

**Government of Pakistan
Pakistan Environmental Protection Agency
(Ministry of Environment)
Islamabad**



Proposal

Islamabad-The Green City Program

January 2008)

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HISTORICAL BACKGROUND

Islamabad is 14 kms north east of Rawalpindi on the north eastern Potohar plateau of the province of Punjab. The city of Islamabad is preceded by thousands of years of history. It is regarded as the site of one of the earliest human settlements in Asia, and is at one end of the ancient Indus Valley Civilization. This area was the first settlement of the Aryans from Central Asia and is on the route through which passed all those who invaded India from the North and North West. This region has witnessed the passage of ancient caravans from Central Asia as well as the bloody onslaught of the ferocious armies of Alexander and Tamurlane. The banks of the River Soan in Islamabad were host to stone-age man over 7000 years ago and human skulls dating back to 5000 B.C. have been found in and around Islamabad.

SELECTION OF ISLAMABAD AS CAPITAL

2. In the early days of independence it was felt that a new and permanent Capital City had to be built to reflect the cultures, traditions, hopes, aspirations and dreams of all diverse ethics, linguistic and regional groups that constituted the Pakistani nation. It was considered prudent to locate the Federal Capital where it could be isolated from the onslaught of business and commercial interests and yet be easily accessible from even the remotest corner of the country. A commission was accordingly constituted in 1958 and entrusted with the task of selecting a suitable site for the National Capital with particular emphasis on location, climate, logistic, defense requirements, aesthetic, scenic and natural beauty. After the extensive research, feasibility studies and thorough review of various sites, the commission recommended the area Northeast of Rawalpindi. After the final decision of Cabinet the site was selected.

ISLAMABAD MASTER PLAN- ENVIRONMENT-FRIENDLY DESIGN

3. The city was built during the 1960s to replace Karachi as Pakistan's capital. A Greek firm of architects, Doxiadis Associates, drew up a master plan, triangular in shape based on a grid system with its apex towards the Margalla Hills. Rawalpindi. The planners envisaged Islamabad eventually absorbing Rawalpindi entirely and stretching well to the West of Grand trunk road. Islamabad was designed to provide a healthy climate, pollution free atmosphere, plenty of water and lush green area. It is a modern and carefully planned city with wide tree-lined streets, large houses elegant public buildings and well-organized bazaars /markets/shopping centers. The city is divided into eight basic zones Administrative, diplomatic enclave, residential areas, educational sectors, industrial sectors. Commercial areas, rural and green areas. Each sector has its own shopping area and public park. Islamabad have 5 parks Fatima Jinnah Park; Rose and Jasmine Garden; Japanese Park; Chattar Bagh; and Shakar Padiyan. Each sector was kept separated through green belts which also act as oxygen generators.

ISLAMABAD TODAY

4. Islamabad today is not what it was designed for. It is no more isolated from the business and commercial activities. Population in Islamabad has risen from 0.340 million to 1.124 million within 25 years showing an overall increase of 230% with an average annual growth of 6 %. The increasing economic activities have given birth to high rise buildings, residential apartments, housing schemes, educational institutions, industrial units and new markets. These pressures forced Capital Development Authority (CDA) to alter the Master Plan of Islamabad and upgrade the physical infrastructure.

5. Islamabad has a number of pollution sources adversely affecting air and water quality. These sources are identified below:

Vehicular Emission: Islamabad has about 150,000 vehicles with a good mix of new models petrol driven and CNG converted cars. Diesel operated buses mostly belonging to government and private institutions, and public transport vans can occasionally be seen emitting visible smoke. The most serious issue is the trespassing of GT Road heavy traffic which is diverted to Islamabad via Kashmir Highway. According to an estimate about

90,000 vehicles pass daily through Kashmir Highway, half of them are the diesel trucks. This traffic adds 377 tons of particulate matters in the air each year.

Industry: According to CDA bye-laws no polluting industry was to be allowed in Islamabad. But contrary steel furnaces, steel melting, galvanizing, marble cutting/grinding units etc. were allowed which cause excessive pollution. In the Master Plan of Islamabad, a buffer zone was provided between industrial area and residential area of sector I-9/I-10 but the buffer zone was converted into commercial area. By doing so the polluting industry became the central point surrounded by populated area. The industrial area houses eight steel furnaces which emit more than one tons of particulate matter each day. With the presence of four cement units around Islamabad, the respirable particles level has significantly increased over time. The industrial area has no facility of wastewater treatment. No area in Islamabad has been designated for dumping of industrial waste. One can see heaps of waste in front of industrial units in sector I-9/I-10. Four cement plants located on the northwest and southwest emit about 11000 tons of particulate matter per year, shedding fine raw cement dust across several kilometers.

