

"LET'S MAKE OUR PLANET **GREEN**"



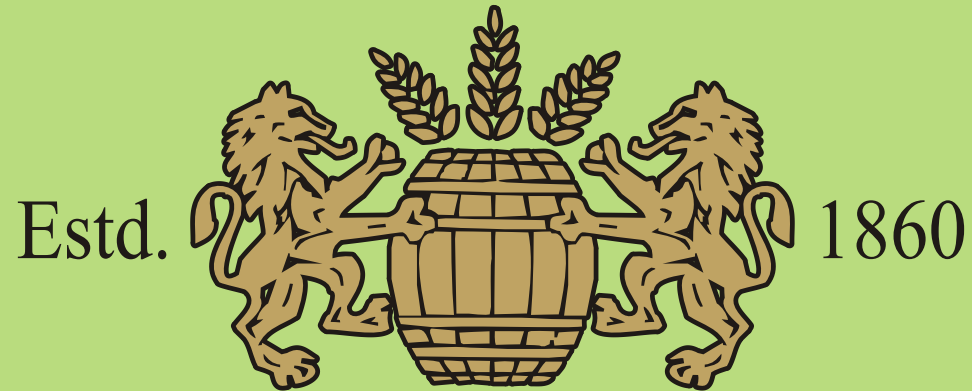
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1860

**MURREE BREWERY'S**

ISO 9001, 14001 & HACCP Certified Company

**ENVIRONMENTAL  
MANAGEMENT  
MANUAL**



Estd.

1860

# **MURREE BREWERY'S**

**ISO 9001, 14001 & HACCP Certified Company**



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# CEO MESSAGE

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My vision has always been, “Brighter, greener future for our customers, our employees and Murree Brewery Company”

Through the efforts of our dynamic management team and the focused activities of our environmental policy, we have reduced our environmental footprint even as we grow our business. We have a strong record of investing in initiatives that reduces our greenhouse gas emissions, water usage, and increase the recycled material in our packaging, as well as its recyclability. We are also committed to environmentally sustainable sourcing of inputs.

We have embedded strong environmental management systems and have put in place clear environmental targets. Establishing, monitoring and measuring these targets help to ensure we remain accountable for our sustainability commitments.

Today, I see that we have come a long way but still have miles to go.

Thank you for your interest in Environmental Management System at Murree Brewery Company. After



you've explored our report, please take a few moments to give us your feedback. We value your input.

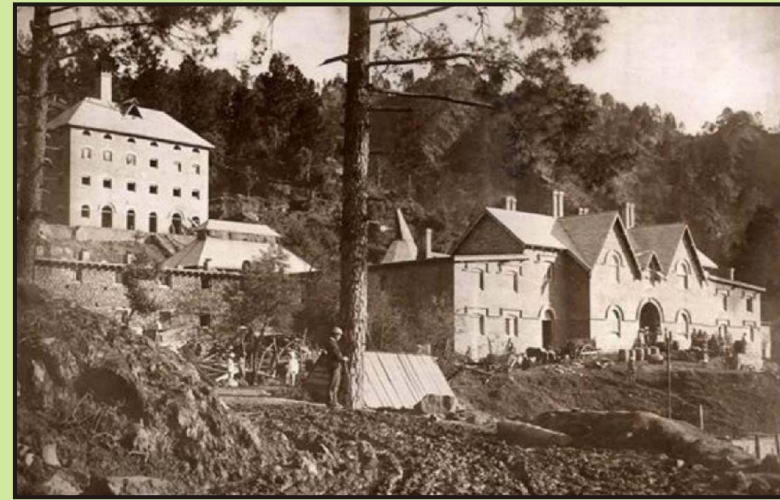
Isphanyar Bhandara  
*CEO*

[murreebrewery@cyber.net.pk](mailto:murreebrewery@cyber.net.pk)

# HISTORY

To meet the beer requirements of British personnel (mainly army), the Murree Brewery was established in 1860 and incorporated a year later at Ghora Galli. Between 1885 & 1890 the Company established Breweries in Rawalpindi & Quetta. A distillery was also established in the above period in Rawalpindi next to the Brewery. The Murree Brewery at Ghora Galli was therefore among the first modern beer breweries established in Asia.

Murree Beer was first awarded a medal for product excellence at the Philadelphia Exhibition in 1876, followed by numerous awards over the past 140 years. In 1935, a massive earthquake totally demolished the Quetta brewery as well as substantial part of Quetta town, killing thousands of persons, including a number of their employees. At Ghora Galli (Murree), the scarcity of water became an emerging problem. By the 1920s, brewing was mostly transferred to the Rawalpindi brewery but malting continued at Ghora Galli till the 1940s, when this property was sold.



