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Dedicated To The Gandhian Thought & Philosophy

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South Asia NewsNetwork International

NEW DELHI (INDIA)

The South Asia NewsNetwork International (SANNI), a news-cum-feature agency has started functioning from New Delhi.

Its objective is to share, distribute news and related articles to more than 100 newspapers and periodicals in India and South Asian region, and also to create awareness and disseminate information both polity and business activities that would affect the interest of public, policies, government and other bodies including public and private industries.

R K Anand
President

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Forward...

An analysis of data reveal that of the total population of the 21 developing countries of Asia, approximately 1.1 billion (or 32 per cent) live in urban areas and 2.2 billion (67.2 per cent) in rural areas. Interestingly more than 795 million people have no access to sustainable and safe water and more than 275 million urban population had no access to improved sanitation.

Also according to UN HABITAT - 2003 report, the number of people living in urban slums could be as high as 475 million (or 44 per cent of total urban population).

As most governments in the South Asian region run under budget deficit and priority investment sectors are energy and transport, official development assistance (ODA) has decreased from $12.9 billion in 1990 to $11.8 billion in 2000. And yet, financing water and sanitation improvement in Asia will cost anywhere between 8 billion (under business-as usual scenario) to about $13 billion (under accelerated progress scenario).

Therefore, unless new and innovative methods of financing is found, Asia's hope for making water and sanitation accessible to millions of poor people will be a mistaken perception of reality.

Under the present scenario, government commitments and with the assistance of private sector and NGO participation, 11 out of 21 countries are expected to meet the target for water supply by 2015. However, in the area of improved sanitation only five countries are expected to meet the target.

The Eleventh Session of the Commission on Sustainable Development (CSD-11), has, however, decided in New York in April-May last year that during 2004-2005 CSD should advance implementation of Agenda and the Johannesburg Plan of Implementation (JPOI) in the areas of water, sanitation and human settlements. It was also agreed that the Regional Commissions under the coordination of the CSD, will analyze outcomes of regional and sub-regional meetings, together with other information relevant to the three themes and prepare regional inputs for the Secretary General's report to CSD-12.

Agenda-21, which is the plan of action adopted at the UN Conference on Environment and Development (UNCED) in Rio de Janerio, Brazil in 1992 draws the attention of global leaders on the urgent need to take action in protecting and managing freshwater, in promoting human health through proper sanitation and in promoting sustainable human settlements. UNCED has also set a goal to provide all urban residents with at least 40 litres/person/day of safe drinking water, although the word "safe" was not defined then; to provide 75 per cent of urban dwellers with sanitation and to ensure that rural people everywhere have access to safe water and sanitation for healthy lives.

Similarly, recognizing that in the developing world due to lack of water, sanitation and health education millions of people, particularly the children die every year, the world community also set several goals to protect human health in the globe and more importantly in South Asia region comprising Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan and Sri Lanka

In 1997, five years after Rio UNCED, a review of progress of implementation revealed while some of the goals in selected countries have been achieved, most others were not. At he sixth session of the CSD in 1998 the theme of water and sanitation came up for discussion and broad consensus was reached on key issues and targets. At that session governments agreed to implement the Millennium Development Goals (MDGs)-9 to halve the proportion of people living on an income of less than $1 per day, and without access to safe drinking water and sanitation services by 2015. Following CSD-6, the dialogue on water and sanitation continued at a meeting in Bonn in 2001, The World Summit on Sustainable Development (WSSD) held in Johannesburg in August /September 2002, world leaders, once again, recognized that water and sanitation is vital to protect human health and promote sustainable human settlements. In this regard, they agreed to halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water and also the proportion of people who do not have access to basic sanitation.

At the United Nations Millennium Summit, global community endorsed a set of time bound and measurable goals and targets to combat poverty, hunger, disease, illiteracy, gender inequity and environmental degradation and to forge a strong global partnership for development; which was known as the Millennium Development Goals. Apparently, there are several problems in assessing the status of implementation of such a goal and targets.

Governments with special assistance and attention of WHO, UNICEF and other concerned bilateral and multilateral organizations have introduced various appropriate technologies including improved versions of water-sealed latrines. Septic tanks, composting and "ecological sanitation".In particular, ecological sanitation, which adopts a holistic approach to sanitation and waste disposal has drawn the attention of public health planners throughout the region and beyond.

Yet, in India, with the avowed objective of restoring human rights and dignity to scavengers by freeing them from the inhuman practice of manually cleaning and carrying human excreta, the Sulabh International, a non-government organization (NGO) was born in March 1970. Today three decades later, the organisation has become one of the best NGO working in the sanitation sector, both nationally and internationally.

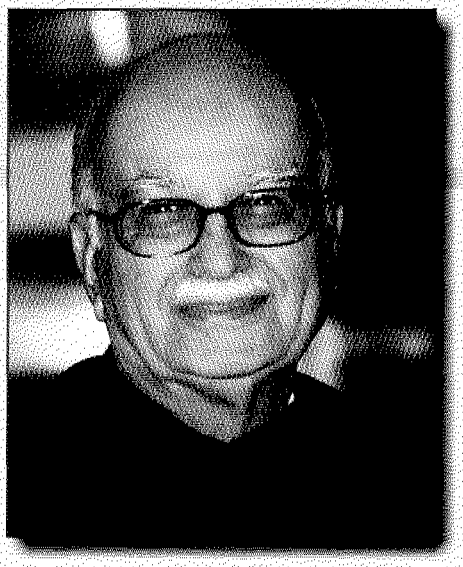
Today, Sulabh is not merely the name of a NGO, it is a movement. Workign with a workforce of over 60 000 volunteers all over India, it has also been invited to help out in neighbouring Nepal, Bhutan, Bangaladesh, China and Afghanistan. It has also taken several programmes in collaboration with United Nations Centre for Human Settlements, Nairobi and International Water Sanitation Centre, Loughborough University of Technology, UK.

Agreeing that this has something to do with a mindset that needs changing through awareness, Dr Bindeshwar Pathak, founder of the Sulabh Sanitation Movement -- declared one of the global best practices and conferred a special consultative status by the Economic and Social Council of the United Nations -- says: "Why should we depend on the government (to) grant us subsidies to construct a toilet in our house? It is monetarily impossible for the government to provide assistance to the colossal number of households in need of sanitation structures. As compared to what we spend on marriages and other rituals, the requirement for the construction of a toilet is not much. Sulabh technology is such that it caters to the requirements of different economic groups, whether belonging to the economically weaker sections, middle or high-income groups. Technology remaining the same, only the cost of different materials used differs. It is a question of how much importance we are willing to give to the basic needs of sanitation. We have to change the psyche, which says that we can buy gold jewellery and silk saris but not build toilets for our women. First the awareness has to be built."

The community toilet complexes built and maintained by Sulabh International have significantly improved the surrounding environment. Before Sulabh International's contract, the toilets used to be dirty and ill-maintained, smelly and rarely used. The situation has considerably improved thanks to the organisation's commitment particularly in public places such as markets, bus stations, and railway stations. It has been able to restore human rights and dignity to more than 65000 scavengers and set up more than 12.50 lakh household toilets and 7000 community toilet blocks and 130 human-excreta based bio-gas plants all over the country.

In fact, Sulabh International has not only made a road map towards the implementation of the UN Millennium Declaration on sanitation but also fulfilled the Mahatma Gandhi's wish - relieving the scavengers of the 'inhuman, 'unhealthy and hateful practice of carrying night soil. Dr. Pathak is massiha of modern India, so far sanitation is concerned.

Neena Jha
Associate Editor
SOUTH ASIA NEWSNETWORK INTERNATIONAL



My View

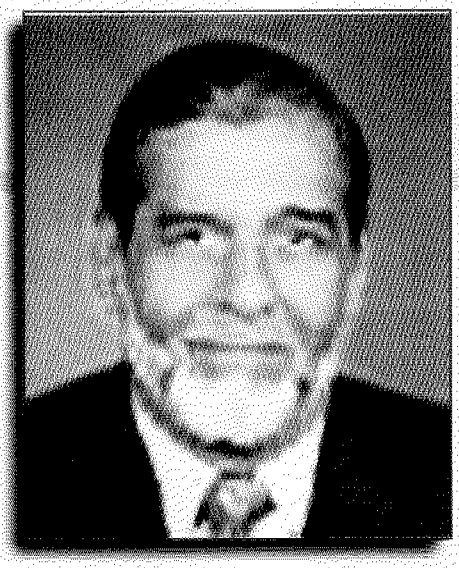
I congratulate **the South Asia NewsNetwork International** for brining out **Gandhian Thought & Philosophy on Sanitation.** Though the Government has initiated several measures, the condition of health and sanitation can not be improved without the help of the non-government organisation.

I personally appreciate the painstaking efforts of the **Sulabh International** - which has played a major role in promoting sanitation, health, hygiene and environmental cleanliness - and more importantly **Dr Bindeshwar Pathak**, who has recently awarded World Health Organisation with Global Sanitation Award.

The two-pit pour flush toilets – as explored by Sulabh - are becoming popular not only in India but all over the world; its experiments to generate electricity from biogas are among a novel ideas being implemented at many places. The government will try its best to explore the possibility in using Sulabh technologies on a larger scale which will not only help combat ailments but also diseases caused by insanitation.

L. K. Advani
Deputy Prime Minister
Govt. of India

My View



On the eve of **Sulabh International's** foundation day, I personally congratulate the South Asia NewsNetwork International for bringing out a special issue on the **Gandhian Thought & Philosophy on Sanitation.**

To my view sanitation and Dr Bideshawr Pathak has become synonemous. In fact, Dr Pathak has re-defined the sanitation movement in India and abroad. He has done a tremendous job in Afghanistan. Dr Pathak has not only played a seminal role in promoting good health and clean living but also changed the face of slums both in India and other places of the world.

P. M. Sayed
Deputy Speaker, Lok Sabha

My View

The **South Asia NewsNetwork International** is doing a good work by bringing out a book on sanitation works being done by the Government and the non-government organization in India and abroad. To my view, the Sulabh International and its founder Dr Bindeshwar Pathak did a remarkable job in the field of sanitation. Dr Pathak, who has launched the Sulabh Sanitation Movement in 1970 from a small district of Bihar, today liberated over a lakh of scavengers and provided appropriate, affordable and acceptable sanitation system to the masses in the country. I wish him a success in his life.

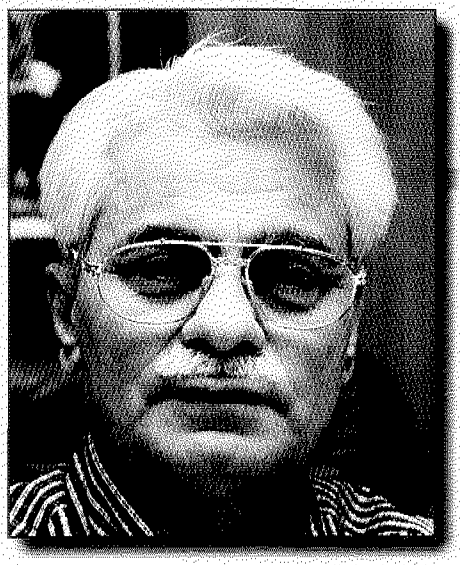
Sonia Gandhi
President,
All India Congress Committee &
Leader of the Opposition, Lok Sabha

My View

I congratulate South Asia NewsNetwork International for bringing out a special issue on **Gandhian Thought and Philosophy on Sanitation**. Though the World Health Organisation has done a tremendous work in the global level, no person or agency in human history in India has made so much difference in the quality of life of the people, especially those living on the fringes of society as the Sulabh International did during the past three decades.

To be true, Sulabh works to save the world against itself by protecting the environment, promoting sanitation, ensuring water supply and, thus, creating a clean and healthy world and to achieve these, it has redefined health and sanitation. I wish a great success in the future.

Joginder Singh
IPS
and former director of the
Central Bureau of Investigation



My View

On the occasion of the Foundation Day of the Sulabh International, I congratulate the South Asia NewsNetwork International for bringing out a special issue on the **Gandhian Thought and Philosophy on Sanitation.** Though sanitation campaign is an extension of global initiative to promote good heath through environmental sanitation of which the WHO is the leader, people of this country cannot forget the contribution of Sulabh International in general and Dr Bindeshwar Pathak in particular. **In fact, he is the real crusader of post-independence era,** so far sanitational work is concerned.

The Government of India, all state governments and other agencies have recognised Sulabh's concept. Sulabh has done several projects in collaboration with WHO, UNICEF and other international social agencies throughout world. Of course guiding India's freedom movement was the main task of Mahatma Gandhi, but equally important to this great reformer of the 20th century was the liberation of scavengers. Dr. Phatak is trying to achieve what Gandhiji hoped to accomplish in his reincarnation. I wish him a great success in his life.

R.K.Anand
MP Rajya Sabha,
Senior Supreme Court advocate,
vice-president of the Indian Law Institute
and president of the SANI

My View

The **South Asia NewsNetwork International** is doing a great job in bringing out a paper on **Gandhian Thought and Philosophy on Sanitation.** I personally feel that no government can complete the sanitation work without the help of the non-government organization. During the past three decades, despite several government's as well as bureaucratic hurdles, the **Sulabh International** did a painstaking efforts to provide a clean and healthy environment to the people.

With the construction of Sulabh toilets in Delhi and other parts of the country, not only unsightly heaps of excreta lying here and there have become things of the past, there is improvement in environment and incidence of ailments caused by stink is also going down. Sulabh technologies and methodology have been globally acclaimed as appropriate, safe, eco-friendly and culturally acceptable. The UN has also recognised Sulabh toilet as cost effective and most appropriate sanitation system.

Sheila Dixit
Chief Minister, Delhi

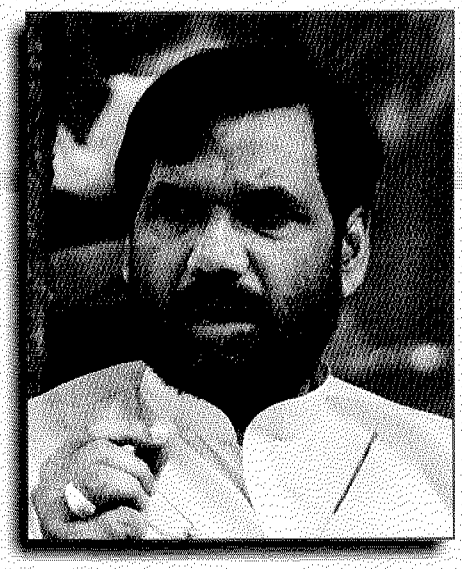
My View

I congratulate the **South Asia NewsNetwork International** for bringing out a special issue on sanitation which is dedicated to the **Gandhian Thought and Philosophy**. To my view, good health is a state of complete physical, mental and social well being and not merely the absence of disease. The Sulabh International and its founder Dr Bindeshwar Pathak has done a tremendous job in translating the Gandhian thought into practice.

Probably, it is the only non-government organization in India which has produced a cleaner and healthier world. The agency has not only protected the environment by promoting sanitation but also provided the people a safe drinking water.

Murli Manohar Joshi
Union Minister for Human Resource Development
Government of India

My View

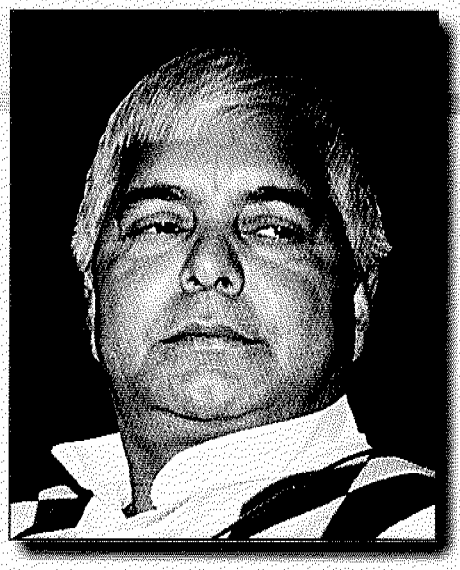


I congratulate the **South Asia NewsNetwork International** for bringing out a special issue on sanitation which is dedicated to the **Gandhian Thought and Philosophy.** The Sulabh International is the only non-government organization in India as well as in the world which has left a lasting impression in the world of sanitation.

Being a leader from Bihar, I personally know Sulabh International and its founder Dr Bindeshwar Pathak who was inspired by a book published by the World Health Organisation on Excreta Disposal for Rural Areas and small communities.

In fact, he (Dr. Pathak) is the first, and I hope will be the last, person who defying all prejucice, has translated the Gandhian thought on sanitation into practice by liberating the scavengers.

Ram Vilas Paswan
MP

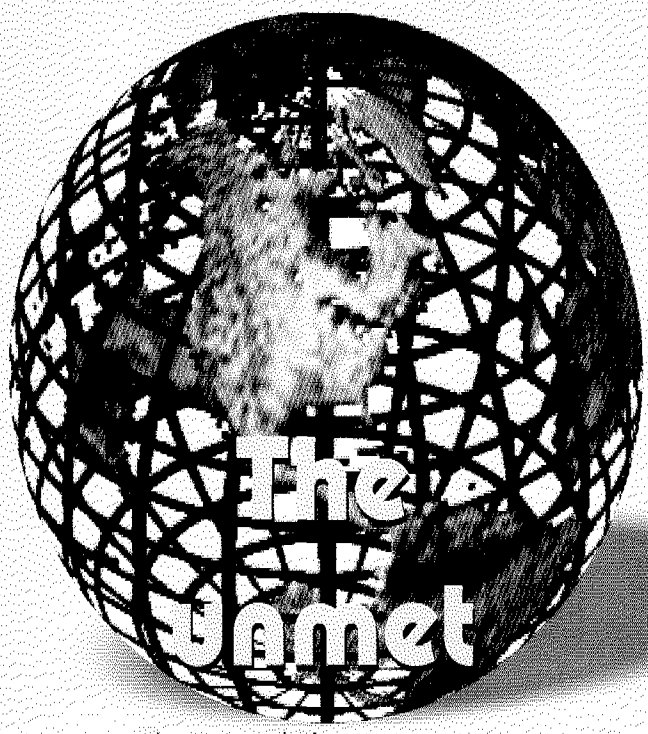


My View

I congratulate the **South Asia NewsNetwork International** for bringing out a special issue on sanitation which is dedicated to the **Gandhian Thought and Philosophy.** From a small town – Arra – of Bihar to Afghanistan, another 'Bihari babu', and that too, from a Branhim family, Dr Bindeshwar Pathak has made a history in the field of sanitation. It will be an Herculean task for others to beat his contributions. I personally congratulate him for a healthy and long life.

Laloo Prasad Yadav
President of the Rashtriya Janata Dal and former Chief Minister of Bihar

ECOLOGICAL SANITATION



challenge

Fifteen billion years ago, the earth hiccupped and NASA scientists heard the echo the other day. The Big Bang theory **may** or may not be proved by the US National Aeronautics and Space Administration's Cosmic Background Explorer's satellite (COBE), but it is evident that man has been plundering the good old earth since Adam and Eve decided to wear clothes and make love. The 5.5 billion people living on the earth above water have been recklessly proliferating and consuming avidly the gifts of nature. It has been continuing since time began and the largest and the oldest of structures took shape for humans to live and breathe. But, it seems the limit to growth has been reached now and the earth may split to end in deluge and begin things all over again. The rich countries of the world are so frightened that they called together 50,000 persons from over 100 countries on June 1992 year at Rio de Janeiro in Brazil to find ways of averting this disaster.