Brick Kilns: Presence of 90 numbers brick kilns within and around Islamabad Capital Territory emit high concentration of black soot, poly-aromatic hydrocarbons and other gases and deteriorate air quality of the area. These bricks are not only degrading soil but also causing visibility problem and hazard to aircraft navigation.

Burning of Solid Waste: The total estimated generation of solid waste in Islamabad is 600 – 700 tons per day. At present neither any landfill or incinerator is available for disposal of city garbage. Open dumping and burning practice is being observed. Similarly, dry leaves and dead branches of trees are set on fire in different sectors which generate excessive visible smoke.

Discharge of untreated domestic effluent to rain water streams: The city has about 26 small and large rain water streams which take hill torrent and pass through different residential sectors and finally converge to two main streams when they leave Islamabad. Due to discharge of domestic waste and leakages of municipal sewers, these streams get high pollution load and in low rain season these streams stink and become breeding places

for mosquitoes. Pak-EPA with the assistance of Korean Volunteers carried out a thorough study of these streams and analyzed quality of water which showed extreme contamination in streams due to mixing of wastewater. The Dissolved Oxygen after mixing of waste was found as low as 0.9 mg/l and Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) were found as high as 63.5 mg/l and 162.5 mg/l respectively. The levels of heavy metals like lead, cadmium were found exceeding the National Environmental Quality Standards (NEQS) as the streams pass down through the industrial area of sector I-9/I-10.

Development and Environmental Degradation: A number of development schemes both in the public and private sectors are being implemented in Islamabad without due care to the environment. There is inadequate coherence between environmental regulatory institutions and the development agencies. Due to information gap most of the projects come on the surface when construction work is started. At that stage, the civil societies and environmental institutions start putting pressure on the proponent for submission of EIA/IEE reports under the provision of the Pakistan Environmental Protection Act 1997. Such a development schemes not only violate the law but also cause irreparable loss to the environment. Massive cutting of trees is one example. Prosecution or penalties at that stage become ineffective tool to off-set environmental implications. This practice needs to be discouraged by all means to promote sustainable development.

Future Trends in Development and Environmental Concerns: Future development of Islamabad includes construction of seven (7) hotels including one 7- star, an international airport, new roads, around 40 large and small housing schemes and the General Head Quarter (GHQ). The Ministry of Petroleum and Natural Resources has recently awarded petroleum concession in the Margalla Hills to a private oil exploration company. With completion of these projects, not only the natural resources of Islamabad will be impacted but the pollution load will further enhance.

TIME FOR ACTION

6. Islamabad is blessed with beautiful natural and built environment. In order to pass on this same beauty to our future generations, it is imperative to revive Islamabad as “the most beautiful” by taking different environmental initiatives in consultation and participation of citizens, industry, and administration to promote city development in a world recognized

principles of sustainable development so as to keep Islamabad's air, water and soil clean.

7. Different countries have declared their cities as Green or Environment- Friendly by taking various measures such as improvement of air and water quality, adding greenery through intensive plantation campaigns, converting vehicles to CNG or switching over to modern engine technology, introducing green buses, promoting re-cycling and promoting green building concept.

UNITED NATIONS GREEN CITIES DECLARATION AND URBAN ENVIRONMENTAL ACCORDS 2006

8. In San Francisco, mayors and urban planning experts from around the globe plan to exchange ideas and sign a slate of UN-backed accords on environmental actions for cities. The signing of the ground-breaking actions collectively referred to as the Urban Environmental Accords –Green Cities Declaration, will be the highlight of the UN Environmental Programme's (UNEP) commemoration of the Day. To date, 100 cities worldwide have signed on to the Accords including 23 in North America and 12 in California. The United Nations Green Cities Declaration provides a collaborative platform and a call to action for cities across the globe to take in recognition that a majority of the world's population now reside in cities, and that cities consume 75% of the world's natural resources creating environmental challenges.

9. A city to qualify for "Green City" must have environmental considerations in energy, waste reduction, urban design, urban nature, transportation, environmental health and water issues. Governments throughout the World are adopting environmental standards to improve air and water quality, reduce waste, eliminate toxic substances, preserve open spaces and natural habitat, create environmental sound urban areas and promote healthy communities.

