

**Report of Environmental Monitoring  
and  
Post Clean Up Campaign  
Shandur Polo Festival 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> July 2009**



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## **Introduction:**

Polo the Game of Kings and the king of all games are traditionally played in the Northern Areas of Pakistan and Chitral for over the centuries. The free style polo game have been practicing for the centuries between the traditional rival teams of Gilgit and Chitral each summer in month of July on the Shandur pass (3734 meters) the highest polo field in the world. Every July, the Shandur Pass in Northern Areas is the setting for a polo festival played to rules eight hundred years old. A three days polo tournament was organized by the Gilgit and Chitral local administration.

The Shandur Polo ground is situated at 72' 35 east longitude and 36' 06' north latitude. It is bordered on the west by Yarkoon valley of Chitral and on the north by the valley of Gilgit district. It is dividing point between the caracara and the handout mountains ranges.

A whole new world is built at Shandur before the event. Visitors take the advantage of having a breath-taking view of Shandur with its beautiful lush green mountains and its pure water lake. The festival provides visitors with the thrilling excitement of polo in its true form. Its true form means no rules and regulations, plus the traditional music played throughout each match. Along with polo, hundreds of local and foreign tourists were found there. The archrival teams of Gilgit and Chitral fight for the trophy. As hundreds of spectators watch the two teams take on each other.

The Shandur Polo festival has now evolved into one of Pakistan's most important tourist events, attracting both foreign and local tourists, polo enthusiasts, high ranking government officials and even corporate sponsors. Each year the volume of tourists making their way up to Shandur for the Polo Festival has been increasing steadily. It is estimated that as many as 10,000 people attend the three-day polo festival and these numbers are expected to rise in the future. The large volume of tourists coming to Shandur has put tremendous pressure on the areas fragile ecosystem. The environmental degradation has been caused by the absence of appropriate arrangements for the disposal of waste, washing clothes, sanitation, along with the tossing of garbage into the Shandur Lake and surrounding areas during the festival. The Shandur Polo ground has been setup very close to the Shandur Lake, which is used both for washing clothes and as a dumping ground for waste, making the once pristine lake dangerously polluted.

Because of the high altitude of the polo ground and surrounding lake the summer growing season is short and winters with accompanying snow accumulations are long. The land and lake have little or no time to recover from the impact of festival and have adverse effects on fish, wildlife, livestock and human populations further downstream.

Measuring the gravity of situation, NA-EPA in collaboration with Rahnuma Youth Club Majini Mohallah Gilgit by engaging twenty volunteers of the club, take the responsibility of post cleanup campaign.

## Objective:

To avert the risk of environmental degradation and to sustain the aesthetic value of the area for sustainable ecological and economical benefits, there is a need for managing the polo festival on lines of minimum waste generation and disposal to lake. The main objective of this campaign was to put a dent into the mountain of solid waste which accumulates during the festival and to raise consciousness for good environmental stewardship among festival goers and organizers through high visibility activities, and proactive public outreach plans.

## Youth Club Volunteers:

There were about 20 volunteers from Youth Club Majini Mohallah Gilgit. They were all given bright green NA-EPA logo jackets to wear for identification. They were also given gloves and masks to handle waste in a safe manner.



## Activity:

After selecting the camping site NA-EPA officials trained and briefed the volunteers about the placement of waste bins and collection methodology and its safe disposal. All the volunteers were equipped with Gloves and masks during collection and disposal of waste. Banners were displayed around the polo ground and bazaar area.

The NA-EPA officials hold a meeting with DCO Chitral and it was noticed that no organization was there for waste collection and disposal from their site. It was decided that NA-EPA will provide waste bins and bags to them and they will fully cooperate with NA-EPA Volunteers. The waste bins were placed in polo ground, bazaar area and camping sites of both Northern Areas and Chitral. Separate bags were also given to each camp and these bags were collected every day. They were asked to dump both biodegradable and non biodegradable waste into these dust bins and bags separately for the subsequent collection of the wetlands warriors. Throughout the tournament NA-EPA intrepid volunteers encouraged people to dispose off their waste appropriately.

The NA-EPA distributed printed material among visitors highlighting the environmental considerations for waste clean up. The NA-EPA Volunteers arranged a cultural show at night on first day giving a message of save Shandur save environment to visitors and spectators.

**Awareness Walk:**

The NA-EPA arranged an awareness walk in the polo ground before beginning of final polo match. The basic objective of the walk was to disseminate awareness about environment among all the visitors. Volunteers of NA-EPA, officials from government and private organizations participated in the walk. The NA-EPA/Youth Club volunteers were raised banners focusing on environment and walked around polo ground with slogans of **Save Shandur Save Environment**.



**Selection of Dumping/Landfill Site:**

After careful observation, officials of NA-EPA selected a barren land for dumping site some 2km away from the polo ground where no water, vegetation cover, animal and human population interference were found. A size of 12\*14\*10 feet landfill pit was excavated for dumping of solid waste.



### Collection methods:

The waste was picked up from the ground daily with hands protected by gloves, and put into bags. The bags for waste given to each camp were collected on daily basis and new bags were given to them for another day.



