

Urban air pollution

In Sana`a city
Yemen

Introduction

- Human being need a regular supply of food and waster and an essentially continuous supply of air the requirements for air and water are relatively content(10-20 m³ and 1-2 litter (per day respectively
-

People should have

That all people should have free access to air and water of acceptable quality is a fundamental human right. Recognizing the need of humans for clean air ●

Objectives for monitoring

- Clean air is considered to be a basic requirements for human health and well being .In spite of the introduction of cleaner technologies in industry energy production and transport air

major health risk

pollution remains a major health risk .Recent ●
epidemiological studies have provided
evidence that in Yemen. .Various chemicals
are emitted into the air from both natural and
man made (anthropogenic sources .The
quantities may range from hundreds to millions
of tones annually .Natural air pollution

pollution remains a major health risk

..The quantities may range from hundreds to millions of tones annually .Natural air pollution ●

**To determined present
conditions and trends.**

To help in the regulatory process (e.g air
pollution control, legal cases)

development of models, including

- To help in the development of models, including calibration and validation
- † To make operational prediction

To develop long –term



Air pollution in Sana'a City

- Air pollution from automobile in Sana'a city
- Vehicles is the source for air pollution in Sana'a city and due to the survey we have done from the General department of traffic and Statistic department since 1965—1999

form the consumption of fuel
for vehicles for each vehicles
is 5 liter per day as its showed
in table (1) The daily and annual
consumption of fuel

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Increase

- Temperature in Sana'a city
- One of the main indicators is increasing the temperature in Sana'a city

Sana'a city

We collect data from the civil Aviation and Meteorological Authority ●

And Statistic center for 10 Years



Table (3) ●

To develop long –term

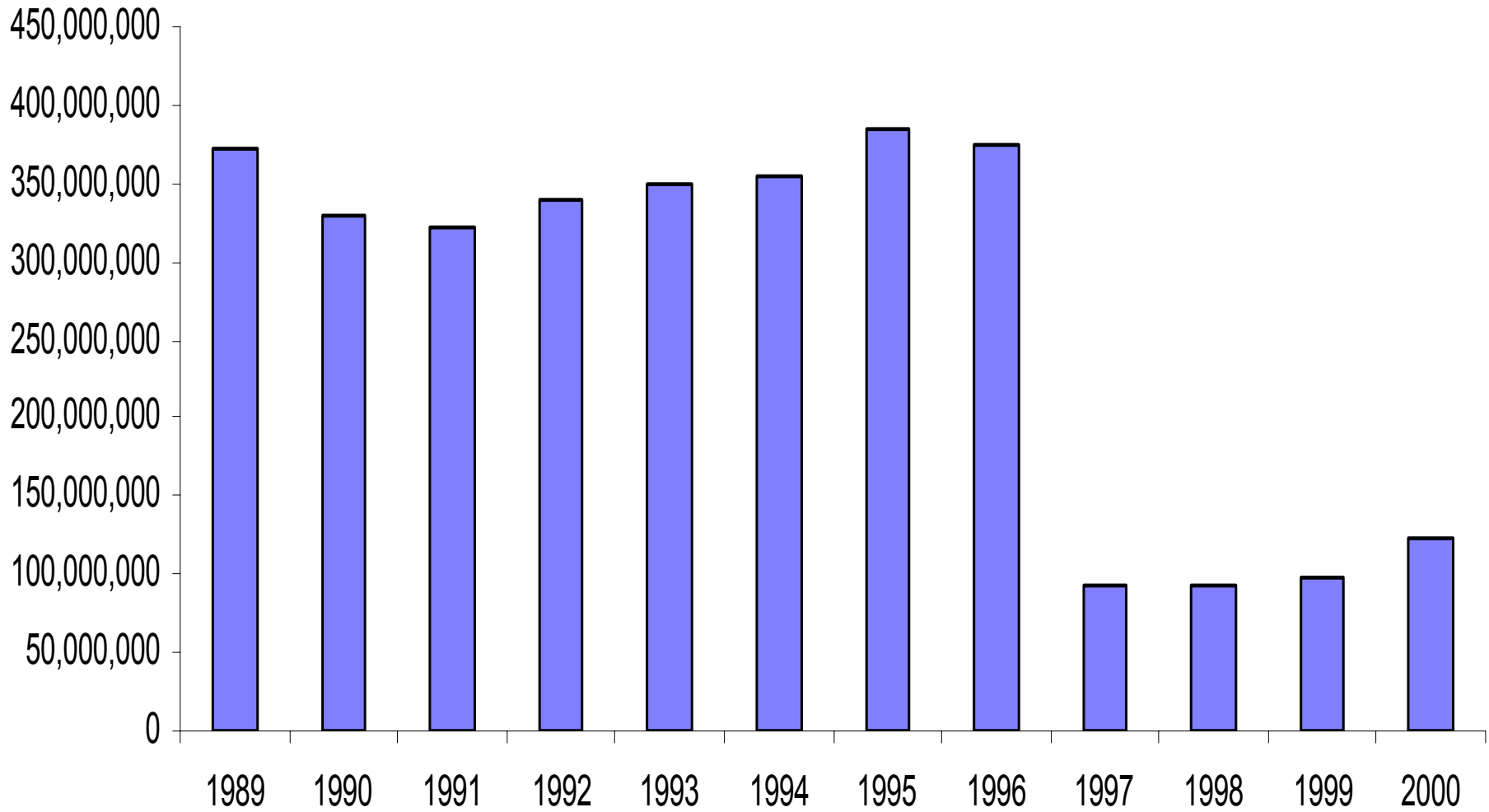
- climatologically simulations. ●
- To compare alternative scenarios.. Goals and ●
- Strategies for the design and air quality monitoring network .

