

PD-ABK-070

Report of the
Consultancy on
Arborist Training
and
Urban Environmental Management
Islamabad, Pakistan

Prepared by:

Dr. Charles E. Long
Dr. Houchang Khatamian

Kansas State University
USA

In collaboration with

GOP/USAID Forestry Planning and Development Project
and Winrock International

June, 1992

-1'

**Arborist Training and
Urban Environmental Management
Workshop
Islamabad, Pakistan.**

Background:

During the early 1960's after extensive planning the current location of Islamabad was selected as the new site for the Capital of Pakistan. It was recognized during the initial planning stage that considerable environmental modification would be necessary in order to transfer the existing harsh condition into an acceptable place to live. In order to improve the physical and the environmental quality of this area detailed plantings comprised of many species were planted.

The desired effect of environmental moderation was attained as the plantings matured. However, due to over planting, improper spacing, lack of adequate plant care, improper site selection and improper species selection, a major management problem has evolved.

The correct plant selection, site consideration, planting procedures coupled with sound management practices will result in an acceptable functioning urban environment. Modern techniques of Arboriculture in the urban environment have already been developed and should be introduced into Pakistan.

Introduction:

The objectives of the consultancy were to provide technical assistance in plant selection, care and maintenance in an urban environment. To accomplish this objective we spent from May 27 through June 22 in developing two training programs. During this period considerable time was spent reviewing the existing plantings and consulting with city personnel to identify areas of concentration in arborist training. Two short courses were conducted followed by a critical review and an exit seminar.

Scope of Work:

In the process of developing the procedure to be followed and meeting the goals of the workshop, the following steps were taken:

- 1) Toured the city to observe and become familiar with the existing environmental setting.
- 2) Consulted with the city planners and were briefed on the original planning & development process.
- 3) Consulted with the Capital Development Authority (CDA) landscape architects in order to review initial city planting plans.
- 4) Held meetings with the Director General of Environment CDA and his deputy, to review the history of tree management plans and begin to develop goals for the workshop.
- 5) Developed programs for two workshops: 1) Arborist Training and b) Environmental Management (see attached).

Discussion:

Due to the availability of favorable local environment and the use of fast-growing species, many management related problems have evolved. These situations become more apparent particularly in confined spaces. The lack of proper plant selection, spacing and insufficient maintenance, has created problems to the safety of personal life and property.

The particular planning process and the implementation of the plans, has resulted in a functional city environment. This in turn has led to a positive effect on moderating such environmental factors as temperature, wind, solar radiation, noise and air pollution.

Failure to follow landscape plans in city plantings has compounded the overall problems associated with spacing and species selection.

Over planting, improper plant selection, and poor plant quality are some examples of deviation from proposed original landscape plans which has resulted in reduced plant function and increased management problems.

An Arborist Training Workshop was conducted to educate and familiarize and to perfect the arborist's techniques and practices. Classroom presentations covered the subjects of plant growth and development, soil relations, site factors, modern planting techniques, tree fertilization practices, pruning procedures, cable and bracing and hazard tree evaluations. Field activities consisted of on site pruning practice, safe tree climbing, proper use of equipment, problem diagnosis and plant management. A total of 24 persons attended this workshop.

The Urban Environmental Management Workshop consisted of more detailed presentations and discussions of the role of plants in the environment. Plant management practices, such as pruning, landscape maintenance, personnel relations, landscape planning and organization and modern planting technique were included in the workshop program. In addition, the participants observed safe tree climbing procedures, equipment demonstration and other related activities. There were 16 members in attendance.

Considerable time was spent with the CDA nursery personnel to review current nursery management practices and provide input for improvement.

On two occasions meetings were held with allied groups such as the Islamabad Horticultural Society and topics of interest to the membership were discussed. In addition, extensive consultations were held with the landscape architect responsible for Capital Park Complex.

A comprehensive review of the administrative structure of the CDA environmental group and a separate report will be submitted to the Director General.

