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CENTRE D'ÉTUDE SUR L'ÉVALUATION DE LA PROTECTION DANS LE DOMAINE NUCLÉAIRE

Radiation protection culture at school

Lessons from the ETHOS and CORE projects in Belarus

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Post-accident context (1)

- **Large mobilisation of schools to cope with internal contamination of children**
  - Involvement in the organisation of the whole-body monitoring
  - Provision of « clean food » at lunch time at school
  - Organisation of regular periods in sanatorium for the children and management of travels to foreign countries

Post-accident context (2)

- **Information generally complex and not understandable by children in their own context**
  - Transmission of theoretical knowledge about radiation and its effects
  - Elaboration of a list of "restrictions/interdictions"
  - Communication to parents of whole body measurements without meaningful explanations
  - Lack of adapted tools for teachers to cope with this situation

Input of the ETHOS and CORE projects

- Development of **school projects** to share and develop know-how among students and provide them with the capabilities to behave in the day-to-day life i.e. to acquire a **"practical radiation protection culture"**
- Focus on the emergence of "informed-citizens" rather than on the transmission of scientific knowledge
- Direct involvement of children in the activities
- Multi-disciplinary approach and voluntary involvement
- Development of partnerships with radiation protection experts and local citizens to develop the projects at school

Basic "practical" questions to be addressed in the school projects

- Where, when and how am I exposed?
- What can I do in my day-to day life to protect myself against the radiation?
  - When I am outdoor
  - Regarding my diet

