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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Emergency Operations and Rehabilitation Division

AFGHANISTAN

Follow-up of emergency locust control in northern Afghanistan and renovation of laboratory of the Plant Protection and Quarantine Department, Ministry of Agriculture, Animal Husbandry and Food

OSRO/AFG/405/USA

Final Report

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ABBREVIATIONS AND ACRONYMS

FAO	Food and Agriculture Organization of the United Nations
GPS	Global Positioning System
IGR	Insect Growth Indicator
MAAH	Ministry of Agriculture and Animal Husbandry
NGO	Non governmental organization
NPP	National Professional Personnel
PPQD	Plant Protection and Quarantine Department
ULV	Ultra Low Volume
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

In 2002 and 2003, the Food and Agriculture Organization of the United Nations (FAO) coordinated emergency locust control campaigns in northern Afghanistan against a major outbreak of Moroccan Locust, which posed a serious threat to wheat and crop production. Although the 2003 campaign successfully eliminated locusts over large surfaces in many regions, a significant number of adult populations remained in other areas until the end of the campaign and bred successfully. A further locust control campaign in 2004 was urgently required to minimize possible damage to crops and curtail swarms.

In response to the appeal for emergency assistance in Afghanistan, the United States Agency for International Development (USAID) through the Rebuilding Agricultural Markets Programme (RAMP) contributed US$606 651 in support of the FAO project OSRO/AFG/405/USA, entitled "Follow-up of emergency locust control in northern Afghanistan and renovation of laboratory of the Plant Protection and Quarantine Department, Ministry of Agriculture and Animal Husbandry". The contribution given was for the provision of technical assistance and the procurement of equipment and materials (excluding insecticide). The project was implemented from 1 March 2004 to 28 February 2005 following approval for a no-cost extension.

The overall goal of the programme was to contribute to the food security of Afghanistan. Specifically, the project aimed at: 1) controlling locust infestations to minimize crop losses and, in a comprehensive programme designed to monitor and control locust outbreaks, integrate ecologically-sound Integrated Pest Management measures into the control strategy; and 2) building the capacity of the Plant Protection and Quarantine Department (PPQD) to assume its plant protection functions.

The programme was implemented under the supervision of the FAO Emergency and Rehabilitation Coordination Unit in Afghanistan in collaboration with the PPQD of the Ministry of Agriculture, Animal Husbandry and Food (MAAHF), the Provincial Agricultural Departments and the non-governmental organization, GOAL. Other donors also contributed to the 2004 locust control campaign by providing funds for the procurement of insecticides.

The overall 2004 locust control campaign treated approximately 200 000 hectares with 40 535 litres of Deltamethrin and 11 285 litres of Diflubenzuorn insecticide. Spraying was carried out by 102 control teams, supported by the local communities under the supervision of a trained organizer. Additionally, the PPQD benefited from the re-establishment of their laboratory in Kabul which was re-equipped and now has the capacity to perform plant pest and disease identification and control. The MAAHF also benefited from the training and practical experience in locust control that was received by their staff during the campaign.

The 2004 campaign directly averted the threat of food insecurity for approximately 220 000 rural households, resulting in minimal crop loss. It is estimated that 790 000 hectares of wheat would have been destroyed in the absence of a control campaign. It is also estimated that in 2004 these areas yielded over one million tonnes of wheat. With the support of the project, the PPQD have increased their capacity to respond promptly to eventual swarm invasions. The project achieved its objective and helped to improve food security in northern Afghanistan. Nevertheless, a 2004 survey of egg-laying adults indicated that an additional control campaign of a similar scale was necessary in 2005.

1. INTRODUCTION

1.1 Project background

Outbreaks of locusts, in particular the Moroccan Locust *(Dociostaurus maroccanus*), pose an ongoing threat to agriculture in northern Afghanistan, considered to be the breadbasket of the country in terms of wheat production. The Moroccan Locust is generally regarded as the most serious agricultural pest in Afghanistan, with a relatively high outbreak frequency and damage to crops, in particular wheat, can be substantial. In a situation of existing food insecurity, such damage would seriously exacerbate the situation.

