

Communication Strategy Regarding Persistent Organic Pollutants in the Republic of Moldova

**Prepared within World Bank/Global Environmental
Facility GEF-PPG Nr. TF051208, „Persistent Organic
Pollutants Enabling Activities for the Republic of
Moldova”**

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Abbreviations

GEF	-	Global Environmental Facility
LFA	-	Logical Framework Approach
NGO	-	Non-governmental organization
NIP	-	National Implementation Plan
OOPP	-	Objective Oriented Project Planning
OPP	-	Obsolete Prohibited Pesticide
PCB	-	Polychlorinated Biphenyl
PFR	-	Participatory Farmer Research
PLA	-	Participatory Learning and Action
POP	-	Persistent Organic Pollutant
PRA	-	Participatory Rural Appraisal
PRCA	-	Participatory Rural Communication Appraisal
RRA	-	Rapid Rural Appraisal
SSI	-	Semi-structured Interviews
UN	-	United Nations
UNDP	-	United Nations Development Programme
WB	-	World Bank

Executive Summary

The impact of POPs on the environment and human health could be decreased to a great extent in the Republic of Moldova through improvement of communication on POPs and through building awareness on POPs in a significant part of the public or in the whole of the country's population. In compliance with Article 10 of the Stockholm Convention the Republic of Moldova has the commitment to build awareness regarding POPs problems in decision-makers, to offer to the population awareness building programmes in the respective area and to assure public participation in addressing such problems.

A participatory survey of public perceptions in respect to POPs in the Republic of Moldova carried out during November-December 2003 in several rural localities and in the city of Chisinau by the Ecological Movement of Moldova and NGO BIOS has revealed the insufficient communication in problems related to POPs and other chemicals both between the relevant decision-makers, including central and local public authorities, agencies for plant protection and the research institutes subordinated to them. The abovementioned entities poorly communicate with schools, universities and NGOs, different formal and informal groups of the public. The lack of procedures and communication channels for direct communication between the civil servants of the above entities and the population was also confirmed. No procedures exist for requesting the opinion of the population and for solution of pollution cases reported by the public or the existing procedures are perceived as being inefficient.

The survey has also revealed very limited knowledge regarding POPs sources and effects within the public, including in groups with high risk of POPs exposure, such as farmers, industry employees, staff of the power and heat generating and distributing companies, units responsible for collection and disposal of waste. The dissemination of POPs related knowledge is low also due to the reduced application of the participatory techniques and tools in training and education by most of the entities that provide ecological training and education to adults and children and also due to the fact that the ecological information offered to the Moldovan public is frequently scientific in its essence, being for this reason little understandable by the affected groups.

This Strategy aims at diminishing the POPs impact on health and environment through improvement of communication between all entities relevant for processes associated with POPs, creation of a communication framework on POPs and other chemicals within society and improvement of awareness of the Moldovan public regarding POPs sources and effects, through awareness building activities, training and education for all the groups, with focus on the ones with greater dissemination potential and higher exposure risks.

Specifically, for the improvement of communication in POPs and other potentially harmful chemicals, activities for formation of a communication framework are proposed, for training the ecological inspectors, teachers of natural sciences, NGOs in communication skills and knowledge, search of opinions within different groups, taking into account the interests of the vulnerable groups,

creative open dialogue options of the authorities with the population, increased access of the concerned public to true and accessible ecological information through diversified communication channels.

The improvement of the public awareness in POPs related issues is planned through focus groups training, including training of the representatives of the central and local public authorities, the research community, NGOs, universities, schools, private companies, development programmes and organizations, mass media. In order to assure a more effective transfer of POPs related knowledge to the decision-makers and to the general public, the application of participatory methods for training and education is proposed, as well as the development of the participatory process for the solution of POPs related problems with the contribution of all the factors related to the respective problem.

The formation of interdisciplinary and intersectorial partnerships for the solution of the problems associated with POPs along with the implementation of communication events for different entities and groups of the society in POPs issues is stated as an essential tool for non-technological and technological reduction of POPs volumes and impacts and for the efficient solution of other ecological problems.

The benefits of having a developed Communication Strategy derived from the perceptions of various groups, including researchers, civil servants, medical doctors, teachers, children, farmers, students, beggars, parents with many children, the retired, employees at high POPs exposure risks, etc., are numerous. They include the identification of research areas focused on real problems and needs related to POPs, collection and dissemination of information and experience of the population in the area of POPs alternatives, the identification of unknown sources of POPs pollution, decrease of POPs impacts on health through simple precautionary actions and prevention of environmental pollution, modification of consumption patterns etc.

The Strategz ends with a short description of the funding sources and the principales for evaluation, monotiring and review of the Strategy.

Introduction

International context

The Persistent Organic Pollutants (POPs) were confirmed as a threat for the health and sustainability of the planet's natural systems and for the health and activity of the current and future generations of humans. The introduction of POPs within the environment takes place through sources and activities related to people's life and work. Thus, the patterns of behaviour and the knowledge, the perceptions and the attitudes of the society in respect to POPs are essential for the solution of the problems generated by them. No less important is the communication of the members of the society regarding POPs in their personal professional and official roles.

National context

In the Republic of Moldova the knowledge of the public regarding the POPs is very limited, while the communication on POPs is practically non-existent. This situation reduces the opportunities for participation of different entities of the society and individual citizens in the solution of the POP related problems and decreases the prospects of the country to get integrated in the international process for addressing the global contamination with POPs.

Context of the Strategy

Within the World Bank/Global Environmental Facility Project „POPs Enabling Activities for the Republic of Moldova” (hereinafter “the Project”) the task was set to develop a Communication Strategy (hereinafter “the Strategy”) in respect to POPs, allowing for the identification of communication problems and barriers within society at different levels, of knowledge gaps within the public, of opportunities for improvement of access to information, as well as the ways for the creation of an effective and sustainable communication and public awareness framework.

Article 10 of the Stockholm Convention requires that the Republic of Moldova as Party to the Convention fulfils its commitment to build awareness among the decision-makers in respect to POPs problems, to provide awareness-building programmes in the respective area to the public and to assure the public participation in addressing POP related issues, to offer POPs training to categories of the population with high knowledge dissemination and application potential, to actively participate in the educational and awareness-building process at the national and international levels.

These tasks and commitments of the country once implemented have the potential to conduct to an improved condition in matters of application and management of POPs-containing substances and materials existing in the country, gradual reduction of POPs volumes and improvement of the quality of the environment and health of the population. Internationally, the implementation of its commitments under the Stockholm Convention by the Republic of Moldova offers realistic opportunities to benefit from exchange of information and technologies, access to technologies less polluting than the ones in use in the country, wider and

more diversified opportunities for education of the public based on a bigger information pool accumulated by the Parties to the Convention.

Information sources of the Strategy

As main information sources the following were used: the text of the Stockholm Convention in Persistent Organic Pollutants, the Project document of World Bank/Global Environmental Facility Project, GEF-PPG Nr. TF051208, „Persistent Organic Pollutants Enabling Activities for the Republic of Moldova”, the reports of the project consultants, the relevant national and international literature concerning communication and participation, training and education methods and techniques, statistical reports, official documents, reports on other environmental projects implemented in the Republic of Moldova, newsletters issued by universities, NGOs, institutions for training and re-training of professional staff, the data of the Survey of public perceptions on POPs, data and ideas contributed by the representatives of NGOs, research institutes, central and local authorities during meetings, seminars and workshops organized within the Project, other relevant materials.

Methodology of the Strategy. The methodology for the development of the Strategy has comprised a set of traditional and more up-to-date tools and techniques for the study of the current situation in respect to POPs, for collection of information, opinions and perceptions of the public related to POPs, for identifying the state of the communication and knowledge related to the problem, for finding out the tools and methods used for training, education and awareness-building in the country.

Within the Survey of the Public Perceptions on POPs (hereinafter “the Survey”) a number of techniques were used, including interviewing based on semi-structured interviews (SSI) for individual, pair and group interviews, as well as elements and tools based on the following methods: Participatory Learning and Action (PLA), Logical Framework Approach (LFA), Objective Oriented Project Planning (OOPP), Participatory Rural Communication Appraisal (PRCA), some tools of the Participatory Farmer Research (PFR), Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA)¹. Useful material was also obtained using verbal and written testimony, direct observation and contrasting comparison within the localities of the Survey, etc.

The basic methods used during the meetings of the project consultants, within seminars and workshops with participation of the civil society representatives, civil servants, employees and staff of companies considered potentially POP polluters, were as follows: methods for group dynamics, questionnaires, group discussions and group work, brainstorming, building of flowcharts, local history profiles, a variety of daily activity profile, life style analysis, opinion and preference ranking, contrasting comparisons, etc.

The exercise for national priorities setting in respect to POPs both during meetings of project consultants and during the national seminars and the

¹ A short description of the participatory tools for study and training, see in Annex 5.

workshops for civil society representatives, has applied the following techniques: flowchart method, Venn diagrams, LFA, OOPP, etc.

The training methods applied within the educational system and within the system for formal and informal training in secondary education institutions, vocational and technical schools, universities, as well as in institutions providing re-training and professional improvement courses for civil servants, teachers etc, were assessed based on existing literature, publications issued by respective institutions, as well as based on interviews with representatives and staff of the respective institutions and with the participants in the training and education process.

The communication strategy developed based on the collected background information through the above methods and taking into account the POPs related problems identified is oriented towards general improvement in the area with focus on all the groups of the population, including the vulnerable ones. This approach to the task of improving communication and awareness in POPs area and other similar issues aims at wide participation of the public in reducing POPs impacts and volumes, decreasing costs of activities and increasing awareness of POPs impact on health and environment by the highest possible number of the public.

Background

The communication in the Moldovan society in respect to POPs and other associated issues is limited due to still existing former Soviet non-communication environment. In spite of the continued efforts of the Ministry of Environment and Natural Resources to build sustainable relationships with the civil society and to increase the access of the public to ecological information the results are rather low. The participants in the participatory Survey of Public Perceptions in Respect to POPs² carried out in Chisinau city and in two rural localities Tintereni and Cretoaia, in November-December 2003 by NGO BIOS based on SSI and focus group discussions have stated that the people almost never apply to local public authorities with ecological problems, not trusting the latter to listen to them and to pay proper attention to their problem.

The companies potentially polluting the environment, including with POPs, stated that their communication with the environmental protection authorities was limited to payment of polluter fees, taxes and penalties. The representatives of different ministries do not inform each other about common problems and do not search together for their solution, including through opportunities offered by technical assistance programmes. The medical doctors in villages with environmental problems, including water and soil pollution with POPs from the times of intensive use of chemicals in agriculture, cannot obtain from institutions of preventive medicine the data on water samples regularly collected by the latter.

There also examples and cases confirming insufficient communication between the research institutions and the ministries they report to, between the local public authorities and the central ones, between ecological agencies and NGOs, schools, universities and sectorial state agencies, between mass media and the ecological inspectors, between the Agency responsible for Emergencies and the Environmental Protection organizations and programmes, etc., etc., etc.. The communication of the state institutions with the citizens is also very reduced.

In particular, the Chisinau power stations expressed their interest for reducing the POPs pollution from their power generation and distribution activity, but stated that for their efforts to be effective they need a close partner communication and cooperation with the Ecological Inspectorate, the Agency for Control in Power and Heat production, with their bigger customers. They stated that their access to information regarding international projects and conventions was insufficient.

The roots for the lack of communication in society on any topic can be found in the governing principles of the former Soviet regime that was discouraging communication, and reducing the access to any type of information. The financial limitations are another reason, that does not allow for the purchase of modern office equipment, multiplication and dissemination of information, organisation of intersectorial meetings or meetings with the population on issues of general interest. Some of the agencies do not have even the set of laws and the description of the responsibilities pertaining to their own activity. Communication in POPs related activity reflects these limitations.

² A detailed report on the Survey of Public Perceptions in Respect to POPs is provided in Annex 2.

The WB/GEF Project “Enabling POPs Activities for the Republic of Moldova” in cooperation with the Ministry of Ecology and REC/Moldova have started building communication paths related to POPs in Moldova alongside existing channels of communication between NGOs, officials, groups of the public, through mass media sources and other information sources. This process had built on existing foundations laid earlier by programmes and project carried out by the government under earlier WB, UNDP, TACIS, USAID and bilateral projects, as well as projects implemented by NGOs within grants programmes of REC, SOROS, etc.

The bulk of the civil servants of the Republic of Moldova have no knowledge and skills in communication, problems solving, conflict resolution, logistic management of volunteer work, strategic planning. Even the authorities responsible for training, awareness building and extension in agriculture have little or no knowledge in participatory methods of training. As a result, even the most dedicated efforts of the authorities to contribute to the solution of environmental problems, including POPs problems, cannot be expected to be highly successful without changing the general situation.

The interdisciplinary communication in POPs is very limited in the Moldovan society. Although the medical doctors are alarmed by the great number of cancer cases, allergic disorders and immune system deficiencies, even in newborns, which they associate to a high extent with harmful environmental factors, including POPs, the increase of the diseases coinciding in time with the intensive application of chemicals in agriculture, including POPs chemicals, they have no regular communication with other agencies and research institutes in the areas of agriculture, chemistry, processing industry, foodstuffs industry in order to identify the greatest sources for above problems and to search for common solutions.

The knowledge of POPs related problems, as well as problems related to other toxic chemicals used in agriculture, and released into the environment as a result of many technological processes in industry and as exhausts from transportation, during the processing and elimination of waste is very low within the Moldovan population. In particular, the abovementioned Survey showed that only 4 people out of 97, i.e., 3.88 percent, have heard or learnt something about the POPs.

Out of the same number of interviewees, only about 38% have confirmed some concern about the impact of chemicals on health and environment, most of the interviewees making no distinction between different groups of chemicals or the degree of their possible toxicity. Although all the participants in the Survey confirmed application of chemicals in their households, about 76% confirming also either their application on their land plot, or contact with them in a professional capacity, only one of them expressed his concern about potential effects of chemicals on health even in conditions of strict observance of instructions. The other 98.97 % of the participants in the Survey have no doubt that they could suffer no ill effects if they strictly observe the application instructions provided by the producer of chemicals. The current limitation of chemicals application within the agricultural land and within households are financial limitations, but not precautions related to their impacts.

