

# Karadeniz

26 HAZİRAN 2004 CUMARTESİ

www.karadenizgazetesi.com

KDV DAHİL 300.000 TL

## Katı atığa çözüm

**T**rabzon Valiliği'nde Doğu Karadeniz Bölgesi'nde Katı Atık Yönetimi Konusunda Çevre Bilinci Geliştirme Çalışması ile ilgili olarak bir toplantı yapıldı. Toplantıda Japonya Uluslararası İşbirliği Ajansı (JICA) ve Par Danışmanlık yetkilileri, Trabzon Vali Vekili Erdoğan Aygün, ilgili bürokrat ve sivil toplum örgütü temsilcilerine çalışmalar hakkında bilgi verdi.

**Herkese görev düşüyor**

Trabzon Vali Vekili Erdoğan Aygün, çöp sorununun Trabzon'un en önemli sorunlarından biri olduğunu belirterek, "Bu konuda bütün kuruluşlara görev düşmektedir. Uzun yıllardan beri Trabzon'un en önemli sorunlarının başında gelen çöp sorunu, bugüne kadar çözülmemiş ama bundan sonraki dönemlerde yapılan çalışmalarla ciddi anlamda çözülme aşamasına girmiştir" dedi.

Par Danışmanlık Yönetim Kurulu Başkanı Bülent Özgün ise Doğu Karadeniz Bölgesi'nde Katı Atık Yönetimi Konusunda Çevre Bilinci Geliştirme Çalışması'nın yürütülmesi projesinin 6 ilde gerçekleştirileceğini söyledi. Özgün, Artvin, Giresun, Gümüşhane, Ordu, Rize ve Trabzon il merkezlerinde katı atık yönetimi konusunda çevresel bilincin artırılmasını hedeflediklerini kaydederek, "Bu bağlamda, azaltma, yeniden kullanım ve geri kazanımın teşvik edilmesi, ilgili kampanyaların düzenlenmesi ile JICA'nın ileride çalışma bölgesinde yapmayı planladığı diğer çalışmalara da destek verecek. Katı atık yönetimine ilişkin bir çevresel bilinç aşılanacaktır. Çalışma süresince, yurttaş katılımı yoluyla kamu bilinci aşıla-

mak açısından oldukça önemli olduğunu düşündüğümüz Kamu-Özel-Halk Ortaklığı Yaklaşımı (KOHÖY) ele alınacaktır. Buna göre yerel halkın, kamu ve özel kesimin katılımı ile birlikte şeffaf bir yaklaşım desteklendiği gibi çalışmanın sürdürülebilirliği de sağlanmış olacaktır" dedi.

**Amaç, Çevre bilincini geliştirmek**

PAR Danışmanlık Uzmanı Nesrin Algan projenin amaçları ve uygulanması aşamaları hakkında bilgi vererek, "Bizim eylem planı yerel yönetimlerimiz ve stölerin ortaklaşa bundan sonra kısa, orta, uzun vadede bu bilinci yükseltmek için neler yapacağına 11 başlık altında ortaya koyacak. Yapmakta olduğumuz çalışmalarda üniversite, belediye ve sivil toplum örgütlerini de katarak sistematik bir şekilde daha derli toplu bir çalışma olacak" dedi. Algan, ilköğretim ve lise öğrencileri için slogan yarışmaları düzenleyerek Katı Atık Yönetimi Alanında Çevre bilincini geliştirme çalışmalarına bölgedeki gençlerin ilgisini çekmeyi ve çalışmanın yerel halka mal olmasına katkıda bulunmayı amaçladıklarını kaydetti.

Algan, planlanan pilot projelerin ise Eko okullarla eğitim verilmesi, yarışmalar düzenlenmesi, belediyeler ile birlikte çöp depolama alanlarına saha gezileri ayarlanması, geri dönüştürülebilir atıklar için toplama noktalarının oluşturulması, imamların Cuma vaazında çöp problemine yönelik konuşma yapmaları ile yerel tv'lerde KAY hakkında tartışma programı yapılmasının olduğunu da ifade etti.

## KATI ATIK YÖNETİMİ VE ÇEVRE BİLİNCİ TOPLANTISI İLİMİZDE DE YAPILDI

DPT Müsteşarlığı, Japon Uluslararası İşbirliği Ajansı (JICA) arasında yapılan protokol çerçevesinde

"Doğu Karadeniz Bölgesi Katı Atık Yönetiminde LİK A.Ş. tarafından yürütülmektedir."

Bu amaçla 28 Haziran

Pazartesi günü saat 09.30 da Valilik, 10.00 da Belediye Başkanlığı ziyaret edilmiş, 10.45 de de Belediye Kriz Merkezi Salonunda ve Vali Yrd. Nihat Karabiber'in başkanlığında bir toplantı yapılmıştır. Toplantıya konuşmacı olarak katılan Bülent Özgün ve Doç. Dr. Nesrin Algan konuya ilişkin ayrıntılı bilgiler sunmuşlardır. Vali Yard. ve Vali V. Nihat Karabiber'in bir değerlendirme konuşması yaptığı ve katılımcıların çevreyi kirletmeden ve bir sıkıntı da yaratmadan toplanmasının

sağlanması konusunda görüşlerin değerlendirildiği toplantıya Belediye Fen İşleri Müdürü, İl Sağlık Müdürlüğü, Milli Eğitim Müdürlüğü, Sosyal Sigortalar

Devamı 6 da



## Çöp bilinci yok

□ Gökhan DİHKAN

**Trabzon-** Koordinasyonunu DPT'nin yaptığı, JICA tarafından finanse edilen Par Danışmanlık'ın yürüttüğü Doğu Karadeniz Bölgesi'nde Katı Atık Yönetimi. Konusu'nda Çevresel Bilinci Geliştirme Çalışması'nın bölgesel toplantısı dün Trabzon Mimarlar Odası'nda gerçekleştirildi.

Par Danışmanlık Genel Müdürü Bülent Özgün ile Proje Koordinasyon Sorumlusu Doç Dr. Nesrin Algan toplantıda yaptıkları konuşmalarda çevre bilinci geliştirme çalışması kapsamında Doğu Karadeniz'de Trabzon, Giresün, Rize, Gümüşhane, Ordu ve Artvin illerini içersine alan ve 1750 hane halkı üzerinde yapılan anket sonuçlarında hayal kırılgına uğradıklarını söyledi.

Doç. Dr. Nesrin Algan anket sonuçlarının Doğu Karadeniz Bölgesi'nde herhangi bir sivil toplum kuruluşuna nüfus oranına göre üye olma noktasında yaşanan sıkıntıyı gözler önüne serdiğini belirterek, 'Bu anket sonuçlarında beni en çok üzen bölgede herhangi bir sivil toplum kuruluşuna bölge nüfusuna oranla üye olmanın yüzde 3 düzeyinde kalması oldu. Bu beni oldukça üzdü. Bu durum insanımızın demokratik katılımcı ve elini taşın altına koyma geleneğinden ne kadar uzak olduğunu gösteriyor. Karadenizlileri kendi toprağına sahip diye bilirdim. Ama maalesef bu durum beni hayal kırıklığına uğratmıştır' dedi.

Program Yürütücüsü Par Danışmanlık'ın Yönetim Kurulu Başkanı Bülent Özgün ise çalışmalara başlamadan önce kamu kurum ve temsilcileriyle yaptıkları toplantıda katı atık konusunda 'bilinçli bir toplumla karşı karşıyayız' intibasını edindiklerini belirterek, 'Ancak bin 750 hanede yaptığımız anket sonuçlarında katı atık-çöp sorununun üçüncü sırada olduğunu gördük. Birinci sırayı kanalizasyon alırken, ikinci sırayı içme suyunun aldığını gözlemledik. Çöp depolama sorunu olduğunu ise çöpün döküldüğü mahallere yakın insanlar fark ediyor. Trabzon yerleşim açısından yukarılara doğru yayılmış. Vatandaş sahile inmiyorsa bu katı atık sorunundan haberdar olmuyor. Vatandaşın yukarı yerleşim yerlerinde çöple olan ilişkisi bitiyor. Bu sorunu insanlara mutlak surette duyurmamız gerekiyor. Katı atık konusunda bir sonuç almak istiyorsak halkın katı atık çöp sorununu problem anlamında birinci sıraya koyması gerekiyor' ifadelerine yer verdi.

Çevre Bilinci Geliştirme Çalışması kapsamında Doğu Karadeniz Bölgesi'nde çöp konusunda çevre bilincinin yükseltilmesi, buna bağlı olarak pilot projeler uygulanması, alanda çalışan yerel kuruluşlar için kapasite geliştirici çalışmalar ve JICA'nın gelecekte destek olabileceği olası projelerin belirlenmesi amaçlanıyor.

# T

ERZ...

'in Gözü, Kulağı, Sesi

GÜNLÜK SİYASİ GAZETE

# TÜRKSESİ

14 EYLÜL 2009 SALI

www.turksesigazetesi.com

Kuruluş Tarihi: 23 Haziran 1975

200.000 TL

## Katı atık tehdit ediyor

Koordinasyonunu Devlet Planlama Teşkilatı'nın (DPT) yaptığı ve Japonya Uluslararası İşbirliği Ajansı (JICA) ile PAR Danışmanlık Şirketi tarafından düzenlenen 'Doğu Karadeniz Bölgesi'nde Katı Atık Yönetimi Konusunda Çevre Bilincini Geliştirme Çalışması' konulu toplantı Trabzon, Ordu, Giresun, Rize, Artvin ve Gümüşhane illerinden de katılımcılarla Trabzon'da yapıldı.

