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CO-OPERATION FOR NATURAL
DISASTER REDUCTION

INTERNATIONAL STRATEGY FOR THE FIGHT AGAINST THE LOCUST AND
GRASSHOPPER INFESTATION, PARTICULARLY IN AFRICA

Report of the Secretary-General

Summary

The present report is being submitted in pursuance of General Assembly resolution 43/203 of 20 December 1988 on the international strategy for the fight against locust and grasshopper infestation, particularly in Africa. The report covers action taken by the Task Force established under the Director-General for Development and International Economic Co-operation, by UNDP and by ECA. A separate report by the Director-General of FAO will be issued as an addendum to the present report.

The purpose of the Task Force, which has met regularly since its establishment in January 1989, is to ensure enhanced and co-ordinated support to FAO as the lead agency of the United Nations system's efforts with particular reference to the provisions of paragraphs 13 and 15 of General Assembly resolution 43/203.

UNDP has provided assistance to country programmes for desert locust control and to regional control organizations and FAO. In addition, UNDP has prepared a global research project to develop alternative strategies for desert locust control.

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ECA has encouraged the development of capability for locust forecasting and control at the national and regional levels in Africa and has taken steps to improve future locust-control strategies.

Bilateral and multilateral donor agencies have made extensive contributions to the fight against the desert locust plague.

Recent scientific evidence indicates some decrease in locust activity in Africa. It is too early, however, to say whether this will, in fact, mean that the current plague is under control.

I. INTRODUCTION

1. The present report covers action taken in response to General Assembly resolution 43/203, of 20 December 1988, by the Task Force established under the chairmanship of the Director-General for Development and International Economic Co-operation, by the United Nations Development Programme (UNDP) and by the Economic Commission for Africa (ECA). A separate report by the Director-General of the Food and Agriculture Organization of the United Nations (FAO) will be issued as an addendum to the present report (A/44/314/Add.1-E/1989/115/Add.1, annex).

2. Donor countries have proved extremely responsive to the calls in General Assembly resolution 43/203 for increased international assistance to the fight against the locust and grasshopper infestation. The total bilateral and multilateral assistance in this area has been recorded by FAO in an effort to facilitate co-ordination between donors, affected countries and regional pest control organizations. Furthermore, other United Nations organizations, in particular the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO), have contributed to the efforts within their respective fields of environmental protection and meteorological data collection. Finally, the Special Programme for African Agricultural Research has established a Desert Locust Task Force and is considering a future research programme on desert locusts.

3. Recent scientific evidence suggests that the current locust and grasshopper plague may be diminishing. However, the onset of the rains in late May has produced outbreaks that have somewhat modified the optimism that might otherwise have prevailed. Thus, in early June 1989, the Secretary-General found it necessary to call the attention of the relevant heads of United Nations organizations to the continued risk of new outbreaks of desert locust activity and urged them to ensure that the exceptional vigilance and support that has been mounted to control locusts for the past two years does not fall into disuse, and to maintain their assistance to countries that have been affected. While the situation may seem less urgent for the time being, it remains necessary to strengthen national pest control organizations and to develop effective and environmentally acceptable strategies to control future outbreaks. An oral report on the current situation will be presented to the Economic and Social Council at its second regular session.

II. UNITED NATIONS TASK FORCE ON LOCUSTS

4. In response to General Assembly resolution 43/203, the Secretary-General decided in early January 1989 to organize, under the chairmanship of the Director-General for Development and International Economic Co-operation, a United Nations Task Force to ensure enhanced and co-ordinated support for the efforts of FAO to fight against locust and grasshopper infestation, particularly in Africa. The Task Force was organized with special concern for paragraphs 13 and 15 of Assembly resolution 43/203, in which the Assembly called for (a) the establishment, under the auspices of the United Nations and the technical and organizational responsibility of FAO, of an international and operational capacity operating at

the regional and subregional levels, to provide direct support to the countries affected and to undertake co-ordinated actions to control locusts and grasshoppers, particularly in regions that are seriously infested and/or of difficult access; and (b) the mobilization of voluntary contributions, if appropriate, through a pledging conference.