To keep the earth clean and livable is a major human responsibility towards the earth. Sanitation, therefore, continues to be a critical component of the environment.

To keep the earth clean and livable is a major human responsibility towards the earth. Sanitation, therefore, continues to be a critical component of the environment. Talk of hygiene, health, sanitation, etc., in the same breath as depletion of the ozone layer, global warming, etc. may appear somewhat out of place, but the degradation of the immediate surroundings in which we live should be as Important to us as the problem of *global environmental* deficit. There is no other person whom we can blame for the filth and degradation in our micro-environment. And if we do not become conscious of our responsibilities in these matters, the consequences to public health and quality of life can be disastrous.

The garbage-disposal practices prevalent in villages and towns of Indian sub-continent are another indicator of our lack of concern for the cleanliness of the surroundings we live in. Even in areas inhabited by relatively affluent and educated people, dumping rubbish on the streets and sidewalks is a normal practice. The public roads, they seem to think, belong to nobody and should be treated as garbage bins. If there are garbage receptacles, the places where they are kept soon become the filthiest parts of the street because of lack of concern on the part of those using them,

and lack of attention on the part of those who are responsible for maintaining them. Worse, the constant raids on garbage bins by armies of ragpickers, whose numbers seem to be growing unchecked, have made garbage bins more of a health hazard than an aid to cleanliness.

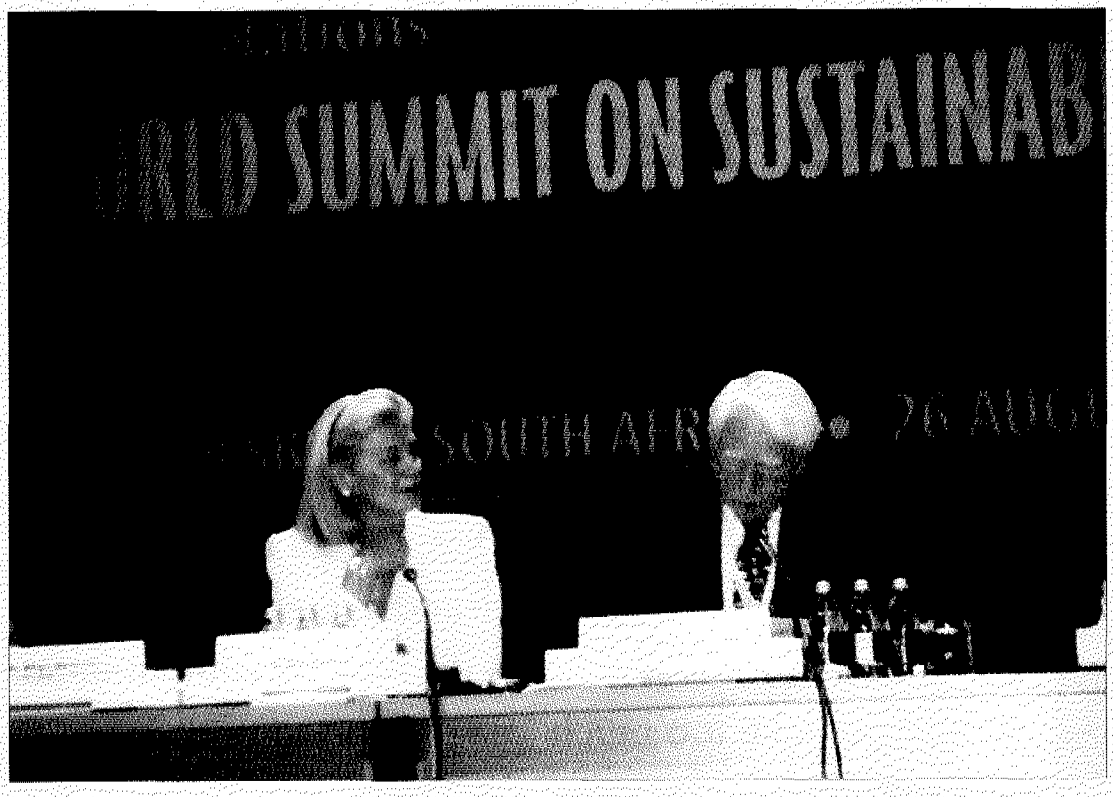
The environment came on the world's agenda after it was discovered that the growth, and a very reckless one at that, has taken place at the cost of nature whose capacity to meet man's needs is limited. Since growth is resource-based, the higher the growth in terms of human consumption, the thinner the support-line to sustain it. Population, mostly in the Third World countries, doubled during the last thirty years and the frightful technologies to exploit nature's resources diminished the possibility of human civilization lasting forever. The infrastructural facilities like water supply, safe disposal of human waste, solid waste and waste water disposal are not able to keep pace with the growth of population. Due to rapid urbanisation, nearly half the population in towns live in slums, pavements and shanty townships. Their health and physical well-being are threatened by inadequate sanitation. They are the ones who suffer most from the vicious cycle of ill-health, lowered productive capacity and hardships in a deteriorating environment. The women and children are the worst sufferers. Sanitation has many linkages, most important among them being

water supply and safe and hygienic disposal of human waste. Sanitation broadly covers human excreta, waste water, solid waste and even personal hygiene, housing, etc.

Insanitation has wide-spread effects; water sources get polluted, incidence of diseases rises, affecting billions of people all over the world, labour force is affected, productivity of industry and agriculture falls putting stresses on budgetary resources needed for development and strengthening the economy. Invariably people who are unserved with basic facilities of water supply and sanitation are the poor ones. They lack not only the means to have such facilities but also information on how to minimise the ill-effects of insanitary conditions in which they live. Poverty breeds disease and disease breeds poverty. High rate of child mortality encourages couples to have more children, resulting in increase in population.

Politicians, captains of industry and economic pundits who gather to chant the fashionable mantra of economic reform seldom mention that such reform is incomplete without reforms in education, health and sanitation status. Industrial growth in countries like China, Malaysia and Thailand is, in considerable measure, due to heavy investment in primary healthcare, sanitation and education. And the population conference in Cairo has only reconfirmed that the best way to combat fertility rates is providing the primary healthcare to mothers and children and primary education to girl children.

Of the many things that will make a sizeable difference In the pace of development and raise production, clean living condition is very Important. Sanitation is a basic condition for development, an input to raise production. Or all that is sought to be gained through economic reform will be lost for want of toilets. • *(Courtsey: Vision-2000 plus)*



A Top Issue Of The Millennium

There was a reference of Toilets during 1375 BC, but making provision of toilets inside the house began during 18th dynasty of King Amenhotep

Toilet is precisely the place where civilisation begins and tribalism ends. Man's status, social customs, culture preferences and education are reflected in the choice of toilets. Consumption and excretion are the two basic biological functions without which life on this planet would not be possible. However, man has always been concerned with meeting the consumption needs, far beyond the resources of the earth to support and much to the neglect of the waste disposal problem which is an area of major concern, specially in the developing countries which are going through a painful process of urbanisation and population explosion.

The basic role of the toilet remained unchanged but people's preferences changed, so also their cultural values. There were few instances of the past which established the role and importance of toilets. King Louis XIII and XIV used to give audience to their subjects while sitting on toilet seat but dined alone; French and English kings and queens had their toilets laced with gold and velvet and the Versailles palace had 274 toilets to cover almost twice as many rooms. Toilets were also the place for political intrigues. Roman Emperor Heliogabas (222 AD) was assassinated in

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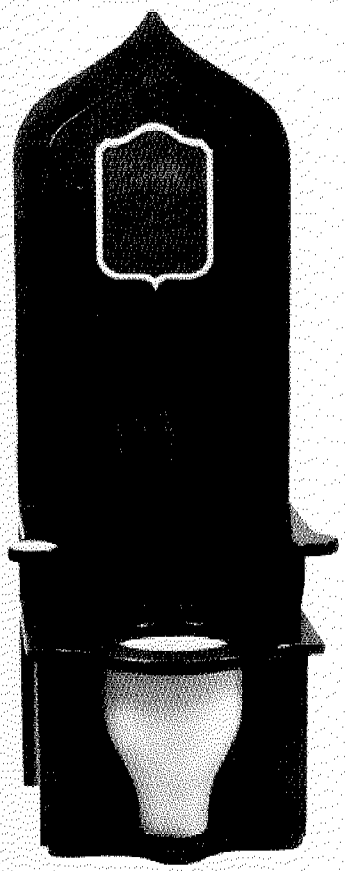
toilet, so also the English King James-1; Eward-II was attacked in toilet and barely escaped murder.

The known history of toilet is almost 5,000 years old, beginning from Mohen-Jo-Daro in the Indus valley civilisation when every house had bathrooms fitted with terra cotta pipes encased in brick. The sewerage systems, drains and water supply were highly developed among ancient cretans, Egyptians and the Incas. The Greeks were first to de-link diseases from magic and attributed them to the imbalances between man and nature. And, thus, they recognised hygiene as a basis for healthy living.

The noted historian Herodotus mentioned that there was a reference of toilets in ancient Egypt during 1375 B.C. Toilets were provided in the house but due to little rainfall in the area, water closet did not develop much. It is recorded that King Amenhotep IV of the 18 dynasty began the practice of making provision of toilets inside the house to prevent people from easing along road. The trace of toilet was recorded from Persian Gulf around 1000 B.C back. There was a pit beneath from where the fossils of excrements were found. Lucius Tarcuinius, who established Etrurian rule over Rome, constructed the oldest sewer in Rome.

A close look at the history of the evolutions of toilets will make it clear that Roman, who inherited the Greek concept of health and hygiene, were first to build defences against filth and pollution. They organised collective baths and toilet system. According to

available references in a book "Sulabh Sanitation Movement", strangely enough, Romans had gods of toilets and goddess of Sewer and Roman worshipped them while defecating in groups. The privy pots were clean by slaves. As per the references available with several books and documents, public bath cum toilets were well developed in the early age of Rome. Historical excavations



in Sri Lanka and Thailand suggested that the system of sanitation was well organised there. While the evidences pointed out that Greeks relieved themselves out of houses. There was no shyness in use of toilet. It was very common affair to see at dinner parties in Rome, slaves bringing in urine pots made of silver. Interestingly, evidences suggest that members of the royal families defecated and played at the same time. This practice of covering waste with earth in India continued till the Mugal era.

The references pointed out that the period between 500 and 1500 AD was a dark age as far as sanitation is concerned. It was an era of cess-pools and human excreta all around. The evidences established the facts that resourceful family houses and forts of this country had extended parts from which defecation was done and the excrements fell into the open ground of the river below. Several important forts and ancient palaces situated on the banks of the rivers across India bear testimony to this system of ancient times. However, the historical facts suggest that it was an era of chamber pots ,cess-pools and cross-stools in Europe.

There was no toilet attached to individual houses. The toilet system acquired an established design in 1596 when Sir John Harrington, a courtier in the court of Queen Elizabeth, developed a design for Water Closet which finally grew to become most popular design what we use in modern days throughout the world. Human waste

NO TOILET SO MANY BRIDES

disposal, as a matter of fact, has always been a problem. The sewerage system solved the problem of relatively prosperous countries but undeveloped nations had to witness lots of problems where population grew far beyond the capacity of civic infrastructure to support. The massive influx into cities in the wake of the industrial revolution created new kinds of problems on sanitation front. Cities expanded, rivers began to stink, a variety of industries along rivers only added to filth. Even New Delhi is the best example of this problem being faced throughout the globe. Sir Edweard Lutyen with his great vision and concept built New Delhi in 1919 for only five lakh people and now over 50 lakh people live in New Delhi Municipal Commission's jurisdiction, the population of the capital being about 12 million. The sewage carrying capacity of river is exhausted. The rivers once known as life lines have reduced to dirty pools, thanks to lack of proper sanitation system for such a huge population. The massive discharge of effluents into these rivers, the lifelines of the country, has disturbed the balance between man and nature.

After a pre-millennium opinion poll, *Time* Magazine of the US has reported that the people have voted toilet as the most important invention of this century - more important than atomic bomb, space vehicles, life-saving drugs and thousands and thousands of other inventions which have made our times far too different and better than any that humankind has known in its recorded history. Toilet is one single small-time invention that has made us civilised persons to enjoy splitting atom, probing the psyche, splicing genes, cloning sheep, inventing plastic, radar, silicon chips, television, satellite, telephone and everything else that has changed this century beyond recognition. *Toilet is humankind's top achievement!!*

The period between 500 and 1500 AD was a dark age as far as sanitation is concerned

Atomic bombs, as Einstein has said, will be made in the backyard; war will cease to be an instrument to settle global disputes; there will be no national borders for the armies to defend - thanks to the revolution in information technologies; humans will be made to order; there will be a massive cultural fusion to produce a universal lifestyle, and the computer will discover God, possibly English-speaking and in striped suit. These and many more miracles may happen during a process of massive global change in the next millennium which nobody could dream of before. But most important things don't really change. Among them is toilet which marks out the modern civilisation of this

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century that has been amazing, inspiring and, at times, horrifying. But, always very fascinating.

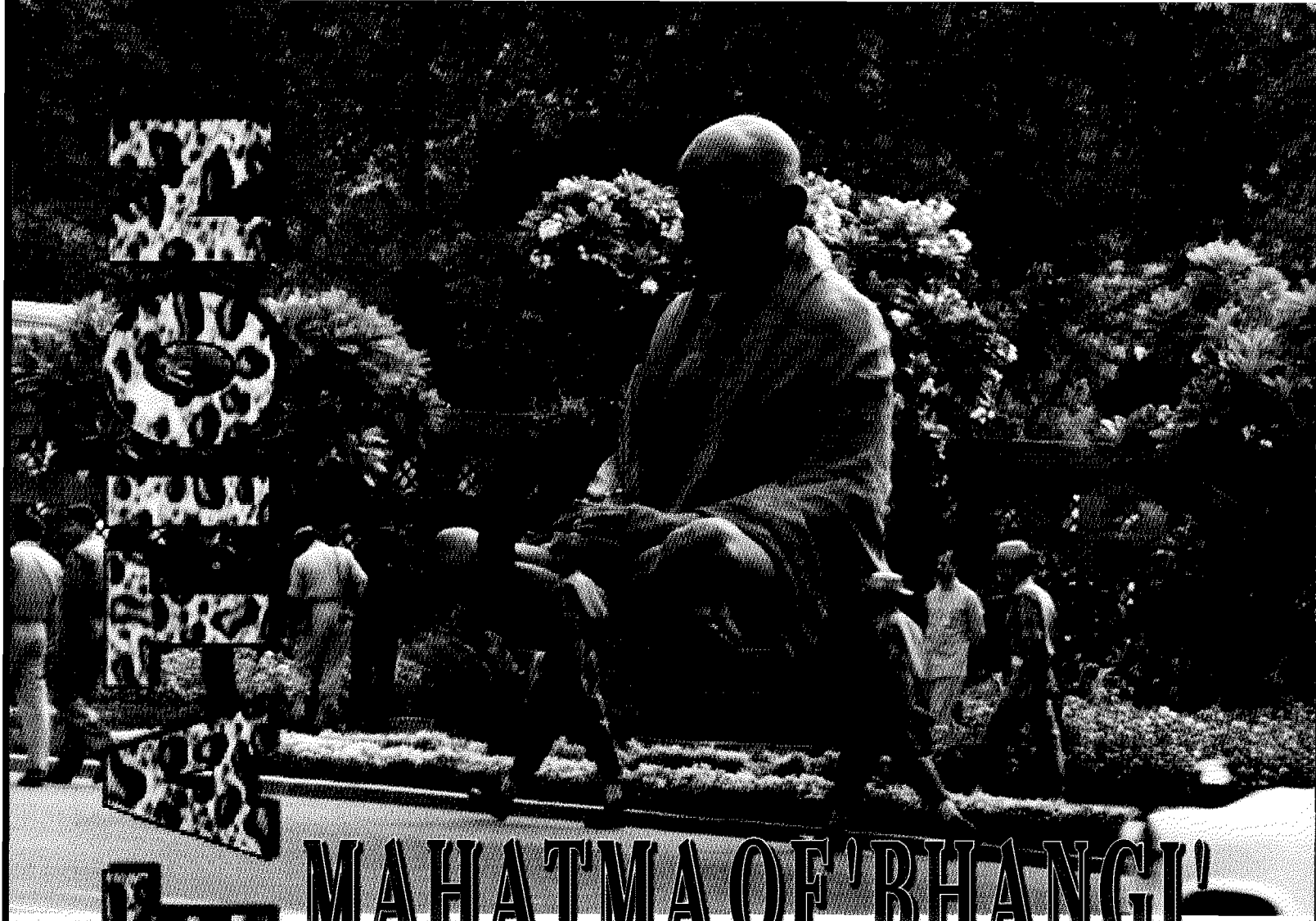
The world's population doubled since 1945 and re-doubled many times ever since Thomas Malthus predicted in 1798 that there will be a demographic explosion and death by war, famine and pestilence (World's population was less than one billion -against 6 billion now - when he wrote Essay). The UN projection indicates that the world population will reach 12 billion by the mid-21st century. And almost all increases will take place in the developing countries whose urban structures will come under great stress. There will not be enough water to carry effluent, nor enough money to lay costly sewerage system. In which case, deadly sanitation-related diseases may ravage the land and people. It will be a case of either good sanitation or deluge.

Sanitation civilises man.

No wonder, all great civilisations **of** the world, including Indus, Roman and Greek, were clean societies with well-developed sanitation and water supply systems, some of which are still in use, specially in Rome. Sanitation was given so much importance that the Roman Emperor Nerva (AD 47) made a sanitation expert, *Sextus Frontinus*, Governor **of** Britain, then of a Roman province. Compare it with the situation in India where we have made scavengers untouchables and condemned them to miseries and social degradation unheard **of in** any civilised society. And, our conscience remains unmoved!!

While discussing sanitation, one ends up discussing the whole spectrum of human behaviour, national economy, politics, role of media, cultural preferences, education and so forth because a society is organised on the basis of these factors which can be defined differently and different conclusions can be drawn from similar situations. If the sanitation status is low in almost all the developing countries, it is wholly because of the fact that we have been depending and importing Western technologies which don't fit the local conditions. But our engineers, who have been taught only Western technologies and tools of civic administration, never accept this argument. No wonder, when Sulabh developed the two-pit on-site human waste disposal system in 1970, there was a virtual revolt against the Sulabh system.

In India they are a class of untouchables, condemned and hated even by those whose excreta they carry on the head. Till the recent past the scavenging was a great problem in social life. And that is the source of the beginning of the movement launched by Dr. Bindeshwar Pathak which later on became popular as Sulabh Sanitation Movement throughout the country. •



MAHATMA OF 'BHANGI'

Dr. Bindeshwar Pathak, a Brahmin, has translated Gandhian thought & vision into practice

It was Mahata Gandhi's epic fast in Yarvada prison that led to formation of the Harijan Sevak Sangh in 1932 to abolish untouchability. He broke his fast on September 26,1932 only after the British government's revision of the Communal Award and the provision for separate electorate for untouchables was deleted. The tension was eased after the scrapping of the decision but it made Gandhiji realise that effective steps should be taken to abolish untouchability if only to save Hindu society from disintegration. On September 30,the same year, it was resolved in Bombay under the presendtship of Pandit Madan Mohan Malaviya that untouchability should be eradicated in all its forms from Hindu society. To implement this resolution, a new organisation named "Anti-untouchability League" was formed in October 1932 that was leter on called "Harijan Sevak Sangh". The entire nation stood in support of this move, morally and politically.