DECLARING ISLAMABAD-THE GREEN CITY

10. The Federal Minister for Environment will declare Islamabad as "GREEN CITY" with the promise that from now and onward every resident, industrial and business

entrepreneur, administration and developers will act as a “friend of environment” . To this end, a number of initiatives have been proposed as given below:

- Adoption of an Islamabad Green City Charter
- Approval of Green City Action Plan
- Establishment of Green Force for Enforcement
- Islamabad Green City Fund
- Guidelines for Public

a. Islamabad Green City Charter

11. All heads of concerned ministries/ divisions,, (Environment, Interior, Health, Petroleum & Natural Resources, industries, Production and Special Initiatives, Education, departments (ICT, CDA, IESCO, NHA) donor agencies, Islamabad Chamber of Commerce & Industry, and NGOs will sign a Charter (**Annex-II**) by making resolution that all the signatories will work individually and collectively to make Islamabad “The Green City”. This Charter will be signed in a graceful gathering. The Charter in fact will be an endorsement of the United Nations Green Cities Declaration and will be the launching of the Islamabad Green City program.

b. Islamabad Green City Action Plan (Isb-GCAP)

12. Islamabad Green City Action plan will be given a brief name **Isb-GCAP**. Green Cap will be the symbol of the campaign with an attractive logo on it. The Action plan will have the following elements:

Action 1: Energy Conservation

- Promote the use of renewable energy
- Promote the use of energy saver bulbs
- Reduce the city’s peak electric load by 5% within Five years through energy efficiency, shifting the timing of energy demands and conservation measures

(Enercon, ICT/CDA, IESCO, NGOs)

Action 2: Solid Waste Reduction and Management

- Reduction of sold waste by 5% in next five years
- Promotion of waste segregation at source
- composting and establishment of Scientific Landfill
- Placing of waste baskets in public parks, markets and shops (voluntarily)
- Launching of “Say No to Plastic bag” campaign

- Introducing system for collection of used articles/items containing hazardous substances. Involvement of manufacturers of those articles/items will be ensured.

(CDA, Pak-EPA, private sector, NGOs)

Action 3: Water conservation and Quality Management

- Monitoring of Water quality of reservoir and tap water
- Restriction on washing of vehicles in houses
- Inverted wells for recharging
- Promotion of low flow showers and flush tanks
- Introduce water audit

(CDA, Pak-EPA, private sector, MOIP&SI)

Action 4: Wastewater Management

- Cleaning of rain water streams
- Repair of broken sewage lines
- Establishment of wastewater treatment plant
- Promoting backyard composting

(CDA)

Action 5: Urban Design

- The revised Islamabad Master Plan will undergo Strategic Environmental Impact Assessment
- All buildings will have rainwater harvesting facility
- Green Building Practices to promote the construction and operation of environmentally sound buildings in the City. The guidelines for green building construction and energy conservation will be developed.
- Proper vehicle parking will be established
- In every urban design facilities for special people will be ensured

(CDA, Pak-EPA, ENERCON, PEPAC)

Action 6: Air Quality Management

- Daily Air Quality Index to be worked out and making it to public through media
- Implementation of Pakistan Clean Air Program (PCAP) related to Islamabad
- Motor Vehicle Examination system/emission checking will be strengthened
- Fuel adulteration will be regularly checked

- Islamabad bypass road will be planned and constructed to cut down pollution load of Kashmir Highway
- High concentration pollution spots will be controlled through traffic management
- One more Environmental Squad will be operated to check polluting vehicles
- Strict monitoring of industrial units and other pollution sources will be carried out.
- Industrial units violating environmental standards will be fined and if found continuously violating will be closed down
- Shutting down of Brick Kiln lying within 5 kilometers from the boundary of Islamabad city
- No garbage or dry leaves will be set on fire
- Capacity of fire fighting department will be enhanced

(Pak-EPA, CDA, ICT, NHA)

Action 7: Seasonal Fumigation

- Seasonal fumigation in residential sectors, nallas and places of open dumping of garbage will be carried out to control vector diseases

(CDA)

Action 8: Parks and Gardens

- Maintenance of existing parks and gardens will be improved
- New parks and gardens will be developed

(CDA, MOE)

Action 9: Tree Plantation and Grass cover

- City tree plantation will be enhancing through public and school participation
- Coverage of loose soil with grass
- Protection of historical trees particular Benin trees

(CDA, MOE)

Action 10: Awareness Campaigns

- Environmental Monuments at two entrances of Islamabad will be constructed, one at Golaria and other at Rawat end. The monuments will bear environmental slogans
- Annual Environmental festival will be held in Fatima Jinnah Park, F-9 to commensurate Green Islamabad Day. NGOs and government department stalls, Drama, sales promotion, walks, posters/photographic competition, plantation and exhibition will be held.
- Campaign on noise pollution, plastic bags, cleanliness, water conservation, walk to work/walk to shop will be launched

