

# Libya's Chemical Weapons Programmes (1980–2000)

by Jean Pascal Zanders



Libya's chemical weapons facility built into the mountainside at Tarunah.

During the late 1980s Libya was accused of establishing one of the largest chemical weapons (CW) production plants in the Third World at Rabta, an industrial complex some 40 km southwest of Tripoli. Despite many flighty statements in the press and

academic literature that CW are easy and cheap to acquire, the reality is that such weapons present a number of important challenges. The lower the level of industrial, scientific or technological development of the country the greater the obstacles of developing a CW capability. Libya

was no exception, and the country relied extensively on foreign assistance for the development of its CW production capability. A web of suppliers in Western and the then Eastern Europe was set up. Some companies and individuals played a pivotal role in supplying Libya with the necessary equipment and services and were in full knowledge of the final purpose of the chemical plant being erected at Rabta. Other companies only provided components and had little or no indication of the final purpose of their products. If they had any doubts, the fact that they were delivering them to a reputable company in the Federal Republic of Germany (FRG) for a construction project in Hong Kong probably removed them. Both the actual project in Rabta and a fake one in Hong Kong bore the same name, Pharma 150, in order to deceive export licensing authorities and customs officers.

The public records of court trials against a German company and two Belgian shipping agents offer some of the most conclusive evidence of the true purpose of the factory in Rabta. Following the crisis over Rabta in 1990, proliferation concerns were expressed with respect to CW production installations at Sebha and Tarhunah.

This article discusses the difficulties of assessing proliferation reports and briefly describes the three alleged CW production sites in Libya.

### **Libya's alleged involvement in chemical weapons programmes: 1980–1990**

The second half of the 1970s and the early 1980s was marked by increasing allegations by Western sources about the use of chemical or biological warfare agents in armed conflicts. The list of states allegedly possessing or attempting to acquire chemical or biological weapons also grew longer. Most allegations involved the Soviet Union or its client states. Some of the more notable cases related to the 1979 anthrax outbreak in Sverdlovsk, the employment of chemical agents by Soviet forces in Afghanistan and the yellow rain controversy in Southeast Asia. An enormous gap in CBW capabilities between the Warsaw Pact and NATO forces was "discovered". This renewed attention on CBW may have resulted from a resumption of the negotiations on the future Chemical Weapons Convention (CWC) on the one hand, and institutional pressures in the United States to recommence CW production on the other. The information, usually from intelligence sources, was all but independently verifiable. However, from December 1983 onwards, the increasingly precise reports on Iraq's use of CW in its war with Iran gave greater credibility to the allegations of chemical and biological weapons proliferation.

In this context of worsening relations between East and West with its many allegations of chemical and biological weapons proliferation and use and the confirmation of Iraq's chemical warfare, Libya began to be mentioned as a chemical and biological weapons proliferator. The CIA first

cited Libya and several other Middle Eastern countries in its Special National Intelligence Estimate 11-17-83 of 15 September 1983.<sup>1</sup> According to unspecified reports, the Libyan leader, Colonel Muammar Qadhafi, who was increasingly being linked to international terrorism, had received one tonne of the nerve agent tabun from France.<sup>2</sup> On 15 April 1986 US planes bombed Tripoli in revenge for an attack on US servicemen in Berlin, in which Libya was believed to have been involved. That summer the United States conducted military manoeuvres, some together with Egypt, near the Libyan borders and consulted with its European allies on economic sanctions. Both the United Kingdom and the Federal Republic of Germany (FRG) took steps to limit the sale of technology with potential military application to Tripoli.<sup>3</sup>

Despite worsening relations between the West and Libya, an Israeli report published in 1984 questioned the CW allegations regarding Libya and stated that the stockpile was unconfirmed.<sup>4</sup> Throughout 1986 there were conflicting assertions. British intelligence sources claimed that the Soviet Union had supplied nerve agent warheads for Libya's Scud-B missiles. US officials claimed that exports from Western Europe had assisted Libya's CW production capability.<sup>5</sup> Yet, testimony to the US Congress did not mention Libya amongst the significant CW possessors. Unofficial accusations still appeared to have been derived from the 1983 Special National Intelligence Estimate.<sup>6</sup>

