

THE SOUTH AFRICAN RETRIEVAL SCHEME - A BRIEF HISTORY AND FUTURE PLANS

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Introduction

South Africa has been plagued by large quantities of obsolete, unwanted, banned and redundant agrochemical stocks for many years. In the early 1990s the Crop Protection and Animal Health Association (AVCASA) realised that these products were posing a threat to human health and the environment and embarked upon a very ambitious project to recover the bulk of such agrochemicals for destruction. A national survey in the form of a questionnaire was conducted in 1994 to quantify the amounts and types of products that were stored on farms, at co-operatives, in government stores and other stores around the country. The survey produced a figure of 400 tonnes of product. This prompted AVCASA to devise a plan for the retrieval and total destruction of the products. At that time the Poison Working Group (PWG) of the Endangered Wildlife Trust (EWT) warned AVCASA that the quantity revealed by the survey was a gross underestimate and that it was closer to 1,000 tonnes.

Actions taken

Negotiations between AVCASA and government started off in as early as 1995 to discuss the situation and to devise a strategy for the retrieval and total destruction of the products. Unfortunately the typical red tape of government delayed progress and by 1996 AVCASA and the PWG was desperate for action to be taken. The National Department of Agriculture asked for tenders for the removal and destruction but due to inefficiency on their part the tender process was postponed three times. During 1997 the National Department of Agriculture did, however, budget an amount of 4.5 million ZA Rand for the retrieval scheme based on a quantity of 400 tonnes plus 50% extra. Several institutions tendered for the retrieval scheme but very few proved to be capable of achieving the objectives set by AVCASA. AVCASA and the PWG reviewed some of the options that were available locally. These included incineration in a cement kiln, landfill and molten fluidised bed incineration. The cement kiln option appeared to be a rather good one but it was decided that despite the high standards of the particular institution the risks were too high. Landfill was not considered to be an option as AVCASA and the PWG insisted on total destruction of the products as far as possible. The molten fluidised bed option would never have been able to cope with the quantities of products and was therefore not considered to be an option.

On 4 January 1997 the PWG sent a letter to the Director General of the National Department of Agriculture (NDA) to object to the apathy of government in setting up a retrieval process. The PWG recommended that government appoints AVCASA as the project principal for the retrieval scheme and reject the tender process. Within days after this the National Department ordered AVCASA and the PWG to review the final tenders submitted for the retrieval scheme and to select the most suitable option. All tenders were critically reviewed by Mr Jan Kleynhans, executive director of AVCASA and Dr Gerhard Verdoorn, chairman of the PWG. The only tender that fitted our requirements was that of RECHEM of Wales in the UK. RECHEM offered a total package and their track record was fully acceptable to AVCASA and the PWG.

The National Department of Agriculture appointed AVCASA as project principle and indicated their willingness to pay for the entire operation. A lengthy process of negotiating contracts with the NDA started while AVCASA and the PWG prepared a strategy for the retrieval scheme. Budgets were drawn up and these were discussed with the NDA. The final contract was signed and 8.5 million ZA Rand was pledged by the NDA towards the project.

AVCASA appointed Mr Jacques Louw, formerly of SANACHEM, as project co-ordinator to start a fresh survey of the stocks around South Africa. Jacques contacted all institutions and individuals that provided information during the first survey and found that there were at least 800 tonnes of redundant stocks. These included stocks of BHC in Namibia and a few tonnes in Swaziland. Over 65 collection points were set up at government stores, co-operatives, agrochemical dealers and others where landowners were allowed to drop their redundant stocks off. The PWG launched a mass media campaign to inform all South Africans about the retrieval scheme and requested people to participate. The telephones of Mr Kleynhans, Mr Louw, Dr Verdoorn, Mr Tom Mabesa of AVCASA and AVCASA head office were used as information help lines for people to report redundant stocks of agrochemicals.

The process proceeded quite smoothly bar the problems with the international permits for the shipment of the products to Portsmouth in Wales. An intensive process of receiving the stocks of obsolete and redundant chemicals at the primary collection points started. This continued for a couple of months until a very large quantity of products were safely in 65 stores around southern Africa. These products were sorted and packaged and moved to five main collection points. At this stage the products were sorted into classes of agrochemical types and unmarked containers were stored separately from those that were still properly labelled. The Pesticide Dynamics Division of the Agriculture Research Council was commissioned to analyse all unknown products.

The RECHEM team arrived and started the process of bulk packaging. Products were sealed in steel drums and special plastic containers. All products had to be listed for export purposes and registered with the UN before shipment commenced. Some of the

unidentifiable products could not be handled by RECHEM and were handed over to Waste Tech, a South African company dealing in toxic waste management. A serious problem was encountered with arsenic products as no company had any technology that could turn these products into something that would be non-toxic.

The final shipment of the bulk of the products commenced only during 1999 and final destruction certification was issued in December 1999. Waste Tech treated most of the relatively non-toxic products by ash blending or lime treatment in a landfill site. Unidentifiable products were packaged in steel containers and then bunkered in concrete. The arsenic products are still 'in bond' in Swaziland and at this stage South Africa has no definite plan for the destruction of the products.

Problems encountered

Despite the success of this operation there were a couple of highly irritating barriers that had to be overcome by the project team.

1. The first was the complacency on government's side. It took a number of years and serious action from the Poison Working Group and AVCASA to activate government.
2. No large scale incineration facilities are available in South Africa. This prompted us to commission the services of a foreign company.
3. Complacency on the part of farmers and government to participate fully in the programme. Many owners of redundant pesticide stocks never delivered their products to the collection centres. The Poisson Working Group had to collect very large quantities of products from various places.
4. International permits and agreements took a long time to get into place. This, however, was solved without impacting on the success of the operation.
5. South Africa's depreciating currency left the programme with a deficit of ZAR 3 million three quarters of the way through the retrieval scheme. The National Department of Agriculture did, however, cover this deficit fully.
6. Technology for the destruction of metallic compounds does not seem to exist anywhere in the world. This leaves us with very options in terms of dealing with arsenic pesticides.

Highlights of the success of the South African operation and opportunities for the future

1. This was one of the largest operations in the world and we managed to clean up 1,060 metric tonnes of redundant and obsolete pesticides. South Africa is technically 'clean'.
2. The operation was very cheap and cost our country only ZAR 11.5 million.

3. The programme set the infrastructure and protocols in place to run a similar operation anywhere in the world.
4. The knowledge and skills to run an operation of this nature is fully established in South Africa.
5. The general public is already much more aware of the problems with obsolete pesticides and are keen to participate in ongoing initiatives.
6. The South African government has already committed itself to a continuation of the retrieval scheme.
7. A national policy drafted by the Poison Working Group has already been adopted by the government including its affected departments.

The obsolete and unwanted pesticides and empty container strategy (OUPECS)

A new strategy is currently being developed by AVCASA and the Poison Working Group. This strategy will entail the following:

1. Retrieval any remains of pesticides that were not collected during the previous scheme.
2. Establishing responsible use culture amongst all end users of pesticides to prevent the accumulation of obsolete pesticides.
3. Establishing a system to recycle empty pesticide containers.
4. Educating all South Africans about the problems with obsolete pesticides.
5. Setting up a monitoring system to monitor the progress of implementing the measures proposed in the policy document.
6. Getting buy in from all government departments and private individuals.

The Poison Working Group is currently conducting a national survey on obsolete pesticides and empty containers. Once data have collated and analysed a final proposal will be submitted to AVCASA and the government for the retrieval of these products.