MULTISTAKEHOLDER DIALOGUE FOR IMPROVEMENT OF HOUSEHOLD WASTE MANAGEMENT IN RURAL BULGARIA

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Abstract

The paper describes the tools used to introduce a multistakeholder dialogue for implementing efficient solutions for waste management in rural communities of Bulgaria. This is an innovative practice for Bulgaria – to involve people of all age groups and any level of education and position in a joint dialogue – aiming to implement several pilot projects in rural communities to serve as good practical examples of management of solid waste, human and animal waste and wastewater.

The analysis of the local measures is done in the framework of the national context.

1. General country context

A number of surveys and national statistics in Bulgaria are unanimous that the deficiency of adequate social infrastructure and services in rural areas, compared to urban areas, is a major factor for:

- much worse conditions for employment opportunities;
- a significantly lower standard of living;
- much worse health indicators.

There is no demonstrated interest on behalf of the government to change the situation for the better.

According to Bulgarian National Statistical Institute (1), health indicators are much worse in rural areas, compared to urban areas, including maternal mortality: urban 16.5 and rural 25.5 per 100,000 live births (for the year 2001). The maternal mortality goal is 12 cases per 100,000 live births (for 2015), compared to, say, the EU average of 5.1 as of the year 2000. Child mortality has maintained alarmingly high levels: mortality for the 0-5 age group per 1,000 live births was 17.0 in 2001 with a projected level of 9.5 for 2015 (compared to 6.4 for the EU in 2000); infant mortality was 14.4 with a target of 7.0 for 2015; the perinatal death rate was 12.3 with a target of 8.0 for 2015.

These targets cannot be reached by improving healthcare alone. To a large extent, child mortality reflects the isolation of whole groups of the population from the social and healthcare systems of the country. Therefore, the achievement of the set targets depends on whether the gap between Bulgarian urban and rural communities will narrow or will continue to expand.

The total of 2.3% of rural communities have some elements of sewer systems but there are no wastewater treatment facilities at all in rural areas. In general, sewerage systems only exist in the municipal centre[2] where most of the population lives. This is also the case for solid waste collection and

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2 The municipal centre is usually a city or a town, in few cases a large village, with leading administrative, economic and cultural functions for the smaller settlements in the municipality.

treatment systems, which generally exist only in the municipal centre and rarely in subsidiary villages. The existing rural infrastructure is in very poor condition, and this is reflected in household dissatisfaction with infrastructure services (2). The assessment by local authorities of infrastructure priorities is in line with the opinion of households. Solid waste collection and treatment are other services that are not satisfactory to the rural population (46.6%); these are considered insufficient and so require rehabilitation. Some of the villages are equipped with waste collection systems, but the location of landfills is not clearly defined and haphazard disposal of solid waste and illegal dumps present a pollution threat to water, including drinking water, and soil.

Only 20% of the villages are served by solid waste removal systems, and 11% only partially (2). This gap is found in villages rather than in municipal centres, which as a rule are much better served. The common method for solid waste disposal in the rural areas is open dumping while the relevant municipal centre would have a landfill. Many settlements do not have clearly designated disposal areas, which results in the haphazard discarding of waste, and illegal waste dumps, including in public space. Property is poorly maintained and there is danger of water and soil pollution, and of health hazards. Another problem is the treatment of solid waste. There are a number of illegal waste dumps in and out of the villages. Everywhere you can see used plastic waste and other garbage, especially in the gullies and lower terrains.

Poor infrastructure conditions are a factor for the deterioration of rural livelihoods, and represent a threat to the municipalities' ability to prevent depopulation and sustain development. These are a foundation for worsened health of the rural population as well. Water supply networks and facilities need to be replaced, up-graded and expanded; sewerage systems are lacking. Solid waste collection facilities are also lacking, or they do not fulfil sanitary requirements (2).