In 2002 and 2003, the Food and Agriculture Organization of the United Nations (FAO) coordinated emergency locust control campaigns in northern Afghanistan against a major outbreak of Moroccan Locust. Both these campaigns gave priority to the immediate protection of threatened crops, rather than reducing the overall pest population in source areas, which lay in remote desert and pasture.

The 2003 campaign was highly successful in minimizing crop damage. Over 100 000 hectares infested with Moroccan Locust, mainly at the hopper band stage, were treated by ground spraying. The area infested in 2003 contracted to around 60 percent of that of 2002.

Despite the 2003 campaign, which successfully eliminated locusts over large surfaces in many regions, a significant number of adult populations remained in other areas until the end of the campaign and bred successfully. Affected provinces included Kunduz, Baghlan, Samangan, Balkh, and to a lesser extent Takhar. Field surveys were carried out after the 2003 control operations and were conducted by the Plant Protection and Quarantine Department (PPQD) of the Ministry of Agriculture, Animal Husbandry and Food together with affected communities. The surveys indicated that the locust population would still be large in 2004, requiring the control of an estimated 100 000 hectares.

Furthermore, over two decades of conflict had destroyed the technical infrastructure of most Government institutions. The PPQD was particularly hard-hit by the conflict and ensuing devastation and did not have the facilities or equipment to identify, investigate and control plant pests and diseases. The introduction of many new plant pests and diseases from neighbouring countries, as a result of lack of regulation and control, further exacerbated the situation. The PPQD laboratory in Kabul needed to be re-equipped and its capacity re-established in order for it to serve its key functions. Additionally, PPQD technical staff throughout the country required further technical training in the identification and control of migrant pests.

1.2 Financial contribution of the Donor

In response to the appeal for emergency assistance in Afghanistan, the United States Agency for International Development (USAID) contributed US$606 651 in support of the FAO project OSRO/AFG/405/USA, entitled “Follow-up of emergency locust control in northern Afghanistan and renovation of laboratory of the Plant Protection and Quarantine Department, Ministry of Agriculture and Animal Husbandry”. The Agreement, no. 306-C-03-00-00502-00, between USAID’s contractor Chemonics International Inc. and FAO was signed on 28 April 2004. The project was implemented from 1 March 2004 to 28 February 2005.

A no-cost extension of the project was granted by the Donor in order to bridge the gap and prepare for the 2005 locust control campaign and make fully functional the PPQD laboratories renovated under the project.

1.3 Project objectives

The overall goal of the project was to contribute to the food security of Afghanistan. Specifically, the project aimed at: 1) controlling locust infestations to minimize crop losses and in a comprehensive programme designed to monitor and control locust outbreaks, integrate ecologically-sound Integrated Pest Management measures into the control strategy; and 2) building the capacity of the PPQD to assume its plant protection functions.

1.4 Planned beneficiaries

The beneficiaries targeted in this project were the farming communities and shepherds who live in the locust infested areas in northern Afghanistan, particularly in the provinces of Kunduz, Baghlan, Samangan, Balkh, Takhar and to a lesser extent, Faryab, Jozjan Sar-i-pul and Badakhshan. Some 100 000 farming families (600 000 people) were expected to benefit from the 2004 campaign.

Indirect beneficiaries included the extended families, neighbours and neighbouring communities who would benefit from increased food production.

The staff of the national PPQD in Kabul, seconded to the campaign as community organizers, was expected to benefit from strengthened control capacities and valuable training and field experience.

2. PROJECT IMPLEMENTATION

2.1 Implementation arrangements

The 2004 locust control programme was implemented under the supervision of the FAO Emergency and Rehabilitation Coordination Unit in Kabul in collaboration with the PPQD, Provincial Agricultural Departments and GOAL, an international non-governmental organization. GOAL supported the campaign with the recruitment and training of organizers, hiring of vehicles and logistical support. Project activities at provincial level were managed by FAO National Professional Personnel (NPP).

The 2004 campaign was built on the lessons learnt and field experience gained during the two previous years. Moroccan Locust hopper bands were sprayed with Ultra Low Volume (ULV) insecticides. This involved the training (and retraining) of control organizers who approached local communities affected by locusts to provide teams of ten people to undertake ground spraying operations. All groups were supplied with emergency medical kits in the unlikely event of insecticide poisoning. Training in mine awareness was also provided. In some cases, the ground spraying groups were supplemented with ULV vehicle-mounted sprayers.

