



شہری
CITIZENS FOR
A BETTER
ENVIRONMENT

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it's the only thing that ever has.

- Margaret Mead

SHEHRI

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MARCH 1993

SHOULD CANTONMENTS GO?

Cantonment areas were originally set up by the Colonial Government on the outskirts of the cities of the subcontinent to centralise their strategic defence and administrative installations and personnel. Each city in addition also had a cantonment in the downtown area where civic buildings and the houses of the elite (primarily the British officers of the superior services) were located. This was done to preserve a certain standard of living and in times of crisis (say insurgencies by the 'natives') to preserve and protect the honour and dignity of the ruling classes and their families.

Karachi was no exception to this principle of city planning, and accordingly six cantonments within and on the outskirts of the city area namely Manora, Drigh, Maifir, Clifton, Korangi Creek and Karachi Cant, were located.

Today, with the massive growth in population since 1947 and the unplanned spread of the city, Clifton and Karachi Cantonments are now totally within and themselves composed of dense residential areas. The others have residential density of varying degrees. By no definition do any of these fall within the hinterland anymore and are very much within urban areas.

This is an undesirable and potentially very dangerous state of affairs on several counts:

- Karachi is at present governed by several agencies such as KDA, KMC, KPT, SITE, LITE, various housing societies and authorities, the six cantonments mentioned above etc. There is already a tremendous overlap in function and responsibilities and many grey areas which leave the ordinary citizen in a perpetual state of bewilderment as to who or where

to turn when faced with an urban problem. In such a situation the continued presence of the cantonments with their own sets of rules and regulations and indeed even local government (cantonments are on the federal legislative list and therefore do not fall within the purview of the provincial government but under the Ministry of Defence, Islamabad), further adds to Karachi's confusion.

On the urban planning count

suddenly into high rise, high density commercial and residential developments (Mall Square at Zamzama, for example). All this is done by the mere stroke of the proverbial bureaucratic pen. By thus increasing the value of the land at the time of sale, or just after, many millions are made by a few people. Thus the Cantonment boards abet the pursuit of private profit at the expense of public good.

Although we, the general public, do not have details of

Will the autocratic cantonment boards go?

By Anwar Saifullah

KARACHI has a long history of cantonments. Six of them were established by the British colonial government in the early 19th century. These were Manora, Drigh, Maifir, Clifton, Korangi Creek and Karachi Cant. The cantonments were established to house British officers and their families. Over the years, the cantonments have become residential areas. Today, the cantonments are a part of the city. The cantonment boards are the governing bodies of the cantonments. They are responsible for the development and maintenance of the cantonments. The cantonment boards are autocratic bodies. They have the power to make decisions without consulting the public. This is a problem for the city. The cantonment boards should be abolished. The cantonment areas should be integrated into the city. This will help in the development of the city and the welfare of the citizens.

the cantonments have played a dismal and even nefarious role. From time to time precious parcels of land are auctioned off or sold to generate money, supposedly for development purposes. The selection of which parcel of land is to be auctioned for what purpose is done without the least consideration to environmental impact and in open violation of the principles of urban planning. Since the Cantonment boards also controls land use and zoning within their areas, many low rise, low density areas have been converted

strategic defense installations or ammunition stores within the cantonments, these must exist. Are we then to wait for an Ohri Camp like disaster to see how our super efficient line agencies perform at crisis management or should we learn from experience and act now?

We are concerned about this state of affairs.

A recent item appearing in the daily 'THE NEWS' (Feb. 11th

1993) has prompted much speculation. Apparently at the behest of the Governor Sindh, the Quarter Master General (QMG) Pakistan Army, Lieutenant Arif Bhangash, asked the Director General Cantonment Boards Mr. Kishwar Khan to solicit comments from the various Cantonment Boards as to how they feel about abolishing the Boards. To us this is a case of asking the rulers if they wish to abdicate and give up all their perks and privileges (including privy purses) and turn into ordinary God-fearing citizens, having all the joys and advantages implied therein.

One wonders if the QMG and DGCB are merely doing what our bureaucracy does with issues it does not wish to resolve: Start a file. But above the QMG and the DGCB is our Pakistan Defence Minister Syed Obaidullah Shah, who having previously served the province of Sindh in many capacities could perhaps look into the matter?

A TERRIBLE ACT OF OMISSION

The Environmental Protection Council (EPC) was formed in February 1984 due to an Ordinance called the Environmental Protection Ordinance (EPO) itself promulgated on 31st December 1983. The EPC has been empowered to deal with many environmental issues in the country. These include but are not limited to the determination of standards for industrial effluence and motor vehicle emissions as well as to the delegation of executive powers of implementation to the

provincial EPAs (Environmental Protection Agencies). However, not a single meeting of the EPC, of which Mr. Nawaz Sharif is the Chairman, has taken place since its inception 9 years ago. SHEHRI-CBE requests the Prime Minister to hold this meeting as soon as possible so that the EPO can be implemented.

Appropriate measures must be taken to prevent further degradation of the environment so that a beginning can be made on the path of sustainable development.

Or perhaps some caring member of the National Assembly could propose the dissolution of the cantonments as a private members bill. Could the Minister for Environment, Mr. Anwar Saifullah Khan take up the cause?

The cantonments and others like the KPT and the Railways are indeed holding large chunks of undeveloped and potentially very valuable urban land, which could be put at the disposal of the city for providing public amenities and thereby improving the quality of urban life. But it is professional urban planners who must be called in to propose what is to be done and it is for the citizens to select from amongst the proposals.

For certain we neither need the Military Engineering Services (MES) in the middle of the city nor do we need shopping plazas and high rise living in its stead.

Is it too much to ask that all undeveloped Cantonment land be turned into parks, auditoriums and libraries? Without lungs the city cannot be expected to live for very long.

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COMMERCIALISATION OF P.E.C.H.S.



In the original Masterplan of PECHS commercial and residential areas were clearly earmarked and the only road that was commercial to a certain extent was Tariq Road. But now

residential areas are also fast being taken over mostly by Car show rooms as the picture above shows. This show room is on Sir Syed Road, supposedly a purely residential area.