Deshbandhu Thakkar Bapa tried to turn it into a national movement and within a few days of its setting up, he spread it throughout the country with utmost zeal and devotion. Gandhiji made a countrywide tour at the request of Thakkar Bapa, covering 12,500 miles, between November 1933 and July 1934.This had a great impact on the masses throughout the country during the pich hours of freedom movement. Gandhiji had used the tool of mass awareness to eradicate the system of untouchability. Millions of people heared the

GANDHIJI AND BHANGI MUKTI

speeches of Gandhiji, thousands of them, inspired by his thought, stopped the practice of treating Harijans as untouchables and started fraternizing with them.

The Sangh had from the beginning sought the cooperation of the municipalities and other local bodies in ameliorating the working and living conditions of sweepers and scavengers. The response had been slow but drawing the attention of these bodies to the lot of sweepers and scavengers had made a beginning. Thirty-five co-operative societies functioned under the sangh during the third year of its existence to provide credit to them and save them from the clutches of moneylenders. In Bombay, 226 rooms had been hired by the sangh and let out to the sweepers and scavengers at cheap rates.

After the introduction of provincial autonomy in 1936,the Sangh made representations to Congress ministeries from bringing about improvements in the working and living conditions of sweepers employed by local bodies so that they might get a decent minimum wage, proper housing, education and other facilities and might be saved from the corrupt officials .The Sangh and its founders felt that while emphasis is to be laid on improved methods of working for the sweepers, it was clear in its intention and their aims that the ultimate goal was to make it unnecessary for man to carry or clean human excreta and therefore the sangh had been laying emphasis on better types of latrines.

Gandhi ji virtually designed a new concept of latrine called wardha type latrine.

Time and again Mahatma Gandhi observed that unless one had a toilet in his house, he must put earth on excreta after defecation (tatti Par Mitti) to prevent diseases and foul smell. While Gandhiji was in Phoenix Ashram, South Africa, he used trench latrine and human excreta were used as manure. Even during freedom movement he recommended the use of trench latrine. He virtually designed a new concept of latrine, which was later named "Wardha type latrine". The concept was adopted in different parts of the country to ensure proper sanitation and liberate scavengers.

Yet Dr. Bindeshwar Pathak, Barhim by cast who had launched Bhangi Mukti (scavengers' liberation), after three decades translated the Gandhian thought & vision into practice and liberated lakh of scavengers. •

Mathematics of Technology

More than 65 percent of the population still lack basic sanitation facilities in India...

Sanitation is a broad term that includes disposal of human excreta, wastewater, solid wastes, domestic, personal hygiene, etc. Human excreta is the cause of many enteric diseases such as cholera, diarrhoea, dysentery, typhoid, infectious hepatitis, hookworm etc. Studies reveal that over 50 infections can be transmitted from diseased persons to healthy ones by various direct/indirect routes from human excreta that cause nearly 80% of the sickness in developing countries.

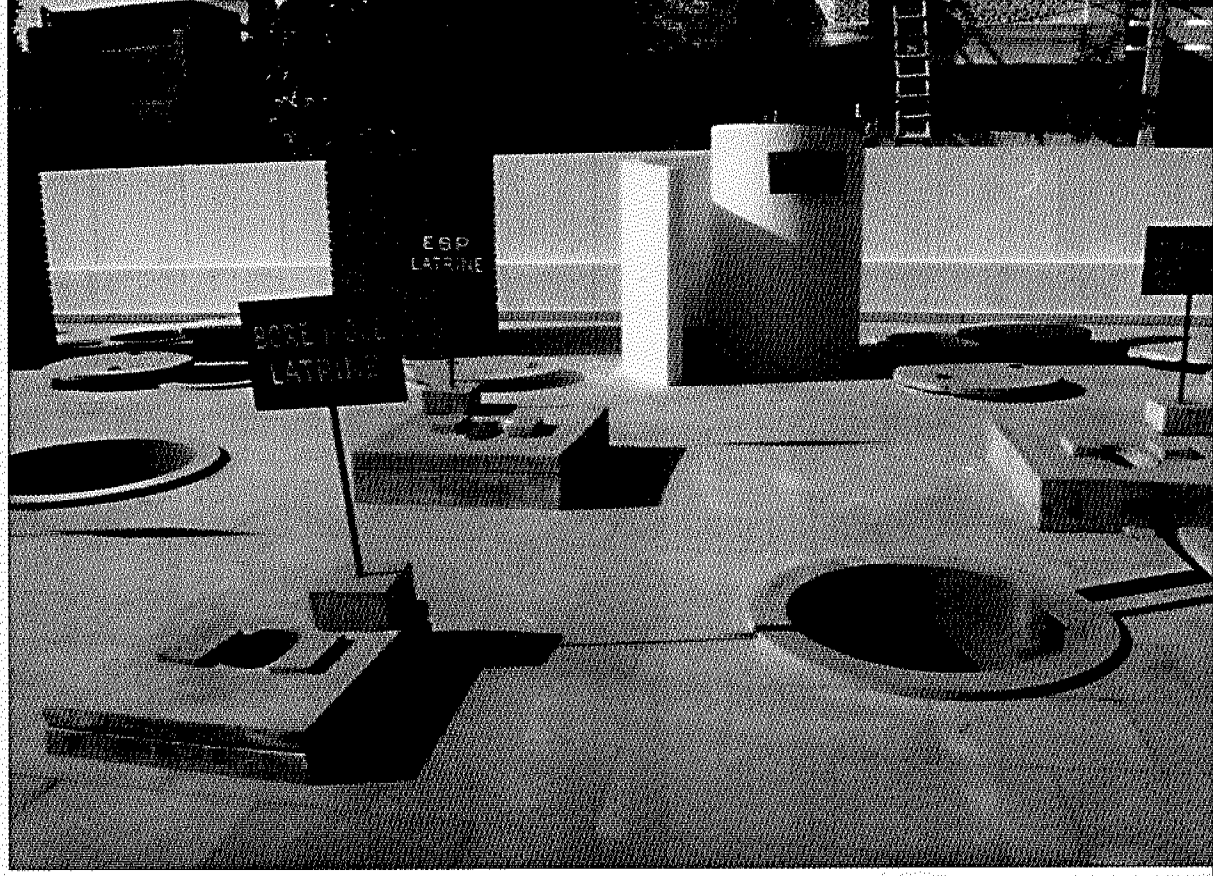
In India out of total population of 1027 million, according to 2001 census, 736 million people lack basic sanitation facilities resulting into high mortality and morbidity .Low sanitation coverage in India is primarily due to insufficient motivation/ awareness of people and lack of affordable sanitation technology. People (mostly from lower economic strata) are generally not aware of the health and environment benefits of sanitation and it is still not a "felt need" for them, resulting in absence of people's participation in sanitation programmes. Non-availability of choice of toilet designs, area specific technologies, inadequate supporting delivery systems and absence of trained masons, skilled workers and technical manpower are also reasons for low coverage.

By tradition, Indian society and culture values personal hygiene, but gives little importance to clean and healthy community environment. Human excreta is regarded as the most hated object and anything connected with the latrine is considered so defiling that one is supposed to take a bath immediately after coming out of the toilet and before going into the kitchen -due to psychological and religious taboos. Sanitation is, therefore, regarded as a matter of individual initiative and not a collective obligation of the community. In this socio-cultural background, the environmental sanitation has sadly been given the lowest priority.

Sanitation Technologoies

In developed countries, the standard practice for the sanitary disposal of human waste is sewerage. Due to financial constraints and

ECO-FRIENDLY SANITATION



exorbitant maintenance and operational costs, sewerage is not the answer at present to solve the problem of human waste management in India. Sewerage was first introduced in London in 1850, followed by New York in 1860. Calcutta in India was the next city in the world to have this privilege in 1870, yet out of about 4,700 towns/cities in India only 232 have the sewerage system and that too partially.

In developing countries neither the government nor local authorities, or the beneficiaries can bear the total capital expenditure and operation & maintenance costs of sewerage system. Moreover, it requires skilled persons and good management for operation and maintenance. It requires over 2 gallons water to clean human excreta. We build huge dams and irrigation systems to bring in water only to flush it down into an expensive sewage system, all ending up polluting our rivers and ponds. Most of the rivers are heavily polluted due to untreated domestic sewage load from the cities. This has lead to deterioration of groundwater aquifers and community health.

Septic tank system is also expensive and requires a large volume of water for flushing. There is shortage of drinking water in almost all urban areas; hence water has to be conserved. Septic tank

Two pit toilet system

Sulabh flush compost toilet does not cause water pollution, when constructed in homogeneous soil, horizontally, bacteria do not travel more than 3 meters, and vertically the seepage is not more than 1 meter out. This is to be added as the precaution that the toilet is built at a safe distance from the source of water, keeping the above points in mind.

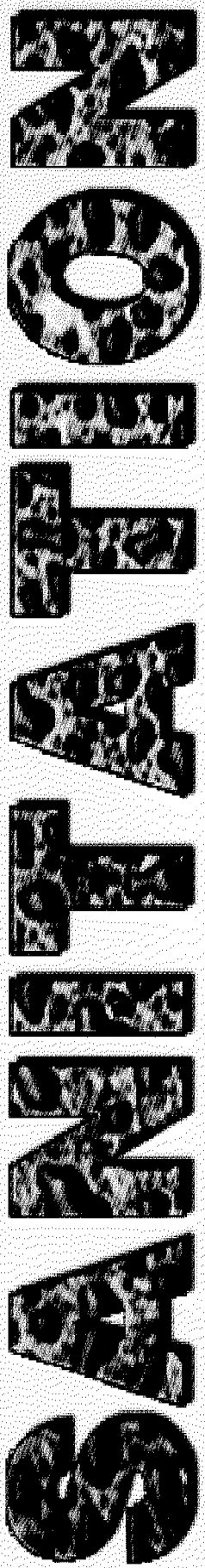
Sulabh flush compost toilet does not cause water pollution.

Methodology

The parameters change depending upon the coarseness of the soil and the type of terrain where the toilet is being constructed. Depending on the availability of space, shape of pits may be designed. It may be rectangular, circular or linear in shape. It fulfills all the seven conditions of a sanitary latrine laid down by the WHO. The method used should be simple, inexpensive in construction and operation.

Advantages

Hygienically and technically appropriate, and socio-culturally acceptable. Affordable and easy to construct with locally available materials. Design



and specifications can be modified to suit householder's needs and affordability. Eliminates mosquito, insect and fly breeding. Can be constructed in different physical, geological and hydro-geological conditions. Pits are generally designed for 3- year dislodging interval, but if desired, it can be designed for longer periods Maintenance is easy, simple and costs very little. It needs only 1.5 to 2 liters of water for flushing, while conventional flush toilet needs 12 to 14 liters of water.It does not need scavengers for cleaning the pits or disposal of sludge. Single leach pit is appropriate only if they can be dislodged mechanically by a vacuum tanker, In two-pit system, since one pit is used at a time, the filled up pit can be cleaned manually even by the householder himself because of the long period of digestion which makes it free from foul smell and safe for handling.

Squatting pan of design specified for pour flush and trap with 20mm water seal should be used in Sulabh toilets. The pan can be of ceramic, fibre glass, PVC, mosaic or cement concrete. With ceramic and PVC pans, traps of the same material are used. For mosaic and cement concrete pans, traps are of cement concrete.

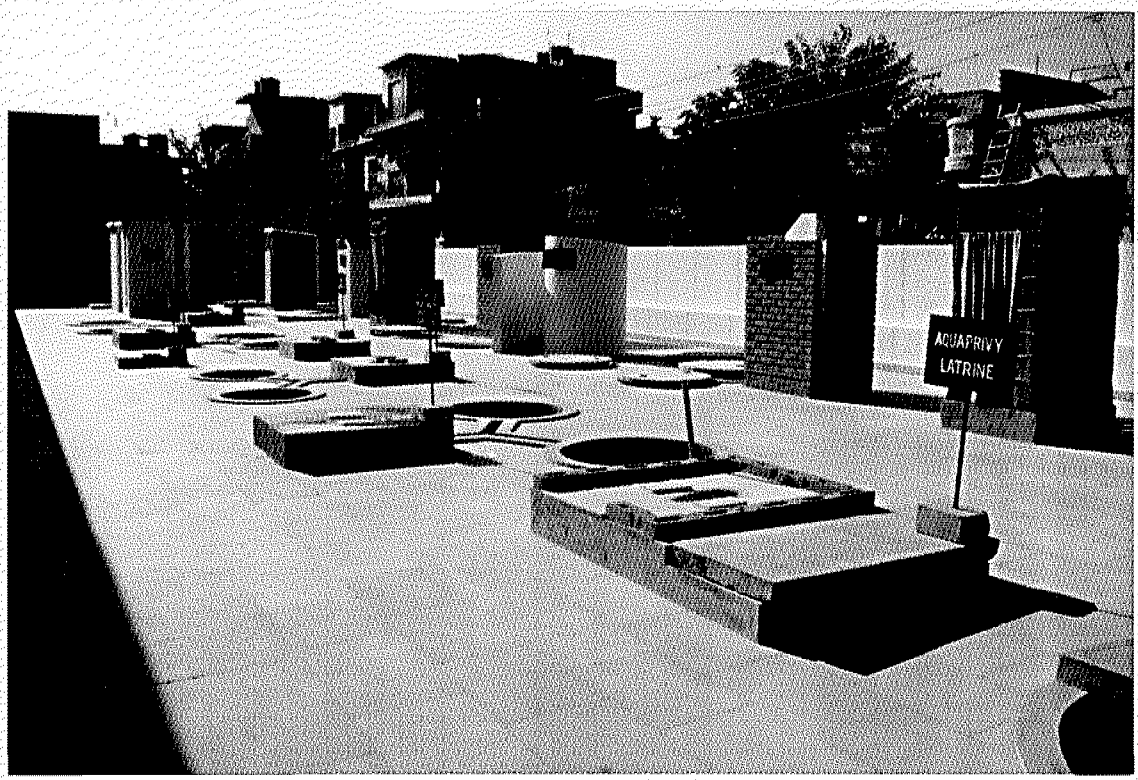
Community Toilet Linked Biogas Plant:

Now the other benefits of this toilets Recycling and reuse of human excreta for biogas generation is an important way to get rid of health hazards from human excreta. Sulabh is the pioneering organisation in the field of biogas generation from public toilet complexes.

Based on 'Sulabh Model' design, 117 biogas plants have been constructed by Sulabh in different states of India. Gfx in One cubic foot biogas is produced from the human excreta of per person per day. Human excreta based biogas contains 65-66% methane, 32-34% carbon dioxide and rest hydrogen sulphide and other gases in traces. Gfx out

Methane is the only combustible constituent, which is utilised in different forms of energy. Its calorific value is 24 MJ/cum or about 5000 Kcal/cum. A one thousand cft. (30 cum) of biogas is equivalent to 600 cft. of natural gas, 6.4 gallons of butane, 5.2 gallons of gasoline or 4.6 gallons of diesel oil.

Biogas is utilized for cooking, lighting through mantle lamps, electricity generation and body warming during winter. Cooking is the most efficient use of biogas. Biogas bummers are available in a wide range of capacity ranging from 8 cft to 100 cft biogas consumption per hour. It burns with blue flame and without soot and odour. Biogas mantle lamp consumes 2-3 cft per hour having illumination capacity equivalent to 40-Watt electric bulbs at 220 volt. •



Scene of Delhi

Urban India's garbage can be easily managed if we make it the responsibility of urban households and communities -i.e literally implement the same participatory paradigm that has been implemented with success in rural areas in water/shed management.

The problem of solid waste management has been approached from many angles in the past. Several studies have been carried out and recommendations made. However, garbage is still a problem to contend with. As a rule, the responsibility of garbage management lies with the municipalities. But despite the legal framework that empowers them to keep the cities clean, Why hasn't the system worked? Why are tonnes of garbage littered for days all over the place? What can be done to make the system work

There is just too much of it. And all of us contribute liberally every day. But what if the ragpicker doesn't come one day? What if the garbage-collecting truck doesn't arrive? What if... While most of us cover our noses with our handkerchiefs and look the other way, an estimated 30 million tonnes of the solid waste that urban India produces each year, is creating mountains of problems.

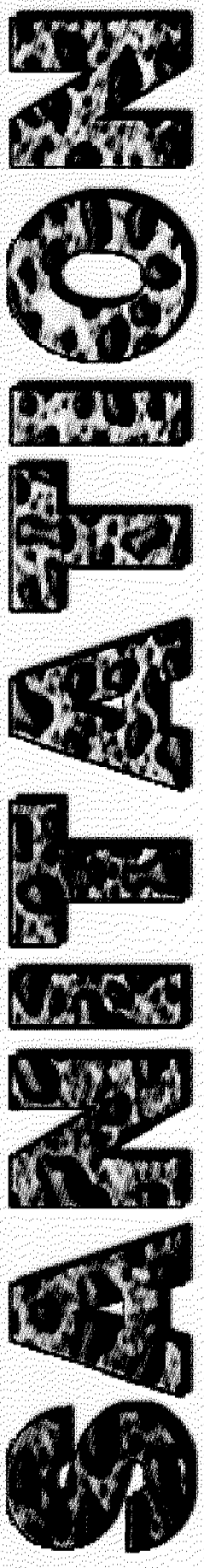
India's Capital Delhi is heading for an enviromental diasater as mountains of garbage pile up in the city's once green open swathes.

Delhi, one of the dirtiest cities of the world produces nearly 8000 tonnes of waste, every day

Garbage dumps in many parts of the city are overflowing and huge streches of land near Delhi's many slums are filled with heaps of discarded plastic, shreds of cloth, metal scraps and animal carcasses.

Delhi, one of the dirtiest cities in the world, produces nearly 8,000 tonnes of waste per day but the city of nearly 13 million people does not have an adequate waste management system.

Civic agencies manage to clear only 4,884 tonnes and most of the garbage is merely dumped in open landfills despite a Delhi high court order to clean up the city. According to a Central Pollution Control Board study, the gap between waste generation and management will rise to 64 percent by 2021 from current level of 40 percent if the current population growth and lifestyle do not change. •



STATISTICS ON URBAN WASTE

Studies have shown that 54 per cent of total urban waste is produced by residences and 31 per cent by shops and offices. Sixty per cent of all this is bio-degradable and compostable, about 80 per centr of the rest can be sold and ensured entry into the recycling chain.

Waste disposal crisis looms large in Capital

Grave shotcoming of land fill sites, complete lack of inter-agency coordination and absence of any effective long term plan are all set to lead to an unprecedented crisis of disposal of over 5,500 tonnes od solid waste generated daily in Delhi.

As of now, the Capital has four landfill sites which are fast reaching saturation point. even then officials so far have been unable to fins new sites. Those identified for such a purpose are being opposed by the local residents fearing contamination of the ground water and increase in pollution.Given the seriousness of the issue, officials have not been able to prepare any alternate plan for the safe disposal of solid waste being generated, which is expected to be between 6,000 and 8,000 tonnes soon. As per an estimate the capital would generate 15,000 tonnes of solid waste by 2021.

Of the existing landfill sites, the one at Ghazipur in East Delhi is likely to last for another 30 months, the one is in Okhla Phase II for another 20 months, while the Jahangirpuri and Bhalswa would last till this year end, and the one at G.T.Karnal Road would fill up in the few months. Safe disposal of specialised wastes is another problem that the Capital was facing. Waste from hospital, Industries, wholesale fish and scrap markets, slaughter houses and thermal power plants need specialises treatment. In the absence of such a treatment, these waste find its way to landfill sites which causes adverse environmental impact not only of the land but also of the neighbourhood areas.