Murree Brewery 1864

The Rawalpindi brewery is blessed with deep aquifers of good water. Under the present prohibition law, only non-Muslims and foreigners are permitted to consume alcohol. Notwithstanding the consequent reduction in demand, the Company decided as policy to concentrate on product excellence. It was decided to modernize the plants.

Their two underground cellars now hold over half a million liters of Malt Whisky for varying periods of



maturation up to 21 years under controlled temperature conditions. Another wave of modernization was undertaken in the year 2000. New, state of art brew house, beer canning line and modern bottle filling facility was installed. Our beverage specialists have developed numerous non-alcoholic beers and carbonated soft drinks in the rapidly growing beverage industry in Pakistan.

Tops Food and Beverages, a division of Murree Brewery Company, was established in 1969. It processes fruits and markets fruit juices and allied food products. Two manufacturing units are located in Rawalpindi and Hattar respectively. A Tetra Pak packaging facility was added in 2001. The Hattar plant was installed in 1992.

Murree Glass, another division of Murree Brewery Company is dedicated to the manufacture of quality glass containers since 1974. It is pioneer in lightweight, quality controlled glass bottles.

Murree Sparkletts, is also a division of the company and was established in Hattar in 2011 to excel in drinking

water industry. The plant is equipped with two semi and two automatic blow machines along with two filling lines.

The Murree Brewery is one of the oldest public companies of the sub-continent. Their shares were traded on the Calcutta Stock Exchange as early as 1902, and are now the oldest continuing industrial enterprise of Pakistan.



RUINS OF MURREE BREWERY (GHORA GALI)



# COMPANY PROFILE

Murree Brewery Company was established in 1860 and is currently the oldest continuing enterprise in Pakistan. MBC is engaged in the production of alcoholic and non-alcoholic, carbonated and non-carbonated beverages products. Today, we are proud of holding ISO 9001:2008, ISO 14001:2004, Halal & HACCP certifications. Furthermore, OHSAS 18001:2007 certification is in its last phase of completion.

Murree Brewery Company has long standing commitment not only to customer satisfaction but also to the fragile environment. Our Company is always motivated to invest in new technologies to contribute and support the green economy.



# OUR ETP STAFF

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# OUR VISION

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Murree Brewery Company is increasingly concerned with achieving and demonstrating sound environmental performance by controlling the impacts of their activities, products and services on the environment, consistent with their environmental policies and other measures that faster environmental protection and increased concern expressed by interested parties about environmental matters and sustainable development.



# OUR MISSION STATEMENT

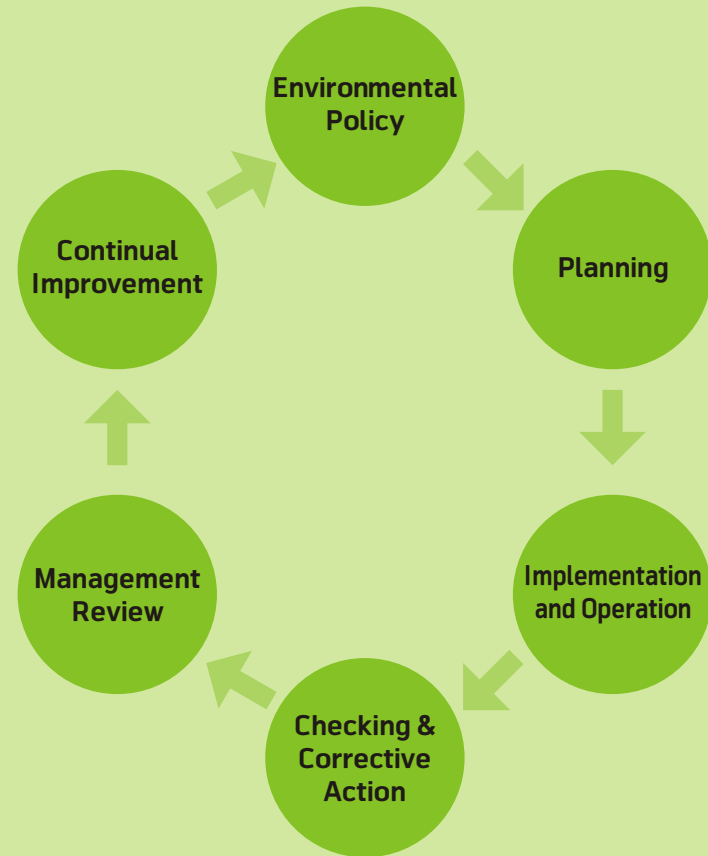
We, the people of Murree Brewery Company, make personal commitment to satisfy consumers' needs for superior quality, natural and healthy products. Quality is the cornerstone of our Company's activities. Focusing on packaging innovations and extensive quality controls, our Company continually strives to adapt to its customers changing needs.