Mimarlar Odası Trabzon Şubesi'nde düzenlenen toplantının açılışında, aynı zamanda Çalışma Koordinasyon Birimi'nde görevli olan Ankara Üniversitesi (AU) Siyasal Bilgiler Fakültesi (SBF) Çevre Bilim Anabilim Dalı Öğretim Görevlisi Doç. Dr. Nesrin Algan, program hakkında bilgi verdi.

Çalışmanın Doğu Karadeniz Bölgesi'nde katı atık yönetimi konusunda çevresel bilincin artırılmasının hedeflediğini belirten Algan, toplam süresi 6 ay olan projenin iki aşamadan oluştuğunu söyledi.

Katı atık probleminin Türkiye genelinde büyük bir problem olduğunu kaydeden Algan, "Bu sorun Doğu Karadeniz Bölgesi için de önemli bir sorun

olarak karşımıza çıkmaktadır. Ülkemizde katı atıkların toplanması, taşınması ve uygun şartlarda bertarafıyla, kamu kurum ve kuruluşları ile belediyeler sorumludur. Belediyeler, genelde bu işlemin toplama ve taşıma aşamalarında başarılı olmalarına rağmen, teknik ve finansal kaynakların yetersizliğinden dolayı geri kazanım, yeniden kullanımı, azaltma tedbirleri ve uygun bertaraf faaliyetleri ile ilgili problemler yaşamaktadırlar. Buna ek olarak Doğu Karadeniz Bölgesi'nin coğrafi yapısı gereği uzun vadede kullanılabilecek uygun depolama alanları tahsis edilememekte ve katı atık vahşi depolama ile sağlıksız koşullarda bertaraf edilmeye çalışılmaktadır" diye konuştu.

Doç Dr. Nesrin Algan, JICA tarafından finanse edilen ve PAR Danışmanlık tarafından yürütülen çalışmanın öncelikli amaçlarını şu şekilde sıraladı:

"Doğu Karadeniz Bölgesi'nde çöp ve katı atık konusunda çevre bilincinin yükseltilmesi ve bir eylem planı oluşturulması, bu bilincin yükseltilmesine yönelik pilot projeler uygulanması, bu alanda çalışan yerel kuruluşlar için kapa-

site geliştirme çalışmaları yapılması ve JICA'nın gelecekte destek verebileceği muhtemel projelerin belirlenmesi ile bunlarla ilgili verilerin hazırlanması."

Daha sonra söz alan Katı Atık Yönetimi Çevresel Bilinç Geliştirme Bölgesel Platform Koordinatörü Mustafa Yazıcı ise, Doğu Karadeniz Bölgesi'ndeki 309 belediyenin 8 milyon kişiye hizmet verdiğini hatırlatarak, "Bu belediyeler, günde yaklaşık 55 bin ton çöp toplamaktadır. Şehir merkezlerinden günde Trabzon 150, Ordu 100, Giresun 80, Rize 60, Artvin ve Gümüşhane'den de yaklaşık olarak 60 ton çöp toplanmaktadır.

Toplanan bu tonlarca çöp ayrıştırılmadan, geri kazandırılmadan çevreyi kirlletmeye, öldürmeye devam ediyor. Trabzon, bu yüzden denizden bugün 800 metre uzaklaşmıştır" şeklinde konuştu.

Çöplere atılacak değil, ayrıştırılıp geri kazandırılacak maddeler olarak bakılmadıkça, sorunu çözenin mümkün olmadığını altını çizen

Yazıcı, "Gelişmiş ülkeler çöptü bir zenginlik kaynağı olarak görmekte ve toplanan çöpleri ayrıştırarak kullanmaktadır. Bizler, çöptü kaynağında ayrıştırmadan çevreye geliştirel bırakmaya devam edersek, yakın bir gelecekte oluşacak çöp dağları arasında nefes alamaz duruma geleceğiz. Bu noktada yerel yönetimler bu konulara daha duyarlı yaklaşmalı ve hazırlanan projeleri dikkate almalıdırlar. Halkımızı da yakından ilgilendiren bu sorunu, çevreci kuruluşların da katkısıyla çözüme kavuşturmak zorundayız" dedi.

Toplantının ikinci bölümünde ise Trabzon, Ordu, Giresun, Rize, Artvin ve Gümüşhane illerinden katılımcılar, oluşturdukları gruplar ile yapılması planlanan faaliyetlerle ilgili sunumlar yaptılar. Çalışmanın ikinci aşamasını ise düzenlenen toplantılar sonucunda ortaya çıkan pilot projelerin uygulanması ve çevresel bilincin artırılmasına yönelik bir eylem planının formüle edilmesi oluşturuyor."

# Karadeniz Haber

14 EYLÜL 2004 SALI

Günlük Siyasi Gazete

www.karadenizhaber.com FİYATI: 300.000

Doğu Karadeniz'de katı atık yönetimi konusunda Çevresel Bilinci Geliştirme Toplantısı yapıldı

## 5 ilden temsilci katıldı

Doğu Karadeniz Bölgesi'ndeki 309 belediye'nin gündünde yaklaşık 55 bin ton çöp topladığı belirtilerek, bu çöplerin ayrıştırılmadan ve geri kazandırılmadan çevreye bırakılmasının büyük zararlara yol açtığı bildirildi.

tesisi (AÜ) Siyasal Bilgiler Fakültesi (SBF) Çevre Bilim Anabilim Dalı Öğretim Görevlisi Doç. Dr. Nesrin Algan, program hakkında bilgi verdi.

Çalışmanın Doğu Karadeniz Bölgesi'nde katı atık yönetimi konusunda çevre-

teknik ve finansal kaynakların yetersizliğinden dolayı geri kazanım, yeniden kullanımı, azaltma tedbirleri ve uygun bertaraf faaliyetleri ile ilgili problemler yaşanmaktadır. Buna ek olarak Doğu Karadeniz Bölgesi'nin coğrafi yapısı gereği uzun vadede kullanılacak uygun depolama alanları tahsis edilememekte ve katı atık vahşi depolama ile sağlıksız koşullarda bertaraf edilmeye çalışılmaktadır" diye konuştu.

Doç. Dr. Nesrin Algan, JICA tarafından finanse edilen ve PAR Danışmanlık tarafından yürütülen çalışmanın öncelikli amaçlarını şu şekilde sıraladı: "Doğu Karadeniz Bölgesi'nde çöp ve katı atık konusunda çevre bilincinin yük-

selilmesi ve bir eylem planı oluşturulması, bu bilinci yükseltmesine yönelik pilot projeler uygulanması, bu alanda çalışan yerel kuruluşlar için kapasite geliştirici çalışmalar yapılması ve JICA'nın gelecekte destek verebileceği muhtemel projelerin belirlenmesi ile bunlarla ilgili verilerin hazırlanması."

Daha sonra söz alan Katı Atık Yönetimi Çevresel Bilinci Geliştirme Bölgesel Platform Koordinatörü Mustafa Yazıcı ise, Doğu Karadeniz Bölgesi'ndeki 309 belediyenin 8 milyon kişiye hizmet verdiğini hatırlatarak, "Bu belediyeler, günde yaklaşık 55 bin ton çöp toplamaktadır. Şehir merkezlerinden günde Trabzon 150, Ordu 100, Giresun 80, Rize 60, Artvin ve Gümüşhane'den de yaklaşık olarak 60 ton çöp toplanmaktadır. Toplanan bu tonlarca çöp ayrıştırılmadan, geri kazandırılmadan çevre-

yi kirlletmeye, öldürmeye devam ediyor. Trabzon, bu yüzden denizden bugün 800 metre uzaklaşmıştır" şeklinde konuştu.

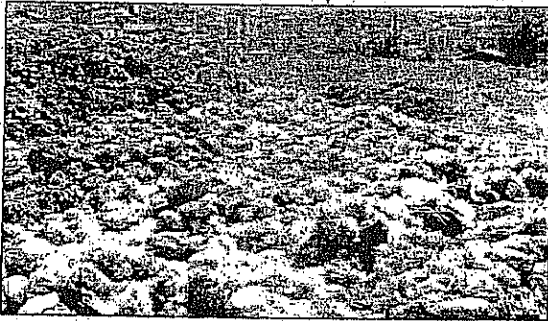
Çöplere atılacak değil, ayrıştırılıp geri kazandırılacak maddeler olarak bırakılmadıkça, sorunu çözmenin mümkün olmadığını altını çizen Yazıcı, "Gelişmiş ülkeler çöplü bir zenginlik kaynağı olarak görmekte ve toplanan çöpleri ayrıştırarak kullanmaktadır. Bizler, çöplü kaynağın da ayrıştırılmadan çevreye gelişigüzel bırakmaya devam edersek, yakın bir gelecekte oluşacak çöp dağları arasında nefes alamaz duruma geleceğiz. Bu noktada yerel yönetimler bu konulara daha duyarlı yaklaşmalı ve hazırlanan projeleri dikkate almalıdırlar. Halkımızı da yakından ilgilendiren bu sorunu, çevreci kuruluşların da kat-



Doç. Dr. Nesrin Algan

kısıyla çözüme kavuşturmak zorundayız" dedi.

