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# MAN AND HIS MISSION

Padma Bhushan Dr. Bindeshwar Pathak



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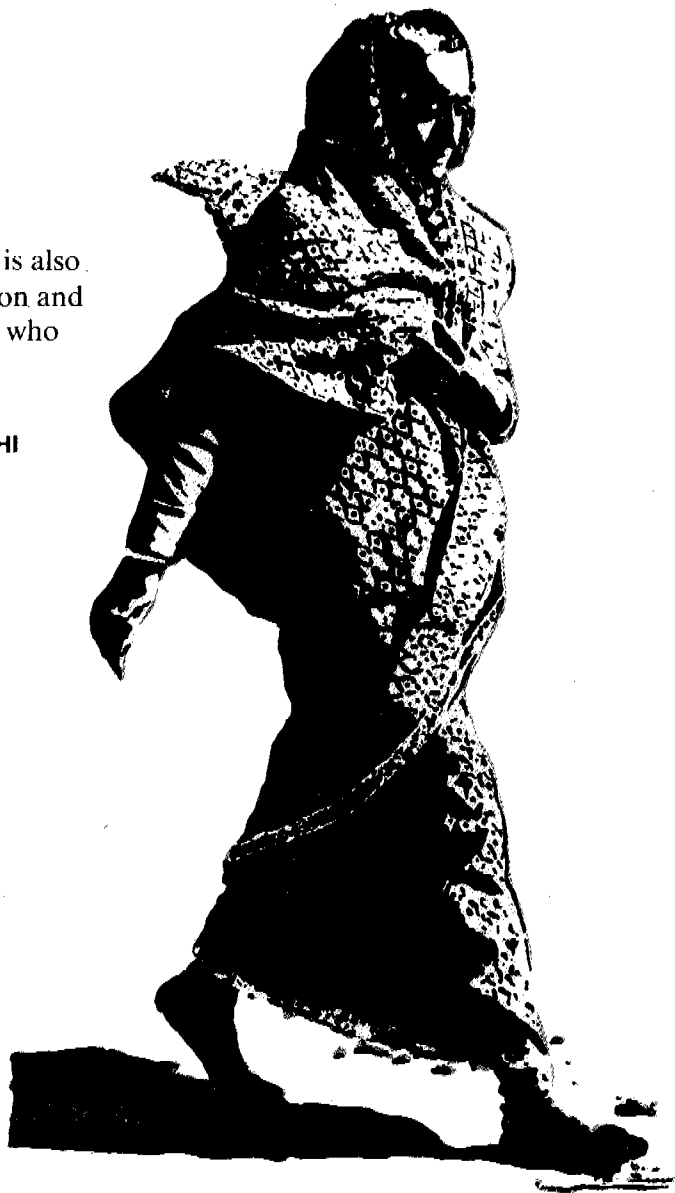
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**“I may not be born again, but if it happens I will like to be born in a family of scavengers, so that I may relieve them of the inhuman, unhealthy and hateful practice of carrying nightsoil.”**

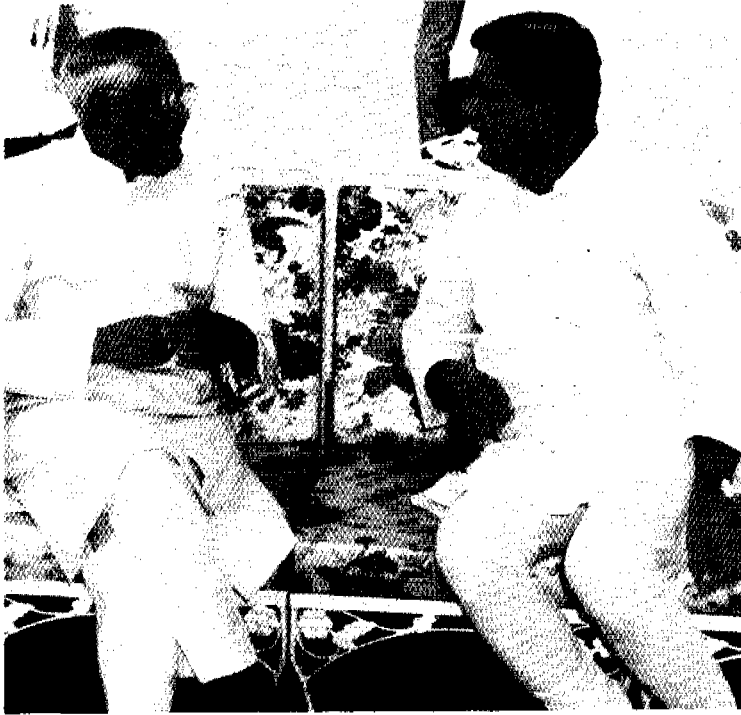
Sanitation in India is not only cleanliness; it is also an end to the humiliation and miseries of scavengers who carry human excreta on the head.

**INDIRA GANDHI**



**T**his book is dedicated to the memory of our late Prime Minister Indira Gandhi whose intervention removed the bottlenecks in the Bihar scavengers' liberation programme which later became a massive voluntary social movement unmatched by any launched so far.

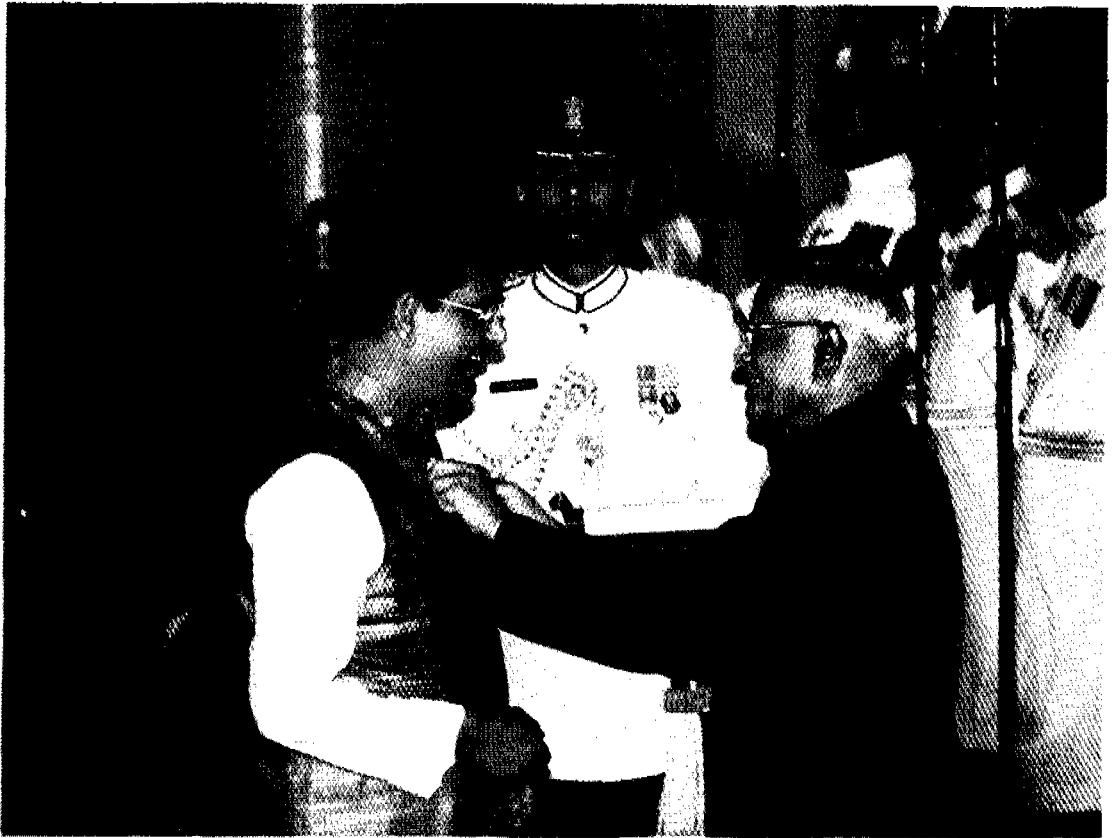
**SULABH INTERNATIONAL**



**The President of India, Mr. R. Venkataraman, with Dr. Bindeshwar Pathak at Rashtrapati Bhavan in New Delhi on Nov. 11, 1988. Dr. Pathak called on the President after his visit to Nathdwara temple.**



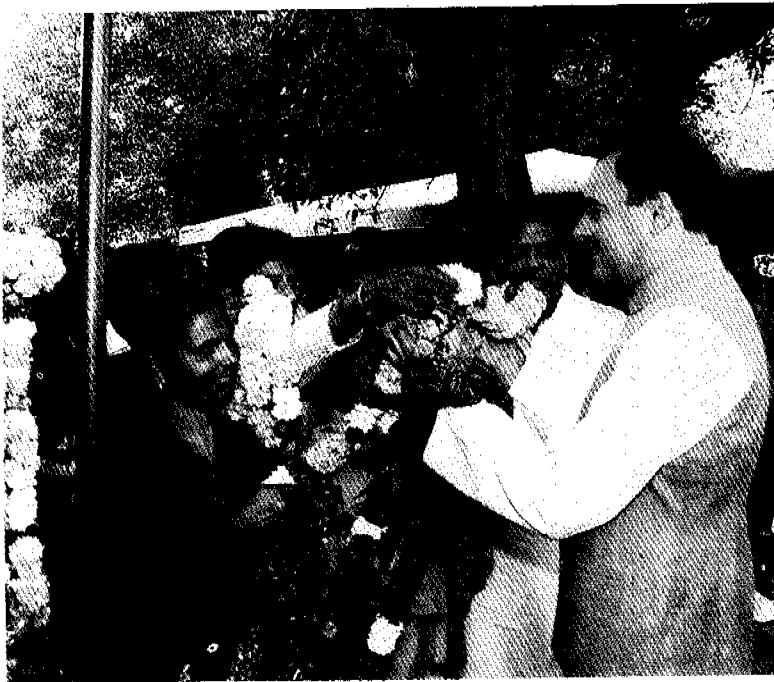
**Dr. Bindeshwar Pathak called on the Vice-President, Dr. Shankar Dayal Sharma, in New Delhi on Nov. 5, 1988, after his visit to Nathdwara temple.**



## **PADMA BHUSHAN**

The President of Indian Republic, Mr. R. Venkataraman, awarded Padma Bhushan to Dr. Bindeshwar Pathak on March 23, 1991 at an impressive investiture ceremony in Durbar Hall of Rashtrapati Bhavan for his social services to scavengers, more than 30,000 of whom have been made free from the demeaning practice of cleaning and carrying human excreta as headload. The President has also recognised Dr. Pathak's contributions in the social upgradation, training and rehabilitation of liberated scavengers, so also in preventing environmental pollution by providing a pour-flush water-seal Sulabh technology which is an alternative to manually serviced dry latrines. This is the first national recognition of this order, indicating the Government priority to abolishing scavenging in India, once for all.

**Prime Minister Chandra Shekhar discussing Sulabh projects with Dr. Bindeshwar Pathak in New Delhi on Nov. 25, 1990. Mr. Chandra Shekhar, asked the Founder, Sulabh International, Dr. Bindeshwar Pathak, to set up Sulabh facilities at all places of public gatherings, so also in villages in order to save the people, specially women, from the indignity of open defecation.**

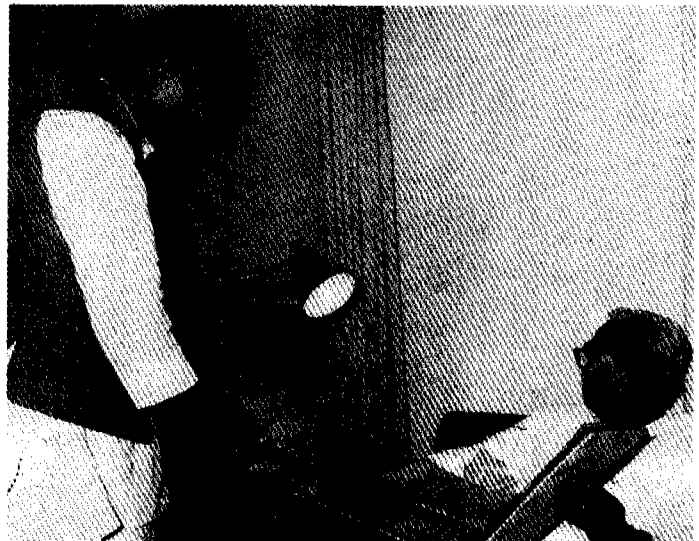


**The then Prime Minister, Mr. Rajiv Gandhi, with sons and daughters of liberated scavengers who called on him on Nov. 8, 1988, in New Delhi after their visit to Nathdwara temple.**

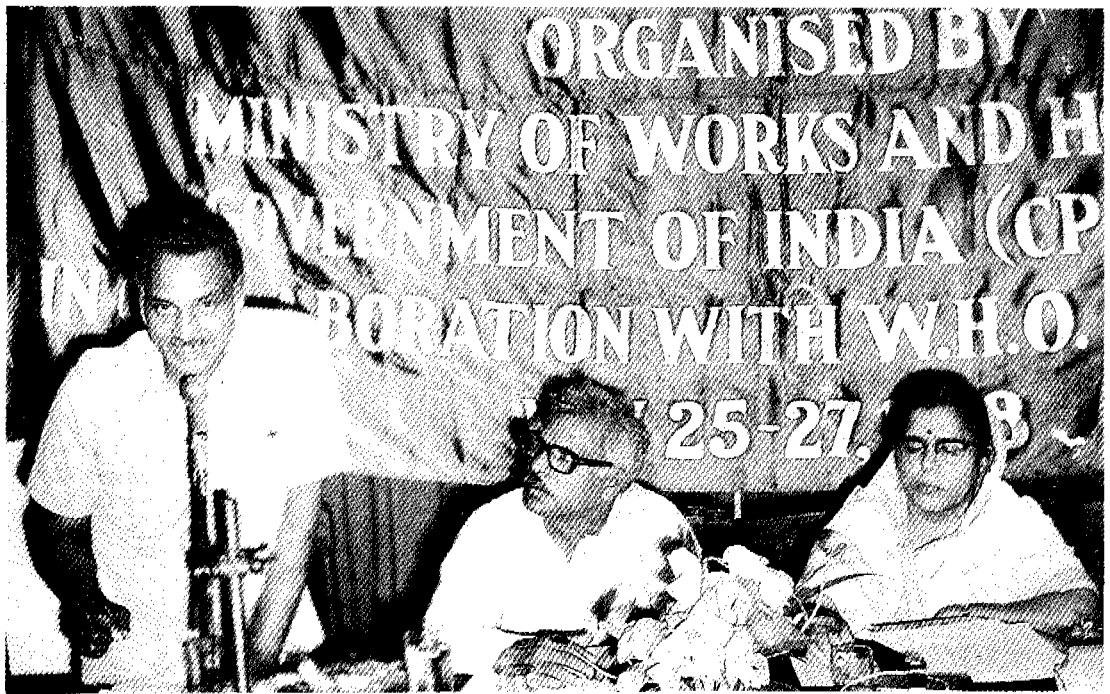


**VIGYAN GAON-KI-ORE :**  
The then Prime Minister Rajiv Gandhi, with Mrs. Sonia Gandhi, visited a Sulabh stall on March 4, 1989. The stall was put up in an exhibition-cum fete, named 'Vigyan Gaon-Ki-Ore' (science towards village) organised by the Kamla Nehru Institute of Technology at Gauriganj, near Amethi in Uttar Pradesh. The exhibition was held between March 4-15. The objective was to educate villagers on the latest innovations in the science related to rural development.