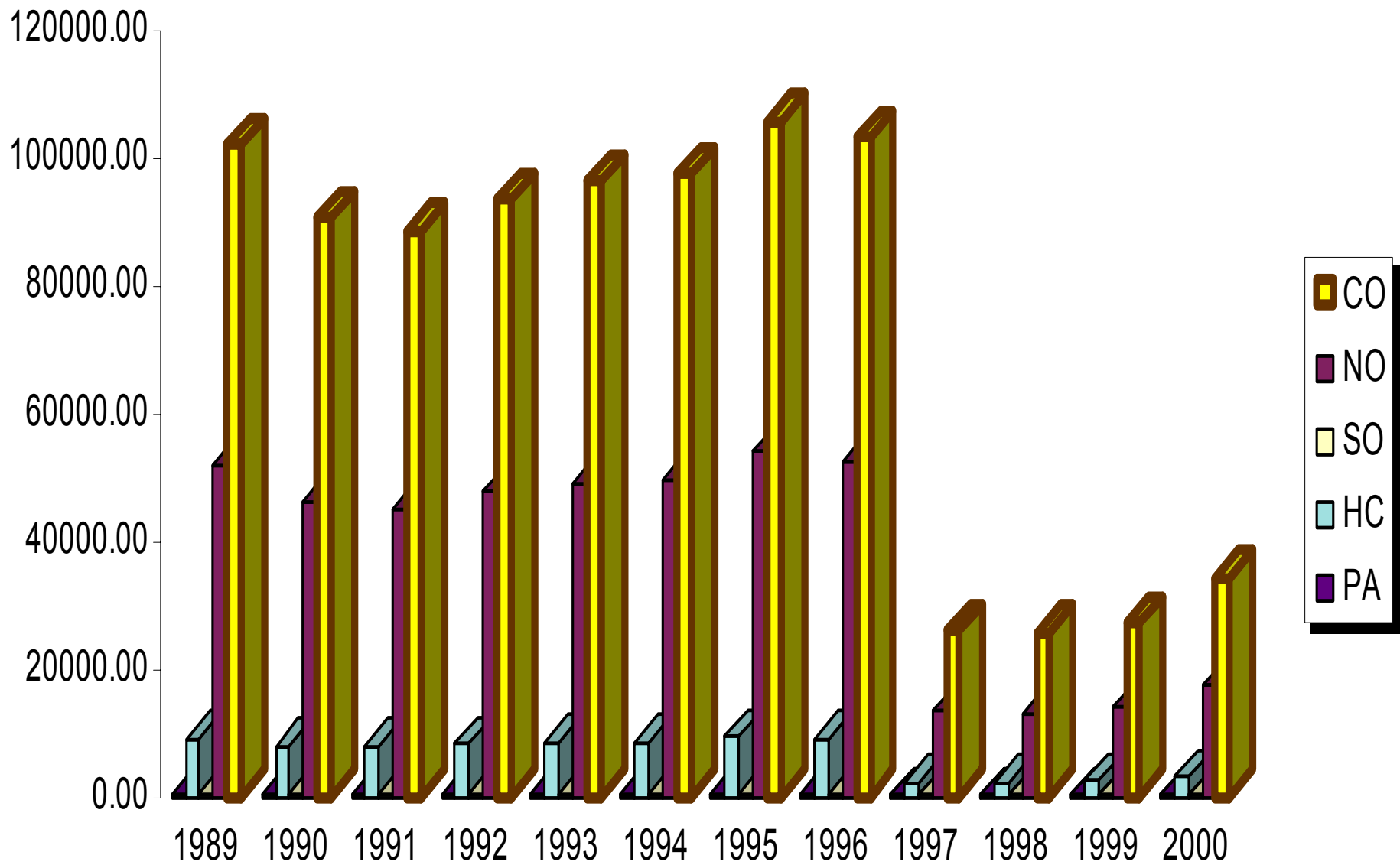
Emission (Ton/ Year) in Sana'a for the (1989-2000)