LANDFILL IN LAKE



In spite of citizens' protests and an acute shortage of open spaces in the city, a lake at the junction of Dr. Mahmood Hussain Road and Tariq Road in P.E.C.H.S. is being filled up as the plot has been allotted to a property speculator, SHEHRI in an earlier issue of its newsletter (July 1991) pointed out

that this lake was prime property for unscrupulous developers and a 'Letter to the Editor' printed in 'Dawn' (Monday May 18, 1992) written by a concerned citizen also drew attention to this fact and appealed to the Chief Minister of Sindh to save the lake.



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Printed by Unique Printers at
Press Chambers, Mohd. bin
Qasim Road, off Chundrigar
Road, Karachi

Reproduction of articles is
welcome providing the source
is acknowledged.

The articles/news items pub-
lished in the SHEHRI newslet-
ter do not necessarily express
the views of the Editor/Editorial
Board.

SHEHRI NEWSLETTER

TARIFF RATES

Language: English
Frequency: Bi-monthly
Place of publication: Karachi
Distribution: Nationwide and
international
Paper: Mechanical glazed
newsprint
Size: 16.5x22.5 Inches
Pages: 8

TARIFF

ALL ADVERTISEMENTS

ARE 9X5 cm IN SIZE

Color:

Front page: Rs. 1,500

Back page: Rs. 1,200

Black and White

Inside pages: Rs. 500

ENVIRONMENT AND HEALTH- CHEMICALS, LIFESTYLES AND THE ENVIRONMENT

During the past 50 years, there has been a tremendous increase in the production of organic chemicals to satisfy our demand for consumer goods, as well as an increased demand for valuable heavy metals, for both personal and industrial use. As we enjoy the benefits of consumer goods, we must also learn to deal with the challenges that go along with them. The chemical industry has produced a wide variety of products that have much improved our standard of living and generally increased human life expectancy. However, associated with these benefits are the risks of accidents, contamination, pollution, spills and more hazardous wastes all of which could endanger human health and leave harmful residues in our environment which can or may affect fish and wild life and impair the fragile balance of the environment that we live in.

Pollutants reach areas far from factories by means of wind, water (including ground water) and by entering the food chain. Organisms tend to store some chemicals in their bodies; therefore, even a low concentration of a pollutant may be increased to a high level by being stored in the body of an organism over a period of time. If such an organism (plant or animal) is consumed by human beings, the toxic effects of the pollutants stored in its body can cause severe damage to health.

The government has been encouraging the import of used machinery for setting up industries in the country which facilitated the setting up of tanneries and other industries discharging heavy loads of pollutants. In the early days, heavy polluting industries were set up away from the cities. With the rapid growth of population, cities have expanded and now many heavy industries are surrounded by large human settlements.

Three quarters of the 49 million people whose deaths are registered each year, are killed by illnesses related to a poor environment, and an unhealthy lifestyle according to a WHO (World Health Organisation) Director General Report in March 1992.

A WORKING DEFINITION OF "HAZARDOUS WASTE".
RCR (Resource Conservation & Recovery) ACT 1976, USA.

It is defined as a waste, or combination of wastes, which because of its quantity, concentration, physical or



Three quarters of the 49 million people whose deaths are registered each year, are killed by illnesses related to a poor environment, and an unhealthy lifestyle according to a WHO (World Health Organisation) Director General Report in March 1992.

chemical, or infectious characteristics may: (1) cause, or significantly contribute to, an increase in morbidity or mortality or an increase in serious irreversible or incapacitating reversible illness or (2) pose a substantial present or potential hazard to human health or the environment - when improperly treated, stored, transported or disposed of or otherwise managed.

Hazardous wastes have four characteristics: (1) Ignitability (2) Corrosivity (3) Reactivity (4) Toxicity. Any or a combination is enough to label any waste "hazardous".

Note: By-products of the treatment of any hazardous waste are also to be considered hazardous, unless they are specifically excluded.

SOME CONCLUDING THOUGHTS:

Let the laws of nature rule, not the laws of greed. Let us keep our planet free from unwanted pollutants. As scientists and physicians we can measure how clean is clean, how green is green. After all, it has been said that "a healthy body has a healthy mind." How can we have healthy bodies if our environment is not as clean as it used to be?

It is time we all asked:

1. How clean is the air we breathe?
2. How pure is the water we drink?
3. How wholesome is the food we eat?
4. What are the pollutants and environmental hazards where we live and work?
5. How much radiation are our bodies getting?
6. What other hazards will be introduced in our world in the future and for what reasons?

Remember! The flip side of industrialisation, urbanisation and modernisation is pollution. Today, we cannot afford to pollute anymore. It is our responsibility to preserve our planet from all hazardous wastes that are endangering our lives.

EXAMPLES OF ENVIRONMENTAL HAZARDS AFFECTING HEALTH

ETIOLOGY	SITE OF MALIGNANCY/ DISEASES CAUSED
Arsenic	Lung, skin, liver- Central Nervous System, Muscular Weakness, Loss of Appetite & Weight, Gastro-intestinal disorders, Skin Cancer, Corns, Death
Asbestos	Mesothelium, lung- Lung Disease, Lung Cancer, Nervous Disorders, Death
Cadmium	Gastro-intestinal Disorders, Kidney Stones, Prostate Cancer
Chlorine	Intestinal Disorders, Eye Diseases
Chromium	Lung- Liver Necrosis, Nephritis, Gastro-intestinal Disorders, Digestive Tract Cancer
Fluoride	Nephritis, Liver and Heart Tissue Damage, Teeth Mottling, Fluorosis
Lead	General Metabolic Poisoning, Anemia, Tiredness, Lassitude, Irritability, Behavioral Changes
Mercury	Neurological and Renal Disturbances, Gonadotoxic and Mutagenic effects, Disturbance of Cholesterol Metabolism
Nitrate	Hypertension, Methemoglobinemia, Cancer

* Note: There are 5 million known chemicals, 60,000 of which are used commercially. It is a few hundred chemicals that are very hazardous and can cause significant harm.