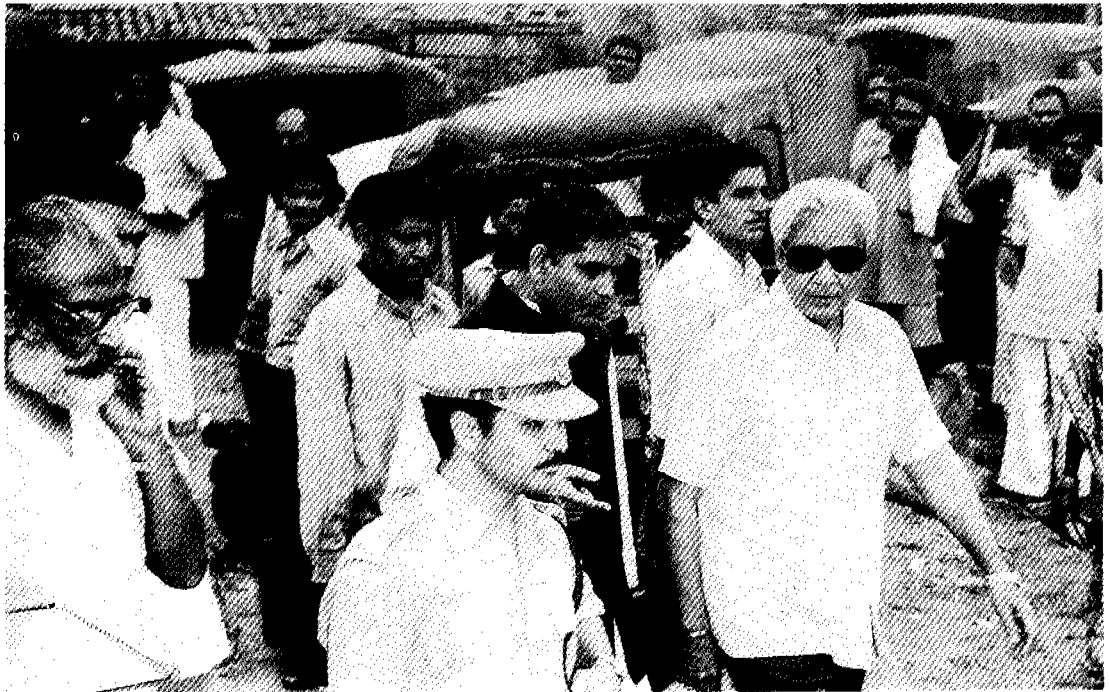
**Dr. Pathak explaining Mr. Jagjivan Ram, former Union Minister of Defence, his Plan for liberating scavengers at a meeting in New Delhi on September 13, 1978.**





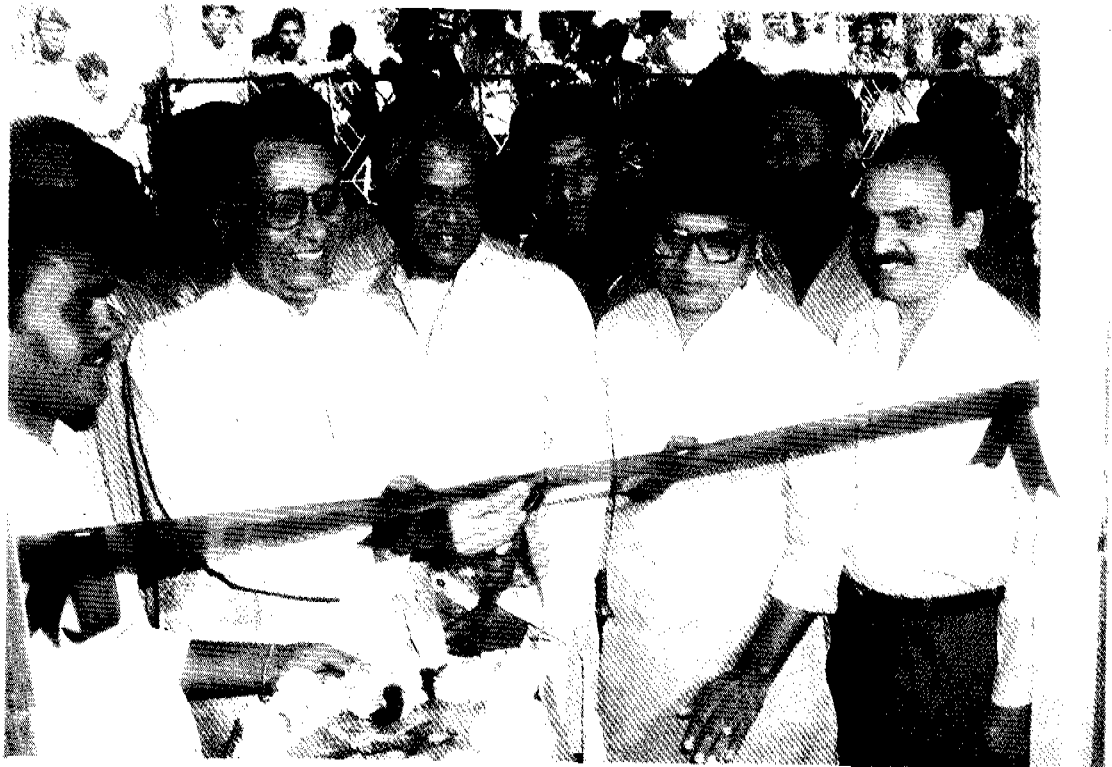


**FROM LEFT TO RIGHT: Mr. William J. Cousins, Programme Adviser, South-Central Asia, UNICEF, Mr. Karpoori Thakur, former Bihar Chief Minister and Mrs. Sumitra Devi, Minister, Urban Development and Public Health Engineering Department, at a Patna seminar in 1978.**



**Mr. Sikandar Bakht, former Union Minister of Works, Housing, Supply and Rehabilitation and Wakfs, visiting a Sulabh complex in a Patna slum area.**

**RAIN BASERA :** The Madhya Pradesh Chief Minister, Mr. Sunderlal Patwa, inaugurating in Bhopal a *Rain Basera* (Night Shelter) constructed and maintained by Sulabh International. The night shelter provides clean and almost free lodging facilities for visitors. Alongwith Mr. Patwa is Mr. P.C. Pathak, Vice-Chairman, Madhya Pradesh Branch of Sulabh International.





**Dr. Bindeshwar Pathak with Mr. Jaya Prakash Narayan and Mr. Jagjivan Ram at Kadam Kuan in Patna.**



**MASS OATH AT RAJGHAT ON GANDHI JAYANTI : Every year, Sulabh International renews the pledge to liberate scavengers.**

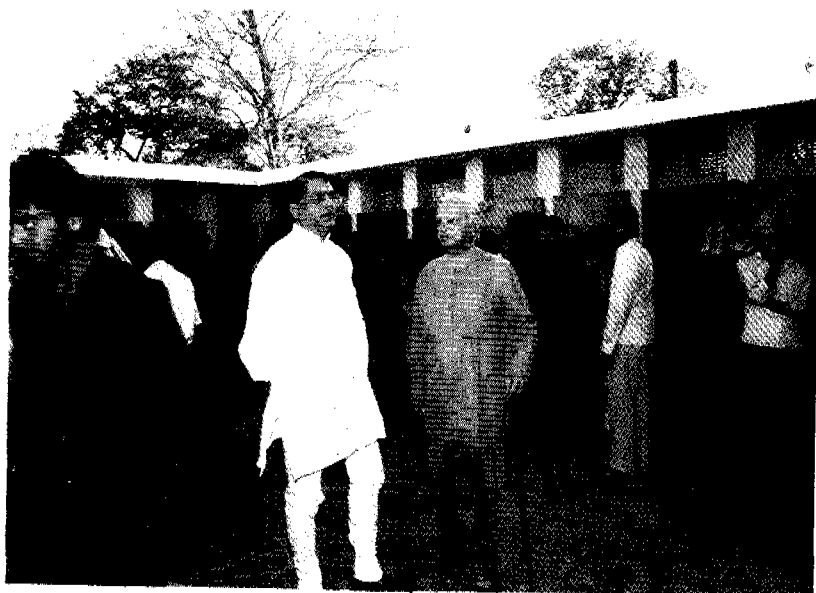
The distance is long and  
 Day is short;  
 Let us hurry home, travellers, before,  
 Sundown:  
 Target to liberate all scavengers  
 In the country is still too far  
 Away and, hence,  
 We have to speed up work:  
 Scavengers and their families  
 Look to us for their salvation:  
 Let us not disappoint them, or else,  
 We shall be accountable to  
 History and future generations.

— Dr. Bindeshwar Pathak



**NOT BY CITIES ALONE :** Mr. Devi Lal, Deputy Prime Minister of India known for his rural preferences, said at a meeting with Dr. Bindeshwar Pathak, Founder, Sulabh International, that Sulabh must move faster into villages to ensure that there is no open defecation which is specially humiliating for women. This crucial meeting gave a decisive rural thrust to Sulabh Movement in India.

**A DREAM COME TRUE :** Dr. Mulk Raj Anand, who wrote "Untouchable" in 1927 on the inspiration of Mahatma Gandhi at his *Ashram*, visiting a Sulabh toilet complex in New Delhi only to find that his dream has come true. For, he had thought of a pour-flush toilet system in the late 20s which would need no scavengers to clean. Dr. Anand is the first litterateur who raised the conscience of mankind against this inhuman system which has been movingly described in his world famous novel. On finding that the day is not distant when the last among scavengers will be freed through Sulabh technology, Dr. Anand compared Dr. Pathak with Abraham Lincoln. "Both are great liberators", Dr. Anand said with satisfaction which comes after a mission is fulfilled.



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## PREFACE

**F**amous mathematician of Syracuse, Archimedes, (287-212 B.C.) plunged into his bathtub as most of us do now. But when he ran out of water, naked crying "Eureka", he was not really mad; rather, he had discovered a revolutionary theory. Dr. Pathak may not be credited with having discovered a new star, or a theory on water buoyancy but he did find a simple answer to a very complex national question, i.e. liberation of scavengers, without which we cannot be called a civilised people. He has almost single-handedly redeemed some 30,000 scavengers so far and settled a large number of them in other professions. Now that the government has set a deadline when the last scavenger will be freed, let us mention the areas of major achievements of Dr. Pathak in case one cares to know who was the man who started it all, quite at a time when everything will be lost in the silence of the centuries.

To be true, this book is more about the mission, Sulabh Movement, than about the man, Dr. Bindeshwar Pathak. But, neither is a complete story because both of them are in the process of unfolding themselves. Dr. Pathak is a 47-year-young social reformer, campaigner, revolutionary and a thinker while his Sulabh Movement, less than half his age, is still unwinding to its full sweep, promising to cover the entire country and parts of the Third World.

Although incomplete there is, however, a story to tell by way of a review of the performance record made at the halfway house in the journey to an undetermined destination. The book, for that matter, is an attempt to hurriedly write a rapidly developing story, leaving for the future generations to complete it, using the book as source material.

After the death of Mahatama Gandhi in 1948, much of Gandhianism was lost in the crowded national agenda of development. The partition of the country and the bloodbath in the aftermath; the integration of princely states, including Hyderabad and Goa; re-organisation of what was earlier known as provinces, and a host of other urgent matters kept the national leadership busy if only to produce a kind of unity in a fractured polity of the country.

Came five-year Plans one after other and the national economy grew to new heights which the nation celebrated alongwith victories in wars. Tall promises were made and met while the country scrambled out of the poverty trap. In the victory crowds, there always stood handfuls of frightened people, shrunken in poverty, hated and untouched even by those whose excreta they carried on the head. They were India's half-a-million scavengers.

The Father of the Nation had promised to liberate scavengers and while doing it, death intervened. Consequently, scavengers' dream for liberation lay broken in heaps. The Constitution provided protection to special groups of castes and classes but no special mention was made of scavengers whose plight was worse than Harijans'. No wonder scavenging continued even today.

That was about the time when the matter was raised all over the country. In Patna, the Gandhiji birth centenary celebrations committee set up a cell in 1968 and appointed a jobless wanderer as its convenor to find a solution to scavenging. And, this was the beginning of the Sulabh Movement. Dr. Bindeshwar Pathak, a high-born Brahmin of Vaishali district, had never had exposure to Gandhianism adequately until he took charge of the Bhangi-Mukti Cell when the problem unfolded itself in its frightful dimension. And since then, there was no looking back.

Dr. Pathak travelled all over the country and abroad, visited and lived with scavengers in their *bastis*, studied their habits and social mores (he did his Ph.D. on scavenging, now compiled in a book, "Road to Freedom"), their history and geographical spread to eventually declare that scavengers were a special class (and not a caste), united in their miseries and social degradation. "Let us save them and in so doing, we'll be saving the conscience of the nation", Dr. Pathak said.

However, it was not a mere emotional outburst of the young Pathak who by that time had equipped himself intellectually to answer questions. He knew that slogans would not help and, hence, developed a technology which has today become a credible alternative to scavenging in India. He set up a social, voluntary and non-profit organisation Sulabh Shauchalaya Sansthan (now, Sulabh International) to carry forward the movement that combined in itself Sulabh technology and Gandhian ideology.

Under the leadership of Dr. Pathak, 30,000 scavengers have been liberated and re-settled in other professions since 1968. He has 600,000 dry-latrines converted into low-cost, scavenging-free, ecology friendly and stinkless two-pit pour-flush Sulabh toilets in 625 towns of 17 States, besides setting up more than 3000 community toilet complexes all over the country. Hopefully, by the turn of the century, Sulabh toilets will be found in most Indian homes and, there would be no scavengers to physically clean and carry human excreta on the head. For, none would be needed at all, thanks to Sulabh movement.

In sum, Sulabh movement was born out of concern for scavengers, whom it seeks to rehabilitate after liberation – they, their sons and daughters, many of whom still carry human excreta on the head, generation after generation. Gandhiji took various steps to end this cruel practice, including himself cleaning excreta. But, they were more of gestures than viable ways

of eliminating the practice which continues to persist even today, 40 years after Independence.

For that matter, Sulabh movement is Gandhianism reborn; in that it seeks to redeem the promise made by the Father of the Nation to scavengers. Since scavenging is not only a technological problem, Dr. Pathak has expanded the movement to include in its sweep reform, mass education, human resource development, ecology, training and rehabilitation, social upgradation and other related problems (described in the book as softwares) if only to create a new social order in which redeemed scavengers and their wards can live with respect.

This entire gamut of Sulabh activities is sought to be capsuled in the book in a narrative form with annexures which are longer than the main text. And, quite predictably so, because a social revolution does not always show tangible results and identifiable achievements which can be counted physically. They are reflected in human behaviour. Hence, the objectives and the efforts made to achieve them have been truthfully recorded with original documents, letters, photographs and publication of reports, features, etc. in newspapers, magazines, leaving the analyses to be done later by scholars.

The structure of the book is also not on fixed pattern. There is no unified theme, nor clinically separated chapters and sections also because Sulabh's is a continuing story. A large number of photographs are re-produced and a much larger number is left out for want of space. Those whose photographs could not be included are no less important persons to us. We remember them very fondly and hope to publish their photographs in the next edition.

Nor is much said about the founder, Dr. Bindeshwar Pathak, and his family also because this is the case when the man becomes the mission and loses his entity to it. For instance, when we say Adam Smith, we mean Capitalism; Malthus is population control; Marx is Communism, Gandhianism is peace, and Abraham Lincoln is freedom for the black. Similarly, Dr. Pathak is a scavengers' liberator and says he would like to go down in history, working for them and other depressed classes in India.

This book is his story and a record of his service to the most condemned people of society — scavengers.

A.K. ROY,  
Chairman (Administration), Sulabh International  
Formerly Resident  
Manager,  
Low-Cost Sanitation Project  
South East Asia Region  
UNDP/World Bank



Dr. Pathak with sons and daughters of liberated scavengers during training at Patna.

## MAN AND HIS MISSION

**D**r. Bindeshwar Pathak, Founder of Sulabh International (a non-profit voluntary social organisation) is a pioneer in the low-cost sanitation movement in India. He is nationally and internationally known for his seminal contributions in the liberation of scavengers, social transformation, upgradation of the downtrodden, prevention of environmental pollution, creation of non-conventional source of energy, training of change-agents for voluntary action and diffusion of innovations for promoting inexpensive and affordable indigenous technology in sanitation health, hygiene and rural development.

Dr. Pathak has distinguished himself as a man of multifaceted personality, combining in himself traits of an engineer, action sociologist, planner, administrator and a social reformer. No wonder, he has scored many 'firsts' in his career, thus far

spanning less than two decades. Through his dedicated efforts, he has been able to realise one of the cherished dreams of Mahatma Gandhi by paving the way for liberating scavengers from the age-old, demeaning and unhealthy practice of carrying night-soil as headload by getting over 600,000 bucket privies converted into Sulabh Shauchalayas (pour-flush toilet), being used by about three million people daily. He could thus free over 25,000 scavengers from the shackles of this sub-human occupation.

He has raised a micro-level project on low-cost sanitation (starting in 1973 from Arrah, a small town in Bihar, where he had put up only two pour-flush toilets by way of demonstration) to the present macro-level, covering 625 towns in 17 States and two Union Territories of India, in just 16 years. About 2,000 public toilets-and-bath complexes have been put

up at different places all over the country and are being used by more than four million people daily. (The total number of people using Sulabh facilities is nine million.) It has been proved conclusively that the project is effective, assuredly viable and is self-sustainable. Production of biogas from human excreta accumulated in large-size public conveniences and its different usages is his another spectacular achievement. His efforts have been acclaimed by the State Governments, Central Government and various national and international agencies like WHO, UNICEF and UNDP (World Bank) UNDP have accepted the principles advanced by Dr. Pathak for construction and maintenance of public toilets and baths. The national and international newspapers and magazines, like The Washington Post, The New York Times, The Times of India, The Hindustan Times, Indian Express, The Statesman and India Today have widely covered the activities of Dr. Pathak. The electronic media like the BBC, Doordarshan (Indian Television) and All India Radio have also reported Dr. Pathak's programme and personal interviews on several occasions. More than 1,000 dignitaries and experts from over 45 countries have so far visited and appreciated the work of Dr. Pathak.