The majority of the population has access to information through TV and radio, some subscribe newspapers and very few have access to electronic information sources. The overwhelming majority of the participants in the Survey admitted insufficiency of information in respect to POPs and other chemicals, their impacts on health and environment. The most widely informed public was found among the medical doctors, that have listed among the sources of health degradation in the Moldovan people, the radioactive irradiation after the Chernobyl accident, general soil, water and air pollution, excessive use of medicines, exposure to different professional factors, such as inhaling of noxious vapours, vibration, noise, visual concentration etc.

The representatives of another group, the scientific researchers in the area of agriculture, show an almost total lack of concern for the pollution with POPs and other chemicals. Many of them expressed their firm conviction that chemicals even of the POPs variety, were not important and that without pesticides and herbicides, and without mineral nutrients, no agriculture is possible at all. "The greatest ecological problem is the famine. Others are of no importance" said one researcher. A scientific article says: "The observations and analyses on the contents of hexachlorocyclohexane have shown that practically, a sufficient soil pollution has not occurred, the contents of the chemical being 0.17 mg/kg (Note: the admissible norm is 0.1 mg/kg)"³

The rural population has found out about the POPs effects, including POPs pesticides that are currently qualified as Obsolete Prohibited Pesticide (OPP), from their own experience or from the experience of their peers working in the agricultural cooperatives. In particular, a case of instant death of a man was reported, that was trying the speed up the "melting" of a big lump of some chlorinated compound in water through heating it and mixing the solution standing over it. Premature death cases were reported through different forms of cancer of agricultural workers responsible for preparing OPP solutions and implementation of chemical treatment of plants, or sowing the treated seeds using no protection accessories. The consequences of household or communal waste burning are highly unknown to rural people and to employees of the communal services in cities.

In Tintereni village cases were reported of death of cattle that has pastured on pastures adjacent to Chisinau city waste disposal site, which is situated in the proximity of the village. Accidental death of household animals and birds having fed on freshly treated plants or through intoxication with leftover chemical solutions was also reported by a number of people. The Survey has identified three cases of pollution of lakes with agricultural chemicals that has conducted to the death of all the fish in the lakes. An employee of the Plant Protection Agency has confidentially reported a case in which the whole sunflower harvest in a village was lost through overdose of chemical herbicides.

³Burlacu, I., Stasiev, Gr., Pleşco, L., Nedealcov, S. Monitoring ecopedologic (Ecological Soil Monitoring), Chişinău, 1999, p. 16.

The main source of POPs information within population is own experience and that of neighbours, other people of the respective locality that have died, have reached advanced degree of health degradation up to invalidity, or have suffered economic loss. Although these experiences exist within a certain percentage of the rural and urban population of Moldova, no attempts were made to use this form of negative experience in order to train the rest of the population. On the contrary, such cases were frequently ignored, the respective death or health degradation being explained through causes other than chemicals. In particular, the death at the age of 52 in 2002 of a long term employee of a plant protection agency working with all types of agricultural chemicals was attributed to a kidney infection, because his last regular medical set of tests showed all good indices (fluorography, blood and urine analyses, cardiogram).

Within the rural space the problem of pollution with OPPs remaining from the period of intensive use of chemicals in agriculture is exacerbated by the reduced ecological culture of the population. Many poor families throw the manure and domestic waste in gullies, pastures and straight into the streets. In many yards big heaps of waste are placed in close proximity of wells for water consumption. In combination with the pollution with POPs this factor contributed to a greater degradation of health.

Another aspect of the POPs perceptions by the population of the country is that it is to a great extent “shadowed” by the economic and social problems of the majority of the people. Thus, over 62% of the participants in the Survey has shown a total indifference to the potential effects of POPs on health, many being much more concerned with how to survive the winter, with the high costs of heating, with insufficiency of funds for food, communal services, medical interventions, children’s education, etc.

The social aspect of the problem is significant taking into consideration the facts that the Gross Domestic Product (GDP) in 2002 in the Republic of Moldova amounted to \$US436.35 per capita, that in absolute terms 40.4% of the country’s population is under the absolute threshold of poverty, while, 26.2% are under the alimentary threshold of poverty⁴. In particular, it was identified that a part of the more vulnerable families of Tintereni village use expired or defective foodstuffs collected from the Chisinau waste disposal site in their diets. A part of the interviewees from Cretoaia village expressed their regret that they could not collect the products thrown in the waste disposal site. The Tintereni doctor stated that the waste deposal site was a source of pollution of the well water in the village, and, indirectly, a source of contamination of 53 persons with hepatitis during the period December 2002 through May 2003.

Due to low incomes the poor of the Republic of Moldova have to purchase the cheapest foodstuffs on unauthorized markets, taking the risk of consuming spoilt, expired products, or products with noxious additives and preservatives. Many

⁴ Data collected in the Web site of the UN Representation in the Republic of Moldova, www.un.md/mdg

being disconnected from the central heating system, use the heat of the gas stove or other home made tools that may prove dangerous for health and even for life.

The people with reduced intellectual capacities, that have difficulties maintaining a permanent job, through inability to communicate well with the customers of companies, incorrect or low quality work, are frequently humiliated, have long periods of unemployment, have to accept occasional or temporary jobs without a contract. They have to accept any job, however harmful, with no understanding of the consequences, using no protection tools, having no guarantee for compensation in case of damage to health or accident. This group is extremely vulnerable in the aspect of POP impact, having no knowledge on means to protect themselves, not knowing their rights.

An extreme case identified through the Survey speaks about the exploitation of children from vulnerable families in a periphery of Chisinau in a technological process for wine bottles sealing against counterfeiting. The children of poorest families accept the work, the adults refusing to work at that process although double payment is offered. According to an interviewee the process had already made several invalids in the village over the two years since the opening of the bottling line. The children from the poor families are happy to help their families that have no funds for their most immediate needs, but are in the opinion of the adult employees doomed to invalidity or early demise and in the opinion of the confidential informer that declined to tell his name or the name of the locality and the company for fear of persecution.

A social problem affecting not only the poor, but also the members of more prosperous families is, in people's perceptions, the insufficient control of the foodstuffs quality that are sold on the open markets and kiosks in Chisinau and other villages. Family doctors report frequent cases of intoxications and heavy allergies with different products, including greenhouse vegetables, watermelons, products grown in polluted areas, including with POPs. The children whose parents work many hours in own companies or in financial or international organizations, show concern that having little time to supervise their children's alimentation, the latter may damage their health through purchase of cheaper products for eating in order to save pocket money. This problem is also valid for numerous parents working most of the year abroad and only sending money for caring for their children to relatives and other tutors. Specifically, several adults in Tintereni village where the water and soil are polluted with nitrates, nitrites, heavy metals and other chemicals in some cases exceeding the norms hundreds of times, report almost unhindered sale of fruits, vegetables, meat and dairy products in the central market of Chisinau, the inspection collecting money for the inspection, but never making the actual tests. Certainly, no specific POPs related tests are made.

The gender aspect of the POPs related problems is also important. In the Republic of Moldova the health of the family, especially the children pertains to a great extent to women's care. Food purchase and preparation is also mainly the responsibility of women. This means on the one side, an increased household burden and stress for women, especially with many children suffering from chronic diseases or low immune reaction, most of the women also maintaining

full time jobs. On the other side, the women with a low ecological culture and having no knowledge in POPs impacts expose all the members of their families to POP related risks. The trainings in most issues, including toxic chemicals or POPs issues, gather a greater number of male participants, thus making the risks even higher.

Over the last decades, in the country important efforts are made for the ecological training and education of the population, establishing the connection between health and the environment, especially by the state ecological agencies and NGOs. Mass media also provide information on environmentally related problems. A big number of training materials had been developed, including TV and radio programs, booklets, leaflets, video spots, newsletters, books, electronic information sources, etc. Many of these materials are focused on specific groups of the population and boast an adequate vocabulary. In addition, numerous training and education events were organized for adults and children, including seminars, workshops, training courses, ecological hours, tree planting and locality clearing campaigns, ecological excursions and expeditions, contests.

All these materials are of doubtless utility. However, the topics related to POPs impacts and those of other noxious chemicals have been addressed more from the viewpoint of agricultural researchers and local consultants that in their great majority share the opinion that the negative impact of chemicals on health is negligible in comparison with their benefits. They are largely the promoters of the said training events and the authors of the training materials developed, both within agencies and in many NGOs.

The non-participatory features of many such events and training materials are another factor of the awareness building in POPs. The training materials and events rarely involve people that had direct contact with the toxic chemicals, relying mostly on the opinion of the researchers and doctors, that are not always capable or willing to use an accessible language easily understandable by the major part of the general public.

The ecological, medical and agricultural profile schools and universities of the Republic of Moldova offer to their students sufficient knowledge on the effect of noxious chemicals on health, although the manuals do not include a special chapter on POPs or pesticides. However, the lecture type of the training and education programmes on these topics, the lack of live material from the reality of the country, low application of interactive, case study, project, group work and open discussion methods decrease the efficiency of the POP related educational work.

In the active communication process between partners in problem solution, an important role belongs to the access to information. This means the obligativity of the authorities to inform the population about any modification in the public area that might have impact on the livelihoods of the people. In addition, it means a wide access to information for anyone that wants it, either for own interest or for participation in problems solution. The Republic of Moldova is the first country that ratified the Aarhus Convention on Access to Information on April 7, 1999. The country is also party to a number of other international conventions and

documents regarding the access of the people to different types of ecological information. The requirement for access to information is also included in the Constitution of the country and in several laws and regulations of the republic, including the Law on Protected Areas, the Law on Protection of the Atmospheric Air, the Law on Natural Resources, the Forest Code, etc.⁵ Thus, a satisfactory legal framework exists for provision of ecological information to the citizens, including POPs related information.

The World Bank/Global Environmental Facility Project „Persistent Organic Pollutants Enabling Activities for the Republic of Moldova”, in order to inform as many people as possible about POPs, the Stockholm Convention and the Project has applied mainly to existing NGO networks, that were asked to disseminate information, communicate and cooperate with the Project. These networks were the REC/Moldova network of ecological NGOs with a number of over 200 member NGOs, the network of the National Federation of Farmers with 12 information centers and about 60,000 members and the Ecological Movement of Moldova with affiliate structures in all the largest localities of the country. The networks for women, youth, social protection were also invited for POPs information dissemination. TV, radio and other media were also employed. The Project has developed its own homepage comprising the project information and other POPs related data and information.

For a greater access to POPs information more forceful efforts are needed that would be coordinated along with creative actions of the state agencies for environmental protection, NGOs, mass media. At the level of rural locality, that do not have regular access to electronic information sources, the involvement of local communication channels becomes a must for the successful proliferation of data and facts. Especially valuable are the multiple information channels, that dub or triple the information, for example, through accessible brochures in the local library, a radio programme on the local radio network at an adequate hour, as well as a workshop for older school age children of the local school.

For effective communication the need exists for state initiated and coordinated communication. The main actors in this process would be the public relations sections of the central environmental protection agency of the country and its local units. Their efficient work in the area of communication depends on the public participation and communication knowledge and skills of the respective staff, as well as on the generally accepted procedures and principles of the country's top administration as related to democracy, transparency, respect for people's opinion, observance of human rights within the country.

The more diverse the social groups and target groups participating in the planning implementation and evaluation of the environmental protection, including POPs programmes, the greater the probability that social sustainability would be achieved. One of the indicators of the efficiency of participation is the existence of the organizational infrastructure and the long-term “ownership” visible long after the finalization of the project.

⁵ Capcelea, Arcadie. Dreptul Ecologic. Chişinău, Ştiinţa, 2000, p. 86.

Aim and objectives of the Communication Strategy

The goal of the Communication Strategy is based on the objective of the Stockholm Convention⁶, on the National Priorities for Sustainable Development, on the communication needs of the society in respect to POPs, and on the needs for knowledge about the POPs current situation in the country and about the opportunities for POPs problems solution. The goal of the Strategy is as follows: **Participatory addressing of the POPs problems through improvement of communication and knowledge at all levels of society, as well as through increase of opportunities for reducing POPs volumes and impacts by the population of the Republic of Moldova.**

Objectives:

- Creation of a general communication framework on POPs in the Republic of Moldova

This objective assumes the existence of an adequate legal, institutional and cultural framework for communication in POPs and other associated ecological issues of high interest for the population. It falls into the area of the respective legislative and executive state agencies in cooperation with relevant institutions and experts.

- Creation and maintenance of a permanent information flow on POPs for all the groups of the society

This objective means the access to true and accessible information for all members of the society, especially the decision-makers in the areas of environment, economic and social development, medicine, the persons with high dissemination potential and the persons with high risks of professional or domestic exposure to POPs, or those pertaining to a vulnerable group. Coordination by a special center either governmental or non-governmental is needed for success.

- Acquisition of communication knowledge and skills by staff of ecological agencies and local public authorities

The communication knowledge and skills allow the essence of POPs problems to be considered by different groups in order to reach solutions acceptable to all concerned groups and realistic from the viewpoint of economy and the existing infrastructure. The improvement of knowledge in this area conducts to reducing costs and efforts for solution of POPs problems. This objective may be incorporated in existing programs for civil servants training.

⁶ „The Objective of this Convention is to protect human health and the environment from persistent organic pollutants mindful of the precautionary approach as set forth in Principle 15 of the Rio Declaration on Environment and Development”

- Acquisition by the staff of the environmental agencies' system of participatory skills and techniques for training and awareness building.

The participatory training techniques make use not only of the newly found or existing academic knowledge, but also apply to the life experience and the individual knowledge of each participant in the training process. This use in the processes of awareness building training and education make for their highest efficiency. This objective may be incorporated in existing programs for civil servants training.