Toplantının ikinci bölümünde ise Trabzon, Ordu, Giresun, Rize, Artvin ve Gümüşhane illerinden belediye başkanları, oluşturulan grupları ile yapılmış planlanan faaliyetlerle ilgili konuşumlar yaptılar. Çalışmanın ikinci aşamasını ise düzenlenen toplantılar sonucunda ortaya çıkan pilot projelerin uygulanması ve çevresel bilinci artırılmasına yönelik bir eylem planının formül edilmesi oluşturuyor.



Koordinasyonunu Devlet Planlama Teşkilatı'nın (DPT) yaptığı ve Japonya Uluslararası İşbirliği Ajansı (JICA) ile PAR Danışmanlık Şirketi tarafından düzenlenen 'Doğu Karadeniz Bölgesi'nde Katı Atık Yönetimi Konusunda Çevre Bilincini Geliştirme Çalışması' toplantısı Trabzon, Ordu, Giresun, Rize, Artvin ve Gümüşhane illerinden de katılımcıların Trabzon'da yapıyor. Mimarlar Odası Trabzon Şubesi'nde düzenlenen toplantının açılışında, aynı zamanda Çalışma Koordinasyonu Birimi'nde görevli olan Ankara Üniversitesi

sel bilincin artırılmasını hedeflediğini belirten Algan, toplantı süresi 6 ay olan projenin iki aşamadan oluştuğunu söyledi. Katı atık probleminin Türkiye genelinde büyük bir problem olduğunu kaydeden Algan, "Bu sorun Doğu Karadeniz Bölgesi için de önemli bir sorun olarak karşımıza çıkmaktadır. Ülkemizde katı atıkların toplanması, taşınması ve uygun şartlarda bertarafıyla, kamu kurum ve kuruluşları ile belediyeler sorumludur. Belediyeler, genelde bu işlemin toplama ve taşıma aşamalarında başarılı olmalarına rağmen,

se edilen ve PAR Danışmanlık tarafından yürütülen çalışmanın öncelikli amaçlarını şu şekilde sıraladı: "Doğu Karadeniz Bölgesi'nde çöp ve katı atık konusunda çevre bilincinin yük-



Toplantıya Karadeniz Bölgesi'ndeki 5 ilden çok sayıda temsilci katıldı.



### ANNEX 3: STEERING COMMITTEE MEMBERS

- **Ahmet Yaman**  
Undersecretariat of SPO  
GD of Regional Development and Structural Adjustment  
General Director
- **Nevin Sorgu**  
Undersecretariat of SPO  
GD of Regional Development and Structural Adjustment  
Head of Department
- **Taner Kavasoęlu**  
Undersecretariat of SPO  
GD of Regional Development and Structural Adjustment  
Planning Expert
- **Belma stnşık**  
Undersecretariat of SPO  
GD of Social Sectors and Coordination  
Planning Expert
- **Arzu zbay**  
Undersecretariat of SPO  
GD of Social Sectors and Coordination  
Assistant Expert
- **Hafize Zlfl**  
Ministry of Interior  
GD of Local Authorities  
Section Director
- **Ahmet Mahir Erdem**  
Ministry of Environment and Forestry  
GD of Environmental Management  
Head of Department of Waste Management
- **Ercan Trk**  
Ministry of National Education  
Department Directorate of Research, Planning and Coordination  
Head of Department
- **Mitsuo Nakamura**  
JICA Turkey Office  
Resident Representative
- **Makoto Ashino**  
JICA Turkey Office  
Deputy Resident Representative
- **Susumu Shimura**  
JICA  
Solid Waste Management Expert
- **Katsumi Uchida**  
Undersecretariat of SPO  
JICA Expert (Observer)
- **Ali Bekin**  
JICA Turkey Office  
Administrative Officer
- **Eser Canallioęlu**  
JICA Turkey Office  
Assistant Researcher

- **Mehmet Ali Yarıř**  
Ministry of Health  
Department Directorate of Research, Planning and Coordination  
Advisor to Minister
- **Osman Ayık**  
Artvin Municipality  
Director of Scientific Affairs
- **Selim Özgürel**  
Giresun Municipality  
Construction Directorate, City Planner
- **Bayram Karakoç**  
Gümüşhane Municipality  
Director of Cleaning Services
- **Uğur Arslan**  
Ordu Municipality  
Director of Cleaning Services
- **Mehmet Çolakoğlu**  
Rize Municipality  
Deputy Mayor (Technical Affairs)
- **Ayşegül Nuhoğlu**  
Trabzon Municipality  
Director of Environment and Cleaning Services
- **Ali Rıza Uzuner**  
KÖK Association  
President
- **Mustafa YAZICI**  
Black Sea Environmental and Cultural Initiatives Association  
President
- **Coşkun Eruz**  
Eastern Black Sea Environment Platform (DOKÇEP)  
Deputy General Secretary

**ANNEX 4: QUARTERS (MAHALLE) INCLUDED IN THE QUESTIONNAIRE SAMPLING**

Province	Frequency	Percent	Valid Percent	Cumulative Percent
Artvin	100	5,7	5,7	5,7
Giresun	300	17,1	17,1	22,9
Gümüşhane	100	5,7	5,7	28,6
Ordu	350	20,0	20,0	48,6
Rize	250	14,3	14,3	62,9
Trabzon	650	37,1	37,1	100,0
Total	1.750	100,0	100,0	

Quarter	Frequency	Percent	Valid Percent	Cumulative Percent
Çamlık	25	1,4	1,4	1,4
Çarşı	25	1,4	1,4	2,9
Orta	25	1,4	1,4	4,3
Yeni	25	1,4	1,4	5,7
Aksu	25	1,4	1,4	7,1
Çıtlakkale	25	1,4	1,4	8,6
Gedikkaya	25	1,4	1,4	10,0
Gemilerçekeği	25	1,4	1,4	11,4
Güre	25	1,4	1,4	12,9
Hacıhüseyin	25	1,4	1,4	14,3
Hacımiktat	25	1,4	1,4	15,7
Hacısıyam	25	1,4	1,4	17,1
Kapu	25	1,4	1,4	18,6
Kavaklar	25	1,4	1,4	20,0
Nizamiye	25	1,4	1,4	21,4
Teyyaredüzü	25	1,4	1,4	22,9
Çamlıca	25	1,4	1,4	24,3
Hasanbey	50	2,9	2,9	27,1
Karaer	25	1,4	1,4	28,6
Akyazı	25	1,4	1,4	30,0
Bahçelievler	25	1,4	1,4	31,4
Bucak	25	1,4	1,4	32,9
Cumhuriyet	25	1,4	1,4	34,3
Durugöl	25	1,4	1,4	35,7
Karşıyaka	50	2,9	2,9	38,6
Selimiye	25	1,4	1,4	40,0
Subaşı	25	1,4	1,4	41,4
Şahincili	25	1,4	1,4	42,9
Şarkiye	25	1,4	1,4	44,3
Taşbaşı	25	1,4	1,4	45,7
Yeni	50	2,9	2,9	48,6



Quarter	Frequency	Percent	Valid Percent	Cumulative Percent
Bağdatlı	25	1,4	1,4	50,0
Çamlıbel	25	1,4	1,4	51,4
Çarşı	25	1,4	1,4	52,9
Değirmendere	25	1,4	1,4	54,3
Eminettin	25	1,4	1,4	55,7
Engindere	25	1,4	1,4	57,1
Gülbahar	25	1,4	1,4	58,6
Müftü	25	1,4	1,4	60,0
Tophane	25	1,4	1,4	61,4
Yeniköy	25	1,4	1,4	62,9
Birrolueroğlu	25	1,4	1,4	64,3
Boztepe	50	2,9	2,9	67,1
Cumhuriyet	25	1,4	1,4	68,6
Değirmendere	25	1,4	1,4	70,0
Esentepe	25	1,4	1,4	71,4
Fatih	25	1,4	1,4	72,9
Gazipaşa	25	1,4	1,4	74,3
Gülbaharhatun	25	1,4	1,4	75,7
İkinolubeşirli	25	1,4	1,4	77,1
İkinoluerdoğdu	50	2,9	2,9	80,0
İnönü	50	2,9	2,9	82,9
Kalkınma	25	1,4	1,4	84,3
Pazarkapı	25	1,4	1,4	85,7
Soğuksu	25	1,4	1,4	87,1
Toklu	50	2,9	2,9	90,0
Üçnoluerdoğdu	25	1,4	1,4	91,4
Üniversite	25	1,4	1,4	92,9
Yalı	25	1,4	1,4	94,3
Yeni	25	1,4	1,4	95,7
Yenicuma	25	1,4	1,4	97,1
Yeşiltepe	25	1,4	1,4	98,6
Zafer	25	1,4	1,4	100,0
Total	1 750	100,0	100,0	

## ANNEX 5: REVISED HOUSEHOLD QUESTIONNAIRE

The purpose of this household survey is to collection information on: household solid waste-related practices and attitudes toward their solid waste service and institutions. This information will be used to help design an investment directed at improving citywide solid waste management. The survey is being conducted throughout the city. All respondents will be anonymous. Survey results will be analyzed and used in a processed form only. The full confidentiality of this discussion is guaranteed.

### HOUSEHOLD IDENTIFICATION (to be filled out by interviewer prior to interview)

City name:.....

District name:.....

Address of respondent:.....

Type of housing:.....

