

„Pollution in Megacities / Ahmedabad“

Coproduction of All India Radio Ahmedabad and Deutsche Welle Radio, Germany

Authors: Maulin Munshi and Priya Esselborn

Sound of Children playing / water in the background fading in and out

Speaker 1: Children are playing on a small bridge over a brook near Vinzol area, one of six industrial estates of the Indian city of Ahmedabad. The kids are having fun, trying to catch each other on this bright October day. Not often the noise of a truck or an auto-rikshaw disturbs this idyll.

In the background sound of a truck and then birds

However, just metres away, the rotting chimneys of the factories are spitting their black poison unfiltered into the air. And just by the stream, hidden in the greenery, chemical waste is lying on a huge pile, simply wrapped in plastic bags.

Khodabhai

„Here, all the water is polluted with chemicals. It hurts a lot if we drink it and in the night we feel the gas rumbling in our stomachs. When we try to make a bore to get drinking water, sometimes the water is yellow or red. When we drink yellow water, our urine is yellow, with red water it is red. It depends on the colour of the water. And just today, a young boy died of Tuberculosis. I have seen this very often in the past years. Also young innocent children are born with paralyses. Day by day, we are facing these kinds of problems here.“

Speaker 2: Fifty-year-old Khodabhai has no hope left that the pleas of the villagers will be heard one day. He is a simple man, disabled himself, who says grievously that he has learned to live with the bad smell and the gases wafting in the air. Khodabhai blames the officials for not controlling the industrialists even though they secretly unload their chemical waste night by night and thereby intoxicate the drinking water. But confronted with this criticism, K.V. Bhanujan, chairman of the Gujarat Pollution control board argues:

K.V. Bhanujan

„As a matter of fact, you know, it was a little unwise on the part of all concerned to allow human settlements so close by. But the fact remains that the industrial estates were already in existence when they came. So, they have some complaints and we periodically inspect and verify the situation in the industrial estates, we punish the industries, you know. Now, if you ask me that something like dumping the waste will not happen, I cannot guarantee, because the law breakers are sometimes one step ahead of the law enforcers. But as of now to shift the industries from there, well it is desirable but in the short run not possible.“

However, it is not only the industries that contribute their share to the high level of water and air pollution in Ahmedabad. (traffic noise in the background)

Every day, the number of vehicles is increasing, which makes it impossible to breathe on the streets and causes residents and shop keepers to live with a constant noise level of around 90 decibel- similar to the sound of a starting aeroplane.

Moreover, there is no proper waste management. (Pause) Now we understand why many consider Ahmedabad to be the most heavily polluted city in India.

Sound of traditional Gujarati folk song

Speaker 1 and 2: Keeping the faith: How Ahmedabad tries to fight pollution.

A coproduction of All India Radio, Ahmedabad and Deutsche Welle Radio, Germany.

Authors: Maulin Munshi and Priya Esselborn.

Your hosts today: Jimmy Peters and Priya Esselborn.

Sound of market / people, traffic in the background with horn

Speaker 1: With its estimated 5.5 million inhabitants, Ahmedabad is the largest city of the West Indian state of Gujarat. Under the British colonial rule, it was called „Manchester of the East“. The name was given to the city because of its numerous industries such as the textile, chemical, pharmaceutical and the cement industry. It is also associated with the father of the nation, Mahatma Gandhi, who used to live here for thirteen years until 1930. Today, Ahmedabad is typical of those rapidly developing Indian cities, where urban migration and a fast growing population are straining the local infrastructure. Additionally, with some 1,5 million, the number of registered vehicles is relatively high. This high number is owed to inadequate facilities in the public transport system. In peak hours, vehicles inch forward at 15 km per hour.

Dr. H. N. Saiyed, Director of the National Institute of Occupational Health has extensively studied the impact of air pollution on Ahmedabad citizens, especially on

those living at traffic junctions. His study was carried out in four places in Ahmedabad, where Dr. Saiyed has measured the the levels of Respirable Particulate Matters:

Dr. Saiyed

„ These are the kind of particles which can go directly into the lungs and do the injury. What we found was that the levels of RPM where 463 mg / c at the Kalupur junction, 394 at Ghee Kaanta, 294 at the Raipur Darwaaza and 550 at the Delhi Darwaaza. Now the air quality standard is 200 mg/ c at residential areas.

