

Malé Declaration Implementation in Pakistan



National Stakeholder Forum

- The National Stakeholders Forum on **Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia** was held in Islamabad on 14th December 2004.
- In Technical session, Experts from different Organizations presented the Air Quality status in Pakistan
- Director General Pak-EPA has approved the National Stakeholders Committee



Monitoring Equipment

- Pak-EPA has received monitoring cum laboratory equipment from UNEP in November 2004.
- Installation cum Training on Monitoring Equipment for Transboundary Air pollution under Malé Declaration by UNEP held from 6 – 10 December 2005 in Islamabad.



Site Selection

- Following Team Members after the approval of Director General Pak-EPA have visited the two proposed sites to recommend the best suitable site:
 1. Dr Zulfiqar H. Lodhi, Chief Chemist , Pak-EPA
 2. Mr. Khalid Mehmood Malik, Senior Meteorologist, PMD
 3. Mr. Zaigham Abbas, Monitoring Inspector, Pak-EPA



Proposed Sites

1. Rahim Yar Khan

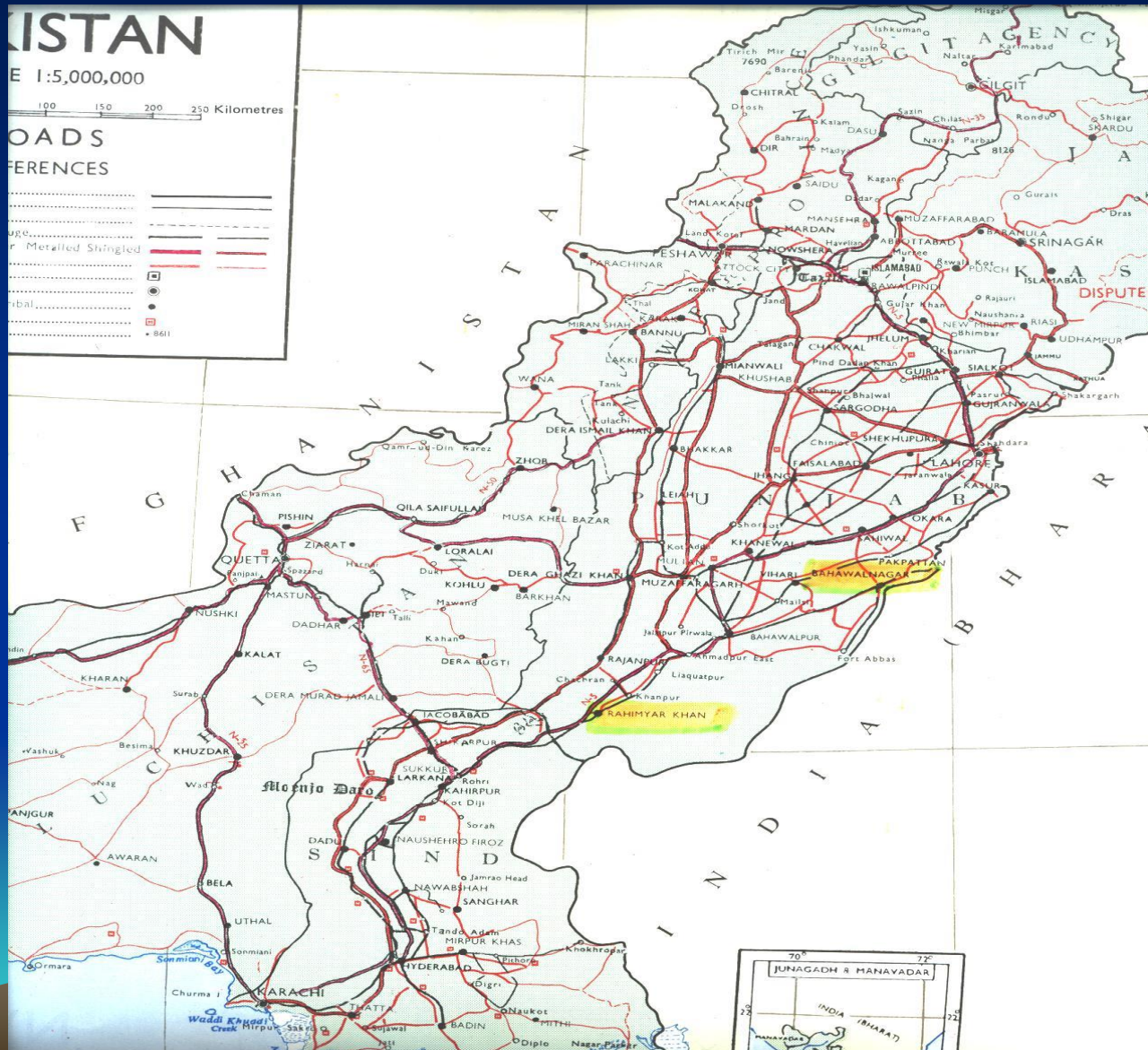
Rahim Yar Khan is bounded on the north by Muzaffargarh district, on the east by Bahawalpur district, on the south by Jasilmir (India) and Ghotki district of Sindh province and on the west by Rajan pur district.