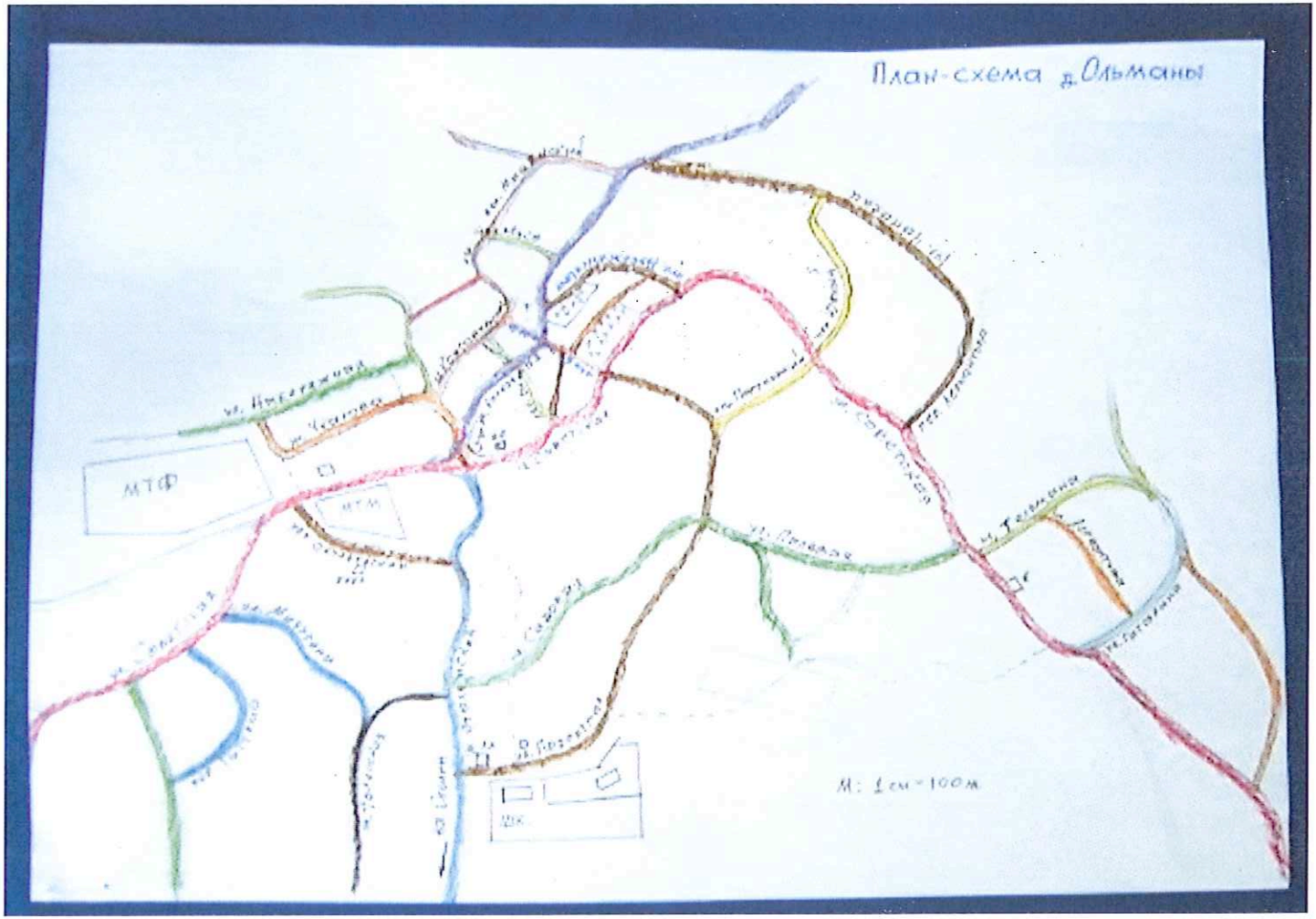
Approach concerning external exposure

- Establishment of local mapping (house, garden,…)
- Interpretation and comparison of the different measurements (notably comparison with other areas)
- Identification of exposure characteristics (time and location)
- Calculation of external dose per day, week or year according the occupations

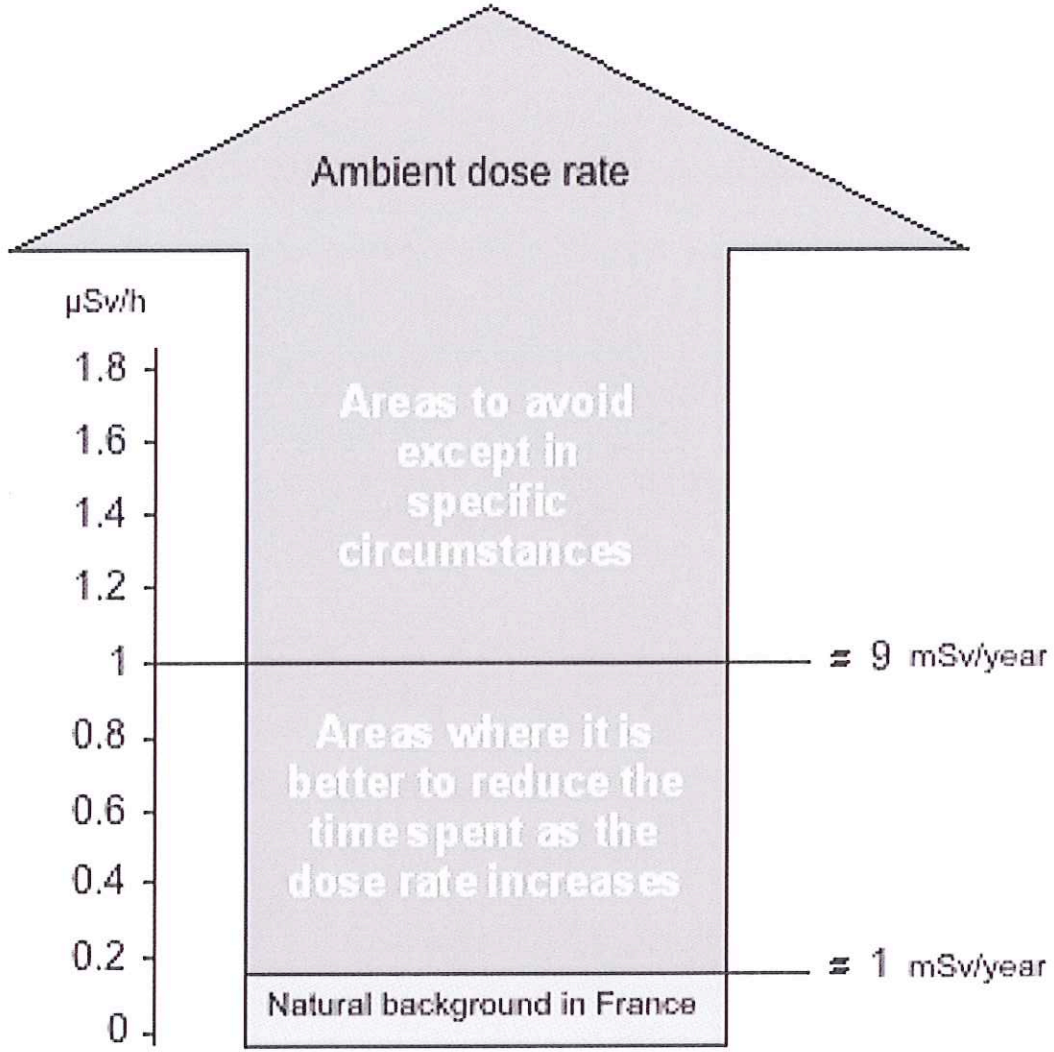
Measurement of external dose-rate in the school yard

