

Azerbaijani Press Discusses Link between Ecological Problems and Health Defects

Yasin Aslan & Elizabeth Fuller

Prominent among the various concerns and grievances that have surfaced in the press of the various non-Russian republics as a result of glasnost has been the ecological damage inflicted on vast areas of the USSR over the past three decades in the name of economic progress and the concomitant risks to the health of the population. Typical in this respect are two articles published recently in the Azerbaijani press. The first, by Aliaskar Abbasov, cites numerous cases where medical studies suggest that the indiscriminate use of toxic agricultural chemicals has contributed to a higher than average incidence of various diseases and health problems. The second, by T. Zeynalov, reveals how data registering such trends were for years either treated as classified information or ignored by the relevant authorities.

Over the past year, two Azerbaijani health officials have claimed independently that Azerbaijan has long occupied first place among the Union republics in terms of the amount of pesticides used per hectare of land. In an interview published last year in *Trud*, Azerbaijan SSR Minister of Health Talyat Kasumov disclosed that, whereas the average amount of pesticides used per hectare *for* the USSR as a whole ranges *from* 2-5 kilos, in the cotton- and vegetable-producing raions of Azerbaijan the figure is 40 kilos and in the grape-producing regions 183 kilos. ¹ Similarly, T. Zeynalov, a laboratory head at the Azerbaijan SSR Ministry of Health Scientific-Research Institute of Epidemiology, Hygiene, and Occupational Diseases, asserts that the average amount of pesticides applied per hectare in Azerbaijan is twenty times as high as that *for* the USSR as a whole. What is more, Zeynalov continues up to 80 percent of the agricultural chemicals used in Azerbaijan *are* particularly dangerous to human health." ² Both Zeynalov and Kasumov cite the example of DDT, which, they say, continued to be used in Azerbaijan "until recently", although it had been banned by the World Health Organization as long ago as 1970. Zeynalov claims that, as a result, "practically the entire population of the republic" has been affected by exposure to DDT, which remains in the subcutaneous cells *for a* lifetime.

DDT is, however, by no means the only harmful chemical substance to which the Azerbaijani population has been subjected in Azerbaijan, as elsewhere in the USSR, a direct link has been established between the use of chemical fertilizers and other substances in agriculture, the resulting concentrations of chemical vestiges in *food* products, and the incidence of various diseases and congenital defects. ³ Abbasov, in an extensive article published in the February issue of the journal *Azerbaijan*, refers to studies indicating that the incidence of anemia, asthma, diseases of the liver, pancreas, and gall bladder, and viral hepatitis in a given raion is in direct ratio to the amount of chemical fertilizers used there. Children up to the age of fourteen are apparently particularly susceptible: Abbasov claims that the incidence of anemia among children of this age group in Azerbaijan is 2.5 times as high as the all-Union average, that of tuberculosis-1.6 times as high, and that of viral hepatitis-twice as high. (Statistics cited by USSR Minister of Health Evgenii Chazov at a meeting of the Azerbaijan Party-economic aktiv in September, 1987, indicated that the incidence of tuberculosis in the republic increased from 48.3 per 100,000 in 1980 to 53.9 in 1986, compared with 44.8 in the USSR as a whole.)⁴

Even more disturbing in their implications are the results of a study cited by Zeynalov that was conducted in 1982 by specialists of the All-Union Scientific-Research Institute of the Toxicology of Pesticides in Kiev. A comparative cytogenetic analysis was carried out of groups of fourteen-year-old children *from* two raions with similar climatic and soil conditions in Azerbaijan and in two similar raions in Ukraine. In one raion in each republic pesticides were used intensively, and in the second their use was "limited. None of the Ukrainian youngsters was found to have any cell abnormality, whereas the incidence of such abnormalities among the Azerbaijanis both from the raion where pesticides were intensively used and from the area where smaller amounts were applied was found to be significantly higher than average. This, Zeynalov argues, proves that "the rise in the level of spontaneous chromosome mutations is the result of the intensive use of pesticides in Azerbaijan."