2. Bahawalnagar

The boundaries of Bahawalnagar District touches the Indian territory in the East and South while Bahawalpur district lies on its West and river Sutlej flows on its Northern side across which districts Okara, Pakpattan and Vehari are situated.



Proposed Sites on Map



← Bahawalnagar

← Rahim Yar Khan

Comparison Between The Proposed Sites

Main Features	Rahim Yar Khan	Bahawalnagar	Male' Criteria
Geographical Location	Latitudes: N 28o 23.581´ Longitudes: E 070o17.273´ Elevation from sea level: 319 feet	Latitudes: N 29o 59.078´ Longitudes: E 073o 14.988´ Elevation from sea level: 496 feet	-
Area for the installation of monitoring equipment	Next to the Airport and small Area for PMD observatory.	PMD observatory area is fenced and it covers 15,000 m ² .	Site should be secure
Topography of the Area	(a) Riverine area. (b) Canal irrigated area (c) Desert area which is called Cholistan	(a) Riverine area. (b) Canal irrigated area (c) Desert area which is called Cholistan.	Site should be sufficiently inland

Main Features	Rahim Yar Khan	Bahawalnajar	Male' Criteria
Information around Site	<ol style="list-style-type: none"> 1. On Site Scale: In the east busy road, in the West airport runway 2. Local Scale: North City area, West main cross country high way and main railway track 3. Regional Scale: In the west fertilizer industry, south international boarder (India) 	<ol style="list-style-type: none"> 1. On Site Scale: Residential Area in the north, west and south. 2. Local Scale: In the north international boarder (India), East busy road and west lot of rice shellers 3. Regional Scale: Brick kilns in the north and west. 	NO Major Activities
Industries around the site in regional scale	The major industries are textile, sugar, cotton seed oil, fertilizer manufacturing, edible oil, soap, beverages, brick kilns	Major industries are one sugar mill, Rice shellers using rice husk as fuel, Brick Kilns	To extent possible there should be no human activities and emission sources

Main Features	Rahim Yar Khan	Bahawalnagar	Male' Criteria
Distance from International Boarder	45 Km	10 Km fro m the proposed monitoring site	Should be closer to the international boarder
Terrain between international boarder	Flat	Flat	Terrain should be flat.
Distance from Islamabad	600 Km, 14 hours drive distance	900 Km, 20 hours drive distance	Should be 12 to 15 hours drive distance



Main Features	Rahim Yar Khan	Bahawalnagar	Male' Criteria
Annual Rain Fall (Met. Dept. last 10 years Data)	100 mm	244 mm	Best suitable site which receive high precipitation
Distance from nearest Met. Department	at the premises	at the premises	Met. Observatory should be with in 50 Km
Climatological Data for the last 10 years (1996 – 2005)	Max Temp. 45° C Min. Temp. 5° C Humidity: 40% (Summer) and 80% (Winter) Wind Speed: 4.8 Knots (July) and 0.4 Knot in (Dec. & Jan.)	Max. Temp. 52° C Min. Temp. 6° C Humidity: 40% (May) and 90% (Dec. & Jan.) Wind Speed: 4 Knots (June & July), 1 Knot (Dec., Jan.)	Should be upwind of major emission sources in the country

Recommendation

After thorough analysis of basic properties of sites, potential contamination sources, keeping in view the site selection criteria laid down in the documents of Male' Declaration, the most suitable site among these two sites for monitoring transboundary air pollution is **Bahawalnagar.**



Photographs of Bahawalnajar Site



Bahawalnagar Site



Thanks

