

Uzbekistan – the sick man of Central Asia?

Uzbekistan is the second largest exporter of cotton in the world, selling over 800,000 tonnes of cotton every year. It is also one of the countries most severely affected by the hazardous pesticides used on cotton. Juliette Williams of the Environmental Justice Foundation describes the situation and argues that it is unlikely to change until western cotton consumers demand change.

In the past century Uzbekistan has undergone numerous political upheavals, from establishing trade links with Tsarist Russia, to its era as a soviet republic, and subsequent independence in 1991. Over this time cotton has become increasingly central to the Uzbek economy. But its production is blighted with poor labour practices and the use of hazardous pesticides¹.

Despite independence in 1991 many aspects of Uzbek governance have remained unchanged. Its current president, Islam Karimov, was a top official during the soviet era and cotton production remains entirely monopolized and strictly state-controlled. Soviet-style production quotas remain in place with orders sent from the capital, Tashkent, to provincial governors who are charged with ensuring that quotas are met.

Human rights abuses

The associated human rights and environmental abuses are profound. Instead of using machines to harvest cotton, as is done in other major cotton exporting countries, Uzbekistan's government uses children. Every autumn state officials shut down

schools and tens of thousands of children spend weeks harvesting cotton bolls for little financial reward. Uzbekistan's cotton farmers suffer too: despite producing a crop worth over US\$1billion, they receive little of the revenue generated from its sale. Official figures suggest they receive around one third of the value of their cotton.

Environmental degradation

Uzbekistan is also severely affected by the hazardous pesticides used on cotton. Five decades of use have resulted in chronic pollution of the country's land, air and water. In a drive for self-sufficiency during the Soviet era, vast quantities of pesticides such as DDT, aldrin, dieldrin and lindane, herbicides and defoliants were applied to Uzbekistan's cotton fields². This has left a shocking legacy. An estimated 90% of land, as well as water resources, is now contaminated by pesticides³. In 2000, an international study consistently found traces of highly toxic cotton-related pesticides in beef, sheep fat, chicken, fish, eggs, dairy products, onions and carrots⁴. A separate study by the World Bank found that most of Uzbekistan's food products do not meet

*'When I was little, people used to tell me about a strange disease called 'chicken eye' which attacks people while they work in the cotton fields. They said when you catch it, everything in front of your eyes becomes white until eventually you temporarily lose all vision ... Years later someone explained that these symptoms were the effects of the pesticides applied to cotton'.
EJF interview with a rural Uzbek (2006)*

national food quality standards due to contamination by cotton pesticides⁵.

In 2000, a study conducted in Karakalpakstan, the country's worst affected region, found traces of DDT and lindane in all the samples of treated water analysed. Pesticides carried in water drained from cotton fields continue to find their way into the Amu Darya and Syr Darya rivers and head towards the Aral Sea where they accumulate in the soil. Strong winds scour the bare earth and carry an estimated 43 million tonnes of pesticide laden particles into the air every year⁶. It comes as no surprise that the Aral Sea region suffers the highest rate of throat cancer in the world with 80% of cancer victims suffering from the disease⁷. These pesticides also affect Uzbekistan's Central Asian neighbours, with contaminated dust clouds emanating from the Aral Sea region now polluting the air in Turkmenistan, and contaminated water journeying through much of Kazakhstan.

Health effects

One Uzbek expert who previously worked for the Uzbek government estimated that around 85% of the population are suffering poor health as a result of exposure to agrochemicals and unsafe drinking water. However, state doctors are reluctant to diagnose illnesses as being caused by pesticides and intentionally provide alternate, less controversial diagnoses⁸.

Despite official reticence, numerous studies carried out in rural Uzbekistan have revealed a catalogue of diseases potentially linked to environmental contaminants. Elevated levels of developmental retardation, hypothyroidism, immunodeficiency, and chronic renal and lung diseases have been found among children living in areas of high pesticide use⁹. In downstream regions where pesticides accumulate at the end of their journey by wind or water, the



Children conscripted to work in Uzbekistan's annual cotton harvest. Uzbek cotton is sprayed by pesticides so toxic they were banned by the Soviets. Photo: Environmental Justice Foundation

rate of DNA mutation is 3.5 times higher than normal, with the worst levels of deterioration observed in those most exposed to toxic agrochemicals¹⁰. This means that not only are the people who have been exposed more likely to get cancer, but also their children and grandchildren.