There are 2 types of effects. One is the acute effect, which is manifested as a burning of the eyes, burning of the nose, difficulties in breathing and headaches. The other one, which is more difficult to correlate with, is the chronic effect. Now if you want to see the chronic effect, then you have to identify high-risk-population: One is the traffic policemen, who are working sometimes for years at the traffic junctions and the other are the shop keepers. We found out that there was a very high incidence of respiratory problems like chronic bronchitis. And also it was manifested, when we measured the lung functions we found, that their lung functions were also poorer than of the people living in control areas, which means non-polluted areas. .

Speaker 2: Twenty-eight-year-old Dinesh Purshotanbhai Chauhan belongs to such a high-risk group. He is a traffic guard, working six hours a day at the busy Narol traffic junction, checking licenses and directing the vehicles. In spite of having severe breathing problems and a bad cough for almost three weeks, he is still fulfilling his duties. What should I do, he asks us. His wife, parents and his two children depend on his salary of about 4.000 Rupees a month, about 80 Dollar. But after work, back home, he finds himself always tired, with problem to breathe and her properly.:

Dinesh Purshotanbhai Chauhan

„The air pollution I have to face every day has a very critical impact on my family life. As a man, I was made for my wife and my children and I have a duty to fulfill. But after a day at work, when I come back home, I can neither give them any education, help them with their work nor can I do anything else for them. Because of the pollution I almost break down in the evening, so at home I am of no use for my family.“

Speaker 1: Through its constitution and its laws, India has got excellent means for the provision of environmental protection and pollution control. However, the implementation of these laws by the authorities is still poor. In Ahmedabad, the driver of every vehicle is obliged to have the so-called “Pollution under Control“ certificate, available at every corner. All it takes is 50 Rupees, about one dollar, to get that piece of paper. And a piece of paper is all that it is- with no vehicle ever failing the test, no matter how old it may be. G.A. Oza is a Regional Transport Officer in Ahmedabad. Does he approve of how Ahmedabad citizens obtain that kind of paper by fraud, without a proper checking of their vehicles?

G.A. Oza

„Of course not. But listen to me, the inhabitants of this city have to understand their responsibilities, too. After all, it is also their city. The vehicles belong to them. If they go to a PUC control station, they shouldn't just pay, but let their vehicles be checked as well. They should be satisfied when they see that their vehicles don't add to the air pollution of their own city. When they help us, I don't think that it is impossible to reduce the air pollution.”

Sound of a starting bus

Speaker 2: Driving on the streets of any Indian city means finding one's way through a jungle. Only the strongest or the cleverest survive. The vehicles are old, they rattle and buzz. Moreover, especially the small, mobile auto-rikshaws - also called three-wheelers- unleash a dark cloud when they start, as most of the drivers illegally use pure kerosene instead of diesel or petrol. At eight rupees, about 16 cent, per liter, kerosene is much cheaper than petrol, which costs rikshaw-drivers around 40 rupees or 8 dollars a liter. But the busses are no better. In Ahmedabad, the 600 buses are often over twenty years old, the windows are broken and full of dust. They use Diesel fuel, which is far from being eco-friendly.

But all this is meant to change with a new guideline from the Supreme Court, which tries to fight pollution in India's most affected cities. The stage has been set to introduce compressed natural gas, CNG in short, to Ahmedabad by the end of 2004. Within three years, 50.000 auto-rikshaws and 600 buses will be converted into CNG, an eco-friendly fuel, which is not only pollution free but also cheaper. Simultaneously, all vehicles older than 15 years will be sorted out. A good plan, which has been running successfully in Delhi since 1998, making the city much cleaner. But Mahesh Pandya, an environmental engineer, and founder of the NGO Paryivaran Mitra, meaning "Friend of the environment", is sceptical, whether the officials can comply with the ambitious time schedule:

Mahesh Pandya

„Well, you know I want a pollution free Ahmedabad and I want fresh air, as a Mahesh Pandya But when I observe how the government is working, I don't think this will happen soon. It was said that 30 CNG refilling stations will be installed by end of December. Now there are only two months left and still there is no sign that the government is doing something. The government knows about the air pollution. But what should I say- as an Indian citizen I know we are tending to do nothing until somebody gives us an order. But now with the intervention of the Supreme Court and the deadline which was given by the Supreme Court, the state government has come up with an action plan. Otherwise, the political will is absolutely not there. “

Speaker 1: With the pollution levels in Ahmedabad being so high, especially women are caught in a trap. As many of them use bio mass fuels for preparing food, they are exposed to the air pollution in two ways: at home and on the roads outside. Moreover, they shoulder the burden of being responsible for the welfare of their families and children. It is at the Naroda Industrial Association Charitable Trust Hospital that we find Amitaben Dubey. As a mother of a teenage son, the shy housewife frequently has to visit the doctor:

Amitaben Dubey, Housewife

„Children are very sensitive. When we adults can't stand the pollution, how can they? Their bodies are vulnerable, sometimes they get skin allergies. When they have to take medicines, they have problems concentrating in school. In the crucial time of growing, they often have headaches or a fever. Taking medical treatment for a long time is also economically difficult for us. Because of the pollution we are mentally very stressed.“

Speaker 1: At the small but very homely hospital, which also has a homoeopathic and ayurvedic section, patients belonging to lower income groups are treated for just 5 rupees or about 10 cent per day. Piyush Engineer is a doctor of allopathy at the hospital. He explains to us that most of the patients fall ill in the so-called “mixed seasons”. With mixed seasons he is referring to spring and autumn, when either the summer monsoon rainfalls or the cold winter time is over. Fungi, bacteria and viruses can spread easily then. Dr. Piyush not only tries to treat his patients properly, but also to teach them how to protect themselves especially from pollution-born diseases. For example, when somebody suffers from infectuous and festering skin diseases due to heavy air pollution, other people can be infected too if the infected don't know how to follow the basic rules of hygiene. And according to Dr. Piyush a lot more preventative measures can be taken:

Dr. Piyush Engineer

“When they have some chronic allergic problems, we ask them to reconsider the job they are doing or to move from the area in which they are living. When they work on the roads, they can use a mask. When they have some water-born diseases, we show them how to avoid them the next time. We also show them how to use oral rehydration solution, short ORS, at home, when their bodies are dehydrated. Cholera can also be treated at an early stage at home. So when patients come to the hospital, we treat them medically and also give them education for their daily lives.“

Sound of water, women washing clothes, river, laughing

Speaker 2: Apart from the air pollution, it is also the water pollution which has reached a serious level in Ahmedabad. Some time ago, almost all effluents from the industries were directed unfiltered into the river Sabarmati, Ahmedabad's lifeline. But on each side of the river, several slum areas are located. On average, there are 800 to 1000 people living on just one hectare. They use the polluted water of the Sabarmati river not just for washing clothes and bathing, but also for cooking and drinking: a vicious circle begins. And today as well, some of Ahmedabad's water treatment plants still don't work as properly as officials always claim and would like them to work.

Speaker 1: That we can see while visiting the city's main Pirana -Suez plant, built in 1986. There, all the effluents from Ahmedabad's smaller treatment plants, from the industries and the residents, are collected. When we look into the tank, from where the cleared and filtered water is directed into Sabarmati river, we are shocked. Not only can we smell the stench of the so-called filtered water from a distance of several metres. We can also see that the walls of the tank were stained black when the water reached a higher level. On the thick black or brownish bilge water, the chemical clearing lotion is still floating. Vipin Makwana, a social worker, tells us, that some 10 to 15 villages in this outskirt of Ahmedabad city are heavily affected by the careless water treatment. Moreover, the 40.000 people living in this area have to face economic losses too:

Vipin Makhwana

„The overall concept of this plant is really good. But as the water is not fully cleared and as the local people use that water, their fields are not fertile and they have fewer crops. Most of the people in the surrounding areas are farmers and cattle breeders. However, owing to the poisoned waters of the plant, cattle breeding is no longer possible here.“

While it is difficult to figure out where the polluted water originates from – either it reaches the Pirana-Suez treatment plant unfiltered or, at times, this plant doesn't work properly- a positive initiative is taken by the industries.

Sound of Naroda Enviro Water treatment plant

Speaker 2: At least 215 factories, settled in Naroda industrial district, have jointly committed themselves to filter their effluents with the help of a modern water treatment plant. With this initiative, the pollution of Sabermati river will hopefully be reduced. Shailesh Patwari is chairman of the Naroda Enviro Projects. Ltd., which has been successfully operating this water treatment plant since 1997. He shows us proudly how modern his plant is and which high quality standards it works with:

Shailesh Patwari

„We are collecting all the effluents by natural gradients to our equalisation tank. There we give variation to reduce the volatile contents of the pollution. We have then a so-called chemical house where we are dosing the chemicals as per required norms. These overflows will go to the cantor where the solids will be removed and the effluents will go to aeration tanks where we have four compartments. And in these compartments we have blowers, air blowers, and fine bubbles from membrane, which is a diffuse aeration we are giving to this and our bacteria are eating away our pollution as it becomes their food. And these overflows go to the secondary clarify and then it goes to the final discharge point to megapipeline which is known as Naroda-Pirana pipeline and it mixes up there at Pirana-Suez-Treatment plant.