The implications of this study assume even greater significance if it is borne in mind that it was conducted seven years ago, since which time the ecological situation has deteriorated even further. (Four or five years ago, according to one journalist, traces of nitrates resulting from the use of excessive amounts of agricultural chemicals were found only in watermelons; now they are present in other varieties of fruit and vegetables, such as carrots, cabbage, potatoes, and onions. 5)

According to Zeynalov, however, such studies, far from prompting immediate steps to reduce the long-term health risks to the Azerbaijani population, were frequently suppressed "in order to hide the true picture caused by the ecological crisis situation." Cases of hepatitis caused by poisoning through toxic chemicals or the ingestion of drinking water polluted by industrial effluent, for example, were diagnosed by the laboratory where Zeynalov is employed as being caused not by poisoning but by infection. In another case, a study conducted by Zeynalov's institute on residents of Agdam Raion, which revealed that persons of normal health who were exposed to pesticides were more susceptible to various types of cancer, mental illness, and abnormalities in pregnancy, including premature births, was classified as "secret", thus precluding the institute raising the alarm.

That environmental pollution, in particular the use of highly toxic agricultural chemicals, is among the causes of the inordinately high rates of infant mortality in the cotton producing republics of Uzbekistan and Turkmenistan has been extensively documented.⁶ While the infant mortality rate for Azerbaijan-likewise a cotton-producing republic-is lower than for the two republics cited above (28.6 deaths per 1,000 live births in 1987, as compared with 56.4 for Turkmenistan and 45.9 in Uzbekistan),⁷ at a meeting of the Azerbaijan Party-economic *aktiv* in September, 1987, the then Party first secretary Kyamran Bagirov disclosed that infant mortality in Azerbaijan peaks during the cotton-sowing and harvesting periods. Bagirov attributed this trend, however, to the absence of even the most rudimentary medical facilities in many villages and to pregnant women being constrained to take part in the cotton harvest, rather than to pollution resulting from the use of dangerous chemicals such as the cotton defoliant Butifos, which, although technically banned, was apparently still in use at that time. 8

In his article in *Azerbaijan*, Abbasov postulates a connection between the use of pesticides and the incidence of premature births; he further states that the incidence of miscarriages in rural areas of Azerbaijan where excessive quantities of pesticides are used is 1.5 times as high as the all-Union average. Another writer has claimed that there is a link between childlessness and environmental pollution; Abbasov cites one study that

established that 42 percent of young married women between the ages of twenty and thirty-four years were sterile.⁹ (Although it was not specifically stated, this figure presumably refers to a sample group of young women, rather than to the population of the republic as a whole; nonetheless, the figure seems almost unbelievably high.)

What, then, can be done to reduce the risks to the health of Azerbaijan's rural population, given the economic pressures to produce even larger quantities of fruit and vegetables? To reduce the use of agricultural chemicals would undoubtedly reduce yields of various crops, thus jeopardizing plan fulfillment (An experiment conducted by agricultural specialists nearly illustrates this point. Three separate beds of cabbage were sown. One was treated with a substantially larger quantity of fertilizer than is officially permitted; the second received a normal dose of fertilizer; and the third was not fertilized at all. The first batch produced cabbages. In the second batch, the seeds germinated, but no cabbages developed. In the third batch, the seeds failed to germinate-leading one of the specialists involved to comment ruefully that "soil has become addicted."¹⁰) Biological insecticides are available in some areas of the republic, and are even considerably cheaper than the harmful chemical variety (it costs 3-4 rubles to spray one hectare of land with biological insecticide, as opposed to 8-12 rubles when using chemical products), but, presumably because of inertia, stocks of biological preparations are frequently left untouched and toxic chemical products used in their place.

Zeynalov sees the solution to the problem not so much in reducing the use and availability of toxic agricultural chemicals, however desirable such a step may be, as in more widespread, effective, and regular screening of the population in order to detect at the earliest possible stage abnormalities in the organism caused by the ingestion of pesticides over a prolonged period of time. Whether and to what degree such an approach would halt the apparent serious deterioration in the health of large sections of the population remains an open question.

FOOTNOTES:

1 Trud, August 25, 1988.

2 *Bakinsky Rabochi*_ April W, 1989.

3_ See Zeev Wolfson, -Nitrates-A New Problem for the Soviet Consumer: Report on *the USSR*, No. 20, 1989, pp. 6-8.

4 *Bakinsky Rabochi*_ September 30, 1987.

5 *Kommunist*, April 7, 1989.

6 See, for example, Annette Bohr, RL 352188, 8 Infant Mortality in Central Asia,- August 4, 1988.

7 *Vestnik statistiki*, No. 1, 1989, p. 54.

8 *Bakinsky Rabochi*_ September 30, 1987. on the Butifos controversy, see Ann Sheehy, RL 157/87, "Highly Toxic Defoliant Finally Banned?" April 23, 1987.

9 *Kommunist*, January 22, 1989.

10 *Kommunist*, March 24, 1989.