Continued use

Shockingly, the government continues to allow the application of some highly toxic pesticides that characterised Soviet cotton production. A number of pesticides used during the Soviet era were regularly used in cotton fields as recently as 2004¹¹. This list includes the defoliant butifos – a highly toxic organophosphate used widely between 1960 and the mid-1980s, but whose use was officially terminated in the USSR in 1987¹². Despite being known to affect the central nervous system, heart, liver, kidneys and female fertility¹³, butifos is still manufactured at the Soviet built 'Navoi Azot Kombinat' (Navoi Fertilizer Factory) in Uzbekistan¹⁴. Another banned pesticide is phosalone¹⁵, whose continued application to cotton was highlighted in a recent communication from the Uzbek Ministry of Agriculture¹⁶, made available to Environmental Justice Foundation (EJF). This hazardous broad-spectrum pesticide, manufactured at the same plant in Navoi¹⁷, has been identified as a contaminant present in the toxic dusts arising from the Aral Sea region¹⁸.

Poor safety standards

The State's policy of ignoring even the limited Soviet-era prohibitions is compounded by its failure to provide safety training to those involved in cotton production. One expert interviewed by EJF explained, 'No farmer I have met has been given any sort of safety training, and the application of integrated pest management and biological control remains fairly limited'¹⁹. In perhaps the most alarming development since Independence, schoolchildren have been coerced into the cotton fields to manually apply pesticides²⁰. In June 2004, state authorities in the Rishtan district of the Ferghana Valley were reported to have excused local schoolchildren from their end of year exams, instead sending them to spray pesticides in the cotton fields²¹. One student described how she and her friends were issued with plastic mineral-water bottles filled with chemicals, with which the children doused the plants. The children had no protective equipment²², and no idea what they were spraying, but several noted that the chemicals burnt their skin²³.

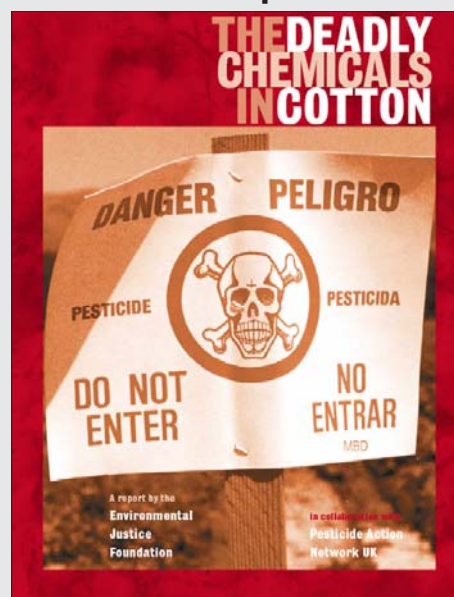
The seriousness and extent of pesticide pollution supports an overwhelming case for reform of Uzbekistan's state-controlled cotton sector. However, Uzbekistan's government has shown little interest in attempting to halt the damage caused by pesticides. While the overall amount of pesticides applied has fallen due to decreased availability and increased costs²⁴, pesticides are

New report exposes the impacts of cotton pesticides

The Pesticide Action Network UK has persistently denounced the impacts of pesticide usage on cotton since 1991. At that time, between \$2 and \$3 billion was spent on cotton pesticides worldwide. Of more than 300 million kilogrammes of pesticides used in the developing world each year one half was used on cotton.

Fifteen years of campaigning by PAN UK and others has produced some results. Alternatives to chemically-intensive cotton production have been successfully developed. IPM schemes around the world have shown that pesticide usage can easily be halved while increasing yields. The irresistible rise of organic cotton, now finding its way onto the mass market, proves that cotton can – and should – be produced sustainably, without the use of pesticides.

However, US\$2 billion's worth of chemicals is still sprayed on the world's cotton crop every year, almost half of which is toxic enough to be classified as hazardous by the World Health Organisation. The associated health and environmental costs are immense. This new report, *The Deadly Chemicals in Cotton*, reveals that vomiting, paralysis, incontinence, coma, seizures and death are some of the many side effects still suffered by farmers and children in the developing world who are routinely exposed to cotton pesticides, many of which are



banned or restricted in the West.

Among many recommendations, the report calls for a phase-out of the most toxic pesticides in cotton production, and increased support for more sustainable alternatives, such as IPM or organic cotton.

The Deadly Chemicals in Cotton is produced by the Environmental Justice Foundation, in collaboration with PAN UK, and can be downloaded from www.ejfoundation.org/cotton.

still applied to cotton at two or three times the recommended rate²⁵. One-third of Uzbek's cotton is destined for sale in Western Europe. It seems that until Uzbekistan's cotton consumers demand change, its people and their environment will continue to suffer the legacy of these deadly chemicals.

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