If doubt existed then, today it can be said with a fair degree of certainty that the Rabta plant in Libya was designed for the production of chemical warfare agents. In 1990 there were very specific accusations that several West German companies were directly involved in the design and construction of the plant.<sup>7</sup> The court cases involving the company Imhausen-Chemie GmbH in Germany and two Belgian shipping agents have revealed the intricate web of deceit set up to deliver goods that fell under national export control regulations to Libya. The following sections give an overview of the three locations Rabta, Sebha and Tarhunah that have been associated with Libya's CW programme after 1990.<sup>8</sup>

### **Rabta**

Rabta is a large industrial complex 40 km south-west of Tripoli. The CW production facility at Rabta was known as Pharma 150. Its construction was a highly secretive affair involving a complex web of European firms, some of which were made to believe that they were shipping material to a plant bearing the same name in Hong Kong. Two companies, IBI Engineering, a London based firm, and Imhausen-Chemie GmbH, a West German medical-pharmaceutical firm, were at the heart of the proliferation scheme.

At the centre of the web stood Ihsan Barbouti, an architect from London and head of IBI Engineering. He was



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**A soldier suffering from burns caused by mustard gas; Libya is alleged to have produced mustard gas in its CW facilities during the Iran-Iraq War.**

rumoured to have close contacts with Qadhafi. IBI Engineering had offices in several European countries, which were often nothing but letterboxes. The company was also reported to have a branch in Libya about 8 km from Rabta, which was set up when IBI Engineering was contracted by Libya in 1984 to build the industrial complex at Rabta. IBI Engineering in turn contracted some 20 West German firms to supply different elements for the various industries at Rabta. More importantly, Ihsan Barbouti is believed to have set up contacts between Libya and the German company Imhausen-Chemie GmbH. During his trial in 1990, the president of Imhausen-Chemie GmbH, Jurgen Hippenstiel-Imhausen, claimed that in 1984 Barbouti had asked Imhausen-Chemie GmbH to help Libya build a multi-purpose chemical plant at Rabta. The contract for the chemical plant Pharma 150 was signed between Imhausen-Chemie GmbH and Libya in 1984. Imhausen-Chemie GmbH thus came to be at the centre of the supply network for the CW plant at Rabta. It placed orders with several companies from a dozen countries. Between 1984 and 1988 these companies supplied the Pharma 150 plant with material and equipment that has a potential use in CW production.

Many of these companies were told by Imhausen-Chemie GmbH that their products were destined for a pharmaceutical plant called Pharma 150 under construction in

Hong Kong. A twin project under the same name had actually been set up in Hong Kong to serve as a cover for the shipments to Libya.

Two Belgian shipping companies, Cross Link and Sanexomar, are known to have shipped the building material and chemicals to Libya for both IBI Engineering and Imhausen-Chemie GmbH. The final destination was said to be Pharma 150 in Hong Kong, but after departure the cargo was diverted to Pharma 150 at Rabta. Representatives of the shipping companies were later charged with falsification of the cargo documents.

Among the companies contracted by Imhausen-Chemie GmbH was the West German state-owned Salzgitter Industriebau, which supplied the construction plans for the plant at Rabta. Salzgitter claimed that Imhausen-Chemie GmbH told them that the plans were intended for a pharmaceutical plant in Hong Kong. When engineers from Salzgitter went to Hong Kong they discovered that the plant under construction had nothing to do with the plans supplied by Salzgitter. Additional firms from West Germany and other countries (such as, the German Democratic Republic, France, Switzerland, Austria, etc.) participated in the supply network for Pharma 150 at Rabta. These firms were often under the impression that their goods were being delivered to Hong Kong. Among the shipments were a computer control system, a water purification system, 19



**Victims of a fast-acting chemical agent (possibly tabun or sarin) in Halabja, Iran during the Iran-Iraq War. Halabja was the site of many CW attacks against civilians by Iraq in March 1988. More than 3 000 deaths were documented, with thousands more injured. Currently, people are still dying in Halabja as a result of their injuries.**

tonnes of dichlorethane, 60 tonnes of phosphorus-trichloride (precursor chemicals), glass-lined vessels designed to contain corrosive chemical reactions and acid resistant tiles.