Speaker 2: Shailesh Patwari's philosophy is simple. He says, that everybody in India has to understand that, in the long-run, prevention of pollution does not cost anything. However, quite to the contrary, everybody can profit from it, especially economically speaking. He believes that healthier people are more efficient at work. Moreover, if they could work on their fields, they would be able to take care of their living on their own and would be rewarded with a better quality of life. Therefore, Patwari's company doesn't only run the treatment plant, it also generates electricity by burning potatoe skins, banana leaves and other organic waste. Moreover, Patwari shows us the Energy Van, which was partially funded by the United Nations development programme. The van is used for the assessment of the energy and emission levels of the industries. However, driving through the country with the van, various awareness building measures can be taken as well. But Patwari's most precious project at present is the Naroda Eco Park: it will be built some 13 km outside of Ahmedabad city in some kind of no-man's land, a very desolate and desert-like area.

Sound of a fountain

Speaker 1: A fountain lies in the center of the terraced gardens which, in just a few months, will become the Naroda Eco Park, a picnic spot. Next to the greenery, more than 3000 colourful flowers have been carefully planted. There are a lake and a car park next to a guest house which is to be built shortly. But this site is hiding a secret. When Patwari's Naroda Enviro Projects Ltd. started its water treatment plant in 1997, this site was used for dumping about 1000 tons of hazardous solid waste every day. This solid waste was the by-product of the clearing process at the plant. Years ago, when the industrial waste treatment was not compulsory in Ahmedabad, the effluents along with the solid waste went straight into the Sabermati river.

Sound of bulldozers

Speaker 1: Now, the old site is a memory of the past, but just some meters away, a new dump for solid waste has been opened. Trucks and bulldozers work there from 9am in the morning to 5:30 pm in the evening. They collect the solid waste from industries in Ahmedabad, Gujarat state and even some from the neighbouring Rajasthan state. This dump being so close, why should visitors come to the picnic spot? We ask Shailesh Patwari:

Shailesh Patwari

„After completion of this site, we sealed it from the top, the entire site which is 250 by 200 meters big. And after adding 2 meters of vegetable land, we made this beautiful garden. It is something one would like to sit here and they will not feel that it is associated with something bad. And I would definitely, if I had not been married give my reception here.“

The Naroda Eco Park shows that even out of solid waste something new and beautiful can arise. Maybe such a progressive way of thinking is needed to make people and officials understand how important it is to care about the environment and to raise this issue publicly. Only the future will show how successful the concept of a picnic spot near a waste dump can actually be.

Music filler which transforms into Sound of Sanjaynagar

Speaker 2: Apart from efforts to reduce the air and water pollution, there are other successful initiatives targeting the residents of Ahmedabad city.

In the past, more than 40 percent of the inhabitants used to live in more than a thousand slum areas- also called shanty towns.

In these areas there are few toilets, a situation which forced the inhabitants to relieve themselves behind trees or on the kerb. All over India, still only 36 percent of people have a toilet of their own. Moreover, there is no proper organic waste management. The waste is collected in huge piles and only after some time it is burned. The unhygienic organic waste lying around has always been the cause of various diseases.

The houses in the slum areas are often just 10 sqm small, the ceilings low, so that it is difficult to stand upright in the dark rooms. There is no water or electricity supply. But the Ahmedabad Municipal Corporation tried to change this unbearable situation in the late 1990s. With a Slum Networking Project called "Parivartan", which means transformation or change, the AMC tried to build up a basic infrastructure in these areas and to improve the quality of life. Awareness building measures were taken as well to show the slum dwellers how to maintain their houses and to keep their city clean.

P.U. Asnani

"We have decided that we would provide a package of seven services: individual house-to-house water connection, individual drainage connection with underground sewerage system, individual toilet, street lights, completely paved pathways, storing water facilities for rainwater, solid waste management and, wherever it would be possible, plant trees. We felt that this would definitely help in getting the basic services but we have to change their style of living through their income generating and through their health. So the social development has been added to this package, which has been implemented through NGO effort."

P.U. Asnani is an advisor at the AMC and has accompanied Parivartan from day one. He tells us that the project was unique as it had a holistic approach. Moreover, the slum dwellers were equal partners in this joined effort and nothing was decided against their will. The first transformation took place in 1997 in a slum area called Sanjaynagar. At that time, Asnani tells us, he was worried if his plans would succeed. So, let's take a look:

Sound of Sanjaynagar

Speaker 1: Sanjaynagar, located in the east of Ahmedabad, is a slum area where 200 families or some estimated 1000 people live. Most of the people are vegetable vendors or work in small businesses. Today, all the houses have at least 2 rooms

and are painted in bright colours. A woman is grinding fresh chillies in the sun, a young girl is searching her sister's hair for lice.