In its effort to implement the requirements for EU membership, the Bulgarian government is investing enormous proportions of the available pre-accession funds to solve social infrastructure issues in the large cities, constructing municipal landfills, sewers, and wastewater treatment plants. Satisfying some business interests (usually from abroad), the government sponsors very expensive large-scale technology for large cities (e.g. incinerators, centralised sewers and conventional wastewater treatment plants), while the rural communities still continue using illegal dumping sites at the end of the street, soakaways (or discharge of wastewater directly in the garden or to a ditch along the street) and pit latrines. No alternative low-cost options are discussed and offered for smaller and poorer rural communities (e.g. composting, ecological sanitation). Although 30% of the population lives in the villages, there is lack of awareness, of strategic and action planning and of adequate budget allocations for proper sanitation management in the village communities, including solid waste collection and disposal, wastewater treatment and excreta disposal and treatment.

Municipal centres are much better serviced than the surrounding villages. The major infrastructure networks were built and developed during the communist period, mainly in the 50s and 60s, resulting in a good coverage by electricity supply, water supply, health services, street lighting, and schools. There are considerable differences between the municipal centres and the surrounding villages. These differences affect also solid waste collection systems. The major gaps concern sewerage and solid waste collection systems, which do not exist at all in 94% of the villages in the case of sewerage and 74% of the villages for the solid waste collection (2).

Regular municipal waste collection covers about 80% of the total population. Landfills and open dumps remain the main method for waste disposal. During the period 1999 – 2002, 12 landfills that comply with the modern requirements were constructed, reconstructed, and put into operation in accordance with the National Waste Management Program (3). At the same time, the construction of 6 new regional landfills for municipal waste has started with the financial support of the ISPA Pre-accession Program of EU. The construction of another 10 regional landfills continues at the moment. According

to the National Waste Management Program, all landfills for non-hazardous waste should meet the requirements of the existing legislation or be closed by 2009 (3).

Among the strategic environmental objectives of the government (4) are:

- building of urban wastewater treatment plants (UWWTP) under the national program for priority construction of UWWTP in settlements over 10,000 population equivalent, incl. treatment of sludge;
- establishing an integrated system of solid waste treatment facilities, including. separate collection, recycling, and re-use;
- creating mechanisms for the operating of a system of separate collection and recycling, and
- improving considerably the cleanliness of the Bulgarian towns and villages.

The priority is mostly to meet the needs of larger communities. The allocated budget is really inadequate to meet the needs. It is not a surprise that in the last year of implementation of the *National Strategy for the Environment and Action Plan for 2000-2006, Ministry of Environment and Water, 2001*, these objectives are far from being met.

In the context of this reality, it is awkward that neither solid waste nor wastewater issues are part of the national Millennium Development Goals (MDGs). The published MDGs report (4) declares that 100% of the population has access to adequate sanitation. The proportion of the population covered by organised waste collection and disposal systems was 80.2% (in 2001). Only a few landfills have been built in accordance with the EU requirements (5).

2. Sanitation infrastructure in the rural areas of the Stara Zagora Municipality

In view of the aforementioned and the analysed needs, *Earth Forever* in Bulgaria, in collaboration with *WECF*[3]*, The Netherlands*, is implementing a project to improve waste management (including domestic solid waste, human waste and wastewater) in two pilot villages – Stara Zagora Spa and Sulitsa, from Stara Zagora Municipality (Photograph 1). The project is supported by the MATRA[4] Program of the Dutch government.

Photograph 1: A view of Sulitsa*.*

Three quarters of the territory of Bulgaria is occupied by mountains. The average population of the villages in Stara Zagora Municipality is 320 inhabitants.

A special survey was undertaken in the course of the project, using interviews. This was necessary to bring into perspective the lack of information on sanitation and solid waste infrastructure, and on the practices, habits, and needs of the villages in the municipality (6).

3 **WECF** stands for the gender and environment oriented NGO - Women in Europe for a Common Future, The Netherlands.

4 **MATRA** is a program of the Dutch Ministry of Foreign Affairs supporting development.