Disease causes Global burden

3.4 million people, mostly children, die annually from water-related diseases.

4 billion people lack access to basic sanitation include the poorest in the world. billion people lack access to even improved water sources. Access to safe water supply and sanitation is fundamental for better health, poverty alleviation and development

Diarrhoea

2.1 million people die every year from diarrhoeal diseases (including cholera) associated with inadequate water supply, sanitation and hygiene. The majority are children in developing countries. Water, hygiene and sanitation interventions reduce diarrhoea incidence by 26% and mortality by 65%.

Malaria

1 million people - mainly children under 5 - die of malaria each year. 300 million people suffer from malaria every year, 90% of the disease burden is in Africa and South of the Sahara. Intensified irrigation, dams and other water related projects contribute importantly to this disease burden. Better management of water resources reduces transmission of malaria and other vector borne diseases.

Schistosomiasis

200 million people are infected with schistosomiasis. 20 million suffer severe consequences. The disease is still found in 74 countries of the world. Basic sanitation reduces the disease by up to 77%.

Arsenic

35 - 77 million from a total of 125 million in Bangladesh are at risk of drinking contaminated water. At least 100 000 cases of debilitating skin lesions caused by arsenic are believed to have occurred in Bangladesh.

Arsenic contamination of ground water is a global problem. It has been found in many countries, including Argentina, Bangladesh, Chile, China, India, Mexico, Thailand and the United States.

Trachoma

6 million people are visually impaired by Trachoma. 146 million are threatened by blindness. 500 million people are at risk from Trachoma. Trachoma can be prevented by improving sanitary conditions and hygiene practices.

Japanese encephalitis

20% of persons with Japanese encephalitis with clinical symptoms die. 35% have permanent brain damage. Improved management for irrigation of water resources reduces transmission of disease, in South, South East, and East Asia.

Fluorosis

It is estimated that nearly 28 million people suffer from chronic fluorosis primarily due to exposure to fluoride in drinking-water, in China alone. Removal of excessive fluoride from drinking-water reduces crippling fluorosis.

Hepatitis

1.5 million cases of clinical hepatitis A every year.

GANDHIAN SOLUTION TO HUMAN RIGHTS

Dr. Pathak took vow to liberate scavengers in India

HUMAN RIGHTS

The point 11 in the Govt. of India's 20-Point Programme of 1986 relates to 'Justice to Scheduled Castes and Scheduled Tribes'. It is aimed at eradication of scavenging and undertaking special programmes for the rehabilitation of scavengers. Sulabh is fully involved in achieving this objective.

Till now Sulabh International has made 240 towns scavenging free in various states. It has constructed about eight lakh Sulabh Shauchalayas all over the country.

Sulabh International Social Service Organisation is a leading non-governmental organisation which takes up liberation of scavengers by conversion of dry/bucket privies into Sulabh Shauchalaya and training and rehabilitation of liberated scavengers and their wards. Sulabh organises programmes to train them in various vocations such as driving, mechanics, tailoring, typing, computer, cane work, carpentry, leather work, masons etc. they are also educated on health, sanitation and personal hygiene. Sulabh established the training institutes exclusively for scavengers at Patna and Mahavir Enclave, New Delhi. It has also established such an institute at Jambol Distt., Thane, in collaboration with the State government and is running it successfully.

The liberation of scavengers and their rehabilitation in other professions is not enough; no less important is the upgradation of their social status so that they can be absorbed into the mainstream of the society. Towards that end, Sulabh has persuaded a large number of eminent persons including judges, politicians, ministers, journalists and social workers to "socially adopt" one scavenger family each and help them to get jobs and other benefits permissible under the law. The adoptor visits the adoptee (and vice versa) openly so that they can get the social respectability. This programme is getting a very encouraging response.

In October 1988, Dr. Pathak visited the Nathdwara temple in Udaipur (Rajasthan) alongwith 100 scavengers and some Vedic Brahmins. Earlier, Harijans were not allowed to enter this temple. Dr. Pathak organised Puja and arranged community meals with Harijans, both at Patna and in Delhi. Participation of the so-called high-caste people in such functions was an indication that Dr. Pathak succeeded in bringing about a measure of change in the society, dominated by orthodox caste Hindus.

The Sulabh has liberated so far 50,000 scavengers from the demeaning practice of manually cleaning and carrying human excreta. Sulabh has set up more than 5,500 pay & use community toilet complexes and about 10, 00,000 toilets in private houses, which together are being used by more than ten million people every day.

UNDP Apprises Sulabh

Sulabh's solution is a low-cost, pour-flush water-seal toilet with leach pits for the on-site disposal of human waste

The United Nation Development Programme (UNDP) in its Human Development Report, 2003 has appreciated the efforts of Sulabh International Social Service Organisation for its pioneering works in the field of sanitation in the country.

Sulabh International which runs more than 5,500 community toilets in the country including over a hundred in Delhi, has been applauded for its approach in dealing human waste. The Human Development Report in its fourth chapter on "Public Policies to Improve People's Health and Education" has given a separate box on Sulabh's achievement, probably the only Indian NGO which has been acknowledged by UNDP in its report.

The report said, "It is an approach based on partnership with local government, backed by community participation and has substantially improved environmental quality in rural and urban slums by poor people". Referring to the large-scale open defecation here, the Human Development Report said sulabh's solution was a low-cost, pour-flush water-seal toilet with leach pits for the on-site disposal of human waste.

"The technology too is affordable as the designs of toilet complexes suits various income level," it said. Unlike the modern toilets which use 10 litters of water for flushing, the Sulabh's toilets require only two litters," the report said. Referring to the large scale open defecation in India, the report has appreciated the role of Sulabh International which has succeeded in creating awareness among common masses in the last three decades.

The Report said since 1970, when it was established, Sulabh has constructed more than 10 lakh such units in the country. On the 5,500 community toilet complexes

being run by it, the report said, these included facilities for bathing and doing laundry and offer free services to children and disabled people. As a result, more than one crore people have received improved "and low-cost sanitation and has created as many as 50,000 jobs," it said. Appreciating the Sulabh's s door-to-door campaign to provide free health education to lakhs of people, the report said the NGO also trains local people to construct more latrines themselves and has helped set up and maintain fee-based community toilets in the slums and other areas.

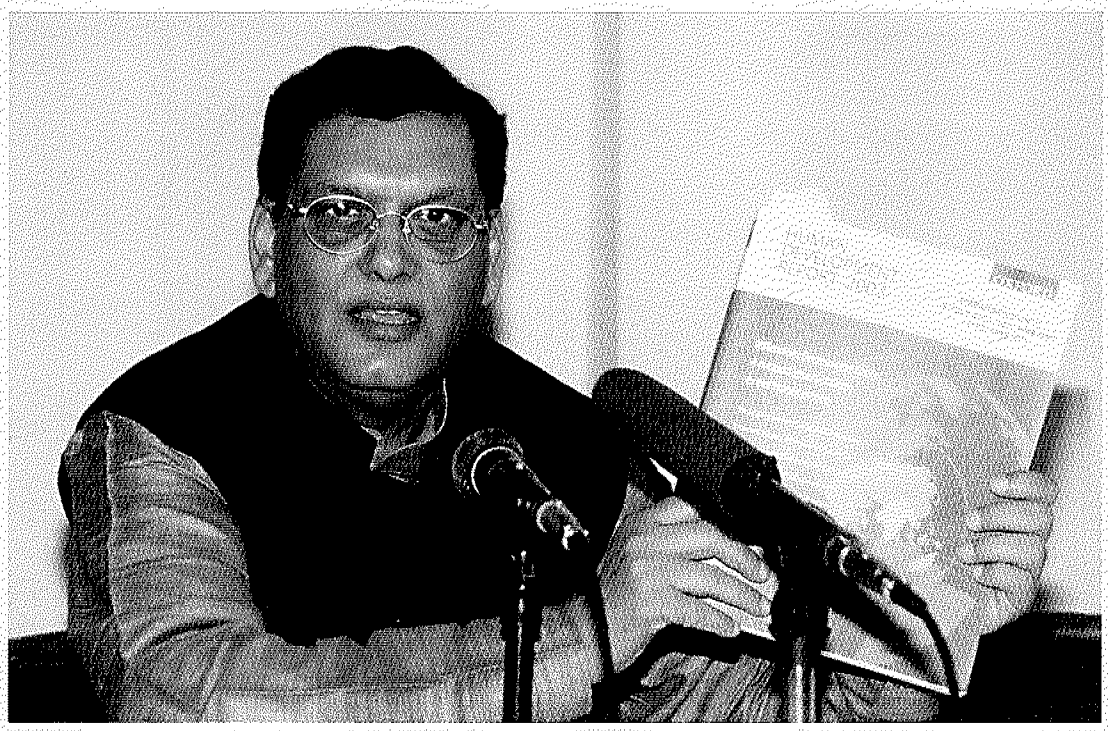
The Human Development Report, 2003, observed that there was a pressing need to provide technologies that people want to use. The best way to do so is through products, which match consumers demand in both price and quality like the one offered by Sulabh, it said.

Beginning from a small town in Bihar, Sulabh has become a familiar name in every corner of the country. lly and internationally recognized technology and methodology to achieve its objectives. Its founder, Dr. Pathak got the prestigious Padma Bhusan award for his outstanding contributions to uproot scavenging system in the country.

It has developed a scavenging-free two-pit pour flush toilet (Sulabh Shauchalaya); safe and hygienic on-site human waste disposal technology; a new concept of maintenance and construction of pay & use public toilets, popularly known as Sulabh Complexes with bath, laundry and urinal facilities being used by about ten million people every day and generation of biogas and bio-fertilizer produced from human excreta-based plants, low maintenance waste water treatment plants of medium capacity for institutions and industries.

The Organisation did pioneering works in the field of sanitation in India

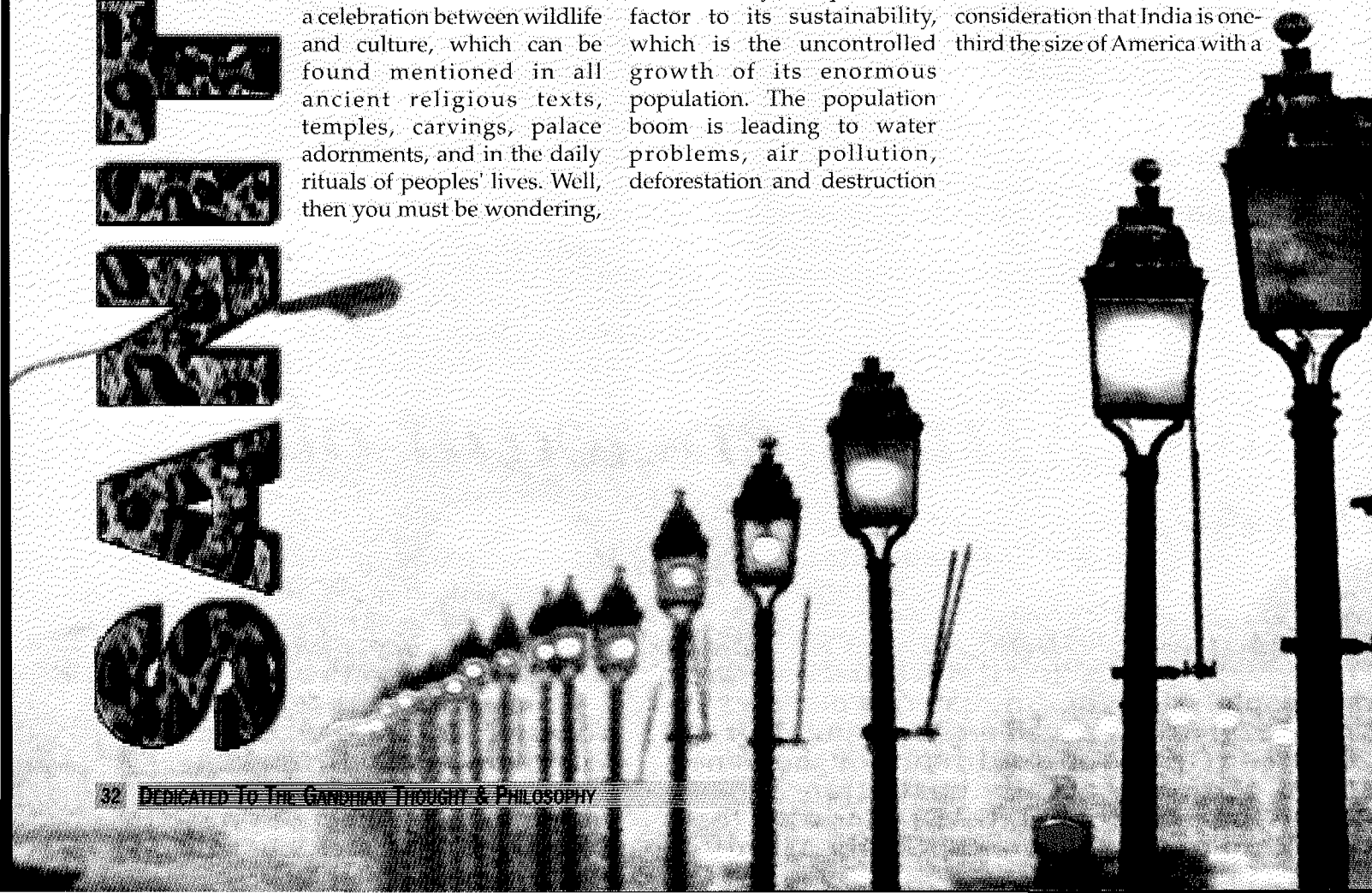
It has set up an English-medium public school in New Delhi and also a network of centres all over the country to train boys and girls from poor families, especially scavengers, so that they can compete in open job market. Sulabh has thus set up a modern, humane social order based on goodwill and mutual cooperation. His holiness Pope John Paul II gave audience to Dr. Pathak at the time of conferring the Saint Francis Prize (canticle for all creatures). Due to his crusade against all odds of the society, he was awarded with prestigious UNEP award on the occasion of world Environment day, this year. •



INDIA : A Test of Global Sustainability

India the mysterious nation some times referred to as "the Jewel in The Crown" or "The Land of the Snake Charmers" has been a star of the East, an exotic, ancient land that has consistently beckoned the curious and adventurous. Although, it is believed that the nation is on path towards becoming a powerful industrial nation within the next twenty years. India , even today is a of culture aged for centuries and preserved by time itself. Its forts, palaces temples provide a living history of time. Since the beginning of time and recorded history of this wonderful nation, there exists a celebration between wildlife and culture, which can be found mentioned in all ancient religious texts, temples, carvings, palace adornments, and in the daily rituals of peoples' lives. Well, then you must be wondering, why write this paper ? The simplest answer being, this nation is faced with too much and too fast rapid change. And the question arises, "Can the seventh largest country in the world and Asia's second largest nation with a current population about 910 million people sustain the rapid changes without completely destroying its resources of humans, land, water and wildlife habitats?" Before forming any conclusions, keep in mind that 65% (estimated 600 million) of its inhabitants are still living life as their ancestors, meaning a simple life on the farm or in the rural villages. India is currently threatened by one prominent factor to its sustainability, which is the uncontrolled growth of its enormous population. The population boom is leading to water problems, air pollution, deforestation and destruction of other wildlife habitats.

India is the largest democracy in the world, with about 16% of the world's population. India's population growth remains around 2%, and currently the country grows by about 17 million people a year, which means its population will double within the next 35 years. But, keep in mind that not all births are recorded by the government, because many births still take place at home by means of midwifes or other elder women at home. Demographics estimate that even under the most optimistic estimates- India's population will not stabilize below 1.7 billion (CIA, 1995). Take into consideration that India is one-third the size of America with a



total land area of only 2,973,190 km2. The country remains predominantly rural, with just 26% of its people living in cities. Because of the current changes taking place in the nation's economic, there is a swell of migration flowing into the cities from rural villages and farms. This tremendous migration is attributed to modernization of farming and cultivation techniques. Eviction of farmers and villagers is also a contribution of new irrigation schemes, which tend to divert the water supply away from rural villages. Construction of power plants and dams have also led to flooding of some villages and forests dwellings to retain the rivers, thus further adding to the influx of migration to the cities. Among the most controversial case involved the World Bank's funding of the Andhra Pradesh II project in India, which resulted in an estimated two million people being uprooted from their ancestral lands and homes and forced into lower standard of life-style in near by cities. Although, there were plans for resettlement and compensations for these people, the actual results never materialized because in India those who oppose economic growth or forced resettlement are frequently intimidated, harassed, arrested, beaten and even shot dead. Although, there is a greater interest of foreign investors in India's growing economic growth, the migration of rural people into the cities continues to out pace economic and industrial growth of the nation, causing a sharp rise in the numbers of urban poor. In 1995, India had over 30 cities of one million or more residents including three of the world's 20 largest cities --Bombay, Calcutta, and Delhi according to the United Nations Estimates. Between 1990 and 1995 the average annual growth rate of India's major cities far exceeds any explanations and expectations; Bombay had a rate of 4.22%, Delhi had a rate of 3.80%, and Calcutta a rate of 1.67%. Nearly 1/3 of the people in India's largest 23 cities live in shanty settlements on sites that are along river banks, which are prone to floods, and other sites, which are vulnerable to industrial pollution, according to the WRI study. The crowded conditions of the shanty settlements are ideal for the spread of communicable diseases. Rapid urban growth and industrialization have brought tremendous changes to India. The most serious environmental health problems in India are related to water. Rivers and water reservoirs are polluted, and groundwater levels are falling several meters every year. In India, water comes in three criterion and these are too much water, too little water, and too bad water. In most cases water supplies occur in two of the mentioned criterion during most of the year in the same area over time. The masses of India believe, that India as a nation lives and dies on the amount of monsoon rains in the given year. If the monsoon season brings too much rain than the agriculture and eventually all aspects of India's economy suffers. During the monsoon seasons in India the river banks overflow causing the loss of many shanty villages and the loss of hundreds of lives because there are no warning precautions as far as mother nature is concerned. The flooding of the Ganges River forced more than 10,000 people in eastern India to abandon their homes following three days of heavy monsoon rains (UPI, 1995). This is a typical situation in India, where a week's worth of heavy monsoon rain can displace one million people without any warning. The situation is being more complicated in Northern India because of the continued expansion of the logging industries at the foothills of the Himalayas, which is causing more of the mountain water run-off to flood the river banks yearly.

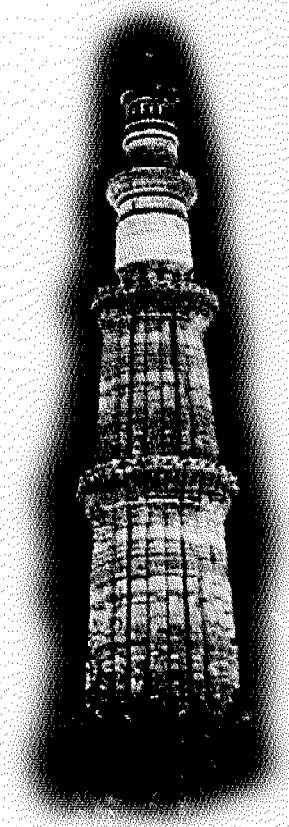
In many parts of India the ground water levels have gone down by 10 to 15 times or even disappeared completely. Falling groundwater levels are particularly critical in areas where there are no other access to drinkable water except through potable water wells. In the cities the problem is being worsened by the increase demand on drinkable water due in part to rapid population growths. Some metropolitan cities have had to resort to limiting the amount of hours of water supply available during the day. This has caused major problems for the shanty settlements, where water is available through a few water outlets provided by the cities. There are usually long lines for these water distribution with some people having to go without water for the entire day. According to Marcus Moench, senior staff scientist with the Natural

Institute in San Francisco, water tables over broad areas of India have dropped by more than 5 meters, and in some places more than 10 meters. Also, Moench believes that over pumping of water under cities is a hazard of rapid urban growth, and the control and the use of sustainable groundwater management and the groundwater quality are likely to come under fierce competition in the near future.