Sound of Sanjaynagar Pepper

The atmosphere is peaceful and the inhabitants appear to be happy. Some even tell us that before the transformation they used to be stressed and aggressive because of the dire circumstances of their lives— an ideal breeding ground for crime. We ask Kanchiben, who has been living in Sanjaynagar for over 25 years, what has changed for her:

Kanchiben

“In the past, we only had a mud hut. Now, our home is made of brick and cement. Our old house had very narrow walls, now we have enlarged it. We have two rooms and a kitchen now. We have a fan, a stereo sound system and a TV. Before the transformation, we had to fetch water from very far away, today all this is not necessary anymore. Now, I like it here very much.”

Manguben, a neighbour, adds:

Manguben

“We are very happy now, nobody wants to move from here anymore.”

Speaker: In the beginning, when the city government of Ahmedabad approached the slum dwellers, many were very cautious. As most of them had built their houses illegally, they felt that they were to be removed with a trick. Therefore, it took some time to persuade the slum dwellers that this project was a partnership project in which they had to contribute their share, too. P.U. Asnani explains how the costs were shared:

P.U. Asnani

“The slum-dwellers are the first partners and they share one third of the cost of the infrastructure, which was estimated to cost 6.000 Rupees. So the partnership was: 2000 Rupees paid by the slum-dwellers, 2000 to be contributed by any philanthropic organization or industries, and the rest, another 2.000 Rupees were paid by the city government. This was the first component which included all physical services other than a toilet. The toilet was added free of charge, another 4.500 Rupees by the city government. The social development was estimated to cost about 1.000 Rupees, That amount was going to be spend by NGO's to support health and education.”

Speaker : In Sanjaynagar, SAATH and SEWA, two of Ahmedabad's NGOs, worked side by side with the slum-dwellers and the city government. Their social workers used to come frequently to the area and educated the families. The slum-dwellers learned how to use their toilet, how to recycle their waste and how to follow the basic rules of hygiene.

In Sanjaynagar, SAATH and SEWA NGO also assured the immunization of children, good maternal and child health care as well as better nutrition of children. They even sent children, who hadn't been able to attend their classes because they had to work at home back to schools. For those slum-dwellers who could not pay the necessary 2.000 Rupees, approximately 40 Dollars, immediately, it was the SEWA-Bank which provided micro-finance credits.

In Sanjaynagar, the learning experience was such a success that another 26 slum areas of Ahmedabad have been transformed in the past years and even the World Bank is showing their interest to play an active role in it. And by now, slum dwellers have already deposited some 10 million rupees in different banks in anticipation of the future transformation of their houses.

It is obvious that as the slum dwellers are considered as partners; and by investing their own money, they ensure that each member of the slum keeps the services in good working order and doesn't spoil them or take them for granted. Moreover, they always try to interact with the City government whenever something goes wrong. The families' income levels have improved considerably because they are able to save some 200 Rupees each month. This was more or less the amount which slum-dwellers needed in the past for buying medicine when one child after the other fell ill on a regular basis. Now it can be invested in education as many of the slum-dwellers are able to afford to send their children to private schools. The only negative aspect is that the Slum Networking Project is very much dependent of the Ahmedabad Municipal Corporation.

Speaker 1 and 2: At present, more than 20 NGOs and governmental organizations are more or less successfully trying to fight the different aspects of pollution in Ahmedabad. Only the officials we met assured as that the media exaggerate the problem of pollution. But everybody else seems to be aware of the fact that Ahmedabad is the most polluted city in India. This situation is caused by the industrial agglomerates surrounding Ahmedabad and the large number of vehicles necessary due to inadequate facilities in the public transport system. The effects of pollution,

apart from the serious health problems, are obvious. The pollution burdens people economically, mentally and socially.

What we have seen is that whenever there was a joint effort, whenever a certain awareness has been created, the projects have been successful.

In the past years, water, air, noise and waste pollution has been reduced in some parts of the city. Water treatment plants have been installed, trees have been planted and people have learned to collect the waste and to recycle it. But still, it is by far not enough.

Instrumental Music

Keeping the faith: How Ahmedabad tries to fight pollution.

A coproduction of All India Radio, Ahmedabad and Deutsche Welle Radio, Germany.

Authors: Maulin Munshi and Priya Esselborn.

This programme was presented by Jimmy Peters and Priya Esselborn.

Special thanks to Sanjay Shukla, Kamlesh Mishra and Jaitendra Barod.