2.1 Domestic solid waste management in the pilot villages

A domestic solid waste collection service is available for only 13 out of the 50 villages in the Municipality, and it is organised according to various timetables. Stara Zagora Spa is served most regularly among these villages – 4 times per month, mainly because of its tourist functions. Solid waste collection in the other villages' is organised on the basis of 3, 2 or 1 time/s per month. Our field observations showed that this schedule does not serve the needs – there is a need for more frequent collection. Once a year, the Municipality sends vehicles to collect the garbage in the unserved villages, like Sulitsa, and to level the waste piles of the local semi-illegal dumpsite. Though the local dumps do not meet the legislative requirements they are well known to the authorities; in many cases they are the only disposal sites that the local people can use.

Though regularly served in the Stara Zagora Spa, half of the residents sometimes burn some domestic waste, mostly paper, including toilet paper, because the designated individual home containers are not sufficient for their needs (Photograph 2).

Some of the residents (three of them) were found burning plastic waste outside their houses. About 90% of the respondents are aware that burning plastic affects peoples' health. Residents, who have animals and a garden, compost the food and green waste and it apply it to their gardens. Three-fifths of the residents burn their garden waste; a few throw it in the container; only one resident brings it to a dumpsite while another dumps it in a gully. Construction and demolition wastes are mostly brought to the Sulitsa semi-illegal dumpsite, except by one resident who dumps it somewhere outside the village and another one who uses it to fill up holes in the street.

There is neither a collection of domestic solid waste nor an official site to dump waste in Sulitsa. Between Sulitsa and the Stara Zagora Spa is a semi-illegal dumpsite in a former stone quarry. Mainly construction and demolition waste is dumped at the quarry. Along the path between the main road and the dumpsite, however, a lot of domestic waste is spread around in small dumps (Photograph 3). There are a number of other smaller illegal dumpsites lying scattered on the outskirts of the village (about 20 meters away from the closest houses).

Photograph 2: September 2005, three days before the next collection of waste

Photograph 3: Domestic waste spread around in small dumps.

About half of the 20 respondents in our survey try to burn as much of their domestic waste as possible. One-quarter (those having access to a donkey cart or a small tractor) brings most of their waste to the dumpsite at the quarry. A few take it with them by car and deposit it into a container in the Stara Zagora Spa. Almost all households, however, burn at least part of their waste: paper (including toilet paper), plastic bottles and/or leaves and weeds from the garden. 14 of the 20 households burn plastic bottles. Almost all are aware that burning plastic may affect human health. One respondent said: "*It*

does affect health but what are we to do instead?" Another respondent thought that "*it was better to burn it than to throw it everywhere around*".

All households, who have animals and a garden, leave the manure to compost extensively and use it on their land. The large majority of the respondents burn the garden waste.