CONCLUSIONS/RECOMMENDATIONS (ACTION FOR CDA):

- I) Evaluate the existing plant material for:
 1. Species adaptability.
 2. Function/site adaptation.
 3. Desirable characteristics.
 4. Production potential.
 5. Undesirable characteristics.
- II) Develop a suitable plant list for future plantings.
- III) Develop a master planting plan for the city.
- IV) Develop a comprehensive urban landscape maintenance program that addresses specific species need:
 - 1) High maintenance.
 - 2) Medium maintenance.
 - 3) Low maintenance.
- V) Follow sound arborist practices such as:
 - 1) Proper pruning.
 - 2) Proper fertilization.
 - 3) Safe use of equipment.
 - 4) Proper planting technique.
- VI) Consider potential for vegetation management with herbicides.
- VII) Initiate follow-up training workshops to perfect techniques learned in this training programme.
- VIII) Involve allied groups such as the Islamabad Horticulture Society, the Margalla Society and similar non-governmental organizations (NGO's) in the environmental planning process.
- IX) Develop public awareness programs to educate the citizens of the city on environmental benefits of plants.
- X) Consider further use and involvement of short-term consultants for:

- 1) equipment use, training, pruning and transplanting;
- 2) proper selection, handling and use of pesticides including herbicides;
- 3) propagation and production of nursery plants;
- 4) turf grass management.

Attachment: A**Recommended Equipment List**

1. Tree transplanter (spade) minimum size 44 inches.
2. Brush Chipper - to handle 3" dia, or less.
3. Stump grinder.
4. Flail mower for rough areas.
5. Improved fertilizer applicators and equipment.
6. Bucket truck.

Hand Tools

1. Hand shears.
2. Loppers.
3. Hand saws.
4. Power saws.
5. Ropes.
7. Saddles.
8. Hard Hats.

Attachment BContact List

- 1 Abeedullah Jan, IG Forests
- 2 Farid-ud-Din Ahmed, Chairman, CDA.
- 3 Rashid Randhawa, DG Environment, CDA.
- 4 Sheikh Abdul Qadir, Chief Landscape Architect, CDA.
- 5 Mazhar Hussain, Deputy Director Environment, CDA.
- 6 Mr. Chohan, Member Planning, CDA.
- 7 Dennis Weller, USAID.
- 8 Khawaja Hameedullah, USAID.
- 9 Nasrullah Khan Aziz. DIGF.
- 10 Muhammad Ramzan, Member Horticulture Society
- 11 Ghazanfar M. Khan. Secretary General, Islamabad Horticulture Society.
- 12 Daud Ahmed Khan, Member, Horticulture Society.
- 13 Sheikh Abdul Shakoor, Member, Horticulture Society.
- 14 Saeed Ahmed, President Islamabad Horticulture Society.
- 15 Dr. Charles R. Hatch, TAT.
- 16 Gary G. Naughton, TAT.
- 17 M. I. Sheikh, TAT.
- 18 Tahir Wadood Malik, TAT.
- 19 Dr. George M. Blake, TAT.
- 20 Agha Ghazanfar, Member, Horticulture Society.

List of Participants
Arborist's Training - June 6 to 8, 1992

1. Noor Khan, Assistant Director, Urban-I.
2. Luqman Farooq, Assistant Director, Urban-II.
3. Muhammad Aftab, Assistant Director, Urban-II.
4. Ghulam Hussain, Assistant Director, Urban-II.
5. Matloob Hussain, Assistant Director, Nursery.
6. Abdul Majeed, Assistant Director, Park.
7. Muhammad Arif, Assistant Director A/Sadar.
8. Muhammad Naeem, Horticulture Assistant, Urban-I.
9. Javed Iqbal, Horticulture Assistant, Urban-I.
10. Fazal Din, Horticulture Officer, Urban-II.
11. Rab Nawaz, Horticulture Assistant, Urban-II.
12. Najeeb Ullah, Forester, Urban-III.
13. Sadaqullah Khan, Range Officer, Park.
14. Azizullah Phoul, Horticulture Supervisor, Nursery.
15. Muhammad Azam, Horticulture Assistant, Urban-III.
16. Muhammad Irfan, Range Officer, Urban-I.
17. Abdul Latif, Horticulture Officer, C/Park.
18. Perviz Akhtar, Horticulture Supervisor, Park.
19. Javed Mehmood, Horticulture Assistant, Urban-I