- Reorientation of teachers and professors of ecological profile and natural sciences towards participatory methodology of training

The interactive methods maintain high interest and promote the practical applicability of the knowledge and skills offered. Their benefits for reducing POPs impacts and volumes are incomparably higher than the benefits of direct investments in the area. The fact is confirmed by the growing interest for such methods both in the formal and informal systems of education and training in the Western societies and within the international development organizations. The central authority of the country responsible for education would need to offer support.

- Provision of sufficient and true POPs knowledge to all the members of the society, especially to those with high information proliferation potential

The precautionary principle stated both in the Preamble and in Article 1 of the Stockholm Convention may be applied only in conditions of POPs awareness in a great number of people, belonging to different professions, ages, social and cultural groups. The information offered should be correct, authentic, prepared in an acceptable format with the specifics required by each of the main focus group concerned. A unified effort of state agencies with mass media, NGO and relevant personalities and experts would conduct to the realization of this objective.

- Provision of information sets for formal and informal training in POPs to the civil society, especially NGOs, to research and educational institutions

The environmental protection NGOs have realistic capacities for addressing interest groups and categories of the public but little access to high quality information on environment and health. The application of these channels for dissemination of POPs information, as well as the inclusion of POPs information within general environmental protection training events presents wide opportunities for dissemination of POPs information at low cost. A special project for this objective could be devised by NGOs

- Initiation and institution of the participatory process for implementation of country's obligations in compliance with the Stockholm Convention

The participation of the population in the identification of POPs pollution sources, the possible impacts and their alternatives allowing for the reduction of POPs in the country and reducing their impacts on the health and the environment, has the

advantage of uncovering realistic solutions from physical and financial viewpoints, and that of promoting cooperation between the public, the economic entities and various institutions for the solution of POPs related problems of great significance for the population. A research program based on cooperating effort of environmental protection authority, research institutions and NGOs would be of great value.

- Assuring free access to POPs information to all the people of the country.

The free access to POPs information means not only the corresponding legal and regulatory frameworks in place along with respective normative and instructions, but also all existing POP related information in the country and abroad about POPs sources in the country, data and estimates regarding their possible impacts on health and environment, as well as historic information on the issue. Accessible wording of the materials is a prerequisite of this objective's attainment. The central authority for the environment and the NGOs could have the lead in this area.

- Promotion of a consumption culture and of consumption patterns with reduced waste and waste disposal according to existing requirements.

The personal contribution of each person to POPs reduction through reducing the waste produced, its storage in compliance with existing norms (not allowing for its burning), and through an economical consumption is an opportunity that need not be ignored in the Moldovan society, that has undergone a rapid transition from a system with a state regulated consumption to a liberal system. In these conditions, the consumption culture is a necessary discipline for all the members of the society. The gradual incorporation of this objective in the general education system is an area of activity for the Ministry of Education in cooperation with other institutions and NGOs. As a temporary measure, a state program in the area could serve well.

- Establishment of a framework for international cooperation and exchange of information of state authorities, civil society organizations and research and educational institutions

The cooperation framework would include the focal point along with an eventual Chemical Security Centre with functions for information, communication and training in POPs that would be part of relevant information networks. The scope of the centre's work as related to information and communication would be collection and dissemination of POPs and POPs related information, participation of Moldovan representatives in international meetings, collection of a database of foreign institutions specialized in certain areas of POPs and maintenance of stable connections with them, promotion of international level research in POPs by Moldovan researchers, within international groups, selection and translation of POP related materials pertinent for Moldova.

- Participation in the international research effort for development examination of existing solutions to POPs problems and generation of new ones.

The phase of transition in the economy of the country, as well as previous central command economy phases characterized by deficit and lack of attention to household and general production problems have generated many alternative applications to existing products. Some of them might prove highly valuable as alternative to POPs. Their collection, assessment and dissemination of the best options is an opportunity for the Moldovan science. Work in conjunction with international research efforts for solution to POPs problems is also a possibility.

Target groups of the Communication Strategy

Taking into account the POPs related problems identified, the target groups were determined as being the following:

- Central public authorities

The higher and medium rank authorities within the key ministries need POPs knowledge for taking the POPs factor into account when making decisions on new investments, provision of licenses for economic activity, approval of new initiatives for urban or rural development, common projects with foreign companies, cooperation with other ministries and institutions for development of sectorial action plans, etc. This staff needs also knowledge in communication and cooperation with the population, participatory involvement of different groups in planning, decision-making, and problem solution.

- Local public authorities

The staff of local public bodies lacks knowledge and skills in efficient communication with the population, identification of local people's opinions in matters of major interest for the community, organization of local level ecological activities, cooperation with other decision-makers, such as local schools, medical units, NGOs, companies situated in the close vicinity of the locality, national and international programmes. POPs related knowledge would serve this staff in the work for assuring cleanliness of the locality, promotion and execution of ecological legislation, etc. Some knowledge and skills in participatory techniques for training would assist this staff in their roles of instructors of the population in environmental protection matters for the decrease of the negative impact of global environmental processes.

- International and foreign agencies and units entitled to collect and disseminate information under multilateral and bilateral agreements

The collection and exchange of information with individual foreign institutions and in the framework of international conventions and multilateral agreements is in most cases a commitment of the country under the respective documents. The collection of such information is not only of use for the international efforts in the respective areas, but also an occasion for development of more efficient national programmes, for dissemination of reliable information within the country, for development of national databases on different areas of the environment, including the ones related to POPs.

- Ecological inspectors of all levels

The work of the ecological inspectors in the rural and urban localities would have a greater impact if they would focus rather on the prevention of pollution, than on collection of penalties and fines. Thus, a great number of pollution cases could be prevented if periodic training events for the factors with high pollution potential and for the youth were organized within the respective communities. For this the ecological inspectors necessitate knowledge and skills in participatory informal

training. Many activities and processes (elimination of waste, small scale production of value added foodstuffs, servicing of cars, skins and hides processing in home conditions) that generate or possibly generate POPs and other pollutants in the localities remain uncovered by the inspectors due to their lack of communication with the population. Communication knowledge and skills, as well as the institution of simple feedback procedures could decrease the impact of such and other type of pollution. Additional financial resources and equipment are also needed for such activity, as well as a bigger staff.

- Representatives of the agencies for control and regulation in the electricity and heating sectors, water supply, etc.

The lack of POPs related knowledge within the management staff of the respective agencies allows for the used transformer oils and for the PCB equipment to be applied in violation of existing laws. The lack of communication with the staff of the heat producing companies in the urban systems leads to provision of licenses for heat production to small companies with a higher pollution capacity per unit of heat produced than the specialized ones, some of them even endangering people's lives having no technical security units in place. For the same reason the capacity of the centralized heat producing system is lower than planned while recent investments had been made in this area. Communication knowledge and skills, problem solution in cooperation with other entities could make for at least a partial decrease of such conflicting decisions.

- Representatives of municipal entities responsible for waste elimination

Lack of knowledge on POPs sources and effects by this category conducts to uncontrolled burning of waste in urban parks and yards, to illegal disposal of the non-recyclable waste products (burning of used car tires and some plastic packaging material, release in the communal system of residual waters and other waste, as well as release of smoke from some small scale production units, such as processing of meat, fish, fruits and vegetables through smoking or drying, production of ice cream cones, frying of sunflower and walnut seeds for pastry, cakes and other culinary products, chemical dyeing and cleaning of clothing and accessories in home conditions, etc.). The lack of institutionalized procedures for communication with the population in responsible entities leads to lack of attention to people reports on such pollution sources. The development of clear cut procedures soliciting the cooperation of the citizens in identification and decrease of POPs pollution in communities and of strict rules for the examination of people's reports could improve the situation in this area.

- Environmental protection, community development, health protection, economic development, social protection NGOs

These NGOs periodically organize training events in their respective area of specialization. The POPs knowledge provided to these entities would have increased dissemination potential through existing communication channels and through planned or future awareness building, education or training events. The training of these NGOs in communication skills and participatory methods of

training, as well as POPs related issues is a “profitable” investment in the future state of the environment of Moldova

- Teachers and professors of all levels in environmental protection, community development, health protection, economic development, social protection

The teachers are forming the people of tomorrow and offer knowledge and skills to the decision-makers of our near and more far away future. POPs related knowledge, as well as knowledge and skills in communication, cooperation, and exchange of information are essential to these groups. Interactive teaching methods and techniques in education and training are also of great need in educational institutions, the lecture being one of the main methods of teaching today in Moldova.

- Labour security engineers and public relations staff of companies that produce or generate POPs or POPs containing materials and products

The employees of the industrial companies frequently violate the labour protection rules, having insufficient information on the possible impact of noxious factors on their health. Participatory methods of training and knowledge in POPs are necessary to the abovementioned staff in order improve the situation in this area through training of company’s employees.

- Family doctors, doctors of urology, nephrology, professional disease, etc., sections of republican, municipal and local clinics and hospitals

Not all the medical doctors are aware of the POPs impact and that of other chemicals, including medicines, on human health. Taking into account the POPs factor in making the diagnoses and provision of simple realistic recommendations for decreasing POPs impact in professional and personal circumstances could contribute significantly to the improvement of the health of the population.

- Representatives of mass media

The problems of POPs and other noxious chemicals are rarely reflected in mass media, to a great extent due to the lack of knowledge of mass media reporters and due to a low amount of ecological information accessible for them. Provision of such information to the mass media could multiply the opportunities for awareness building in the POPs related area to the beneficiaries of the respective media.

- Students of the ecological, rural and agricultural professions, secondary and vocational schools pupils, primary school and kindergarten children

These groups need POPs related information in order to protect their health and to enter the adult professional life well prepared for economic, financial, political, cultural, personal decision-making that will affect the lives of other people, the fate of the national and global environment.

- Representatives of vulnerable groups

This category, numerous in the Republic of Moldova, due to the gravity of the social and economic problems, does not realize the dangers posed to their health by the POPs. Knowledge of the problems by these groups would allow them to protect themselves from this danger to the extent possible and to avoid pollution through ignorance.

The process of development of training materials and methods for awareness-building, training and education will need to apply the data of the Survey of People's Perceptions in POPs and to actively involve the beneficiaries of such training. Existing and accepted information channels will be used whenever possible for POPs related information dissemination

Since communication is necessary not just for the POPs area, but also for general environmental protection issues, economic, financial, social, political, cultural and personal development, communication knowledge and skills will be provided not only to the target groups above, but also to the society at large whenever possible.

Key messages of the Communication Strategy

Since the level of knowledge in POPs are different in different groups, while the capacity for assimilation of knowledge and formation of new behaviours in the area are varied, diversified forms and combinations of training methods and materials would be needed, the latter being developed specifically for each group in order to achieve the above listed objectives.

Active involvement of the beneficiaries in the development of training materials and forms of awareness building, training and education based on the data of the Survey of public perceptions in POPs in the Republic of Moldova. The existing and accepted channels and tools shall be used maximally for the respective groups for knowledge dissemination and communication in POPs.

For a more efficient transfer of knowledge and skills in POPs related areas for their transformation into specific actions and behaviour for POPs pollution reduction, creative approaches are needed. Among them the role of key messages is important due to their appeal both to the conscious and unconscious behaviours.

It is stated in special literature, that most of the major actions and decisions of the people are dictated by their emotions, and not just by the logical deduction of facts and circumstances⁷. This means that if we do not apply emotional tools and techniques for conveying the danger of POPs, the effect of the efforts for awareness building, training and education, will not be maximal.

Key-messages are a good way to transfer knowledge to the people in an easy and memorable manner. In order to achieve maximal effectiveness the key message needs to be close to the life, cultural background, and general level of knowledge of the awareness-building beneficiary. The best key-messages are the ones identified in a participatory manner by separate groups.

A collection of key-messages developed in this way are an useful tool for mass media, local authorities, NGOs, schools, universities, companies, etc. They may involve any form and type, including songs, poems, short essays, proverbs, meditations, drawings, paintings, caricature, show, performance, pantomime, dance, etc., etc., etc. A creative approach to the development of such messages and their combination in a set of awareness-building activities can prove very effective in changing people's behaviour in respect to POPs related matters. A short example of key-message in form of a short meditation is given below:

“POPs have never existed in nature. Having been created by man they made our life easier and more colourful. But a high price was paid for the added comfort. Disease, premature death in humans, disappearance of species of plants and animals. Isn't it too great a price?”

⁷ Goleman, Daniel. *Intelegenta intelectuala (Emotional Intelligence)*, Bucuresti, 2001, p. 8.

A no-POPs sign similar to the traffic signs easily postable on any smooth surface that was developed by the Project office is another example of key-message.

Further key-messages can be developed and disseminated through specific activities. They may be used either in training and awareness-building events, or in any other possible circumstances. The requirements to key-messages include: shortness, directness, expressiveness, clear orientation, veracity, unambiguous meaning or connotation, appeal to one or more of the five man's senses.

A number of key messages related to POPs area in connection with the key problems are shown in Annex 6 along with the possible solution.

Activities for improvement of communication, knowledge and public participation in respect to POPs

This Communication Strategy was developed within the Project along with the development of a National Implementation Plan (NIP). The most urgent activities of the NIP were planned for a five-year time span. The same period was used for the development of the main activities for the implementation of the Strategy. While the Strategy was developed for an indefinite period with the opportunity for its periodic review, the activities proposed for the initial stage of its implementation were viewed as responses to the most urgent communication, awareness building, training, education and public participation needs in POP-related areas.

The activities needed for the implementation of the Communication Strategy pertain to five distinct areas:

- Communication
- Public participation
- Exchange of information
- Training
- Education.

While these groups of activities are recognized as being of high priority in Article 9 and 10 of the Stockholm Convention, they were also identified as important needs of the Moldovan society not only in respect to POPs, but also in respect to many other areas.

Communication

In the areas related to POPs, and even in the larger context of the chemical and synthetic products, pollution of the environment by industry and transportation, communication within society is very limited. The improvement of communication within society is possible through the establishment of a communication framework, comprising a number of elements which are either lacking or insufficiently employed in the Moldovan society, including in respect to POPs, such as:

- Communication knowledge and skills in the staff of central and local public authorities, environmental and health protection agencies, NGOs, public companies, research institutes, universities.
- Institutionalised communication procedures between agencies and in relation to the public in all major areas of community's life
- High quality communication equipment
- Sources of information accessible to all groups

- A socio-economic environment favourable for the personality empowerment and respect to people's opinion.

