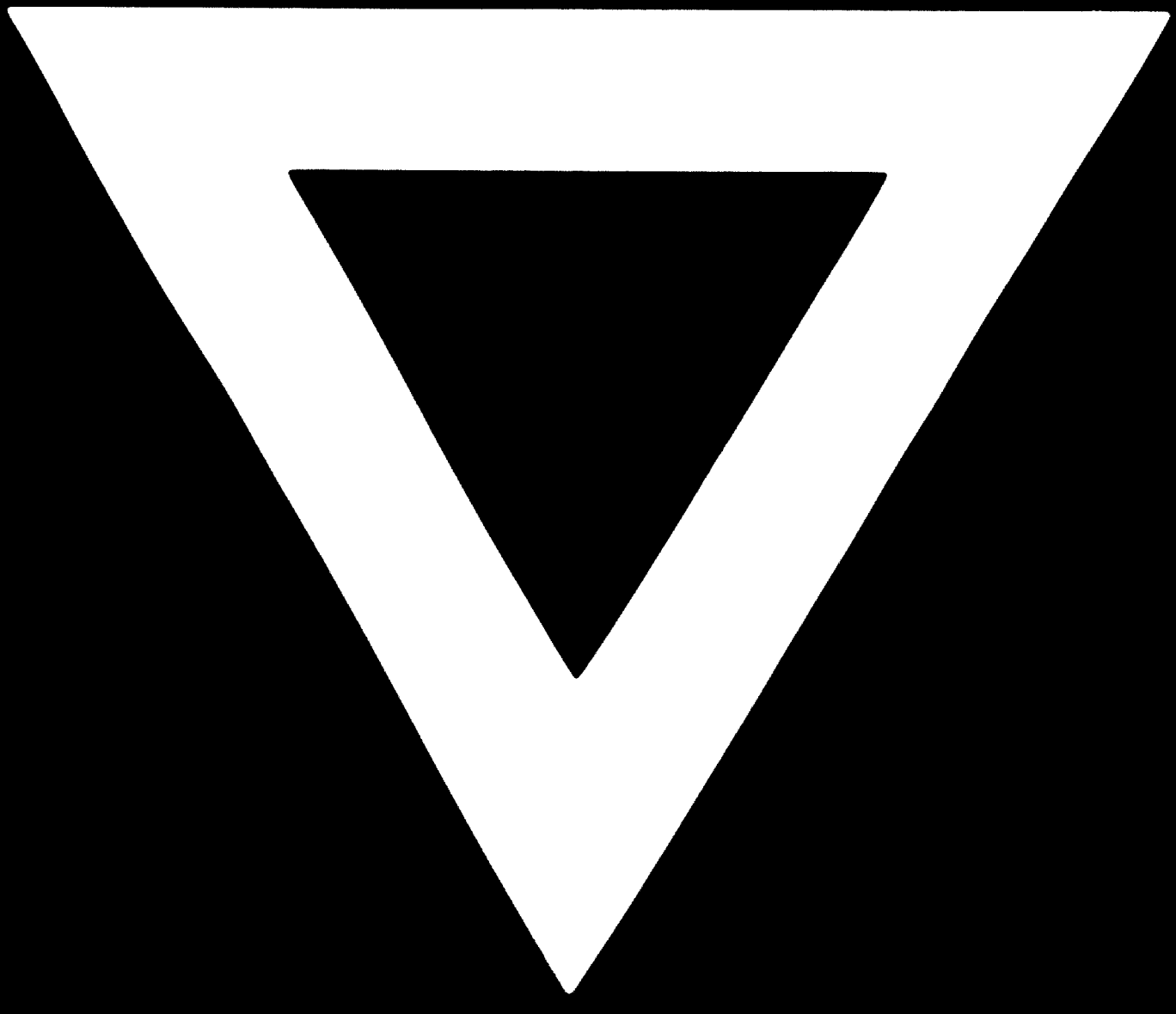
Dr. Mohamed Siddigi, Professor of Entomology, Faculty of Agriculture, University of Kabul

M. H. Tauffiqi, President, Department of Industries, Ministry of Mines and Industries

A. Wais, President, CINA Co. Ltd

Dr. Asom Whabsadah, President, Preventive Medicine, Ministry of Health

S. ZaFaryar, Vice President, Department of Plant Protection (Locust), Ministry of Agriculture



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