It has been reported that Ihsan Barbouti recruited site managers and engineers from European states to work at the plant. The Hong Kong office of IBI Engineering was responsible for hiring Asian workers; about 1 000 Thai nationals worked at Rabta.

There was also an alleged CW munitions factory at Rabta, which was separate from the alleged CW plant. Various Japanese firms were involved in the construction of this factory. The main contractor, Japan Steel Works, claimed that it believed that it had supplied machine tools and engineers to manufacture replacement parts for use in a desalination plant.

When in 1990 it was reported that CW production had begun at Rabta, the United States threatened the use of military force to destroy the facility. In March 1990 a fire was said to have destroyed the Rabta plant. Libya accused the United States of having set the fire. In turn, the United States claimed that satellite photos of Rabta only showed minimal damage and that, moreover, the Rabta fire was a hoax. It was argued that Libya had started the fire to draw attention away from the construction of another CW production plant at Sebha.

Russian intelligence claims that by 1992 pressure from the United States had forced Libya to end CW production at Rabta. Pharma 150 was reportedly closed down in 1990 and a new pharmaceutical plant opened in 1995. However, the current status of the plant is unclear. Although the United

States claims that Libya is still capable of producing CW at Rabta, the focus of recent proliferation concerns has been on the alleged CW plant at Tarhunah.

## Sebha

In 1990 Libya was also accused of constructing an underground CW plant in Sebha Oasis, 650 km south of Tripoli. It was reported that the plant, called Pharma 200, was almost identical to Pharma 150 at Rabta. Sebha had apparently also used proliferation techniques similar to the techniques used for Rabta. Several firms in different European countries supplied Libya with material required for the Sebha plant, much of which was of dual-use nature. It is not known whether these firms were aware of the final purpose of their supplies.

Imhausen-Chemie GmbH also appears to have been implicated in the development of the plans for the plant in Sebha. Again, most of the plant workers were from Thailand. There were reports that two German firms were under investigation for an illegal attempt to export a computer control system to Sebha through the Netherlands and Saudi Arabia. Other firms from Germany, Switzerland and Italy supplied other equipment.

US officials claimed that the Chinese government sold 10 000 tonnes of precursor chemicals to Libya, destined for Pharma 200. China denied these allegations.

## Tarhunah

There have also been reports of a third Libyan CW production facility at Tarhunah, 65 km south-east of Tripoli. When reports of CW production at Tarhunah were published in 1994—1995, the facility was still under construction, and it was expected to become operational in 1997 or 1998. The installations at Tarhunah were said to be the world's largest CW plant. Nevertheless, the design appears to have been different from the ones used for the production facilities at Rabta and Sebha. The Tarhunah facility is described as a set of underground tunnels built into the side of a mountain. A thick layer of reinforced concrete protects the tunnels. Libya claims that the tunnels at Tarhunah form part of the Great Man-made River Project (a huge irrigation project to transport water in pipelines from underground reservoirs in the south to the populated areas in the north). Amid controversy between the United States and Libya, Egyptian President Hosni Mubarak, sent investigators to visit Tarhunah. The investigators saw the tunnels but no equipment.

The Libyan state-owned company Jowfe Corporation was used as a front company in the supply network for Tarhunah. It placed orders for CW production equipment with different European firms. These firms were presumably unaware of the final destination of their exports. In 1994 it

was discovered that Jowfe Corporation had purchased two chemical production installations and materials for gas production from the Multinational Engineering Group company, a subsidiary of the British company APV Jowfe Corporation had concealed the deal by placing the order with APV's subsidiary in Malaysia, APV Hills and Hills, which passed the order to the main office in Britain.

Among other firms contracted by Jowfe Corporation were a Belgian firm that supplied precursor chemicals, and a Swiss firm that supplied the technical specifications for the construction of parallel underground tunnels.