SELECTED POLLUTANTS ASSOCIATED WITH INDUSTRIES

INDUSTRIAL SUBSECTOR	POTENTIAL POLLUTANTS*
Chemicals	Sulphuric and nitric acids, ammonia, fluorocarbons
Pesticides	Organohalogen, organophosphates, other toxic organics, arsenic
Textiles	Hydrochloric sulphuric acids, high BOD (organic content), dye, various organic chemicals and detergents
Pharmaceuticals	Ammonia, acids, zinc
Leather tanning	Heavy metals (chromium, cadmium etc.), various organic chemicals, acids, high BOD
Cement	Alkalines, limestone dust
Electrical/Electronics	Fluorocarbons, heavy metals (including cadmium, nickel, selenium)

* quantities and characteristics dependent on type of manufacturing process and whether waste treatment exists.
(Source: NCS Sector Paper on Industries)

Member of
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WATER POLLUTION

Clearer and cleaner water is vital to the health of the world. We are becoming increasingly aware and expect to demand that water is clean and safe to drink. The World is without clean water and supplies of clean water.



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'INDUSTRIAL POLLUTION - CAUSES AND REMEDIES'

For the economic development of a country, industrialisation plays a vital role; however, industrialisation in many countries has brought about environmental degradation and deterioration of great magnitude. The environment is first to be adversely affected by industrialisation and in this case Pakistan is no exception. The present scenario of rapid industrialisation is posing a threat of unprecedented magnitude to the environment. "If environmental degradation in Pakistan could be measured on the Richter Scale, it would be close to 7.5."

To highlight this issue, SHEHRI-CBE organised a seminar on 'Industrial Pollution-Causes and Remedies' on December 26, 1992 at a local hotel in Karachi. On the same day, the seminar was preceded by a field trip in which journalists and SHEHRI members took part. The field trip took a route covering, among others, the Malir river outfall, the tanneries area, S.I.T.E. and Nazimabad industrial areas.

The Malir river receives industrial and municipal effluents from the South and East of Karachi and from the Korangi and Landhi industrial areas, which are discharged into the sea via Gizri Creek. In the SITE area, industries have not adopted any measures for the control and prevention of



At the seminar, seated from left to right are: Nasir Hussain, Dr. Mirza Arshad Ali Beg, Justice Saleem Akhtar, Dr. Parvaiz Naim and Dr. Altaf Khan. Addressing the audience is Dr. Parvez Hassan.

insist that their activities are not having an adverse effect on the environment.

The tanneries head the list of major industrial polluters. During a stop at the tanneries areas, the field trip participants had a clear view of industrial waste in the form of hides, fur etc. mixed with high concentrations of heavy metals (cadmium etc.) out in the open. Our expert and tour guide, Dr. Mirza Arshad Ali Beg, pointed out that this tannery waste is then processed and supplied to poultry farms as feed. We also noted that water (or rather a combination of sludge, tannery wastes etc.) was being pumped out directly from the sewage lines of the tanneries and supplied to vegetable fields in and around these factories. This means that this waste, contaminated with heavy metals

consume- from poultry to vegetables to the water we drink- contains pollutants in some form or another.

The field trip was followed by a seminar.

The following addressed the Seminar:

1) Dr. Mirza Arshad Ali Beg, former Director PCSIR 2) Dr. Parvez Hassan, Chairman IUCN Commission on Environmental Law 3) Dr. Parvaiz Naim, Dy. Coordinator Coastal Ecosystem Unit, IUCN 4) Dr. Altaf Khan, Dept. of Microbiology, Karachi University. The Chief Guest was Justice Mr. Saleem Akhtar of the Supreme Court of Pakistan.

In his keynote address, Dr. Beg, with the help of slides, explained the present scenario with regard to industrial pollution in some of the major industrial areas of Sindh and the Punjab. Dr. Parvez Hassan spoke on environmental standards and the legal framework for environmental management in Pakistan. He explained the functions of the Environmental Protection Council and Environmental Protection Ordinance and made several recommendations that he hoped would be the first step towards environmental protection. Dr. Altaf Khan outlined remedies to the problem and suggested various measures that could be adopted by industries to prevent pollution. In



Vegetables being washed in sewage water before being sold for consumption

industrial pollution- contrary to the claims of many of them who and chemicals, is entering our food chain so that everything we

JHEEL PARK PROJECT IN PROGRESS



Extensive renovation work is taking place for the upliftment of Jheel Park.

One of SHEHRI-CBE's major projects is the upliftment and renovation of Jheel Park in P.E.C.H.S. in collaboration with ZMC East, SHEHRI, along with the 'Residents Association' of the area, formulated a plan for the renovation of the park which had fallen into disuse through neglect and had become a haven for drug addicts. The Administrator of ZMC East was approached to take up this issue after which extensive repair and renovation work was started at the park.

Hoardings that were hiding the park from view were removed,

garbage was cleared and signs forbidding the dumping of garbage were put up at several places. Both lakes in the park were drained of stagnant water and sewage and reeds were removed. Soling of the sides of the lakes is being done to prevent seepage of water and a retaining wall is being constructed to act as a safety measure. A site for a Ladies' Park has been chalked out and SHEHRI and WWF will also be setting up an 'eco-pond' at the smaller lake. Mr. Malik, Director of Parks and Recreation, is personally supervising the construction work and the setting up of nurseries in the park. ■

his address regarding environment and health, Dr. Parvaiz Naim explained the effects of industrial pollution on the individual and on ecological systems. Justice Mr. Saleem Akhtar ended the proceedings on an optimistic note; he assured all present that the Supreme Court was determined to prevent industrial pollution and that public interest litigation would be the new weapon in the fight against polluters.

Dr. Parvez Hassan's recommendations included:

1) holding of the first meeting of the Pakistan Environmental Protection Council without any further delay.

3) Pakistan should require an Environmental Impact Statement (EIS) for all projects above a certain monetary threshold (such as say Rs.3 or 5 crores) approved and financed by the developmental financial institutions.

4) certain critically degraded areas such as SITE and Landhi in Karachi should be declared out of bounds for future industries for at least a few years because the assimilative capacity of these areas has already been over-burdened.