- 1- Apartment in multi story apartment building (5 or more floors)
- 2- Apartment in low-rise apartment building (1 to 4 floors)
- 3- Private single family house
- 4- Squatter house
- 5- Other (specify)

Floor Level of household:.....

- |     |     |
|-----|-----|
| 1-1 | 5-5 |
| 2-2 | 6-6 |
| 3-3 | 7-7 |
| 4-4 |     |

Respondent Code:.....

- 1-Head
- 2-Spouse
- 3-Other (specify)

Gender of Respondent: .....1- male                      2-female

*(Household is defined as all individuals living in this dwelling and are part of the same economic unit.)*

### INFORMATION ABOUT RESPONDENT

- 1-How long you are living in this city? \_\_\_\_\_ years?
- 2-If you are not living here since birth, why did you come here?
  - 1-government appointment
  - 2-to find better opportunities for myself
  - 3-to find better opportunities for my children
  - 4-political reasons
  - 5-other (specify)
- 5-What is your age? \_\_\_\_\_ years

### GENERAL HOUSEHOLD INFORMATION

1. Who owns this house/apartment?
  - 1-household member(s)
  - 2-state
  - 3-private owner
2. How many people live in your household?

1-1	2-2	3-3	4-4	5-5	6-6
-----	-----	-----	-----	-----	-----

7-other.....
1. How many adults (above 18 years)?

1-1	2-2	3-3	4-4
-----	-----	-----	-----
2. How many of these adults are employed (employed with regular income and seasonal workers)?

1-1	2-2	3-3	4-4
-----	-----	-----	-----
3. How many children live in your household in the following age category (including those away at school)?

0-0	1-1	2-2	3-3	4-4
-----	-----	-----	-----	-----
4. How many adults are unemployed (not including retirees or handicapped)?

0-0	1-1	2-2	3-3
-----	-----	-----	-----
5. Among the adults in your household, how many are retired?

6. Among the retired adults in your household, how many receive a pension?
7. How much does your household spend per month on: -----lira/month (this list may need to be received to reflect appropriate expenditure categories)

A-food	A.....
B-transport	B.....
C-rent	C.....
D-utilities(e.g.,heating, electricity, water, Solid waste, telephone)	E.....
F-health and medical services	F.....
G-clothing and shoes	G.....
H-other expenses	H.....

8. What is your education level?
- 0-illiterate
  - 1-primary school
  - 2-incomplete primary school,
  - 3-secondary school
  - 4-incomplete secondary school
  - 5-professional technical education
  - 6-high school
  - 7-incomplete high school
  - 8-university
  - 9-other

#### Environmental Awareness

9. What would you say is the most important environmental problem in your city?

- 1- air pollution
- 2- unsafe drinking water
- 3- insufficient water supply
- 4- inadequate sanitation (sewerage)
- 5- inadequate solid waste collection
- 6- unsafe solid waste disposal
- 7- traffic and congestion
- 8- unsafe disposal of hazardous waste
- 9- other

- 12- What would you say is the second most important environmental problem?

- 13- air pollution
- 14- unsafe drinking water
- 15- insufficient water supply
- 16- inadequate sanitation waste collection
- 17- unsafe solid waste disposal
- 18- traffic and congestion
- 19- unsafe disposal of hazardous waste
- 20- other

- 12- If you did not list inadequate solid waste collection or unsafe solid waste disposal as number 1 or number 2 priority problem, how serious do you consider these problems?

a. inadequate solid waste collection

- 1- very serious
- 2- somewhat serious
- 3- not serious
- 4- not a problem

b. unsafe solid waste disposal

- 1- very serious
- 2- somewhat serious
- 3- not serious
- 4- not a problem

- 12-Do you belong to a community organization or NGO in your area?

- 1-yes
- 2-no

13- If yes, is this community organization or NGO concerned about protection environment or environmental issues?

- 1=yes
- 2=no

14-What kind of assistance or information would you need in order to enable you to contribute ideas to protect environment?.....

15-Do the existing policies promote your participation in the formulation of government's environmental laws and policies for protecting the environment?

- 1=yes
- 2=no

16-Do you know where the collected waste is taken for final disposal? 1=yes 2=no

17-Are you concerned about whether ultimate disposal is environmentally safe? 1=yes 2=no

18-Do you know what a solid waste transfer station is? 1=yes 2=no

19-Do you live near a solid waste transfer station? 1=yes 2=no

20-If yes, do you have any problem? 1=yes 2=no

21-If yes, what problems have you experienced? (You may list more than one)

- 1=noise
- 2=odors
- 3=unsanitary conditions
- 4=aesthetic problems
- 5=flies
- 6=other \_\_\_\_\_

22-Do you know anyone who lives near a solid waste transfer station? 1=yes 2=no

23-What kind of problems have they experienced?

- 1=noise
- 2=odors
- 3=unsanitary conditions
- 4=aesthetic problems
- 5=flies
- 6=other \_\_\_\_\_

24-Do you know who to contact if you have any problems with your solid waste services? 1=yes 2=no

25-If yes, who would you call? \_\_\_\_\_

26-Have you ever called this office? 1=yes 2=no

27-Were you satisfied with their response? 1=yes 2=no

28-Is sufficient information made available to you about solid waste management system (information about collection times, payment of cleansing tax, risks associated with improper waste handling)? 1=yes 2=no

29-If no, what type of information do you want to have?

- 1-solid waste collection schedule
- 2-where to complain if there are problems
- 3-proper handling of different kinds of waste
- 4-other
- 2-safer disposal
- 3-other (specify) \_\_\_\_\_

#### **Discharge/Collection and Street Sweeping System**

1-Does your household have a metal or plastic container for storing household solid waste?

- 1=yes, have metal or plastic container inside house or apartment
- 2- yes, have metal or plastic container inside house or apartment
- 3=yes, metal or plastic container outside
- 4=no container
- 5-other.....

2-How often is your solid waste or solid waste container taken outside to be emptied?

- 1-once a day
- 2-twice a day

- 3-three times a week
- 4-twice a week
- 1- once a week
- 2- less frequently
- 3- other.....

3- Where is your solid waste container taken to be emptied?

- 1- placed curbside for collection
- 2- emptied into larger container at same building
- 3- emptied into communal container in the neighborhood
- 4- emptied onto an open pile of waste in yard
- 5- taken to final disposal site directly
- 6- taken to transfer station
- 7- other.....

4-If your solid waste container is placed outside your home, taken to a larger container at the same building, or taken to a communal container, how often is the container emptied by the municipal solid waste service?

- 1-daily
- 2-two times a day
- 3-three times a week
- 4-twice a week
- 5-once a week
- 6-less than once a week
- 7-less than once a month
- 1- don't know
- 2- other.....

5-If your container is taken to open pile of waste in your neighborhood, how often is that pile removed?

- 1-daily
- 2-two times a day
- 3-three times a week
- 4-twice a week
- 5-once a week
- 6-less than once a week
- 7-less than once a month
- 8-never
- 9-other.....

6-Who has primary responsibility for collecting your household's solid waste once it is brought outside?

- 1-local government/municipality
- 2-private company
- 3-neighborhood group
- 4-other.....
- 5-don't know

7-Do you pay a janitor to collect solid waste from your apartment and take it outside?

- 1=yes
- 2=no

8-How much do you pay the janitor? ..... TL per month?

9-Were any members of your family ill in the past 6 months?

- 1=yes
- 2=no
- a. adults.....
- b. children.....

10-Are you satisfied with solid waste collection waste collection service?

- 1=very satisfied
- 2=satisfied
- 3=not satisfied

11-If you are not satisfied, what bothers you most about your primary solid waste collection service?

- 1-infrequent collection
- 2-unreliable collection
- 3-location of container
- 4-number garbage bins provided
- 5-unsanitary conditions at container
- 6-other (specify) \_\_\_\_\_

12-If yes, what type of illness (es)?

	a. adult	b. children
1-respiratory	.....	.....
2- stomach	.....	.....
3- cardiovascular	.....	.....
4- injury-related	.....	.....
5- tuberculosis	.....	.....
6- skin problems	.....	.....
7- kidney problems	.....	.....
8-cancer	.....	.....
9-other	.....	.....

13-Do you associate any of these illnesses with poorly managed solid waste?

1=yes      2=no

### Recycling Practice

1-Does your household separate recycle waste?

1=yes      2=no

2-What type of waste does your household reuse (can indicate more than one)?

Yes=1    no=2

- a. glass      .....
- b. plastic      .....
- c. paper      .....
- d. cardboard      .....
- e. compostables      .....
- f. metal cans      .....
- g. other      .....

3-what type of waste does someone else pick up for recycling?

Yes=1      no=2

- a.glass      .....
- b.plastic      .....
- c. paper      .....
- d.cardpostables      .....
- e. compostables      .....
- f. clothing      .....
- g. metal cans      .....
- h. other      .....

4- Which of the following types of solid waste does your household sell? Yes=1      no=2

- a.glass      .....
- b. plastic      .....
- c. paper      .....
- d. cardboard      .....
- e. compostables      .....
- f. clothing      .....
- g. other      .....