The insecticides used in the campaign were procured with funds from other projects supporting this locust campaign and selected for their low environmental side-effects. The Insect Growth Regulator (IGR), Diflubenzuron, has very low toxicity to vertebrates such as mammals, birds, reptiles and fish, when compared with other types of insecticide. Deltamethrin, a pyrethroid insecticide used against adult locusts or where a quick

extermination was necessary to prevent immediate damage to crops, also has a low vertebrate toxicity compared to insecticides such as Organo-Phosphates.

Emphasis was placed on involving the staff of the PPQD in project activities with the aim of building their capacity to undertake the key functions of plant pest and disease identification and control, thus supporting the sustainability of control measures for locusts.

2.2 Main project activities

Previous outbreaks affected the provinces of Balkh, Samangan, Baghlan and Kunduz, with small scale infestations extending into Takhar. The improved security situation at programme commencement allowed the 2004 campaign to operate in important locust breeding areas that were previously inaccessible.

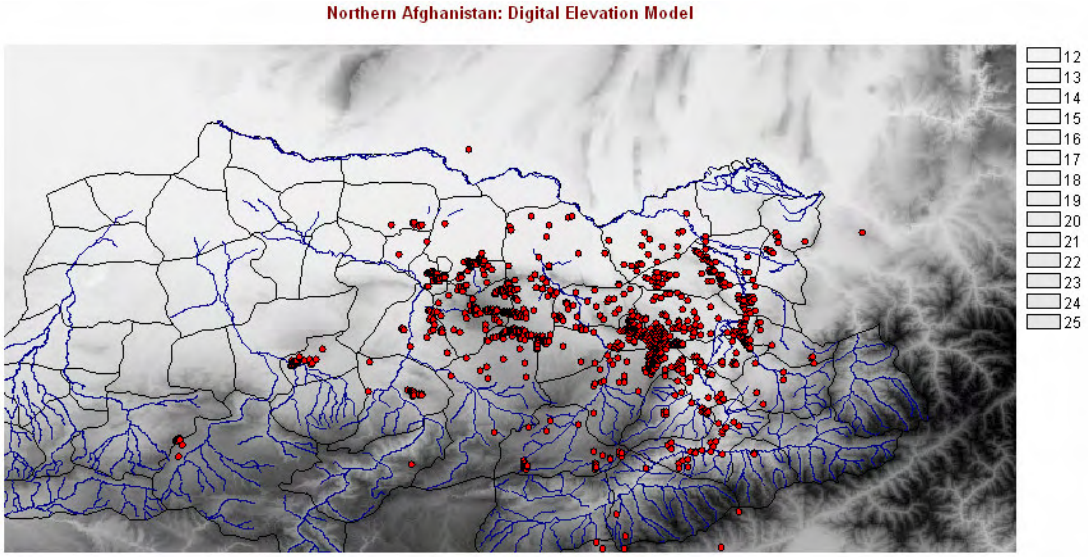
2.2.1 Procurement and distribution of inputs

Inputs procured by the project included one vehicles; 200 hand-held sprayers and nine vehicle-mounted sprayers; 1 000 sets of protective clothing including goggles, boots, overall and hats; 50 level barrel pumps for insecticides; 25 000 batteries for sprayers; tents, sleeping bags and Global Positioning System (GPS) equipment for the control organizers. Many of the items had already been provided by previous projects, but spare parts for sprayers, batteries and extra protective clothing were procured by the FAO Kabul office. GPS sets were borrowed from the FAO Livestock Census and from GOAL. Sprayers, protective clothing, tents and equipment were distributed to organizers after training and recruitment and were returned at the end of the campaign. Insecticides were distributed to organizers by FAO NPPs from provincial stores under their control. The Belgian Air Force provided free-of-charge transport of the insecticides from the ex-works location in Amman, Jordan to the project operations office in Mazar-i-Sharif, thus ensuring their prompt deployment in the field.

2.2.2 Selection of target areas

Planning for the 2004 campaign was based on the survey of egg-laying adults carried out in the summer of 2003 (see Figure 1).