5) highly polluting industries such as tanneries and petrochemicals should be subjected to EIS requirements irrespective of their location. ■

SEMINAR ON ARCHAEOLOGY

From February 9-14 1993, 'Archaeology Quarterly' in collaboration with ZMC Central, Shah Abdul Latif University, Dept. of Archaeology and Museums, SHEHRI-CBE and others, organised a Six day Seminar cum Certificate Course on 'Preservation of Cultural Heritage'. Participants were treated to many enlightening and inspiring talks by eminent scholars and experts throughout the seminar. SHEHRI was represented by Mr. Ahsan Haleem-Fellow Sindh Historical Society and Mian Zafar Iqbal, a student member.

It was pointed out that Karachi was full of many monuments that gave clear pointers to the past while the rest of Sindh was rich in relics

of earlier eras. Recommendations made by speakers were that the work of heritage preservation should be taken up at the grassroots level and that a more concerted effort was needed to preserve the rich heritage of Pakistan. Participants visited the National Museum and were also taken to Madinatul Hikmat, the centre of learning being set up by the Hamdard Foundation where they were shown the excellent library set up for the benefit of research scholars. Dr. Nabi Baksh Baloch, an eminent speaker, offered some advice to all present: "Whenever you come across a monument, no matter how insignificant, you must identify it, tell others about it, record it. That is the best way to try and preserve your heritage." ■

FOR ALL SHEHRI MEMBERS

Elections for the term 1993-94 will take place on the day of the Annual General Body Meeting, i.e. on Saturday, 24 April, 1993. Please note that all membership dues must be cleared before that date in order to be eligible to vote and/or to stand for election to the Managing Committee. Further details will be provided later. Please Contact the SHEHRI office for any information that you may require.

SIGNATURE CAMPAIGN AT SHEHRI-CBE OFFICE

On February 6, 1993, an Open Day and signature campaign was held at the SHEHRI office to protest against the fact that the Environmental Protection Council of which Mr. Nawaz Sharif is the Chairman, has

not met even once in the nine years since its establishment in 1984. To carry out lobbying and to act as a pressure group, members and supporters of SHEHRI-CBE came to the office and signed their names on letters addressed to the Prime

Minister and to Mr. Anwar Sarfullah Khan, Federal Minister for Environment and Urban Affairs. Several members also collected signatures which were later passed on to the SHEHRI office. ■

JOIN SHEHRI TO CREATE A BETTER ENVIRONMENT

If You wish to join Shehri please drop this card at:

SHEHRI- Citizens for a Better Environment
206-G, Block 2, P. E. C. H. S., Karachi-75400, Pakistan
Tel: 442578, 441769 Fax: 438226

Name: _____ Tel: (Res) _____

Address: _____

Occupation: _____ Tel: (Off) _____

NEW MEMBERS

- | | |
|----------------------------|--------------------------------|
| 1. Mr. Sandeep Sankaran | 11. Mr. Ghulam Ali |
| 2. Mr. Javed Ghauri | 12. Mr. Saad bin M. M. Qureshi |
| 3. Mr. Samina Dikhan | 13. Ch. P. G. G. G. G. |
| 4. Dr. Asad Iqbal Khan | 14. Mr. Muhammad Lunge |
| 5. Dr. Kaleem Ahmed Khan | 15. Mr. Muhammad Anwar |
| 6. Dr. Zameer Ahmad Khan | 16. Mr. Muhammad Anwar |
| 7. Mr. Fehem L. S. Ali | 17. Mr. S. S. S. S. |
| 8. Mr. Tarek Akbar | 18. Mr. Javed Khan |
| 9. Syed Shaukat Ullah Khan | 19. Mr. Saad bin M. M. Qureshi |
| 10. Mr. M. M. M. M. | 20. Mr. M. M. M. M. |

This brings our total number of active holding members to 136

COASTAL PROTECTION: THE CHALLENGE BEFORE US

Karachi, a city of millions, can boast of many things. It is the largest city of the country, is the only port and has the largest international airport of the country. It is the commercial and economic heart of the country and its shops and streets buzz with economic and social activities all day round. However, despite all these advantages it is sad to observe that Karachi has failed to provide for its dwellers the necessary recreational infrastructure which could cater to the demands of the recreation-starved people of this city. Far from creating new recreational spots, we have failed to even properly develop and maintain the sites and spots that nature has very graciously provided us with.

Chief among such sites are our coastal areas. Karachi is blessed with a long coastline and beautiful beaches but we have failed completely to capitalize on the opportunity of properly developing, maintaining and protecting them. Our beaches are bereft of even the very basic infrastructural requirements and are heavily polluted. Developing the proper infrastructure is the responsibility of the various government and private agencies. However, even ordinary citizens can contribute in the effort to save and protect our beaches and other coastal spots. In this article I have discussed the issue of marine pollution, its various causes and possible remedies so that the residents of our city can become aware of the need to conserve and protect this wonderful natural resource of ours.

CAUSES OF COASTAL POLLUTION:

Coastal areas have always attracted people who have gathered and settled near them in large



Karachi's coastal areas viz., Hawks Bay, Sanatpur, Clifton Beach, Karungi and Giza Creeks are among the most seriously threatened wetlands in Asia (Global Biodiversity - World Conservation Monitoring Cell) Above is the Lyari River which empties into the Malir channel and Hawks Bay area.

numbers in order to avail themselves of the advantages of water transportation and aesthetics. The resulting human activities produce wastes and contaminants in large quantities which eventually reach the coastal areas and beyond. Every year billions of metric tons of sewage, litter, industrial waste and oily runoff from urban streets and dwellings pour into the oceans of the world.

The major causes of marine pollution are:

1. **SEWAGE:** Sewage which may be either industrial or municipal is a major source of marine pollution. Most sewage is not treated. Only a small portion of the world's sewage receives any kind of treatment before being disposed off into the sewers and open seas. In Third World countries like Pakistan this problem is very severe. These effluents contain oxygen demanding wastes and pathogenic organisms such as enteric bacteria, viruses, protozoans and helminth worms.