We take seriously our responsibility to operate as a **Steward of the Environment** by encouraging employees to recycle all possible pallet, shrink wrap, glass, plastic, carton and aluminum waste being an **Environmental Friendly Company**.

We are determined to be the best, both as a Company and as individuals by setting high ethical and moral standards.

We will not engage in or support any act that is unethical or illegal.

Our employees are vital component in the Company's success and in the fulfillment of our mission and believes.





# ENVIRONMENTAL POLICY

Murree Brewery Company is committed to environmental leadership and providing quality products in a manner that ensures a safe and healthy workplace for our employees. This requires the commitment of every one working in this institution to pursue our activities safely to minimize our potential impact on the environment. We will operate in compliance with all relevant environmental legislation and will strive to use pollution prevention and environmental best practices in all we do. We will:

- integrate the consideration of environmental concerns and impacts into all of our decision making and activities.

- promote environmental awareness among our employees and encourage them to work in an environmentally responsible manner.

- Train, educate and inform our employees about environmental issues that may affect their work.

- encourages efficient use of energy, utilities and natural resources particularly those that are non-renewable,

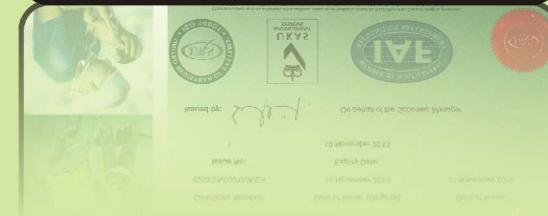


- avoid unnecessary use of hazardous materials and products, seek substitutions when feasible, and take all reasonable steps to protect human health and the environment when such materials must be used, stored and disposed off,
- purchase products and services that do the least damage to the environment and encourage others to do the same,
- convey to our customers, industry associates, vendors and general public our strong environmental safety and health commitment,
- strive to continuously improve our commitment to the above stated principles through exercise of our EMS, improved technology, production changes and due diligence.

# Environmental Management Certification

Murree Brewery Company is EMS ISO 14001:2004 certified by United Registrar of Systems (URS), an internationally recognized institution for ISO certifications. This environmental standard ensures that we not only comply with the legislation, but also excel in this area by achieving targets and objectives higher than those specified in the standard.

Murree Brewery Company has received 9th Annual Environmental Excellence Award 2012 for its excellent track record, services and performance on Green Economy.





# QUALITY AND FOOD SAFETY POLICY

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We the people of Murree Brewery Company make the personal commitment to first understand the customer requirements to provide safe, hazard free products through Quality purchases of raw materials and by processing under hygienic conditions in order to meet and exceed customer satisfaction through the implementation of HACCP system by fulfilling national and international legal requirements, by performing the correct tasks in time and every time through