While most of these components are to a great extent a measure of the general development of the country, the standard of people's life, improved communication can be achieved through a number of steps. They include provision of communication knowledge and skills, skills for report preparation and presentation, application of office equipment to public authorities, NGOs, school and university teachers, various trainers. The responsibilities of the environmental public authorities could be extended to include more tasks related to their accountability to the public with proper procedures in place, as well as tools for the encouragement of people to offer their opinion and information about damage to environment, including POPs pollution.

The range of communication tools could include all communication techniques starting with presentations and messages in mass media and general meetings of communities, interactive dialogues, microseminars between colleagues within and outside the profession, and ending with preparation and presentation of information through existing communication channels of each community, such as professional meetings, entertainment facilities, local radio, children's networks, interest groups sessions, handicraft sittings, other accepted ceremonies and media.

A detailed list of activities proposed for the implementation of the Strategy during the next five years for communication improvement is provided in Annex 7.

Public participation

Public participation is also a general phenomenon bearing close connection with the main attributes of the democratic society. Its growth is to be expected as a part of the general development of the country and its advance towards a more efficient activity of its public administration, both central and local and towards more initiative of the individual members of the society in demanding the exercise of their rights and freedoms.

In respect to POPs public participation is able to improve the outputs of all possible activities: planning, practical implementation of POP related solutions, training, education, evaluation, research, monitoring, development of programmes, management of specific actions, etc. The methods and tools to be employed for public participation are diverse and they are described in detail in Annex 5.

Exchange of information

As specified in Article 9 of the Stockholm Convention, the Parties to the Convention "shall facilitate or undertake the exchange of information relevant to the reduction or elimination of the production, use and release of POPs and to alternatives to POPs, including information related to risks as well as their economic and social costs". In this sense, the area for exchange of information is

fairly large, so as to include collection of existing information and free access to it, collection of data on existing alternatives, BATs and BEPs and their dissemination. The activities for this component are diverse, starting with general awareness building activities and ending with participatory research of POPs natural and/or non-polluting alternatives and their dissemination.

The intersectorial and interdisciplinary meetings also serve for the exchange of information within the society, along with other tools such as meetings of different generations' representatives, access to and use of relevant networks, access to information about the state of the environment in each community and within the country as a whole.

On the other hand, the international component of this area is underlined in paragraphs 2, 3, and 4 of Article 9 of the Stockholm Convention. Thus, collection of information relevant to the solution of the POPs problem could be offered and accessed internationally with other Parties to the Convention through the Secretariat and through bilateral and multilateral partnerships, creation of POPs related networks, conferences, symposiums, contests, awards for discovering effective alternatives to POPs, projects for solution of specific POPs related problems.

Training

Training in POPs is a complicated issue. Creative approaches to training events and courses, along with learning through demonstration would be highly beneficial. They could include agricultural and industry non-POPs "oases" built specifically for gaining experience in POPs substitution with alternatives and for dissemination of such experience through demonstration. Such actions could be supplemented with cases of lifestyles and activity patterns collected from different zones of Moldova, industry technology changes favourable to the environment, collections of best practices in POPs reduction, specific recommendations to representatives of different occupations, that could be disseminated through training events, guides, workshops, etc.

Training in POPs areas is needed for the representatives of all main groups of occupations and professions relevant for the POPs problems, as well as entities capable of disseminating information to a wider public. The training of these groups with high information dissemination opportunities could include not only the whole range of information on POPs agents known as of the date of the training and their impact, but also practices and skills for extension of POPs related information, references to additional information sources, participatory methods of data collection and transfer of information, skills for incorporating the POPs related concerns into the decision-making process, knowledge generation and dissemination skills.

A detailed list of training activities proposed for the next five years is provided in Annex 7.

Education

The education in POPs areas is significant not only through the need to pass the knowledge to the younger generation, but also through the moral obligation of the current generation to maximally contribute to the remediation of the damage done to the environment and to health of children and young people by the current and preceding generations.

The specific age features of the children not allowing for the assimilation of a big amount of factual information in form of written or displayed material, the education process need predominantly a creative approach towards teaching methodology involving case study, role play, brainstorming, work in pairs or small groups. This educational framework could be supported through addressing the emotional dimension in cases suitable for the knowledge transfer.

Along with a general overview of the POPs problem the educational material could include a historical perspective of the problem, as well as clear explanation of the real sources of POPs in the country, region and their own locality, and importantly, project work and practical activity for reduction of POPs amounts and impacts on health and environment, excursions and other visualisation, inspection and reflection exercises on the best practices for POPs reduction and elimination.

A detailed list of educational activities for the implementation of the Strategy during the next five years is provided in Annex 7.

Possible partnerships in the implementation of the Strategy

The implementation of the Strategy and the attainment of its aim and objectives are impossible without efficient cooperation between numerous entities to be involved in the POPs reduction process. The isolation and lack of communication between various institutions and entities proved counterproductive in the initial attempts to address certain POPs problems. A number of partnerships are possible and most needed for the implementation of the activities included in the Strategy.

Thus, the partnership **Central public authorities – local public authorities** is valuable for the improvement of POPs knowledge among civil servants, in improvement of communication between agencies and with the public in the tasks for prevention and decrease of POPs impacts. The access to POPs information is another useful area for cooperation.

The partnership **Local public authorities – industrial companies** is needed for the development of the database of POPs in the industrial sector, prevention of POPs pollution of localities, decision-making in order to prevent health degradation in employees with high exposure risks. The common development of solutions for reduction of POPs impacts on environment from industrial sources is another significant area.

The cooperation between the **Ministry of Ecology and Natural Resources** and **NGOs** in activities for awareness-building, education and training, in the review of POPs sources and alternatives, in information dissemination nationally and internationally, in the development of training materials for different categories has chances for success, especially in view of existent close ties between the two types of entities in other areas of environmental protection.

The State Ecological Inspectorate – Local public authorities may combine efforts for addressing local POPs pollution sources, especially wastes, pollution by individual companies, OPP warehouses, households and farmer activities. Cooperation between these entities is also of importance for the strict execution of laws in localities, as well as for the improvement of the legal framework in case of modification of local conditions, existence of special local factors.

The Ministry of Ecology and Natural Resources – Ministry of Education – Universities – Schools - NGOs could cooperate for the introduction of a short course on POPs in the official education system with information about the Moldovan conditions and about the international commitments of the country in respect to POPs and other noxious chemicals.

The Ministry of Ecology and Natural Resources – Mass media – Prominent individuals from the country and from abroad in partnership could not only contribute to formation of opinions and behaviors intolerant towards pollution, but also could create significant artistic values on the topic of situation related to POPs, they may promote attractive lifestyles and consumption patterns, provoke

generation of technological and social inventions conducive to decrease of degradation of the environment and resources, a greater compassion and respect to human health in all its manifestations.

A close and creative involvement of the **Ministry of Ecology and Natural Resources with the Secretariats of Environmental Conventions** may succeed to install in the Republic of Moldova a ecological culture shared by all the members of the society through environmentally protective behaviour, education of the children in the spirit of saving and cleanliness, through humanistic values promoted in all areas of life.

Ministry of Labour – Ministry of Health – NGOs in social and health protection, for women, youth and vulnerable groups have the capacity to make the life of the vulnerable groups more tolerable through social protection programmes, that in the long term would decrease their despair and cares for their survival problems such as shelter, food, cost of medicine, clothing. In shorter term, these groups could be acquainted with the simplest methods for protection against POPs effects.

NGOs working in the areas of environmental protection, health and social protection, for youth and children, women’s NGOs, etc. could add value to the activities of most of the above-mentioned institutions through an effective partnerships with them and could benefit from their resources and data. The partnership between NGOs of different profiles is also of great significance.

Relevant ministries – international organizations in specialized areas and the ones in the area of development could contribute to the solution of the POPs problems through sustained activities for economic and social development with a specific role for POPs problems.

Opportunities and benefits of the Communication Strategy

The Strategy promotes public participation to a great extent in POPs related activities. In the aspect of the Republic of Moldova's priorities in respect to POPs the need for public support is overwhelming. The strategy would be especially valuable for the promotion of public participation aiming at consensus building, risk sharing, decision-making, partnership formation and problems solution in POPs.

It is possible that even upon a comprehensive awareness building campaign for all the groups of the public in POPs the population will still be unable to offer solutions to all problems related to technologies and to support legal tools and mechanisms which it does not understand. Thus, even in such circumstances **public participation** in the implementation of the Strategy may bring about a number of important **benefits**, such as:

- The population could suggest research areas focused on real problems and needs.
- The knowledge and experience of the public in POPs alternatives may be incorporated in a national programme for solution searching, while the inadequate technologies might be excluded at an earlier date.
- The legal options and those related to technologies may be tested as opposed to the socio-economic factors (for example, the gender relationships) operational in the society.
- The feedback offered by the public in the area of new technologies or legal modifications would allow finding out possible opposition or resistance to them in the society that may finally conduct to their failure, even when they look feasible from other standpoints.
- The collaborative efforts of the society in overcoming POPs problems could build a model for problem solution that could be applied for solution of other similar problems, which is a valuable resource in itself.
- The public and popular inventors could offer fresh solutions to some problems, or research could be carried out for their identification.
- Younger generations could be better informed and would be capable of undertaking more responsible decisions and actions in areas related to POPs.

The **benefits of communication** in POPs are invaluable. Some of them are offered below:

- Continuous communication between all the relevant decision-makers and the population related to POPs may reveal the most dangerous sources and select the most realistic solutions.

- Communication at the level of locality offers the advantage of personal contribution of locality's inhabitants, as well as the contribution of the entities existent in the locality to the solution of POPs problems.
- Communication at the level of institution and between institutions makes use of the totality of the existing information and allows for avoidance of effort doubling in problem solution efforts.
- Interpersonal communication between representatives of different groups of the society allows for the identification of a greater number of pollution sources and activities generating POPs or other dangerous chemicals, thus excluding damage to health and the environment.
- Communication between the representatives of different generations allows for the application and sharing of experience accumulated through different sources in environmental protection and health improvement, in vulnerability of the environmental factors and of man as a biologic species.

The **benefits of knowledge** are also doubtless. Among them the following could be mentioned:

- The public alerted to the damage of some practice or activity may change its behaviour and may press for change of behaviour in others.
- The staff of industrial companies being aware of the risk factors related to POPs may take them into account in the efforts to re-technologisation, repair, reforming, merge with other company, privatisation, etc.
- The teachers, professors, researchers, and trainers from NGOs may apply the POP knowledge in their efforts for change of mentality and behaviour harmful to nature, and consequently, harmful to man.
- The political, organizational, social and economic decision makers may take into account the POPs factor in their planned development and cooperation activities.

The existence of a Communication Strategy offers a number of **opportunities**. Among them the following could be listed:

- Inclusion of POPs problems in action plans for other areas
- Identification of POPs problems as areas for research and study
- Possibility for prevention or decrease of air, water and soil pollution with POPs through special programmes
- Possibility of prevention or decrease of damage to human health through POPs effects as a result of acquiring awareness in risks by the majority of the public.
- The inclusion of the Republic of Moldova in international programmes for global addressing of POPs problem.
- Individual efforts of people for prevention of POPs effects and their contribution to solution of associated problems.
- Collection of information for the Convention Secretariat, etc.

Sources of funding for the Communication Strategy

The impact of the Strategy is expected to be significant both for the POPs area and for other environmental protection issues. In order to achieve the projected benefits funding is necessary to carry out the planned activities.

An estimated amount of 500,000 to 600,000\$US is needed for the most urgent general activities over the first five years of the implementation of the Strategy.

The improvement of communication in POPs related issues will require additional 75,000 to 100,000\$US for the next five years.

A maximum amount of 250,000 to 300,000\$US will be required for national and international exchange of information in POPs related areas.

The training of the general public and incorporation of the POPs issues into the educational programmes will necessitate 100,000 to 150,000\$US each, with a total of 200,000 to 300,000\$US.

Thus, the grand total of funds needed for all the areas included in the Communication Strategy amounts to a figure between 1,025,000 and 1,300,000\$US.

A part of the funds, that cannot be clearly defined at the moment could be supplied by the Government of the Republic of Moldova, that will benefit from training in the areas of POPs, acquire participatory methods and tools, communication and cooperation skills for the main activity.

The Ecological Fund of Moldova could also provide a certain amount of funds for POPs areas, especially for awareness building activities, solutions to POPs problems at the level of community and building up of the participatory process in the chemical security areas.

International organizations and institutions, such as GEF, UNDP, World Bank, as well as foreign partners including countries, research institutions and funds, companies could also contribute funds for some specific components of the Strategy.

A certain amount could be raised through a campaign among the polluting companies and among wealthy companies and personalities of the country that usually contribute to development and philanthropic causes. Moldovan NGOs and international NGOs represented in Moldova could seek funds for training, education and awareness building in POPs as part of their usual fund raising efforts.

Monitoring, evaluation and review of the Communication Strategy

The monitoring and evaluation of the Strategy is to be carried out as a continuous process. It could be assigned to the Ministry of Environment and Natural Resources and to the Centre for Chemical Security on a par.

The process shall incorporate whenever possible the evaluation of training, education and awareness-building programmes, projects and events. Such evaluation should be based on the participatory evaluation techniques and tools. Longer-term programmes (above three years) would need evaluation by independent evaluation organizations or companies.

The Strategy could also be evaluated through surveys of public's knowledge and perceptions in respect to POPs. The surveys should address the following areas: knowledge of POPs problems by different groups, communication in POPs within relevant agencies and within society, participation of the public in the identification of POPs related problems and the search for their solution, access to POPs related information for different groups in different types of localities and at different institutional levels. The surveys could be carried out every three years.

