



Republic of Turkey Prime Ministry
State Planning Organization



Japan International Cooperation Agency

DEVELOPMENT STUDY ON ENVIRONMENTAL AWARENESS ON SOLID WASTE MANAGEMENT IN EASTERN BLACK SEA REGION

EXECUTIVE SUMMARY



GUMUSHANE



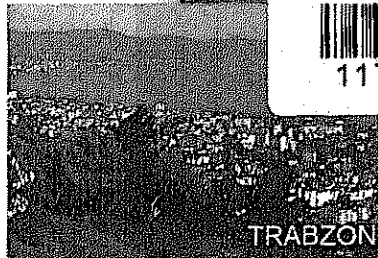
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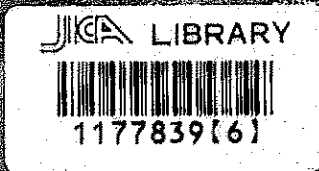
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TABLE OF CONTENTS

1	INTRODUCTION.....	2
1.1	Scope of the Study	2
1.2	Basic Approach of the Study.....	2
1.3	Methodology of the Study	3
1.3.1	Phase 1 – Preparation	4
1.3.2	Phase 2 - Implementation	4
2	ACTIVITIES OF PHASE 1.....	4
2.1	Evaluation of Current Environmental Awareness in the Region	4
2.2	Results of Phase 1.....	6
3	ACTIVITIES OF PHASE 2.....	7
3.1	Implementation of PPs.....	7
3.2	Preparation of an Action Plan on Environmental Awareness on SWM.....	7
3.3	JICA's Future Cooperation Projects.....	10
4	CONCLUSION AND SUGGESTIONS.....	10

ABBREVIATIONS

DOKÇEP	Eastern Black Sea Environment Platform
ISWM	Integrated Solid Waste Management
JICA	Japan International Cooperation Agency
KTU	Black Sea Technical University
KÇKGD	Environment and Culture Initiatives Association
KTU	Karadeniz Technical University
NGO	Non-Governmental Organization
PPs	Pilot Projects
PPCAP	Public Private Community Partnerships Approach
SCU	Study Coordination Unit
SPO	State Planning Organization
SIS	State Institute of Statistics
SWM	Solid Waste Management
TEMA	Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats
TR	Turkish Republic

1 INTRODUCTION

1.1 Scope of the Study

The coordination of the Development Study on Environmental Awareness on Solid Waste Management in Eastern Black Sea Region is executed with respect to the protocol signed between the State Planning Organization and JICA. The Study covers the center districts of six provinces from the region namely; Artvin, Giresun, Gümüşhane, Ordu, Rize and Trabzon. The Study includes the execution of various activities for raising environmental awareness on solid waste management and the promotion of 3R's (reduce, reuse and recycle) in Eastern Black Sea Region where solid waste disposal has become a significant problem.

With respect to its scope the objectives of the Study are to:

- Formulate an action plan for raising environmental awareness on SWM
- Conduct pilot projects that raises environmental awareness on SWM and carry out capacity building of stakeholders for it
- Formulate JICA's possible future cooperation project(s) on SWM.

1.2 Basic Approach of the Study

As a necessity of the sustainable development policies, SWM nowadays requires an integrated management understanding. In addition to being a daily problem for individuals, SWM has also economic and technologic dimensions which involve the current urban policies (i.e. land use, transportation). Since, as a concept, SWM has a complex structure, an integrated and comprehensive approach should be considered for the preparation of an action oriented SWM Plan.

