

# Improvement of Roadside Plantation and Public Participation in Faisalabad-Pakistan

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## ABSTRACT

Public opinion was evaluated for improvement and maintenance of roadside plantation. There were four categories of responses, namely: (1) respondents' opinion on responsibility of care and management of roadside plantation, (2) opinion on public participation in plantation drives, (3) opinion on measures for the improvement of roadside plantation, (4) opinion on choice of plants and (5) benefits ascribed to vegetation as perceived by public. Two third (66%) of the respondents were of the view that both people and administration should be responsible for the care and management of the roadside plantation. A big majority (80%) of the respondents expressed their approval of the public participation in the plantation drives. Regarding measures for the improvement of the roadside plantation, 73% of the respondents opined that better protection was required for the improvement of roadside plantation. Regarding choice of plantation it was almost equally emphasized for ornamental and shady plants (49% & 48%, respectively). Environmental protection was the most important benefit associated with plantation, favoured by 60% of the respondents.

**Key Words:** Survey; Plantation care; Management; Choice; Protection; Shade

## INTRODUCTION

Worldwide cities tend to improve their environment. Improvement of the environment includes reduction of pollution (both atmospheric & noise), reduction of stress and beautification of the cityscape. Atmospheric pollution is one of the major problems in the urban life. Combating atmospheric pollution requires two-pronged approach. On one side we need to reduce the emission of pollutants and on other side we ought to keep trying to purify the air. Purification of the air can be brought about by plantation of the trees in the cities. City life can be made more bearable by widespread planting of trees, which trap dust and effectively reduce atmospheric pollution (Wachtel, 1989). Another advantage of the trees is their ability to reduce the intensity of noise. A multistaged dense young forest reduces the noise per meter by 0.16 db (Bernatky, 1978). Greenery in the city helps overcome the stress of urban life. Trees bring back a certain harmony to the urban environment and therefore play a vital role in psychological health of urban dwellers (Gangloff & Moll, 1987). All of these advantages associated with trees have highlighted the concepts of green corridors in the urban environment.

Roads are one of the major sources of atmospheric as well as noise pollution. Plantation along the roads can play a vital role in coping with these problems. Roadside plantation is an important component of the urban green-spaces. Success of plantation cannot be guaranteed if it is not in keeping with the indigenous climatic and social conditions. Percentage of plant survival along the roads has been low owing to number of reasons, most important of

them being vandalism. Number of incidents of vandalism can be curtailed if people are made to feel responsible for the care of plants. The best way to achieve this is their active involvement in plantation. An important factor that underscores the need for public participation in the plantation is lack of resources with administration.

Community participation shapes individual and group perceptions of their environment and themselves (Burch & Grove, 1993). Olembo and Rham (1987) stated that in most development endeavours the active participation of the concerned was the key to success. Haque (1987) maintained that citizen groups could play a decisive role both in heightening public awareness of the value of trees in the urban environment and teaching people how to care for them. The need for care of young roadside trees to protect them against environmental hazards (Leone, 1989). Present study was intended to explore ways for the improvement of the roadside plantation in an acceptable and sustainable manner.

## METHODOLOGY

Area of the research comprised two representative roads in the city of Faisalabad. These included Jail Road and Jhang Road. Population in the area comprises all social classes. In another study only Jhang road (Faisalabad) was selected (Nawaz *et al.*, 2004).

**Social survey.** Study was based on the social survey. Social survey was conducted through interviews of passersby on a structural format. Sample was simple random wherein groups were later identified and stratified as follows.

**Data stratification.** Data was stratified according to following values: Age, profession, education, mode of travel on road and frequency of visit. Three categories were identified in age group: young (18 - 30 years); middle aged (30 - 50 years); old (Above 50 years). Education was also sub-divided into three subgroups: low education (matriculation or below); fairly educated (intermediate & bachelors); and highly educated (masters & above, professionals). Subgroups in mode of travel were automobile travelers, cyclists and on foot. Frequency of visit had two subgroups: frequent visitors, those who visited almost daily; and infrequent visitors, those who visited once in a week. The number of respondents in each subgroup was confined between minimum of 100 and maximum of 200 to get reliable number of observation for data analysis. The above parameters were also used by Nawaz *et al.* (2004) in another study.