- Observance of Restaurants and public–places smoking –free
- Promoting Recycling with involvement of Corporate Sector
- Environmental Clubs in Schools and Colleges will be established to promote environmental activities and awareness

(CDA, Pak-EPA, MOE, MOEDU)

Action 11: Environment-Friendly Transport

- Improving public transport
- Introduction of Green Buses / CNG
- Vehicle sharing culture will be promoted
- Schools will be encouraged to run their own buses

(CDA, ENERCON, MOEDU)

Action 12: Constitution of Committees

- Steering Committee headed by the Federal Minister for Environment will be constituted to review progress of the Green City programme, take policy decisions and give direction to any agency
- Implementation Committee headed by the Secretary, Ministry of Environment will be constituted to oversee implementation of GCAP and resolve conflicts

(Pak-EPA, MOE)

Action 13: Core of Green Journalists

- Green Journalist Award will be initiated
- Photographic competitions will be held on different environmental themes

(Pak-EPA, MOE, MOFI)

Action 14: Environmental Complaint Cell

- Environment public complaint cells will established in Pak-EPA and CDA. Toll free telephone lines will be made available for the purpose.
- All complaints received will be immediately attended and their status will be accessible on internet

(Pak-EPA,MOE)

c. Establishment of Green Force

13. The success of Islamabad Green City Program will lie in effective implementation of GCAP and enforcement of laws. The Pakistan Environmental Protection Act (PEPA) 1997 will be the legal instrument to take cognizance of violation of provisions of the Act like Environmental Impact Assessment, National Environmental Quality Standards, handling of toxic substances and waste and any other offense adversely affecting the environment of the Green City. The Green Force will be dressed in green uniform and it will be equipped with all necessary gadgets and equipment necessary for its functions. The Green Force will comprise of the Following:

1. Chief Inspector (Enforcement)	1
2. Dy. Chief Inspectors (Enforcement)	2
3. Inspectors (Enforcement)	50
4. Dy. Director (Public Complaint)	1
5. Asstt. Director (Public Complaint)	2
6. Field Investigators	50
7. Prosecutors	2
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108

(Pak-EPA, MOE)

d. Islamabad Green City Fund

14. The Islamabad Green City Action Plan will be implemented in five years at an estimated cost of Rs. 1028. For Action 2,3 and 7 CDA will undertake activities by utilizing its own resources. An indicative funding for each activity is given in **Appendix-I**.

15. Ministry of Environment will create a fund with a title “Green Fund for Green City” which will be operated by a Management Committee. The fund will have the following sources:

1. Government grants
2. Donation by NGOs and private sector
3. Contribution by donor agencies
4. Cess or fee levied under PEPA 1997

e. Guidelines for Public

Islamabad Green City Programme can be effectively implemented if the residents cooperate with the agencies and every one act as a “Friend of Environment”. Public Guidelines (Annex-III) has been developed with the aim that the residents whether, men, women, senior citizens or young students will positively respond to the initiatives of the Government in making Islamabad a Green City.

**Indicative Budget for Islamabad Green City Action Plan
(GCap)
2008-2013**

Action No.	Activity	Estimated Budget Rs. In million	Activity to be carried by CDA from their own resources
1.	Energy Conservation	200.00	ENERCON
2.	Solid Waste Reduction and Management	-	CDA
3.	Wastewater Management	-	CDA
4.	Urban Design	10.00	ENERCON/PEPAC/CDA
5.	Air Quality Management	100.00	Pak-EPA/CDA/ICT
6.	Water conservation and Quality Management	10.00	PCRWR/CDA/Pak-EPA
7.	Seasonal Fumigation	-	CDA
8.	Parks and Gardens	100.00	MOE/CDA
9.	Tree Plantation and Grass cover	250.00	IG(Forest)/CDA
10.	Awareness Campaigns	100.00	Pak-EPA/CDA/ICT
11.	Environment-Friendly Transport	200.00	ENERCON/Pak-EPA/HDPI
12.	Constitution of Committees (meetings)	1.50	Pak-EPA
13.	Core of Green Journalists	1.50	Pak-EPA
14.	Environmental Complaint Cell	5.00	Pak-EPA/CDA
15.	Green Force	50.00	Pak-EPA
Total (for five year)		1028.00	
	Average per year	205.60	