2. **LITTER:** Litter of all kinds which finds its way into the coastal areas due to various human activities is also a major source of marine pollution. It harms aquatic life and also impairs the aesthetic

nature of the beaches. This litter mostly consists of synthetic artificial compounds such as plastic which is relatively non-biodegradable i.e. it does not disintegrate quickly like natural materials. Major sources of plastic debris are lawn manufactured items such as containers, bags and other disposable items. The fishing industry also contributes to the plastic debris and nets, buoys and other equipment are now manufactured mostly from synthetic materials.

3. **RUNOFF:** A third source of pollution is runoff from land. Runoff is a non-point source of pollution which means that its exact spot of origin cannot be pinpointed. Runoff is a major source of suspended solids which are extremely harmful because they block sunlight to aquatic plants and carry phosphorus, fecal-coliform bacteria and other pollutants. Runoff from agricultural areas contains fertilizers which increase the nutrient load, and pesticides which are highly toxic to marine and aquatic organisms in high concentrations.

EFFECTS OF COASTAL POLLUTION:

The effects of all the various types of pollution discussed above

which finds its way to the seas and oceans is mostly felt in the coastal areas. The various effects of coastal pollution are:

* The pathogenic organisms present in sewers contaminate aquatic life which in turn affects us. These pathogens transfer to people usually through shellfish, although consumption of other seafood and exposure to contaminated sea water is also indicated.

* The plastic debris present in litter dumped in the coastal areas can cause the death of marine animals if they get entangled in fishing nets and plastic bands etc. If the marine animals eat large plastic particles they can also die. Litter also degrades the aesthetic value and quality of coastal areas.

* Coastal pollution also contributes towards the destruction of wetlands, mangroves and coral reefs which form the nursery areas and feeding grounds of aquatic life.

* The over-enrichment of waters with nutrients such as nitrogen and phosphorus which are present in domestic sewage and fertilizers causes algal bloom and various other aquatic plants. When these plants decompose and die, the decomposing bacteria depletes the water of oxygen, thus killing all the aquatic life. This process is called eutrophication and this extremely dangerous phenomenon is also brought about by the untreated and uncontrolled release of domestic sewage and agricultural runoff.

Discussed above were a few causes and effects of coastal pollution which are playing havoc with our coastal waters. It is a global problem, not restricted to any one country. However, it is more alarming in third world

countries and other developing countries where growth is taking place in an uncontrolled and haphazard manner and a system of checks and balances is not maintained. Pakistan is lucky to have a long coastline but to protect our coastal areas action should be taken at the national level which may include:

* Pinpointing the various inland activities which contribute to coastal pollution and then working with the concerned parties towards solving these problems.

* Strict laws should be formed regarding effluent quality, standards of municipal sewage and other industrial waste discharged into the open waters, and the laws should be properly implemented.

* Seafood sold for public consumption should be monitored regularly.

* Public awareness about the issue of coastal pollution should be enhanced. Most importantly, people should be educated about their role in maintaining a clean coastal environment. In Pakistan, ignorance is perhaps the single largest factor that is contributing to the destruction of our environment.

It is hoped that the government will take the required action to save our beaches and coastal areas from further deterioration. This cannot be brought about by allotting more and more land for beach development in the form of high rise apartment blocks and shopping malls which will place an even greater burden on the coastal environment. The only solution is to frame and implement strict laws and standards which MUST be complied with before it is too late.

(By Farhan Adwar who is a civil engineer and an active member of SHEHRI-CBE.)

KILLING THE PLAYING FIELDS

Citizens of Karachi are painfully aware of the land grabbing that goes on by converting residential and amenity plots into commercial areas. Common victims of this rampant conversion are the public parks. These are regularly converted into marriage gardens. But the sad fact is that this conversion is being carried out by the municipal authorities, who are supposed to be the custodians of this city.

A recent victim of this conversion racket is Shaheen Park, situated on M.A. Jinnah Road, just before the Jai Road roundabout.

This area has seen a population explosion of sorts. First came the showrooms, scores of them, clogging this busy artery with cars double- and triple-parked. Then came apartment buildings, built by breaking down old houses that were valuable for their historic architecture.

Shaheen Park was soon surrounded by apartment buildings, and for this reason it became even more important as an open area. Children and young people used it regularly as a playground. Amateur cricket matches were held. Neighbours



Shaheen Park (can no longer be used for recreational purposes)

used the park for walking and relaxing in.

All this changed when Shaheen Park began being used for marriage parties. Overnight, shamanias and tents were erected and a reception office and kitchen were constructed, completely taking over the open space. Shaheen Park was converted to Shaheen Lawn.

All of a sudden, the complexion of the area was changed. The open area was taken over by permanent structures serving as wedding venues. Cars are now parked outside the road, creating a bottleneck. People cross M.A. Jinnah Road in droves, creating a traffic hazard and endangering

lives. The wedding garden generates noise and pollution.

Children no longer have any place to play in. Shaheen Park was the only open space in the area. Children have to play cricket in the streets, at the risk of their lives from motor vehicles. Team cricket matches, which were a valuable diversion for young people, can no longer be held.

But Shaheen Park is not alone. It is one of the latest victims of the greed for income from marriage parties. The most glaring example of a public open area being converted to wedding lawns is the K.M.C. (Karachi Municipal Corporation) Sports Complex,

situated on Kashmir Road. Whole fields have been converted for this purpose. Permanent structures have been erected. The custodians of these parks no longer bother to take down the shamanias that are put up for the marriages.

Another park that almost got eaten up in this marriage frenzy is the Kutchi Memon Housing Society Park, situated near Rangoonwala Hall off Stadium Road. It was the timely action of neighbouring residents, who took the authorities to court, that saved the park from being converted to a

wedding lawn. However, the scars of this battle still show. The park has been permanently tainted by the addition of a big lawn platform, eating up much valuable space. Another park that was used regularly for amateur cricket matches has been destroyed.

It is sad to note that the custodians of this city, who have been trusted with the well-being of our metropolis, are themselves guilty of destroying its open spaces.

By Moeen Faruqi, member SHEHRI-CBE.



Shamanias covering the Park have become a permanent fixture

PILER



PILER (Pakistan Institute of Labour, Education and Research) is an NGO which grew out of the concern of a number of citizens and concerned individuals in Karachi. Members belonging to the Trade Union movement, academics and professionals from various fields of life decided to come together to discuss the problems affecting workers, about the need to create an informed leadership in the Trade Union movement and about informing workers about the risks they are exposed to at work.