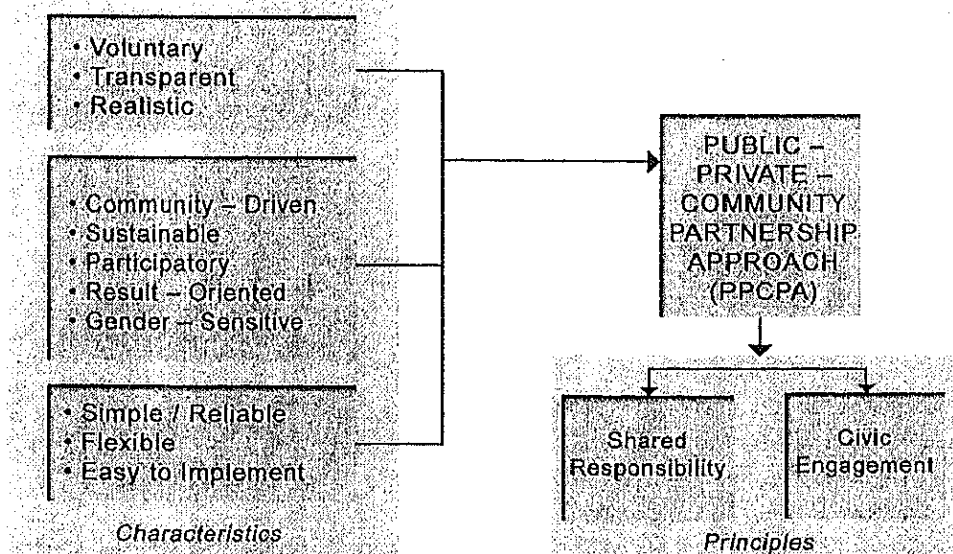
For the success of the Action Plan, environmental public awareness is one of the main instruments that will be used during the preparation and implementation phases of the Integrated Solid Waste Management (ISWM). ISWM, by its nature, requires "active participation in action" of the local people. This necessitates a new cultural commitment for lifestyles and consumption patterns. For this reason, environmental public awareness Action Plan was prepared in line with the social, economic and cultural characteristics of the local communities. Within this framework, for the preparation of environmental public awareness Action Plan, a deep knowledge of the structural characteristics and social tendencies of the study region were taken into consideration.

Raising the public awareness via civic engagement requires the utilization of a "Public-Private-Community Partnerships Approach" (PPCPA). The soul and/or feature of the basic principle of PPCPA is "shared responsibility". The basic characteristics of PPCPA are illustrated in Graphic 1 below.

The below-stated characteristics are *sine qua non* for a successful approach, in line with current international best practices in the field of environment.



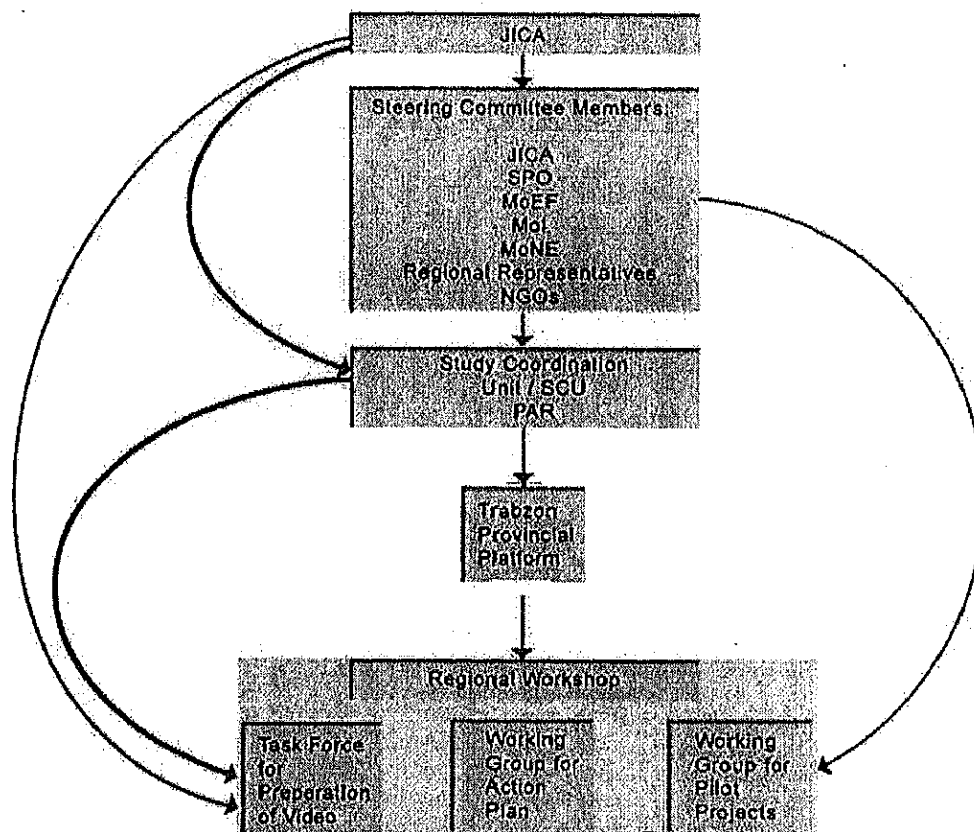
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Graphic 1 Conceptual Framework of Environmental Awareness Raising on SWM