In the year 1970, Dr. Pathak launched a silent revolution, known as Sulabh Movement, and set up a non-profit voluntary social service organisation, Sulabh Shauchalaya Sansthan, (later named Sulabh International) to carry forward the movement. Till now, he has been able to mobilize a 25,000-strong dynamic force of engineers, scientists, social scientists and sanitarians, working day and night to carry out his mission throughout the country. A drive is on to

enrol at least one million associate-members of Sulabh International in India and abroad to reach his message worldwide. His work for the liberation of scavengers in India has been compared with that of Abraham Lincoln; both of them are liberators. The list of achievements at the age of 47 indeed makes an impressive reading.

Bindeshwar Pathak was born on April 2, 1943 in a respectable Brahmin family of village Rampur Pohiyar in Vaishali district of Bihar (India). As in his mission so in education, he did his M.A., in Sociology and English (both gold medalist) and obtained Ph.D degree from Patna University in Bihar on the subject; "Liberation of Scavengers through Low-Cost Sanitation in Bihar." He inherited his commitment to social service

**Dr. Bindeshwar Pathak's life may not be the stuff great biographies are made of, but it is interesting to know how a young jobless boy sought to change society by liberating scavengers from the demeaning practice of carrying human excreta on the head. And, in so dreaming, he asked for the moon and very nearly got it.**

and Gandhian convictions from his maternal grandfather Pandit Jainandan Jha, a staunch Gandhian and a well-known freedom fighter of Bihar who during and after the British days, served the poor with compassion. Bindeshwar's high upbringing and learning also produced in him an abhorrence for casteist and racial prejudices, including untouchability. He joined the *Bhangi-Mukti* (scavengers' liberation) cell of the Bihar Gandhi Centenary Celebrations Committee in 1968 when he was intimately exposed to the problems of scavengers in India.

## LIBERATION OF SCAVENGERS

Bindeshwar Pathak travelled all over the country, visited and lived with scavengers in their *bastis* (hamlets), studied their habits and social mores, their history and geographical spread to eventually discover that scavengers were a special class and, not a caste, united in their miseries and social degradation. "Let us save them and in so doing we'll be saving the national conscience", Dr. Bindeshwar Pathak says.



**PROMISE UNKEPT** – Helpless and totally resigned, these scavengers carry human excreta on the head.

However, it was not a mere emotional outburst of young Bindeshwar who, by that time, had fully equipped himself intellectually to answer contentious questions. He believed that slogans alone would not achieve much and, hence, he developed a new technology which has

now become a credible alternative to scavenging in India.

Dr. Pathak, being an Action Sociologist, was the first person in the world



**THE DAMNATION** : A scavenger is physically cleaning human excreta from a dry latrine in Patna.

who could convince not only the administrators and planners but also the sanitation engineers that the two-pit pour-flush toilet (now popularly known as Sulabh

---

**For what avail the plough or sail  
or land or life if freedom fails!**

---

Shauchalaya) could function successfully and satisfactorily even in congested urban areas. He also suggested that two pits should be constructed simultaneously so that the house-owners could easily switch over to the use of the second pit when the first one gets filled up. It could, thus, be a safe, hygienic and affordable solution for disposal of human waste in absence of sewers. Before his arrival on the scene, no one was ready to believe that this technology could work in urban areas.

Earlier, the two-pit pour-flush toilet system, developed by Planning Research and Action Institute, Lucknow (India) in 1958, was recommended for adoption in rural areas and in small communities only. It was also suggested by PRAI that

in the beginning only one pit should be constructed to save on cost of construction and the second pit should be constructed when the first one is filled up.

Using Sulabh technology, Dr. Pathak got bucket latrines converted into pour-flush toilets, thus paving the way for liberation of scavengers from the centuries-old sub-human practice of carrying human excreta as headload, which was one of the dreams of Mahatma Gandhi, Father of the Nation. Some attempts at liberating scavengers had been made during Mahatma Gandhi's lifetime but nothing tangible had emerged till the arrival of Dr. Pathak on the scene.

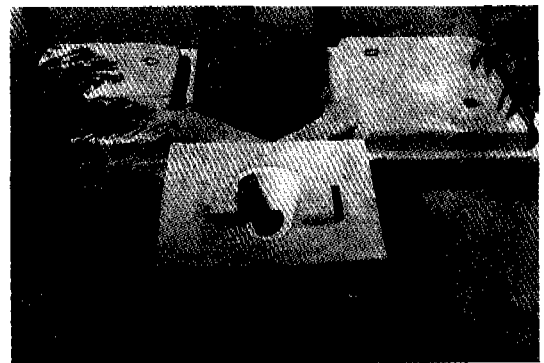
Dr. Pathak's idea was a breakthrough in the Government of India's attempt at the eradication of scavenging because the Sulabh system developed by him was inexpensive, acceptable to masses and could be implemented with the available local resources. Thus was born the low-cost sanitation technology which could make towns scavenging free.

Following the rapid adoption of the scavenging-free Sulabh technology of pour-flush toilet system, more than 55 towns of India have been freed from scavenging and 25,000 scavengers have been liberated and re-settled in other dignified occupations. This was achieved by converting around 520,000 bucket latrines into Sulabh toilets in less than 17 years. No one except Dr. Pathak could achieve such a huge success in the field of sanitation in such a short time. His achievement is even more noteworthy, considering that he had to work with meagre resources and almost single-handedly, leading a voluntary non-profit organisation — Sulabh International.

The entire credit goes to Dr. Pathak for persuading the Ministry of Welfare (Government of India) to undertake the programme of liberation of scavengers under the Protection of Civil Rights Act



**A SOLUTION : A view of two-pit pour-flush Sulabh Shauchalaya.**

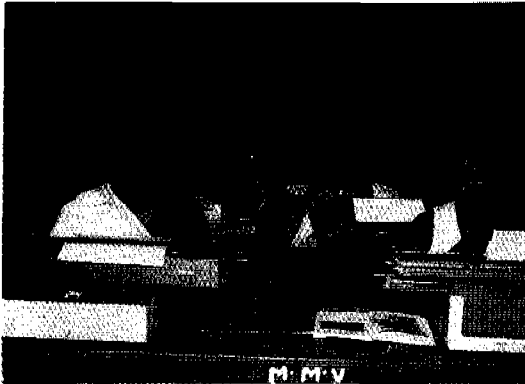


(1955) in the year 1980. The campaign was so successful that the Central Government later decided to get converted some six million bucket latrines into Sulabh Shauchalayas and provide individual Sulabh toilets in four million houses having no toilet facilities at all. All this was aimed at abolishing scavenging within five years. No wonder Dr. Mulk Raj Anand, a novelist of international repute, compared Dr. Pathak's work with Lincoln's. "Both of them are known as great liberators", he said at a seminar in New Delhi recently.



## **TRAINING AND REHABILITATION OF LIBERATED SCAVENGERS AND THEIR WARDS**

Dr. Pathak formulated a plan for training the liberated scavengers and their wards in institutes specially suited and specifically set up for this purpose. He was the first person to take initiative and prepare a report, proposing a strategic action plan for training the wards of the



**The daughters of liberated scavengers are being trained in typing at the Patna Sulabh institute.**

liberated scavengers with a view to rehabilitating them. The proposal was to train them in different vocations like shorthand and typing, tailoring, leathercraft, carpentry, electrician, driving and motor mechanic etc. After training, they could either get jobs in government or private organisations or could be self-employed.

Dr. Pathak's report was accepted by the Welfare Department of the Government of Bihar and also by the Ministry of Welfare, Government of India. On his suggestion, the proposed training, for the



**Wards of liberated scavengers learn tailoring at the Patna Sulabh Institute.**



**Mr. Bindeshwari Dubey, Chief Minister of Bihar, opening the Patna Sulabh training institute.**

first time, was started in Bihar and so far about 2,500 wards of liberated scavengers have been trained and rehabilitated in different vocations in Bihar alone. The



**Dr. Rajendra Kumari Vajpayee, Social Welfare Minister in the Central Government, inspecting the leather goods produced by the wards of liberated scavengers at the Patna Sulabh training institute.**

programme has subsequently been extended to Maharashtra and Rajasthan on the same pattern.

However, there was one flaw in the earlier programme. Since the government considered wards of only the Hindu liberated scavengers eligible to avail of this facility, a good number of them belonging to other communities were left out of the programme. Through his convincing arguments with the Ministry of Welfare, Government of India, Dr. Pathak ultimately got the benefits extended to the wards of Muslim and Christian scavengers also. This is another major work done by Dr. Pathak.

## SOCIAL UPGRADATION OF SCAVENGERS



Dr. Pathak alongwith Vedic Brahmins and 100-odd sons and daughters of liberated scavengers in the Nathdwara temple in 1988.



A community meal with families of liberated scavengers on Dr. B. R. Ambedkar Day at Sulabh complex in New Delhi on April 14, 1990.

However, only liberation of scavengers was not enough; their social upgradation was also necessary in order to help them get assimilated in the mainstream of social life. And that is the silent revolution which marks out Dr. Pathak's achievement more prominently from most others. The social upgradation includes raising scavengers' status socially to help them live at par with other so-called high caste communities, including Brahmins. This involved the task of changing the social order of Hindu orthodoxy, not a small job at that.

Dr. Pathak began this process first by practising what he professed; that is, by taking food and interacting with liberated scavengers and their families in full view of other castes. He organised many seminars and debates to prove his point and ultimately succeeded in persuading Vedic Brahmins (who were averse to even touching the scavengers due to their low status) to perform rituals and offer prayers for them. They also finally agreed to allow scavengers to enter temples and perform *puja* (religious worship).



All-community meal at Nathdwara temple, Rajasthan, in which the wards of liberated scavengers, Vedic Brahmins and others took food together.



The family members of liberated scavengers called on President R. Venkataraman in Nov. 1988 after their visit to Nathdwara temple.

In October 1988, Dr. Pathak visited the Nathdwara temple at Udaipur in Rajasthan, along with 100 scavengers and some Vedic Brahmins. Earlier, Harijans were not allowed to enter that temple. This unacceptable social practice had become so pronounced that the President of India, Mr. R. Venkataraman, himself once offered to lead a group of Harijans into the Nathdwara temple.

Dr. Pathak entered the temple along with the scavengers after declaring that they were Harijans. He remained there for two hours, offered puja along with them and received *prasad* (some edible substance served after performance of religious rites). The entire nation was amazed to see this work done so easily by

a social reformer. The President, Vice-President, Prime Minister and the Central Welfare Minister lauded Dr. Pathak's work.

Dr. Pathak organised *puja* (religious workshop) and 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 was gradually suc-



The Vice-President of India, Dr. Shankar Dayal Sharma, with sons and daughters of liberated scavengers who called on him on Nov. 5, 1988, in New Delhi after their visit to Nathdwara temple.



Mr. Rajiv Gandhi and sons and daughters of liberated scavengers after their visit to Nathdwara temple.

ceeding in bringing about a transformation in a society dominated by orthodox Hindus. This way, Dr. Pathak showed how the untouchable status of scavengers could be changed without violence.

## DIGNITY OF LABOUR

**A society cannot long endure half touchable, half untouchable. Scavengers are more sinned against than sinning. They carry human excreta on the head, flitting between the dark lanes and bylanes, only to live far out of colonies where they suffer only because, in hoary past, their forefathers lost in wars against foreigners while defending the country. And, were later made captives to carry human excreta on the head. This is the history of scavengers which we refuse to remember and continue to punish them for no fault of theirs. This is a guilt we are living with.**

The pyramid is turned upside-down when it comes to sharing benefits and honour; for Dr. Pathak's focus has always been on the persons at the bottom of the line-up whom he helps to go up the ladder faster than the rest. It is also because they are the people who take the organisation to greater heights and glory. With this in view, Dr. Pathak has evolved a new concept of honorarium scale. For instance, the cleaner who looks after the toilet complexes gets the same money as the manager. The

cleaner is called "senior caretaker" while the manager is called "junior caretaker"

Yet another novel practice is very special to Sulabh which is not known anywhere else in the world. All important functions, specially Republic Day, and Independence Day, are presided over by devoted and committed workers of Sulabh who are specially selected for these occasions by various units. These workers unfurl the National Flag on such occasions unlike anywhere else where the heads of institution or the state do. Sulabh preaches and practises Gandhism in words and deeds.



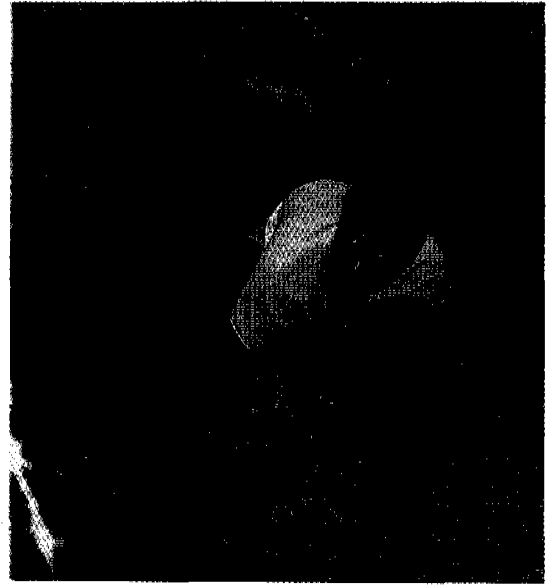
**Dignity of labour is one of the missions of Dr. Pathak. Best social worker of the year 1988, Mr. Uma Kant Choudhary, is unfurling the flag on the occasion of Republic Day. He had been awarded Sulabh Ratna.**

Everyone in Sulabh has to do physical work, including the Chairman and his attendants. Nobody minds doing any work assigned to him or her. This shows the dignity of labour practised in the Sulabh International.

## **BRAHMINS IN SANITATION MOVEMENT IN INDIA**

Social transformation through 'social engineering' is another major achievement of Dr. Pathak. Before he started the programme of liberation of scavengers, maintenance of toilets and other sanitation facilities was the job left for 'mehtars', the lowest among the low in the caste line-up. In India, nobody could have thought that one day toilets would be looked after and managed by high-caste Hindus also, including Brahmins. This is the change that Dr. Pathak has brought about through 'social engineering'; that is, by producing a change in the attitude of the people towards the less

**It was certainly not as crucial as the invention of the wheels, nor as important as the making of the lever which "could lift the globe". Dr. Pathak added a pit and water sealed the pan to produce a technology which promises to free over half a million scavengers who still carry human excreta on the head, besides providing clean toilet for the people.**



**A Brahmin boy has joined the sanitation work in Sulabh without any social stigma.**

fortunate ones. As a result, the management of toilet facilities is being done by people of all castes who have joined the Sulabh Movement.

## **NEW CONCEPT OF MAINTENANCE OF PUBLIC TOILETS-CUM-BATH COMPLEXES**

Dr. Pathak was the first man to demonstrate to the local bodies of 625 towns (out of total number of about 4,000 towns in India), including the metropolitan cities of Delhi, Calcutta, Madras and Bombay, as to how well to maintain the public toilets-cum-bath complexes on 'pay-and-use' basis, round the clock, without putting any burden on public exchequer for their maintenance. He has also demonstrated how these complexes can be converted into centres of social services, providing telephones,



**A community toilet.**

medicare and help in sanitation and family welfare. These services are specially useful to slum dwellers, rickshaw-pullers, pavement dwellers and the floating population. These complexes are absolutely clean, architecturally attractive and ecologically healthy and pollution-free. It has proved to be the best example of people's participation in community management, for they are paying for the use and continued upkeep of toilets-and-bath facilities.

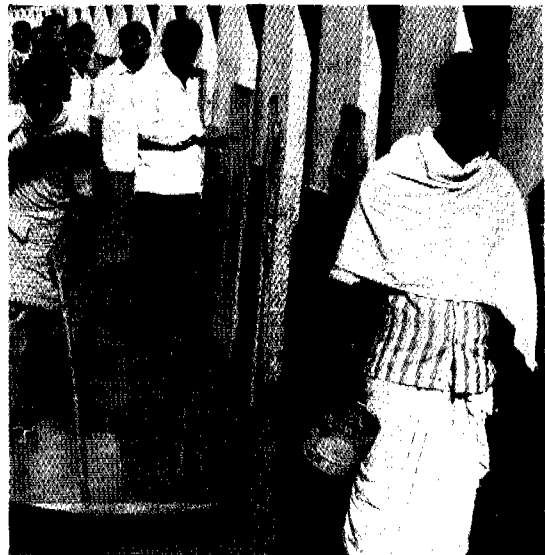
Dr. Pathak has proved, by practical demonstration, the validity of Gandhian theory that it should not be necessary to compel the upper-caste people to allow the Harijans to draw water from their wells: rather, the wells of Harijans should be so beautifully constructed and well maintained that the upper caste people are attracted to draw water from them. Some toilets built in Bombay, Delhi and Bhubaneswar are so attractive that they are mistaken for dak bungalows or good hotels.