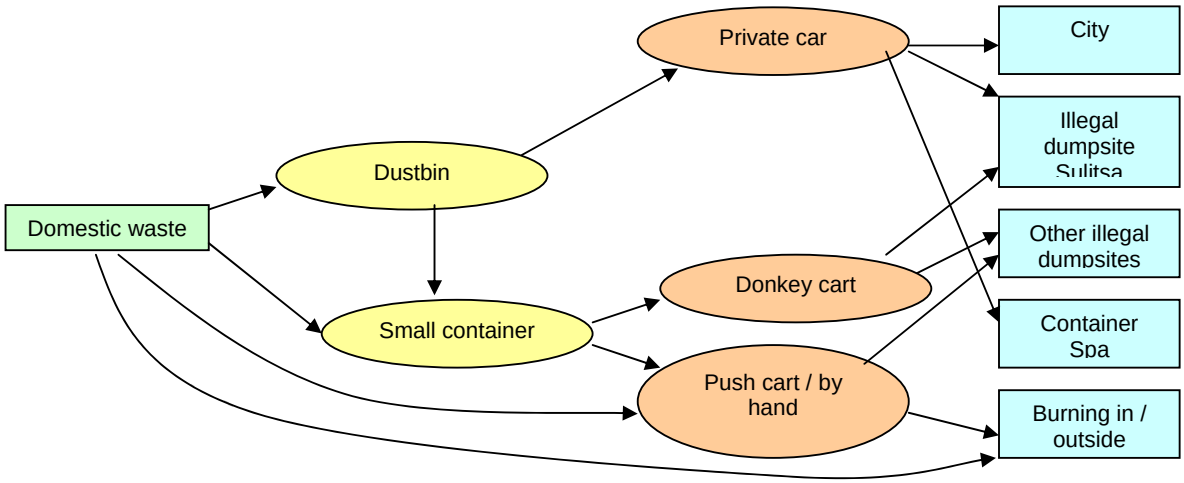

Figure 1a: Domestic solid waste flow, Average waste stream

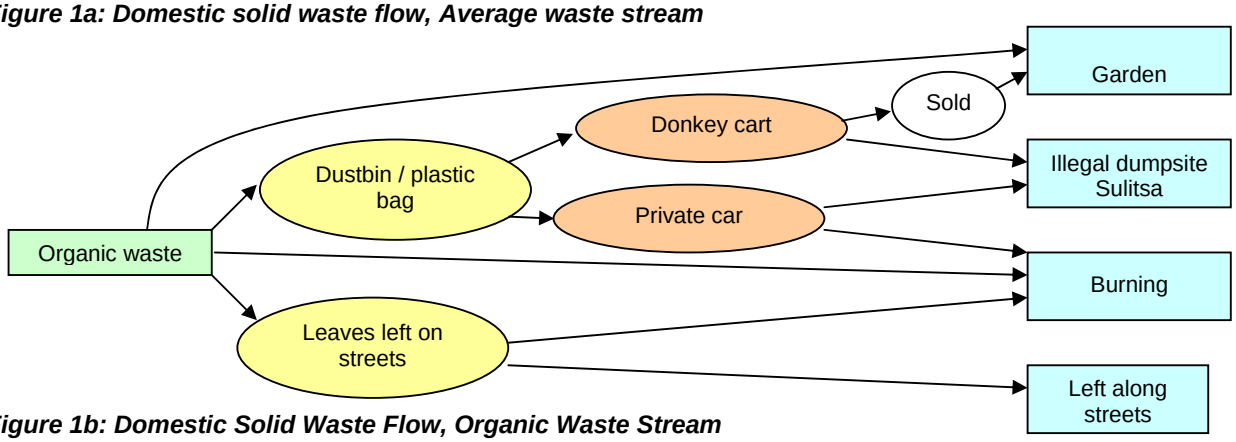

Figure 1b: Domestic Solid Waste Flow, Organic Waste Stream

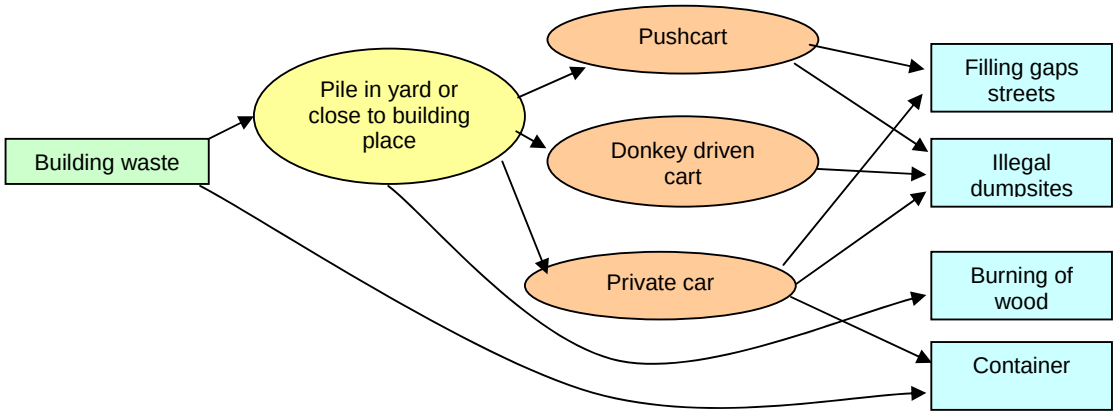

Figure 1c: Domestic Solid Waste Flow, Building Waste Stream

An analysis of the flows of solid waste (general domestic waste, as well as organic waste, demolition and construction waste, cloth waste, small business waste, medical waste, recyclable waste – metal, paper, glass) was made in the process of the implementation of the Project for both Sulitsa and the

Stara Zagora Spa using the methodology of WASTE, The Netherlands. Example will be given with some of the waste flows for Sulitsa which also are typical for Bulgarian villages (**Figures 1a, 1b, 1c**).