Continuous improvement

Alignment of our missions and goals

Responsibility and respect for our jobs and each other

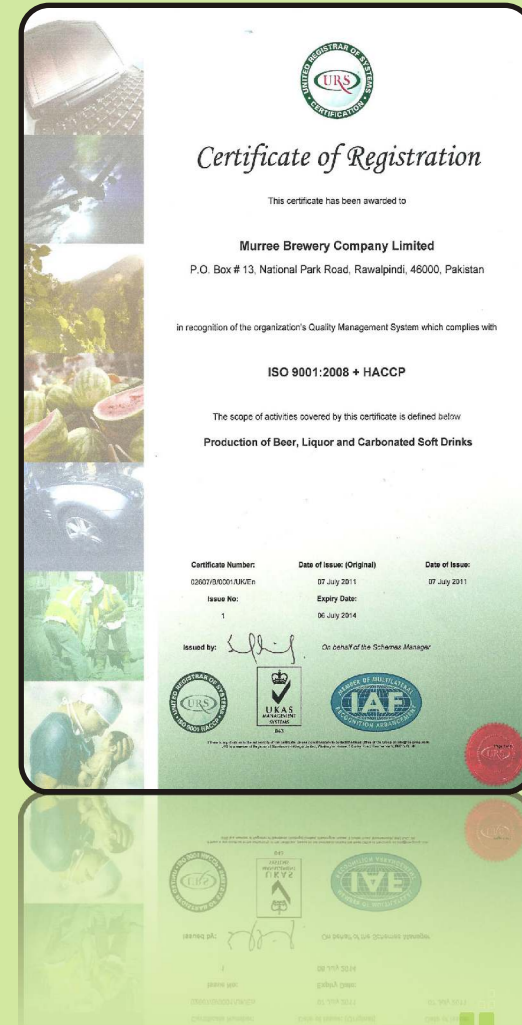
Educating one another



Q  
POLICY

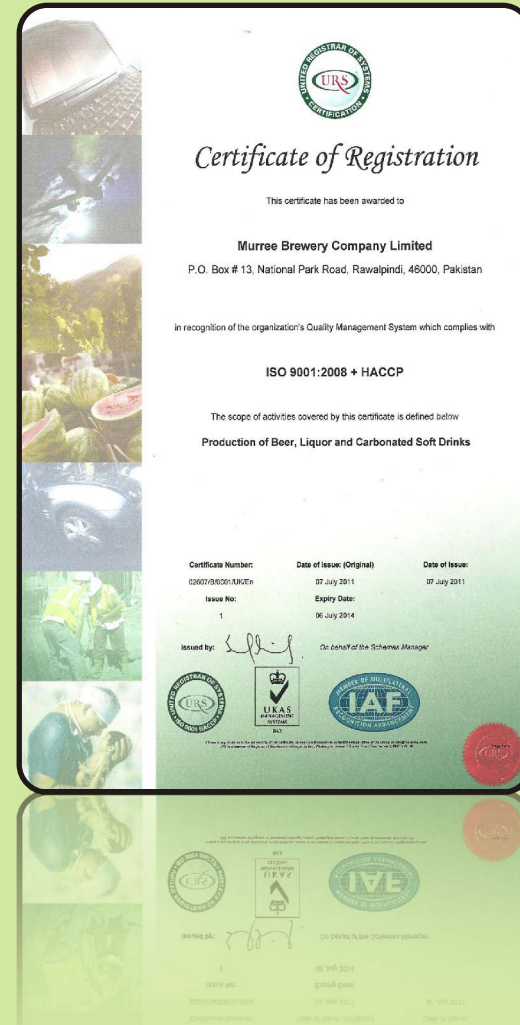
# Quality Management System Certification

Murree Brewery Company has received QMS ISO 9001:2008 certification by United Registrar of Systems (URS) for our quality management system. This system focuses on continual improvement and customer satisfaction by ensuring that our products, processes, and services meet and exceed our customers' expectations. This is achieved through implementing a broad range of quality management procedures and product quality is monitored by reviewing the past performance of our key suppliers as well as our own performance.



# Food Safety Management

Murree Brewery Company has implemented HACCP system to cover important elements to ensure food safety, interactive communication, systems management, control of food safety hazards through pre-requisite programs. This demonstrates our ability to control food safety risks and ensures that our products are safe for our customers to enjoy.



# ENVIRONMENTAL COMMITMENT

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We are committed to Environmental Leadership and providing quality products in a manner to ensure a safe and a healthy workplace for our employees. This requires the commitment of every member of Company to conduct its activities safely to minimize potential impacts on environment.

We operate in compliance with all relevant environmental legislation and strive to use pollution prevention and environmental best practices in all we do. Today, Murree Brewery Company is proud of its long standing commitment to a clean environment by constantly searching for the new ways and technologies to minimize environmental impacts. Environmental stewardship is a critical part of our operating philosophy. In area of energy, water usage, emissions, recycling and waste management, we have worked hard to strengthen and restore our environment. Our organization aims to be acknowledged in the field of environmental management as innovative, motivative, activative and above all a dynamic contributor.



Management is committed to operate an effective Environmental Management System (EMS) as part of an integrated framework for sustainable environmental stewardship. Our EMS aims to comply with all applicable environmental and energy statuses, regulations, and executive orders. The EMS is integrated with Environmental Protection Agency's (EPA) mission to protect human health and safeguard the environment. This is accomplished through setting targets for environmental stewardship, reducing or preventing pollution, preserving environmental resources and enforcing environmental protection in conjunction with other governmental agencies.



# EFFLUENT TREATMENT PLANT

## General Process Description:

The thermophilic bio-methanation digester is a unique technology, first time introduced in Pakistan and is designed to treat 100 cu-m of spent wash /day. The spent wash discharged from our distillation plant is around 80-85cu-m/day which contains BOD 48,000 mg/l and COD 80,000 mg/l. This spent wash is finally reduced up to maximum 90% in this thermophilic process.