The concept of maintaining public toilets-cum-bath complexes on the pay-and-use basis has become very successful in the Indian cross-cultural settings, from Kashmir to Kanyakumari.



**A community toilet complex at Old Delhi Railway Station.**

Before Dr. Pathak initiated this system in 1974, public conveniences were like "hell" on the earth. For this reason, everybody objected to the proposal of public toilet complexes being set up anymore. The local bodies in India were unable to find any suitable solution and had practically abandoned the idea of putting up more public toilets. But now there is increasing demand for Sulabh complexes all over the country and even abroad. Until Dr. Pathak showed the way, no-



**Sulabh community complexes are very carefully kept clean, round the clock.**

body believed that people will pay for using toilet facilities in India

Impressed by the success, people now invite Sulabh to set up and maintain public toilets-cum-bath complexes in colonies, where a large part of population live without houses of their own, so that they may remain free from the stink caused by open defecation. The complexes are so well maintained and kept so



The users are given soap-powder to wash hands.

clean that people do not object to their being constructed even in front of their own houses. For this change of attitude, the credit goes to Dr. Pathak who has saved these people and places from environmental pollution. Now about six million people use Sulabh complexes in the country daily. The spots which were once virtual "hell" have been turned into good, clean places where people gather to eat, worship and celebrate festivals, thanks to Dr. Pathak.

Dr. Pathak has suggested many ways of keeping the towns and cities clean. In his opinion the local agencies, including police, civic bodies, voluntary organisations and other outfits should join hands in the task of keeping the cities clean. He



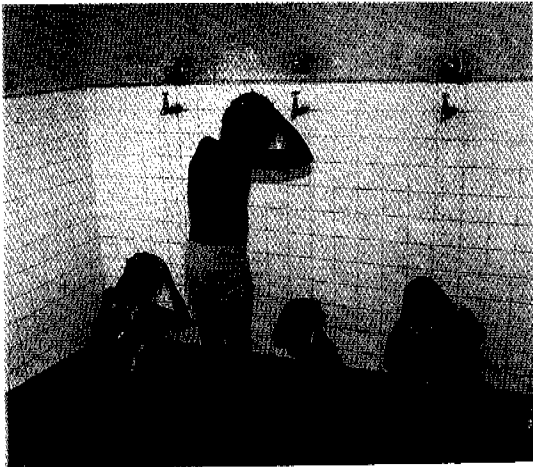
Cleanliness is the credo of Sulabh Movement.

has suggested that funds and land for setting up public toilets-cum-bath complexes should be provided by local bodies and voluntary organisations should maintain them round the clock on the pay-and-use basis. This is also a way to cut the huge public expenditure and ensure cleanliness without depending on the resources of civic bodies which are almost always in the red. This methodology has been made popular for the first time in India.

In Europe everyone has to pay for using public toilets. In France for instance, it is two francs (Rs. 7). In England and so also in all European countries, the pay-and-use system is practised and all public toilets are no less clean than other buildings in the vicinity. Dr. Pathak has popularised it in India with a remarkable success. No wonder, Sulabh complexes are now the cleanest places in a city. They are there for all to see and check the fact.

The pay-and-use system was first introduced in Patna in 1974 and now it has been adopted by 17 States and two Union Territories. On this basis, some 2,000 Sulabh toilets-and-bath complexes are maintained in 625 towns of the country, round-the-clock.

## IMPROVEMENT OF HEALTH, HYGIENE AND ENVIRONMENT



Bathing facility at Sulabh complexes.



Sulabh complexes have also greatly helped contro' pollution and improve environment. Open defecation along roads, rail tracks and in open areas

spreads diseases. Sulabh, by providing toilet facilities, has also saved health of the people, mostly of the poor who do not have such facilities of their own. In the absence of these, they used to take bath only two or three times a month; now, they bathe every day during winter and twice a day in summer. This has helped people stay clean. The environment and surroundings have also thus improved.

## USE OF PUBLIC TOILETS WITH HUMAN DIGNITY

Poor women do not have any enclosure for taking bath. One can see them bathing at public hydrants and struggling to save their modesty. It is certainly a blot on any civilized society if it fails to provide a clean and secluded place for its womenfolk to bathe. Dr. Pathak has provided just that. Now, a large number of women can be seen thronging Sulabh complexes for taking bath in complete privacy. Those who can afford pay a small amount of 30 to 50 paise, per use and the money thus collected is used for keeping the place clean and maintaining the facilities. Those having no money are allowed free use of the facilities.



## PRESTIGE TO TOILETS

Credit goes to Dr. Pathak for lending prestige to the words 'toilets' and 'sanitation' in India. The words 'human excreta', 'toilet' and anything related with these words were never uttered during morning hours, or while eating. But now the entire concept has changed and the words are no longer taboo. Sulabh toilets have acquired such prestige that these are now inaugurated by ministers, chief ministers and other VIPs. Nowhere in the world have public conveniences acquired so much prestige and acceptance as Sulabh has gained for them in India.

Thus, Dr. Pathak has brought the toilet to the centre of planning for a cleaner and healthier world to live in. The low-cost sanitation and liberation of scavengers have only added to the immediacy of Sulabh projects. Earlier, sanitation never



**Mr. Prashanta Sur, Minister, West Bengal, opening a Sulabh complex at Patna.**



**Dr. Jagannath Mishra, Chief Minister of Bihar, inaugurating a Sulabh community toilet complex in Patna.**



**Mr. Romesh Bhandari, Lt. Governor of Delhi, along with Mr. Jag Pravesh Chandra, Chief Executive Councillor, Delhi, inaugurating a Sulabh toilet complex at Subzi Mandi in 1989.**

used to figure in the national agenda, except as polite talk or as a gesture of goodwill towards scavengers. Now, Dr. Pathak has made sanitation an organised thought-system, based and developed on appropriate and low-cost technology which can be used on sustainable basis in households and at community levels to keep the country clean and people healthy.



Mr Murasoli Maran, Union Minister of Urban Development, is inaugurating a toilet complex at Meena Bazar, Delhi.

## BIOGAS AND MANURE FROM HUMAN EXCRETA AND WATER HYACINTH— NEW STEP



The human excreta-based biogas being used to cook food. It is as good as any cooking gas.

Dr. Bindeshwar Pathak is probably the first person in the world who has given the idea of obtaining biogas only from human excreta collected in large-size public toilets used by 2,000 to 5,000 persons a day. Despite odds, he got the first such biogas plant set up at Patna in 1982 after almost six years of research. The successful and satisfactory functioning of this plant encouraged him to replicate the project all over the country and today some sixty such biogas plants, connected with large-size public toilets, are operating satisfactorily in Bihar, UP, Gujarat and other States of India.

The biogas obtained from the public toilets is used for cooking, lighting (by incandescent mantle lamps), providing hot water for bathing and also for providing a convenient fire for body warming during winter. If need be, the biogas can also be used for production of electricity through a dual-fuel engine coupled to an alternator.

Two plants are used as such in Bihar, one in Patna for lighting about three kilometres long peripheral walkway around Gandhi Maidan and the other in Ranchi for providing general illumination at the state transport bus stand.

It has, thus, been amply demonstrated

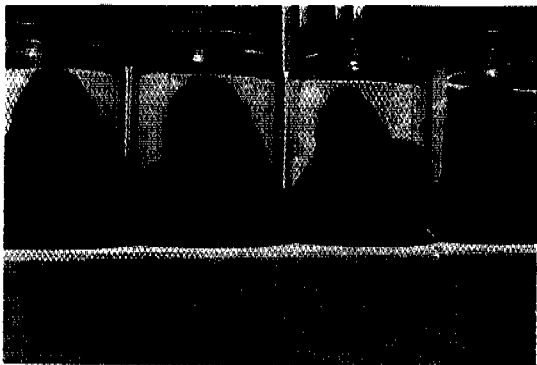


Fixed Dom Digester

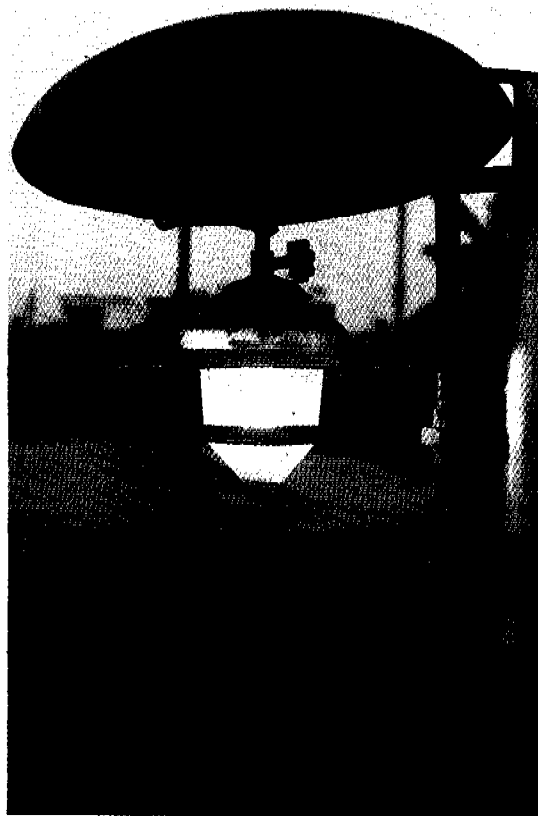
by Dr. Pathak that in the absence of sewerage facility, the best option for human waste disposal, to be used in conjunction with large public toilets, is the biogas plant. It has the added advantage of being a source of renewable energy which is lacking in the septic tank system.

The achievement of Dr. Pathak in generating energy from human waste was acknowledged by the Department of Non-conventional Energy Sources (Govt. of India), Gujarat Energy Development Agency and other organisations and institutions which have come forward to assist him in expansion of the project and also to support further research and development in this and the allied fields.

Biogas from water hyacinth in dried and pulverised form is another achievement of Dr. Pathak. While others had been using this waterweed in its green form by either chopping or pre-treating it with chemicals, Dr. Pathak conducted experiments on dried and pulverised water hyacinth. Although the gas yield in the dried form is about 5-6% less, it is convenient in handling, storage and transportation. This form also lends itself better for blending with cow-dung, human excreta or other vegetable wastes used as feed materials for biogas production.



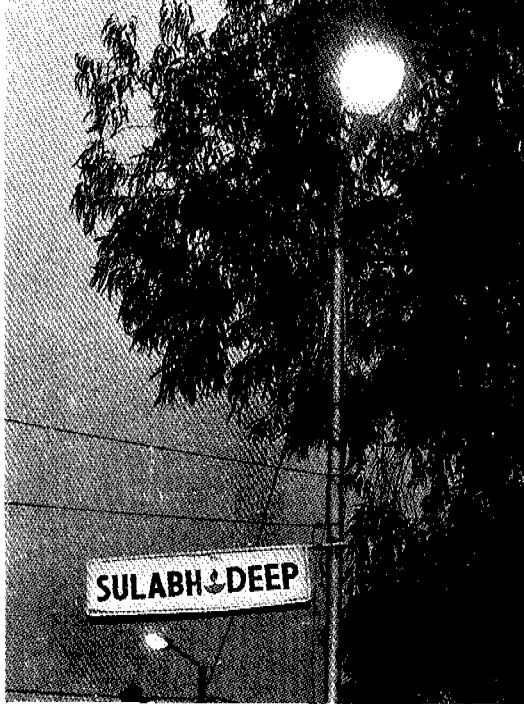
The excreta-based granules clinically put in jars to be used as organic manure.



Human excreta-based biogas lamp.



Human excreta-based biogas provides heat for body warming during winter.



**SULABH DEEP** : The long stretch of the walkway around Gandhi Maidan in Patna is lighted by the biogas produced from Sulabh toilet complexes.

Another 'first' to Dr. Pathak's credit is the granulated organic manure obtained from the dried sludge of biogas plants. This manure is completely free from odour and in its granulated form can be used conveniently in flower-pots to be kept indoors. The appearance of the granulated manure is exactly like tea leaves and it is very difficult to distinguish between the two when kept together.

Use of organic manure or even raw human excreta in agriculture is quite widespread in China. The practice, however, had not found large-scale acceptance in India. Very few farmers used to get dried sludge from sewage treatment plants or from trenching grounds of local bodies. With the efforts of Dr. Pathak, however, the scene is gradually changing, as more and more people are developing interest in the use of organic manure obtained from the pits of pour-flush toilets



Mr. Maheshwar Dayal (first from right), Secretary, Department of Non-conventional Energy Sources, Ministry of Energy, Govt. of India, visiting Sulabh biogas plant at Adalatganj, Patna.

(Sulabh Shauchalayas) and biogas plants.

Dr. Pathak has truly produced "wealth from waste" as the saying goes.

## HUMAN RESOURCE DEVELOPMENT, RURAL SANITATION AND RURAL DEVELOPMENT

Dr. Pathak also gave the concept of 'change agent' for poverty alleviation, rural sanitation and rural development. Train a man in a skill and he will find a job for himself. This being the truth, Dr. Pathak launched a massive programme to



Change-agents are being trained in Sulabh technology, biogas, primary healthcare and social forestry.



Women change-agents at work.

expand human resource base at the grass-roots level. Human resource development includes creating ability and willingness to acquire skills and, thus, maximise utilisation of available resources and raise productivity per unit of land and capital. The increase in the level of skill, education, health and experiences are the indices of human resource development of a society. It is only in a situation of developed human resource base that rapid growth is possible.

Dr. Pathak's approach has been to de-

velop and expand human resource base at the Panchayat level and train youths to work in villages to become catalytic agents working between the suppliers of resources and the beneficiaries. These change-agents will look after general health, immunisation, Sulabh toilets, construction of smokeless chullahas, biogas plants and other energy recovery systems, informal and adult education, construction of minor rural public amenities like roads, drains and pavements.



**Change-agents are being given theoretical training in the class room.**

Training in these skills will change the behaviour of other people also and create a growth support system at the user level. The youth, thus trained, will also provide a strong link, working as transmission belts between the centres of generation of knowledge and its end-users. They will be part of the skill delivery system in the absence of which the villagers have to go to the cities and towns even for minor repairs of their equipment because the centres of skills and knowhow are located there.

Dr. Pathak was the first to conceive this idea and start working on it. It is expected that this movement for social and cultural change and for diffusion of innovations in the fields of health, agriculture, sanitation, education and energy will close the growth gap between the city and the village. Consequently, the population influx into cities will be stemmed and the brain drain which has impoverished the villages will be stemmed.

Dr. Pathak has set up institutes in Patna and Delhi, where unemployed youths are trained. So far 500 persons have been trained and the plan is ready to



**School children are periodically brought to Palam Sulabh Complex in New Delhi to educate them on sanitation.**

train some 100,000 persons in five years throughout the country to work as change-agents in 100,000 Panchayats of India. There are also special programmes to train the trainers; that is government functionaries who run institutes. This entire programme is a step in a new direction which, Dr. Pathak thinks, will make visible changes in the poverty alleviation, employment, rural sanitation and rural development scenarios.

## **POVERTY ALLEVIATION THROUGH EMPLOYMENT GENERATION PROJECTS**

The credit goes to Dr. Pathak for initiating a movement which, apart from other things, aims at employment generation and poverty alleviation. The unemployed persons are trained in the construction and maintenance of individual

and community toilets and biogas plants. There are over 25,000 social workers so trained and regularly engaged in carrying out the objectives of Sulabh Movement. However, if we take into consideration the consequent indirect employment in mandays, it may be a mind boggling figure running into millions. The persons



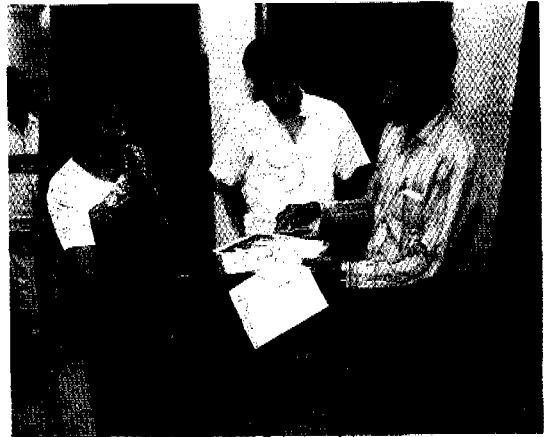
**Sulabh Complexes provide additional employment . A woman is selling tooth cleaners at one of Sulabh complexes.**

who have got employment have been able to rise above the poverty-line. Sulabh International has also launched a programme aimed at rural development, for which at least one person is proposed to be trained from each Panchayat. Thus, about 100,000 people will be trained in five or six different vocations.

