

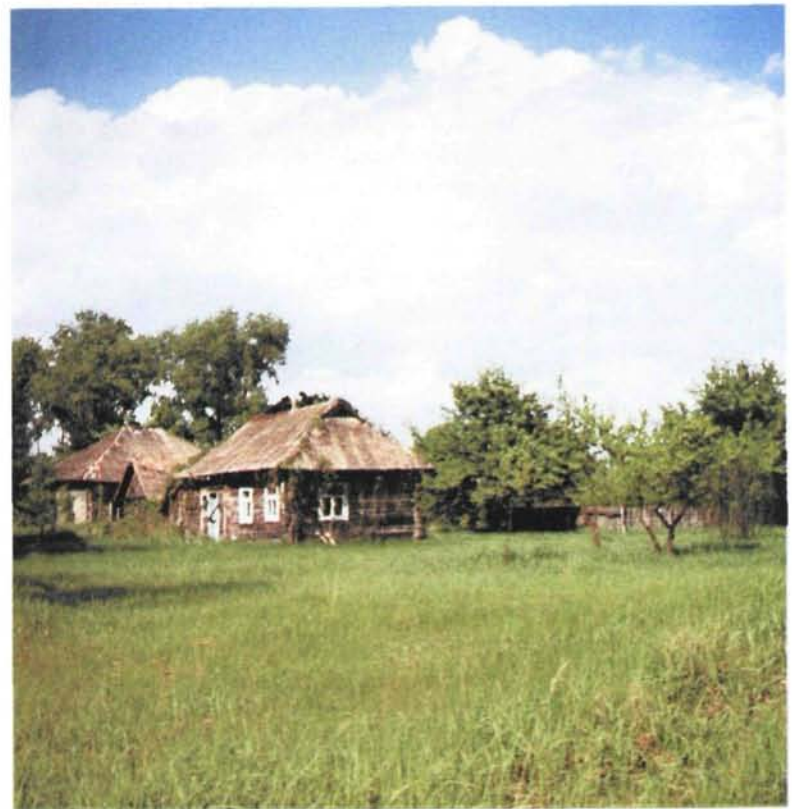
## SOCIAL/PSYCHOLOGICAL EFFECTS

*Report by Ms. Britt-Marie Drottz-Sjöberg, Centre for Risk Research, Sweden, who served as Chairperson, Topical Session 4, entitled "Other health-related effects: Psychological consequences, stress, anxiety", and by G.M. Rumyantseva, Serbsky Center of Social and Forensic Psychiatry, Moscow; A.I. Nyagu, Institute of Radiation Medicine, Kiev, Ukraine; and L.A. Ageeva, Institute of Sociology, Minsk, Belarus.\**

**J**oint Study Project-2 — a collaboration between researchers from Europe and the Commonwealth of Independent States (CIS) and financed by the European Commission — was initiated in 1991-92 and concluded in 1995. One facet of research focused on Chernobyl's social and psychological effects.

Several investigations were designed to describe public reactions to the Chernobyl accident among directly affected people, i.e. people living in areas with different levels of contamination and people who had been resettled due to the accident. Such groups were compared to control groups living in radiologically non-affected areas. Interviews and survey studies focused on psychological reactions, including stress, experiences of personal mastery, common sentiments, and perceptions of risk related to various kinds of hazards. They also covered, for example, measures of trust in information sources, self-rated knowledge of radiation, perceived degree of radioactive contamination of the home area, and standards of living. A total of 5000 individuals were involved in the investigations.

Previous studies had shown that psychological problems associated with the Chernobyl accident were not decreasing with time. People experienced exposure to real risks, and resettled people often provided the highest risk ratings. Responses to a question about the ability to protect oneself from radioactive contamination were overall discouraging. People indicated an



Inside the 30-km zone, some lifelong residents near Chernobyl have returned to the homes from which they were evacuated after the accident in 1986. Others who were relocated have not returned, leaving their former cottages, farms, and orchards abandoned. (Credit: Eric Voice)