Figure 1 - Egg bed survey carried out in summer 2003



2.2.3 Discussion with local authorities

At the end of March 2004, FAO staff visited the governors of the affected provinces to inform them of the plans for the campaign and to request their cooperation in implementing it. Responsibility for providing the manpower for the control teams (the "operators") lay with the beneficiary communities and the assistance of provincial and district governors was sought.

2.2.4 Control operations

All locust control was implemented by ULV spraying. Operations were carried out by teams of locally recruited "operators", trained and led by "organizers" who were recruited and paid by GOAL. These teams used hand-held battery-driven sprayers.

Diflubenzuron insecticide is an IGR, which acts by interfering with the process of moulting. It is only effective at nymph (larval) stages, as insects do not moult once they have reached adulthood. The insecticide is sprayed onto the vegetation and any insect feeding on it, ingests a lethal dose and dies at the next moult. It remains effective on vegetation for some weeks, so if the sprayed area is reinvaded by hoppers, it is not necessary to treat the area again.

Deltamethrin insecticide is a pyrethroid and is a fast-acting contact insecticide. It is appropriate for use against adults (against which Diflubenzuron is ineffective) and where a quick "knock down" effect is needed to prevent immediate damage to crops.

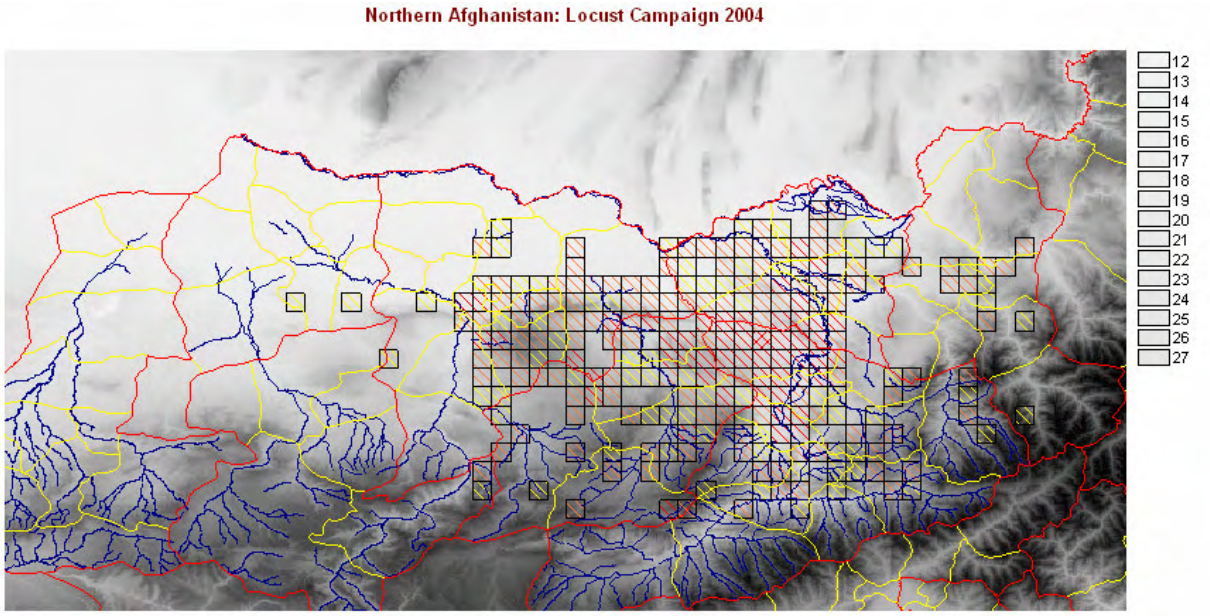
Owing to the mild winter and spring months, hatching at the lower altitudes had begun as early as the beginning of March. Control operations started in early April. A breakdown of areas treated is given in Table 1. The figures were extracted from the locust database and are believed to be a slight underestimate, as not all reports may have been included in the query. The true figure is believed to be approximately 200 000 hectares.