It goes to the credit of Dr. Pathak that he has been able to create single handedly a strong manpower base of 25,000 engineers, scientists, social scientists and sanitarians in India within a short time frame.

**VOLUNTARY SOCIAL  
ORGANISATION  
AS A CATALYST**

Dr. Pathak has demonstrated how a non-profit voluntary social organisation



**Sulabh campaigners visit door to door, educating people on the benefits of Sulabh Shauchalayas.**

can act as a catalyst, working between the government and beneficiaries, for implementing community projects. To be true, Dr. Pathak is nothing if not an educator. He says that revolution begins in the minds of men and that is where the reform must start. He found flaws in the present communication system and says: "How can you communicate with the people who can't read or write". Therefore, he suggested door-to-door campaigns by Sulabh volunteers and workers who were to talk to the people in their own language and persuade them to convert their bucket latrines into Sulabh Shauchalayas in order to live a clean and healthy life. This is quite an effective way of communicating with people who are low on education and traditional in approach. In this case, the beneficiaries have to do nothing except fill in forms for loan and subsidy, sitting in their homes, and authorise the organisation to receive money and convert their dry latrines into Sulabh Shauchalayas. The organisation takes over all the work involved in taking the loan and completing the project.

After conversion of dry latrines, five-year guarantee cards are issued by Sulabh

International to the beneficiaries, assuring them prompt removal of any construction defect or solution of any technical problem, free of cost. Sulabh International has built a special infrastructure to ensure quality construction and render satisfactory follow-up services.

For the construction and maintenance of public toilets and baths. Sulabh International plays the role of a catalyst between official agencies and the users of Sulabh complexes. The land and finance for the construction of public toilets and bath are made available by the local bodies. Construction of complexes is done by Sulabh International which then undertakes to maintain the same on the pay-and-use basis for a period of 30 years.

The authorities, therefore, feel free because they do not have to provide funds for the maintenance of the public conveniences for a stipulated period which can be extended beyond 30 years if the authorities so desire. This system has proved a boon for the local bodies in their endeavour to keep the city clean and environment safe.

### **CONFIDENCE OF THE GOVERNMENT IN THE VOLUNTARY SOCIAL ORGANISATION**

The credit goes to Dr. Pathak for creating confidence in the Government and the local bodies about the role of non-governmental organisations (NGOs). For

**When the water closet (WC) was invented for the first time in England, its inventor, a courtier, was banished from the Elizabethan court for discussing as profane a thing as the human excreta disposal system. But, after London was sewered and most houses were fitted with WCs, it was discovered that Harrington was the harbinger of the modern civilization.**

the first time in India, 18 State Governments and two Union Territories have reposed confidence in the non-profit voluntary social service organisation for such a large scale work. Sulabh International neither submits tenders nor offers any type of security for the money, of which it takes 50% as advance before starting construction. The only security is the prestige of the organisation and the confidence of the Government departments reposed in it. The entire credit for creating such an image of the organisation goes to Dr. Pathak.

Not only Government agencies but even organisations like UNICEF and Tata Iron & Steel Company Limited (India) also have advanced 80% of the project amount to Sulabh International for undertaking construction and maintenance of individual, as well as public toilets. This example may be an eye-opener for both the private organisations as well as voluntary organisations interested in people's welfare.

The beautiful construction and maintenance of public toilets and baths in India by the Sulabh International has attracted the attention of the industrial houses and private organisations like



Tata Iron & Steel Company, Indian Tobacco Company and others which are coming forward to finance the construction of public toilets and baths in a city like Bombay to help keep it clean and beautiful. This will also help to improve the environment and sanitation of the slum areas.

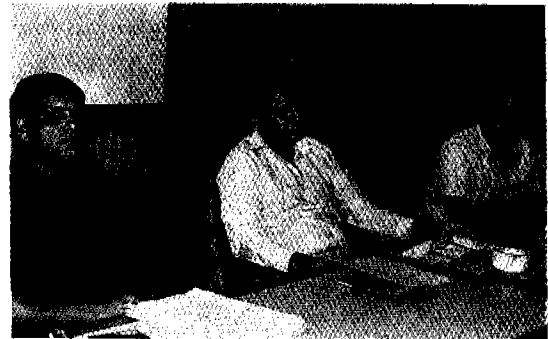
### FUNDING OF LOW-COST SANITATION BY HUDCO AND WORLD BANK

The work and achievements of Dr. Pathak have attracted the attention of the national and international funding agencies like HUDCO and the World Bank. After the successful implementation of the Sulabh Shauchalaya technology in individual houses and the construction and maintenance of community toilets and baths, the non-availability of funds was one of the major constraints in the speedy implementation of the scheme to achieve the target of 'Health-for-All' by 2000 A.D.' Out of 2.8 crore households (population 15.77 crore) in urban areas, six million houses have bucket latrines and four million houses have no facilities at all. In rural areas, out of 8.92 crore (population 52.55 crore) households, not even two per cent houses have the facilities of Sulabh Shauchalaya.

Earlier, the State Governments, from their meagre resources, had to give subsidy and loan to needy homeowners, keen

on availing of Sulabh facilities. The Ministry of Welfare (Government of India) has also been financing projects since 1980-81 to make towns scavenging free. The Ministry of Urban Development (Government of India) has been providing funds since 1979-80 for low-cost sanitation in the towns selected under the Integrated Development of Small and Medium Towns (IDSMT). The Rural Development Department under the Ministry of Agriculture also provides funds for rural sanitation.

The Housing and Urban Development Corporation (HUDCO) lends money in a big way for the conversion of dry-latrines construction of new ones and also for public toilets and baths. The rate of interest for the economically weaker section is 6% per annum, recoverable in 12 years in 48 equal instalments.



HUDCO Chairman and Managing Director, Mr S.K. Sharma and Dr. Pathak at a conference in New Delhi.

The World Bank earlier funded water supply and sewerage projects but since the mid-eighties it is giving preference to low-cost sanitation (over sewerage) to improve sanitation and environment in the area. Some such States are Tamil Nadu, Kerala, Gujarat, Madhya Pradesh, Uttar Pradesh and Andhra Pradesh. Other international and bilateral agencies like UNICEF (United Nations Interna-

tional Children's Emergency Fund), WHO (World Health Organisation). UNDP (United Nations Development Programme), ODA (Overseas Development Agency of the British Government), SIDA (Danish International Development Agency), DANIDA (Danish International Development Agency), KFW (Kreditanstalt Fur Wiederaufbau, German Development Corporation), EEC (European Economic Community), the Netherlands Government also fund low-cost sanitation projects in many States in India.

The Ministry of Environment and Forests (Government of India), realising the importance of low-cost sanitation, has included the programme of conversion of dry (or bucket latrines) into Sulabh Shauchalayas and construction of new ones in the houses under the Ganga Action Plan. The help in the form of subsidy by the Governments and the loan by the HUDCO, World Bank and other national and international agencies would help ensure low-cost sanitation and, thus Health for All by 2000 A.D.

**THE INVOLVEMENT OF THE  
VOLUNTARY SOCIAL ORGANISA-  
TIONS, BOTH IN THE SOFTWARE  
AND HARDWARE AREAS**

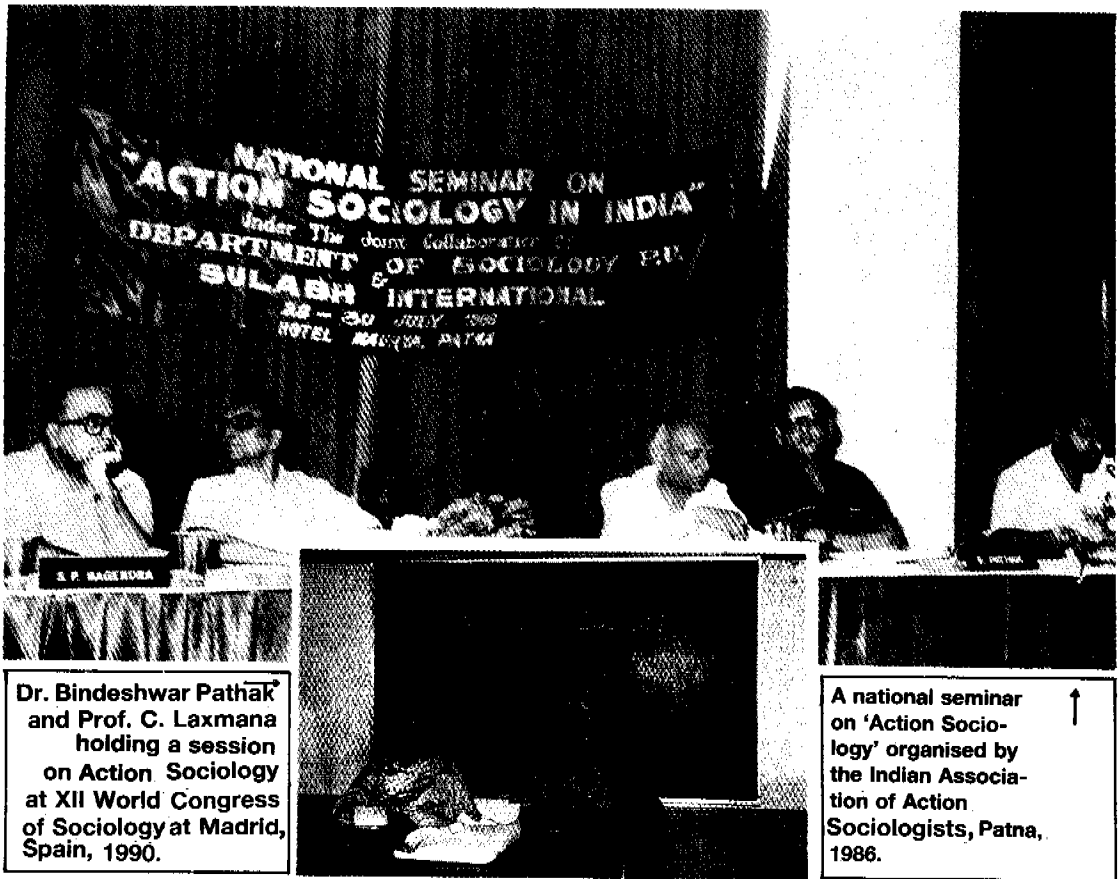
Credit goes to Dr. Pathak for taking voluntary agencies into the field of hardware. Until now, most voluntary organisations had confined themselves to software, like creating awareness, moti-

vation, training, demonstration and publicity programmes. Hence, their role as confidence-builders, was not really very credible because they had not much to show by way of concrete results.

Dr. Bindeshar Pathak opted for both software and hardware in Sulabh experiment. The Sulabh International, founded by him, besides being involved in creating awareness, motivation, training, demonstration and publicity, also constructs and maintains the facilities. The maintenance and the follow-up system has increased the credibility and prestige of the organisation in the eyes of the public, the local bodies and also the State and Central governments. Had the organisation been involved in software only, the impact would not have been much on society. Dr. Pathak, therefore, sought to produce such an impact, in order to realise his long-cherished dream of liberating scavengers and creating a clean and healthy society at affordable cost.

It is entirely because of Dr. Pathak that the role of NGOs in the field of hardware has been adequately recognised. Now other organisations, also working in the field of low-cost sanitation, have adopted the pattern set by Dr. Pathak. Sulabh success has lent prestige to NGOs and has made them an important factor in social change.

Dr. Pathak has also demonstrated that voluntary social organisation, apart from receiving donations and grants from the public, national and international agencies, should also earn for their sustenance from the implementation of projects and programmes. This will enable them to carry out their objectives without financial problems and without dependence on donations.



Dr. Bindeshwar Pathak and Prof. C. Laxmana holding a session on Action Sociology at XII World Congress of Sociology at Madrid, Spain, 1990.

A national seminar on 'Action Sociology' organised by the Indian Association of Action Sociologists, Patna, 1988.

## Dr. PATHAK AS AN ACTION SOCIOLOGIST

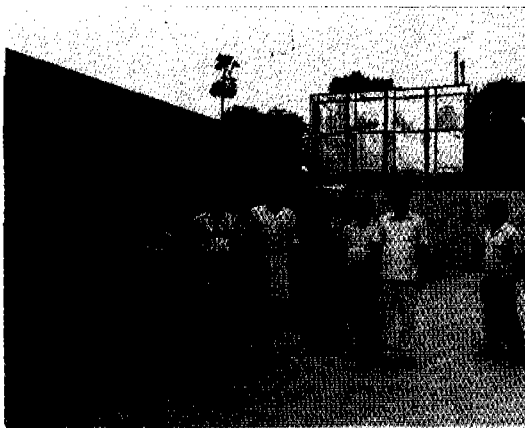
Dr. Bindeshwar Pathak has the credit of being the first person in the world to have coined and conceptualized the term 'Action Sociology', in a global frame of reference. He is the one who has brought to the fore, the issue of relevance of sociological knowledge, in grappling with the problems of developing societies. His idea of 'Action Sociology' is much wider

in its reach and goes far beyond the earlier sociological limits of 'Applied Sociology' and 'Sociology in Action'. In that sense, he has innovated upon the old scheme of action-frames in international sociology. Unlike other distinguished sociologists who rallied round the concepts of Applied Sociology and Sociology in Action, Dr. Pathak conceived the idea of 'Action Sociologist', i.e. the sociologist who himself plunges into action and shows the results.

Action Sociologists, in Dr. Pathak's scheme of things, are those who do not merely give lectures or suggestions on the basis of the findings of others to solve the problems of society and do not remain contented with the preacher's role.

Action Sociologists, in Dr. Pathak's view, are those who get into the midst of the problems and play the fire-fighters' role. In order to demonstrate to the world his convictions about Action Sociology, Dr. Pathak personally intervened to improve the deplorable conditions of scavengers—the most degraded amongst the untouchables in Indian society. He did not talk of solution for others to put into practice; he took up his solutions, applied them with full conviction and vigour, produced worthwhile results, and made the people and the Government accept that his ideas were fruitful and feasible.

As an Action Sociologist of repute, Dr. Pathak's contribution to the development of Action Sociology in India is immense.



Members of the Indian Association of Action Sociologists visiting Sulabh complex at Patna.

He is the founder of the Indian Association of Action Sociology which now enjoys the full support of a large number of distinguished Indian sociologists. The Association, under the guidance of Dr. Pathak, has received national and international recognition. In appreciation of the programmes and activities of the Indian Association of Action Sociologists, the International

Sociological Association put on its agenda a two-day session on Action Sociology during the XII World Congress of Sociology at Madrid, Spain, on 9th to 13th July, 1990. The session made its impact and many Indian and foreign delegates who attended, the congress wanted to join the Association as members.

In order to make Action Sociology more relevant in the Indian context, Dr. Pathak persuaded the Indian sociologists to introduce teaching of Action Sociology at the post-graduate level in the department of sociology throughout the country. The curriculum devised by Dr. Pathak includes, among other relevant topics, a wide variety of socially significant subjects such as environmental sanitation, preservation of ecology, low-cost sanitation technology, clean water supply, primary healthcare, social forestry and emancipation of downgraded sections of society from social, educational and economic stagnation. Such a course, Dr. Pathak argues, will make the discipline of sociology more relevant to society and would enable the students of sociology to play a socially constructive role, besides getting opportunities of self-employment. The University Grants Commission has already agreed to accord its recognition to a course on Action Sociology and its teaching at M.A. level in the Department of Sociology. Some universities have already started this course and others are likely to follow.

Dr. Pathak has written extensively on several important aspects of Action Sociology in India. He is the Chairman of the Indian Association of Action Sociologists and the Chief Editor of the Journal of Action Sociology.



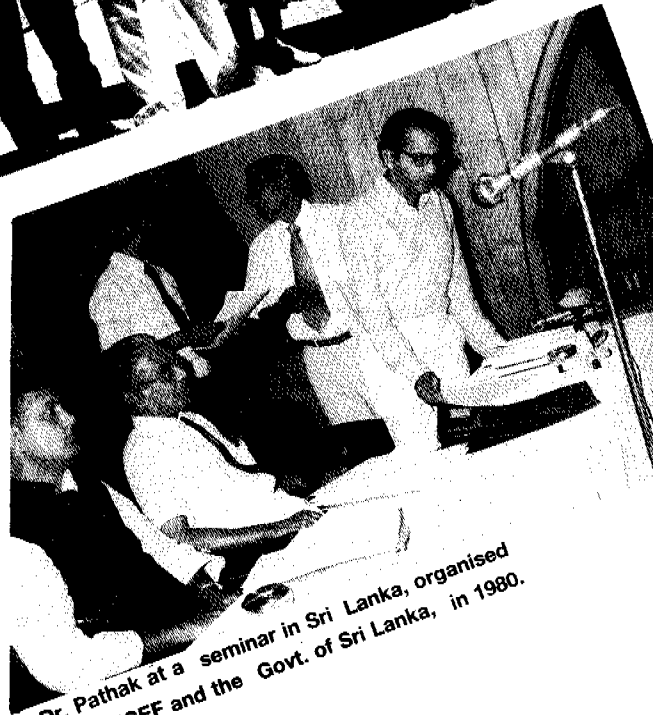
A study of sanitation methodology in Sweden.