The squatter settlements along the river banks and the near freshwater lakes around the outskirts of cities or villages have polluted the waters to the extent that they have become essentially sewers. In most cases the water from the rivers or freshwater lakes serves as drinking water as well as sewer disposal. Drinking water at pumps in Bombay emerges green from high chrome content. At points along the rivers the bacterial levels registered nearly 20 times India's permissible limit, according to the India Times. Although, water treatment facilities are being constructed to deal with these problems in the cities, the distribution and supply tends to lag behind demand due mostly to the continuous urban expansion. Intense public campaigns against the critical problem of scarce potable water have made impressive progress. According to the World Health Organization (WHO) access to potable water increased between 11980 and 1991 from 77% in cities and more dramatically from 31% to 84% in rural areas.

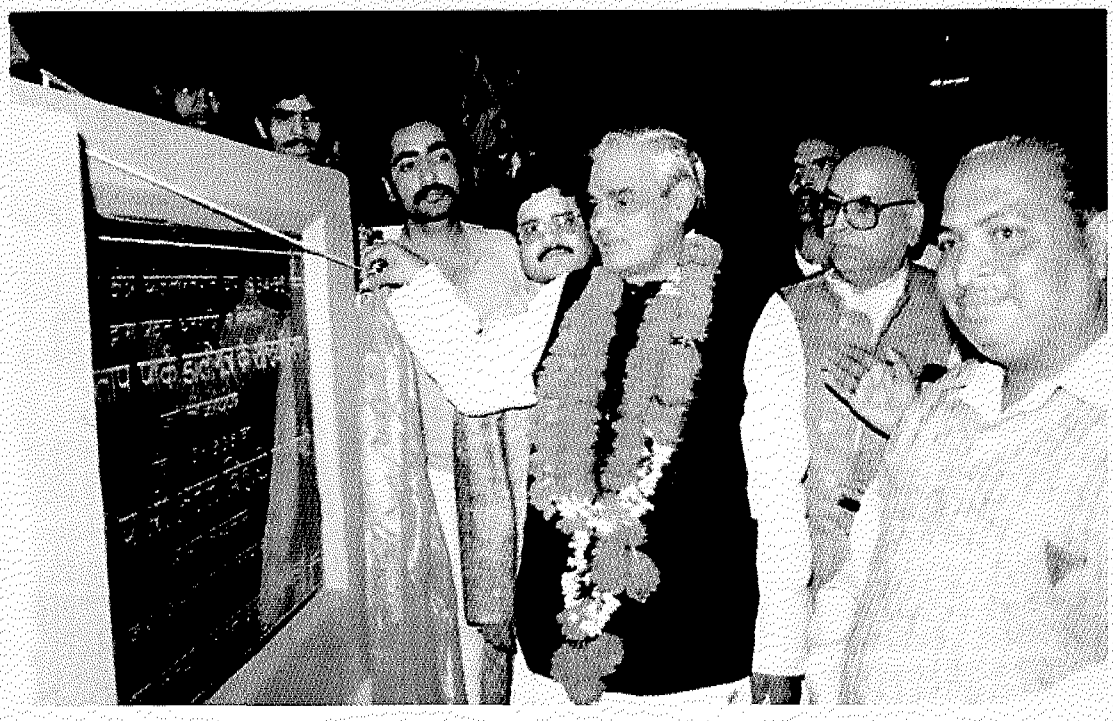
In contrast to the improvements being made in water supply, sanitation tends to be major problem throughout India. Of the 3000 cities in India with more than 100,000 population, only 200 have basic sewage treatment facilities. Rural sanitation remains almost nonexistent, and barely ½ of the urban populations had access to adequate sanitation in 1991, according to WHO. This problem is believed to be the result of the local governments lack of planning, others blame the urban population explosion, and others blame the stubborn caste system and its assignment of waste removal chores to lower castes as a part of the problem in many urban areas.

These critical conditions are ideal for the spread of communicable diseases. The most critical of these include tuberculosis, leprosy, cholera, shigellosis, polio, and parasitic diseases, according to the Travel Bureau. Diarrhea claims up to 300,000 children's lives each year, Who estimates that water related and sanitary problems cause about 75% of all illnesses and 80% of child mortality. Intensive immunization programs have made good progress against diseases such as polio. Despite continuing problems, life expectancies in India have risen over the past decades, and the World Research Institute (WRI) study notes "signs that India is entering the epidemiological transition," a change in disease patterns from infectious to chronic/degenerative, due to improved child nutrition, immunization, and improved access to primary health care.



The major source of air pollution in India comes from fuel wood burning, untreated industrial smoke, vehicular pollution in the forms of smoke and noise. Currently, heavy use of fuel wood, mainly for cooking, contributes to the high levels of air borne particulate matter and has caused the depletion of forest cover around most Indian cities. The Hindu custom of cremating the dead using wood exacerbates this situation. Women and children are especially vulnerable to heavy concentrations of smoke in unventilated cooking areas of the home from both wood and dung used as fuel; the WRI study cites smoke concentrations of 25,000 micrograms per cubic meter in Ahmedabad households. Besides chronic eye irritation, more serious consequences include bronchitis and respiratory infections. For young children suffering from malnutrition, these problems tend to be magnified by urban

INDIA



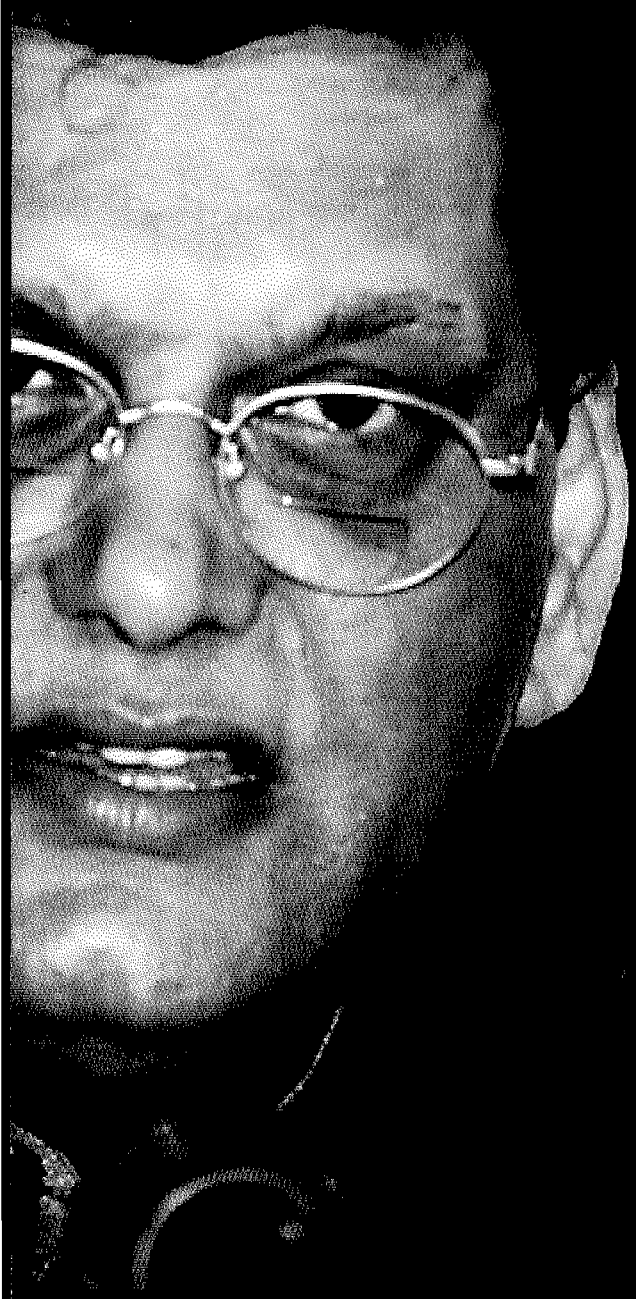
crowding and poor sanitation standards. Still, little has slowed the pollution caused by the country's reliance on its extensive coal reserves and the tremendous rise in vehicular traffic. India's coal contain high concentrations of ash, which introduces heavy particulate matter and sulfur into the atmosphere and cause acid rain. In the past two decades, the number of vehicles on India's roads has increased ten folds, and all of the vehicles are running on leaded gasoline or just kerosene in many cities. The majority of vehicles on the roads tend to be beyond their time and they are burning leaded fuels without any catalytic converters, which tends to add to the air pollution tremendously. From my own experience, during a recent visit back home in 1995, I was flabbergasted by the quality of air in Bombay and surprised by the fact that people in the city continue to live with such unhealthy air and even more unbelievable are the individuals daring to smoke cigarettes in that murky air. The smog in Los Angeles is considered bad by world standards, but what I experienced in Bombay was unbelievable, you could not see farther than 100 feet in front of you during the peak afternoon hours with the sun blazing somewhere above the air. And as a result of these conditions and also due to a lack of infrastructure the noise pollution produced by the tremendous numbers of vehicles on the already overcrowded streets is ear piercing. The taxi drivers and other motor vehicles honk to make a turn, merge, or simply because of frustration on the streets.

The primary reasons for these conditions are not a lack of laws, but in fact as in other nations it is the lack of enforcement at the local and governmental levels due to corrupt enforcement agencies and environmental agent throughout the nation. In fact, India has some of the best laws of preventing and dealing with pollution, medical and waste disposal, industrial pollution control and other required environmental laws, but these laws exist only on paper and not in the nation's action. The major lack of care and enforcement Is the result of the public being uninformed about the hazards and quality of pollution in the air. India as a nation seems to be occupied in trying to obtain the lifestyle of the Western industrialized nations to be concerned about what is happening in their own nation. For example in 1986, India complemented and stiffened earlier pollution control laws governing water and air (enacted in 1974 and 1981, respectively) with passage of the Environmental Protection Act. The new law aims to regulate hazardous wastes using the threats of shutdowns and criminal proceedings against companies that fail to comply. •

THE CR

BINDESHWAR PATHAK, the crusader of sanitation movement, is a great humanist and social reformer of contemporary India. To the weaker sections of society especially, he is the compassionate face of a paternal redeemer. He has the vision of a philosopher and the undying zeal of a missionary. He is the icon of a new culture which embraces the poor and extols the dignity of labour. His boundless love for the downtrodden finds expression in myriad and tangible ways. No wonder those who know him intimately swear that Dr. Pathak is born to help the helpless. He is the leader of a national crusade for restoration of human rights and dignity to millions of scavengers (cleaner and carrier of human excreta), traditionally known as untouchables; and for providing safe and hygienic human waste disposal system to 700 million Indian population who go outside for open defecation even along roads and railway tracks. He has himself identified with the problems of the untouchables. Dr. Pathak's multi-pronged efforts in bringing scavengers, worst victims of institutionalised caste discrimination and engaged in a sub-human occupation, in the mainstream of national life has taken the shape of a movement for social justice. Moreover, he is an internationally acclaimed expert on sanitation and has developed and implemented on pan- Indian scale a low-cost and appropriate toilet technology recommended by UN bodies for about three billion people across the globe. To him goes the credit to sensitize Indians towards sanitation and those engaged in the sanitation work. Apart from low-cost sanitation, his contributions are widely known in the areas of bio-energy and bio-fertiliser, liquid a poverty develop Man and social administ What is

RUSADER

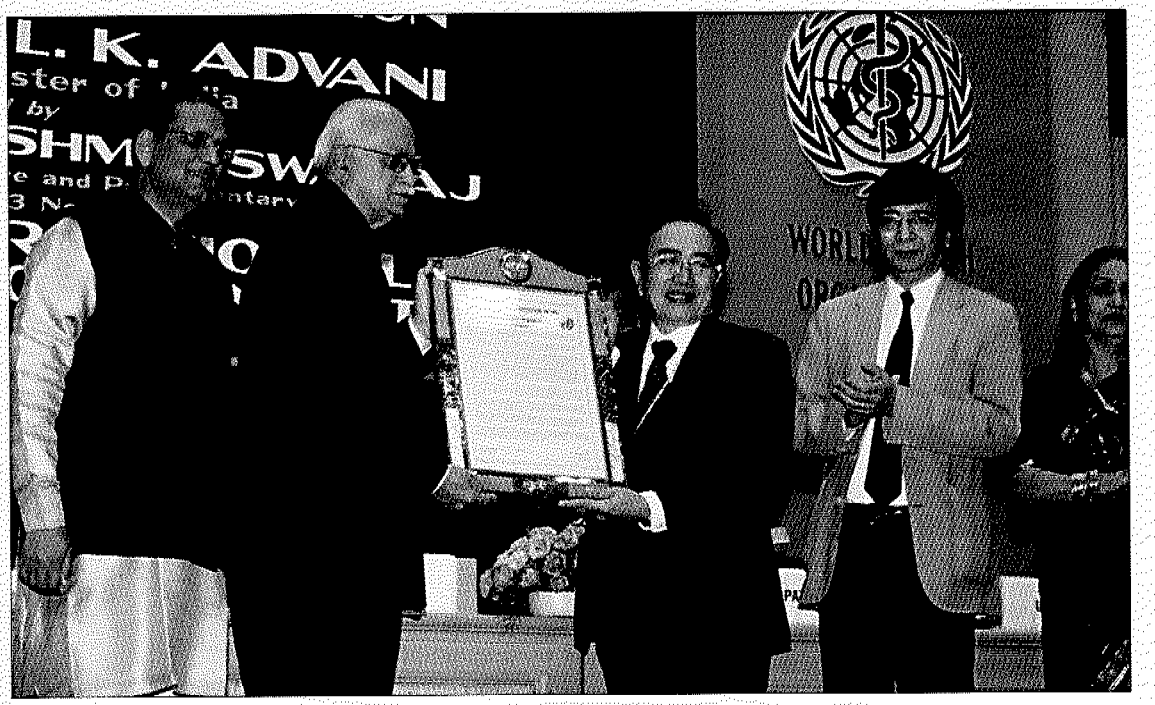


d solid waste management, lleviation and integrated rural nt. In fact, he is a Renaissance ombines in himself the traits of a cientist, an engineer, an tor and an institution-builder. remarkable is that he has ingeniously utilised all these expertise to enrich and empower the depressed classes.

The widespread phenomenon of open defecation remains grim even after 50 years of India's Independence. Especially women have to suffer a lot due to non-availability of toilets. Even today 110 million Indian houses have no toilets and 10 million houses have bucket toilets causing filth and diseases. The situation is so appalling that about half million children die every year due to dehydration caused by open defecation.

After Gandhi Dr. Pathak is the man, more than any other in India, who has championed sanitation and upliftment of the untouchables as mission of his life. For the last three decades he has been working relentlessly to keep the ecosystem clean and bring the marginalised sections of the society in the mainstream. He gave new dimension to the Gandhian movement and broadbased his principled fight against all kinds of discrimination. The New York Times, in the article 'Untouchables gain the help of a Brahmin', hailed him as a "full-time crusader against the humiliations of untouchability". His contribution in abolishing the inhuman practice of scavenging is seminal and unparalleled in the sense that he not only studied the social evil but provided its categorical solution through a low-cost toilet-technology and developed a self-sustaining sanitation system across the country. In the process of providing alternative to scavenging and rehabilitation and social upgradation of scavengers, Dr. Pathak created a pan-Indian network with 50,000 volunteers and gave birth to what is popularly known as Sulabh Sanitation Movement. "No body should go outside for defecation and every house in India should have a toilet" has become the passionate obsession of Dr. Pathak.

SOCIAL SANITATION



It started out as a mission to give dignity to a hitherto neglected set of people. The mission has become popular as "Sulabh Movement"

The Sulabh Sanitation Movement is a mission and Sulabh International Social Service Organisation is an institution to implement its programmes and objectives.

The Sulabh International Social Service Organisation is the leading non-profit making outfit, working to promote sanitation and prevent environmental pollution which is critical components to a healthy and productive society. Beginning from a small town in Bihar; Sulabh has become a familiar name in every corner of the country. It has a viable, nationally and internationally recognized technology and methodology to achieve its objectives.

The Sulabh International Social Service Organisation founded by a young social activist in the year 1970, is the largest nationally and internationally recognised pan-India social service with strong network of social activists who work to promote human rights, environmental sanitation, health and hygiene, non-conventional sources of energy, waste management and social reforms through education, training and awareness campaign. It has developed a scavenging-free twin-pit pour flush toilet (Sulabh Shauchalaya); safe and hygienic on-site human waste disposal technology; a new concept of maintenance and construction of pay-&use public toilets, popularly known as Sulabh Complexes with bath, laundry and urinal facilities being used by about ten million people every day and generation of biogas and biofertiliser produced from human excreta-based plants, low maintenance waste water treatment plants of medium capacity for institutions and industries. It has set up an English-medium public school in New Delhi and also a network of centres all over the country to train boys and girls from poor families, especially scavengers, so that they can compete in open job market. Sulabh has thus set up a modern, humane social order based on goodwill and mutual cooperation. The United Nations Centre for Human Settlements has recognised Sulabh's cost-effective and appropriate sanitation system as a global 'Urban Best Practice' at the Habitat-II conference held at Istanbul (Turkey), in June, 1996. The Economic and Social Council of United Nations has granted Special Consultative Status to Sulabh in recognition of its outstanding service to mankind. The United Nation centre for Human settlement and Dubai Municipality award out of 1100 entries from 125 countries have conferred cost-effective best sanitation technology to Sulabh with $ 30,000 and a Gold Trophy. His holiness John Pope Paul II gave audience to Dr. Pathak at the time of conferring the saint Francis Prize (canticle for all creatures)

Sulabh has set up more than 5,500 pay-&-use

community toilet complexes and about 10, 00,000's Toilets in private houses which together are being used by more than ten million people every day. This novel self-sustaining system has also helped in ending the uncivilized practice of open-air defecation and keeping the urban life clean and livable, creating enormous impact on the environment and life of the people, especially those living in squatter colonies, the houseless and the people on the move or those at places of congregation. Sulabh is also producing and using biogas from human excreta from its 102 plants which is again an innovation in the areas of non-conventional energy.

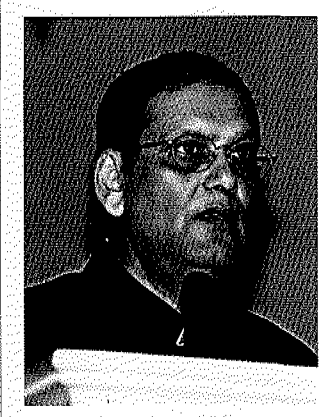
SANITATION MOVEMENT

India is the world's second most populous country, with a population estimated at over one billion. The country has made great progress in ensuring that clean water is available to its population, especially during – and since the close of – the International Water Supply and Sanitation Decade (1981-90). Nearly 85 per cent of the people are now covered.

But the story is very different with regard to sanitation. Fully 80 per cent of the country's population, some 800 million people, or roughly three times the entire population of the United States – still either defecate in the open or use unsanitary bucket latrines or smelly public toilets. This is true even in urban areas, where hardly 20 per cent of the population has access to water-flush toilet connected to a sewerage system and 14 per cent enjoy water-borne toilets connected to septic tanks or leach pits. In rural area, mere 20% per cent of the population has access to sanitary toilets.