3. Multistakeholder Dialogue

The involvement of all stakeholders is the foundation on which the project was based from the very beginning. The project came into being as a response to the grassroots request for identifying a solution for the sanitation problem of the pilot villages, which included: lack of social infrastructure and services for adequate solid waste, human waste and wastewater management. Overall, the situation makes the villages unattractive for the young people and business initiatives, leads to depopulation of the villages, worsens their age structure (the average inhabitant of Sulitsa is 71 years-old), and poses health risks to the people.

Women from the White Rose Club[5] in Sulitsa were especially active in looking for better hygienic solutions and eliminating the negative impact on human health, as well as inconvenience from using outside toilets that lack running water for washing or cold outside baths.

A number of tools for enhancing the participation of the citizens are used in the implementation of the project.

3.1 Village Meetings

The regular village meetings (Photographs 4 and 5) are one of the most powerful tools for keeping the community involved. These meetings were attended by 10-20% of the inhabitants. More than 40% of the residents in the Spa and more than 70% of the villagers in Sulitsa have attended at least one of the project village meetings. The strong personal interrelations of the villagers (close kinship ties and intensive unofficial communication) favour dissemination of information discussed at the meetings to practically all inhabitants of the villages.

Photograph 4: Village meeting in the Spa.

Photograph 5: Village meeting in Sulitsa

People of various age groups take part in the village meetings but most of the participants are retired people. This is due to the fact that the enormous majority of the villagers are retired, and the younger ones work or study outside of the village – usually in Stara Zagora.

The village meetings are the forums that:

- discuss proposals, including proposals for pilot projects;
- request additional information to clarify various aspects, e.g. specific technology like composting;

5 **The White Rose Club** is the ladies cultural club for preserving the folk traditions of the village of Sulitsa.

- question and put on discussion identified issues;
- provide or demand feedback;
- vote on decisions, and
- provide grassroots control for reaching the planned goals and objectives.

The meeting agendas are announced in advance by posters on several most visited places in the villages (shops, bus stops, mayor's office, post office, cultural club) and people have several days to get prepared adequately.

The meetings usually start with presentations of the issues raised in previous meeting that needed additional information and clarification; then follows a report of what was done by the key players or authorised persons meanwhile; then come reports of activities and meetings organised by the Village Initiative Committee (see 3.2).

The villagers are provided with printed handouts (text and visual materials, opinion of experts in non-technical language, posters, graphs, etc.) on the presentations. Handouts are specially prepared for second part of the meeting as well: these are discussions about the next steps of the project, asking and answering questions, sharing experience and concerns, providing feedback, suggesting solutions, etc. Often some experts would be invited to answer immediate urgent questions, especially during the construction phase.

The village meeting approves what was done up to the moment, clarifies the issues and concerns, takes the main decisions and authorises the Village Committee and the coordinators to proceed with the implementation of the next step of the project, until the next Village Meeting.

3.2 Village Initiative Committee

The Village Initiative Committee (Photograph 6) consists of seven to eight people of high standing among the villagers: the village mayors, well-educated citizens (retired medical doctor, retired teacher, retired vet, leader of the local cultural club), motivated and passionate about improving the well-being of their fellow villagers. In both committees there are also the best-known local people who usually volunteer to do work for public benefit.

The role of the Committee is to serve as a bridge between the project staff and the villagers, then between the municipal administration and local business and the people involved in one way or another in the project implementation.

Photograph 6: Village Initiative Committee meeting, Sulitsa: *putting the ideas on a map after the discussion.*

The Committee discusses more technical issues and devises a way to present them in a manner understandable to the villagers; they work with maps, technical graphs, and receive technical information. They are the movers and shakers in the community. They are the community's opinion leaders. They show the example that would be followed by their fellow villagers.

The committee helps the project staff to solve the most difficult issues and to find the best way to the hearts and minds of the local village community.