**Data analysis.** In total 200 respondents were interviewed. Data was analyzed using chi-square, with SPSS (Statistical Package for Social Sciences) data analysis tool. Data was analysed at 5% significance level. Questions were asked regarding following five matters (factors):

- 1- Whether people should be involved in plantation drives.
- 2- With whom responsibility should lie for the care and management of roadside plantation in the cities.
- 3- Measures required, in respondents' opinion, to improve roadside plantation.
- 4- Choice of plants along roadside.
- 5- What benefits respondents ascribe to vegetation.

## RESULT AND DISCUSSION

Regarding public participation in plantation drives, 80% of the respondents were in favour of public participation in such drives, while 20% were against public involvement in them. Further analysis showed that trend in favour of public participation was highest among automobile travelers. Similarly opinion for public participation was higher among frequent visitors than among infrequent visitors. In age group, more number of younger respondents favoured public participation as compared with middle-aged and old respondents. In education group, highly educated respondents strongly favoured public participation. These results were encouraging. Younger generation is more educated and aware, which is symbolic of development of society, future concern of vegetation and environmental protection.

For responsibility and care of roadside plantation 66% of the respondents argued that responsibility should lie both with public and administration. In a study it was depicted that there will be equally an international trend among masses for care of plantation in urban environment (Long & Nair, 1999). Because most urban dwellers have high aesthetic and recreational sense and value of trees and parks. The results strongly agree with another study that 72% of

**Table I. An Inventory of Plants Along Jail Road**

Common name	Biological name	Number of plants	Percentage (sampled area)
Eucalyptus	Eucalyptus citridora	730	42.7
Bougainvillea	Bougainvillea spp	253	14.8
Gardenia	Gardenia florida	186	10.8
Kanair	Thevitia nerifolia	87	5.0
Bamboo	Bambosa nana	80	4.7
Dhrek	Melia azedarach	77	4.5
Mulberry	Morus alba	50	2.9
Gul-e-aqeeb	Canna indica	41	2.4
Chandani	Taberna Montana	38	2.2
Java Fig	Ficus benjamina	25	1.4
Mango	Mangifera indica	23	1.3
Gab	Diospyros embryoptiris	19	1.1
Miscellaneous plants		101	6.2
		1710	100

the respondents opined that same (Nawaz *et al.*, 2004). Those who argued that responsibility should entirely be of administration were 29% and those who opined that only people should be responsible were only 5%. Respondents in all the strata strongly argued for responsibility to lie both with people and administration. Trend was stronger in some of the subgroups. These subgroups included frequent visitors in frequency of visit, cyclists in mode of travel, young respondents in age and highly educated in education group. It was suggested that the combination personified by the foresters and horticulturists learning from one another and moving ahead together has the potential to be a powerful one for all of us if both are serving as extension agent and rooted among local people (Couch, 1994).

Opinion on measures to improve the roadside plantation illustrated that 73% of the respondents wanted better protection measures and 15% believed that improving the management was the solution. There was mixed opinion for measures to improve the condition of the roadside plantation. Infrequent and highly educated respondents were of the view that management should be improved. Apart from these two subgroups, in all the other subgroups, respondents suggested protection as a measure to improve the roadside plantation. As far as choice of plantation is concerned, 49% of the respondents were of the opinion that there should be more ornamental plants, 48% of the respondents wanted to have more shady plants, and only 3% of the respondents said that there should be other kinds of plants like fruit trees. These results also agree with those of Nawaz *et al.* (2004). In frequency of visit group, infrequent visitors desired more shady plants than ornamental plants. In age group both more number of middle and old aged respondents went for more shady plants. Similarly middle and highly educated respondents chose shady plants and these results are favored by the findings of Nowak and McPherson (1993). They supported that in medium and large cities there are some accessible pockets, where availability of sewage water and city refuse is high and management is intensive, where ornamental and shade trees are generally planted. Forestry improvements in urban areas are reasonably efficient, productive and potential is very