5. The Task Force is composed of executive and department heads of concerned United Nations entities, namely, the United Nations Development Programme (UNDP), ECA, the Office of the United Nations Disaster Relief Co-ordinator (UNDRO), UNEP, the Department for Special Political Questions, Regional Co-operation, Decolonization and Trusteeship and the Department of Technical Co-operation for Development. The Task Force has met regularly at the executive or working level, and the representative of FAO has participated fully in the meetings. It has been agreed that the composition of the Task Force will be kept under review.

6. The United Nations Task Force has taken a number of initiatives regarding the fight against locust and grasshopper infestation:

(a) It participated in the meeting of experts, held in Rome from 16 to 20 January 1989, which prepared the technical proposals on desert locust control (proposals for the international task force to control the desert locust) adopted in principle by the meeting of representatives of countries affected by the locust and grasshopper infestation and interested donors, organized by FAO in Rome from 24 to 26 January 1989;

(b) Upon its recommendation, a message was sent by the Secretary-General to the meeting held in Rome from 24 to 26 January 1989;

(c) Fifteen representatives of the United Nations Task Force attended the Rabat meeting on the fight against locust and grasshopper infestation of the International Ad Hoc Group of Experts on the International Decade for Natural Disaster Reduction;

(d) The Task Force urged UNDP, in co-operation with FAO, to pursue areas of research into alternative strategies for long-term desert locust control;

(e) The Task Force has actively supported FAO in considerations related to the launching of the desert locust control plan.

III. ACTION TAKEN BY THE UNITED NATIONS DEVELOPMENT PROGRAMME

7. Since 1986, UNDP assistance for desert locust control during the current plague includes financial contributions to country locust-control programmes, to regional control organizations and to projects implemented by FAO. In addition, a long-term research programme to develop environmentally acceptable locust-control strategies has been prepared for submission to the Governing Council of UNDP at its thirty-sixth session, held from 5 to 30 June 1989.

8. A total of \$2,369,740 in financial assistance has been provided for the years 1986-1989 to national programmes for desert locust control. The nature of assistance varies from country to country and includes elements such as training, personnel, general operating costs and equipment. A detailed account of UNDP assistance to individual affected countries will be found in annex I below.

9. Furthermore, UNDP has provided financial support to the Desert Locust Control Organization for East Africa through FAO, in order to develop more effective pesticide application equipment and tactics. The improved equipment and techniques will be disseminated through training courses to country crop-protection specialists in the region. The improved equipment and techniques are also expected to prove useful in the fight against other pests, such as grain-eating birds, tsetse flies and army worm.

10. Financial support to FAO has also been provided to plan a long-term strategy for strengthening plant-protection services in Africa. In addition, UNDP has financed emergency assistance through FAO to meet short-term and intermediate needs for desert locust control. That form of assistance comprises technical consultants, field equipment, training, local operating costs, international desert locust control planning meetings, communication, satellite imagery, and the collection and treatment of weather data. A detailed account of UNDP support to regional pest control organizations and FAO will be found in annex II below.

11. Prior to the availability of synthetic chemical pesticides in the 1950s, little could be done to protect major agricultural areas from attack by desert locusts. However, pesticides are now the basis of all desert locust-control campaigns. Over 25 million hectares were treated in 1988. Unfortunately, the hidden costs of this widespread application of pesticides are unknown, and professional pest-management experts have pointed to the need for the development of a modern programme of locust control that would employ a broader package of control agents and strategies. Synthetic chemical pesticides might still be a component of such a modern programme, but only used under defined circumstances and conditions.

12. Although locust-control research was supported by some European countries until the 1970s, there are few laboratories currently conducting research on desert locusts that is oriented towards the development of new control agents or tactics. Modern advances in pest management and control have not been thoroughly evaluated for possible exploitation in desert locust control.

13. Against this background, and in response to the request in General Assembly resolution 43/203, a proposed \$5 million research project, entitled "Development of environmentally acceptable alternative strategies for desert locust control" (GLO/89/002), has been prepared by UNDP for submission to the Governing Council at its thirty-sixth session. Activities foreseen under the project will include research on locust forecasting and modelling, biological control, fellowships, an annual meeting, and consultant assistance to develop links between appropriate research institutions. Other important research components will be recommended to the Governing Council at a later date. The project will establish a collaborative research network that will bring together institutions in locust-affected countries

and advanced laboratories throughout the world. An advisory scientific panel will be charged with the responsibility of identifying possible projects and monitoring the progress of the programme.