The monitoring of the Strategy could be carried out through annual assessment by a special commission of a certain set of indicators. The indicators could include the following:

- Number of POPs related educational and training programmes and events for children and youth
- Number of POPs related training and awareness building programmes and events for different groups of the society
- Number of visits of the web site of the Centre for Chemical Security
- Number of visits to the library of the Centre for Chemical Security
- Number of trainees of seminars and workshops in POPs related issues
- Percentage of the population that has adopted non-polluting lifestyles
- Percentage of the companies that have switched to or embarked on environmentally friendly technologies
- Percentage of the decision-makers that admit taking environmental issues into consideration in their decision-making process
- Number of meetings of the environmental protection authorities with the public
- Number of presentations and reports to the public made by each of the central and local ecological authorities

To a certain extent, the indicators for pollution with POPs might also serve for monitoring of the Strategy, although they may also be a measure of a number of other factors and policies, such as development of the legal framework, economic development with companies switching to modern low polluting technologies, policies for promotion of public transportation and decrease of individual transportation, promotion of lower consumption by the public, recycling programmes, etc.

The indicators could include the following:

- Amount of POPs pollutants discharged into the environment, according to the respective inventories
- POPs pollution accidents by companies and organisations
- POPs pollution public ratings for companies (a rating system could be devised by the environmental protection agencies and organisations in cooperation with the companies themselves)
- Environmental performance index for institutions, agencies, schools, universities, etc. (index criteria could be worked out together with the respective institutions)
- Compliance with regulations and laws
- Illegal pollution cases
- Timely payment for allowed discharge
- Etc

The monitoring of the communication of the environmental protection authorities with the public could be carried out based on the following indicators:

- Existence of open days for the public to discuss local and national ecological problems
- Telephone lines for the public
- Official procedures for consideration of complaints about pollution
- Friendly, open attitude of authorities to the public
- Presentation of periodic reports to the public
- Existence of cooperation agreements with NGOs, other agencies and institutions
- Existence of common activities with outside institutions
- Etc.

The activity for POPs reduction cannot be assessed as long as there are no realistic indicators of the POPs impact on human health and the environment. Among the indicators that are currently being worked on by the international scientific community is the Disability-Adjusted Life Expectancy (DALE) indicator proposed by Barendregt et al.⁸ This indicator shows the connection between the pressure on environment and health “as a measure the years lived adjusted for each year lived in incomplete health due to environmental pressures and other health-related factors”⁹. Other factors indicating the sustainability of the economic growth in respect to ecological costs and impacts on health are of growing significance in view of the international efforts for sustainable development, the contribution of the Moldovan researchers having good chances to be highly appreciated in the area, bearing in mind the POPs aspect.

The evaluation of the participatory process in respect to POPs can be carried out through assessment of the pressure of the public for environmental protection and

⁸ Barendregt, J.J., Bonneux L., van der Maas P.J.. Health Expectancy: from population health indicator to a tool for policy making. Paper presented at REVES 8, 5-7 October 1995.

⁹ Lee, Keekok; Holland, Alan; McNeill, Desmond. Global Sustainable Development in the 21st Century, Edinburg University Press, Edinburg, 2000, p. 86.

a measure of the advance towards environmental governance in which decision-making will progressively take into account public opinion and the environmental considerations.

The assessment of the social impact of the Strategy need also to be carried out through a survey of public perceptions to be implemented every five years with special focus on vulnerable groups. Participatory methodology for such survey is essential.

The developed Strategy is applicable in current conditions of the Republic of Moldova based on the current expertise and experience existing within the country, the products of different technical assistance projects and programmes, the interest of the central and local public authorities for the solution of POPs problems and the commitment of several financial, development bilateral and multilateral institutions to further assist our country in the areas pertinent to POPs.

This Strategy is an useful tool for the current period and a for a future period of up to twenty years in current conditions of economic development of the country and in conditions of gradual economic growth. Extreme change of political, economic, cultural and social conditions would require corresponding changes in the developed Strategy. In addition, some international developments and events, aggravation of some global environmental or social problems, certain changes within the health systems of the human populations, possible social, technological or cultural inventions would require the revision of certain chapters of the Strategy.

Annexes

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Annex 2. Report on the Survey on main public concerns regarding POPs in the Republic of Moldova

Carried out by representatives of NGO BIOS, Elena Bivol, Valentin Ciubotaru

during the period November-December 2003

within the WB Project “POPs enabling activities for the Republic of Moldova”, GEF-PPG nr. TF051208

Chisinau 2003

Contents:

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 - 4.4 The connection of social aspects with POPs**
 - 4.5 POPs alternatives, BATs and BEPs**
 - 4.6 Capacities for addressing POPs problems**

1. General data on the Survey

Places and sites of Survey (hereinunder the Survey on main public concerns regarding POPs in the Republic of Moldova carried out within Project WB Project “POPs enabling activities for the Republic of Moldova”, GEF-PPG nr. TF051208, will be referred to as “The Survey”).

:

- The city of Chisinau
- Tintereni village
- Cretoaia village
- “Farmer-2003”, exhibition of farming units and products, Chisinau, “Mold-Expo”
- Power and heat producing companies in Chisinau
- Industrial companies
- Central Market of Chisinau
- Streets in Chisinau
- Universities, schools, lyceums, stores in Chisinau.

The social groups and strata included in the Survey

- Schoolchildren, lyceum students
- University students
- The retired
- The unemployed
- The beggars
- The electricians, active and retired
- Employees exposed to POPs
- Engineers of power and heat producing companies
- School and university teachers and professors
- Representatives of ecological agencies
- NGOs
- Farmers, active and retired
- Small company employees
- Mothers of small children
- The poor of the most polluted districts of Chisinau
- Scientific researchers
- Mass media representatives
- Medical doctors

The number of persons involved in the Survey: 97 people within 52 interviews, group discussions mini-seminars, one workshop.

The areas covered by the Survey:

- Communication within society in respect to POPs and other chemicals
- Knowledge of POPs and other chemicals problems within Moldovan society
- Attitudes and perceptions of different groups towards POPs
- Personal and professional behaviors in respect to POPs and other chemicals
- Inter-connection between social factors and the POPs problems
- Existence of POPs alternatives, BATs and BEPs within Moldovan society
- Existing capacities for awareness building and addressing POPs problems.

2. Problems encountered in carrying out the Survey

A number of problems were encountered during the implementation of the Survey. Among them were the following:

- Suspiciousness and reluctance to talk of many people even after presenting the Letter of Support for the Survey offered by the Minister of Environment, Building and Territory Organisation (see Annex 5.1).
- Fear of employees to talk to anyone without the permission of the employers or superiors
- Tendency of employers and superiors to stay during the interview and to offer their own answers to the questions instead of their employees or to try to find out what their employee had said during the interview after its conclusion. (In particular, no interview was possible in the Emergency

Hospital on Chisinau, since no doctor dared to state their opinions without the permission of their superiors. Some indeed said, that they would rather not talk at all. Some stated that the department managers would know better what to say). The Letter of the Minister of Environment was not taken into consideration in similar cases, the people being more concerned to avoid any conflict with the managers.

- Some exceptional cases of exposure to POPs or other very dangerous chemicals were disclosed to the interviewers only in strict confidence under the promise to use changed names and places, the interviewees being convinced that they would lose their jobs and would be persecuted if they told the exact place where the contact with the toxic agent occurred.
- Some people showed utmost indifference towards any ecological problems.

3. Methodology

Since the perceptions towards POPs problems are not easy to identify through statistical methods, the decision as taken to resort to use some participatory tools and techniques pertaining to anthropology, participatory rural appraisal, and rapid rural appraisal that are currently being successfully used in development programmes both within the rural and within the urban areas, universities, services providing companies etc. These tools and techniques included the following:

- Semi-structured interviews
- Discussions with focus groups
- Mini-seminars with small peer groups
- Observation at the place of work or residence
- Collection of verbal and written testimonies
- Transect walks within the locality
- Locality profile
- A participatory workshop for identification of POPs related perceptions.

Except for several persons of authority, the name of people and the name of localities they come from were changed in order to protect the sources from persecution.

Many of the conclusions of the Survey are not directly reflected in the transcribed interviews and group discussions, since they were expressed in a veiled way, or came as a conclusion of long discussions with the focus groups, that could not be documented in full detail.

The results and data of the Survey may not be representative in all the cases due to the limited range and small number of people involved. However, it had the scope and diversity adequate for revealing the main concerns of the population of the Republic of Moldova in respect to POPs and other chemicals, as well as the main problems that impedes to speedily and effectively address the POPs problems with the contribution of the bulk of the public.

4. Conclusions based on the Survey

4.1 The knowledge of POPs issue within society

From the total number of 97 interviewees, only 3 stated that they knew what the POPs were. Regarding toxic chemicals more people were aware of their existence and made a direct connection between their impact and their health or that of other people, as well as the state of the environment. A small number of people (7) denied any connection between the impact of chemicals and health. One of them was a soil researcher.

Among the information sources used, the vast majority of the interviewees named the radio and the TV. A decreasing number admitted using the newspapers, the Internet, the WB POPs Project, the Secretariat of the Stockholm Convention.

None of the interviewees mentioned the ecological agencies, the ecological inspectors, other public authorities as sources of information regarding POPs and other chemicals, except one person that recalled approaching the Plant Protection Agency for a problem of herbicide overdose and total loss of harvest. Three students of the medical college stated as information source the educational material offered to them within their medical training programme.

Thus, POPs related problems and issues are to a great extent unknown by the population of the country, which expressed its need for more information prepared in a more accessible format and language, especially through more accessible channels such as radio and TV.

4.2 Communication regarding POPs within society

Communication regarding POPs was denied practically by all the participants in the Survey. In particular, no one from outside the system of local and central public administration, including the environmental protection inspectorate, mentioned the availability of the civil servants to communicate with the population or with polluting companies regarding POPs or other pollutants, except for discussing fees, penalties and offences. The search for common solutions and preventive addressing of such problems were stated as non-existent within the dealings of the representatives of the state and the population.

The question “Who will you apply to with problems related to POPs or to other chemicals?” got a number of answers, including: the doctor, anyone I meet, the sanitary epidemiological service. Some mentioned the Plant Protection Agency and very few the Ecological Inspectorate. Many did not even know the agency existed. The rural doctors were skeptical about the work of the Sanitary Epidemiological Station, that they render assistance to in collection of water samples from the shallow wells used for potable water in the villages, that never came back with the results of the analyses. The heavy pollution of wells with chlorine by the inspectors was also reported through frequent and abundant treatment of some wells and total ignorance of others.

Many participants in the Survey showed a hostile attitude towards public authorities including the environmental protection ones, mentioning that there was no point in informing them about cases of pollution or exposure to POPs, since usually no actions are taken, or the polluter can bribe the inspector and go on polluting the environment, especially from small companies producing ice-cream

cones, drying and smoking fruit, meat and fish, servicing cars etc. Many expressed fear of being persecuted for reporting pollution.

The impression of the population about NGOs was that they were more effective in communication with people, including in collection of water samples and cooperating with local public authorities for training of the population. The NGO representatives recognized however, that their links with the public authorities were not always effective and successful, although some reported enthusiastic outputs of common training activities.

The informal communication regarding POPs within families or between neighbours, work colleagues or other peers was shown as being very limited, either due to POPs and other chemicals being considered as a minor factor on the background of other social problems, or through lack of awareness of the consequences. The interviewed groups had recognized that they never discuss POP problems or problems related to other toxic chemicals except in emergencies.

It was determined that only a small minority of the population is aware of the opportunities posed by their own behaviour in the POP related problems and would consider the idea of modifying their behaviour in case adequate information is offered regarding the problem. The rest of the participants said that the authorities have the responsibility for the environment and did not connect the state of the environment with their own contribution or initiative.

Thus, communication regarding POPs is very limited both within and between different state agencies, between the latter and the pollutant companies, between all of them and the population and within population itself, including families. The main reasons revealed were as follows:

- Lack of communication knowledge and skills within public authorities, companies, NGOs.
- Lack of procedures and institutionalized communication channels
- Censure and corruption
- Fear of persecution and conflict
- Literally understood subordination in companies and agencies
- Lack of initiative in population
- Lack of constructive spirit in addressing environmental and other problems.

4.3 Perception of POPs by different groups

Different groups frequently show different perceptions of the POP problems. In particular, to mention but a few of the opinions (that in many cases may not reflect the opinion of the whole group)

- The farmers, although aware of the possible danger posed by some chemicals, ignore it to a great extent, in order to attain acceptable income from agricultural activity

- The scientific researchers mostly deny the negative impact of POPs on the environment and people's health, or consider the impact to be negligible in comparison with the economic problems
- The children's groups do not think POPs a major problems, even if their families had had losses caused by them
- The students, although aware to some extent of the problems, cannot believe their contribution to its solution matters in any way
- The civil servants count more on penalties and, generally, on a more restrictive legislation with harder punitive tools, than on prevention of pollution, although they are aware of the preventive character of the Moldovan environmental legislation and are proud of it.
- The teachers and professors of schools, lyceums and universities mention the need for a wider educational program on POPs.
- The medical doctors, although aware of the POP and other chemicals' impact on people's health recognized that they never gave advice to their patients to be cautious in their use. Moreover, one of the doctors even admitted the possibility of patients intoxication through use of pharmaceutical preparations in combination with polluted water used by many people for drink and food preparation. Another doctor from the area of alternative medicine (a homeopath) had expressed her conviction that indeed a direct connection existed between current and recent past cancer cases and exposure to POP pesticides in patients that had worked long periods of time with the chemicals. She also emphasized the negative impact of the allopathic medicines on the health of the population.
- The employees of polluting companies do not know much about the consequences of their exposure to POPs and other chemicals, some expressing their disappointment that neither the state nor the companies they worked for their whole lives while allowing them to degrade their health, cares enough to at least compensate for their medical bills or to offer them a safe job. Others, while aware of the danger and even having disorders they attribute to their exposure to POPs continue with their jobs because they have no choice, the unemployment being very high.
- The population of Cretoaia and Tintereni villages situated close to the Chisinau waste disposal site had expressed their indignation for the authorities that admit the pollution of their soil, water and air in the respective localities through violations of the blueprint documentation at the stage of the site building and during later phases of its exploitation. These violations are leakage of the fluid fraction of the waste in the soil and water courses of the villages, frequent burning of the waste, allegedly for diminishing the volume of the waste, which makes the air in the villages unbearable to breathe during the windy days and during summer heat. The population also showed regret at the lack of compensations for damage to their health lack of assistance to invalids and the sick that are believed to

at least partially owe their state to the polluted water in the village. (Water pollution in Tintereni and Cretoaia villages in most of the wells was confirmed by analyses carried out by the NGO “Terra Nostra”. Many wells show nitrates, nitrites and heavy metals contents hundreds times in excess of the norms), the fear of consequences of consumption of fruits, vegetables, dairy and meat grown in the heavily polluted places.