Nature of Biogas	
Biogas generated /day	3,500 m <sup>3</sup> /day
Calorific Value	5,400 K-Cal/m <sup>3</sup>
Methane	55 65 %
Carbon Dioxide	33 35 %
Hydrogen Sulphite	1.5 2%

The total suspended solids of the spent wash are minimized during distillation process at fermentation stage by use of a chemical, (sodium hexametaphosphate) which allows maximum settlement at the bottom of fermentation vessel as sludge. The bottom sludge from the fermenters is transferred to the decantation system where the sludge

is removed and used as manure for plantation. The hot spent wash discharged from the distillation plant is collected in a specially designed receiving pond divided into different compartments to allow further settlement of solids and heavy particles prior to be fed to the digester.



ANAEROBIC DIGESTER



GAS SCRUBBERS





The overflow from the digester flows into the secondary clarifying system which collects the active biomass at the bottom and with the help of sludge pump is transferred back to the digester. The effluent then undergoes chemical treatment process with different polymers, lime and alum which further reduces organic load. The effluent then enters into an advanced stage of tertiary treatment where aeration of effluent is performed with two sets of twin lobe rotary roots type air blowers. The overflow from the pond enters into wastewater drain within the National Environmental Quality Standards.



SECONDARY TREATMENT PLANT



TERTIARY TREATMENT PLANT



SLUDGE SETTLEMENT SYSTEM



DECANTATION OF SLUDGE



OUTLET DRAIN TO NALLAH LAHI



ETP LABORATORY



# SOLID WASTE MANAGEMENT

We have adopted the 3R's of solid waste management which not only turn our waste streams into source of revenue but zero wastes to the landfills by recycling

- Glass bottles/aluminum cans
- Pet bottles and plastic
- Corrugated cardboard
- Magazines and news papers
- Metal scrap
- Spent grains as cattle feed.
- Yeast sludge as nutrients for plant



## *Recycling packaging waste*

We investigate the stream of waste produced which includes our brewing, distillery and bottling facilities. In the recycling process, we separate all types of waste including glass, metal, paper, wood, plastic, and cardboard into those materials that can and cannot be recycled. Casks that can no longer be used for aging are reused as corking material for newly filled casks.

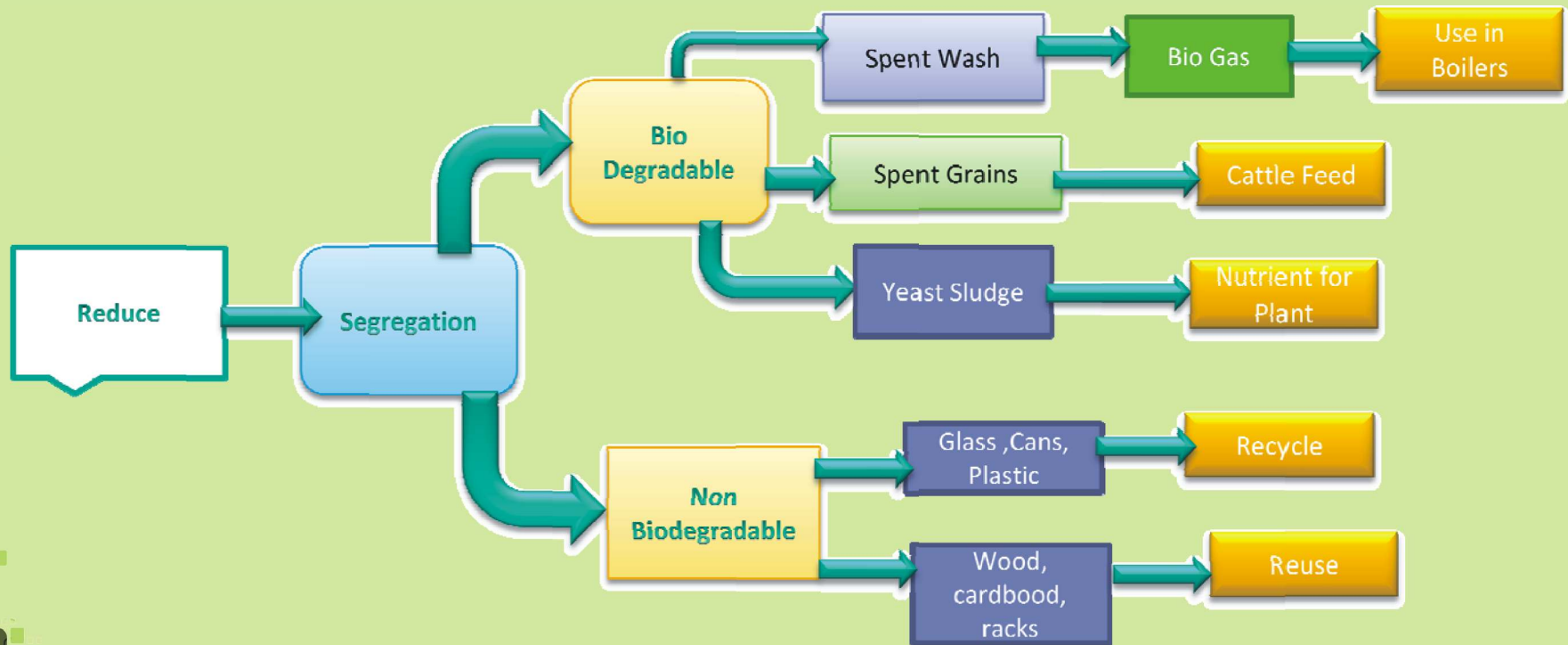
We also cut old casks in half and sell them as garden planters. Natural by-products of the distilling process such as yeast sludge is used on our grounds as fertilizer and sell spent grains produced during brewing process which is used as cattle feed.