Measurements of external dose-rate at home

Map analyzing the ways to go to school



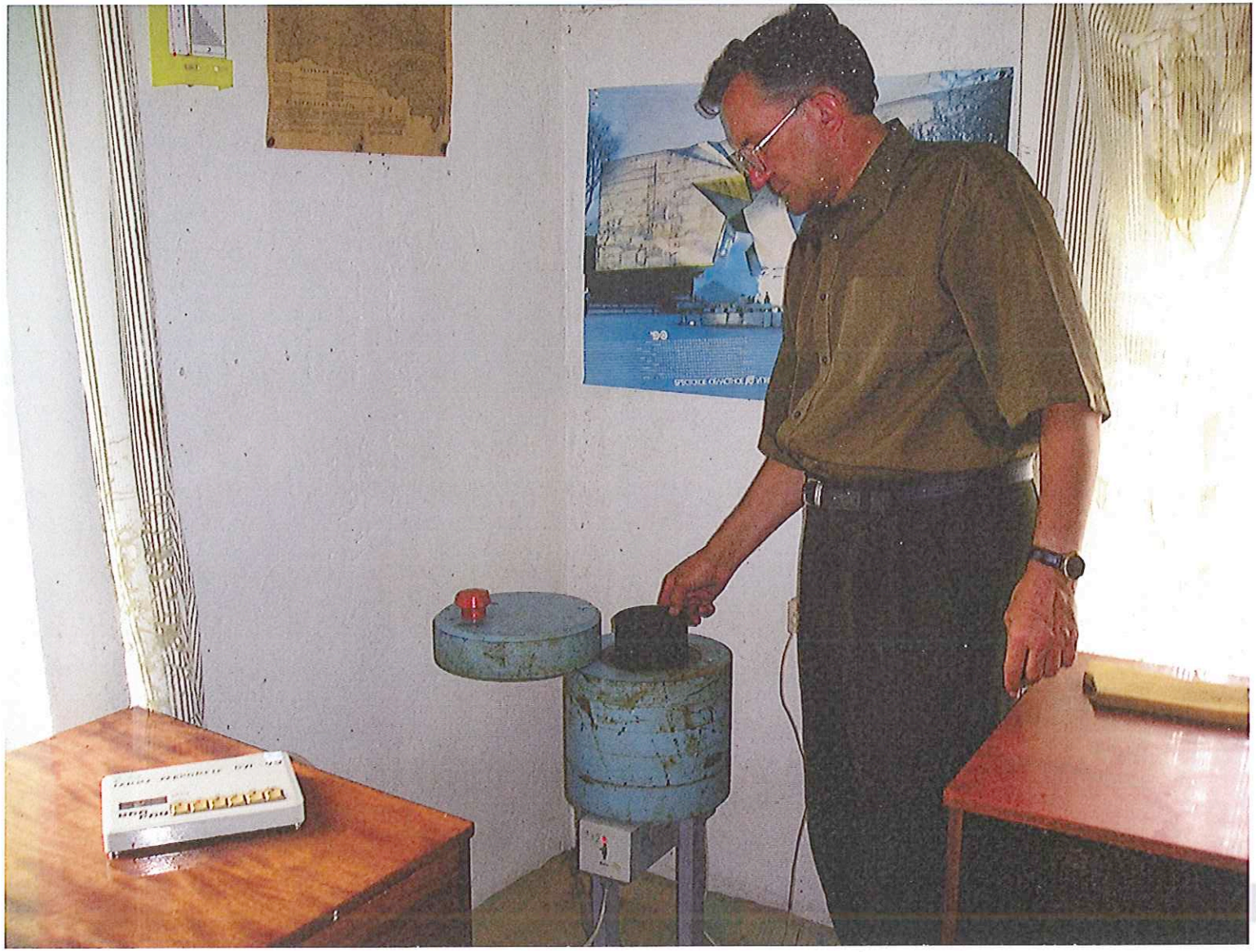
Elaboration of a scale to deal with external exposure



Approach concerning internal exposure

- Identification of the radiological quality of the foodstuff
  - Measurements of local food products
  - Classification of the food products according their sensitivity to radioactivity based on the local situation
  - Identification of the origins of the most contaminated food products
- Characterisation of the internal exposure
  - Whole body measurement
  - Identification of the link between diet and internal contamination (chronic versus episodic intake)