1.3 Methodology of the Study

The study consists of two phases; preparation and implementation. While each phase of the study has its own methodological characteristics, an integrated and participatory approach was their common denominator. In line with the methodology, the institutional structure of the study, including the Steering Committee (SC), is given in Graphic 2 below.



Graphic 2 Institutional Structure of the Study

1.3.1 Phase 1 – Preparation

The studies and activities carried out under Phase One are:

1. Review of existing studies on SWM in study area
2. Data collection and field Investigation on SWM focusing on environmental awareness
3. Production of a video and VCD for raising environmental awareness
4. Evaluation of current environmental awareness on SWM
5. Preparation of an Improvement Plan of environmental awareness on SWM
6. Identification and preparation of Pilot Projects (PPs)

In addition to the above stated items, Introductory Meetings were held during 23-30 June 2004 in all six provinces, in order to introduce the study activities and objectives to stakeholders. Phase 1 was completed with the Regional Workshop held on 13 September 2004 in Trabzon at the Chamber of Architects. During this phase, the SC has assembled two times to follow study progress and actions taken.

1.3.2 Phase 2 - Implementation

The activities undertaken within Phase 2 are given below:

1. Implementation of PPs
2. Formulation of an action plan of raising environmental awareness on SWM
3. Formulation of JICA'S cooperation project(s)

In addition to the above mentioned tasks the final SC meeting was held on November 9, 2004 for the evaluation of the content of the draft final report. This Final Report was prepared by revising the draft final report with respect to the suggestions of the SC. Study results will be presented to the local stakeholders with a meeting to be held by SCU in December.

2 ACTIVITIES OF PHASE 1

Within the above stated tasks for Phase 1, research and reviews were made between May 16 and July 5 on existing reports regarding SWM. Between June 14 and July 25, a survey (including household questionnaires, deep interviews and focus group discussions) was carried out for the collection of data regarding SWM in the region. Six documentary videos which were thought to assist in raising environmental awareness on SWM were produced for the Study provinces. In addition to these, an Improvement Plan on SWM was developed and pilot projects were determined. The results of the evaluation made on the activities are presented below.

2.1 Evaluation of Current Environmental Awareness in the Region

The clearest conclusion that comes from desktop studies and site survey on Solid Waste Management in Eastern Black Sea Region is that the most important factor that determines the prevailing environmental awareness is the issue of wild dumping of solid waste in all human settlements of the region without any exception. All the coastal municipalities dispose their wastes either directly to the Black Sea or filling areas in the coast.

As for inland districts, they dump their solid wastes to open valleys or streambeds without taking any sanitary measure. Similarly, medical solid wastes are not collected in line with regulations and dumped in the same areas with domestic solid wastes.

For this reason, the environmental concern in the region focuses on the issue of sanitary disposal of solid waste.

This issue influences recycling practice that is also an important aspect of solid waste management system. To illustrate, some source separation and recycling projects are implemented in pilot scale in Trabzon including the significant number of institutions like KTU, State Hydraulic Works (DSI) and schools in the past. However, local people reported that all of these projects were finalized with frustration when people learned that the municipality was dumping these separately collected recyclables to the same place with domestic solid wastes. At this point, it is important to note that there is no sufficient market for these recyclable materials in the region.

Currently, municipalities in the region are trying to establish a modern and improved solid waste system instead of their conventional methods by developing new projects. For this target, some municipalities are trying to find the opportunity to come together in terms of a municipality union like Trabzon-Rize, and they are searching for financial resources for new solid waste projects through these unions.

