

PESTICIDE DISPOSAL AND SURVEY PROJECT IN PUNJAB PROVINCE, PAKISTAN

Summary: *A pesticide disposal and survey project in the Province of Punjab, Pakistan, is nearing completion. Around 300 tonnes of pesticides and associated materials are being removed from 13 stores and destroyed by incineration in The Netherlands. The other part of the project involves the analytical survey and risk assessment of a remaining 162 stores. The major part of the funding has come from the Royal Netherlands Embassy, Islamabad, but with GCPF member companies bearing the incineration cost of around one third of the stocks.*

Background: Pakistan holds stocks of perhaps some 2,000 tonnes of obsolete pesticides in many stores, mainly in the provinces of Punjab and Sind. The stocks accumulated up until 1980, when the Government of Pakistan withdrew its policy of central purchase and free distribution of pesticides to farmers. The Government stocks soon exceeded their shelf lives and became no longer usable, and the packaging began to deteriorate. From 1980, pesticide purchase moved to the Private Sector and since then there appears to have been little subsequent accumulation of pesticide stocks.

Since the early 1980s there have been a number of studies to dispose of the unwanted government-owned stocks. As there is no suitable high temperature hazardous waste incinerator in Pakistan, trials were carried out in 1989 in a joint US/Pakistan operation using a local cement kiln. Although the experiment was a technical success, there were safety concerns among the nearby community and a local opposition to cement kiln use developed.

By the mid 1990s some of the pesticide stores were becoming a significant threat to nearby communities and to the environment. As part of the Netherlands Government's bilateral aid programme, the Royal Netherlands Embassy (RNE), Islamabad, decided to assist the Government of Pakistan

to find and implement a realistic solution. It first commissioned a study of the problem and potential solutions. All of the various disposal technologies were considered, as well as costs, risks and associated factors such as the public opinion against cement kiln use. Attention was focused on Punjab Province because this was where the highest quantities of stocks are held and the local authorities had made a special plea for assistance.

RNE then commissioned GTZ, the German Agency for Technical Cooperation, to carry out a detailed physical and analytical inventory of a number of high risk stores in Punjab Province (area indicated on map), in cooperation with the Punjab Department of Agriculture. The inventory identified 13 stores presenting a particularly high risk to communities and holding around 300 tonnes of obsolete pesticide stocks and associated materials.

RNE then funded a project, not only to collect and destroy the stocks by high temperature incineration, but also to carry out an analytical survey and risk assessment of an additional 162 pesticide stores in Punjab. It contracted GTZ to implement the project on its behalf, in close cooperation with the Punjab Department of Agriculture. The Dutch hazardous waste disposal company, AVR International, was subsequently contracted by GTZ to undertake the collection, clean-up, transport, shipping and incineration activities.



Progress: At the time of writing this report, 9 of the 13 stores have already been cleaned and around 220 tonnes of stocks and associated materials have been repacked and shipped to the Netherlands for high temperature incineration in one of Europe's most advanced facilities.

The analytical survey has already been completed for 120 stores. It has found 1062 batches of pesticides, totalling about 600 tonnes. 500 samples have been taken and analysed. The majority of the pesticides found are organochlorines and organophosphates, and the condition of the packaging is poor and leakage has occurred, leading to soil and ground water contamination. A risk assessment has also been carried out for each store, most of which are in the middle of towns and villages. There is some evidence of contaminated wells. The survey is also planning to identify the main stakeholders involved with the production and supply of the original stocks.

Two very effective local obsolete pesticide stock teams have been trained. One by AVR International for undertaking the collection and repacking of stocks, and cleaning of stores. The other, from the Punjab Department of Agriculture, has been trained by GTZ for the surveying of pesticide stocks. This transfer of know-how is expected to prove valuable for the undertaking of further projects in Pakistan for the eventual removal and destruction of the remaining obsolete pesticide stocks in the country.

Outlook: The current project will be completed during early 2001. The projections from the current survey indicate that around 1000 tonnes of obsolete pesticides will be found in the remaining 162 stores in Punjab. The Royal Netherlands Embassy and the Punjab Department of Agriculture hope that the current disposal project in Pakistan will have created a momentum that will be followed up soon after by a coordinated campaign involving other stakeholder governments, donor agencies and manufacturers from the original supplying countries. It is only by the involvement of the main stakeholders that the remaining obsolete pesticides will be removed from Pakistan and safely destroyed

The funding for the current project has come mainly from the Royal Netherlands Embassy, Islamabad, although a number of GCPF companies have undertaken to pay the incineration costs of those pesticides that they originally manufactured. The local partner, the Punjab Department of Agriculture, is facilitating the project by providing local support and other assistance. Total costs for all aspects of the current project (including the analytical survey) are expected to be around US\$1.35 million.

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