This deplorable lack of adequate sanitation is responsible for severe health problems, to say nothing of the foul odours wafting through the air that diminish the quality of life for everyone living in underserved communities. Cholera, dysentery, typhoid, infectious hepatitis and many diseased caused by various types of worms in the body may be traced to human excreta. Some 50 infections can be transferred from a diseased person to a healthy on via a direct or indirect excreta route.

Lack of sanitation also has grave social consequences. The need to have "night soil", as human waste is called, removed has given rise to the profession of "scavenging" or men/women known as scavengers collecting it from bucket latrines, the streets and other locations. For generations, those practicing this profession have been stigmatized and scorned as "untouchables", the lowest of the low. Although the Indian Constitution bans their segregation, these people often live apart from the rest of society, under appalling conditions, and lacking dignity and human rights.



Dr. Bindeshwar Pathak, Founder of Sulabh International Social Organisation, was born on April 2, 1943 in a respectable Brahmin family of village Rampur Baghel in Vaishali district of Bihar. After college education and some odd jobs that came his way, he joined the Bhangi-Mukti (scavengers' liberation) cell of the Bihar Gandhi Centenary Celebrations Committee in 1968 and he was intimately exposed to the problems of scavengers in India. Dr. Pathak travelled all over the country, visited and lived with scavengers in their bastis, studied their habits and social mores (he did his Ph. D. on scavenging), their history and geographical spread to eventually declare that scavengers were a special class united in their miseries and social degradation. "Let us save them from squalid conditions and in doing so we'll be saving the national conscience", Dr. Pathak said. Significantly, it was not a mere emotional outburst of young Dr. Pathak, who by that time had fully equipped himself intellectually to construct an irrefutable thesis on the subject. He knew that slogans alone will not help and, hence, developed a technology which has become a credible alternative to scavenging in India.

GOOD SANITATION

A PIONEER IMPROVES THE QUALITY OF LIFE OF THE POOR

As the statistics make clear, India's sanitation problems have long defied solutions-until the last few years. Thanks to the pioneering work of Dr. Bindeshwar Pathak and the Non-Governmental Organization (NGO) Sulabh International Social Service Organization he founded, an affordable and socially acceptable method of human waste disposal has moved from the drawing board. It is already improving the health and quality of life for over ten million people, demonstrating how a local government-NGO partnership, backed by community participation, can have substantial impact on improved environmental quality in areas habited by the weaker segments of society

Dr. Pathak is member of the Geneva-based Water Supply and Sanitation Collaborative Council (WSSCC), a multi-stakeholder organization with members in some 140 countries, all working to make sanitation and safe water a reality for every, especially the poor and the underserved of humanity. The WSSCC has embarked on a new global advocacy effort by launching WASH – Water, Sanitation and Hygiene for all – to generate political will and mobilize action to ensure an end to the suffering of some 2.4 billion people, mostly in the developing world, who still have no access to sanitation and the 1.2 billion without a safe and affordable water supply. According to Sir Richard Jolly, Chair of the WSSCC, during the recent Dialogue for Pro-Poor Policies for Water and Sanitation at the World Urban Forum in Nairobi : "Clean water alone leads only to minor health improvements; sound hygiene behaviour must be addressed in its own right with adequate sanitation and clean water as supporting components." "While each of the three elements has some health benefits, it is their combined effort that has far greater impact," he added.

UNAFFORDABLE REMEDIES

Two common sanitation technologies internationally known to be ideal for the disposal of human excreta and waste water have proved too expensive for widespread installation, operation and maintenance in India, as well as in other developing countries: septic tanks and sewerage. Septic tanks were introduced in India about 150 years ago but today less than 20 per cent of the houses are equipped with latrines

SANITATION

connected to them. In addition to their cost, one disadvantage is that they require a large volume of water for flushing. Another is that they have to be cleaned periodically and sludge disposed of so that it does not cause health hazards or serve as breeding ground for mosquitoes.

Sewerage was first tried in India in the late 19th century, yet only about 235 of the country's 4,689 towns and cities have (*) been hooked up to a system. Even in these places, the entire municipal area is not covered, let alone the adjoining suburbs, and not all houses have connections.

LOW-COST SOLUTION TAKES HOLD

Dr. Pathak is an eminent, action-oriented sociologist, social reformer, environmentalist and internationally-known expert on low-cost sanitation and the production of biogas from human excreta. Over the years, he has seen first-hand the deficiencies inherent not only in expensive technologies but also in alternatives like public toilets and various kinds of house-based latrines that failed to gain public acceptance. His solution, called "Sulabh Shauchalaya," is a low-cost, pour-flush water-seal toilet with leach pits for on-site disposal of human waste.

This technology has many advantages: it is affordable, even by the poor, as there are designs to suit different levels of income. Flushing requires only two litres of water, instead of the ten litres needed by other toilets. It is never out of commission since, with two pits, one can always be used while the other one is being cleaned. The latrine can be built with locally available materials and is easy to maintain. It has high potential for upgrading because, while it is a stand-alone on-site unit, it can easily be connected to a sewer system if and when one is introduced in the area. The toilet is also culturally acceptable inasmuch as it remains free from filth and foul odours. Neither does it require the services of scavengers.

In 1970, Dr. Pathak set up Sulabh Shauchalaya Sansthan (now called Sulabh International Social Service Organization) as an NGO, to disseminate the idea of conversion to the Sulabh Shauchalaya and assist communities in adopting it. So far, more than one million units have been constructed (or substituted for existing latrines) in houses, and 5,500 have been installed in pay-and-use public toilets. Staffed by an attendant 24 hours a day, the latter supply soap powder for washing hands, include facilities for bathing and doing laundry as well as offer free services to children, the disabled and the poor. As a result, more than ten million people have been provided with improved, low-cost sanitation facilities while 50,000 employment opportunities have been

created in a commercially viable enterprise.

KEYS TO SUCCESS AND LESSONS LEARNED

Despite the virtues of the technology itself, introduction of the Sulabh Shauchalaya might not have been so successful had not Dr. Pathak realized early on that public awareness and community participation are critical aspects in any sanitation improvement programme, and that people's perceptions and attitudes on sanitation would need to be changed. Among isolated populations, unlikely to feel responsible for wider environmental conditions, the Sulabh International Social Service Organization has undertaken educational efforts to help reverse this frame of mind and instill strong community awareness. In mega-cities, where public agencies might be expected to provide critical services but are financially unable to do so, this NGO has offered residents a chance to seize the opportunity for low-cost self-help development.

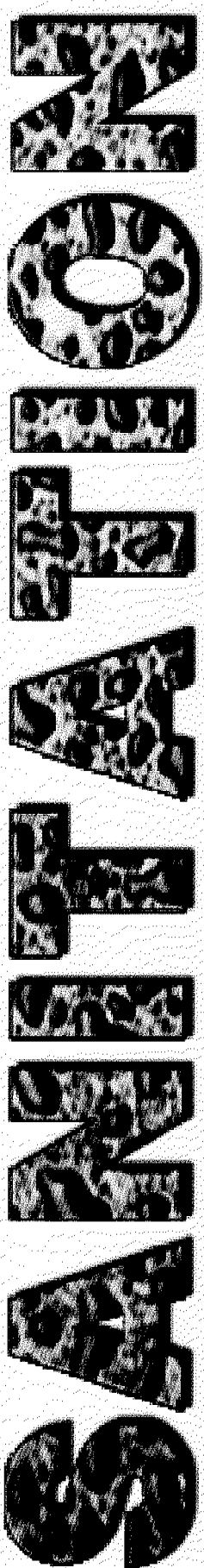
The approach includes door-to-door campaigns by Sulabh volunteers and workers who persuade people to convert from bucket latrines to the Sulabh System. Once approval is gained, the organization takes responsibility to relieve the beneficiary of the bother of constructing the twin-pit, pour-flush toilet. Sulabh also educates people on the use and maintenance of their new latrine and promises to fix construction defects and solve technical problems at no cost. After construction, service is provide and problems in use and maintenance are resolved by locally posted Sulabh workers.

BUILDING LOCAL CAPACITY AND INCOME GENERATION

Technical training is also given to enable local people to construct more latrines themselves. In rural areas, latrine-builders are also trained in such fields as handpump repair, brick-laying, social forestry and biogas production, since it has been found that latrine construction alone may not provide artisans with sufficient, sustainable income.

Special attention is given to the needs of women, especially those living in impoverished areas and belonging to scavenger families. They are included as both students and instructors in the re-education process and trained as sanitation volunteers, with the expectation that they will pass the message along to other women.

Sulabh also helps local communities set up, operate and maintain the community toilet complexes, run on a pay-for-use basis. In some municipalities, Sulabh has taken over these complexes from city officials for contracted period of 30 years, relieving the municipal authorities from the task of operating and maintaining them. This has vastly improved the quality of facilities available to users. Often these comfort stations



are the cleanest ones in town, even in major cities like New Delhi, Bombay, Calcutta and Madras.

RECYCLING AND PROMOTING ALTERNATIVE SOURCES OF ENERGY

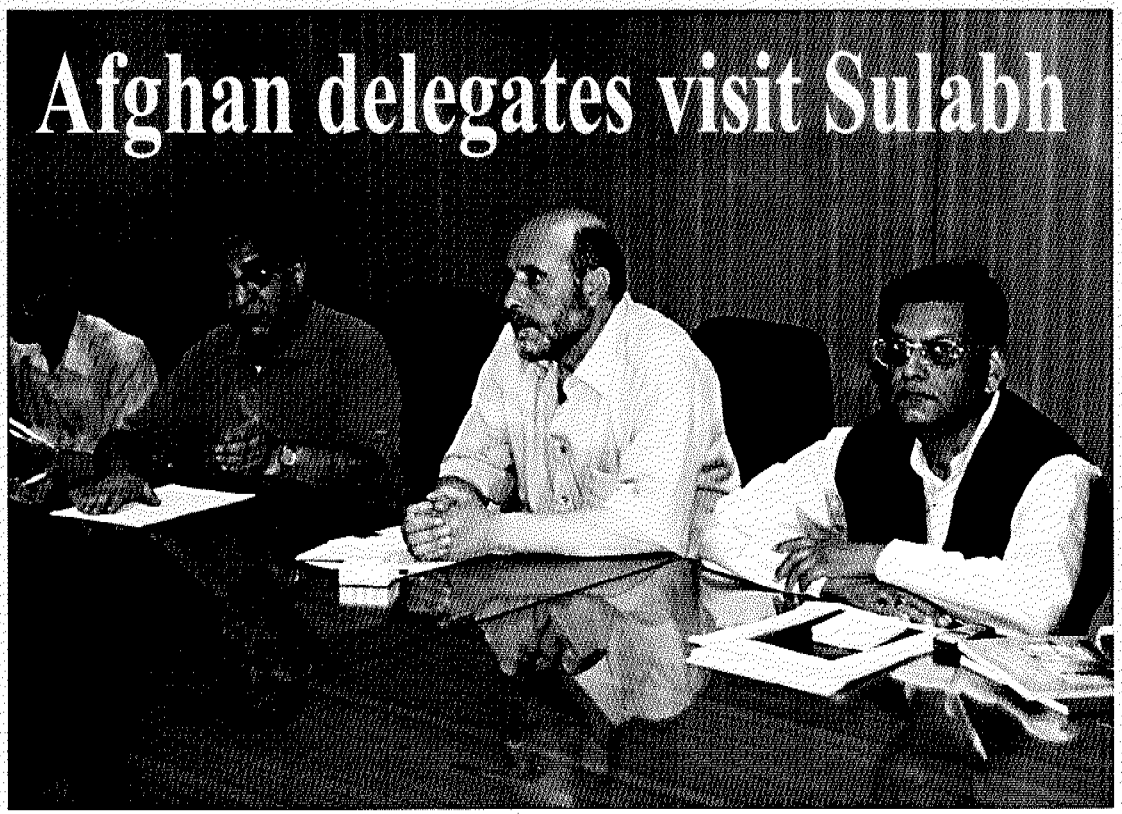
The organization also works with local groups on production of biogas from human excreta from the community toilets, and on the generation of electricity as an alternative source of energy. Its research and development activities are geared to practical solutions for solid and liquid waste disposal, including recycling and resources recovery.

Overall, Sulabh's experience shows that, where financial resources are constrained by central administrations, functions can effectively be delegated to grassroots and community level organizations. It also demonstrates how sanitation and health education can be integrated, and how the energies of the poor can be harnessed to reach their full potential. The model Sulabh has developed can be easily replicated by NGOs and governmental organizations. The Government of India, Indian state governments and various national, international agencies and WSSCC members such as UNICEF, the World Bank, UNDP, WHO, and UN-Habitat among others, have accepted the design and are advocating its use all over India, as well as in other developing countries in South-East Asia, Latin America and Africa.

As part of the global campaign, Sulabh will host the launching of WASH in India later this year soon after the World Summit for Sustainable Development that will take place in Johannesburg. The draft Chairman's text for the WSSD calls for the need to meet the 2015 Millennium Development Goal of halving the proportion of people living in poverty. It also echoes the call made by participants of the International Conference on Freshwater (Bonn, Germany, December 2001) to halve the proportion of people who lack access to proper sanitation by 2015 to be reflected in the Johannesburg Declaration.

In identifying the top five issues to be addressed by the Summit, UN Secretary – General, Kofi Annan, says that the issues of water and sanitation ranks first, followed by energy, health, agriculture and biodiversity – "..five areas that make up ambitious but achievable agenda – five areas in which progress would offer all human being a chance of achieving prosperity that will not only last their own lifetime, but can be enjoyed by their children and their grandchildren too."•

Afghan delegates visit Sulabh



A high level delegation of urban planners and officials of the Afghanistan government visited India on June 22,2003 to finalise several developmental programmes being funded by the Indian government in it's effort to rebuild war ravaged Kabul and Kandahar cities. Continuing its support in rebuilding ruined Afghanistan, the Indian government has agreed to make available fund for the construction of hundreds of household toilets and public convenience facilities in Kabul and Kandahar .The Sulabh International Social Service Organisation, one of the largest NGOs of the world have been assigned the task to execute this programme in Afganistan.

According to the Founder of Sulabh International,Dr. Bindeshwar Pathak,a high level delegation led by Mr. Abdul Ali Lalimeq, Head of Administration, Municipal Corporation of Kabul reached New Delhi on June 22 to give final shape to various schemes being initiated by the Indian Government. The Indian government has agreed to fund for the construction of 500 household toilets and five public convenience facilities in Kabul city. An agreement to this effect was signed by India, Afganistan and Sulabh International during the visit of high level delegation .As per the wishes of the government of India, the Sulabh International has finally decided to execute construct works to ensure proper sanitation in war ravaged Afganistan. In an effort to rebuild the Kabul city, a team of Sulabh International organisation led by Dr. Pathak had visited there to study the possibility to ensure sanitation to it's people. The construction work has already been started.

Other members of this delegation includes Mr. Mohammad Zahir Rizayee,Deputy Mayor for Planning & Finance,Mr. Sayid Noor Aga Hidayt,Deputy Mayor for Property and Mr. Fakir Mohammad Bahrmi,Economic Consultant of Kabul Municipality. During their three day stay in India, these officials also met the government officials and town planners to discuss the possibilities for reconstruction of Afghanistan .The delegation also visited Sulabh International's headquarter to observe various techniques of low cost toilet construction. Apart from it, the delegation also visited some of the public toilet complexes being maintained by Sulabh in different parts of Delhi. •

INTERVIEW

India needs another freedom struggle!

He wanted to be a lecturer. But did not qualify. His marks were poor. He did well in sociology, but did poorly in criminology, which pulled down his average. But that did not deter Bindeshwar Pathak; he started teaching in a school. Destiny had other designs, however. In the late sixties, he was drafted into a committee that was to design the celebrations for Mahatma Gandhi's birth centenary in a little village in Bihar. He was told that since Gandhiji worked tirelessly to restore the human rights and dignity of scavengers, he should be part of a committee that would see what could be done in that area.

This was the turning point in young Bindeshwar's life. For the first time, he got thinking about it and from then, there was no turning back. Today, he heads Sulabh International Social Service Organisation, which has set an example of how to organize public health and sanitation in India. It has a budget of 150 crore rupees. It has set up toilets catering to ten lakh families every day. Sulabh today has a presence in 3,500 cities, 500 districts. Sulabh has now been invited by Afghanistan to improve their sanitation and hygiene facilities as it goes about rebuilding the war ravaged country.

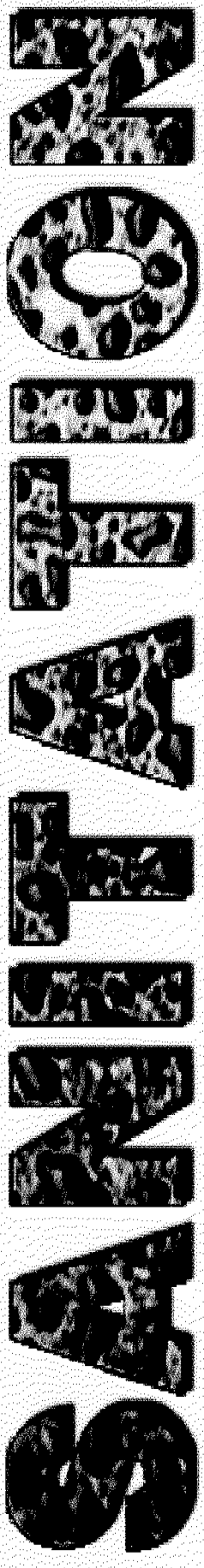
Bindeswar Pathak talks of the challenges ahead for India as 700 million people still do have toilet facilities.

Excerpts from a freewheeling interview.

Q. You have done some phenomenal work in setting up communal toilets and cleaning up the Indian countryside.

A. Sanitation is India's biggest problem. 700 million people have no toilets in their homes. In slums, there are no toilets. So a huge population has to use open areas to answernature's call. India today has nearly ten million bucket toilets that are manually cleaned by scavengers. We cannot let his continue. 700,000 children die every year due to diarohea and dehydration caused by poor hygiene. Many schools in rural India do not have toilets and this is one of the main reasons why girls dropout from school once they cross the primary level. Can we let this continue?