5-How much income per month on average do you get from selling these waste ?.....TL

## **ANNEX 6: INSTITUTIONS/ORGANIZATIONS INTERVIEWED DURING THE SURVEY**

1. Trabzon Municipality
2. Artvin Municipality
3. Gümüşhane Municipality
4. Ordu Municipality
5. Giresun Municipality
6. Rize Municipality
7. Provincial Directorate of Environment and Forestry, Artvin
8. Provincial Directorate of Environment and Forestry, Ordu
9. Provincial Directorate of Environment and Forestry, Giresun
10. Provincial Directorate of Environment and Forestry, Rize
11. Provincial Directorate of Environment and Forestry, Trabzon
12. Provincial Directorate of Environment and Forestry, Gümüşhane
13. Provincial Directorate of Health, Artvin
14. Provincial Directorate of Health, Ordu
15. Provincial Directorate of Health, Giresun
16. Provincial Directorate of Health, Rize
17. Provincial Directorate of Health, Trabzon
18. Provincial Directorate of Health, Gümüşhane
19. TEMA, Ordu
20. TURÇEK, Giresun
21. Environment and Culture Initiatives Association, Trabzon



## **ANNEX 7: QUESTION FORM FOR ENVIRONMENT AND/OR CLEANING DEPARTMENTS OF MUNICIPALITIES**

### **A. WASTE COLLECTON**

1. In which areas does your municipality collect wastes? (all areas within the boundaries of the municipality, some parts within the boundary, all areas including smaller municipalities)
2. How are household wastes collected?
  - a. With plastic bags
  - b. With containers
3. On which days of the week, and what hours are the wastes collected?
4. How many collection trucks do you have and what are their capacities in tons? (Compressor truck, small truck, big truck)
5. How many tons of household waste is collected in a day? (Please give summer and winter values separately)
6. How are ashes and slack collected? How many tons are collected in a day? (Please give summer and winter values separately)
7. How is construction wastes collected? How many tons are collected in a day? (Please give summer and winter values separately)
8. How are medical wastes collected? (a regular weekly program, calling the municipality when required etc.)
9. How many tons of medical wastes are collected in a day? (Please give summer and winter values separately)
10. Which of the following collect the wastes; the relevant department of the municipality, a company that belongs to the municipality or a private company?
11. Is there any research undertaken for the determination of waste components in your province?

### **B. SEPARATION/ RECYCLING**

12. Are there any separation or recycling activities conducted by the municipality? If there is, how is it being realized? What is the quantity of the recyclable wastes collect?
13. Are there any separation or recycling activities conducted by the private sector? If there is, how is it being realized? What is the quantity of the recyclable wastes collect?
14. Are there any separation or recycling activities conducted through the informal sector (street collectors etc.)? If there is, how is it being realized? What is the quantity of the recyclable wastes collect?
15. What type of recyclable waste are collected? (paper, carton, glass, plastic, metal)
16. Are there any factories or dealers who collect recyclable wastes in your province?
17. Where can the collected recyclable waste be sold?

### **C. DISPOSAL**

18. How and where does your municipality store the wastes collected?
19. Do you take any specific measures for this landfill area? (Fencing, land filling, collecting leakage, utilizing gas generated etc.)
20. What is the capacity of this / these area? For how long could this site be used for storage?
21. Are there any settlements near the dumping / landfill site?
22. Are there any complaints from the public regarding the landfill area of the municipality?
23. How are the medical wastes being disposed? Are they dumped to the same area? Are there any precautions taken for them?
24. Are any hazardous wastes being dumped to the dumping / landfill area? How do the factories or other facilities (i.e gas stations) that generate hazardous wastes dispose their wastes?

25. Is there any new plans for the municipality to establish a landfill area / solid waste management system ? Has there been any selection for the location?

#### D. STREET CLEANING

26. Is the process conducted by the municipality itself, a company owned by the municipality or a private company?

27. In which areas does your municipality sweep streets and how often? (only city center, a part of the municipal boundaries, all streets within municipal boundary)

28. How many km of streets are sweep in a day?

29. How is the street cleaning realized? (With workers who do shifts, motorized street sweeping vehicles? Or both?)

30. Are there waste containers on the streets? Are there any problems regarding to the odor/ transportation/ cleaning of these containers?

#### E. COSTS

31. What was the total income of your municipality for the last three years? (2001,2002 and 2003 or 2000, 2001 and 2002)

32. What was the total expenditure of your municipality for the last three years?

33. What are the total expenses that the municipality gives for waste collection and cleaning works? (last 3 years)

- a. personnel
- b. operational costs
- c. services undertaken by private service providers
- d. other

34. What is the income received by the municipality for the waste collection and cleaning works? (taxes regarding wastes, contributions made by other municipalities, etc.) (last 3 years)

35. How much? What were the tariffs for the garbage collection tax for households and businesses for the last three years?

36. What was the amount of garbage collection tax that was collected in the last three years?

37. What was the amount of other taxes regarding wastes that was collected in the last three years?

38. How many m<sup>3</sup> of water is consumed by the people living within your municipal boundaries? (last three years)

39. What was the average tariff on water for the last three years? How much income was generated?

40. What is the amount of garbage collection tax determined within the water tariff of 2004?

41. How many people work in the below stated jobs? Are these personnel of the municipality? Personnel of the company owned by the municipality? Personnel of a private company?

- a. Street cleaning (in shifts)
- b. Waste collection and transportation
- c. Waste separation and recycling
- d. Storage

42. How many equipments are being utilized in the below stated works? Are these the equipments of the municipality? Equipments of the company owned by the municipality? Equipments of a private company?

- a. Street cleaning (motorized vehicles etc.)
- b. Waste collection and transportation (trucks, compressor trucks)
- c. Waste separation and recycling
- d. Storage

43. What is the cost of each ton of wastes you collect?

# ANNEX 8: PARTICIPANT LIST OF THE REGIONAL WORKSHOP

## DEVELOPMENT STUDY ON ENVIRONMENTAL AWARENESS ON SOLID WASTE MANAGEMENT IN EASTERN BLACK SEA REGION / REGIONAL WORKSHOP – SEPTEMBER 13, 2004 TRABZON CHAMBER OF ARCHITECTS

	WORKING / TASK GROUP	NAME	INSTITUTION	POSITION
1	Action Plan	Bayram Karakoç	Gümüşhane Municipality	Head of Cleaning works
2	Video	Erkan Okumuş	Gümüşhane Directorate of Environment and Forestry	Deputy of Head of Department
3		Fatih Erol	Trabzon Municipality	Engineer
4	Pilot Projects	Ender Ülker	Gümüşhane Directorate of Health	Environmental Engineer
5	Pilot Projects	Enver Ergenç	Pazar Municipality	Vice president
6	Video	Leyla Demirkır	TEMA Trabzon	Architect
7	Video	Levent Ustabası	Türksesi Gazette	Reporter
8	Pilot Projects	Mustafa Şahin	ÇYDD	Board Member
9	Video	Hüseyin Yurdakul	Karadeniz News	Reporter
10	Video	Özgür Özdemir	Kuzey TV	Cameraman
11	Video	Ali Aygün	Zigana TV	Cameraman
12	Pilot Projects	Şemsettin Yıldırım	Milli Eğitim Müdürlüğü	Research Planning Clerk
13	Video	Nurgül Kurum	Karadeniz Gazette	Reporter
14	Video	Mustafa Usta	İHA	Reporter
15	Video	Ersen Küçük	İHA	Cameraman
16	Pilot Projects	Mehmet Erdal Odabaş	KTÜ – TEMA Club	Chairman
17	Pilot Projects	Rakıp Sanduvaç	Artvin Directorate of Environment and Forestry	Technician
18	Pilot Projects	Nizamettin Köseoğlu	Çayeli Municipality Directorate of Cleaning works	Chief
19	Video	Sami Gültekin	Rize Fındıklı Municipality	Clerk
20	Action Plan	Yılmaz Yanık	Of Municipality	Scientific Works
21	Action Plan	Gülgün Balta	Trabzon Directorate of Health	Head of Department
22	Pilot Projects	Safiye Demirbaş	Foundation for Environmental Protection	President
23	Video	Meliha Şevcah	Tükoder Ordu	President
24	Action Plan	Ayşegül Nuhuğlu	Trabzon Municipality Environment and Cleaning works	Environment and Health works
25	Video	Zümrüt Turgay	Tükoder	Journalist / writer
26	Action Plan	Kerim Sürat	Giresun Directorate of Health	Environmental Health Technician
27	Action Plan	Haydar Karsan	Tüm Bel-Sen	Civil Engineer
28	Video	Yılmaz Akarasu	Rize Çaykent Municipality	Collecting Clerk
29	Action Plan	Ayhan Kanber	Trabzon SES	Clerk
30	Action Plan	Gökay Azaklı	Giresun Directorate of Environment and Forestry	City Planner
31	Video	Selim Özgürel	Giresun Municipality	City Planner
32	Video	İlyas Mert	Muradiye Municipality	Scientific works
33	Action Plan	Hüseyin Özgün	Kendirli Municipality	Editor in chief
34	Pilot Projects	Cemal Kayış	Giresun Directorate of National Education	Teacher – Lawyer
35	Action Plan	Bülent Sağır	Trabzon Directorate of Environment and Forestry	Engineer
36	Pilot Projects	Ali Serdaroğlu	Fındıklı Municipality	Scientific works
37	Video	Köksal Kasapoğlu	Rize Consumer Rights Association	Head of Department