- The rural population that had been exposed heavily to POP pesticides and other agricultural chemicals in the past does not pass the tragical experience to the younger generations of farmers, the latter being rather indifferent towards possible effects of current agricultural chemicals.
- The children and the youth express their dissatisfaction with the unattractive landscape of the villages with illegal heaps of garbage everywhere, gullies instead of earlier pastures, former forests totally destroyed through illegal cutting of trees for heating. They are certain that no good times await them in their villages and not knowing what to do to stop the degradation, make plans to leave in search of better conditions. The nature degradation is only one of the reasons for their desire to leave, others being unemployment, low income in agriculture, lack of cultural facilities.
- The vulnerable groups, including the beggars, the mothers of small children in incomplete families, the families with many children, the retired, the rural people with no land, the invalids, are so concerned with their vital needs (heating in winter, clothing, food, shelter) that show a total indifference towards any type of chemicals and their possible impact on their health. Most of them actually deny any impact of POP chemicals on the health, attributing any disease or disorder to lack of proper food, very cold apartments (some being disconnected from the heating system and even from electricity supply for debts), lack of money for medical treatment.

4.4 The connection of social aspects with POPs

Along with the lack of concern of the Moldovan poor for the impact of POPs, which seem minor as compared to their other survival cares, especially during winter season, a number of the social problems are either exacerbated or generated by the intersection of poverty with the impact of POPs and other chemicals. In particular:

- The poor consume the cheapest foodstuffs, possibly heavily polluted with agricultural chemicals and dangerous preservatives, possibly expired, re-packed, faked and sold in the market. Some of them admitted using foodstuffs from the garbage bins and from the waste disposal sites. Others expressed their envy for the people that leave close to the waste disposal site in Tintereni and have access to the expired products thrown there, including cookies, meat, cans, etc. They would prefer to eat the garbage food instead of having no food to offer to their children on some days. They were especially frightened of the last rise of cost for the

bread, which they admitted to be unable to afford. The Tintereni doctor admitted to having 52 cases of hepatitis over the period December 2002 through May 2003, presumably acquired through consumption of waste disposal site food.

- The poor families from the most polluted spaces of the cities (a part of Rascani and Cecani districts of Chisinau included, where the heat generation stations and many industrial and transportation companies are located) cannot afford vacations, excursions to a green space, rest of the children in camps or in the rural space, to exchange the apartment for another in a cleaner environment in case of respiratory diseases, to send their children to kindergarten or school situated in a cleaner district.
- The poor, especially the less intelligent or alcohol or drug addicted have no permanent jobs. Thus, they accept any temporary job offered to them, however dangerous, without a contract or an agreement. Some such jobs might involve exposure to POPs or other chemicals, but the employers are not concerned with the safety of their temporary employees having no responsibility for them.
- Other possible exposure to dangerous chemicals possibly including POPs, are the home made heating systems used by the poor and other families that are disconnected from the central heating system or have no fuel for heating in individual houses. Some of the building materials the poor use to build huts may also be dangerous or polluted.
- The gender aspect should also be mentioned. Through a cultural norm the women usually care almost single-handed for the children, they do all the cooking and most of the cleaning in the family and also care for the sick. While most of the women also held full time jobs, their burden is very heavy. This often results in less than proper care for the children, home accidents, lack of adequate cautiousness in using chemicals. The lack of knowledge in respect to POPs could also be more extensive in women that attend in smaller numbers training courses, have less time for perusal of mass media products.
- The one aspect less evident but frequently mentioned by both poor and more prosperous families in the stress caused by the inhumane survival efforts, the reported unfriendly contacts with the authorities when applying for help or in clearing a mistake in taxes or payments, the fear of disease in the family that is accompanied by unaffordable expense and debt, different types of abuse encountered more frequently through lack of hope, certainty, lack of assistance in case of need, quarrels and violence in families, lack of funds for even occasional entertainment or relaxation, lack of knowledge and skills for self assistance and mutual help opportunities.

4.5 POPs alternatives, BATs and BEPs

Many practical and interesting ideas were offered as ad hoc POPs alternatives. However, some of the interviewees mentioned that they could think of more if they had considered the problem at their leisure.

Among the POPs alternatives, BATs and BEPs identified during the Survey, the ones mentioned below were the most prominent.

- A lifestyle in harmony with nature
- Ecological agriculture
- Reduced general consumption of chemicals, packaging, plant protection means, etc.
- Activities for reducing pollution and degradation of the environment at the level of community, country, region
- Reduced consumption of natural resources
- Replacement of some chemical products with their natural alternatives in industry, building, services, farm, household
- Use of technologies saving electricity, thermal energy, consumption of natural resources
- More efficient management of the waste with focus on their recycling
- Programmes for household management with no chemicals
- Alternative medicine based on use of plants, healthy diets, exercise, reduction of stress
- Proliferation of water clearing reeds and other plants and insects with water purifying properties in polluted water resources
- Vegetarianism (with the potential of reducing the consumption of herbicides, pesticides, veterinary products, preservatives, POP pollutants generated during the smoking, drying and otherwise processing of meat and meat products, as well as reducing pollution of the environment with animal waste and waste of meat and meat-based factories).

While the above pertain more to the protection of the environment in general, they have big potential for reducing the amount and impact of the POPs. A special participatory comprehensive survey on POPs alternatives, BATs and BEPs could reveal more practical and more detailed options being used in different areas within the country. Their collection, description and dissemination might be useful both for Moldova and for other countries.

4.6 Capacities for addressing POPs problems

The Survey has identified important existing capacities for addressing the POPs problem and for sensitizing the population as to their impacts. Among them the following could be mentioned:

- An extensive legal framework with adequate provisions for the management of toxic chemicals with both preventive, stimulatory and punitive tools
- Ecological Inspectorate personnel and other civil servants working at central and local levels partially trained in POPs and in communication skills and techniques
- Information networks for NGOs, state agencies and farmers capable of disseminating POPs information
- Medical doctors aware of the dangers of POPs and other chemicals' impact on people's health and capable of transferring the knowledge to their patients and to the population at large through mass media
- Development programmes and projects in environmental protection that contribute to the limitation of POPs impact through general environmental protection activity
- Teachers and professors with a vast audience capable of constructively addressing the problem of lack of POPs knowledge in the country
- The practical experience of the population including health disorders and even deaths caused by POPs, that could be used as instructive material for the society
- Numerous environmental protection NGOs with training, education and awareness-building activities planned in all the zones of the country, that could be used for the proliferation of POPs related knowledge as well
- Research institutes with trained personnel with much free time on their hands due to the lack of funds for research capable of working on low cost research of POPs alternatives, participatory indicators on POPs consumption and impact, methodologies for purification of contaminated soil and water etc.
- A highly inventive and creative people that had lived for decades in condition of deficit of the most vital things and that has learnt to replace materials and technologies at least in the sphere of building and household
- Practical international experience in addressing the POPs problems
- International research data and information related to POPs and their impacts

- Environmental protection programmes and projects funded from international or foreign sources
- Participatory methodology for search for options and solution of problems.

A3. Project briefs

A4. List of environmental protection NGOs with potential for involvement in the realization of the Strategy

A5. Participatory methods and tools and the levels of participation

Participatory methods and tools

The development and operation of a participatory process in respect to POP is a useful exercise capable of conducting to establishment of POP related national criteria and priorities but also to the successful achievement of Convention objectives. Among the multiple existing participatory approaches, including Participatory Learning and Action (PLA), Logical Framework Approach (LFA), Objective Oriented Project Planning (OOPP), Participatory Rural Communication Appraisal (PRCA), Participatory Farmer Research (PFR), Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), the methods based on PRA and PRCA are believed as the most appropriate for initiation of a POP related participatory process in the country. In view of the very little knowledge in the country of the participatory approaches, a short description of PRA, PRCA and the most widely used PRA- and PRCA-based methods is provided below.

„The way PRA has evolved means that it generally refers to a process that empowers local people to change their own condition and situation. It is intended to enable local people to conduct their own analysis and often to plan and take action. It has, therefore, come to encompass more than a single, short, field-based exercise. It means transforming the old dependency roles and recognizing local people, both men and women as active analysts, planners and organizers. A PRA field exercise is not only for information and idea generation, but it is about analysis and learning by local people. It is about building the process of participation, of discussion and communication and conflict resolution. This means that the process grows and evolves out of the specifics of the local context.”¹⁰

„PRCA is a methodology designed for development field workers and extension staff to enable them to conduct multidisciplinary and participatory communication research as the first step to prepare a communication programme. The principles, visual tools and techniques of PRCA facilitate the participation of people in identifying problems and appropriate solutions. They also allow people and development workers to reach consensus on actions to be taken within the

¹⁰ Robert Chambers/Irene Guijt 1995, PRA - five years later. Where are we now? in: Forests, Trees and People Newsletter No. 26/27

community. PRCA identifies factors that will help people learn about new ideas, in ways that are easy to them to absorb and that are relevant and attractive”¹¹.

Although initially PRA and PRCA were developed specifically for the study and development of rural settlements in developing countries (based on Rapid Rural Appraisal (RRA) methods, they are no longer associated only with the rural space, having been adopted as an useful and effective tool in urban development, institutional development, university teaching, different types of research, etc. The concepts being still very new, they are still frequently misunderstood and misused.

Many methods have been developed and utilized in RRA and PRCA to understand a situation, a village, an institution or a problem. One of the striking features of many of these methods is the emphasis on visualization and simplicity. These attributes make the methods easy to use and understand, and increase the potential for local participation.

The issues of participation and participatory approaches are gaining popularity throughout the world, the fact being confirmed by one of the “classics” of participatory methodologies with special focus on development activities and projects. “What has changed in the past five years includes SCALE. PRA/PLA-labeled activities in 2002 will probably have been at least ten-fold those of 1997. Participatory methodologies more generally have gained acceptance. Participatory language has become obligatory donor-speak. The World Bank has mainstreamed participation.”¹²

Among the methods most appropriate for use within the Project the following may be mentioned:

Secondary data review and analysis

The first step towards good PRA involves the analysis of existing data in order to get a first overview and to decide on the focus and the initial topics of the appraisal. Such secondary data does not only include reports and statistics, but also qualitative studies (such as sociological or anthropological texts), maps, aerial photographs, newspaper clippings, etc..

Semi-structured interviews (SSI)

Semi-structured interviews rely on pre-identified topics and are essentially based on a list of starting questions or issues which are meant to stimulate the respondents and to lead to more specific questions as the interview evolves. The main characteristics of SSI: they are informal and conversational, yet controlled, they use of open-ended questions and they lead to new hypotheses which in turn lead to new questions.

Group dynamics methods

In order to create a friendly and informal atmosphere, which helps people to overcome their inhibitions and stimulates them to involve themselves actively in

¹¹ Knowledge. The first mile of connectivity. SD Dimensions. FAO, 1999, p.1.

¹² Robert Chambers. Relaxed and Participatory Appraisal. Participation Resource Center, Brighton, 2002, p. 29

the application of any of the RRA/PRA techniques, a variety of group dynamics methods can be used. *Icebreakers, various sorts of energizers, role-play, theatre presentations* are among the most common methods which can be brought in by the team or by participants (spontaneously or planned) before, during or after a PRA/RRA exercise.

Group discussions/brainstorming/workshopping

Group discussions may be structured by the RRA/PRA team or may be part of the on-going activities of the target group. They may also arise spontaneously and be very casual. Through group meetings and discussions, problems can be raised and defined. These meetings can happen before, during or following other field activities.

Focus group discussions

Focus group discussions are systematic dialogues with smaller groups of people who are knowledgeable on the particular subject to be discussed.

Village or area meetings

Village or area meetings are often the last step in an RRA or PRA exercise, as they open the possibility for both sides to discuss and critically assess the findings, draw conclusions and possibly agree on the next steps to be taken.

Mental maps are a variation of mapping which show the different perceptions of different groups in one community, for instance different age groups, social-economic groups, men and women, etc.

Mobility maps are another variation. They indicate the scope of activities and the spatial mobility of different groups of community members, e.g. men and women, old and young people, rich and poor, farmers and traders, etc.

Transect walks and direct observation

Within a village, or area, it is often instructive to add qualitative detail to maps through the use of transect mapping. A transect is a cross-section view of a particular agro-ecological system with a written description and analysis of its components.

Box or pie diagrams

To get a rough picture of the social-economic stratification in a community, a simple bar or pie chart can be drawn.

Local history profiles and trend analyses

To capture the dynamics of the natural or social system being investigated, it is useful to trace major changes over time.

A **trend analysis** compares changes of one or several variables (conditions, events activities etc.) over time in order to identify tendencies, make estimates or formulate expectations for future development.

Seasonal calendars

This method of analysis is designed to elucidate variations in activities over the

calendar year or another specified time span.

Daily activity profiles

A daily activity profile of different groups within a community (farmers, small entrepreneurs, traders, specific age groups, ethnic groups etc.) is useful to identify the types of activities they are involved in (productive, reproductive/ domestic, socio-cultural, etc.).

Intergroups relationships (Venn diagrams)

Venn diagrams are useful in assessing the target groups' awareness of the institutional environment and its members' perspectives of the main institutions, their roles, linkages and impact.