Set up in May 1982 as a non-official and non-profit body, PILER has the following aims and objectives:

- (a) The institute shall be an educational, cultural and literary institution working for the uplift of working people;
- (b) It shall organise and establish research groups to work on different sociological, economic and politico-legal problems of Pakistan and other developing countries;
- (c) It shall print and publish



At 'Workers Education Convention' organised by PILER, seated from left to right are Karamat Ali, Fazle Ghani, Kaiser Bengali, Dr Zaki Hasan - President PILER, Nabi Ahmed, Usman Baloch and Rifat Hussain.

research materials, periodicals and books;

(d) It shall organise training courses in performing arts and undertake cultural activities.

According to Dr. K. Zaki Hasan, President - PILER, as sciences, technology and industry are developing and getting more complex, workers are at risk of being exposed to many more potentially toxic substances, and as a result the types of exposure-

related diseases are also growing more complex. At the same time, better safety systems are being developed. However these are costly and cut into profit margins. They are therefore considered expendable for the Third World where awareness levels on these issues may not be that high, the demand for any type of job is high, life is cheap and even governments are under pressure to produce and export.

Industrial health hazards can arise from physical, chemical, biological, mechanical, ergonomic and psychological factors in the work environment. The exposure-response relationship depends on many factors e.g. dose/concentration, susceptibility, metabolism etc. There can often be a long latency period between onset of exposure and onset of symptoms of ill health. Symptoms can often be of a generalized nature and may be easily missed by practitioners, most of whom are not specially trained in industrial health.

"To create a social order in which the real potential of working people is fully realised and their efforts rewarded judiciously they need to be informed, motivated and mobilized through intellectual and social action."

To realise its objectives the institute works in close collaboration with trade unions, regardless of their political and ideological preferences. It has in the past years developed into a unique educational and research institution as well as a resource

centre for working people.

PILER believes that sustainable development can only be achieved if it follows a substantial degree of awareness about environmental problems in all sections of the population - government and the people, ordinary citizens, women, school goers as well as the highly educated.

PILER's projects have included research in the socio-economic problems of women workers and training courses for shop level and middle level trade union workers. It organises weekly, bi-weekly and six-weekly education courses for shop-level trade union leaders all over Pakistan. It has conducted national surveys of female industrial labour and child labour at Karachi. It also produces reading material in local languages. PILER was recently represented at the hearings of the Permanent Peoples' Tribunal on Industrial Hazards and Environmental Pollution in India last year. ■

SEWA

Sewa (Sindh Economic Welfare Association) is an NGO set up in 1991 with its base in Hyderabad, Sindh. Sewa has three major areas of work. One: the social and economic upliftment of the women of Sindh. Two: to guide the young people of Sindh towards economic emancipation. Sewa feels that structural changes can be brought about in the feudal society of Sindh if they succeed in guiding and training a large number of young people in self employment generating schemes and help them start gainful economic activities for their benefit as well as that of their surroundings. Three: Selection of two villages each year and working towards the social and economic well-being of its residents in the areas of health, education, drainage, drinking water and employment as well as other forms of economic sustenance.

Sewa has achieved a lot in its brief existence of less than two years. The Association runs an

industrial home in Naseem Nagar that teaches a large number of girls/women students dress making, embroidery and provides courses in adult literacy. A number of girls trained at this institute have now started earning their own livelihood. Another ready-made garments institute is in its first stage of implementation and will train 50 girl students in the art of dress making each year once it is fully operational.

Sewa has done a considerable amount of work for the economic development of the youth. Part of their plan to alleviate social and economic problems in Sindh, especially in the rural areas, is to help form 1,000 co-operatives of 10 young people each. These youth co-ops will then be helped by Sewa to identify their choice of self employment generating business, they will be trained in the basic sciences of management and to the particular fields of their businesses and will be helped in drawing feasibility reports and to obtain funds. Finally the youth co-

ops will be helped in setting up their businesses and Sewa will monitor their establishments and help overcome their operational problems. Initial work in this regard has already started and a large number of youth co-ops have been identified and registered.

In the third sphere of Sewa's activity, 2 villages are earmarked every year for social and economic development. Two villages near Qasimabad have been supplied with electric power and several residents of villages have been provided with loans to help them set up their own businesses. In the same villages, school children have been provided with books and uniforms.

Sewa has also launched an ambitious plan for those villages and villagers that have unviable land holdings for traditional agriculture by introducing sericulture, (manufacturing silk through silk worms).

Lastly, Sewa has recently announced plans to create Sewa

Women's City in Hyderabad which is perhaps the only project of its kind in the whole country. It provides for an enclosed space that is intended to be utilized for wide-spread training and income generating activities as well as health care and recreational facilities for women. Training programmes like short courses in business management and marketing, secretarial courses, English language classes, computer operation, motor vehicle driving, fine arts and grooming classes are envisaged as are training programmes that help generate income. For example ready made garments manufacture, cloth weaving, manufacture of hand bags and school bags etc. Sewa will encourage women's groups and co-operatives to start income generation activities in the Women's City in either the manufacturing or retailing spheres.

When completed, Sewa Women's city will include special features of women's health care and recreation. Sewa plans to build

a gymnasium and a sports centre as well as an indoor swimming pool where competent lady trainers will raise awareness regarding health care and physical fitness. A large garden and walking track is also planned to provide much needed breathing space and recreation for women. Working women from out of town will be provided accommodation in hostels. Seen with the training programmes described above, a women's hostel will go a long way in achieving the well being of women in other parts of Sindh.

Says Mr. Abrar Kazi, the Chairman of Sewa, "Sewa is directing all its efforts towards raising the social and economic consciousness of the people of Sindh...it is a momentous and perhaps very difficult task, but we are determined to pursue it with all the means at our disposal."

PILER: 141-D (Annexe), Block 2, P.E.C.H.S., Karachi-75400. Tel.# 4557009.