A visit to Studsvik, Sweden.

## VISITS TO FOREIGN COUNTRIES

Dr. Bindeshwar Pathak has visited a number of countries to study the problem of environmental sanitation, particularly the disposal of human excreta, with a view to adopting their innovative technology and systems in reference to the



Dr. Pathak at a seminar in Sri Lanka, organised by UNICEF and the Govt. of Sri Lanka, in 1980.



**SULABH INTERNATIONAL DELEGATION TO CHINA : Dr. Bindeshwar Pathak – Sitting 4th from left, Mr. A.K. Roy – Sitting 2nd from left, Mr. P.K. Chatterjee – Sitting 5th from left, Mr. S.T. Khare – Standing 2nd from left, Mr. S.N. Jha – Standing 3rd from left, Prof. Indira Chakravarty – Standing 4th from left and Prof. K.J. Nath – Standing 5th from left.**

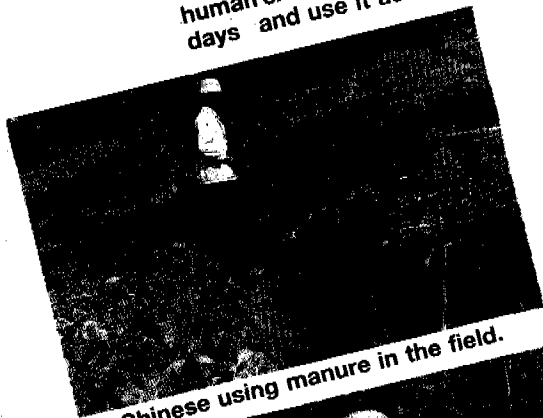


**In China, house-owners themselves carry human excreta to the field just after 15-20 days and use it as fertilizer.**

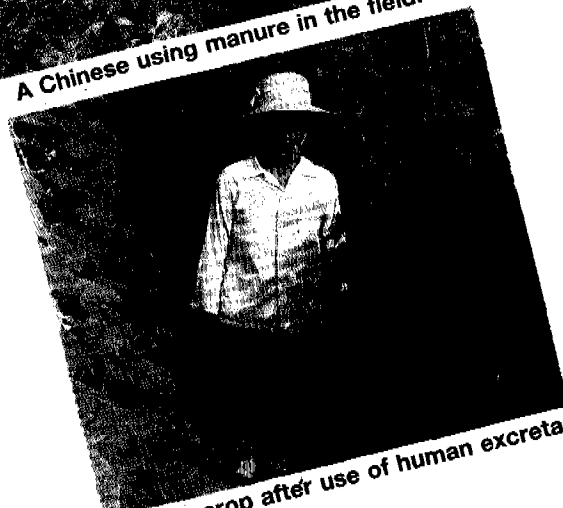
socio-economic and cultural background of India.

Dr. Pathak with eight eminent sociologists of India visited Spain and attended the XII World Congress of Sociology in Madrid on 9th-13th July, 1990. The International Sociological Association arranged a two-day session on Action Sociology. Many foreign delegates showed keen interest and appreciated the programmes and activities of Indian Association of Action Sociologists, of which Dr. Bindeshwar Pathak is the founder.

The People's Republic of China has many sanitation problems similar to those faced in India. With a view to observing and learning these problems and the ways in which they are being tackled in a vast country like China, a seven-member delegation comprising experienced public health engineers and scientists, led by



**A Chinese using manure in the field.**



**Bumper crop after use of human excreta as manure.**



**Dr. Akhtar Hamid Khan (Director of Orangi Pilot Project) with Dr. Bindeshwar Pathak at Orangi town, Karachi, (Pakistan) on December 6, 1990.**



**Dr. Pathak inspecting the sewer work at Orangi, Karachi, along with Mr. Steven Barmazel – correspondent, Asia Week, The Miami Herald and Mrs. Ruth Manorama, Bangalore, India.**

Dr. Pathak visited China in 1986 at the invitation of the Beijing Government. For this purpose the team visited Beijing, Shanghai, Wuhan and Guanzhou (Canton) and had discussions with various government departments and institutes involved in human excreta disposal, solid waste management, street cleaning,

management of community toilets, production of biogas and many other related activities.

At the invitation of the National Swedish Institute for Building Research, Sweden, a team comprising senior public health engineers and scientists of Sulabh International and All India Institute of Hygiene and Public Health, Calcutta, visited Sweden in July, 1989 with Dr. Pathak as the team leader. The team studied the research work being carried out by the Swedish Institute in low-cost sanitation options.

At the invitation of UNDP, Dr. Pathak visited Bangkok (Thailand) in 1983 to attend an international conference on low-cost sanitation. His name was specifically mentioned by the UNDP representative in the conference for outstanding contributions in the field of low-cost sanitation technology in India.

Dr. Pathak visited Sri Lanka in 1980, at the invitation of the Colombo Government and UNICEF to advise on low-cost sanitation.

In 1983, Dr. Pathak was invited by the World Bank to advise the Bangladesh Government on low-cost sanitation in the congested urban areas.

Nepal, the neighbouring country of India, also has benefited from the technology and methodology developed by Dr. Pathak who has visited that country several times to help their local organisation, Sulabh East Consultant (Nepal), to propagate the idea of low-cost sanitation.

Dr. Bindeshwar Pathak visited Karachi on Dec. 1-7, 1990 at FAO (Food and Agricultural Organisation) invitation to study the viability of the Orangi project



**Dr. Pathak organised a Sulabh training camp at Chittagaon, Bangladesh, to demonstrate Sulabh technology. Chairman, WASA, inaugurating the camp.**

which is conceived as self-help; for, the Pakistan Government did not fund the laying of lane-sewers; it was all paid for by residents/house-owners themselves.

**RECOGNITION OF SULABH INTERNATIONAL BY GOVERNMENT AND OTHER AGENCIES FOR PROGRAMME IMPLEMENTATION**

For the first time in the year 1974, the Government of Bihar recognised Sulabh International for implementing the schemes related to liberation of scavengers, low-cost sanitation and construction and maintenance of public toilets and baths. Following the footsteps of Bihar,

17 other State Governments of Andhra Pradesh, Assam, Goa, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Punjab, Orissa, Rajasthan, Tamil Nadu, Tripura, Utta Pradesh, West Bengal and two Union Territories of Delhi and Chandigarh, invited Sulabh International to undertake similar projects. Sulabh International has also been invited by various development authorities and central government undertakings, such as Delhi Development Authority, Calcutta Metropolitan Development Authority, development authorities from U.P., municipal corporations, cantonment boards, slum clearance boards, town area committees, Panchayati Raj bodies, Ganga Action Plan, Indo-Dutch assisted programme, Gujarat Energy Development Agency, Sports Authority of India, State Road Transport Corporations, Central Warehousing Corporations and various Tourism Development Corporations etc., to take up such projects.

UNICEF and the Government of the Netherlands have also recognized the organisation for implementation, maintenance and follow-up of the schemes approved by them. Looking at the impressive service record of Sulabh International, it is evident that no other voluntary social organisation in India has been asked to carry out such work by so many government authorities and corporations. The recognition of Sulabh Shauchalaya (pour-flush toilet) technology and methodology for the maintenance of public toilets and bath, now transcends the national boundaries. It has got the appreciation of several international organisations and their experts. The credit for putting the organisation's name on the international map goes to Dr. Pathak's insight and ingenuity.



**APPRECIATION AND  
ACCEPTANCE OF SULABH  
TECHNOLOGY AND  
METHODOLOGY BY NATIONAL  
AND INTERNATIONAL AGENCIES**

Sulabh Shauchalaya technology and the operation and maintenance concept of community toilets with baths and urinals on the pay-and-use basis evolved by Dr. Pathak have been recognized and accepted by the Ministries of Welfare and Urban Development, Rural Development Department, Ministry of Agricul-



**Mr John M. Kalbermatten, Senior Adviser, Water and Wastes, World Bank, Washington, (fourth from right) on a visit to Mahavir Enclave, the Headquarters of Sulabh International at Delhi.**



**Mr. Harry G. Barnes, American Ambassador to India at Sulabh Project in Patna.**



**Mr Richard Middleton (2nd from left) Project Manager, UNDP/World Bank Project on Low-Cost Sanitation, Washington, on a visit to Patna to see Sulabh Shauchalaya.**

ture, Planning Commission, Govt. of India, Housing and Urban Development Corporation (HUDCO), All-India Institute of Hygiene and Public Health, Calcutta, Central Building Research Institute (CBRI), Roorkee, national Environmental Research Engineering Institute (NEERI), Nagpur, National Building Organisation (NBO) and international agencies like WHO, UNICEF, UNDP, World Bank, IRC, Loughborough University and United Nations Centre for Human Settlement, Nairobi. The State Governments, various authorities and private organisations all over India also have accepted the concept of Dr. Pathak

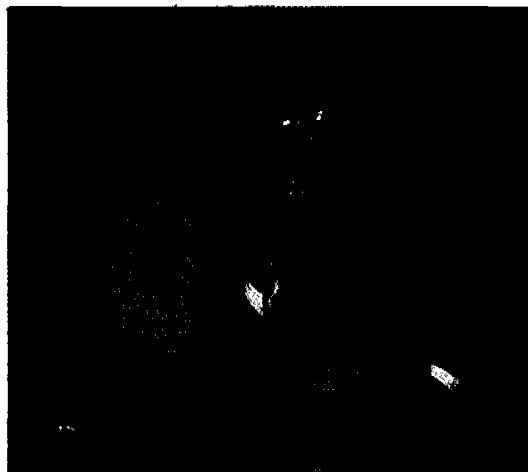
and recognized Sulabh International for implementation of their schemes.

**Planning Commission** — The Planning Commission of India has commended, on several occasions, the concepts of Sulabh International. The Commission has recommended for adoption of Sulabh technology and methodology by other organisations. The Planning Commission's appreciation puts Sulabh International in an unique position as no voluntary organisation in India has been given such recognition by the highest planning body in India. The recent report of the Planning Commission (1990) on the Task Force for Tackling the Problems of Scavengers says :

“The community latrines should be operated on ‘pay-and-use’ basis and should be properly managed and maintained. The management of these latrines should be given to dedicated voluntary organisations, wherever possible, on suitable terms. The experience and expertise of Sulabh International in this regard could be profitably tapped.”

**University Grants Commission** — The teaching of low-cost sanitation based on Sulabh Shuchalaya technology is being imparted in various educational institutions, including engineering colleges, medical colleges and other allied institutions. The University Grants Commission is considering to include action sociology, as a subject at the post-graduate level in the Department of Sociology

**Lal Bahadur Shastri Academy, Mussoorie** — In recognition of Dr. Pathak's contributions in the field of low-cost sanitation and urban management, the prestigious Lal Bahadur Shastri Academy, Mussoorie — the national institution for



**Dr. Pathak addressing IAS probationers at Lal Bahadur Shastri National Academy of Administration, Mussoorie.**

the training of the officers of the Indian Administrative Service has invited him on several occasions to address the IAS probationers on the strategic importance of Sulabh's technology in the maintenance and management of urban sanitation in India.

**World Health Organisation** — The World Health Organisation (WHO) came to know about the Sulabh's programme in 1977 and sent a team to Patna to study the technology and its successful implementation. Being satisfied with the report, WHO in collaboration with UNICEF and the Ministry of Works and Housing (Government of India) and assisted by Sulabh International, organized for the first time in India a national seminar on low-cost sanitation in May 1978 at Patna. The seminar was attended by representatives of international agencies like WHO, UNICEF, various agencies of the Central Government, like Planning Commission, Ministry of Works and Housing, Director-General of Health Services and the Secretaries and Chief Engineers of all State Government Departments of Urban Development and Public Health

Engineering, in addition to several eminent experts on the subject including Dr. Bindeshwar Pathak. This historic seminar recommended that the two-pit pour-flush toilet was most suited to the socio-cultural conditions of urban India.



Mr. Danial Onald of UNICEF and Mr. Surya Rao at a community toilet, Ranchi, Bihar.

Later, WHO reiterated the recommendations for the adoption of pour-flush toilet in urban areas and maintenance of public toilets on the 'pay-and-use' basis, in a number of seminars and workshops, organized from time to time. In one of its workshops — 'Regional Workshop on Primary Healthcare in Urban Areas of the South-East Asia Region', organised by WHO in New Delhi in January, 1983, the WHO said :

"Low-cost methods of excreta disposal should be preferred over conventional and expensive sewerage system in *basti* and fringe areas. Provision of community latrines should be recommended where maintenance could be taken care of by a workable system. In this respect, an example of Sulabh Shauchalaya Sansthan could be used. However, individual latrines are preferred even in densely populated area".

Significantly enough, WHO also distributed literature on Sulabh Shauchalaya

in its folders and supplied them to the participants from all the countries of South-East Asia for information and adoption.

Later, in another workshop on 'Acceleration of National Programme, Sanitary Disposal of Human Excreta — an Inter-Country Workshop', Organised by WHO in New Delhi from October 27-31, 1986 (to which Dr. Pathak was invited) referred to the innovative approach of Dr. Pathak in the implementation of low-cost sanitation and operation and maintenance of community toilets with bathing facilities.

UNICEF — Since 1978, UNICEF accepted the concept of Sulabh Shauchalaya (pour-flush toilet) in individual houses as well as of maintenance of public toilets and baths, in its low-cost sanitation programme. UNICEF organized several seminars/workshops in collaboration with Sulabh International. UNICEF has developed various designs of low-cost sanitation options, with some modifications, specially for schools and rural areas. It has also helped in the adoption of these technologies and methodologies in different States of India like Orissa, Andhra Pradesh, Jammu & Kashmir, Uttar Pradesh and Madhya Pradesh. Many programmes to train the trainers and masons for the construction of Sulabh Shauchalayas have been organized by Sulabh International, with the help and funds from UNICEF. It has also funded several groups from India and abroad to visit the works of Dr. Pathak.

Dr. Pathak also visited Sri Lanka in 1980 at the invitation of the Colombo Government and UNICEF to advise on low-cost sanitation development in that country.

## UNDP (WORLD BANK)

The United Nations Development Programme (UNDP) took up the evaluation of Sulabh Shauchalaya technology and the methodologies for the maintenance of community toilets, enunciated by Dr. Pathak and other agencies in India, in the year 1979. After hectic search for five years, UNDP finally prepared a manual for urban areas in 1984. In the manual, the UNDP suggested some modifications in the technologies and methodologies and recommended their adoption in India and other countries of South-East Asia, Latin America and Africa, where water is used for ablution after defecation. The Government of India accepted the report and circulated it to all the State Governments and Union Territories for adopting the re-



**Dr. Pathak with UNDP Administrator Mr. William H. Drapper III at a conference on "The global consultations on safe water and sanitation for the 1990s" in New Delhi.**

commendations with suitable regional modifications, in view of local conditions.

With a view to popularising the concept of Sulabh Shauchalaya and maintenance of public toilets on pay-and-use basis, UNDP and the World Bank organized the following seminars in India :

- a. International Seminar on Low-Cost Techniques for Disposal of Human Wastes in Urban Communities held at Calcutta in Feb. 1980;
- b. Regional Conference on Low-Cost Pour-flush Latrines held at Udaipur in August 1982;
- c. Regional Conference on Low-Cost Pour-flush Latrines held at Udhagamandalam (Ooty) in October 1982;
- d. National Conference on Low-Cost Sanitation held at New Delhi in May 1984; and
- e. The Global Consultation on Safe Water and Sanitation for the 1990s held in New Delhi in Sept. 1990.

In 1980, delegates from 33 countries and in 1990 delegates from 120 countries besides the Indian delegates, participated in the seminars. In all the seminars, it was unanimously recommended to adopt the Sulabh Shauchalaya technology and Sulabh methodology of maintenance of public toilets on pay-and-use basis.

The principles of Dr. Pathak for the maintenance of public toilets and bath, which he has been advocating since 1974, have found favour with UNDP, WHO, UNICEF and the World Bank. The UNDP-sponsored conference, the "Global Consultation on Safe Water and Sanitation for the 1990s", held in New Delhi on September 10-14, 1990 accepted the Sulabh principles that (a) sanitation should be managed by private or voluntary agencies; (b) sanitation plans should be viable and sustainable on the long-term basis; (c) sanitation projects should be based on low-cost technology affordable by individual households and community; (d) such projects should be culturally appropriate, and managed by

efficient set-ups at various levels with adequate funds for maintenance; and (e) toilet facilities should be paid for by the user. These five principles constitute the Sulabh's concept of low-cost sanitation.

