

DEVELOPMENT OF A RADIOLOGICAL PROTECTION CULTURE IN CONTAMINATED TERRITORIES: LESSONS LEARNED FROM A SCHOOL TWINNING BETWEEN FRANCE AND BELARUS

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1. Introduction

The aim of this paper is to present a pilot project set up between a French school (Lycée du Bois d'Amour – Poitiers) and two Belarussian schools of the Stolya district (Olmansky and Terebejov schools) located in territories contaminated by the Chernobyl accident. This project has been developed within the framework of the international Programme CORE (Cooperation for Rehabilitation of living conditions in Chernobyl affected areas in Belarus) [1].

The main objective of this pilot project is to promote the development of a practical radiological culture at school through the twinning of French and Belarussian schools. This project, developed in cooperation with CEPN (Nuclear Evaluation Protection Centre) and IRSN (Institute of Radiation Protection and Nuclear Safety), relies on the direct involvement of the students in the learning process of their local environment together with the international exchange for sharing the knowledge on the consequences of the Chernobyl accident.

2. Context and purpose

The current situation in the contaminated territories leads to a feeling of incapacity from the population and radiological protection is no more considered as a priority. In the daily life, the understanding of radioactivity issues and the current recommendations concerning food and the environment are not always applied and accessible to the public.

It is rather difficult for the population to deal with the complexity of the situation. Furthermore young people have always lived in a contaminated environment, though they have no memory of the events that occurred before and the first years after the accident. Twenty years after, the population still faces great difficulties in expressing his history, feelings and thoughts about this tragedy and the daily life in the contaminated territories.

The overall purpose of the actions developed within the CORE programme, regarding education and cultural dimensions, is to set up the conditions for the development and patrimonial intergenerational transmission of a practical radiological protection culture and of the memory of the accident and its consequences for humanity. This transmission of know-how and of memory is a key condition for sustainable improvement of living conditions, allowing the inhabitants of contaminated territories as well as the national and international communities to think the event to facilitate their involvement.

Within the ETHOS project developed in the Stolyn district in Belarus from 1996 to 2001 [2], the schools of Olmany and Terebejov were involved in the development of practical approaches concerning radiological protection culture. At the same time, the Lycée du Bois d'Amour in Poitiers, France, developed practical experiences concerning the natural radiation, together with the French Society of Radiation Protection. Based on these experiences, the schools of Terebejov and Olmany and the Lycée du Bois d'Amour in cooperation with CEPN and IRSN decided to set up this pilot action in order to favour exchange on the issue of environmental protection regarding radioactivity between pupils and teachers living in contaminated territories in the Stolyn District and pupils and teachers from Poitiers in France. This exchange aims at:

- Promoting citizenship and cultural dimensions;
- Involving children in the "appropriation" of their own environment;
- Favours an educational approach on the protection of the environment and the sustainable development in each specific context as well as addressing the issue of risk;
- Sharing the issue of post-accidental situations at the international level.

3. Organisation and development of the project

In order to achieve the objectives of this pilot project, lessons have been organised on the basis of multi-disciplinary technical and scientific working groups in France and in Belarus from September 2004 to June 2005. In addition, Belarussian students travelled to France in March 2005 and then French students went to Belarus in April 2005.

As a whole, 25 students from Belarus were involved with 7 teachers from both schools of Terebejov and Olmany, and 17 students from France with 6 teachers.

Different disciplines were concerned by this work, among them: biology, physics, literature, French and Russian languages, history and geography, computer science,...

Activities developed in the schools of Olmany and Terebejov

The work performed by the Belarussian students concerns:

- investigations on the living conditions in their own villages and on the consequences induced by the Chernobyl accident;
- analysis of the radioactive contamination levels of their daily food and discussion on the link with their whole-body contamination;
- identification of the current contamination in the village and discussion on the strategies set up by the local professionals and inhabitants to improve the radiological quality of the food products;
- exercises on the preparation of forest products to decrease the contamination level;
- collection of information regarding the memory of the accident and its consequences, notably through interviews of inhabitants, people involved in the so-called "liquidation" of the accident, as well as people who have left the village after the accident;
- work on the literature and expression of the consequences of the accident in their daily life through artistic work (poems, drawings).