Sewa: 87/88 Nasim Nagar, Qasimabad, Hyderabad. Tel.#653834 ■

SUFI BABA - "THE GENEROUS"

Sufi Baba, as he is called, is an 87 year old man belonging to the Pathan community. He has spent all his life making various products used in our local industries, cars, trucks, buses, airplanes as well as ships. He is a specialist in casting washers, clippings, conveyor belts and numerous other parts for industries and transportation vehicles. He does all the work manually and most importantly, uses waste rubber in the form of belts and other rubber wastes for this purpose.

According to him, he buys the waste (rubber scrap) from dealers in Sher Shah Colony at prices ranging between Rs. 5,000-10,000 per ton depending on the quality of the scrap. All the tools used by him are self-designed from his own experience and by judging market

demands. These range from specially cast iron compasses for marking to large cutters for cutting rubber.

He has been engaged in this work for the past 45 years in a road-side shop near the Karachi Zoological Gardens. During this period he has designed very sophisticated rubber products for industries according to foreign specifications. He sells these products at nominal rates compared to their prices in foreign exchange which would amount to thousands of dollars. People concerned with aviation and maritime activities come to him to order parts for planes and ships etc. He has also trained several people so as to transfer his trade to them. His products for automobiles are in great demand locally. He manufactures steering coasters,



pads, belts, brake-shoes and valves for companies such as Hino and Bedford. Not only that, he can make anything upto 10 feet in diameter. His shop and workshop are worth visiting and are an

example of the work he is doing.

Like Sufi Baba, there are many others with tremendous talents in our country, but they are not being used to the best advantage. The people engaged in waste recycling/

reuse are doing this on their own and are not rewarded for their services. Now is the time to bring their talents out in the open and to provide them with support in the form of financial and technical resources. This would enable our countrymen to improve the quality of their products which will increase the availability of cheaper materials built on foreign specifications at a much lesser comparative price. ■

"Nearly half of the world's species of plants, animals and micro-organisms will be destroyed or severely threatened over the next quarter century." - Peter Raven

IN BRAZIL, THE ECO-FRIENDLY CITY

World," says Jorge Diniz, a bank teller.

Some of Lerner's innovations have caught the attention of the developed world. Last spring, for instance, New York City began experimenting with a low-cost bus system invented in Curitiba as an alternative to subways. Curitiba's "speedy line" uses express street lanes from which cars are banned and loading platforms where passengers pay their fare before boarding the bus. The buses travel through the city at an average speed of 32 km/h (20 m.p.h.) and can transport 3.2 times as many passengers as standard buses can during a given interval. The system was installed in six months. "That," says Lerner, "means you don't have to waste a generation building a subway." People all over Brazil respect Lerner's commonsense approach. He has been mentioned as a candidate to succeed former President Fernando Collor de Mello.

Lerner is quick to point out that the city is hardly a fantasy kingdom; poverty, unemployment and lack of sanitation in the slums remain serious problems. But the people of Curitiba wouldn't think of leaving their "paraiso" or paradise, as Diniz calls it.

(Courtesy TIME Magazine)

Don't believe that everything is different in Curitiba. Like other cities in Brazil, its streets have geometrically-patterned mosaic sidewalks, construction workers like to play football on their lunch breaks, and at night drivers routinely run red lights. But otherwise this city of 2.2 million has little in common with the rest of the country. While most other cities are either stagnating or losing the battle against crime, economic chaos and filth, the capital of the southern state of Parana has blossomed into a clean, safe, efficient, even caring metropolis. Curitiba looks and behaves more like a city in Switzerland or Sweden than one in South America.

That would be a compliment to any town, but local authorities shrug off the comparison and insist that their city is the one that has something to show the rest of the world. At least two global institutions agree: the International Institute for Energy Conservation praised Curitiba's integrated transportation system, and the United Nations Environmental Program honoured its trash-recycling methods. The awards went to the city, and appropriately, to its mayor. Everyone agrees that it is Jaime Lerner who makes the place stand out above others.

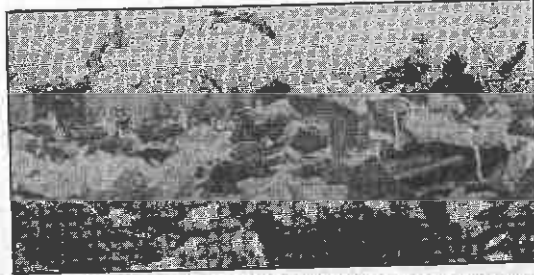
The three-time mayor is an architect by training and one of the

inaugurated his latest brainstorm, a 120-m-long, glass-encased thoroughfare with some 80 shops and services, including restaurants, clothing outlets, bank, bookstore, post office, flower shop and record store, all of which remain open day and night and add big-city excitement downtown.

While some ideas are cosmetic-like the 24-hour street- Lerner focuses most of his innovations on social and environmental problems. Friends like to say he is a Walt Disney with a social conscience. Who else, they ask, would think of converting old buses into vocational classrooms that roll to the outskirts of the city where slum dwellers learn to be hair stylists, typists, mechanics, plumbers or telephone operators? Or staging an exhibition of toys made from trash to educate people about recycling? Or putting in a network of new roads to break the isolation of slums from better-off neighbourhoods, and then building a dozen youth hostels to house and educate street children?

"At first people may not understand my ideas and even criticize them," he says, "but as soon as they realise the changes will improve their lives and that of their children, they want more." An early example came in 1971 after Lerner was initially appointed mayor. Brazil was then pursuing large-scale development schemes, automobile sales were rising rapidly, and cities were paving over parks and other leisure areas for streets, parking lots and buildings. Lerner went in the opposite direction. He created parks, introduced Brazil's first bicycle lanes and converted the city's main street into the country's first pedestrian mall.

While mayors around the world spend their time making excuses for crimes, drugs and urban decay, Lerner has the enviable problem of trying to be modest about his city's success. "Curitiba is different from other Third World cities because it has made an effort to be different," says Lerner. Beginning in 1970 he launched low-cost programmes to build parks, control garbage, house the poor, and develop a mass-transit system. Two decades ago, Curitiba had 0.46 sq m (5 sq ft.) of open space for every citizen; now



The poor made garbage for bags of vegetables in areas not served by sanitation trucks.