Through their provincial directorates, Ministry of Environment and Forestry and Bank of Provinces are currently focusing on determining suitable sanitary landfill sites. In the scope of alternative sites research for sanitary landfill all over country, Bank of Provinces has recently completed preliminary works in the region. On the other hand, Provincial Directorates of Environment and Forestry have prepared more detailed research reports for alternative disposal sites.

The Solid Waste issue is also at the agenda of local NGOs. Environmental NGOs carry on studies on subject and frequently organize panels. In addition the issues stated above, professional organizations like the Chamber of Environmental Engineers publish technical reports on the subject matter.

The findings of the field survey indicate that solid waste disposal systems are in bad condition which makes it urgent to introduce improvements to prevent their harmful effects on human and environmental health. The majority of people living in the region recognize that the present system of solid waste disposal is insufficient and it constitutes to be one of the major environmental problems regarding SWM. As a result, it is absolutely necessary to transform these sites so as not to pose a threat for human and environmental health.

Taking into consideration that scattered wastes even worsen the existing conditions, informal waste collection from both landfills and containers must be replaced with a good functioning separation system.

Pilot work for recycling must be started. The absence of formal recycling facilities allows many people to collect wastes in informal ways from containers and landfills. The first step for a formal recycling mechanism can be taken by identifying prospective markets for recycled materials and starting a pilot project for it.

The working conditions in waste disposal service pose a great threat for the workers' health. These people do not use any protective equipment while doing their work. For example, they use their bare hands for transferring wastes from one place to another.

Considering that these wastes also include medical and other hazardous wastes, it is necessary to take relevant measures urgently to protect the health of these people.

Medical wastes must be stored in separate places and special conditions. In the region, medical wastes are kept with others without being sorted out. Since they involve high risk, such medical wastes must be stored at different places with the formal condition which these places are at least 3 kilometers away from inhabited areas.

People must be informed about waste collection days and hours to make the system run smoothly. Additionally, waste collectors of the municipalities emphasize on the problems faced due to the public's disobedience to waste collection hours. Household surveys and other interviews indicate that both waste producers and collectors need to be informed about the timing of waste collection services.

People who will be affected by new landfills envisaged by the projects must be informed about the issue. It is necessary to inform people about the superiority of new systems and techniques to the present system. There must be meetings in the field, informing people with the help of brochures about what solid waste management is and what benefits it will bring along.

2.2 Results of Phase 1

The activities under Phase 1 have been completed since the middle of September. Accordingly, as it was stated in the beginning of this report:

1. Reports and existing studies on SWM have been examined,
2. Six introduction meetings have been organized in each provinces and the stakeholders have been informed about the study,
3. A field survey covering six provinces was undertaken,
4. The existing studies and field survey results have been presented to the stakeholders in a regional workshop and have been improved,
5. A local NGO; KÇKGD has been assigned to coordinate the provincial platforms to be formed,
6. A training was given to KÇKGD regarding the 30 performance indicators developed by the SCU for the evaluation of pilot projects,
7. The draft video scenario was improved and presented to the video task force during the regional workshop, has been finalized with the new suggestions and video was completed,
8. In order to support the activities undertaken to increase the awareness on SWM, Aa brochure named "The Adventure of Wastes" was prepared and distributed,
9. A consensus was reached with the local stakeholders on the action plan, video scenario and pilot projects during the Regional Workshop held in Trabzon.

Having the activities undertaken since May comply with the prepared work plan and having established good relations with local stakeholders indicate that the study progress is inline with its objectives. The Study has not only reached six city centers but has also drawn the attention of other district's authorities who deal with SWM. The best example to be given to this issue would be the participation of other district municipalities who have joined the Regional Workshop.

These are namely; Hopa (mayor), Pazar (deputy of mayor), Çayeli, Fındıklı, Of, Çaykent, Kendirli, Ardeşen (deputy of mayor) and Akçaabat municipality representatives. This situation clearly indicates that the Study should not only be limited to the central district of each province but also include the other districts. All awareness raising campaigns should include both central and other districts due to the geographic and managerial structure of the waste problem. Although, this Study covers only central districts, the participation of high level local authority representatives to the workshop show the necessity of expanding the Study scope to the whole province.