14. The rationale and general objectives of the project were developed by a group of distinguished entomologists, environmentalists and meteorologists. Those objectives were then endorsed by a conference held in Cairo, in December 1988, and attended by over 75 participants from 22 countries and 11 international organizations. Subsequently, a policy document outlining a UNDP-initiated long-term programme on environmentally acceptable alternative strategies for desert locust control was considered by the UNDP Governing Council during its special session in February 1989. As a result of further suggestions from the Governing Council, the project was formulated. The project proposal has been discussed in a joint UNDP/FAO meeting in Rome, sent to international agencies and organizations for review and comment, and circulated to all members of the Special Programme for African Agricultural Research in connection with its meeting in April 1989 in Lomé. A report on the outcome of the deliberations in the UNDP Governing Council will be submitted to the Economic and Social Council.

IV. ACTION TAKEN BY THE ECONOMIC COMMISSION FOR AFRICA

15. In resolution 641 (XXIII), adopted by the ECA Conference of Ministers at its twenty-third session, in April 1987, and endorsed by the Economic and Social Council, the Conference gave a mandate to the Executive Secretary of ECA to help African countries strengthen their capabilities to cope with locust infestation, forecasting of outbreaks, and long-term research. The Conference of Ministers, at its twenty-fifth session, reconfirmed the concern of ECA member States and adopted a resolution in which it further urged the Executive Secretary to pursue those efforts in collaboration with all interested United Nations agencies and competent African regional institutions.

16. The Economic Commission for Africa has taken several steps in response to the above-mentioned resolutions and to General Assembly resolution 43/203. In collaboration with the relevant national institutions in charge of pest control, the ECA secretariat has improved information-gathering and retrieval on locust and grasshopper infestation. Furthermore, the Commission convened an inter-agency consultative meeting on migratory locusts and grasshoppers in Africa, at Addis Ababa from 14 to 16 November 1988. The meeting was attended by representatives of 11 United Nations agencies and African intergovernmental organizations, and considered and endorsed the Plan of Action proposed by the Executive Secretary of the Commission. The Plan of Action called for:

(a) The establishment of an early warning system, using the capabilities of various Africa-based institutions and serviced and controlled by the region;

(b) The search for a long-term control solution, including the integrated pest management package proposed by the International Centre of Insect Physiology and Ecology (ICIPE), and

(c) The further sensitization of African member Governments and the international community for the mobilization of adequate resources for the implementation of a control programme which goes beyond emergency measures.

17. The Commission has also participated in international meetings on the issue of locust infestation in Africa, including: (a) the Extraordinary Meeting of the Joint Anti-Locust and Anti-Avarian Organization held at N'djamena, Chad, from 10 to 16 December 1988, which was convened at the initiative of the member countries of that organization to consider its restructuring in response to the serious locust plague, and (b) the international meeting on locust infestation in Africa, convened by UNDP which, *inter alia*, discussed the possibilities of using other methods (including biological) as alternatives to toxic chemicals.

18. Finally, ECA has formulated and funded a project on the establishment of an African regional locust-monitoring network with a view to mobilizing the capabilities of specialized African national, regional and international institutions and defining guidelines for a long-term research programme.

V. CO-ORDINATION WITH THE PREPARATIONS FOR THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

19. In accordance with the request of the General Assembly in resolution 43/203, the Secretary-General has sought the views of the International *Ad Hoc* Group of Experts, established as part of the preparations for the International Decade for Natural Disaster Reduction, on the fight against locust and grasshopper infestation, with particular reference to the scope of research programmes on its biological, bio-climatic and chemical aspects and on the risks of mutation that might make locusts more resistant to insecticides or to the effects of climate.

20. In response to that request, the Group of Experts included this question in its work programme. The general conclusions of the experts are set forth in their report to the Secretary-General, the relevant extracts of which are reproduced in annex III below. It should be noted that the summary only partially reflects the discussion by the group of experts, and that the general thrust of the experts' recommendations is directed towards the establishment of an effective procedure for an integrated approach to disaster prevention. In this regard, the International Decade for Natural Disaster Reduction is to be an evolutionary process, in time yielding further project opportunities of practical importance to participating countries.