\*This summary is based on "The influence of social and psychological factors in the management of contaminated territories", by Ms. Drottz-Sjöberg, G.M. Rumyantseva; P.T. Allen, Robens Institute, University of Surrey, UK; H.V. Arkhangel'skaya, Institute of Radiation Hygiene, St. Petersburg, Russia; A.I. Nyagu; L.A. Ageeva; and V. Prilipko, Institute of Radiation Medicine, Kiev, Ukraine. The paper was presented at the Minsk Conference, 18-22 March 1996, on "The Radiological Consequences of the Chernobyl Accident".

interest, however, in improving their knowledge of radiation and radioactive contamination. Worries were focused on health risks due to radioactive contamination, but there was also considerable concern about hardships of everyday life. Worries about everyday life increased stress. In the contaminated areas, factors specific to radiation also had effects — for example, self-attributed radiation knowledge had an effect in reducing stress.

Similarly, the extent to which people believed they could affect the amount of dose they received also reduced stress. The result furthermore indicated that people who tended to believe that things are determined by fate were somewhat more likely to have a higher dose compared to others. People who had resettled voluntarily and found the relocation justified indicated the lowest level of distress. Those who resettled involuntarily and who did not find the relocation justified reacted the strongest. Trust in various information sources was overall low, but foreign experts gained a higher rating than domestic experts, and health promotion bodies were more trusted than various political bodies.

People who paid more attention to media also gave higher ratings of everyday worry. An analysis of selected Russian, Ukrainian, and Belarussian newspapers at various points in time showed as a common feature that a great majority of the articles were written by journalists. Material written by experts, specialists, and authorities was much less frequently published, but appeared to some extent in 1986 and then again from 1989-90 onwards. Another common feature was that newspaper materials in 1986 and 1987 tended to have a soothing emotional content. Emotionally strained materials appeared more frequently around 1990 and onwards. The appearance of strained material around 1990 has been interpreted as reflecting the uncertain political climate at the time of the USSR's dissolution, and the election campaigns.

The study also demonstrated different reactions to the accident and different needs among the population, with changes over time. The differences seem to be increasing between directly affected population groups and others. In the short- and medium-time perspective, similar needs for information, behavioural recommendations, and health care seem to appear.

For the long term, however, our results point to the importance of preparedness for the emergence of new needs generated by the countermeasures themselves, e.g. relocation. The results suggest that voluntariness or personal choice are associated with less psychological distress. In Russia, relocation strategies appear

to have altered the psychological outlook, as well as reduced the stress. The policy was implemented in a staged manner, being mainly voluntary, spread over time, accompanied by significant financial benefits, and facilitating the maintenance of social networks. Regarding organized health care, it may be that preparedness for immediate and large-scale medical screening is a necessity after a radiological accident, but the medium-term strategy could include other options moving away from mandatory rules, e.g. services for counselling or for measuring personal dose or food products. The long-term management of health risk could be tailored to needs of affected and vulnerable groups.

Similarly it seems that financial support and compensation strategies become very important in the immediate and medium-term perspective, but that the beneficial effects may be threatened in the longer term if they create dependency rather than enhance self-sufficiency. One lesson of relocation which is seldom addressed concerns information and support to the communities which accommodate new members. Although relocated people may be provided with newly constructed housing they will nevertheless have an impact on the local community. Well-being could be increased in the communities if long-term risk management includes a review of common resources and helps accommodate common needs.

The results of the investigations must be related to the changes introduced by the policy of *perestroika* and *glasnost*, and the intensified social uncertainty which occurred during the mid-1980s and early 1990s. The Chernobyl accident divides a more than 70-year-old social system from a new time. Its significance will therefore remain salient in people's minds for a long time. Peoples' reactions to a radiological accident may have lasting emotional, social, and economic effects on a community or society. If these reactions become better understood, the knowledge facilitates improved risk management, effective risk mitigation, optimal use of financial resources, and relief from unnecessary suffering. Our empirical studies contribute new information and knowledge due to the massive scale of investigations and detailed analyses of specific groups. Control groups have been involved to adjust for overall major social and political changes. The project has also shown the feasibility of investigating citizens' personal experiences for facilitating specific current needs and future planning. The research further has gained knowledge because of international co-operation and the personal exchange of experience and information. □