"Services like parks and high-quality public transportation give dignity to the citizens," says Lerner, "and if people feel respected, they will assume responsibility to help solve other problems."

it has 51 sq m (550 sq ft.). New York City, by contrast, has 14.5 sq m (156 sq ft.) of open space per capita. Most astonishing, Curitiba has added parks and plazas even as its population increased 164% since 1970.

"Services like parks and high-quality public transportation give dignity to the citizens," says Lerner, "and if people feel respected, they will assume responsibility to help solve other problems." Lerner has used his high public approval rating to mobilise support for such initiatives as the establishment of 40 centres that feed street children and teach them simple skills.

Lerner's ideas have made Curitiba some of the most environmentally correct citizens on the planet. While many Brazilians have not even heard of recycling, 4 out of 5 people in Curitiba separate their garbage, and weekly pickups collect an average of 620 tons of reusable trash. A modified version of the city's recovery programme includes 49 neighbouring slums, where Lerner has encouraged residents to collect both recyclable and nonrecyclable trash by providing bus tickets or sacks of

fruits, vegetables and dairy products in exchange for 10-kg bags of garbage. "This favela" used to be covered in trash, and we had rats everywhere. But when Jaime began offering food and bus tickets, everybody started collecting garbage," says Divina Aparecida, who lives in the Villa Jacira slum. "People went from dumping trash into their neighbour's yard to packing it up." The same programme is being used in public schools. A woman named Lindamar Vas Floriano says that before this so-called green-exchange programme, her hilly neighbourhood was completely carpeted and plagued by disease. Now the area is almost litter-free, and the people are noticeably healthier.

If Curitiba has a theme, it is self-reliance. The city is not rich, but it makes the most of the resources it has. Recycling, for example, is practically a religion. Jogging paths in the city's many parks are lit with lamps made from Fanta soda bottles, and the offices of Curitiba's environmental department were built in part with old telephone poles.

Lerner's most celebrated success involves the public transit system, a 500-km net that allows passengers to ride from one end of town to another for about 25 cents. Since more than 75% of Curitiba's use buses regularly, compared with 57% of residents in Rio and 45% in Sao Paulo, there is less pollution, and overall fuel consumption is 20% less than in similar-size cities. "I used to travel to work by car, but it just doesn't make sense anymore when you have an efficient and pleasant system as this. It's like Disney

ENVIRONMENTAL DEGRADATION OF ANOTHER KIND

We talk much about Environmental Pollution—the effluents and hazardous substances we generate and discharge into the land, air and water. But there is another form of Environmental Degradation which is the most dangerous of all pollutants put together. Unfortunately, no one seems to bother about this pollution.

POINT TO PONDER: People are killing the very air. The steam of so much boredom and discontent and anger out of all the people just kills the vitality in the air.

(By Philip Member SWEHR3-CBE)

SAVING KING SOLOMON'S PINES

Young men in Pakistan, anxious to afford a steep bride-price, have helped damage fabled forests by cutting down a valuable pine species. Now tribal leaders have agreed to stop felling each other's trees and to persuade their people they have more to gain from an intact forest.

Warring tribal leaders in the remote and rugged forests of Shah Sulaiman (King Solomon) in northern Pakistan have set aside their differences and agreed to stop felling the rare chilgoza pine, so their tribes can make a better living from sustainable use of the forest.

About 19,000 people inhabit the breathtakingly beautiful forests of the Takht-i-Sulaiman mountain range near Afghanistan. The forests are privately owned, in a region virtually beyond government control. Here the gun rules.

With little farmland and few income opportunities, the area's

valuable forests are its biggest asset. The chilgoza (Pinus Gerardiana), found in a few parts of Pakistan and Afghanistan, can be sold for quick profit, fetching about US\$20 each. As a result, indiscriminate felling threatens to replace long-standing sustainable harvest from the forests.

In the first nine months of 1991, 30,000 trees were chopped down; the World Wide Fund for Nature (WWF) in Pakistan estimates that at that rate the remaining 13,000 hectares of forest would be gone in a decade.

Young men in particular have cut down trees in large numbers to raise the US\$6,000 demanded as a bride-price, but the 40 local men who wanted to marry last year would have found this more difficult because 15 tribal leaders, who between them own 70% of the forest, have agreed to protect the trees. In the past, tribal animosities contributed to the

Warring tribal leaders in the remote and rugged forests of Shah Sulaiman (King Solomon) in northern Pakistan have set aside their differences and agreed to stop felling the rare chilgoza pine, so their tribes can make a better living from sustainable use of the forest.

deforestation, with rival groups cutting down each other's trees.

Despite the money to be made from selling timber, deforestation threatens local incomes, and not just because most of the felled trees are taken away by outsiders

to be sold for their own profit.

One of the most important forest products is the pine kernel, which forms a nutritious staple in the diet of local people, and is popular throughout Pakistan. A family can gather enough to earn up to US\$500 in a season. Mature chilgoza trees also produce an oil which is used to treat skin diseases in sheep and goats; a large can of it sells locally for US\$4.

A third source of income for local people could come from forest wildlife. Their mountainous forests are home to many creatures, including the endangered Sulaiman markhor (Capra falconeri jerdoni), a large mountain goat with distinctive corkscrew horns.

The markhor has been a popular target for tribal hunts, its horns decorate many mosques, houses and tombstones, and how only 150 of the animals survive.

However, if the population could be rebuilt to 500 or more, a limited annual hunt could take place.

According to Ashiq Ahmed, WWF Pakistan's head of conservation, two to four animals could be taken each year from a herd that size, earning local people considerable sums from trophy hunters. And a larger herd would provide a tourist attraction, bringing additional revenue. WWF Pakistan has invested US\$32,000 in researching these sustainable uses and encouraging tribal leaders to protect the forests and people's incomes.

Says Ahmed: "As we sat down to talk, the tribals, hawk-eyed and tough, hid their rifles slung across their shoulders." But metaphorically at least, "they laid down their Kalashnikovs, and picked up the olive branch of conservation."

(By Naila Hamid, Courtesy Panoscope January 1993, Panoc)