3.3 Interviews with villagers, local authority representatives, local experts

The interviews may be both official and non-official. The official interviews were used for the analyses of the economic, environmental, health and gender background of the communities. Twenty households were interviewed from each of the pilot villages according to a detailed questionnaire with the goal to collect and analyse statistical, behavioural and cultural information about the pilot communities. Some of the questions were quite private and required a certain amount of trust: questions about income and bills; health status; gender roles in household chores, etc. As a result a document of more than 52 pages was developed to be used as a foundation for project planning and development.

There were many occasions of non-official interviews. The project team had visited most of the households informing them about the project goals and expected results, asking for information about solid waste, excreta and wastewater treatment solutions and problems in the household; encouraging people to share and to participate. These interviews usually took the form of conversations, no notes being made in front of the person interviewed. Often these took place over a cup of coffee in the village cultural club or in the yard of the person being interviewed.

3.4 Summer School

Special efforts are made to involve the young people in the project. Though very few children and young people permanently live in the village, during the summer vacation there is a young person in almost every household. The link between the generations in the family is still very strong in Bulgaria and children tend to visit their grandparents and spend most or all of the summer vacation with them between June and September.

Grandmothers especially have a leading role in the extended family with respect to behaviour, including household maintenance and personal hygiene. The grandmothers are the people who set the standard for the family in managing food, drinking water, solid waste, human waste, wastewater, family heath issues, etc. In the majority of families, they are the people who take care (or help parents take care) of the small children.

Our experience showed that children on the other hand are especially receptive to new initiatives, open to environmental concerns, and know how to influence their parents and grandparents' perceptions for introducing innovations.

That was why we organised a Summer School during the vacation. The school lasted one week. The group consisted of children of various ages (6 to 18) and all were happy to study and discuss about solid waste, wastewater, hygiene, sanitation, back yard composting, burning of wastes, etc. There were presentations, followed by discussions, participative home-work exercises, practical experiments, games and drawings, and questionnaires. In some of the homework exercises the kids were instructed to interview their grandparents on certain aspects of hygiene; for other exercises they had to collect specific behavioural information from friends and neighbours. Each child and young person would have their folder with school information, each day adding some new handouts to bring home and show to the other family members. In this way, the whole extended family got practically involved.

The school started in a room in the Cultural Club but finished in the village theatre because of increasing number of participants as the days went by. This was really a success, and next summer the plan is to have a Summer School with the main topic to be composting of organic wastes.

3.5 Awareness-raising campaign

An awareness raising campaign a key element that attracts attention and builds public opinion, mobilises support, involves (often spontaneously) new people in the ideas of the project, provides information to the larger public, etc.

The project took advantage of national holidays that naturally drive citizens and young people out onto the streets, and organised some attention-attracting activities. In June we used the Danube Day to turn people's attention to the fact that rivers are polluted by various activities – solid waste, untreated wastewater, hazardous waste, etc. Rural rivers and gullies are especially exposed to solid waste and wastewater pollution due to the lack of solid waste collection and wastewater treatment in rural areas. The journalist found appropriate to publish only this picture of a boy who was sitting on a toilet to demonstrate against the discharge of untreated human waste into the rivers (Photograph 7). There were also posters, demonstrations of pollution and treatment, short interviews of citizens who were invited to make a short written statement and post it on young volunteers carrying posters, dissemination of brochures with information, etc.

Photograph 7 Publicising river pollution by wastewater.

Human wastes in rural areas are often discharged directly in natural waters

3.6 Training Workshop

As the project's goal is to make space for the implementation of *ecosan* practices and technologies, training is a very important mechanism to make people understand better the innovations and to be convinced that these are effective tools that will improve their daily life, and to involve the community in the implementation of the project.

There many activities that have some kind of teaching-and-learning element – village meetings, question-and-answer sessions, awareness-raising campaigns, etc. A training workshop is a specific intensive event for giving exposure to new information and knowledge, and for training in new skills and expertise.