Table 1 - Areas treated by chemical control

Province	Area treated (hectares)
Balkh	24 229
Baghlan	65 299
Kunduz	44 358
Samangan	57 261
Takhar	1 201
Total	192 348

By the time that operations began, hatching had started in higher altitudes, where there were extensive areas of rainfed wheat. Therefore, it was necessary to concentrate immediately on these areas to prevent damage. As a result, adult swarms from the lower altitudes were allowed to form and escape. Qala-i-Zal and Imam Sahib, two districts in Kunduz that had been largely free from locusts, were invaded and egg-laying occurred there. Large areas of Baghlan province, which had already been cleared of hoppers, were also then invaded by adults, requiring rapid and extensive control to prevent damage. Figure 2 shows the extent of control operations by 1/10th degree squares.

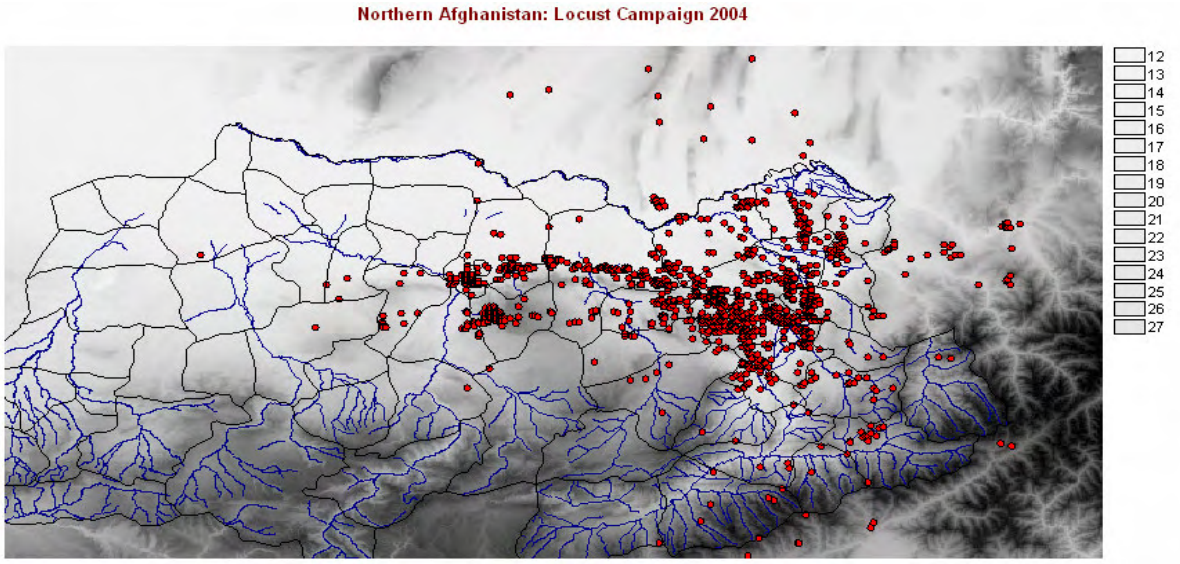
Figure 2 - 1/10th degree squares in which locust control was carried out



2.2.5 Oviposition Survey

The oviposition (egg-laying) survey was carried out as control operations were concluding. Organizers were instructed to note any sites in which locusts were laying eggs. These were visited later and checked for the presence of eggs and the location fixed by the Global Positioning System (GPS). The provisional results are presented in Figure 3.

Figure 3 - Egg bed survey carried out in Summer 2004



2.3 Actual beneficiaries

The overall 2004 campaign directly averted the threat to food security for approximately 220 000 rural households, who depended on agricultural production within the provinces affected by the locust plague (ref. Annex 1). It is assumed that all families within these districts benefited from the project's intervention. The only exception was in Takhar province, where the scale of operations was too low to justify this assumption.

The secondary beneficiaries, estimated at 360 000 households, included those whose food security would have been compromised by a severe production shock to agriculture in northern Afghanistan. Taking account of the likely effect on food prices that would have followed damage caused by an uncontrolled locust plague, this would have extended to all the inhabitants of the Northern provinces.

2.4 Training

Training courses for organizers and supervisors were carried out in Balkh, Samangan, Baghlan and Kunduz at the start of the campaign. The courses focussed on practical instruction in the safe and effective use of ULV sprayers, the locust life-cycle and characteristics of the insecticides used in the campaign.