List of Participants
Environmental Management Training - June 16 to 18, 1992

- 1 Muhammad Saleem Awan, UP & D, Quetta.
- 2 Syed Asghar Shah Zaidi, Q.D.A. Quetta.
- 3 Shafiq Ahmad Butt, D.A. Muzaffarabad.
- 4 Malik Muhammad Khan, Forest Department, Punjab.
- 5 M. Iqbal Khan, K.D.A.
- 6 Raja Shaukat Mehmood, RDA, Rawalpindi.
- 7 Iftikhar Ahmad Awan, CDA, Islamabad.
- 8 Khurshid Anwar Qureshi, CDA, Islamabad.
- 9 Gulzada Khan, CDA, Islamabad.
- 10 Aulya Khan, CDA, Islamabad.
- 11 Muhammad Jalil, CDA, Islamabad.
- 12 Muhammad Rashid Khan, CDA, Islamabad.
- 13 Mazhar Hussain, CDA, Islamabad.
- 14 Ismat Asar, CDA, Islamabad.
- 15 Abdul Ghaffar A. Khan, C.A.A. Islamabad.
- 16 Muhammad Saeed Sheikh, CDA, Islamabad.

TWM/B:\ARBOR

TWM/mak

Attachment E

ARBORIST TRAINING SHORTCOURSE

CDA - ISLAMABAD

6, 7, 8 JUNE, 1992

TRAINEES: 25 Supervisory level foresters and horticulturists of CDA.

PLACE: CDA Technical Training Complex, G-7/4

INSTRUCTOR: Dr. Charles Long, Kansas State University
Dr. Houchang Khatamian, Kansas State University.

A G E N D A:

DATE	TIME	ACTIVITY
June 06, 1992	0845 -	Trainees arrive at Training Center
	0900 -	Indoor session on tree growth, physiology, and maintenance
	1230 -	Box lunch at Training Center
	1330 -	Board CDA Bus and travel to field site
	1345 -	Field Practice and Technique
	1700 -	Close for the day
June 07, 1992	0845 -	Trainees report to Training Center
	0900 -	Board CDA Bus and travel to field site. Field training
	1230 -	Box lunch in field
	1330 -	Field Training
	1630 -	End for the day
June 08, 1992	0845 -	Trainees report to Training Center
	0900 -	Board CDA Bus and travel to field site.
	1230 -	Box lunch in field
	1330 -	Field Practice
	1630 -	Present Certificates. Close the course.

Attachment F

**URBAN ENVIRONMENTAL FORESTRY
SHORT COURSE
June 16 - 18, 1992**

(Tuesday) June 16

09:00	Recitation from the Holy Quran.
09:05 - 09:15	Opening Remarks Mr. Rashid Randhawa D/G, Environment, CDA.
09:15 - 09:25	Remarks by Chief Guest (Member, CDA).
09:25 - 09:35	Response - Dennis Weller, USAID (Acting Chief, ARD).
09:35 - 10:30	Role of Plants in Environment.
10:30 - 10:45	Break.
10:45 - 11:45	Site consideration Species selection.
11:45 - 12:30	Modern Planting Techniques and Management.
12:30 - 13:30	Lunch Break.
13:30 - 14:00	Modern Planting Techniques continued.
14:00 - 15:00	Urban Landscape Planning and Implementation.
15:00 - 15:30	Discussion / Questions.

(Wednesday) June 17, 1992

09:00 - 12:00	Field Trip.
12:00 - 13:00	Lunch Break.
13:00 - 14:30	Pruning practices - Benefits.
14:30 - 14:45	Break.
14:45 - 15:45	Urban Landscape Maintenance.
15:45 - 16:30	Hazard Trees - (Video).

(Thursday) June 18, 1992

09:00 - 11:00	Field Trip. Turf Maintenance Equipment Climbing Demonstration.
11:00 - 12:30	Safety and Tree Work - Safe Climbing practices - (Video).
12:30 - 13:30	Lunch Break.
13:30 - 14:30	Personnel Relations & Management.
14:30 - 15:30	Open Discussion.
15:30 - 15:45	Break.
15:45 - 16:00	Closing Remarks - Abeedullah Jan, Inspector General Forests.
16:00	Presentation of Certificates