Livelihood analysis

Livelihood analysis diagrams are used to help interpret the behaviours, decisions, and action strategies of households with different socio-economic characteristics.

Input-output flows (systems diagrams)

Drawing on concepts from farming systems research, input-output flows can be used to assess the use of resources, including labour.

Well-being ranking

The well-being or wealth of households can be ranked by writing a card for each household in the community and then ordering the cards in different stacks according to agreed criteria.

Preference ranking

Ranking methods can be used to compare several items according to different criteria by giving ranks or scores Preference ranking can also be used to prioritize the problems to be addressed in future development activities.

Contrast comparisons

In contrast comparisons different groups analyse each other, e.g. men analyse the activity profiles of women, the better-off community members analyse the income and expenditure patterns of the poorest, older people analyse the development preferences of the younger generation, etc.

Other methods to be considered might be

Oral history collection

Social mapping

Wealth ranking

Testimonials

Within a process of setting up national priorities in respect to POPs, the participatory approaches are of utmost significance. The participatory tools described above could provide valuable information of public's perceptions and options in POP-related issues. However, due to the limited time span within the Project for the prioritization criteria phase, the participatory process for this phase was limited to include the following methods (or their derivatives or adaptations):

Secondary data review and analysis

Existing reports, analyses, databases were reviewed in order to find out the POPs-related situation in Moldova and problems associated with POPs.

Semi-structured interviews (SSI)

Semi-structured interviews were used for dialogues with representatives of the rural communities in which obsolete prohibited pesticides were stocked, with workers of enterprises producing releases of PCDD, PCDF, PCB, with local authorities and ministry officials.

Group dynamics methods

During seminars and workshops group dynamics methods were applied for ensuring a warm and pleasant atmosphere for unimpeded sharing of opinions and discussion.

Brainstorming

Brainstorming was employed frequently to find out the various options for different discussed areas, both within the groups of experts and during training and information collection events.

Focus group discussions

Discussions with interest groups provided insights into different groups concerns and options for solutions.

Village or area meetings

Village and area meetings were held by the project staff during on site visits for study of warehouses of obsolete prohibited pesticides (OPP)

Transect walks and direct observation

Transect walks and direct observation were carried out by the project staff during on site visits for study of warehouses of obsolete prohibited pesticides (OPP)

Daily activity profiles

Daily activity profile method was used during the workshop for NGOs in order to identify the daily contact and the extent of contact of the participants in the workshop with toxic and other chemicals.

Preference ranking

Preference ranking was used, within the group of experts and during the workshop with NGO participation for developing prioritization criteria as well as in the questionnaires sent to stakeholders.

Levels of participation¹³

- The lowest level is provision of **humanitarian aid** or **relief assistance**, in case of people that cannot help themselves. It is a notion that is contrary to development, in which people are offered help for solution of their immediate problems and needs and to control external and internal resources for their own benefit.
- The next level is the level of **receipt of benefits**, for example, in top-down projects. This participation is passive and it is sustainable only as long as the donor continues to offer funds. At this stage the participation equals consumption.

¹³ The text below describing the levels of participation is based on Chapter 2.5 of „A Handbook for Social/Gender Analysis” prepared by Coady International Institute for CIDA.

- The third level, **implementation of actions, prescribed essentially by others**, excludes any capacity of the beneficiaries to change the course of action. The decision-making power is in the hands of the project managers or other decision makers. In this case, the target group is frequently asked to provide voluntary labour, to clean the community, to participate in a cooperative. At the final phase of the project, they may be asked to fill in an evaluation form about the effect of the project on their livelihoods without the possibility to adapt the project activities to newly found needs.
- The next level of participation is **the consultations in respect to problems** that is frequently applied at the stage of needs identification or project development, when the communities are consulted regarding their needs. This task requires a certain context (why is it being done, who asks the questions, which are the opportunities); in this approach suggestive questions are avoided (do you want to have clean water?), that may provoke erroneous answers. The implementation of the project in this case needs to have the capacity to assume responsibility for the results of the consultation.
- Participation at the level of **empowerment and „ownership of the project”** may take place when the men and the women of the specific social groups identify and analyse their own problems, plan solutions for them and take responsibility for the solutions, allot resources, decide how to overcome new problems that may emerge and distribute the benefits. The people that may participate in a responsible way and have capacities for establishing their organizational structures, can make the development activities more successful.

Annex 6. Main problems related to POPs, key messages and possible solutions.

Key-problem	Key-message	Needed proposal, achievement
General		
POPs pollution and their impact on the environment and people's health (no integrated study has been carried out in this area up-to-date)	<ul style="list-style-type: none"> • The most difficult problems of today are generated by yesterday's lack of knowledge • Health is the most precious wealth of man. • The level of environmental pollution has exceeded all limits and deadlines, including the deadline for getting informed • The power of the country lies in its attitude towards nature. • Knowledge of today's danger means tomorrow's security • The holder of information today is the holder of the future • Knowledge is your future and 	<ul style="list-style-type: none"> • Data analysis and systematization on current state of POPs pollution • Dissemination of systematized data and of consequences of POPs pollution in the printed media, radio and TV. • Awareness building on POPs dangers among politicians and decision-makers • Provision of necessary information to women, childless and less educated categories through an information kit and transfer of information for a clear understanding of the pollution

	that of your children!	<p>danger for people's health and the environment.</p> <ul style="list-style-type: none"> • Organization of round tables, meetings of NGOs, central public administration, local public administration on the evaluation of current situation and exchange of information.
<p>The need for a unique integrated system for monitoring of POPs elimination (There is no unique integrated system for POPs monitoring during the phase of identification-implementation?)</p>	<ul style="list-style-type: none"> • You decide on your own fate. • Monitoring means prevention • It is easier to prevent than to restore • A man alone can do little, while together with others he/she means something and can do something. 	<ul style="list-style-type: none"> • Harmonization of the legal institutional framework for reduction of POPs and its application. • Creation of state agency for control of POPs elimination. <ul style="list-style-type: none"> • The established age needs to be responsible international cooperation exchange of information state agencies, civil society organizations educational institutions. • The development and institution of the continuous monitoring POPs elimination • Creation of a center information, training education. • Development and fortification of the state rural institutions NGOs.
<p>Need for a national program of actions for decreasing POPs impacts on the components of the environment and people's health (Is it developed – approved?)</p>	<ul style="list-style-type: none"> • Nature protection is not the thing to say: better later than never. In this case „later” means „never” • Chemical security is your security! • Pollution degrades soil, water, agricultural produce and animals, and finally endangers and destroys human health. • Man is unhappy having given up on nature. • Who that does not love NATURE - does not love people. • We have only one copy of the Universe and cannot experiment on it! • POPs-free Moldova! 	<ul style="list-style-type: none"> • Development of a program on actions for POPs pollution reduction • Establishment of an international exchange of information on POPs • National non-POP campaign press • Training seminars and exchange of information between sectors involved in POPs: companies NGOs – local public administration (LPA) – central public administration (CPA) • Development of a guide for improvement of communication between companies, NGOs – LPA – CPA • Training of staff if

		<p>environmental protection agencies, LPA, in POPs related communication skills and techniques</p> <ul style="list-style-type: none"> • Hot telephone line (questions answers) • Development and dissemination of POPs newsletter • Development of a web site on POPs in general with feedback possibility • Obligation of companies to mark POPs containing products • Access to non-polluting agricultural technologies, to waste recycling methods. • Development of educational programmes for women, children, and less educated categories through transfer of information aiming at clear understanding of the danger posed by pollution to people's health and the environment. • Optional course in schools: "Careful: POPs in your home and on your table" • Introduction of materials on the danger of POPs in school manuals (zoology, biology, chemistry etc.)
Pesticides		
<p>Warehouses for pesticides that are unmanaged or in a bad state of repair.</p>	<ul style="list-style-type: none"> • Degraded warehouse – danger to life. • Lack of control – lack of responsibility for generations • Unattended warehouses – Pandora's box • Unwise manipulation of crops of civilization violates nature's balance 	<ul style="list-style-type: none"> • Organization of visits to pesticide warehouses for inventory and evaluation of storage conditions • Development of a guide on methods and techniques for destruction or conservation of warehouses, decontamination of surrounding sites • Seminars for mayors and farmers on methods for pesticide management, packaging and storage • Development of an education package for building awareness in people of communities about the danger of ruined warehouses

		<ul style="list-style-type: none"> – posters, leaflets, indicators • Development of a guide on promotion of public participation in decision making on elimination of pesticide stocks and restoration of contaminated sites • Establishment of a permanent monitoring of active or conserved pesticide warehouses • Establishment of a hot line for collection and exchange of information on the state of the warehouses
Big amounts of obsolete pesticides stored in individual households	<ul style="list-style-type: none"> • Obsolete pesticides are like a live bomb • Your village is your home: do not pollute your livelihood • Do not keep pesticides for the future generations • There is always an alternative 	<ul style="list-style-type: none"> • Organization of a press campaign for the rural public consequences of obsolete pesticides storage in inadequate conditions – local and national press • Development of an information set for less educated rural population on consequences of obsolete pesticides storage in inadequate conditions – posters, leaflets, guides etc. • Organization of sites for collection of pesticides stored by the population, their re-packaging and storage in special warehouses. • Guide for the rural population on decontamination of pesticide storage sites in individual households • Proposals for use of pesticide alternatives – A practical course
Intoxication of people and animals through contact with obsolete prohibited pesticides	<ul style="list-style-type: none"> • Do not let pesticides poison you. • For humans and animals pesticides are death • The health of the animal grown for your needs means your own health • Domestic animals of man are his/her own life • Do not do to animals what you do not want done to yourself 	<ul style="list-style-type: none"> • Practical training course for rural population on danger of pesticide use in households as applied to domestic animals • Training of mayors and doctors in application of PII or expired pesticides • TV, radio programmes, sets of articles in periodic press about damage posed by pesticides • Information poster in each mayor's office on consequences

<p>Current pattern of private agriculture applies POPs (The real situation of POPs application in agriculture from individual pesticide stock is unknown).</p>	<ul style="list-style-type: none"> • There are solutions: we may reconcile nature with agriculture. • Invest into sustainable ecological agriculture. • The health of the soil is the health and future of your children. • The Earth may meet needs but not greed • Nature will help you! 	<p>of pesticides' application</p> <ul style="list-style-type: none"> • Development of alternatives : pesticides • Development of a guide for practical application of pesticides and on consequence of improper use of pesticides • Seminars with land owners for clear description of environmental pollution processes through the current pattern of agriculture. • Promotion of a code of good agricultural practice, practical course. • Development of a site favoring full access to information on environmentally friendly agricultural practices
<p>Application of high doses of pesticides has conducted to pollution of soil, water, agricultural and technical plants that consequently affect people's health.</p>	<ul style="list-style-type: none"> • Healthy nature means healthy people, sick nature means sick people. • Help, the plants are dying! • Clear water – spring of health – life's portion. • Water is the blood of the soil • We have not inherited the earth from our parents, but loaned it from our children • Let's help the earth by planting tree belts. 	<ul style="list-style-type: none"> • Promotion of information materials on impact of pesticide pollution and importance of soil water and plants quality on human health (round tables, interactive discussions on radio and TV with feed-back, press campaigns, ecological public • Inventory of agricultural land and other POPs contaminated sites, involvement of the population in the action • Development of methods and techniques for decontamination and rehabilitation of POPs contaminated sites • Seminars with land owners for learning of methods and techniques for decontamination and rehabilitation of POPs contaminated sites • Meetings with LPA for build awareness in need for water analyses of springs, wells, dissemination of results in the population • Cycle of seminars with rural population on ecological measures for maintenance of wells
<p>Uncontrolled import of</p>	<ul style="list-style-type: none"> • Illegal import of pesticides 	<ul style="list-style-type: none"> • Analysis of current situation

<p>pesticides into the Republic of Moldova.</p>	<p>depends on you</p> <ul style="list-style-type: none"> • Purchasing pesticides in unauthorized places you support the increase of uncontrolled import of pesticides • Pesticides make us richer but they make our grandchildren poorer 	<p>with import and purchase of pesticides (producer, importer, salesman, amounts, quality, validity terms, storage and site)</p> <ul style="list-style-type: none"> • Cycle of seminars for increase the level of responsibility of companies that import, sell & apply pesticides • Development of a guide for awareness building in the public on purchase of pesticides from authorized stores and prevention of unauthorized sales • Training for customs and border staff on pesticide import.
<p>Power and heat generation sector</p>		
<p>The current situation in respect to pollution of the environment with PCBs is unknown.</p>	<ul style="list-style-type: none"> • Transformer and capacitor oil – danger for nature and man • Transformer or capacitor oil is as dangerous as pesticides • A country with PCBs is a hostage country. 	<ul style="list-style-type: none"> • Inventory of companies having PCBs • Organization of site visits in places of PCB storage and assessment of storage conditions. <ul style="list-style-type: none"> • Press campaign on PCB danger for environment & human health • Development of an information set for people living in the proximity of PCB storage sites (posters, brochures, leaflets, indicators) • Awareness building campaign in the media and among the public on application of energy oil households • Institution of a continuous monitoring permanent PCB storage conditions
<p>Soil, water and air contamination with PCBs used in power generation and industry, through accidental releases and discharges.</p>	<ul style="list-style-type: none"> • Do not know – do not come close • Labour security means life • If you know the consequences of direct contact with POPs, tell them to your colleague 	<ul style="list-style-type: none"> • Seminar for information and awareness building in energy sectors about PCB danger • Carrying out a training for the staff directly involved in manipulation of PCB-containing equipment

		<ul style="list-style-type: none"> • Estimation of consequences of accidental pollution with PCB and development of methodologies for prevention and stopping releases • Development of a guide on methods and techniques for decontamination of PCB polluted sites.
By-products		
<p>Pollution of the ecosystem with dioxins and furans through uncontrolled burning and production of chemicals</p>	<ul style="list-style-type: none"> • Either the people will make less smoke or the smoke will make less people • Burning of stubble conducts to soil infertility, destruction of biologic diversity and contamination of humans and animals • Waste burning is a wrong solution • Do not burn if not sure about the consequences! • Transportation is the main polluter • Plants along the road are poisonous • Do not save at the expense of your health through application of old technologies for gas neutralization 	<ul style="list-style-type: none"> • Analysis of current situation environmental pollution with dioxins and furans and polycyclic aromatic hydrocarbons and inventory the main pollution sources. • Development of advanced methods and technologies for minimizing pollution with by products • Development of an information set on impact of by products human health and factors of the environment (leaflets, flyers, posters etc.) • Promotion of autonomous biologic waste composting installations • Development of a guide for public information on obtaining organic nutrients from household waste • Promotion of and support to separate collection of waste.