At the conclusion of the campaign, a two-day workshop, attended by coordinators, supervisors, PPQD staff, FAO staff and community representatives was held in Pul-I-Khumri. The agenda included reports from the provincial coordinators, a general discussion of the campaign and presentations by PPQD staff on: Locust biology; Pesticides and use of IGRs; the Locust Database; and natural enemies of locusts. The results of the egg survey were presented and plans for next year discussed.

2.5 Difficulties encountered during implementation

As explained above, Diflubenzuron, although highly effective, is slow-acting. In some areas of Baghlan and Kunduz, local people were led to believe that it was ineffective because it did not kill the locusts immediately. It was therefore necessary to use the Deltamethrin that was being reserved for control of adults. By the time that the locusts were killed at the next moult and the local people were finally convinced of its efficacy, the window of opportunity for using IGR had been largely lost. This problem did not arise in Samangan, where there was a strong and supportive political leadership.

3. PROJECT IMPACT

The locust control campaign was expected to cover approximately 100 000 hectares, thus sparing some 400 000 tonnes of wheat, valued at US$50 million, from locust infestation.

The inputs provided under the 2004 locust campaign enabled FAO to carry out locust control activities that covered an area of approximately 200 000 hectares, focusing mainly on the protection of food crops. As a result an estimated 1 023 000 tonnes of wheat was saved.

3.1 Crops saved

Except in Khulm district (Balkh province) where early hatching locusts caused extensive damage to irrigated wheat, the project succeeded in preventing significant crop loss. The area of crops saved by the campaign was tentatively estimated. The calculation assumes that the areas planted in the cropping season 2003/2004 corresponded to the FAO/Afghan Information Management Service (AIMS) land cover survey. Using the records in the database, a "mask" consisting of 1/10 degree squares in which control activities took place, was created (ref. Figure 2). Using the Idrisi Geographic Information System, this mask was laid over the land cover survey. The number of hectares of irrigated and rainfed cultivation was then extracted to an image of the administrative districts. It is assumed that an area equal to those extracted would have been destroyed in the absence of control.

The results of the survey estimate that from the 200 000 hectares of area sprayed, the total area of irrigated and rainfed cultivation were 328 344 hectares and 458 928 hectares, respectively. Therefore, yielding an estimated 1 023 000 tonnes of wheat saved. This assumes an average yield for irrigated land of 1.9 tonnes per hectare and 0.87 tonnes per hectare for rainfed land. The total value of crops saved is estimated at US$179 million, assuming a price of US$175 per tonne for wheat (see details in Table 2 below). This calculation does not include second crops, such as rice, melons, cotton and vegetables, which would also have been destroyed or not planted, in the absence of locust control.

Table 2 - Estimated production and value of wheat saved

Province	Cultivated area (hectares)			Production (tonnes)			Total value (million US$)
	Irrigated	Rainfed	Total	On irrigated area	On rainfed area	Total	
Baghlan	84 972	137 564	222 536	161 447	119 681	281 127	49.2
Balkh	92 396	144 348	236 744	175 552	125 583	301 135	52.7
Kunduz	109 596	23 304	132 900	208 232	20 274	228 507	40.0
Samangan	41 380	153 712	195 092	78 622	133 729	212 351	37.2
Total	328 344	458 928	787 272	623 854	399 267	1 023 121	179.1

It should also be noted that, had an uncontrolled outbreak of locusts caused this level of damage, there would have been a need for food aid in the region. The cost of delivering food aid is considerably above the current market price of wheat and is estimated in excess of US$300 per tonne.

The second important criterion for success of the campaign is its impact on the overall locust population. This is best assessed by comparing the results of the 2003 and 2004 egg-laying surveys (Figure 1 and Figure 3). It is evident that the overall population level remains almost the same, although in some areas of Samangan (Ferouz Nakhshir district) that were cleared, flying swarms invaded the Imam Sahib and Qala-i-Zal districts of Kunduz province.

3.2 Impact of project on beneficiaries

A subjective view of the impact of the project is given by interviews with community leaders in Annex 2.