	WORKING / TASK GROUP	NAME	INSTITUTION	POSITION
38	Pilot Projects	Mustafa Kalender	Rize Directorate of National Education	Vice president
39	Action Plan	Yücel Nar	Rize Directorate of Environment and Forestry	Head of Department
40	Video	Muammer Çevik	Rize Municipality	Control Chief
41	Action Plan	Adem Sever	Ardeşen Municipality	Vice president
42	Pilot Projects	Mustafa Ön	Ardeşen Municipality	Editor in chief
43	Video	Erol Şatır	TÜKODER	Retired
44	Pilot Projects	Münevver Hacıfazlıoğlu	KTÜ Environment Club	Vice president
45	Pilot Projects	Ekrem Akçay	Akçaabat Municipality	Mechanical Engineer
46	Action Plan	Fikret Kuruçelik	Akçaabat Municipality	Head of Cleaning works
47	Pilot Projects	Adem Özışık	Health and social services Union Artvin Directorate	Head of Department
48	Action Plan	Ahmet İnce	IHD – Trabzon	Retired
49	Action Plan	Suzan Kol	Directorate of Agriculture	Agricultural Engineer
50	Action Plan	R. Hulusi İmameci	TÜKODER	Retired
51	Video	Erdoğan Gazihan	Y.D.A Green Artvin Association	Chairman
52	Video	Volkan Alemdar	Channel Mavi	Cameraman
53	Action Plan	Çoşkun Erüz	TEMA Trabzon	Provincial Representative
54	Pilot Projects	Raif Kandemir	TEMA Gümüşhane	Member
55	Pilot Projects	Berrin Gönül	Ordu Directorate of Environment and Forestry	Environmental Engineer
56	Video	İbrahim Yılmaz	Ordu Municipality	Public Relations
57	Video	Hakkı Zırh	TEMA Rize	Provincial Representative
58	Video	Şafak Morgül	TEMA Rize	
59	Video	Halil Demirci	DEMHA Communication	Film Director
60	Video	Kenan Özbayrak	Deniz News Agency	Representative
61	Pilot Projects	Ayla Kurşunoğlu	Environment and Culture Initiatives Association	Member
62	Pilot Projects	Çiğdem Koç	TÜKODER	Management
63	Action Plan	Levent Sağlam	Ordu Municipality Cleaning Works	Assistant Manager
64	Action Plan	Celal Akaç	KESK / ESM	Head of Department
65	Video	Gökhan Dihkan	Günebakış Newspaper	Editor in chief
66	Pilot Projects	Yeter Yücesan	Environment and Culture Initiatives Association	Retired Teacher
67	Video	Serdar Genç	Trabzon TV	Cameraman
68	Action Plan	Naci Aydın	Rize Directorate of Health	Environmental Health Technician
69	Video	Nur Koç	Foto – Forum Trabzon	Retired
70	Video	Serpil Gürhan	Environment and Culture Initiatives Association	Retired
71	Pilot Projects	Şahver Altıntaş	Environment and Culture Initiatives Association	Retired
72	Video	Sami Koç	Environment and Culture Initiatives Association	Engineer
73	Pilot Projects	Orhan Sezeroğlu	UCTEA Environment and Safety Commission	Mechanical Engineer
74	Action Plan	Ömer Faruk Altıntaş	Environment and Culture Initiatives Association	Member - Manager

## **ANNEX 9: VIDEO SCENARIO FOR DEVELOPEMNT STUDY ON ENVIRONMENTAL AWARENESS ON SOLID WASTE MANAGEMENT**

SCENARIO : Meltem YAZICI / Halil DEMİRCİ  
PRE PREPARATION : DEMHA Communication Scenario Services  
RESEARCH : PAR Consulting/ DEMHA Communication Scenario Services  
DURATION : 15 Minutes  
LANGUAGE : Turkish  
SYSTEM : European Publishing Union (EBU) Betacam SP Professional  
PRESENTED BY : Mesut MERTCAN  
MUZİK BY : Anonymous / Regional  
FILM AREAS : Trabzon, Gümüşhane, Ordu, Giresun, Rize, Artvin

Nowadays we produce so much waste that, we cannot find adequate space near urban centers to bury them. In our country, one kilogram per person of waste is produced everyday. In Turkey approximately 65-70 thousand tons of household waste is being produced everyday. One third of these wastes consist of water and organic materials. However, 100 years ago, not even one percent of the pronounced waste amounts was being produced. The main reason was that there was no packaging, extravagance was feared and food wastes would either be given to the animals or would be recycled back to the soil. Both scientific researches and statistics that have been concluded shows that, by organizing an emergency action plan, the Black Sea region which has become a waste dump has to be taken under protection. Every year 210 thousand tons of waste in Ordu is being dumped into the Melet River; in Giresun 130 thousand tons of waste is being dumped into empty land; in Trabzon 280 thousand tons of waste is being dumped into the sea and in Rize 105 thousand tons of waste is being dumped into the sea.

Researches conducted in scope of the Development Study on Environmental Awareness on SWM in Eastern Black Sea Region certifies that population growth and unstable urbanization in the provinces of Trabzon, Gümüşhane, Ordu, Giresun, Rize and Artvin prevent the establishment of a modern solid waste system which therefore is harming the environment. Especially in these provinces, the problem of "waste disposal" has taken serious steps. The biggest environmental problem faced in these provinces is seen in the areas where the waste is stored or dumped randomly.

Nowadays, nearly every product is sold in paper, plastic, glass or metal packaging. While packaging continuously increases the solid waste amount, it also increases everyday the cost for collection, discharge and storage equipment, the investment-administration-caring of the collection equipment and the workforce cost. Municipalities spend one third of their budget on cleaning services. Each consumed product brings along a new consumption in order to prevent the wastes from polluting the environment. Consumption goods which cost large amounts to produce are left out in the streets after they have been used. Due to the concerns that these wastes can harm the community health, they are being transferred and dumped outside urban center borders. Household, medical, industrial, agricultural, nuclear and other similar wastes that are transferred to landfill areas not only pollute the environment but also take along with them great economical values. Due to the fact that population increase cannot be prevented and the present solid waste landfills are full, a stable problem solving study has to begin without delay. Especially in the last few years, some municipalities in Turkey have started to conduct scientific studies on how to decrease the solid waste amount and prevent them polluting the environment. Before buying, to consider if we really need that product or after usage of the product to think of alternate usages decreases the amount of waste remarkably. After paying a certain value and using the product, most of us do not know the adventure of wastes (what happens to them) just after they leave our houses. Where do these wastes go? Does this mountain of wastes just disappear by themselves?

### **SOLID WASTES**

Solid wastes consist of materials belonging to households, commercial businesses and industries. They also contain semi mud (generated from mining, agricultural processes including produced through water refining unites) which have both decomposing and composing characteristics. "Household solid wastes", are wastes that are produced in our homes during our daily consumption and which consist of composable and decomposable materials. The amount and character of the wastes formed via the utilization at home vary according to the region or the province's socio-

economic level, industrialization, urbanization, customs, seasons, life style, education, usage of fuel type, feeding habits. The area where wastes are disposed or become harmless for health is called "solid waste landfill". Thousands of tons of waste that are produced everyday are collected by collection trucks from settlements and taken to a far away landfill area. Wastes can be disposed by incineration, composting, re-usage and recycling methods. In this respect, if a suitable location can be determined within the borders of a province, landfill areas can be established. However, even though precautions are taken within landfill areas, hygiene, odor, pesticide and rodent prevention cannot be maintained. Wastes those are stored randomly under primitive conditions cause pollution in our surrounding environment, underground waters, rivers and seas. Haven't we been involved in situations a number of times, where waste explosions and problems regarding mountain of wastes have occurred in our country?

## **THE IMPACT OF WASTES TOWARDS COMMUNITY AND ENVIRONMENTAL HEALTH**

During the decomposition process of wastes, an unpleasant odor occurs from the waste water leakage. These leakages threaten our natural resources (waters, soil and air). Dumping solid wastes into open sewage systems, rivers or seas, or stacking canned food and old car tires out in the open will produce new breeding grounds for insects and flies. To solid waste disposal is compulsory for both health and environmental reasons. Solid wastes attract flies, rodents, insects and unclaimed cats and dogs. Rodents cause plague, typhus, leprosy, histoplasmosis, salmonella, tularemia and other sicknesses which causes a serious threat to health. If the wastes are contaminated pathogen germ and parasites can be contained. Because of the wild geographic structure of the Black Sea region, its steep, terrain lands, underground and ground level water resources and large areas of forestation, makes it difficult to establish stable solid waste landfills. Especially, the settlements being near to the coast makes the problem harder to be solved. In the region, the wastes are being dumped by the municipality to the sea coasts, river beds or empty lands. This is known as "wild storage". Waste disposal methods in Trabzon, Gümüşhane, Ordu, Giresun, Rize and Artvin provinces are usually insufficient and the present waste collection areas create great health threats to the community and environment. Most important of all, is that medical and other hazardous wastes are being treated as normal solid wastes and are being dumped into the same areas.

## **WHAT IS RECYCLING?**

An important portion of the wastes can be recycled and reused. Glass, metal, plastic and paper type wastes can be considered as a new raw material. To transform these materials into bottles, boxes, plastic, paper and fertilizers is called "recycling". A healthy recycling system can be achieved by collection and separating these materials in their sources. When recyclable wastes are mixed with normal wastes, the production of the secondary material will be of low quality and problems usually occur during the cleaning process. During re-usage, as in glass bottles, the wastes are only gathered and cleaned. They do not enter any other process and can be used a number of times in its usual form before they complete their economic life.