All wooden pallets are used for stacking finished goods in ware houses and the broken pallets are used in the premises for wood work. Similarly, broken glass bottles are collected from the productions areas and transported to our Murree Glass Division, Hattar for recycling.

We prepare detailed monthly reports of the waste that each division generates and the associated costs. We have already achieved over 80% recycling on all waste streams generated and will aim for further improvement.



# FLOW CHART OF SOLID WASTE MANAGEMENT



# ENVIRONMENTAL AUDITS

Periodic and process audits are conducted in order to ensure that environmental management system has been properly implemented and maintained. The results of these audits are presented and discussed in the management review meetings. We conduct three different types of environmental audits with the set schedule throughout the year.

## *Three Types of Environmental Audits*

Murree Brewery Company works to improve the quality of its environmental management in a multifaceted manner by utilizing three different types of audits with differing administrators and standards.

### **Internal Environmental Audit**

### **Third Party Audit**

### **Management System Audit**

**Internal Environmental Audits** are conducted by Environmental Cross Functional Team of the Company. They are performed once or twice a year to check on compliance with regulations and laws and conformance with ISO standards at the organizational level.

**Third Party Audits** on ISO 14001:2004 are conducted by the EPA approved laboratories which include M/S National Cleaner Production Center Foundation, Solution Environmental & Analytical Laboratory and Hagler Bailly

Pakistan. The audits are performed on quarterly basis to evaluate the performance of Environmental Management System.

**Management System Audits** which are conducted by the UKAS certification body on ISO 14001. The audits are performed by the representatives of United Registrar of Systems (URS) once a year.

The results of environmental audits are reported to the Chief Executive during a meeting with the members of Cross Functional Team and also through various reports in order to improve the quality of environmental management system on each site.

## *Management Review*

Murree Brewery Company Management Team annually reviews all the elements of environmental management system to ensure continuing stability, competence and effectiveness including assessment opportunities for improvement. Management Review addresses the complains, audit findings, safe working procedure, progress of objective and targets, status of corrective and preventive action plan and emergency response system.



# ENVIRONMENTAL AWARENESS & TRAININGS

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Murree Brewery environmental management responsibilities reach into every corner of the company. We place considerable emphasis on environmental trainings, as well as achievement of international standards and internal targets we set for ourselves.

We are conducting special training for environmental cross functional team since year 2010. These trainings aims to improve the skills of employees expected to function as internal auditors, and goes beyond factory environmental protection activities, to cover environmentally conscious products and services and other matters, in an attempt to support business activities from multiple perspectives.

Several types of training were conducted in year 2012 on objectives like providing ISO 14001 information useful to cross functional team and looking at internal audits from a management perspective were taken by top management. Furthermore, in June 2012, we held

briefings on the Global Warming and on the Rational Use of Energy during our seminar on “World Environment Day”, where active Q&A sessions helped to deepen everyone's knowledge.



# SAFETY, HEALTH & ENVIRONMENT

We are strongly committed to conduct our business in ways that provide all personnel with a safe and healthy work environment. Our HSE management system ensures worker safety and incidence of occupational injuries and illness. Our systematic approach to manage Occupational Safety & Health under a well defined standards and requirements.

We have integrated safe working practices in all the corners of our organization by developing rigorous set of operational controls to manage the known aspects and risk of all operations. Full implementation of these controls ensures that we are providing a safe work place for our employees.

This HSE management system also recognizes the risks and mitigation controls unique to our operations. Our cross functional team is a part of integrated management system which incorporates food safety, quality, environment & occupational safety and health into a single framework.