Gandhiji drew attention to the problem of sanitation, but we did not have the



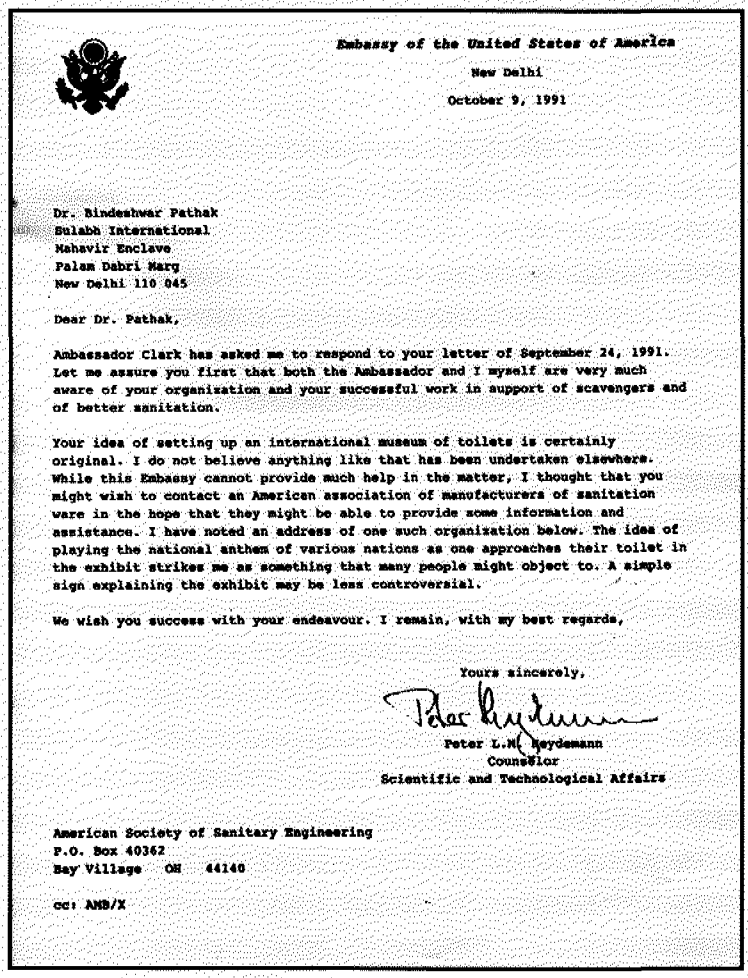
technology at that time to figure out how to go about building easy to build and maintain toilets in India. The British built the first sewerage system in India in 1870. After 130 years, out of 4,500 cities only 232 are sewer based. Only 20 per cent of the urban population has septic tank toilets.

Q. What would you say is India's challenge?

The challenge for India is huge. The sewers in Delhi, for instance, were designed for a population of three million. Delhi now has a population of 14 million. The challenge is to provide appropriate, affordable and culturally acceptable toilets. It sounds difficult, but it is possible. "We do not want the government to give any subsidy to built toilets. We just want to tell banks not to refuse loans if poor people want to build toilets." Sulabh has now come up with a compost flush toilet that has two pits. One can be used at a time. When one is full, the other can be used while the first one is quickly turned into fertilizer. It is built in such a way that it requires only two litres to flush it while a conventional toilet needs as much as ten litres. This is the best design for India. Instead of a septic tank, we have now come up with a biogas digester that will convert human waste to gas that can be used for cooking and also to produce electricity. The wastewater discharged from toilets contains nutrients like phosphorous and so if we pass this water through charcoal and ultra violet rays, it will be ideal for agriculture as there will be no coliform, no pathogens and no bacteria.

Q. How do you see the public health crisis today in terms of lack of proper sanitation facilities?

A. What is required is the political will to do it. Social organizations cannot take up all the sanitation projects of India. If we need to have a clean country, another freedom struggle to bring in hygiene and public health will have to be launched.



Embassy of the United States of America
New Delhi
October 9, 1991

Dr. Bindeshwar Pathak
Sulabh International
Mahavir Enclave
Palam Dabri Marg
New Delhi 110 045

Dear Dr. Pathak,

Ambassador Clark has asked me to respond to your letter of September 24, 1991. Let me assure you first that both the Ambassador and I myself are very much aware of your organization and your successful work in support of scavengers and of better sanitation.

Your idea of setting up an international museum of toilets is certainly original. I do not believe anything like that has been undertaken elsewhere. While this Embassy cannot provide much help in the matter, I thought that you might wish to contact an American association of manufacturers of sanitation ware in the hope that they might be able to provide some information and assistance. I have noted an address of one such organization below. The idea of playing the national anthem of various nations as one approaches their toilet in the exhibit strikes me as something that many people might object to. A simple sign explaining the exhibit may be less controversial.

We wish you success with your endeavour. I remain, with my best regards,

Yours sincerely,

Peter L.M. Heydemann
Counselor
Scientific and Technological Affairs

American Society of Sanitary Engineering
P.O. Box 40362
Bay Village OH 44140

cc: AMB/X

Q. Are you hopeful?

A.Yes, I am hopeful. But I wish the government would allow banks to lend loans to build toilets. Today, you can easily get loans from banks. But there are no loans for toilets! We do not want the government to give any subsidy to build toilets. We just want them to tell banks not to refuse loans if poor people want to build toilets.

But if this has to happen, it will take ten to fifteen years as the Indian bureaucracy takes time to understand the importance of such things. Sulabh is a NGO. But we have not taken a single rupee from the government. And we have put in place a million toilets.

Q. How do you manage?

A. We are ready to build toilets for anyone. We charge a fee as service charge. This helps us generate money for future activities. But as we all know, the government has blacklisted a lot of NGO's as they have misued money. But that is only because they were given the money before the project. We take money only after we have finished

our work. This should be the model adopted.

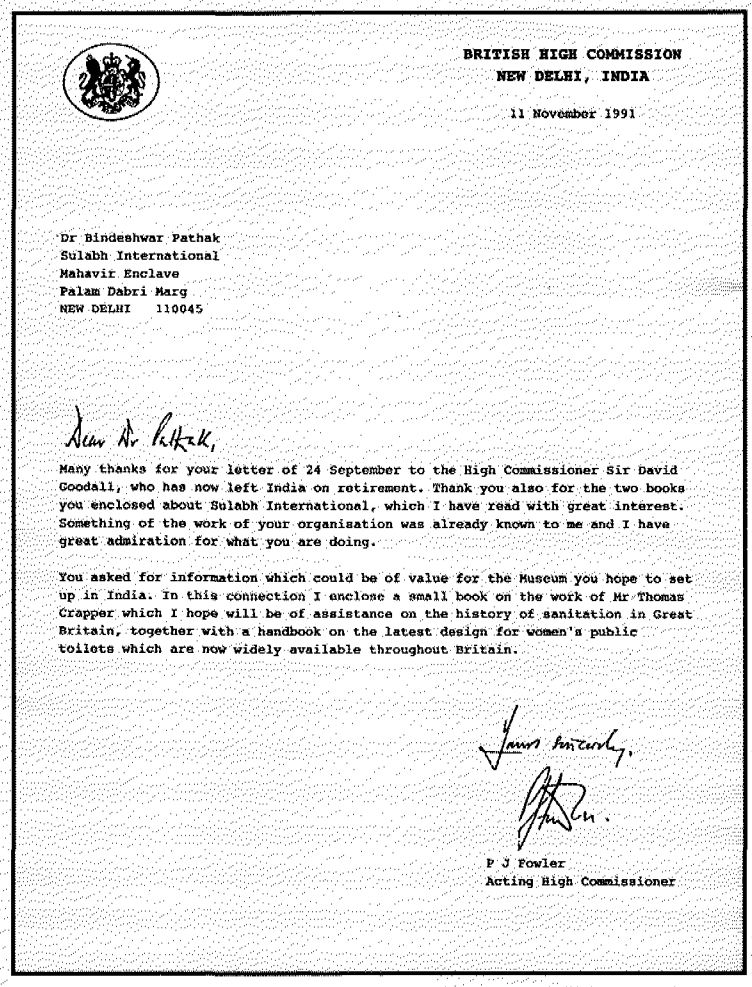
Q. There is a lot of talk today on sustainable development...

A. We have shown how to weave in sustainability. We have totally recycled human waste. Even the wastewater is used for farming. It is a simple process. All the Christian missionaries can do it. Any one doing any social work or working with communities can do it. We have not patented it. It can be easily replicated all over India with slight modifications depending on the material locally available.

Q. Let us talk of the costs involved. There are many arguments of how expensive it is to have toilets in such an overpopulated country.

A. No, it is not costly. A toilet once made can continue for 80 years or so. It is worth spending. Think of the health costs if people use the outdoors as a toilet. If you have a biogas digester attached to the toilet, think of how much we would save in terms of fuel to cook and produce electricity. We have designed toilets that can be made even with 500 rupees. We also have ones that can cost 20,000 rupees. It all depends on the area and the budget one can afford. If you have to build a public toilet, it may cost a million rupees. But then, once it is built, around 2,000 people everyday will use it for decades. If you calculate it in terms of health costs that you save with a clean environment, it costs nothing. We have built a public toilet in Shirdi and it is used by 30,000 people everyday. It has 150 toilets and bathrooms. If you are ready to provide clean services, money is not a problem. Even in a slum if you set up a toilet, people are ready to pay for it. But our politicians are shouting about how toilets have to be free. So no one wants to build and maintain them.

Q. You have shown the way in developing alternative energy sources using wastes. Why is it not really taking off?



BRITISH HIGH COMMISSION
NEW DELHI, INDIA

11 November 1991

Dr Bindeshwar Pathak
Sulabh International
Mahavir Enclave
Palam Dabri Marg
NEW DELHI 110045

Dear Dr Pathak,

Many thanks for your letter of 24 September to the High Commissioner Sir David Goodall, who has now left India on retirement. Thank you also for the two books you enclosed about Sulabh International, which I have read with great interest. Something of the work of your organisation was already known to me and I have great admiration for what you are doing.

You asked for information which could be of value for the Museum you hope to set up in India. In this connection I enclose a small book on the work of Mr Thomas Crapper which I hope will be of assistance on the history of sanitation in Great Britain, together with a handbook on the latest design for women's public toilets which are now widely available throughout Britain.

Yours sincerely,

P J Fowler
Acting High Commissioner

A. We have designed toilets that are very affordable. We have shown how it can be recycled to make gas, electricity and manure. It is now for the government and community to take it up.

Q. You started with rural areas in Bihar. Now, you have even moved into urban centers like Bombay and New Delhi.

A. We have covered 1100 towns in 26 states and three union territories catering to ten million people everyday. By the way, this is the figure of the number of people who use the Indian Railways daily. But we have a very long way to go.

Q. Does it frighten you?

A. It does not frighten me. I am asking freedom fighters to join me. I need one in every district to move around and spread the importance of sanitation. . We will pay them a small sum for moving around. They fought for India's freedom. Now, I want their support to again fight for India's hygiene. Many of them have agreed to help. Sometime, this year, we

will launch this movement. Every house in India must have a toilet. We must think of the dignity of our women.

Q. You had gone to the World Summit on Sustainable Development and you had said that India has much to teach the rest of the developing world about inexpensive methods of sanitation...

A.. That is right. They asked me what the Summit would give India. I said we have not come here to take anything. Instead, we can give you sanitation techniques that are very inexpensive that can be set up in the developing world. All over the world, 2.4 billion do not have safe and hygienic toilets. The target is to atleast halve this figure by 2015. Many countries have shown interest in what we have to offer: Nepal, Afghanistan, Bolivia, Tanzania, Kenya, Argentina and some others. "Gandhiji went from house to house with a chrkha. Sulabh wants to go from home to home with toilet."

Q. After five decades of independence, we are still on the job of liberating scavengers...

A. That is because of problems with both central and sate governments. We can do away with it within five years. The government has money, but no vision.

But it is not easy to stop scavenging in India. They earn around Rs. 1,200 a month. If we have to stop them from carrying human waste, we have to find them alternate jobs. We have to rehabilitate them. We have to teach them new skills. While training them, we need to give them a stipend of at least the same figure that they used to earn. We need to ensure quality education for their children so that they do not get sucked into a job their parents do or did.

We need to have a goal of completely liberating scavengers and giving them a life of dignity. Unless politicians take interest, the bureaucracy will not move on it.

Q. Could you paint a future scenario for India in the area of community hygiene?

A. It all depends on how the government acts. Politicians in power are unable to give directions. If politicians have no vision of a clean India, things will not move.

If India has to be cleansed and public health has to be improved, all that the government needs to do is to train young people to do it. They will create millions of jobs and these need not be government jobs. Sulabh started with me in 1973 in Ara municipality of Bhojpur district of Bihar. Today, I have 50,000 people working with me. Think of what the government of India can do. Even just scientifically treating waste water and growing fish in it can be a money spinner for millions. Gandhiji went from house to house with a chakra. Sulabh wants to go from home to home with a toilet. I am optimistic. Children are my greatest hope. They are more conscious than adults. I find them looking for a wastepaper basket to throw garbage while adults like us do not care. The future is going to be much better. •

WHAT THEY SAY ABOUT SULABH

"Untouchables gain the help of a Brahmin."

-The New York Times

"The most successful of the voluntary scavenger emancipation enterprises has been the Sulabh Shauchalaya Sansthan which has started something of a mini-revolution in Indian sanitation planning by using entreprenurial business practices, modern technology and aggressive marketing methods."

-The Washington Post

"A Brahmin has associated himself with menial work which shows that there a revolution in the making."

-Frankfurter

"Dr. Pathak has made it his aim in life to free scavengers from drudgery."

-Globe and Mail

"Dr. Bindeshwar Pathak is a great redeemer."

-The Hindustan Times

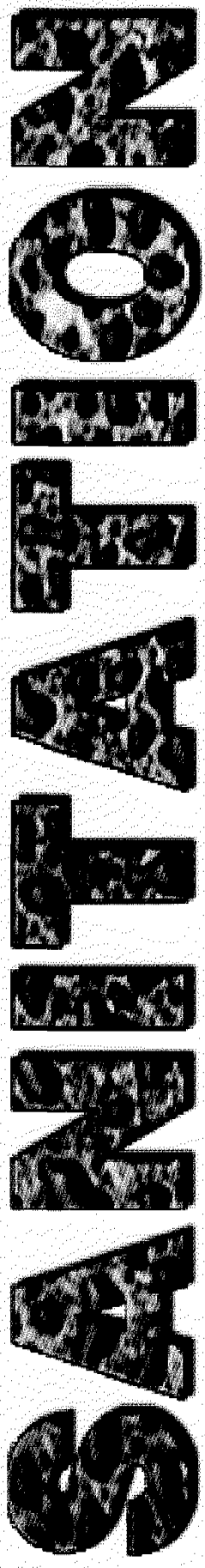
WHO DESERVES .....?

Political Parties have their choice at the time of elections, but they never bother participation from social sector in Parliament.

The spirit of volunteering exists in everyone, it is just how we make best use of our talent and resources for the less privileged in society. Helping individuals, communities and causes has been part of the Indian tradition, yet this sense of volunteering needs to be continuously nourished.

It is for the government to reinforce the volunteering spirit by giving due recognition. Large number of volunteers who had started crusade against the social evils of the society has become an icon thanks to their contributions in the field of social sectors. Nevertheless, it is an agony that our polity hardly pays attention to such personalities. It is not that political parties are not taking social issues seriously but they choose to ignore this particular sector as far as its representation is concerned either in Lok Sabha or in Rajya Sabha. Different political parties have their choices at the time of every general elections in granting party tickets to film star's but they hardly care for the nomination of even well known faces having contributions in different other fields including social sector.

The same is the case with the upper house of the parliament of the country. The government use to nominate well-known personalities from different fields to Rajya Sabha, but unfortunately, the participation of social sector is stated to be negligible. People from all walks of the life have expressed serious concern over non-participation from social sector in Rajya Sabha.At this juncture I would like to give



an example of a social worker who deserves due participation in upper house to represent this sector .The person is non other than Dr. Bindeshwar Pathak, inventor of sanitation movement in India. As the statistics make clear, India's sanitation problems have long defied solutions-until the last few years. Thanks to the pioneering work of Dr. Pathak and the Non-Governmental Organization (NGO) Sulabh International Social Service Organization he founded, an affordable and socially acceptable method of human waste disposal has moved from the drawing board.

It is already improving the health and quality of life for over ten million people, demonstrating how a local government-NGO partnership, backed by community participation, can have substantial impact on improved environmental quality in areas habited by the weaker segments of society

Dr. Pathak is an eminent, action-oriented sociologist, social reformer, environmentalist and internationally known expert on low-cost sanitation and the production of biogas from human excreta. Over the years, he has seen first-hand the deficiencies inherent not only in expensive technologies but also in alternatives like public toilets and various kinds of house-based latrines that failed to gain public acceptance. His solution, called "Sulabh Shauchalaya," is a low-cost, pour-flush water-seal toilet with leach pits for on-site disposal of human waste.

This technology has many advantages: it is affordable, even by the poor, as there are designs to suit different levels of income. Flushing requires only two litres of water, instead of the ten litres needed by other toilets. It is never out of commission since, with two pits, one can always be used while the other one is being cleaned. The latrine can be built with locally available materials and is easy to maintain. It has high potential for upgrading because, while it is a stand-alone on-site unit, it can easily be connected to a sewer system when one is introduced in the area. The toilet is also culturally acceptable inasmuch as it remains free from filth and foul odours. Neither does it require the services of scavengers.

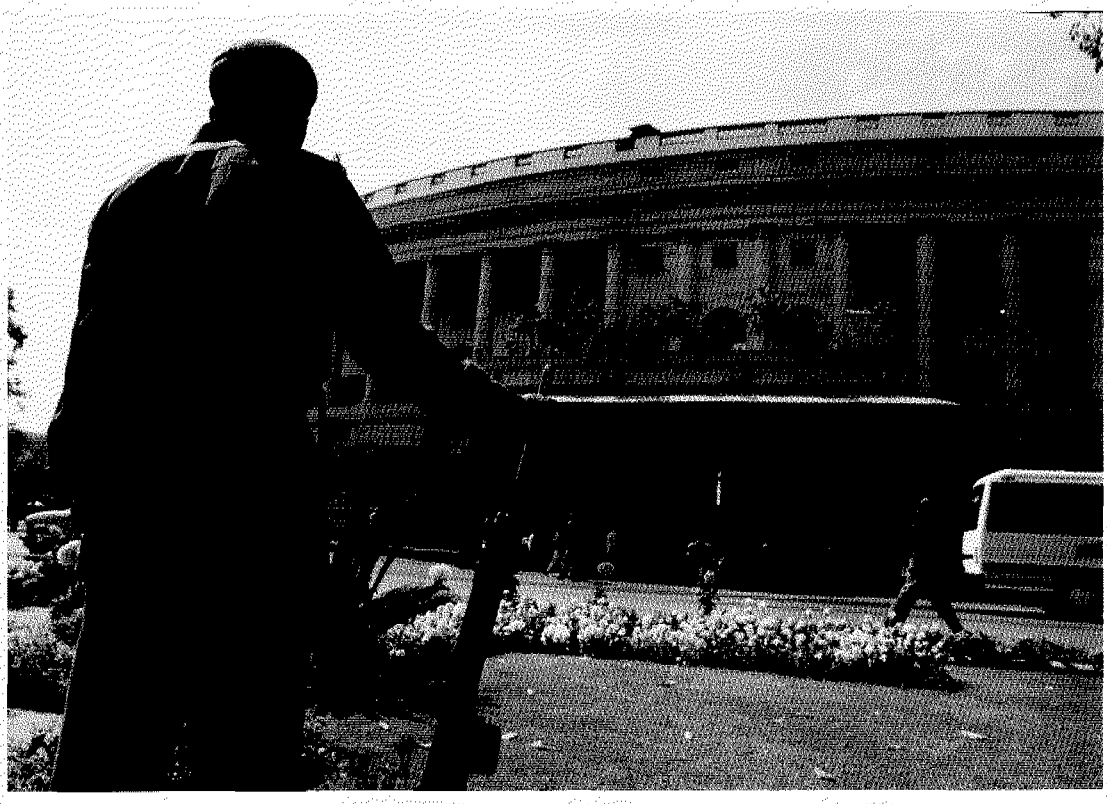
In 1970, Dr. Pathak set up Sulabh Shauchalaya Sansthan (now called Sulabh International Social Service Organization) as an NGO, to disseminate the idea of conversion to the Sulabh Shauchalaya and assist communities in adopting it. So far, more than one million units have been constructed (or substituted for existing latrines) in houses, and 5,500 have been installed in pay-and-use public toilets. Staffed by an attendant 24 hours a day, the latter supply soap powder for washing hands, include facilities for bathing and doing laundry as well as offer free services to children, the disabled and the poor. As a result, more than ten million people have been provided with improved, low-cost sanitation facilities while 50,000 employment opportunities have been created in a commercially viable enterprise.