On the occasion of UNDP-sponsored conference, Mr. William H. Drapper III, Administrator, United Nations Development Programme, New York, appreciated the work done by Dr. Pathak in India. He observed :

“User fees must be seen as a major source of financing for maintaining services during the next ten years. NGOs have been instrumental in experimenting with user involvement and financing. Here in India, Sulabh International has built more than 2,000 shower and pour-flush toilet complexes, serving up to two million people a day. They are financed by user fees of less than one US cent paid by male users. Women and children use the facilities free.”

He further observed:

“Sulabh benefited from technical innovations recommended by the UNDP/World Bank Programme, including the introduction of fibre glass as a cheaper alternative to traditional ceramic pans. **The World Bank and UNDP benefited because they will be able to transfer the successful methods Sulabh employed in getting user support and financing the facilities to other countries**”.

At the invitation of UNDP, Dr. Pathak visited Bangkok (Thailand) in 1983 to attend an international conference on low-cost sanitation. While praising the work of Dr. Pathak in the field of low-cost sanitation in India, the Administrator of UNDP, New York, specially re-

ferred to his outstanding achievement in establishing pay-and-use toilet cum bathing complexes all over India and mentioned that he (Dr. Pathak) has shown that sanitary disposal of human waste could not only provide better health and hygiene and improve the environment but can also generate resources to provide gainful employment.

The UNDP in its monthly magazine “Source” (June 1990) has made a special reference of the conversion of bucket latrines into pour-flush toilets and of operation and maintenance of community toilet-cum-bathing complexes in India, initiated by Dr. Pathak, thus benefiting millions of people in the low income groups to-day.

The appreciation of Dr. Pathak's work by UNDP and the World Bank summarizes his contribution in the field of low-cost sanitation.

**U.N. Centre for Human Settlement, Nairobi** — United Nations Centre for Human Settlement (UNCHS), Nairobi has appreciated the efforts of Dr. Pathak and has widely publicized the work done by him. It has published the report in detail in three series and has distributed it all over the world, thus giving his achievements a stamp of international acceptance.

**International Water and Sanitation Centre (IRC)** — IRC has also taken interest in the work of Dr. Pathak and has widely circulated the message of Sulabh Shauchalayas and community toilets through its News Letters.

**Loughborough University of Technology, U.K.** — The Loughborough University has also started teaching low-cost sanitation in their Water, Engineering and Development Centre (WEDC) and



Dr. Pathak with Mr. John Pickford, WEDC group leader at a seminar on 'The global consultations on safe water and sanitation for the 1990s', held in New Delhi in Sept. 1990.

the work of Dr. Pathak in India are always referred during the lectures for which materials for teaching and demonstration have been provided to the University. There is a regular exchange of views between Sulabh International and WEDC which includes a course for sanitary engineering for the developing countries where emphasis is laid on the Sulabh technology for low-cost sanitation.

## MEDIA FOCUS

The national and international media have widely acknowledged and paid rich tributes to Dr. Pathak. The newspapers like the **Washington Post** and the **New York Times** and the **Nation** (Bangkok, Thailand) have published write-ups, praising his achievements in the fields of low-cost sanitation, liberation of scavengers and the harnessing of energy from non-conventional sources (human excreta). Similar tributes have been paid to Dr. Pathak by prestigious

Indian national dailies including **The Hindustan Times**, **The Times of India**, **The Statesman**, **Indian Express**. Several leading periodicals including **India Today** and **Dinman** (Hindi) have extensively covered work done by Dr. Pathak. Electronic media including **Doordarshan** and **All India Radio** and **BBC** (London) have also reported Dr. Pathak's good work.

His achievements have been recorded in several books and professional journals. **Trevor Fishloc** in his famous book '**India File**' and **P.J. Richards**, author of another well-known book, '**Basic Needs of the Urban Poor : The Provision of communal Service**', have spoken highly about Dr. Pathak's contributions. '**Biography International**' and '**Reference Asia**' also have recorded Dr. Pathak's distinctions and achievements in felicitous terms.

International organisations in the field of low-cost sanitation like the **UNDP**, **WHO**, **UNICEF**, **UN Centre for Human Settlement**, **International Research Centre** and **Water World** etc. also placed their appreciation for Dr. Pathak's work on record.

## PARTICIPATION IN COMMITTEES

Due to his deep involvement in upliftment of the downtrodden, specially scavengers, and his long and wide experience in the field of low-cost sanitation, Dr. Pathak is invariably nominated as a member of the Committees on to improvement of environment, urban development, biogas generation and development of Scheduled Castes and Tribes or backward classes set up by Government of India or State Govern-

ments, institutions and organisations. Dr. Pathak has been on many committees some of which are as follows :

1. All-India Housing and Development Association.

**To be free is to be fair, specially with scavengers who are hated even by those whose excreta they carry on the head.**

**Dr. Bindeshwar Pathak**

2. Task Force, on 'Problems of Scavenging for Suggesting Remedial Measures to Abolish the Practice', set up by the Planning Commission, Government of India;
3. 'National Waste Management Council', constituted by the Ministry of Environment and Forests, Government of India, to promote waste management;
4. 'Working Group on Rural Sanitation for Formulation of Approach to Eighth Five-Year Plan', set up by the Planning Commission — Development Policy Division of Government of India;
5. Basic Sanitation Committee set up by Housing and Urban Development Corporation, Ministry of Urban Development, Government of India;
6. 'Committee for Evolving a Coordinative System for Implementing Low-cost Sanitation and Scavengers Liberation Programme', constituted by Housing and Urban Development Corporation, Government of India.

## **PARTICIPATION IN SEMINARS AND CONFERENCES**

Dr. Bindeshwar Pathak, has participated in many seminars, workshops and conferences on low-cost sanitation, improvement in environment, urban development, shelter for homeless, liberation of scavengers and allied subjects. Whenever any such seminar or conference is organised by any national or international agency, Dr. Pathak is always invited to participate because of his major contribution in the field. His suggestions and contributions draw keen interest and are highly valued by experts. Some of the seminars and conferences in which Dr. Pathak participated are as follows :

1. National Seminar on Conversion of Bucket Privies into Sanitary Waterseal Latrines, convened by Govt. of India, in collaboration with WHO and UNICEF, at Patna, Bihar, May 1978.
2. International Seminar on Low-cost Techniques for Disposal of Human Wastes in Urban Communities, organised by UNDP/World Bank Technology Advisory Group (India) at Calcutta, February, 1980;
3. Regional Conference on Low-cost pour-flush Latrines sponsored by Govt. of India and UNDP, held at Udaipur, August, 1982;
4. Regional Conference on Low-cost Pour flush Latrines organised by Govt. of India and UNDP, at

Udhagamandalam (Ooty), October, 1982.

5. International Conference on Low-cost Sanitation, organised by UNDP at Bangkok (Thailand), 1983.
6. Regional Workshop on Primary Healthcare in Urban Areas of the South East Asia Region, organised by WHO in New Delhi, January, 1983.
7. National Conference on Low-cost Sanitation sponsored by Govt. of India, in collaboration with UNDP, in New Delhi, May, 1984.
8. Inter-country Workshop on Acceleration of National Programmes on Sanitary Disposal of Human Excreta, organised by WHO in New Delhi, October, 1986.
9. Policy Seminar and Faculty Orientation Workshop on Low-cost Water Supply and Sanitation under the World Bank/UNDP International Training Network (ITN) Programme for Water and Waste Management, organised at the joint initiative of Ministry of Urban Development, Govt. of India, Government of the United Kingdom, Royal Government of the Netherlands, United Nations Development Programme (UNDP), World Bank, Housing & Urban Development Corporation (HUDCO), and Human Settlement Management Institute, held in New Delhi, February, 1987.
10. Workshop on Low-cost On-site Sanitation, for Chief Engineers and Senior Engineers, under the World Bank/UNDP International Training Network Programme for

Water and Waste Management, organised by the All India Institute of Hygiene and Public Health, Calcutta, August, 1988.

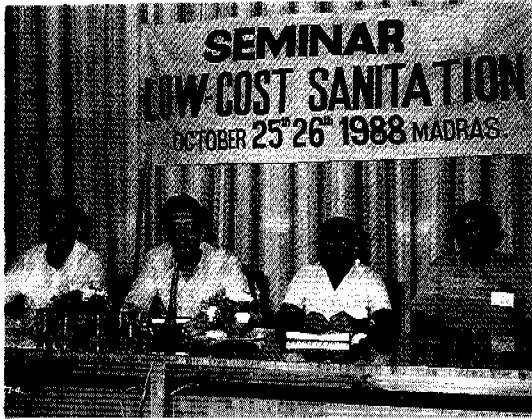
11. The Global Consultation on Safe Water and Sanitation for the 1990s, organised by UNDP, World Bank and Government of India, New Delhi, September, 1990.

**SEMINARS AND WORKSHOPS  
ORGANISED BY DR. PATHAK**

With a view to creating awareness among the executing agencies, administrators, planners, decision makers, public health engineers and the people in general, on the appropriate low-cost sanitation technology, operation and maintenance of community toilets on the pay and use basis, sanitation education, personal hygiene and training and rehabilitation of liberated scavengers, Dr. Pathak has been instrumental in organizing , a large number of seminars and workshops. Those which need special mention are :

1. State-level seminar on 'Biogas from Human Excreta', held in Patna, November, 1984.
2. National seminar on 'Low-Cost Sanitation for Eradicating Scavenging and Rehabilitation' organised by the Department of Urban Development, UP Government, in collaboration with, HUDCO and Sulabh International, Lucknow, January 1987.





**Dr. Pathak at a seminar on low-cost sanitation, organised by the Department of Rural Development, Tamil Nadu, in collaboration with Sulabh International at Madras, Oct. 1988.**

3. National seminar on 'Low-Cost Sanitation to Eradicate Scavenging in India', New Delhi, April 1988.
4. Seminar on 'Strategic Action for Health and Sanitation' in New Delhi, October, 1988.
5. Seminar on 'Low-Cost Sanitation' organised by the Rural Development Department of Govt. of Tamil Nadu, in collaboration with Sulabh International, at Madras (Tamil Nadu), October, 1988.
6. Workshop on 'Evaluation Methodology for Low-Cost Sanitation Programme in India' organised by Sulabh International in collaboration with Economie Et Humanisme; a French organisation involved in urban management held in New Delhi, May 1989.
7. National Seminar on 'Action Sociology in India', organised by the Indian Association of Action Sociologists, Patna, 1986.
8. National Seminar on 'Action Sociology and Dynamics of Rural

Development', organised by the Indian Association of Action Sociologists, Jabalpur, 1989.

9. National Seminar on 'Social Action and Social Change', organised by the Indian Association of Action Sociologists, Hyderabad, 1990.
10. Ad hoc Session on 'Action Sociology' at the XII World Congress of Sociology, Madrid, Spain, July, 1990.

### BOOKS ARTICLES & PAPERS BY DR. PATHAK

Dr. Bindeshwar Pathak has been writing on various current topics, apart from sanitation, as part of his campaign for social reforms and growth, for he knew that liberation of scavengers is only a part of social change. He has advocated and worked for peaceful methods of bringing about social transformation in society.

The following are some books, sample reports, articles and papers which broadly reflect Dr. Pathak's philosophy.

### BOOKS

1. **Road to Freedom**, Motilal Banarasi Das, New Delhi, 1990
2. Task Force on the Problems of Scavengers—Preliminary Thoughts on the Issues, Sulabh International, 1989
3. Human Resource Development in India, Sulabh International, New Delhi, 1988

4. **Sulabh Shauchalaya—Study of Directed Change**, Sulabh International, Patna, 1982
5. **Sulabh Shauchalaya (hand-flush water seal latrine): A Simple Idea That Worked**, Amola Prakashan, Patna, 1981
6. **Power Generation From Human Excreta**, Sulabh International, Patna
7. **An Innovative Approach to Provide Rural Sanitation**, Sulabh International, Patna
5. "Sulabh Movement : An Unique Experiment in Social Action" in **Social Action and Social Change**, (eds.) C. Lakshmana, S. P. Srivastava and R. C. Sarikwal, Ajanta Publishers, New Delhi, 1990
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29. "Human Waste Management : The Sulabh Experiment for Urban and Rural Eco-development", paper presented at the International Workshop on Food Energy Nexus and Eco-system, New Delhi, February 12-14, 1986



Dr. Pathak addressing senior government officials at Indian Institute of Public Administration on July 28, 1990.

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## GOENKA AWARD

On account of outstanding work being done by Sulabh International in the field of environment and ecology, Dr. Pathak was honoured with **K.P. Goenka Memorial Award** of 1984. The award carried a citation and Rs. 1 lakh and was presented by Hon'ble Mr. R. Venkataraman, the then Vice-President and now the President of India. The successful practical



**Dr. Pathak receiving the K.P. Goenka Memorial Award from the then Vice-President of India, Mr. R. Venkataraman, in 1984.**

idealism of Sulabh International, said the citation: "evokes applause and acclaim of the Asian Cables Foundation and carried the Foundation's warmest good wishes for Sulabh International's beneficent continuance".

## PADMA BHUSHAN

**Dr. Bindeshwar Pathak receiving Padma Bhushan from the President, Mr. R. Venkataraman on March 23, 1991 at an impressive investiture ceremony at the Durbar Hall of Rashtrapati Bhavan for his social services to scavengers, more than 30,000 of whom have been liberated from the demeaning practice of carrying human excreta as headload**



# Opinion of the Press

# The New York Times

FRIDAY, NOVEMBER 28, 1980

## *Less Demeaning Work And Gains in sanitation*

Special to The New York Times

PATNA, India — Out of a virtually dormant crusade to free night-soil scavengers from their demeaning labour has come a successful voluntary enterprise that is installing flush latrines in India cleaning up and deodorizing city streets and providing employment and training for hundreds and potentially thousands.

The organization, called the Easy Toilet Society, was founded 10 years ago by Bindeshwar Pathak, then a 28-year-old sociology student who had grown disenchanted with the inactivity of governmental agencies and fellow members of Gandhian associations.

He gathered a group of designers and engineers and gained the organizing skills of R.L. Das, a 78-year-old reformer who had spent most of his life as a propagator of Gandhian ideas, much of it in the so-called Liberation of Scavengers Movement. In this drive Mohandas K. Gandhi sought to abolish the practice in which members of a hereditary undercaste of untouchable sweepers cleaned the toilets of their urban customers and dumped the waste in fields and canals.

For centuries it was such scavengers who provided the basic sanitation for the more prosperous, and even now, despite the commitment of the Central Government to phase out the scavengers, they are indispensable in virtually every Indian city and they remain a shunned and stigmatized group.

### **SMALL BUT DRAMATIC CHANGES**

In the last decade Mr. Pathak's society has been responsible for some relatively small but dramatic changes. It has designed and produced low-cost, flush latrines with shallow, odour-free subterranean tanks. Here in the State of Bihar it has installed 30,000 units and converted 10,000 more from old dry-pit latrines.

The State Government is subsidizing half the cost of installation, which is less than \$ 100. The society has worked out similar arrangements with half a dozen other Indian States, and it has just been hired by the municipal government of Calcutta to construct thousands of public toilets.

In Patna, where the society has built facilities in several parts of the town, a survey showed that they were used daily by 25,000 people who formerly fouled the streets and parks.

Mr. Pathak has become an articulate advocate of the role of voluntary agencies in development, and his organization has won the enthusiastic endorsement of international experts. He frequently travels abroad to carry word that groups like his, if they maintain independence from politics and government, can goad national agencies into living up to their commitments.

### MUNICIPALLY DONATED LAND

His group is financed by charging 10 per cent of the construction costs of its projects. The public toilets have been built on land donated by municipal government. The maintenance costs are covered by collection a halfpenny charge from those who can afford it; soap costs in additional halfpenny. The poor and woman are admitted free.

Mr. Das, who guided visitors around a bank of toilets and shower that the society built next to Patna's new luxury hotel, said the major reason for the success has been Mr. Pathak's "sociological and psychological genius—he knows how to translate ideas into action and get people to act."

The old man, now deputy secretary of the society, proudly showed the demonstration models sunk in concrete in front of the organization's main office which adjoins and is dwarfed by the public toilets. "All over the world there are offices that have toilets, but this must be the first time you have seen a toilet that has an office," he said with a smile.

## Untouchables Gain the Help of a Brahmin

By BARBARA CROSSETTE  
Special to The New York Times

PATNA, India — It was his determination to free poor Indian scavengers from a life of carrying away buckets of excrement on their heads that turned Bindeshwar Pathak, an academic social scientist, into a full-time crusader against the humiliations of untouchability. It also made him a celebrity among the poor.