Periodic internal audit process helps us to implement our operational controls and to assess the compliance status of our manufacturing operations with applicable laws and regulations.

We often do safety meetings and tool box talks with our workers and maintain best health and safety culture in our organization.



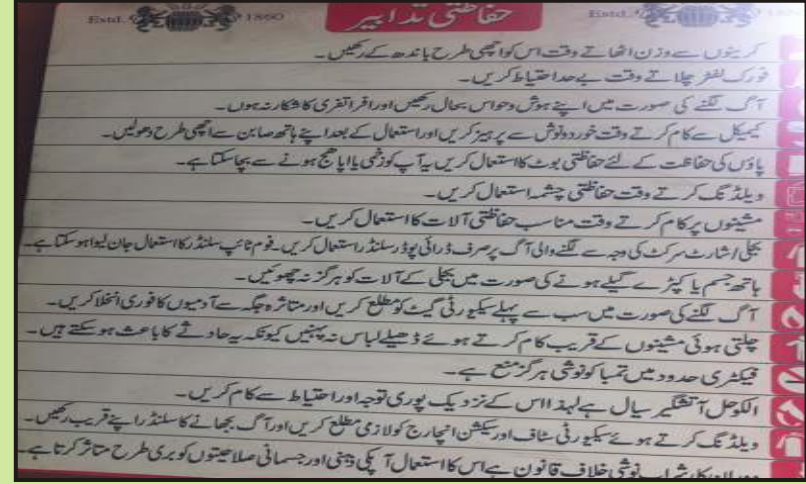
FIRE EQUIPMENT STATION







FIRE DRILL



SAFETY INSTRUCTIONS



SAFE WORKING ENVIRONMENT



FIRE DRILL

# CONTINUAL IMPROVEMENT

## *Developing New Environmental Activities*

### **Promoting container recycling**

One of the important efforts of our production department is to work in cooperation with the companies dealing in plastic and cardboard in order to maximize our levels of recycled materials. Maximum waste cardboard is reused as bottle partition sheets in the cartons.

We are working in close collaboration with our suppliers to resolve the plastic disposal and pollution problems by the



BOILER HOUSE

introduction of additives and materials to produce and supply eco- friendly biodegradable plastics for our company.

### **Reducing CO2 emissions**

We have been working to determine the basic amounts of energy and fuel we use at our plants, set annual reduction targets, and develop new approaches. We review our findings on monthly basis..As a result, we replaced our aging water-tube boilers with state-of-the-art flow-through boilers, which improved our fuel-use efficiency and reduced NOx emissions. Similarly, CO2 produced during our fermentation process is collected and used for bottling of carbonated beverages. We have minimized our boiler blow downs by using RO feed water. Our target is to further minimize emissions by the use of electro static precipitators in the boiler chimneys. Carbon emission reductions are further made by the introduction of indirect heating system in our kiln for the production of malt.



### **Use of Sunlight**

We have lowered the amount of electricity by illuminating the dark areas with fiber sheets which allows the natural sunlight to pass through.

### **Conserving water resources**

We have re-examined our water usage during brewing, distillation and bottling, and have not only reduced our overall water usage levels, but also improved water quality management of the waste water we produce.

### **Reducing obnoxious smells**

Every year with the arrival of spring we launch plantation campaigns. In year 2012, we have planted 500 Bamboos on the banks of Nallah Lehi, 200 Citrus & other fruit trees in the workers colony. Trees like pine, maple, mehandi & many different types of flowering plants are planted around Effluent Treatment Plant to reduce obnoxious smells.

### **Conserving electric power**

We have lowered the amount of electricity required for cooling by adopting heat exchange devices in the cold filtration process used in the manufacture of beer. By adopting modern & more efficient Refrigeration Technology, we are saving 12 KVA/day.



SKY SHEETS IN PRODUCTION HALL



MBC GARDEN

PLANTATION CAMPAIGN



FINISHED GOODS STORE WITH SKY SHEETS



ELECTRIC FORKLIFT

Annual third party Energy Audit is conducted yearly by National Cleaner Production Centre Foundation (NCPC) to identify areas for energy conservation.

### Transportation

We have shifted few of our ware houses outside the factory area to avoid vehicles emissions and to promote a healthy environment within factory premises for our employees. Similarly, Diesel forklifts are now replaced with electric forklifts.

Vehicles emission inside the premises is also minimized by introducing vacuum suction system for barley unloading outside the factory area.



# MONITORING & EVALUATION

Murree Brewery Company is committed to its environmental policy and to improve its environmental performance strongly believes in Third Party Auditing for process monitoring and measuring.