The project organised five days of intensive training for participants at different levels and different capacities: village people (12 people from each village, elected by the village meeting), municipal experts, businessmen, university teachers, and representatives of ministries, river basin directorates, regional inspectorates on environment and health, and journalists.

The presentations of international and Bulgarian experts were alternated with intensively facilitated small group discussions. The small groups were formed to include various representatives – (Photograph 8). These were followed by presentations of the small-group work in plenary (Photograph 9), question-and-answer sessions, and plenary discussions. The goal was to train all these representatives, and make them communicate intensively at the same time. Villagers usually do not have access to experts and government staff. Technocrats from the ministries do not have the desire and the time to meet with the ageing populations of the villages. During this workshop, they were put in a situation of facilitated discussion. The professionals heard what communities and people needed and

wanted; the villagers learnt what the requirements of the legislation were, and the procedures for reaching one goal or another in collaboration with the local, and regional governmental institutions. They got to know each other, and started relationships that were expected to last.

Photograph 8: Small group work. *Villagers and representatives of local, regional and national institutions learning and discussing together on an equal basis.*

Picture 9: Small group report in front of plenary*. A former teacher – a member of the Village Initiative Committee in Sulitsa, makes a presentation together with a young professional*

3.7 Question-and-answer sessions involving international and local experts

These could also be official and non-official. The official question-and-answer sessions were organised during village meetings, meetings of the Village Initiative Committee, etc. The non-official meetings were organised by visiting interested households and directly responding to their specific personal questions (Photograph 10). In principle, villagers need to ask direct questions to professionals about their own concerns and their specific household situations – how to improve their yard composting; whether the water in the borehole would not be contaminated by the compost pit; why burning plastic waste is dangerous for health, how to organize separate collection of waste, etc. They ask very practical questions, checking whether the experts accept as valid the information they have heard earlier from a neighbour or a relative or read somewhere.

Photograph 10: Question-and-answer session involving a local expert

In addition, involving experts in the project and letting them get close to people at the grassroots and be open to answering their questions brings more trust in the value of the expected results. It equally motivates the people to participate, and makes them feel comfortable to invest time and resources in the building of an innovative infrastructure in their household.

3.8 Advocacy Committee

The villages are not really independent. They do not have independent budgets; instead their budgets are managed by the Municipal Council and Municipal Administration. In some of the aspects (e.g. solid

waste management) the central government – the Ministry of Environment and Water, is the one taking the decisions. The quality control and monitoring functions relating to solid waste, wastewater management and health issues are concentrated in regional bodies – Regional Inspectorates for the Protection of Environment and Water, and Regional Inspectorates for the Control and Protection of Public Health. That is why the project needs to involve actively representatives of these institutions as well.

These professionals serve as a bridge between the project, the pilot communities and their institutions. They support the project with information, expert opinion, and assistance.

The members of the Advocacy Committee are invited to all project events, training events, and campaigns. They receive regular written information on the project development. The project team often meets them personally to provide oral information regarding developments and the issues that need to be solved. The Advocacy Committee meets occasionally to receive information and to be asked for assistance and support for solving specific issues. They are also the people who are in a position to influence the governmental and local policy as a whole. The Advocacy Committee is the body to lobby at regional and national level for turning the project pilots into a mass practice with the support of the national budget. They are in a position to influence the national and local policy with respect to better waste management.

3.9 Media Involvement

The media play a very specific role in the project, disseminating information to a large number of citizens all over the country, and building a positive image of the activities and intentions.

The journalists who really show interest in the issues are kept informed about developments. They are regularly invited to the various events of the project, and training. They are supplied with project publications and they are given opportunities to make interviews with key participants, guest experts, etc.

The media are very open and interested in the subject.

4. Conclusion

Rural sanitation – solid waste management, human excreta and manure management and wastewater management – is at very low level in Bulgaria, as well as in other Central and Eastern European Countries. A great deal of effort and appropriate funding are needed urgently to improve the daily lives of villagers – about 30% of the population of the region.

It is of extreme importance to raise the political profile of the issue and to raise the awareness of the decision-makers in this regard. Finally, it is necessary and important to include sanitation targets in the MDGs of the countries of the region, especially targets linked to rural development.

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