It is clearly understood by the high participation to the Workshop and by the intensive interest that the region urgently requires a good SWM system. This is a primary need which has to be met for all groups that constitute the society. One of the most serious problems in the regional is that the existing landfill areas are inadequate and very limited. The issue of finding an appropriate landfill area turns out to be a chronic problem that stands in the way of raising environmental awareness on SWM.

3 ACTIVITIES OF PHASE 2

Phase 2 consists of three major activities, implementation of PPs, preparation of an Action Plan on environmental awareness on SWM and the future cooperation projects of JICA.

3.1 Implementation of PPs

Among a group of PPs it was decided that six PPs be implemented in Study area. The PPs found appropriate for implementation are:

1. Giving seminars on Eco-school program to schools in the study area with cooperation of TURCEV
2. Organizing slogan and logo competitions
3. Organizing field trips with the municipalities to waste dumping sites
4. Arrangement of recyclable waste collection points
5. Imams delivering special Friday speech on "garbage problem"
6. Discussion program about SWM on local TV

The implementation of above stated PPs was initiated in the beginning of October and finalized during mid- November.

3.2 Preparation of an Action Plan on Environmental Awareness on SWM

The draft Action Plan prepared for raising awareness on SWM in the region was discussed with the regional stakeholders during the Regional Workshop held during phase one. Ideas and feasible suggestions were included and therefore the Action Plan was revised accordingly. After the completion of the pilot projects realized in phase two, the Action Plan was revised once more for final justifications. The finalize Action Plan is presented below.

Finalized action plan for raising environmental awareness on SWM

ACTION PLAN			
Action	Content	Stakeholders	Time Schedule
Establishment of proper discharge and collection system	<p>Discharge</p> <ul style="list-style-type: none"> • Domestic SW • Medical SW • Industrial SW <p>Collection*</p> <ul style="list-style-type: none"> • Domestic SW • Medical SW** • Industrial SW <p>* Ensuring that the collection hours are announced regularly both for the waste producers and collectors. It is important that these hours are adopted.</p> <p>** It is crucial that medical waste collectors are provided with special clothing</p>	<ul style="list-style-type: none"> • Municipalities, municipality unions • SW producers 	Permanent
Raising public awareness on environmental conservation	<ul style="list-style-type: none"> • Preparing brochures, posters, videos, radio and TV spots for local media, etc. for the introduction of cultural historical and natural assets that are affected from SW problem, making announcements during football games, including slogans to tickets of football games, theatres and cinemas. Showing the good examples and applications in other regions. • Announcement of an annual "Environment Cleaning Week". • To undertake "Cleaning Campaigns" in quarters throughout the year • Executing pilot applications regarding environmental conservation in quarters, selecting the most successful quarter and rewarding them with building children parks for further motivation 	<ul style="list-style-type: none"> • Municipalities • Local branches of central government • Local media • Local NGOs • Universities • Professional organizations (i.e. chamber of environmental engineers, chamber of industry and commerce, union of medical doctors, sports clubs) 	<p>Launching phase: 1 month</p> <p>Dissemination phase: 3 months</p> <p>Repetition of the campaign for one month every year</p>
Promotion of 3Rs	<ul style="list-style-type: none"> • The above stated tools will also include information on the promotion of 3Rs. Public and private sector applications regarding 3Rs will be introduced to public via meetings and platforms. Emphasizing on the economical advantages of 3R, both for implementers and SW producers • Establishing second hand fairs within provinces • Establishing a Waste Line (telephone system for paper, glass etc.) system • Creating voluntary second hand stores in quarters 	<ul style="list-style-type: none"> • Municipalities, municipality unions • NGOs • Private sector 	3 months
Establishment of environmental education and training	<ul style="list-style-type: none"> • Implementing Eco-school program in cooperation with TURÇEV to foster the 3R activities, composting, etc. and promoting Twinning Schools (joining the work force of two different schools in order to create synergy for collaboration on environmental issues) applications. • Drama and play activities, picnics • Creation of website and establishing e-groups for exchanging information on SW • Training for self-assessment and reviewing of the current policy on SWM of the institution and preparing a "Declaration for 3Rs" • Interactive training of decision makers on "National and International Responsibilities and Commitments" • Training NGOs on preparing and executing 3R micro campaigns • Sending cell phone messages related to SWM 	<ul style="list-style-type: none"> • Provincial Directorate of Ministry of National Education • NGOs • Universities • Private sector 	<ul style="list-style-type: none"> • For the primary and secondary education part of the permanent environmental curriculum • Annually 3 weeks, starting with the "Environment Cleaning Week"

