

Appendices

Appendix 1:

WHO air quality guidelines/ Standards for TSP, PM₁₀ and Lead:

Parameter	1hr	8hrs	24hrs	1year	Year of Standard
TSP ug/m ³			120 ^A		1987
TSP ug/m ³			150-230	60-90	1979
PM ₁₀ ug/m ³			70 ^A		1987
Lead ug/m ³				0.5-1	1987

Notes:

A –Guideline values for combined exposure to Sulfur dioxide and suspended particulate matter (they may not apply to situations where only one of the component is present).

Source: World Health Organization / United Nations Environment Program (1992). Urban Air Pollution in Megacities of the World. Oxford Blackwell Publishers.

Appendix 2

Map of the Nepal with project site

NEPAL ADMINISTRATIVE DIVISION

Scale 1: 3,000,000

Kilometres 0 30 60 90 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 750 780 810 840 870 900 930 960 990 1000 Kilometres

Project Site



LEGEND

- | | | |
|---------------|-------|-------------------------------------|
| Boundaries | ----- | 5 Development Regions |
| International | ----- | 14 Zones |
| Zone | ----- | 75 Districts |
| District | ----- | 33 Municipalities |
| | | 4000 Village Development Committees |
| | | 40,000 Ward-level Settlements |

Appendix-3

Interview Guidelines for Focus Group Discussion

Date: _____ Venue: _____ Moderator: _____

Note taker: _____ No. of Respondents: _____

Groups: _____ General Characters: _____

Respondents: Taxi owners/ drivers

Purpose of discussion:

1. To explore the perception on air pollution and role of vehicle maintenance on reduction of air pollution.
2. To explore the vehicle maintaining habit of the respondents
3. To identify listening habits of the respondents

A. Perception of air pollution and role of vehicle maintenance on reduction of air pollution

1. What do you mean by air pollution?
2. What are sources of air pollution?
3. What adverse health of air pollution?
4. Do you think maintaining your vehicle can reduce air pollution?
6. What are the benefits you get if you maintain your vehicle to reduce vehicular emissions?

B. The vehicle maintaining habit of the respondents

7. How often do you maintain your vehicle?
8. How often you think you should maintain your vehicle?
9. What are the parts of vehicle you should maintain if you want reduce emissions of your vehicle? Do you know how much it costs to maintain these parts?
10. What are the parts you maintain when you maintain your vehicle?

C. Listening habit of the respondents

11. What media do have in your home or vehicle?
12. What media do you have in your house or during your work?
13. What are the your favorite radio programs?
14. What is the most convenient time to listen the radio, if to offer you any new program?

Appendix-4

Questionnaire on (KP) for the base line survey and evaluation

ID.....

Name

Age

Address.....

Status (1) Driver (2) Owner (3) Driver cum Owner

Religion (1) Buddhist (2) Christian (3) Hindu (4) Muslim (5) others

Marital status (1) Married (2) Unmarried (3) Widower (5) Separated

(6) divorce

Annual income Rs. 1) less than 5,000 (2) 5,000-10,000 (3) more than 10,000

Guideline:

The purpose of this questionnaire is to assess the information needs about air pollution of general public

The information you provide will be helpful in understanding the information needs of the general public. The information needs are then used for developing a radio program to reduce air pollution. Your sincere answer will help to make the radio program more effective, which ultimately will help to abate air pollution. Please answer the following questions based on your knowledge and experiences. Please tick (✓) on (T) if you think the statement is **True** similarly (F) for **False** and (DK) for **Do not Know** for question no 1 to 20. For the rest of questions, please select your answer.

01. Air pollution can cause landslide. (T) (F) (DK)
02. Air pollution can cause deforestation. (T) (F) (DK)

03. Air pollution is contamination of atmosphere. (T) (F) (DK)
04. Air pollution can cause diarrhea. (T) (F) (DK)
05. Air pollution can cause AIDS. (T) (F) (DK)
06. Air pollution can cause skin diseases. (T) (F) (DK)
07. Air pollution can cause respiratory diseases. (T) (F) (DK)
08. Factories are only the major source of air pollution. (T) (F) (DK)
09. Cars or the other automobiles also cause air pollution. (T) (F) (DK)
10. Maintenance of vehicle can help to reduce air pollution. (T) (F) (DK)
11. Car that consumes more fuel causes more air pollution
than the car that consumes less fuel. (T) (F) (DK)
12. Maintenance of air filter helps to give more mileage per liter. (T) (F) (DK)
13. Maintenance of air filter helps to reduce vehicular emission. (T) (F) (DK)
14. Maintenance of radiator gives more mileage per liter. (T) (F) (DK)
15. Maintenance of radiator reduces vehicular emission. (T) (F) (DK)
16. Maintenance of fuel filter helps to give more mileage per liter. (T) (F) (DK)
17. Maintenance of tappet settings helps to reduce vehicular emission.
(T) (F) (DK)
18. Maintenance of spark plugs helps to reduce vehicular emission.
(T) (F) (DK)
19. Maintenance of contact points helps to reduce vehicular emission.
(T) (F) (DK)
20. Maintenance of carburetor helps to reduce vehicular emission.
(T) (F) (DK)
21. How often you think you should maintain your vehicle ?