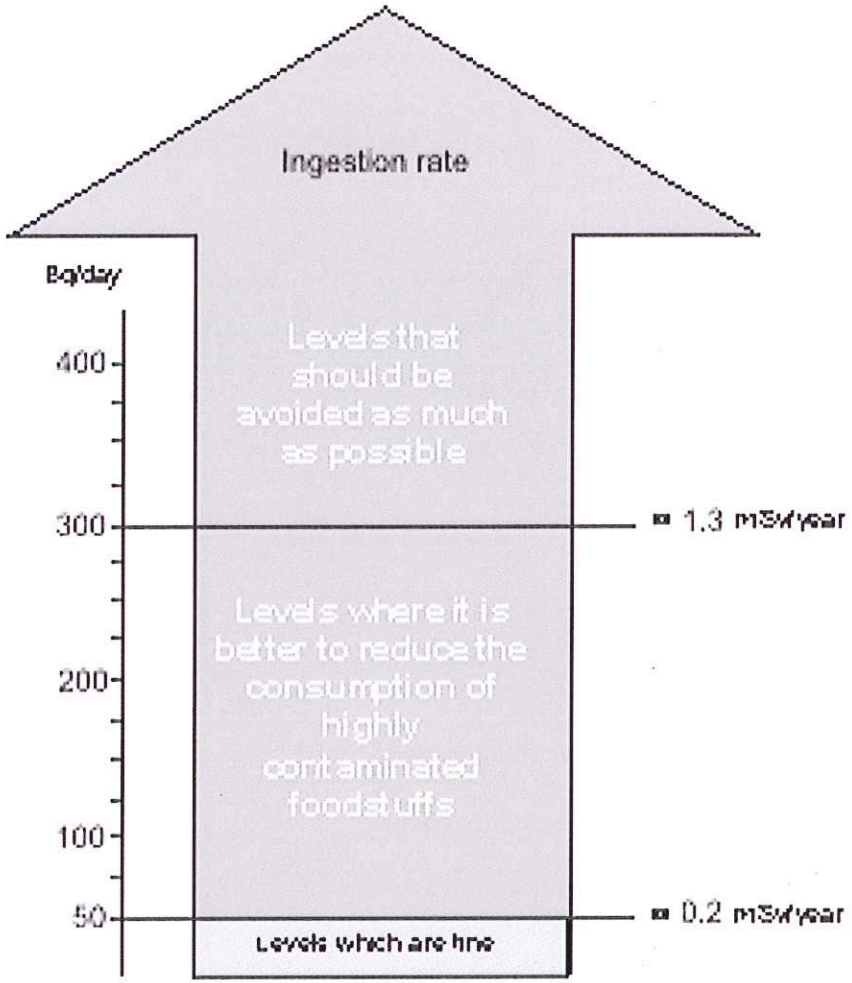
Measurement of food products in the village



Analysis of the influence of the level of foodstuff contamination on the daily intake of children

		Maximum contamination		Minimum contamination	
Foodstuff	**Grams**	**Bq/kg**	**Ingested Bq**	**Bq/kg**	**Ingested Bq**
Bread	250	60	15	10	2.5
Butter	10	400	4	30	0.3
Vegetable soup	300	100	30	10	3
Meat	200	300	60	10	2
Stewed apples	150	100	15	10	1.5
Sauerkraut	300	50	15	10	3
Potatoes	100	100	10	10	1
Stewed moorberries	200	2000	400	100	20
Chocolate milk	100	2000	200	10	1
		Total	**749**	**Total**	**34.3**

Elaboration of a scale to deal with internal exposure



International cooperation: an important contributing factor

- School exchange between Stolyn (Belarus) and Poitiers (France) schools based on "practical radiation protection culture projects" developed during the year

- Organisation of an international seminar in Kiev involving Belarussian, Ukrainian and French schools

Key lessons on the development of the radiation protection culture at school (1)

- Real attraction and engagement of children and teachers in school projects aiming at developing the *"practical radiation protection culture"*
- Concrete results in terms of reduction of internal contamination of the children involving teachers
- Transmission of culture between children themselves and from children to their parents
- Importance of availability of monitoring equipments
- Importance of pluralism of information sources

Key lessons on the development of the radiation protection culture at school (2)

- Importance of building a network of school professors engaged in developing "the practical radiation protection" with their students
- Need to organize a cooperation between teachers, health professionals, radiation protection experts and local authorities to favour the transfer of information and know-how
- A real challenge:
  - To find the good wording, the meaningful experiences and the limited set of useful knowledge to deal with the radiation protection issues with young people
  - To help teachers to develop their own projects based on the local situation and the available information