ACTION PLAN			
Action	Content	Stakeholders	Time Schedule
	<ul style="list-style-type: none"> • Hanging posters to internet cafes and cafes • Interactive trainings on domestic SW and daily life solutions for women • Training on waste exchange market for private sector • Training of janitors • Interactive training of decision makers on "National and International Responsibilities and Commitments on SWM" • Training local media on SWM 		
Capacity building of stakeholders	<ul style="list-style-type: none"> • Organizing six platforms in each province. • Giving responsibility to local NGOs to coordinate platforms and activities. • Training NGOs for the monitoring and evaluation of PPs and action plan implementation. • To provide local authorities with information and data on SWM and SWM awareness campaign. 	<ul style="list-style-type: none"> • Local authorities • NGOs 	6 months
Getting the private sector involved	<ul style="list-style-type: none"> • Finding private sponsors for PPs. • Developing mechanisms for private sector funding for recycling. • Increasing awareness for SWM in the private sector • Attracting the attention of private sector by informing them on Waste exchange market and the economic value of wastes • Providing that Municipalities give initiatives to entrepreneurs in collecting recyclable wastes 	Individual private sector companies and their associations and organizations	6 months
Establishment of a regional database on SWM	SWM data collected from throughout the study will be presented for public use via website.	Project Coordination Unit	6 months
Establishment of a sustainable information and communication system on SWM	<ul style="list-style-type: none"> • Establishment of a website • Press releases • Preparing news bulletins on SWM 	<ul style="list-style-type: none"> • Project Coordination Unit • Local authorities • NGOs 	6 months
Networking on SWM awareness raising	Information and experience exchange and corporation of all stakeholders through Province Platforms	All stakeholders	Permanent
Providing public through a transparent process of the new SWM projects and their cost	<ul style="list-style-type: none"> • Put the expenditure for SWM and the unit cost for each service in the website, bulletins and local media • Share the cost of proposed new environmentally sound investments cost figures through website, bulletins and local media • Inform the public regularly about the new actions and tenders for SWM 	<ul style="list-style-type: none"> • Municipalities • Local authorities 	Permanent
Development of performance indicators for monitoring and evaluation of action plan	<ul style="list-style-type: none"> • Development of performance indicators • Training of platform coordinating NGOs • Performing monitoring and evaluation 	<ul style="list-style-type: none"> • Project Coordination Unit • Coordinating NGOs 	<ul style="list-style-type: none"> • For development of indicators: 15 days • For training of NGOs: 2 days • For monitoring and evaluation: 15 days per year

3.3 JICA's Future Cooperation Projects

With respect to the activities, field survey and interviews undertaken within the Study, some future cooperation projects on awareness raising on SWM have been determined for JICA. These projects which cover eight different fields are stated below.

- Preparing comprehensive and integrated SWM action plans for six provinces
- Training for the senior level municipality staff
- Training of technical staff in local governments
- Special awareness raising studies conducted for medical / hazardous wastes
- Capacity building and strengthening of local NGOs
- Creation of an interactive website
- Supporting the Eco-school program lead by TURÇEV

4 CONCLUSION AND SUGGESTIONS

Development Study on Environmental Awareness on Solid Waste Management was initiated during May 2004 and was finalized in six months at the end of November 2004, as planned, after the completion of the 9 tasks realized within the two phases.

The approach of the Study, considers not only the characteristics of solid waste management but also the requirements of an awareness raising study. In order for an awareness raising study to achieve its goals, new data should be produced and disseminated. Parallel to this, people need to be included in the applications undertaken for SWM in order to gain practical experiences. For this reason, a field survey (questionnaires, deep interviews, focus group discussions) was conducted and desktop studies (reviewing related reports, articles and legislations) were carried out for data collection. Meetings, brochures, a web site and videos were produced for the dissemination of these data. The pilot projects undertaken within the second phase of the Study created an opportunity to ensure the participation of various stakeholders (in person) and gain practical experience regarding the issue.