**Table II. Response (% of total respondents) of public on various aspects of plantation along Jail Road Faisalabad – Pakistan**

Factors	Response	Education Level			Profession			Age group			Mode of travel			Frequency of visit		Overall Response (%)
		Low	Middle	High	Lower	Upper	Non-job	Young	Middle aged	Old	Automob.	Cycle	On-foot	Frequent	Infrequent	
Choice of plantation	Shady	43	15	3	28	1	8	31	16	5	32	5	7	39	6	48%
	Ornamental	26	8	3	36	16	2	23	19	4	33	14	7	50	4	49%
	Others	2	0	0	1	8	0	0	2	0	1	0	1	1	0	3%
Benefits ascribed	Beauty	17	6	3	19	7	0	13	11	2	16	5	5	25	2	27%
	Good Environment	40	17	3	36	17	7	34	22	5	45	10	6	55	5	60%
	Shade & shelter	14	0	0	11	0	3	7	4	2	5	4	4	10	3	13%
Responsibility of care and management	People	3	2	0	3	1	1	3	2	0	4	1	0	5	0	5%
	Administration	24	3	5	17	10	1	10	13	4	15	7	6	25	3	29%
	Both	45	17	1	45	14	8	40	23	5	45	12	10	60	7	66%
Opinion on public participation on plantation drives	Yes	57	18	5	54	20	7	44	30	6	58	13	10	74	6	80%
	No	15	5	0	12	4	3	7	10	3	9	5	5	17	3	20%
Improvement of roadside plantation	Protection	48	18	6	45	20	8	42	23	8	46	15	10	70	8	73%
	Proper management	12	4	0	10	5	0	4	10	2	8	4	6	10	2	15%
	New / more plants	8	2	2	8	1	3	6	5	0	10	1	0	8	2	12%

high (Dembner, 1993).

Whatever the character and location of a site, if the landscape designers are to satisfy more than the most basic needs of people for shelter and physical comfort, then they must recognize the relationship that exists between the health of natural systems and the well-being of people (Robinson, 1992).

As regards benefits ascribed to plants by the respondents, majority of those (60%) ranked good environment at the top. Aesthetic considerations and shade were at the second rank (27% & 13%, respectively). The detailed results are given in Table II. These results depict that people are much aware of the problem of environmental pollution in an industrial city and facing it. Now they are looking for remedy and most appropriate solution they find is plantation. Plants as dust trap, reducing atmospheric pollution, maintaining life support system of the planet and trees as alpha and omega of life form and environment have been supported by many scientists (Carpenter, 1975; Huxley, 1984; Wachtel, 1989; Chaudhari, 1992).

It can be concluded from above cited results that there is a great potential for public involvement in betterment of roadside plantation. Response by young respondents is particularly heartening to know, who had strongly favoured public participation in such drives. Similarly young respondents overwhelmingly held both administration and public responsible for the care and management of roadside plantation. After this kind of response it is only up to our planners to find some way of getting public in general and younger generation in particular involved in plantation in the town.

Getting some seedling plugged in the soil is not the only cure. More important work starts afterwards i.e. protection of the plants (Alexander, 1993). This was strongly recommended by a large number of respondents, the other important option being the improvement of management. In fact these two options are interlinked; good

management is nothing without proper protection measures. Selection of plants for plantation along the roads is an important task. Respondents' opinion suggests that here should be more number of ornamental plants along the roads. The second important option, shady plants, was not far behind. Faisalabad, being subtropical city, has very severe summers. Plants provide refuge to pedestrians against scorching heat of the summer sun. Detailed results are depicted in Table II.

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