(1) At every 5,000 km. (2) As prescribed by the owners manual

(3) Whenever your vehicle breaks down

22. How often do maintain your vehicle?

(1) At every 5,000 km. (2) As prescribed by the owners manual

(3) Whenever your vehicle breaks down

23. What are the parts you usually maintain when you maintain your vehicle?

1) Breaks

2) Air filter

3) Fuel filter

4) Tappet stings

5) Spark plug

6) Contact points

7) Carburetor

(8) Overhaul

(9) As prescribed by the owner manual

(10) As recommended by mechanics

(11) Only those parts that breaks down

If you have any comments please do write. Your valuable comments can be helpful.

Appendix 5

The Content and Specific Objectives of Radio Program

Subjects	Specific Objectives of Program	Content
Air pollution and its source	By the end of the program target population will be able to <ul style="list-style-type: none"> ◆ define air pollution ◆ identify the different sources of air pollution ◆ name major pollutants ◆ describe major sources of different pollutants 	-Air pollution, -sources of air pollution -major pollutants and their source -problem of pollution in Kathmandu - major sources of vehicular emission

Appendix 5 (Continued)

The Content and Specific Objectives of Radio Program

Subjects	Specific Objectives of Program	Content
Consequences of air pollution	<p>By the end of the program target population will be able to</p> <ul style="list-style-type: none"> ◆ name the diseases and illness associated with air pollution ◆ name the diseases and illness associated with particulate matter pollution ◆ describe severity of these disease and illness associated with particulate matter pollution ◆ describe susceptibility of diseases and illness associated with particulate matter pollution 	<p>-Adverse health effects of major pollutants,</p> <p>-disease and illness caused by particulate matter pollution</p> <p>-consequences of particulate pollution in Kathmandu valley</p> <p>-severity and susceptibility of these and illness associated with air pollution</p> <p>-monetary damage of disease and illness associated with air pollution</p>

Appendix 5 (Continued)

The Content and Specific Objectives of Radio Program

Subjects	Specific Objectives of Program	Content
Maintenance of vehicle	By the end of the program target population will be able to	
	<ul style="list-style-type: none"> ◆ understand role of maintenance in controlling air pollution 	<ul style="list-style-type: none"> - Mechanism of production of vehicular emission - process of incomplete combustion of vehicle
	<ul style="list-style-type: none"> ◆ identify the major parts responsible for air pollution 	<ul style="list-style-type: none"> - parts involved in maintenance
	<ul style="list-style-type: none"> ◆ describe about the maintenance of these parts 	<ul style="list-style-type: none"> - frequency of maintenance
	<ul style="list-style-type: none"> ◆ describe how often should they maintain their vehicle 	<ul style="list-style-type: none"> - how to maintain and what to maintain
<ul style="list-style-type: none"> ◆ describe the need and benefit of maintaining old vehicles 	<ul style="list-style-type: none"> - importance of maintenance of old vehicle and its benefit such as resale value , safety etc. 	

Appendix 5 (Continued)

The Content and Specific Objectives of Radio Program

Subjects	Specific Objectives of Program	Content
<p style="text-align: center;">Benefit and cost of maintenance</p>	<p>By the end of the program target population will be able to</p> <ul style="list-style-type: none"> ◆ describe benefits, such as safety, prolong vehicle life, fewer number of repair, and resale value as result of maintenance ◆ describe benefit obtained from reduction of air pollution ◆ describe cost of maintenance ◆ describe benefit of maintenance for a vehicle to pass Emission Test 	<ul style="list-style-type: none"> - Benefit of maintenance pertaining to vehicle i.e. resale value, safe vehicle, fuel efficiency etc. - social benefit and individual benefit such as reduction diseases, cleaner environment - role of maintenance to reduce tail pipe emission - role of tail pipe emission in Emission Test - benefit for a vehicle that passes Emission Test

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