### **Waste transportation:**

A Shazore mini truck was used to collect and to dispose off the waste from different sites into the landfill.



### **Landfill:**

Disposing of waste in a landfill involves burying the waste, and this remains a common practice in most countries. Landfills were often established in abandoned or unused quarries, mining voids or borrow pits. A properly-designed and well-managed landfill can be a hygienic and relatively inexpensive method of disposing of waste materials. Older, poorly-designed or poorly-managed landfills can create a number of adverse environmental impacts such as wind-blown litter, attraction of vermin, and generation of liquid leachate.



The solid waste collected at the end of the festival was disposed off at designated landfill site. The initiative was designed to estimate the amount and types of solid waste collected and disposed off, identify gaps in the solid waste management strategy and make recommendations for future strategy.

Such simple management practices can help to preserve Shandur's fragile ecological system in particular and regions environment in general.

### Types of Solid Waste Generated during the Polo Festival:

Polythene bags, Glass, Plastic bottles, Milk pack boxes, Poultry waste, Old shoes, Clothes, Vegetables, Fruits, Cold drink bottle caps, Glass bottles, Medicines, Syringes, Paper, Blades, Wood pieces, cotton.

**Table: Solid Waste Assessment at Shandur**

<b>Parameters.</b>	<b>Average Total solid waste</b>
Total bio-degradable solid waste.	750 kg.
Total non-biodegradable solid waste.	1350 kg.
Average /capita solid waste.	0.279 kg.
Average /capita bio-degradable solid waste.	0.0837 kg.
Average /capita non bio-degradable solid waste	0.1953 kg.
Total bags collected	350 bags.
Average weight / bag	9 kg.
Percentage of bio-degradable.	35%
Percentage of non-biodegradable.	65%
Total solid waste collected.	2,100kg

Note: estimated visitor influx = 6000-7000

### Equipments/Machinery

Following equipments were used during the post clean up campaign of the festival.

**Table: Equipments used**

<b>S #</b>	<b>Equipment/Machinery</b>	<b>No</b>
1	Tractor Trolleys	1
3	Dustbins (installed)	20
4	Bags	1,000
5	Vehicles	01

6	Gloves	120
7	Masks	75

### Monitoring of the Festival:

During the three day festivity NA-EPA officials and volunteers were proactive and monitor the activities of visitors who camp near the wetlands and didn't allowed cars and cloth washing nearby lakes in order to save the pristine wetland environment of Shandur. At the same time the telenor franchise telecommunication company was warned about the use of synthetic colors to paint the logo on local stones adjacent to one of the wetland of Shandur. The company used leaded synthetic colors on native stones to make the logo of their company which may cause disturbance to the livestock of local communities and it may disrupt endocrine hormonal system of wildlife, avifauna and aquatic fauna. The franchiser left over synthetic color tins on the bank of lake instead of taking it back which was later on disposed off by NAEPA Volunteers.



### Hurdles faced by NAEPA:

Many shopkeepers and other peoples did not cooperate with the NAEPA volunteers at the collection time. It was noticed at the collection time that some dustbins were theft from their placement side. Most of the shopkeepers instead of aware them that the waste must be disposed off in the bags provided by NAEPA volunteers but most of the solid waste was found scattered nearby areas.

### Threats of Solid Waste if not managed:

#### Threats to livestock:

Local people said that their livestock are harmed or even die from eating ploythene bags and other waste generated during the festival.

**Burning of solid waste:**

The burning of solid waste at Shandur affects the atmosphere because it gives off CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>, PM (particulate matter), methane and other noxious gases to the atmosphere. This adds to the greenhouse effect and causes climate change, in addition to phenomena like smog and acid rain.

**Surface water and ground water:**

Decomposition of the organic materials in municipal solid waste can give rise to heavily contaminated waste, known as "leachate", which may pollute both surface waters and ground water. Water pollution from leachate is a major problem associated with uncontrolled dumping of solid wastes. In Shandur wetlands are near to camping sites from where the solid waste enters the lakes and creates pollution, affecting the biota found there.

**Grasses and pastures:**

The solid waste is a threat to grasses and pastures especially in Alpine and sub Alpine environment because biodegradable solid waste and liquid waste contribute toxic chemicals which harm the grasses and the organisms living in the soil.

**Recommendations:**

Following recommendations and considerations are made on the basis of experience of solid waste management at Shandur polo festival;

- The NWFP especially Chitral Administration should allocate sufficient fund within the approved budget of the festival for post cleanup campaign.
- Most of the people particularly from NWFP show negligence for waste disposal in particular dustbins and they use to take the dustbins for their own purposes instead of using it for waste disposal. So greater degree of awareness raising campaigns should be carried out to bring them on-board next year.
- In order to synergize the efforts of NAEPA, the NWFP environment department should take necessary step to protect the fragile ecosystem of Shandur as it is the joint responsibility of both administrations.
- The budget for post cleanup is not sufficient to carry out the whole effort properly therefore it may increase up to Rs 0.3 million to sustain the ongoing effort.