## **REUSE, RECYCLE AND RECOVERY - WHICH MATERIALS CAN TRANSFORM?**

An important portion of the recycled materials in the wastes which constitute of food and beverage packaging are made of metal, plastic, glass and paper. Solid wastes, such as bones, textile materials can be recycled in special facilities.

## **5 BASIC STEPS FOR RECYCLING SYSTEM:**

1. **Separation at the Source:** Wastes that can be considered re-using should be separated from its source before entering waste bin and should be collected separately.
2. **Gathering Usable Wastes Separately:** This process helps to separately gather the usable wastes in a clean manner.
3. **Classification:** The materials that have been separately gathered from its source are classified into categories such as; glass, metal and paper.
4. **Evaluation:** Is the process where the clean separated and used materials are recycled to gain another economic value.
5. **To Win the New Product Back to the Economy:** Is the process where the recycled product is presented for re-usage.

## **APART FROM RE-USAGE OF WASTES, WHY IS RECYCLING IMPORTANT?**

1. **Protects Our Natural Resources:** Our natural resources are decreasing every day, due to the increase in world population and changes of our consumption habits. By decreasing material consumption and recycling usable wastes we can maintain efficient use of our natural resources.
2. **Maintains Energy Savings:** By decreasing the number of industrial processes in the production of recycling materials we can maintain energy savings.
3. **Decrease in Waste Amounts:** By applying recycling, a decrease in the waste amount will be maintained, which will decrease the area needed for transferring and storing these wastes. Thus, less energy will be used. Regarding household wastes, although the weight will not be differ so much, the diameter ratio will be affected considerably. Also, municipal garbage trucks will commence waste collection more properly.
4. **Recycling Means Investment for the Future and Economy:** Recycling in the long run means productive economic investment. As the amount of raw material decreases and natural resources are consumed rapidly, new economic problems will rise. At this point recycling will have a positive effect on the economy. Recycling will produce new work areas and will allow future generations to use the natural resources.

Among the 20 million ton household waste produced in Turkey, approximately 12-15 percent (2.5-3 million ton) of the amount consists of recyclable wastes (paper, carton, glass, metal, and plastic). The value of these wastes is approximately 150 trillion Turkish Liras. Moreover, the area in which these recyclable wastes cover is around 35 percent...

## **DID YOU KNOW?**

### **GLASS**

Among the products we use, the only material that can 100 percent be recycled and used indefinitely is glass. To melt broken glass and reuse maintains 32 percent less energy than the actual process for production. When only one glass bottle is recycled, an energy saving of a 100 watt light bulb is maintained.

### **PAPER**

Cellulose fiber which is paper's raw material is supplied from log, cotton, sugar cane and used paper. On the occasion when paper is made from fresh fiber, an amount of 500-900 kg of tree for 1 ton of paper, 10-400 kg of clay, and 50-90 kg of water is used. A small tree can supply fresh fiber for 200-300 newspapers. It has been proved that recycling paper has a positive affect on the environment. By recycling 1 ton of used paper 25 year old 17 trees, 4100 kilowatt/hour of energy is being saved which this amount adds up to the amount which a family consumes in one year. 1 ton of paper produced from 100% recycled paper, saves approximately 26.5 m<sup>3</sup> of water. Paper that is recycled from recyclable fiber decreases air pollution by 74%, water pollution by 35% and decreases energy expenditure by 28%. To reuse the read newspapers in a household a whole year (around 70 kg), prevents the cutting of a 14 cm diameter and 8 m long tree. In the business world it is estimated that writing paper and photocopies produce around 1 million tons of waste paper. In Europe, waste paper consists 65% of the total paper production. If only the consumed 450.000 tons of paper in Istanbul were to be recycled, a 38 km long of forestry would be protected in Turkey. If 1 ton of paper in Turkey were to be recycled, then around 700-1000 dollars spent on cellulose-paper import would not go beyond the borders.

### **METAL PACKAGING**

Today most of the canned food, marmalade, pet food, sweets, tea, coffee, beverages and sprays are stacked in metal packaging. Today, the use of metal packaging per person is around 200 items. This constitutes 5% of the total household wastes. Every year approximately around 610.000 ton metal packaging goes to the waste cycle. To recycle metal packaging, decreases the load to mine out coke coal, limestone and iron ore and the area it takes up in the mountain of waste. To recycle 1 ton of tin covered iron, saves up around 1.5 ton of iron ore and 0.5 ton of coke coal. To recycle metal packaging instead of using iron ore as raw material, decreases energy expenditure by 70%, air pollution by 30% and water pollution by 60-70%.



## **ALUMINIUM**

One aluminum can thrown into the environment today, will still exist 500 years later. Aluminum is especially used in beverage packaging. Because aluminum can be processed easily, it can be easily recycled. In the last few years, recycling of aluminum has increased to 65%. In 1979 the recycling ratio was 25.7%, but today every minute around 108.000 aluminum cans are recycled. By recycling an aluminum can, 95% less energy is used and air pollution is decreased by 95%, water pollution by 97%. The cost for maintaining 1 ton of aluminum can be decreased by 95% if recycled. Anything made from aluminum should not be thrown away but recycled.

## **PLASTIC**

Plastic is produced from petrol which is one of our precious buried treasures. Plastic dissolves in the environment in 1000 years. Resources that cannot be renewed like raw petrol, natural gas are lessened due to the production of plastic. The dangerous gas formed during production is released into the air, thus generating water and environmental pollution. When plastic is incinerated, dioxin which is very dangerous (having cancer effect) is produced. Some plastics contain vinyl chloride which causes cancer. These poisonous chemicals can affect the foods we eat. As a summary, PET which stands for "polyethylene terephthalate", is most commonly used in drinkable bottles and then thrown. Today, around 30% of the PET bottles are recycled and used in different areas. 1/3 of the wastes in the landfills consist of plastic packaging materials.

## **RESPONSIBILITIES OF CONSUMERS, MUNICIPALITIES AND INDUSTRIALISTS**

The waste leakage that are formed in the waste mountains are mixed into the underground waters, rivers and seas which affect the wildlife, fill our soils with heavy metal, and pollute our air with poisonous gases such as methane. Every waste that is dumped without consideration dangers our environment, food and health. For a healthy and peaceful future we need to produce less waste and be good consumers. Instead of throwing out materials we need to search if these materials can be recycled or reused in any way. Before buying a product we need to consider the recycling and reusing alternatives. If the product does not assure being recycled or reused then we should prevent ourselves from buying that product. We need to be careful not to produce too much waste. If we make use of pre-evaluation methods, we can produce less waste. This way we can protect our world. In regards to recycling, municipality-residents-industrialist triangle have to work together. In order for the wastes to be recycled in a healthy manner (at home, school, workplace and other fields) it has to be properly collected, separated and transferred to the industrial complex that will recycle. Some municipalities in Turkey are commencing serious studies regarding this issue.

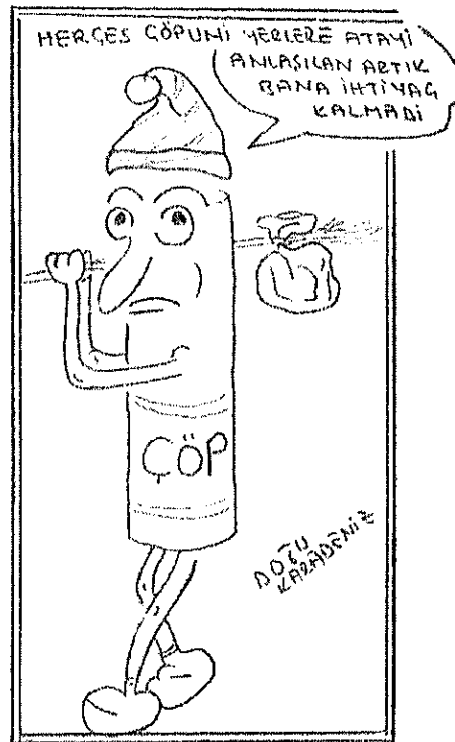
The municipalities regarding solid waste management are generally following the "separate collection from its source" method. Recyclable materials are gained back to the economy. To separately collect and recycle materials (glass, plastic, paper, carbon, metal) depends on the individual, for these wastes to be collected depends on the municipality and to recycle these recyclable wastes in a properly manner depends on the industrialists. This behavior pattern is important to preserve our environment and leave a clean world to the future generations to come.