Figure 1. Reception of the computer for the project at the school of Terebejov



Figure 2. Student analysing the data collected on contamination in the village of Terebejov

Activities developed in the Lycée du Bois d'Amour

In France, the activities of the students were focussed on:

- the discovery of radioactivity in their own environment through measurements performed around the school, and comparison with values from Belarus;
- the visit to the nuclear medicine service at the Poitiers hospital for understanding the management of radioactive materials;
- the understanding of the transfer of the contamination in the food chain and the whole body contamination;
- the discovery of the history of the Chernobyl accident and the history and geography of Belarus;

- the investigation of the literature related to the Chernobyl accident;
- measurements of the contamination of foodstuff in cooperation with ACRO (Association pour le Contrôle de la Radioactivité dans l'Ouest);
- whole body contamination measurements by IRSN staff at the Lycée du Bois d'Amour.

In both countries, the project provided opportunities to address the issue of radioactivity in a multidisciplinary perspective and as far as possible in interaction with the inhabitants and professionals. For example, the radiometrists were regularly involved in the measurements of foodstuff collected by the students for their work in Belarus. Similarly, the interaction with specialists from the nuclear medicine service at the hospital of Poitiers allows the students to approach concretely the management of radioactive control and protection.

Visits in France and in Belarus

The key events of this activity have been reached first with the venue of the Belarussian students with their teachers to Poitiers and then with the venue of the French students with their teachers in Belarus. For providing guarantees in terms of radiological protection for the French students, the accommodations were organised in the town of Pinsk, close to the district of Stolyn. Nevertheless, visits were organised to the villages of Olmany and Terebejov, where the Belarussian parents and students were happy to receive French participants. This exchange has created a real partnership between the Belarussian and French students and teachers.

In both countries, exhibition of the work performed in each school was presented during events involving the parents of the students. It was the opportunity for them to explain their findings and it was mixed with entertainments and songs showing the reality and the culture of the villages.



Figure 3. Exhibition of the work during the venue of the French students in Belarus



Figure 4. Welcoming address at the school of Olmany

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**Figure 5. Spectacle presented for the venue of the French students in the school of
Olmany**

During the travel to Belarus, French students were notably received at the hospital of Stolyn by the medical doctor in charge of the paediatrics service. She explained the situation of the district and the sanitary evolution of the children since the Chernobyl accident.



Figure 6. Visit to the hospital of Stolyn

They also visited the local centres of radiological control in the villages where explanations about the radiological situation of the villages were presented and the role of the radiametrists was explained. Measurements of food products were performed during the visits in order to show the sensitivity of products (mushrooms, berries,...).

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Figure 7. Visit to the radiametrists in Terebejov

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Figure 8. Visit to the radiametrist in Olmany

4. Conclusions and perspectives

The cooperation is still under-development between the Lycée du Bois d'Amour and the schools of Olmany and Terebejov in order to further investigate the radiological protection culture in Belarus and in France as well as to disseminate the lessons learned from this pilot project. In this perspective, documents are under-preparation and workshops between teachers are envisaged to share the experience, while the students are preparing projects for the continuation of their relationships.

In both countries, the exchange has generated a series of documents, graphics, photos, poems,... describing and illustrating the work performed as well as the spirit of the exchange. In fact, this partnership has developed a real solidarity between the school of Poitiers and the schools of Terebejov and Olmany and has played a key role in the development of the awareness of the students in Belarus and France regarding the issue of the radiological protection culture.

It appeared that the exchange with French students has been a key incentive and created a real dynamics for the development of the project in the two schools of Olmany and Terebejov. Notably, the fact that French students and teachers took some time to listen to the situation in the Stolyn district was quite meaningful for the Belarussian students and teachers. Furthermore, their venue in the two villages affected by the Chernobyl accident created a real mobilisation among the inhabitants for presenting their conditions of life and their management of the radioactivity. It also provided them the opportunity to have a connection to the rest of the world although living in a contaminated territory.

In that sense, the solidarity and the partnership appeared to be key features in order to promote this radiation protection culture.

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Figure 9. Belarusian and French students

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