Table (3)

Year	Consumption (Letter/ Year)	GassesTon/ Year				
		CO	NO	SO	HC	PA
1989	370,925,413	102004.49	51929.56	408.02	8902.21	519.30
1990	329,306,130	90559.19	46102.86	362.24	7903.35	461.03
1991	322,047,147	88562.97	45086.60	354.25	7729.13	450.87
1992	340,168,836	93546.43	47623.64	374.19	8164.05	476.24
1993	350,680,098	96437.03	49095.21	385.75	8416.32	490.95
1994	354,947,146	97610.47	49692.60	390.44	8518.73	496.93
1995	385,199,070	105929.74	53927.87	423.72	9244.78	539.28
1996	375,683,238	103312.89	52595.65	413.25	9016.40	525.96
1997	94,187,000	25901.43	13186.18	103.61	2260.49	131.86
1998	93,605,029	25741.38	13104.70	102.97	2246.52	131.05
1999	98,751,573	27156.68	13825.22	108.63	2370.04	138.25
2000	123,971,751	34092.23	17356.05	136.37	2975.32	173.56
2001						
2002						

Consumption of Petrol Letter / Year for the (1989-2000)





Fuel Consumption Diesel

- **Fuel Consumption Diesel (Liter/Year) and the Estimation of Exhaust Gasses**
- **Emission (Ton/Year) in Sana'a for the (1989- (2000)**

Fuel Consumption Diesel (Letter/Year) and the Estimation of Exhaust Gasses

Fuel Consumption Diesel (Letter/Year) and the Estimation of Exhaust Gasses

(Emission (Ton/Year) in Sana'a for the (1989-2000
Year

Consummation
(Gasses(Ton/Year

(Letter/Year)

CO

NO

SO

HC

Fuel Consumption Petrol (Liter/ Year) and the Estimation of Exhaust Gasses

Year ●
Consumation ●
(Gasses(Ton/Year ●

(Letter/Year) ●

CO ●

NO ●

SO ●

HC ●

PA ●

1989 ●

217,605,834 ●

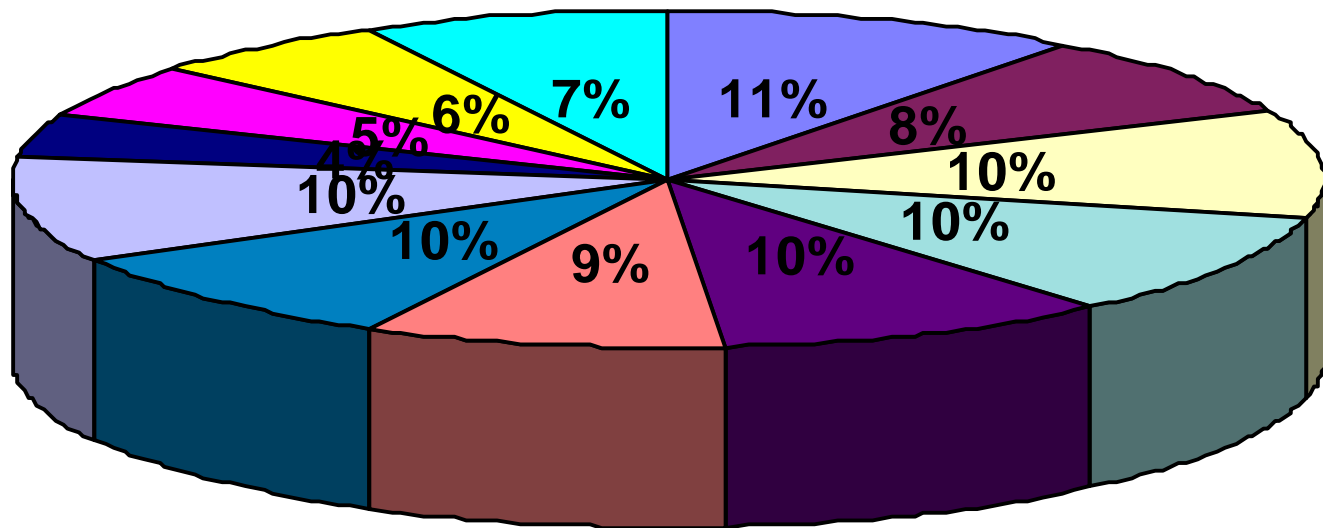
1566.76 ●

5788.32 ●

1044.51 ●

Thank you for attention





1989
 1990
 1991
 1992
 1993
 1994
 1995
 1996
 1997
 1998
 1999
 2000