3.3 Secondary project impacts

There are a number of areas in which the project has had a beneficial effect beyond its immediate task of preventing crop damage by locusts by:

- building confidence of farmers so that the government and aid community can intervene effectively to deal with potential disasters;
- reviving community action in dealing with locust control;
- re-engaging provincial MAAHF staff in field operations; and
- increasing the knowledge of locust control technology in farming communities.

In addition to locust control efforts, FAO provided assistance to the PPQD in upgrading their laboratory to better serve plant protection needs in the future. FAO is working in the direction of developing an integrated plant protection programme in consultation with RAMP-USAID, based on the substantial experiences gained from previous years. Without the support of the project, PPQD would have had less capacity to respond promptly to the past and eventual swarm invasions.

4. CONCLUSIONS AND RECOMMENDATIONS

The 2004 locust control programme exceeded its original objective of urgently controlling a total area of 100 000 hectares estimated to be infested by locusts. As a result of the joint efforts of different donors, approximately 200 000 hectares of land were treated against Moroccan Locust. This project specifically contributed to increase the institutional and communities' capacity to control locust infestations with their direct participation in the campaign, with specific trainings and with the provision of locust control equipment. Moreover, the project achieved its goals of improving food security in northern Afghanistan by implementing control measures against Moroccan Locust infestations to minimize crop damage. The project has had a significant beneficial impact on farmers.

The 2004 survey of egg-laying adults has indicated that future campaigns will be necessary to bring the present plague under control. By reducing the locust population to a low level, infestations can eventually be overseen by a programme of surveillance and preventive control.

ANNEX 1

Number of beneficiary families by province/district

Province / District	Families
Baghlan Province	
Andarab	3 714
Baghlan Jadeed	16 302
Barkah	7 921
Dahana-i-Ghuri	8 429
Dooshi	8 698
Nahreen	8 302
Provincial Center (Pul-i-Khumri)	15 476
Total	**68 842**
Balkh Province	
Chamtal	11 540
Charkent	6 810
Dehdadi	7 524
Kholm	3 508
Marmol	1 556
Nahr-e-shahi	5 841
Total	**36 779**
Kunduz Province	
Ali Abad	6 444
Char Drah	9 730
Hazrat-Emam	26 302
Khan Abad	17 476
Provincial Center (Kunduz)	24 175
Qala-I-Zal	6 571
Total	**90 698**
Samangan Province	
Feroz Nakhcheer	1 635
Hazrat-i-Sultan	5 476
Khuram-o-Sarbagh	5 762
Provincial Center (Aibak)	11 762
Total	**24 635**
GRAND TOTAL	**220 954**

ANNEX 2

Interviews with community leaders in various districts

Hassan Taal

Hassan Taal is an area of irrigated farmland lying to the east of the Kunduz River in Baghlan province. The community leader is Abdullah Khan Kohistani, who spent 22 years as a resistance fighter. The area has suffered from locust infestations since 2000 and Abdullah has been prominent in helping to organize the community's efforts to fight them.

He told me that in 2001, despite their efforts to control the locusts with knapsack sprayers and insecticides bought in the bazaar, they suffered about 80 percent loss of their crops. Last year, with the help of the Locust Control Programme, they finally cleared their area, but this year, there was a late invasion by a swarm of flying locusts from the west side of the river that threatened the wheat just as it was ripening.

"When the swarms attacked the area, people came to me and said, 'What are we to do?'" So I went to the FAO office and saw Sadeed. They mobilized eight teams and three vehicles with sprayers.

"I told people that this was a disaster for everyone. Afghans will respect a white beard. I asked them to participate. Teams of operators came from other areas. We made *hasher* (traditional community mobilization). When the operators worked in a village, the elders provided them with food. The operators used the sprayers and chemicals and Sadeed and I monitored the operation, looking after the operators and organizers."

He said that although there had been more locusts than before, because of the assistance, there was very little damage. Hassan Taal is a typical area of irrigated cultivation along the Kunduz River. The irrigation systems were built during the monarchy and the land was settled by Tajiks from Panshir. Before the drought, there was sufficient water for two crops a year, usually wheat was prioritized, for household consumption, and then a cash crop such as melons or rice. Many refugees have returned from Iran and Pakistan and Abdullah told me that they would not have been able to do so without effective locust control. His hopes for the future include schools, roads, health clinics, clean drinking water and housing for returnees. As I left, I saw the voter registration site just opposite his house.