ANNEX I

UNDP assistance to individual countries affected by
desert locusts

<u>Title of project</u>	<u>Amount (in US dollars)</u>	<u>Starting date</u>
<u>Algeria</u> (ALG/87/041) Locust control operations	50 000	January 1988
<u>Burkina Faso</u> (BKF/85/103) Assistance à la protection des cultures et des stock cerealiers	378 240	December 1988
<u>Cameroon</u> (CMR/88/002) Support for locust-control activities	50 000	September 1988
<u>Chad</u> (CHD/86/014/E/13/31) Locust-control operations	50 000	August 1986
<u>Djibouti</u> (DJI/89/009) Desert locust invasion	50 000	March 1989
<u>Gambia</u> (GAM/88/001) Emergency assistance for locust-control operations	20 000	November 1988
<u>Mali</u> (MLI/88/005) Emergency assistance for locust-control operations	50 000	January 1988
<u>Mali</u> (MLI/88/008) Emergency assistance for locust-control operations	45 000	January 1989
<u>Mauritania</u> (MAU/87/003) Emergency assistance for locust-control operations	50 000	October 1987

Title of project	Amount (in US dollars)	Starting date
<u>Mauritania</u> (MAU/88/005) Emergency assistance for locust-control operations	50 000	January 1988
<u>Mauritania</u> (MAU/87/010) Strengthening the national plant protection service	284 000	March 1988
<u>Morocco</u> (MOR/88/009) Locust and grasshopper control	50 000	August 1988
<u>Niger</u> (NER/88/022) Emergency assistance for locust control in the Niger	650 000	October 1988
<u>Senegal</u> (SEN/88/004) Emergency assistance for locust control	50 000	December 1988
<u>Somalia</u> (SOM/88/014) Emergency assistance for locust control	50 000	September 1988
<u>Sudan</u> (SUD/87/U01) Locust control	175 000	December 1987
<u>Sudan</u> (SUD/88/035) Emergency assistance for locust control	50 000	July 1988
<u>Tunisia</u> (TUN/88/008) Locust control campaign	50 000	April 1988
Total: Locust emergency 1986-1989	\$2 369 740	

ANNEX II

UNDP assistance to regional control organizations and FAO

Project title	Amount (in US dollars)	Starting date
<u>Regional (RAF/88/033)</u> Migrant pest control management through the Desert Locust-Control Organization for East Africa	1 300 000	March 1988
<u>INT/87/019</u> Programme of action for improved plant protection	545 000	December 1987
<u>INT/88/705</u> Emergency assistance to meet short-term and intermediate needs for desert locust control	3 300 000	July 1988

ANNEX III

Extract from the report of the International Ad Hoc Group
of Experts for the International Decade for Natural
Disaster Reduction*

Benefits of locust research

The desert locust outbreaks from 1986 to 1988 in many countries of the Sahel sharply reminded the world of the major hazard this locust, as well as other major locust pests, constitutes to agriculture and to food production in particular.

Present control, which consists of large-scale spraying of locust swarms and hopper bands with insecticides, is known to have shortcomings. It is not particularly effective in physical terms, because the control it achieves is not sustainable. Nor is it cost-effective because of the changing nature of this moving target. There is also widespread concern about the environmental consequences of repeated insecticide applications and the accumulation of certain persistent chemicals in fragile ecosystems.

Development of an alternative biologically oriented means of control is a high priority. Its aim would be to reduce the locust population build-up in the breeding areas, eliminating or forestalling the initiation of swarming, and destabilizing sexual maturation and egg-laying.

Research proposals for developing technology packages for sustainable locust and grasshopper management have recently been put forward at scientific meetings in Africa and elsewhere. They consist of investigation and adoption of a new integrated pest management strategy from five promising options, which concerted research and development efforts should make available. They are:

- (a) Biological control of locusts and grasshoppers to reduce viability and multiplication of recession populations and to enhance virulence of locust pathogenic agents;
- (b) Use of pheromones and kairomones to control locusts by disrupting or modifying their specific behaviour leading to swarming, synchronization of maturation and egg-laying, and initiation of marching among immatures;
- (c) Effective use of endocrinology to control locust phase change and gregarious behaviour patterns through the use of hormone analogues and antihormone agents to interfere with the process of phase change;
- (d) New approaches to the use of baits, especially chemical attractants, encapsulation of pathogenic material, and other alternative products; and

* "Implementing the International Decade for Natural Disaster Reduction", chap. III, paras. 112-115.

(e) Use of weather-dependent population dynamics and simulation modelling to predict population trends in recession and thus to facilitate control in the early stages of outbreaks.