Our selection criterion of Environmental Laboratories for testing and evaluation is based on recognized EPA Laboratories.

## *LIST OF ENVIRONMENTAL LABORATORIES*

National Cleaner Production Centre Foundation (NCPC), Morgah, Rawalpindi.

Hagler Bailly Pakistan (HBP)  
E-7, Islamabad.

Solution Environmental & Analytical Laboratory (SEAL), Kot Lakhpat, Lahore.



MBC CENTRAL LABORATORY



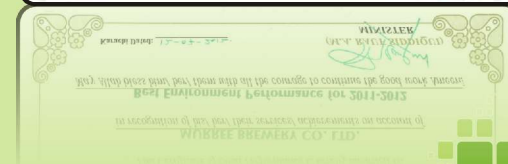
ANALYTICAL WORK

# ACHIEVEMENTS

Murree Brewery Company has received awards recognizing the environmental protection commitment and hard work of our dedicated management and experienced staff. We are proud to present some of the awards and achievements we have received over the past few years.

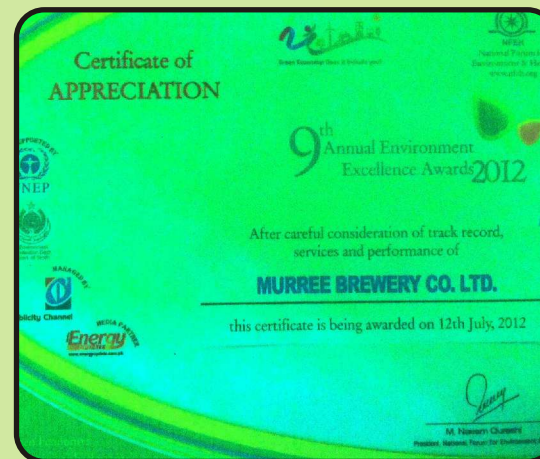
## *Best Environmental Performance Award.*

The Best Environmental Performance Award for the year 2011-2012 recognizes individuals and member agencies that have outstanding contributions to environmental protection. The award was presented by Minister for Industries & Commerce, Government of Sindh, Pakistan.



## 9th ANNUAL ENVIRONMENT EXCELLENCE AWARD

Murree Brewery Company in 2012 received 9th annual environment excellence award presented by National Forum for Environment & Health (NFEH) affiliated with United Nations Environmental Program (UNEP) and supported by the Ministry of Environment, Government of Pakistan. This award recognizes local businesses for their environmentally friendly efforts in the areas of green building, waste reduction and recycling, water conservation, energy efficiency.



## 7th Consumers Choice Award

Murree brewery Company on 22nd Feb, 2012 was awarded for business excellences in co-operate, product services quality benefiting the consumer with in Pakistan. Consumer Association of Pakistan announced Bigg Apple as the best carbonated soft drink.





# EVENTS

## *World Environment Day (WED)*

The most important event on environmental calendar, World Environment Day (WED), is celebrated globally on 5th June in more than 100 countries.

We celebrated this day by organizing a seminar “Green Economy-Does It Include You?” on June 04, 2012 at Murree Brewery Company.



## *Dengue Awareness Campaign*

A Dengue Awareness Day was held on September 23, 2012 keeping in view the seriousness of this disease. All the workers of Murree Brewery Company attended this seminar for the Dengue Eradication Measures.

## *Polo Tournament*

The Murree Brewery Polo Cup since 1904 is the Oldest Tournament of Pakistan. This Tournament is held every year with the onset of spring season. Last year, the finals of the Historic M.P. Bhandara Memorial 108th Murree Brewery Polo Cup were held on April 14, 2012 at the Race Course Park, Polo Ground, Rawalpindi.







## **MURREE BREWERY'S**

ISO 9001, 14001 & HACCP Certified Company

National Park Road, Rawalpindi, Pakistan

Tel: 051-5567041-7, Fax: 051-5584420



Tops Food & Beverages  
Since 1969

### **Tops Food & Beverages**

3-National Park Road,  
Rawalpindi, Pakistan

Tel: 051-5567041-7, Fax: 051-5565461



Since 1974

### **Murree Glass**

Factory: Plot # 244, Phase-III,  
Industrial Estate, Hattar, KPK, Pakistan

Tel: 0995-617233, Fax: 0995-617188



### **Murree Sparkletts**

(A DIVISION OF MURREE BREWERY COMPAY LTD.)  
Plot # 10/2, Phase III Industrial Estate,  
Hattar, KPK, Pakistan.

Ph: 0995-617480, Fax: 0995-617320

[www.murreebrewery.com.pk](http://www.murreebrewery.com.pk)