Dr. Pathak has restored human rights to scavengers and created a new sanitation order

Despite the virtues of the technology itself, introduction of the Sulabh Shauchalaya might not have been so successful had not Dr. Pathak realized early on that public awareness and community participation are critical aspects in any sanitation improvement programme, and that people's perceptions and attitudes on sanitation would need to be changed. Among isolated populations, unlikely to feel responsible for wider environmental conditions, the Sulabh International Social Service Organization has undertaken educational efforts to help reverse this frame of mind and instill strong community awareness. In mega-cities, where public agencies might be expected to provide critical services but are financially unable to do so, this NGO has offered residents a chance to seize the opportunity for low-cost self-help development.

The approach includes door-to-door campaigns by Sulabh volunteers and workers who persuade people to convert from bucket latrines to the Sulabh System. Once approval is

SULABH SANITATION



gained, the organization takes responsibility to relieve the beneficiary of the bother of constructing the twin-pit, pour-flush toilet. Sulabh also educates people on the use and maintenance of their new latrine and promises to fix construction defects and solve technical problems at no cost. After construction, service is provide and problems in use and maintenance are resolved by locally posted Sulabh workers.

Beginning from a small town in Bihar, Sulabh has become a familiar name in every corner of the country. Founded by Dr. Pathak in 1970, Sulabh now works most over the country with the help of a large workforce of over 50,000 committed social volunteers. Sulabh is an organised, well-structured institutional arrangement to abolish scavenging, restore human rights to scavengers and create a new sanitation order. It has a viable, nationally and internationally recognized technology and methodology to achieve its objectives. Its founder, Dr. Pathak got the prestigious Padma Bhusan award for his outstanding contributions to uproot scavenging system in the country. His holiness Pope John Paul II gave audience to Dr. Pathak at the time of conferring the Saint Francis Prize (canticle for all creatures). Due to his crusade against all odds of the society, he was awarded with prestigious UNEP award on the occasion of world Environment day, this year. The Sulabh has liberated so far 50,000 scavengers from the demeaning practice of manually cleaning and carrying human excreta. Sulabh has set up more than 5,500 pay & use community toilet complexes and about 10, 00,000 toilets in private houses, which together are being used by more than ten million people every day.

It is not that political parties are not taking social issues seriously but they choose to ignore this sector as far as its representation in Parliament is concerned

Now it is an urgent need of the hours to appreciate the efforts of Dr. Pathak and his movement by giving him an opportunality to represent the entire social sector on the floor of the highest platform of Indian democracy. •

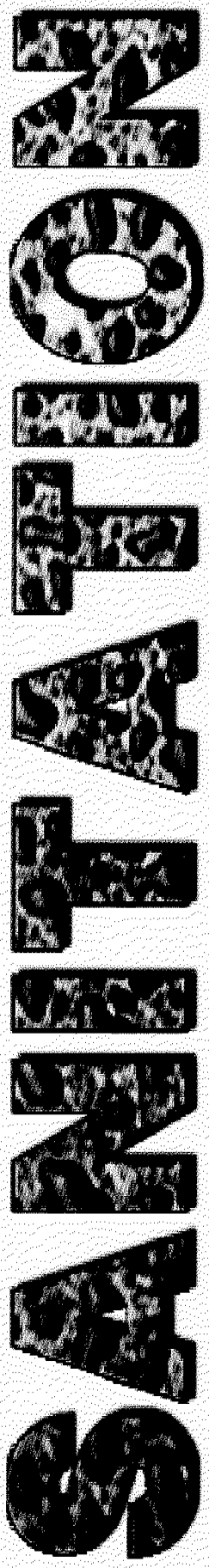
INDIA A TOILETLESS WORLD

Five decades after freedom, three-fourth of India's population still using 'open land' for defecation...

More than 1.3 billion people in the world today live in extreme poverty. Nearly 1.4 billion lack access to clean water. Three billion live without basic sanitation. In 1999, 11 million children under the age of five will die of preventable diseases. For those children who live past five, more than 250 million will work instead of going to school. Of the 4.4 billion people living in the developing countries, almost three-fifths have no basic sanitation facilities, one- third have no safe drinking water, a quarter lack adequate housing, one-fifth have no healthcare facilities, and one-fifth of children drop out of schools. An estimated 2.7 million deaths occur each year from air pollution alone. Although the global consumption of goods and services has expanded at an unprecedented pace in the twentieth century , (with the public and private consumption expenditures reaching $24 trillion in 1998, six times the figure for 1995), civic facilities have declined relative to population; This was revealed in the Human Development Report 1998.

The report focuses on consumption of goods and services and looks at how the global consumption boom has resulted in historic gains in human development. India, which was ranked 138th in 1998, has slipped one rank to 139, just behind Pakistan, in 174 countries. However, India has a more equitable distribution of resources as the country has adopted "fairly pro-poor policies".

The Planning Commission Task Force has estimated the total number of dry latrines at 76.4 lakh, of which 54 lakh are In the urban areas and 22.41akh in the rural areas. At the time of 1991

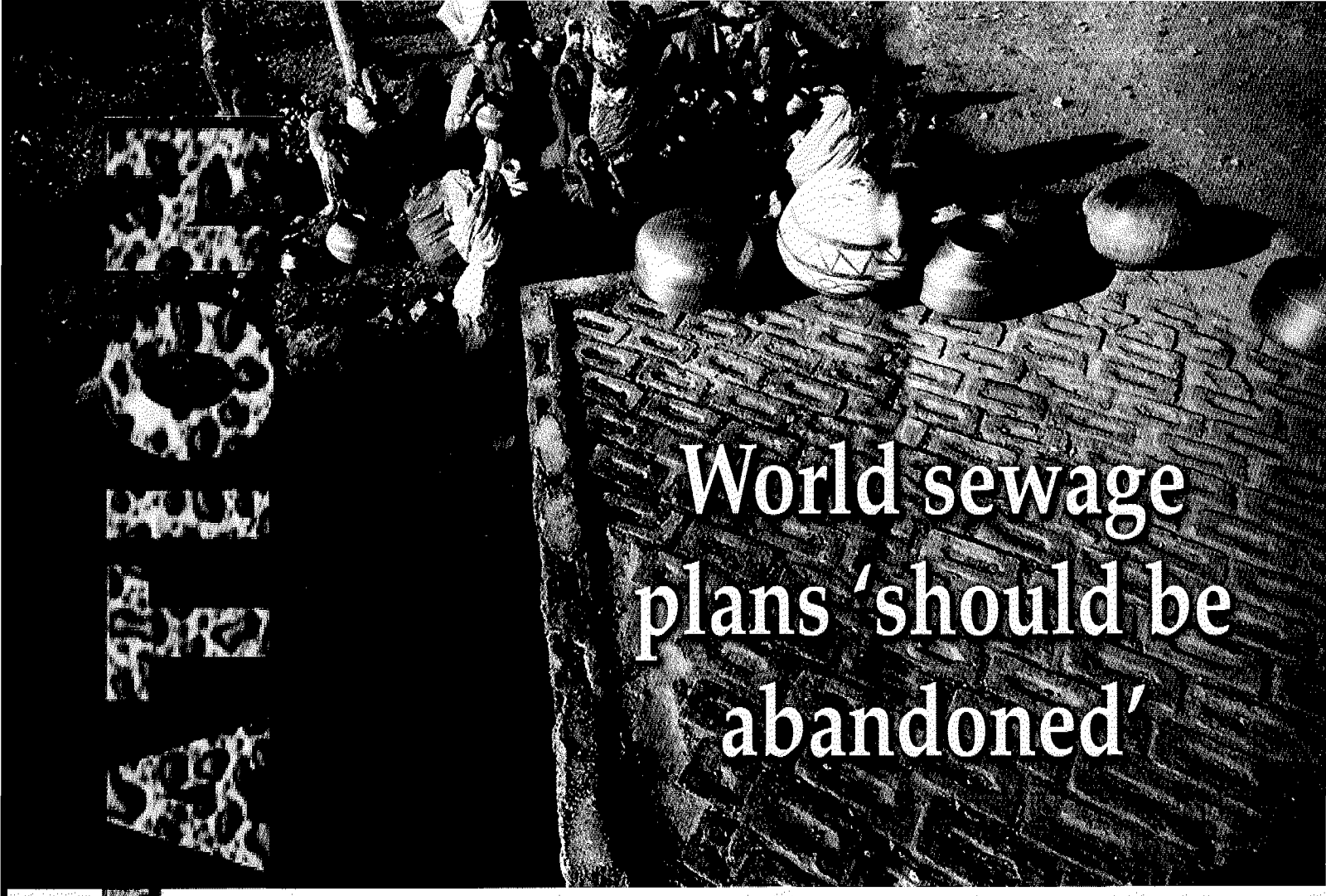


Census, it was found that the percentage of households, having toilet facility, was only 23.7.0 per cent. In other words, more than 76 per cent of the people (or about three-fourths of the total population in the country, had no toilet facility. In the urban areas, the percentage of households having toilet facility in 1991 was 63.85 per cent as compared to 58.15 per cent in the 1981 census. More than one-third of the urban households in most States and Union T erritories did not have toilet facilities while more than half of the urban households in 177 districts did not have toilets. The percentage of housekols having toilet facilities in the rural areas at the time of 1991 Census was only 9.48 per cent. It is evident from the above that the problem of sanitation has been tackled to some extent in the urban areas, but it is still grave in rural areas.

The Sixth Rve- Year Plan (1980-85) stated that "so far little attention has been given to the problem of rural sanitation except some pilot projects in some states. It is estimated the almost 98 per cent of the niral households did not have latrines. " It further stated that keeping in view the present position of rural sanitation and the limitations of budgetary resources, sanitation facilities could be provided to only 25 per cent of the rural population by the end of the decade. It was also visualized that much more could, however, be done in the area through self-help schemes organised by the village community .It was recognised that extension efforts will need to be made on a large scale to assist the village organisations in the adoption and use of suggested simple low-cost designs of water seal latrines. The Plan document also noticed that the UN Resolution on the International Drinking Water Supply and Sanitation Decade called for basic sanitation facilities being made available to all citizens by 1990. The government recognized that this objective could be attained only through a large scale mobilisation of voluntary effort at the village level.

The government visualised that the effort during the period 1980-1985 would be towards a modest beginning by undertaking pilot projects which would help know the community attitudes in the rural areas to types of latrines to be provided and the nature of sanitation facilities needed. In regard to urban sanitation situation, at the beginning of the 1980-85 the government recognised that the urban sewerage and sanitation was also unsatisfactory. Of the 3119 town, only 198 had the sewerage facilities 20 years ago. Even in respect of towns with population exceeding 100,000 only 46 per cent had arrangements for sewerage and sewage treatment. The overall population coverage was about 20 per cent. It was recognized that the pressing need of providing adequate sewerage facilities in the larger cities, especially in the high-density areas populated by the low-income groups, must continue to receive priority. It was also intended to evolve low-cost techniques for urban sanitation.

It was, thus, obvious that 20 years ago India did not have the resources to go for expensive sanitation solutions like sewerage. In 1970 Sulabh had introduced the cost-effective technology which fitted the bill; it was affordable and culturally acceptable. The environment was thus appropriate to promote the Sulabh technology. •



World sewage plans 'should be abandoned'

The WWA wants to develop five projects of dry sanitation in middle income and poor countries within two years - for settlements of around 100,000 people a time.

Plans to build sewage works for the 1.2 billion people in the world currently living without fresh water and sanitation should be abandoned, according Michael Rouse, the president of the World Water Association.

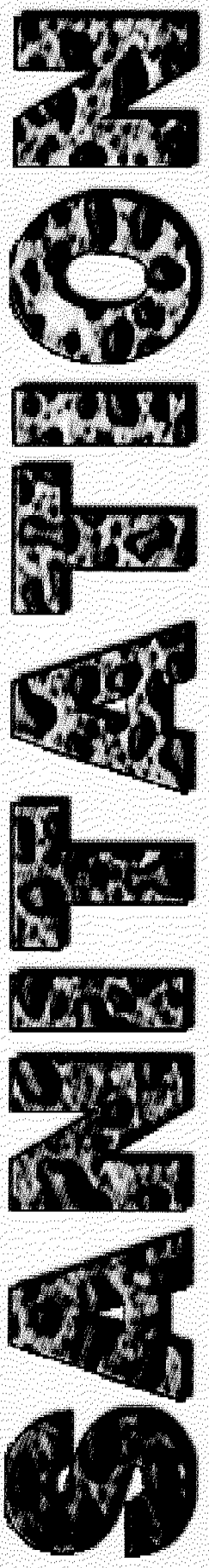
Mr Rouse, a civil servant who is head of the UK's drinking water inspectorate, believes that sewage pipes are too expensive and too often drain into and pollute water courses.

Instead, he says, the world should revert to using human solid waste as compost and fertiliser and allow liquids to drain into the ground.

These revolutionary ideas come from the man whose job it has been to guard drinking water quality in the UK since privatisation of the water and sewage industry. He is about to head the body that speaks for professional water regulators and engineers across the world.

Mr Rouse is not against the United Nations drive to halve the number of people without fresh water and sanitation by 2015 - a target agreed at the Earth Summit in Johannesburg last August - but on his calculations this target means providing these services to 140,000 new people every day, a huge task which he considers impossible by traditional means.

He believes that instead of grandiose schemes that take years to plan and implement, there should be a concentration on community-led programmes. While fresh water could be piped in for drinking, cooking and washing, new style, locally made toilets, which separate solid waste from the liquids, could take care of sanitation. Reed beds or similar natural



methods could clean the water before it is allowed to flow into the ground.

"If we started sanitation again from scratch in Britain, we would not do it the way we do now," he said. "Instead of flushing and piping all the waste away, we would collect the solids once a week like household rubbish, take it to a central depot and compost it.

"Eventually it would be used as fertiliser, itself a bonus in the developing world which would be able to cut down on expensive chemical fertilisers."

He Rouse believes that with out this fundamental change back to simpler methods, the UN will fail.

Mr Rouse and his organisation will be advancing these ideas to the world's water ministers at the World Water Forum in Kyoto, Japan, which begins on March 16 and is designed to turn the Earth Summit targets into reality.

To demonstrate that the ideas work, the WWA wants to develop five projects of dry sanitation in middle income and poor countries within two years - for settlements of around 100,000 people a time. It says the development and demonstration of dry and low water toilets, and urine-separating toilets should be subsidised. There should also be projects aimed at developing local and international markets for waste-related organics.

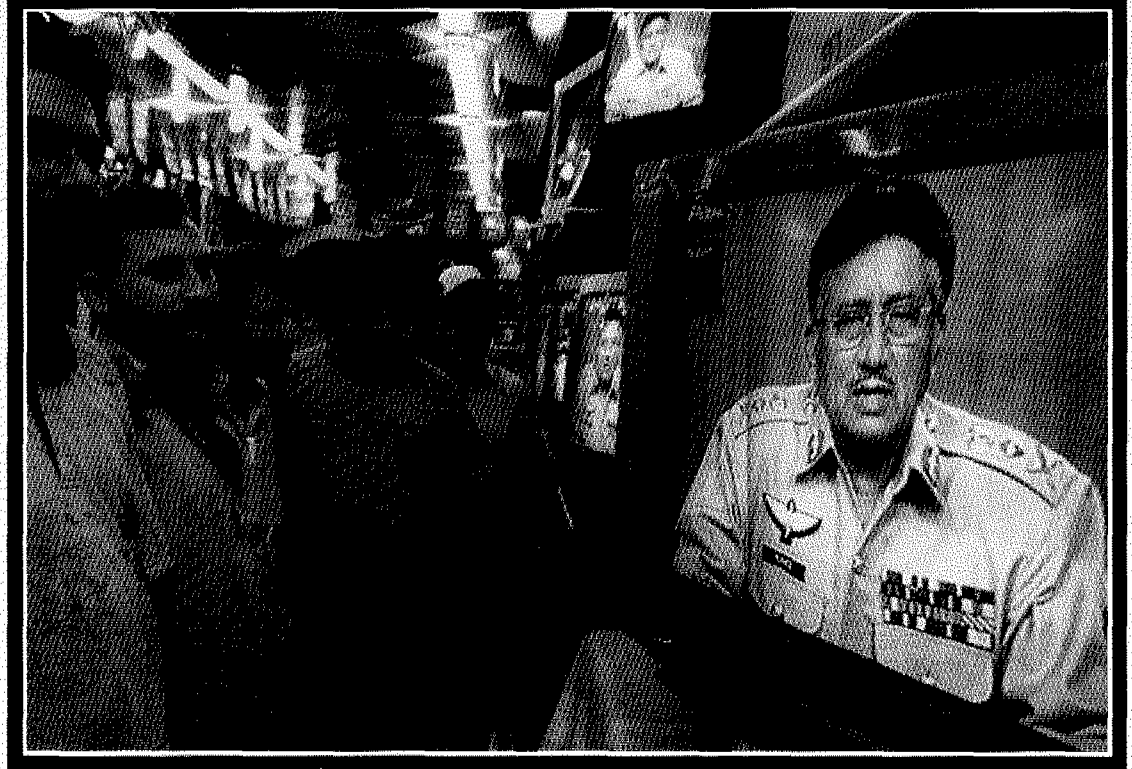
But unlike some campaigners Mr Rouse does not believe water supplies should be free. Currently, the poorest in the world pay most for their water, which is brought by vendors who charge up to 10 times the cost of piped water for a product of uncertain quality.

He says the key to success of providing water and sanitation is good government, transparent in its transactions and free from corruption. There also needs to be an independent regulator to check quality of water and price of the service.

The key then, he says, is to get motivated local communities to create their own systems, guided by professionals, and trained to take over their own services. Everyone in each community should have access to clean, piped water and a means to dispose of the waste.

"What we will be pressing for at the Kyoto conference is to turn the well intentioned words and targets into action," he said. "Too little is currently happening to have hope of reaching the targets but I believe it is still possible if we can get these demonstration projects going, and then show it can work on a big scale."

(The Guardian)



Community response to water and sanitation risk in Pakistan

Learning to cope positively with one's living environment can be a question of life or death. In Pakistan, around 250,000 children die of diarrhoea each year. For many of those who survive, mounting garbage heaps and other types of unhygienic environment double the risk for repeated infections that drain away the vital protein their bodies need to grow. As a result, they may never reach their full physical or mental potential.

Many of the hardware solutions in the area of water and sanitation, such as dams and pumps, are costly. They also do not guarantee automatic use by or benefit for those who need them most. Solutions that are most likely to have the greatest impact for the lower cost in one area may not be the same in another. In the Community Voice in Planning initiative, CIET methods were used to look behind the indicators to identify the highest impact action points for defence of children against sanitation risk.

About 2.5 Lakh Children die of diarrheoea in Pakistan every year

Most households that participated in the survey said they throw garbage on the streets or in open places. In the Larkana district of Sindh province, this practice increased the risk of acute diarrhoea by 70 per cent. A more hygienic handling of garbage would be the single most effective intervention to reduce the number of diarrhoea cases in the district.

Looking at provincial data for both Sindh and Balochistan, unhygienic disposal of garbage was also found to be strongly linked to hampered child growth and intestinal parasites. In urban areas of the Kalat district in Balochistan, garbage in open spaces was found to nearly triple the risk for dysentery and worms. Promotion of