In this respect, having utilized an integrated and participatory approach which is the common denominator for the whole Study, all activities undertaken within the Study have reached great success. As it was predicted in the beginning, the Study was carried out through the voluntary participation of all stakeholders that developed a strong participatory mechanism. In this respect, the utmost success of the Study can be referred to as cooperation based on participation and volunteerism. This cooperation was realized in two aspects. The first one is the Regional and Provincial Platforms formed to ensure sustainability regarding the collaboration between local NGOs especially on solid waste issues. In addition to encouraging these platforms to take active roles during every phase of the Study, it has also contributed in strengthening the capacities of these NGOs by ensuring sustainability of their cooperation on solid wastes. At this point, it is of utmost importance to say that this Study is the first to be realized under this context at a regional level in Turkey. It was a known fact that these local NGOs were already cooperating with each other on common environmental problems. However, this cooperation was conducted only through conferences, press statements, panel discussions and meetings. Therefore, this Study is again the first study in providing an atmosphere for the local NGOs to active roles and initiatives in planning, coordinating, implementing and evaluating activities other than just being participants of a platform.

For this reason, the Study should be considered as a good practice for it has tested the traditional organizing habit of the region through an actual implementation and also has contributed in strengthening the capacity of local NGOs.

The second success of the Study regarding participation and volunteerism is that it has completed both two phases with respect to the "Public-Private-Community Partnerships Approach" (PPCPA). This Study can be considered to be a first step in ensuring synergy among its stakeholders for solving SWM problems by triggering them for a common responsibility. It is important to state here that, it is crucial to extend the existing capacity in a manner so that the participation/contribution of private sector is increased. It is a pleasing improvement that the private sector is willing to take active role in the applications of raising environmental awareness on SWM. Additionally, specific cooperation works must be initiated among the private and public sector for concrete applications such as establishing a waste line (telephone system).

Another issue that requires cooperation is to mainstream women citizens in society to carry out events regarding SWM. The pilot projects executed within this Study were not determined as specific projects which enable women to take active participation. In this context, women have participated to the activities in all phases. However, this participation does not reach the expected level of action from women considering that they have an important role in raising awareness on SWM. To take into consideration that women have a big role during the reduction and separation of household wastes, a similar future study (if conducted) should include pilot projects that focus on women taking active roles within the projects.

Considering the fact that children and youth play an important role in the dissemination of information, two of the pilot projects were designed to focus on children and youth. It is a fact that, children and youth not only affect each other but also have an influence on their families in concretizing and disseminating the environmental awareness on SWM. In this respect, the Eco-schools project and the competition on logo and slogan were designed and implemented. High participation to the competition and messages given with the slogan and logos are indicators that the above stated strategy is appropriate.

On the other hand, one of the major difficulties, that in some ways affected the performance of the Study, was that it was carried out as if it were a part or component of a regional/local Integrated Solid Waste Management (ISWM) program, however the region does not have an existing ESWM program. Awareness raising studies realized under an ISWM system will have an opportunity to achieve greater success with the advantages that an ISWM system provides. In fact, the biggest problem faced during the Study was the affects of the qualm that the solid waste landfill area and disposal problem has brought up. Especially the doubt that separately collected wastes will end up in the same landfill area that normal wastes are stored is one of the biggest bottlenecks in front of raising awareness on the issue. Consequently, similar studies should be prepared and implemented as a component of an ISWM plan. In contrast, if similar awareness raising studies are to be carried out without an existing ISWM plan then, it is suggested that less pilot projects be conducted and that they should be realized as periodical campaigns that can be repeated. It is of great importance that the selection of pilot projects should be done by considering they give initiatives and active role in the project to their target group. Of course, it should not be underestimated that the success of pilot projects increase parallel to the time and budget allocated for them.

As a result, the Study was executed in success with respect to the approach adopted in the beginning, ensuring the participation and cooperation of all stakeholders and with the active participation of regional and provincial platforms. This fact has also been proved with the performance evaluation carried out by the relevant stakeholders.