## ANNEX 10: WINNERS OF LOGO AND SLOGAN COMPETITION

### SLOGAN Winners

<b>Artvin:</b>	Nature is not a waste bin! (Ozan Avcı, Gazi İlköğretim Okulu)
<b>Giresun:</b>	Protect the nature, breathe fresh air! (Nejat Aydın, Çaldağ İlköğretim Okulu)
<b>Gümüşhane:</b>	Wastes to the waste bins, love to the heart! (Zeynep SÖKMEN, MKP Atatürk İlköğretim Okulu)
<b>Ordu:</b>	You see yourself in the environment! (Betül Tetik, 19 Eylül İlköğretim Okulu)
<b>Rize and Regional :</b>	Cleanliness is: not generating wastes! (Eren TURNA, Özel Bilge İlköğretim Okulu)
<b>Trabzon:</b>	Don't see garbage as waste, Don't think it's useless, Don't waste your future! (Erol GENÇ, Değirmendere)

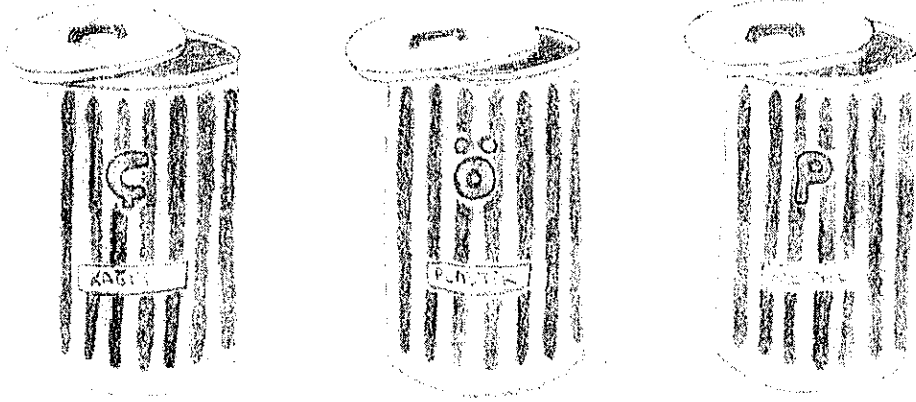
### LOGO Winners



**Giresun:** Mustafa Aydın, Giresun Anadolu Öğretmen Lisesi

## ÇÖP ÖBÜTME PROSESİNE

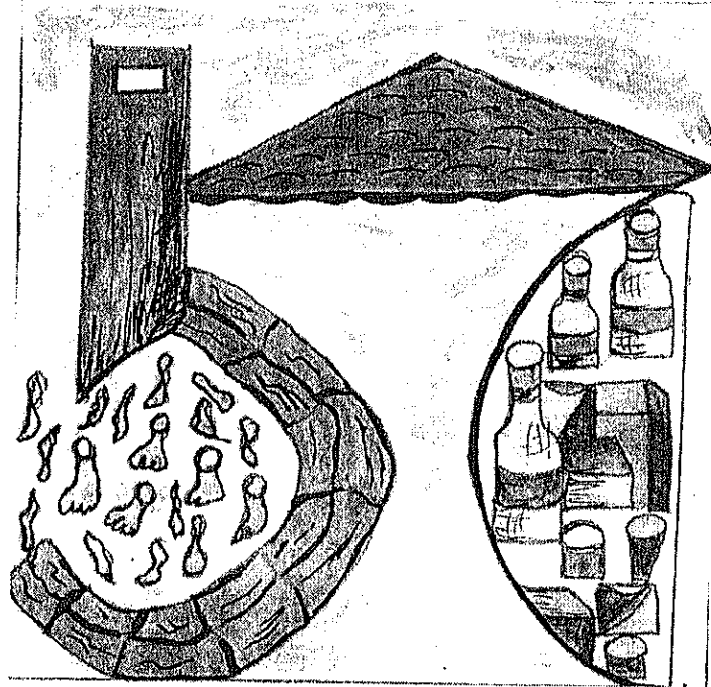
Atıkların ayrıştırılması ve geri dönüşüm süreci



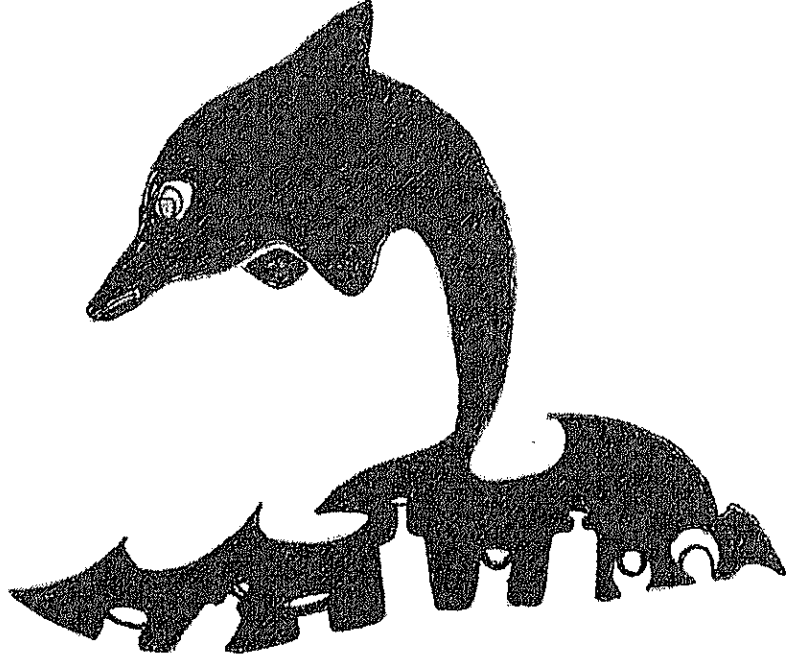
## DESTEK VERELİM

Atıkların ayrıştırılması ve geri dönüşüm süreci

Gümüşhane: Hamza Şeker, Gümüşhane Lisesi  
Class: 11/Sos.A No: 2312



Ordu: Mustafa Recai Uzunlar, Anadolu Meslek ve Meslek Lisesi  
Class: 11/C, No:1196

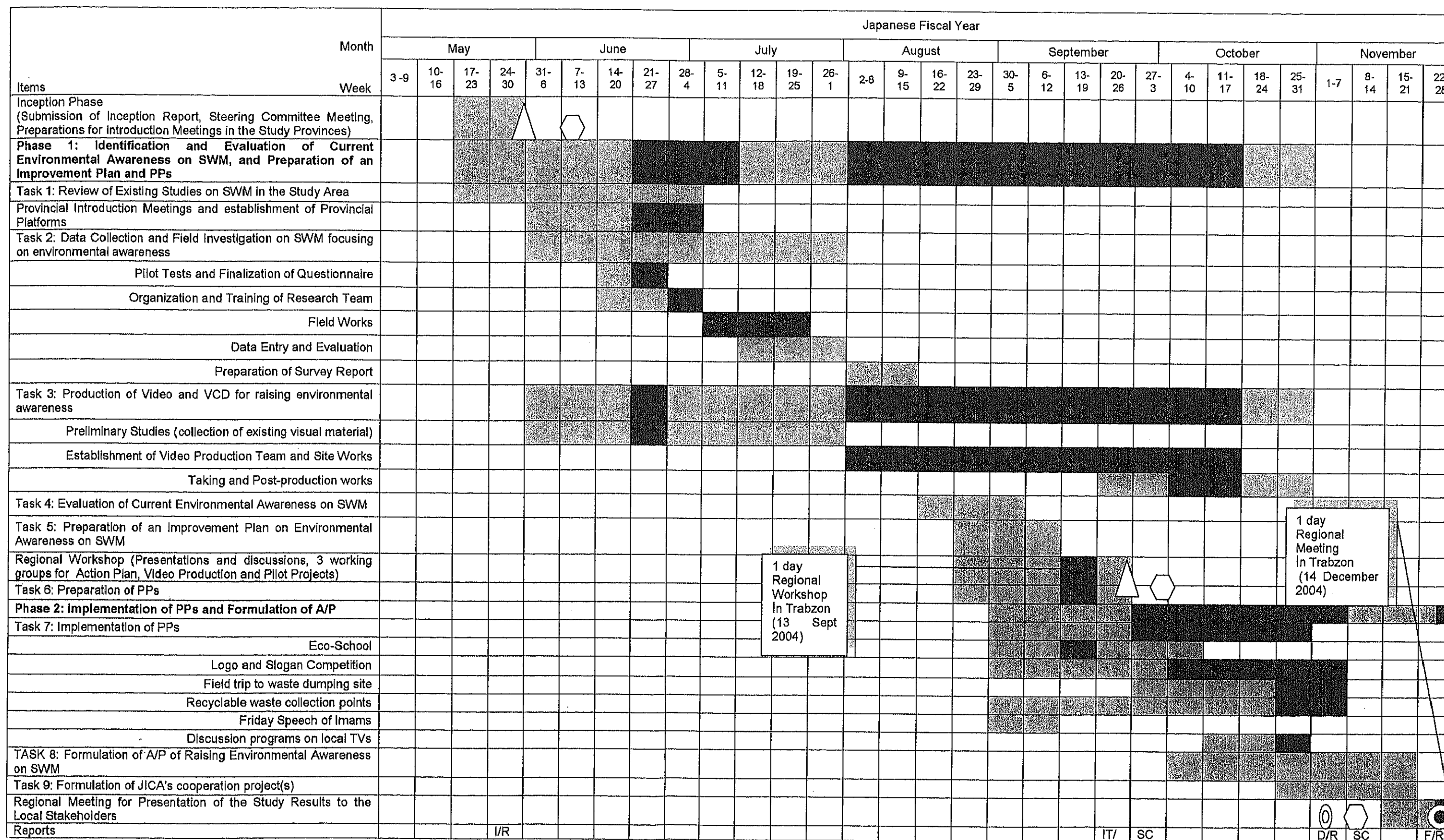


Rize: Erdal Akmehmet, Özel Bilge Lisesi  
Class: 9-A, Okul No:17



Trabzon and Regional Winner: Nagehan Parmak, Trabzon Anadolu Güzel Sanatlar Lisesi  
Class: R-2, No:150. School tel: 0 462 3340864 Teacher: Sezgin Erkol

# ANNEX 11: FLOW CHART OF THE STUDY



Legend

Preparation of work
 Site Work
 Office Work

Submission of Report
 Submission of Final Report
 Steering Committee Meeting