Zaman Khel

Zaman Khel lies just to the north of Pul-i-Khumri. It is an area of rich irrigated agriculture. I went to the house of Omara Khan, the elder and major landowner and found him sitting with some friends under an ancient mulberry tree. The people in this area are Pashtoons, the descendants of those settled here by King Amanullah. As well as being landowners, they have large holdings of livestock, which have traditionally spent the summer in the mountains of Tala-i-Barfak and Dahane-i-Ghori. This transhumance has been interrupted by conflict with the Hazaras, thus creating a shortage of pasture, exacerbated by the locust outbreak.

Before the war, locusts were controlled by a government campaign using BHC (an organo-chlorine insecticide, now widely banned) and mechanical control. In their opinion, mechanical control is no longer practical because of the shortage of labour. In any case, it was ineffective against flying adults and heavy damage was frequent.

They thought that the campaigns over the last three years had been successful, although this year it started late and they had been worried there would not be one. There was no damage to crops, but some to pastures. Locusts definitely affected returning refugees and an effective control campaign encouraged them. I asked what they would have done if there had been no programme this year. They said they would have made an outcry, "Where are all the millions the international community has given to Afghanistan? Whose pocket have they gone into?"

This is an area where our efforts to mobilize community involvement in locust control have been dogged by hostile rumours and lack of cooperation. Our insistence that the beneficiaries should provide the manpower for spraying was thought to be a fraud by which we pocketed the money that should have paid them. When we did get people working, they downed tools because they thought that the slow-acting Diflubenzuron was time-expired and ineffective. Now they say they believe us and deny, not entirely convincingly, that there was a systematic propaganda campaign against the project.

I asked about other plant protection problems. They said that the Colorado Beetle was a growing problem. They complained that the chemicals sold in the shops were often ineffective and that the shopkeepers were dishonest and ignorant.

Chuchman

Chuchman is the main village in an area of Dar-i-Suf called *Panj Qarya* (Five Villages). It is built around an ancient well, now in the grounds of the mosque. The people are Uzbeks and the main source of livelihood is rainfed wheat and livestock. I was invited to lunch by the elders to celebrate the successful conclusion of the locust campaign. My hosts were: Haji Mullah Jura Qul, Abdul Ali, Abdul Wadud, Haji Mohammed Sadiq and Haji Mullah Khan Shah.

"According to our religion, those who fight the locusts have the merit of *jihad.* " I asked what had been their experience of locusts in this area. I was told that 11 years ago a small swarm came and everyone, including women and children, worked with shovels and sticks to destroy it, but did not succeed. Then for eight years there was drought and fighting, but not too many locusts.

Before the project reached the area in 2002, they had bought thousands of litres of parathion (an extremely toxic and widely banned organophosphate) from the bazaar, but could not control the locusts. When I myself first went to the area in 2002, I was confronted by the sight of teams of men with knapsack sprayers being marshalled by a leader mounted on horseback. His name was Baidali, a renowned wrestler - no surprise when one saw his gigantic frame. This highly organized community rapidly adapted to the methods being used by the project and we soon had teams with ULV sprayers using safer and more effective insecticides.
“For the last three years we have had a campaign and are grateful to the Ministry of Agriculture, supervisors and organizers. They did not work official hours, but started after prayers at dawn and continued until midnight. There has been no damage at all, not one percent!”

Robatak

This is the account of Mohammed Akram, village elder of Robatak, Samangan province.

"In 1986, a swarm invaded Charcharak, caused serious damage, but disappeared in 1987. Locusts appeared in 1999 and caused very heavy damage, even eating the leaves off the trees. Mechanical control was ineffective. People left the area to work as labourers in Baghlan and Kunduz. Then there was drought for two years. There were no crops and no pasture. People stayed away. In 2002 people planted but everything was destroyed at the lower altitudes, although there was success higher up. A field of wheat was destroyed between the time control was requested and the evening, when conditions were suitable for spraying. In 2003 there was good growth. Control was successful and there was no significant damage. People were very happy with the control campaign."