Annex 7. Activities for improvement of communication, knowledge and public participation in respect to POPs

1. Establishment of the **communication framework** can be achieved through a set of tools known internationally, that include:
 - Institutionalization of mandatory procedures for information sharing and exchange with a number of key partners in the area of POPs. The procedures could be developed in cooperation with the civil servants concerned. In addition, all ecological offices and agencies could institute periodic free access hours or days on which staff responsible for POPs

issues would communicate with local population and other entities, collect reports on pollution, ideas on POPs alternatives, plans for cooperation in reducing POPs, etc. Periodic meetings for reports of the ecologic inspector to the public on POPs situation in the community and in the country would increase the trust of the people in authorities and contribute to more active approaches in environmental protection on the part of the local entities and individuals.

- For high quality information of the society about the ecological problems, including POPs a **system of access to such information** is needed for all the governmental agencies concerned with POPs problems, as well as for NGOs, research institutions, industrial companies, concerned individuals. The access to information could be achieved through a **Chemical Security Center**, that could take information from existing national and international sources and offer it to the public in an accessible format dubbed electronically, such as a Web page, E-mail, electronic and hard copy, monthly or quarterly newsletters, press releases, radio and TV interviews, meetings with media representatives and with other organization with high dissemination potential.
- The existence of an **emergency telephone line** for exceptional cases dealing with POPs pollution is very important. Although ecological emergencies do not occur frequently, the lack of a proper channel for rapid communication with the authorities in charge may mean slow solution of problem, big material loss and even loss of human lives.
- A **POPs library within the Chemical Security Centre** is an efficient opportunity for development of knowledge in the area of POPs and other chemicals by students, children, concerned adults, authorities and management staff of companies and organizations, mass media reporters.
- The institution of **feedback procedures and tools** in state environmental agencies is needed for identification of people's opinion as to the activity of the agency, receipt of complaints and proposals for improvement, reports about pollution sources. These procedures and tools could include, for example, a letterbox for complaints, proposals, suggestions, comments, opinions in each agency. The opinions of the population on the activity of the agency can be requested on the back of the announcement letters sent to the population by mail, during informal lunches or practical activities for nature protection of ecological agencies' staff with relevant partners, requests for evaluation of ecological bodies' work by groups of the public at other types of meetings, etc.
- The solution to difficult issues dealing with POPs can be also sought and found through **open discussions on POPs on TV and radio**. The contribution of the concerned people is made thus, easily and without constraints. In this way, the cooperation within entities of the society for the solution of POPs and other ecological issues may be improved.

- In each locality there is need to designate a **person responsible for POPs problems**, that would have the necessary knowledge and relevant contacts for addressing current issues in POPs and for forwarding proposals of specific actions to the agencies authorized to take decisions in such matters. The person could also serve as a kind of connection between institutions and personalities in case of training events, meetings with entities of other communities, initiating national and international cooperation actions in the area.
 - A survey of the existing **communication channels existent in the rural space** for inclusion in the communication framework is necessary. The incorporation of the informal communication channels of the Moldovan villages, such as handiwork sittings, sessions of interest clubs, village dances, church bells announcing important events, children interest groups, the post office network, sports meetings and training, dedication day, agricultural meetings, harvest festival, market days, etc., etc., etc. Any of these or other events or meetings could be used for dissemination of information on POPs or requesting information on POPs problems, for announcement of emergencies dealing with POPs.
2. **Training in communication, conflict management, facilitation, problem solution, connections with other entities, public participation** for the ecological inspectors, teachers and professors of schools and universities specializing in ecological disciplines, NGOs, responsible persons in industrial companies and research institutes, is of great value, since such skills and knowledge make the dissemination of information more efficient and allow to collect benefits from the experience, expertise and knowledge existing in the people within the training and communication processes. Efficient communication with other entities make for more cost-efficient resolution of common POPs related problems, including with less funds and higher sustainability.
 3. **Establishment of a volunteer movement in the area of POPs** is a simple method to offer a valuable activity to groups of young people with much time to spare and interest for communication with their peers in the format of public utility tasks and activities. The retired researchers, well off persons that do not work, the unemployed women, foreign persons accompanying family members working in Moldova, etc., could form an initial corps of POPs volunteers. The advantages of the voluntary work are obvious.
 4. The institution **of annual conferences of children and youth in POPs** issues make use of the youth's creativity and inventiveness, simultaneously involving the younger generations of the country in the solution of a global problem. The advantages of involving young people are determined not only by the interest of the youth for high technology, their creative spirit in addressing problems, but also by the growing capacities to use information technologies and their desire to communicate with their peers overseas.

5. The solution of global problems is unrealistic without the involvement and **creation of international partnerships** in different areas related to POPs. The global problems, such as the POPs one, that have different sources and manifestation in different parts of the globe can no longer be solved through the efforts of isolated groups of experts. The working groups made up of researchers from different countries, representing different disciplines, having different approaches and methodologies are more likely to come up with comprehensive solutions. The initiative of Moldovan researchers to address certain aspects of the POPs problems, even to create a partnership in the area, is a realistic opportunity. Especially significant research areas could be the issues of links between pollution and poverty, contribution of rural households to POPs pollution processes, POPs alternatives in agriculture and power production and distribution, behaviour patterns related to POPs, alternative medicine, POPs impacts on health and many other subjects.
6. The participatory processes, being planned in compliance with known participatory methods can generate creative and practical options for reducing POPs. **The development of a set of national and local non-POPs activities through a participatory process** has the potential of collecting practices and tools for POPs reduction and elimination, that could allow for saving funds for alternative technologies and could offer to other countries ideas for low cost POPs reduction tools.
7. The research is usually carried out according to plans developed by scientific researchers using universally accepted research methodologies. **The inclusion of representatives of the public in research groups and boards in the area of POPs** could conduct to acceptance of more realistic approaches, eliminate the impractical solutions at the start of the research. Simultaneously, the rejection of some widely accepted methods could lead in many cases to discovering new ways and means. This is true also for the inventions in the area of social science that sometimes have a great impact on people's behaviour and lifestyles, as well as the social aspects of the global processes.
8. The isolated efforts of different convention to solve separate global problems meet with financial, organizational, political, institutional, etc., difficulties, **The establishment of an efficient communication and cooperation framework of the Stockholm Convention with other conventions in the Republic of Moldova** may result in exceptional common products with simultaneous reduction of costs for the solution of the respective problems.
9. **Establishment of a monthly (quarterly) publication in POPs dubbed electronically, through TV and radio programmes** would allow access to POPs information to various groups. This source is specifically valuable for the youth that includes the future decision-makers.

10. Development and maintenance of a POPs Home Page within the Chemical Security Centre is another significant information source that will become even more important along with the development of the computer based activity of state agencies, research institutions, companies and along with the improvement of the computer literacy within society.
11. **Creation of a database of local and national POPs sources.** The POPs sources listed in the Convention documents are not exhaustive. In different countries there are different practices of agricultural technologies, canning of fruits and vegetables, processing of hides and timber, dyeing of wool, etc. Even methods for apartment and public space cleaning are various. Thus, the identification of the exact sources of POPs pollution is an important prerequisite of the POPs reduction process.
12. **Development and dissemination of information packages in mass media.** Much information does not always mean good information. An informational package developed in an accessible format, with specific cases from the life of the country's citizens, with picture or other illustrations, can have an important impact on the behaviors of the people in respect to POPs.
13. **Study tours in POPs related problem solution to countries with similar conditions or with better experience.** Solutions to POPs problems found by other countries need not be invented anew by the Republic of Moldova, but applied in case the conditions allow for such application. The visualization of such solutions in their practical context and meetings with the people that achieved them would be highly instructive for decision-makers in Moldova, as well as for the development of better quality training materials.
14. **Participatory development of a code of ecological ethics for businessmen, politicians and other decision-makers.** The chemical industry has among its central objectives obtaining profits from sales and offering the consumers a wide range of products. The politicians and other decision-makers are heavily pressed for dealing with major economic and social problems. As long as the ecological problems are not periodically brought to their immediate attention, they may be at least partially ignored. At the same time, these categories are also members of the society and citizens of the planet. In both the official and the personal capacity they could make greater efforts for the decrease of pollution if they had an ethical code developed with their own participation.
15. **Survey of POPs alternatives existent in the country and their dissemination.** Not all the groups of the population have access to chemical substances and synthetic materials that contribute to pollution of the environment with POPs. Thus, it is possible that many families or small individual companies apply natural alternatives instead of the chemical and synthetic ones. There also families or groups of the population that generate less waste than the others, that use repeatedly some types of POPs containing packaging, or eliminates it through

methods safe for the environment and health. This experience is valuable and may make a contribution to the decrease of POPs volumes and impacts in the country and even abroad, upon dissemination

16. Visual non-POPs publicity

Video spots, mini-statements on TV and radio regarding the POPs, posters fixed in the well attended streets, creative non-POPs slogans, in newspapers and magazines, small anti-POPs labels attached to the POPs generating or containing products are a means to remind of the problem and to caution against improper behaviour or decision.

17. Organization of POPs training activities at community level

Many people in the rural communities of Moldova do not have sufficient access to video, radio information and do not subscribe newspapers. The organization of a training event for the locality with provision of a set of accessible information to all the participants is a way to bring POPs knowledge to this public. These activities are especially necessary in the communities with POPs pesticides in storage.

18. Development of a compendium of instructive cases for the education of the schoolchildren and students using the case study method.

A growing number of lyceums, schools and universities use the case study method for training and education, it being confirmed as highly effective not only in transfer of new knowledge, but also in its practical acceptance and application. Thus, a number of real cases collected from the life experience of the farmers of Moldova in OPP application or from the staff of the chemical factories in handling noxious chemicals can be documented, processed, multiplied and used in the educational process in the Republic of Moldova in POPs issues.

19. Development and dissemination of POPs ABC book

Even the people with least risk of exposure to POPs may suffer if not cautious in the application of unknown chemicals, in elimination of different domestic POPs waste (fluorescent lamps, batteries, electric appliances, electronic toys, domestic chemicals, etc.). An ABC book in POPs disseminated through the most accessible media could prevent this from happening.

20. Workshops in POPs for categories with high information dissemination potential

The NGOs, information centers in different subjects (medicine, agriculture, environmental protection, economic and social development), ethnic-cultural societies, sports associations, organizations for women's and children's problems, veterans' societies, and interest groups for children and adults could disseminate POPs information if the information be offered to them in a participatory manner accompanied by a set of informative materials. This is an opportunity for wide dissemination of POPs information at low cost.

21. Annual non-POPs campaigns

The annual non-POPs campaigns scheduled for a certain period of the year or related to the international anti-POPs day, May 23, could serve as sources of additional POPs related information for those who have not yet found out about them and as a reminder to those who have. It can be implemented through a creative set of manifestations with the inclusion of the arts. They may comprise contests, shows, publications, articles in the printed media, poetry, fairytales, radio and TV programmes, meetings in the central places of villages and cities.

22. Development and publication of POPs guides separate for the civil servants and for NGOs in the systems for agriculture, energy sector, industry, medicine and social protection.

The risks of exposure to POPs is different in different occupations: OPP in agriculture, PCBs in energy sectors and industry, dioxins and furans in industry, transportation, waste elimination. Small guides explaining these risks for different categories of the public can contribute to at least partial prevention of health degradation through exposure.

23. Creation of agricultural and industrial non-POPs „oases” for training and demonstration

Although the new agricultural chemicals are not confirmed as pertaining to POPs, they may pose danger to people's health and to the environment. Another factor is the continuing pollution with chemicals from the groups of detergents, paints, dyes, modern building materials, industrial and domestic waste. Thus, the experience of one or more communities committed to non-POPs lifestyle, may be instructive to other communities and to all rural and urban families. Excursions to such communities could make an important impression on children.

24. Periodic evaluation of level of POPs knowledge of the population

The adult population of the Republic of Moldova is continually modifying its structure through migration, long term trips, change of lifestyle and occupation, decease of the elderly, growth of children and their joining the adult generations. Thus, presumably, there always will remain some groups partially or totally unaware of the POPs problems. The identification of such groups and their level of POPs related knowledge, as well the level of knowledge of groups with greater awareness is an important factor in the further orientation of the training efforts and methodology. The evaluation may be carried out through participatory techniques, such as open interviews, informal meetings, transect walks through locality, building of locality map, POPs problems matrix, etc.

25. The presentation of the developed instructive national materials at international meetings and adaptation of internationally available materials for use in Moldova

Many country are concerned about the POPs. In many cases instructive materials developed such as: brochures, slogans, explanatory drawings, video films, posters, instructive games, etc., could be used with no changes (or translated as needed), or adapted to Moldovan conditions and applied in the training and education process in the country. In their turn, the

training materials produced in Moldova could be of value for international dissemination. Thus, this exchange of instructive materials at the international level is a good occasion to save funds for training, education and awareness building and to find partners in the respective activity.

26. Development of recommendations to governments and nations in synergetic practices of Conventions related to POPs issues

In the majority of cases it is too costly to address the POPs problems in isolation of other environmental protection issues. Thus, the efforts for training, education, practical actions for soil, water and air protection promoted by various conventions and other bilateral or international agreements may be carried out in synergy as a single action or as a system of actions. Good synergy practices offer valuable opportunities for global POPs reduction and solution of other environmental problems simultaneously. The work for such recommendations for own country and for other states is significant in conditions of universal degradation of the environment.