In 1996 two German businessmen were charged and convicted of exporting CW production equipment to Libya between 1990 and 1993. The businessmen had purchased chemical process control equipment and adapted it for nerve agent production before it was shipped to Libya and Tarhunah through a Belgian front company.

Libya was able to acquire material and equipment for Tarhunah from a number of other companies throughout Europe. It imported an air-purification plant from Switzerland and a rotary-boring machine from Germany. Thai companies have also been accused of involvement in the Libyan CW programme at Tarhunah, more specifically in the supply of workers. Furthermore, South African CW experts may have sold precursor chemicals or expertise to the Tarhunah plant.

After months of Western pressure, including diplomacy, efforts to disrupt Libya's supply network and threats by the United States to use force, it was reported that Libya had ceased construction of the suspected CW plant at Tarhunah in 1996. In 1997 Israeli intelligence officials claimed that

work at the Tarhunah facility had resumed. Recent US intelligence reports still express concern about Libya's CW proliferation efforts, but do not specifically mention Tarhunah.

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## ENDNOTES

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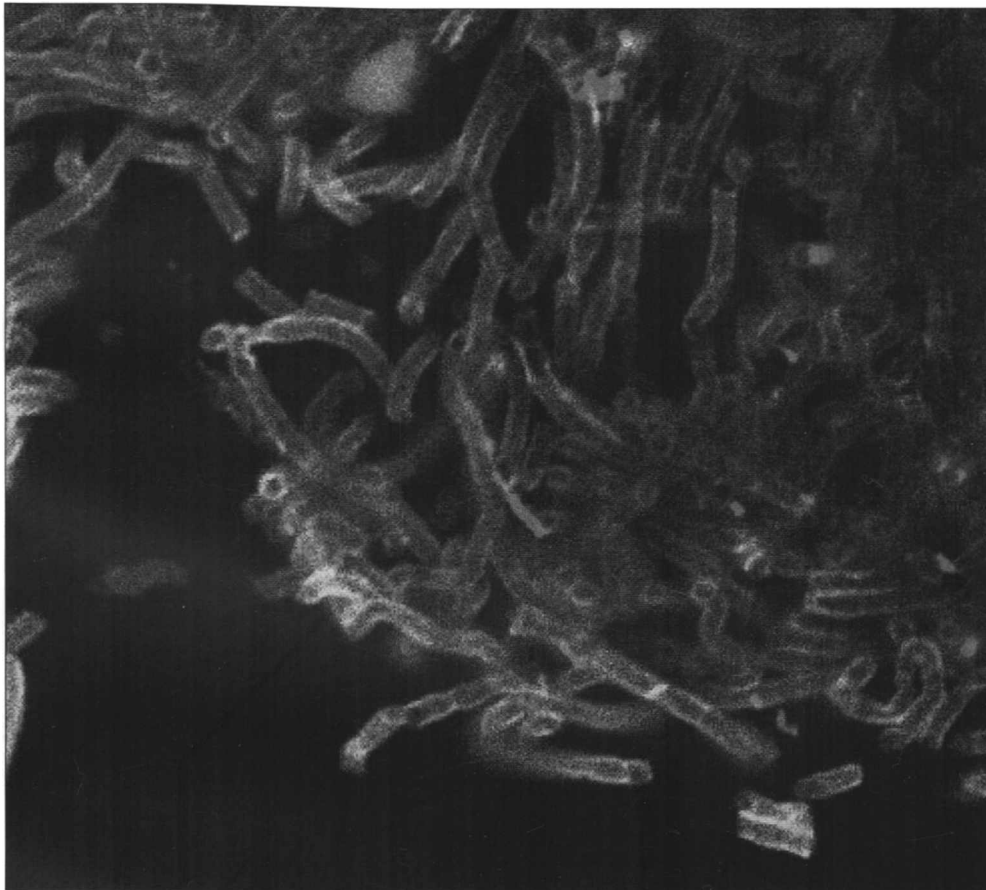
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# track two



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(This public domain image of anthrax under the microscope was downloaded from <http://phil.cdc.gov/Phil/default.asp>)

## Chemical & Biological Warfare

## Non-Proliferation and the Ethics of Science