Nearly two decades after taking up the cause of the most wretched laborers, Mr. Pathak, 46 years old, a high-caste Indian Brahmin with a doctorate in sociology, presides over a small empire of development projects employing 20,000 people nationwide. It started with toilets.

By converting about half a million traditional latrines to simple pour-flush toilets with septic systems, and by building several thousand public bathrooms — the first here in Patna, the capital of Bihar, India's poorest state — Mr. Pathak says his Easy Toilet Institute has freed about 15,000 scavengers for other vocations.

"Gandhi also wanted that these people should be liberated from this subhuman occupation of clearing and burying human excreta," Mr. Pathak said, referring to Mohandas K. Gandhi, the leader of India's independence struggle who was assassinated in 1948. "But during his lifetime, no tangible results could be achieved because the technology was not available."

### Power From Public Bath Centers

The research and development of cheap and appropriate sanitation technology has been one of Mr. Pathak's most important programs. He said that only 217 of India's 3,245 major towns and cities have any kind of sewage system. In towns, up to 600,000 people are still employed clearing 6 million toilets with no flush systems.

Persuading Indians to adopt the pour-flush toilet, which was not introduced here until the 1960's, was difficult at first, Mr. Pathak said. It was not until he got the backing of the World Health Organization, the World Bank and the United Nations Development Program in the late 1970's, that people began to take him seriously.



Mr. Pathak's public bath centers, built where there is likely to be a large number of users, employ only the common Asian system of ground-level, cisternless toilets flushed by pouring in water from a bucket. Sewage is collected in tanks that can be connected to biogas converters. In Patna, waste from the model center creates the electricity that powers the lights of a public park named for the Mahatma Gandhi.

The open-air bath centers, which also provide clean drinking water, showers and a place to wash clothes, are paved and walled, decorated with potted plants or gardens and kept spotlessly clean. Armed guards are also on duty.

### **Scavengers and the Upper Caste**

Mr. Pathak said he believed that his success in keeping hygienic standards high derives from his decision to charge a small fee, a fraction of a cent, to pay for upkeep of the site. In return, a user gets free soap. Other money for what has grown into a nonprofit foundation, Sulabh International, is raised from consultancies and Government contracts. Mr. Pathak is now experimenting with ways to break down barriers.

"The question is, if scavengers are liberated and rehabilitated, will they attain the same status in society that the upper castes get?" he asked, implying a negative answer.

"So we have started a new program," he said. "We are persuading Brahmins to help them in learning prayers and entering temples — and to dine with them." Sharing food with an untouchable is the most difficult taboo for a Brahmin to overcome.

In a move of uncommon boldness, Mr. Pathak recently led 100 girls from scavenger families into Nathdwara, a temple in the Rajasthani city of Udaipur where Brahmins have traditionally prohibited untouchables from worshipping. In the temple, he and other higher caste Hindus ate publicly with the children, without incident. He is repeating the gesture elsewhere.

"I have to persuade, not fight with them," he said of his upper caste critics. He is now working on his own home village, Hajipur, in Bihar, where Brahmins have agreed to begin teaching lower-caste people.

"The older people said O.K., but we will not dine with them," Mr. Pathak said. "I think that is all right for a village. We have already come so very far."

# WORLD NEWS

## Scavenger Class Still Does India's Dirtiest Job

By William Claiborne  
Washington Post Foreign Service

NEW DELHI — They can be seen almost anywhere in urban or rural India, wretchedly poor men and women in tattered rags going from house to house and carrying away buckets of human excrement balanced on their heads.

They are called *bhangis*, or scavengers, and they are members of the lowest rung of a hereditary undercaste of Untouchables, whose occupation Mohandas K. (Mahatma) Gandhi, the father of Indian independence, vowed to eradicate.

Gandhi once said, "I may not be born again, but if it happens I will like to be born in a family of scavengers so that I may relieve them of the inhuman, unhealthy and hateful practice of carrying headloads of night-soil."

The Mahatma's crusade to liberate night-soil scavengers from their demeaning labour has remained little more than a dream during most of India's 37 years of independence. About 600,000 *bhangis* still collect bucket privies and dump the waste in fields and canals, jeopardizing not only their own health but that of their neighbors.

But now, several private voluntary enterprises, encouraged by the Indian government and aided by United Nations and other international agencies, are making inroads into the scavenger system, installing hundreds of thousands of low-cost, flush latrines with underground septic tanks in Indian homes and rehabilitating thousands of *bhangis* in the process. This year has been declared the start of the Decade for the Liberation of Scavengers by one of the groups.

The most successful of the voluntary scavenger-emancipation enterprise has been the Sulab Shuchalaya Sansthan, which translates from Hindi literally as the Easy Toilet Society, and which has started something of a minirevolution in Indian sanitation planning by using enterprenurial business practices, modern technology and aggressive marketing methods.

The founder of the nonprofit society, Bindeshwar Pathak, said his goal is to nudge the government of Prime Minister Rajiv Gandhi into giving the anticavenger crusade a priority on a par with family planning, and virtually eliminate the lowly occupation from the Indian caste system.

But, Pathak conceded, his task is formidable. A sample survey of 800,000 households in 110 towns, conducted by the U.N. Development Program, showed that only 23 per cent of the houses have flush toilets of any type. The survey showed that 29 per cent of households use dry pits or the bucket privy system that require scavengers, while 48 per cent simply rely on defecating in open fields.

Since conventional water-borne sewage systems are not economically practical except in the largest of Indian cities—the World Bank estimates the cost at more than \$ 1,000 per household in densely populated, low-income areas — the voluntary enterprises turned to simple, water-sealed septic systems that can be built in individual homes for as little as \$100.

The Easy Toilet Society was begun in 1973 with an offer by Pathak to build a series of latrines in a public park that because of public defecation had become a health hazard in Patna, the capital of the northern state of Bihar.

Pathak, a former civil servant who had grown frustrated over the creaking bureaucracy and joined the Gandhian movement, recalled that when he sought government aid for his proposal, he was startled to learn from a Bihar State official that funding could be cut off at any time. He said the official advised him, “My dear boy, make your scheme commercially viable so that it can become a success without government aid.”

**P**athak, 42, said, “We have been self-sustaining since. We have not received a single grant.” The nonprofit society, which receives 15 per cent of cost for supervising construction of sanitary facilities, reinvests all of the profits after operating expenses back into expansion, research and development and social rehabilitation programs, Pathak said in an interview.

Easy Toilet now operates more than 300 public toilet facilities in seven states, charging 20 paise, or the equivalent of about 1 cent, per user and earning \$12,000 a month in 44 facilities in Patna alone.

The society's greatest expansion, however, has been in building lowcost flush latrines in private homes—more than 300,000 in less than 10 years. More than 2,000 scavengers have been “liberated” in Bihar alone, Pathak said.

The simply designed watersealed latrines cost the homeowner between \$100 and \$180, half of which is subsidized by the government and the remainder of which can be financed by a government loan.

The Easy Toilet Society also has branched out into the alternative energy field, using waste from public toilets to produce methane gas in a project begun in 1977 in Patna. The system provides energy for street light along a 2½-mile stretch of a main street in Patna.

But the society's main focus, Pathak said, remains on ridding India of the health hazards caused by bucket privies and other primitive sanitary facilities and

on "liberating" the night-soil carriers from their demeaning jobs.

Paradoxically, some of the strongest resistance to the emancipation programs conducted by the society and other Gandhian groups, including the Harijan Assistance Organization, comes from the scavengers themselves.

Night-soil scavengers working for municipal government earn about \$40 a month and since many of them are women and untrained for any other employment they have viewed the "liberation" movement as a threat to their livelihoods.

"Maybe some political leaders have stirred an agitation, for their own ends, but I cannot believe that anybody wants to carry night-soil, and they don't want their sons and daughters to have to follow them in the same occupation. If they are offered alternative employment, I think they will take it," Pathak said.

The Easy Toilet Society has begun retraining programs to convert *bhangis* to auto mechanics, drivers, tailors, typists and — predictably — assembly-line workers in factories manufacturing ceramic flush toilets.

# THE TIMES OF INDIA

NO. 284 VOL. CXXXVIII CITY

NEW DELHI : MONDAY, OCTOBER 11, 1976

36 PAISE

## GANDHIAN WAY TO MAKE PATNA CLEAN

*By P.C. Gandhi*

Patna, October 10

**P**atna, which has the melancholy distinction of being the dirtiest state capital in the country, may soon be the cleanest city because a movement led by an ardent Gandhian worker for doing away with service latrines has been gathering momentum. Within a year, the city may be the first state capital without a single service latrine.

Slowly but surely the city is undergoing a sea-change in its sanitation. It is hoped that by the end of next year, Patna may not have a single sweeper carrying nightsoil as headload or even in a wheel-barrow. Already one-third of the city has been rid of service latrines and 325 of the 1,400 odd sweepers employed by the Municipal Corporation have been relieved of the humiliation of carrying nightsoil. All this has happened in about a year.

On October 2 last, the "*bhangi mukti andolan*" entered the take-off stage without any fanfare of publicity. The moving spirit behind this silent revolution, which is now catching on in other towns of Bihar as well as in important towns of U.P. and Haryana is 34-year-old Mr. Bindeshwar Pathak, a graduate in sociology of Patna University.

Mr. Pathak was like any other unemployed youth after he had resigned his clerical job in the Bihar State Electricity Board in late 1968. Frustrated, Mr. Pathak joined the Gandhi Centenary Celebration Committee in 1969 as a "*pracharak*" (a propagator). The year 1969 was the Gandhi Centenary Celebration year and several programmes were organised to propagate the teachings of the father of the nation.

Mr. Pathak moved from town to town and village to village on his mission propagating Gandhiji's teachings. He soon realised that gone were the days when mere propaganda could achieve the desired results. People coldshouldered him and were in no mood to oblige him by attending his meetings. They demanded concrete result-oriented action and not sermons.

Mr. Pathak moved on to the 'bhangi liberation' cell of the Centenary Celebration Committee where he did some spade work and research. In a few months, the committee wound up its activities. Mr. Pathak was again a jobless youth. But he stuck to the ideas he had developed during his short-lived association with the sponsors of the Gandhi Centenary Celebration Committee, persuaded a few like-minded people to set up a voluntary organisation known as "Sulabh Shauchalaya Sansthan" and got it registered.

As the secretary of this institution, Mr. Pathak moved from municipality to municipality and from one government department to another in search of officials who might appreciate his ideas.

He designed a latrine which could function as a flush-latrine without being connected to a sewerage system. None was willing to try his innovation. But municipal officials of Arrah, a small district headquarters about 50 km from Patna with a population of about 60,000, showed some interest in Mr. Pathak's experiment. He converted about 400 service latrines at Arrah into "Sulabh Shauchalayas". But by the end of the 1973-74 financial year, the municipality had run short of funds.

He again tried to persuade state government officials and ministers to give government grants to his mission. Political instability and frequent changes of cabinet ministers made matters worse for him.

The Patna Municipal Corporation was faced with the serious problem of laying underground sewers in the new state capital. It was estimated that at least Rs. 100 crores would be required to lay a sewer network.

Apart from enormous financial resources for the project, various technical difficulties cropped up. The city is surrounded on three sides by three major rivers — the Ganga, the Sone and the Poonpoo. The level of the river beds is higher than that of the city. Long embankments protect the town.

### MAIN PROBLEM

The main problem was how and where to drain out the city's sewage. One proposal was to carry the sewage near the Ganga, lift it with power driven pumps and flush it into the river. The state government feared a hostile reaction to the proposal which would involve pollution of the holy river.

At this stage, Mr. Pathak met a senior official who was then the local self-government secretary to the Bihar government.

This official lent his ear to Mr. Pathak and found there was sense in what he was talking about. "I will just now pass orders for government grants for the next 20 years." But he hastened to add : "What will happen in the 21st year?"

This sentence made Mr. Pathak sit up. He sought the advice of the official concerned how to give a concrete shape to his ideas. The official remarked : "My dear boy, make your scheme commercially viable so that it can become a success without government aid".

This set Mr. Pathak thinking and changed his outlook. The chase for government grants ended and the Sansthan decided to undertake the task voluntarily on a no-profit-no-loss basis.

On October 2, 1974 — the birth anniversary of Mahatma Gandhi — the soft-spoken Mr. Pathak vowed to convert all the 40,000 odd service latrines in

the city into flush latrines. He pledged to relieve about 1,400 sweepers of the indignity of carrying nightsoil as headload.

He was dubbed a "crank" when he said that he would accomplish the target in about three years. But hostility did not dampen his enthusiasm. The Sansthan wrote to the Prime Minister, Mrs. Indira Gandhi, who, in turn, wrote to the then Chief Minister to give his personal attention to the Sansthan's scheme. Things started moving fast. The state government issued an ordinance banning service latrines throughout Bihar.

Municipalities in Bihar spent about Rs. 43 lakhs on abolition of service latrines during the 1961-1976 period, but the results were not even noticeable.

Meanwhile, Mr. Raj Dev Narain Singh took over as Administrator of the superseded Patna Municipal Corporation. His task was to give a facelift to the city.

At that time, the biggest eyesore in Patna was a filthy stinking stretch of land near Gandhi Maidan, used by thousands of people as an open air lavatory with the backdrop of the imposing new building of the Reserve Bank. The stench was unbearable.

As Mr. Raj Dev Narain Singh was in search of a solution to the problem. Mr. Pathak came across this official perhaps at the most appropriate moment.

The first set of 24 "Sulabh Shauchalayas" was set up there after removing the encroachment. The work progressed at a remarkable speed and within a week or so the filthy spot had been turned into a painted set of public baths and conveniences.

### **A BOON**

The declaration of emergency and the announcement of the 20-point programme was a boon to Mr. Pathak and another set of 24 latrines and 12 bath sets were added at the spot.

The Municipal Corporation paid for the construction of the structure at the rate of Rs. 400 a latrine. The work was extended by the Sansthan with a margin of 10 per cent profit for supervision. The "Sulabh Shauchalaya" has caught the imagination of the people of the town.

Early this year, two more ordinances were issued by the state government making it a penal offence to have service latrine in any house. At present this voluntary organisation is busy converting service latrines into "Sulabh Shauchalayas" in 35 of the 115 towns with civic bodies. The civic body has entrusted the maintenance of public latrines to the Sansthan.

Now about 6,000 persons use this set of latrines daily. Except women, children and "very poor people", everyone has to pay 5 paise for using a latrine and to have a bath. Those who desire soap have to pay 5 paise more.

In Patna, about 14,000 service latrines have been converted into "Sulabh Shauchalayas". About 10,000 labourers, skilled and unskilled, and about 300 educated unemployed youth have been provided with jobs.

Simple and unassuming, Mr. Pathak beams with the conscience of fulfilment when he says that 325 sweepers have been relieved of carrying nightsoil on their heads.

The process of constructing "Sulabh Shauchalaya" is so simple that no engineering skill is required. Even an ordinary village mason can do the job. The structure is expected to last about 60 years.

### EASY INSTALMENTS

The Municipal Corporation provides a grant of Rs. 200 to any house-holder who wants to get his service latrine converted into a "Sulabh Shauchalaya". The balance of Rs. 200 is given as loan to be repaid in easy instalments in five years.

The Municipal Corporation is now negotiating with some nationalised banks to provide about Rs. 1 crore to rid the entire Patna city of service latrines. Mr. Pathak has left for Bhiwani in Haryana where a "Sulabh Shauchalaya" project is to be taken up in a big way. The Haryana government wants to provide every family in the State with such a latrine in the next five years.

For every such latrine built by the Sansthan, there is a proper follow-up action. There is a 10 year guarantee for repair, change of material or removal of any defect. This guarantee is included in the cost of construction.

The Sansthan has discovered that nightsoil accumulated in the covered chamber turns into quality fertiliser after a year. It is planning to produce about one lakh tonnes of fertiliser after 10 years in Patna city alone. It has also made some innovative research in converting nightsoil into an odourless piped cooking gas.

Patna city is now cleaner and odourless. The warning notice against urinating and easing on sidewalls of office buildings and markets have given way to new hoardings asking people to use toilets and urinals almost at every turn of the road.



# THE TIMES OF INDIA

Wednesday, April 11, 1984

## Electricity from human excreta

By P.C. Gandhi  
New Delhi April 10

**A** BREAK THROUGH has been achieved in generating electricity from biogas produced out of human excreta. It can be utilised for community services like street lighting.

The experiment has been successfully conducted by a voluntary organisation in Patna which has promoted street lighting out a stretch of a Kilkometre on the crowded Bailey Road in the heart of the capital.

Among those who have watched the working of new project are the Union Minister for Planning Mr. S.B. Chavan, the Chairman of the Energy Board, Mr. K.C. Pant, the US Ambassador to India, Mr. Harry Barnes and the Secretary to the Government of India, Department of non-conventional sources of energy, Mr. B.N. Swaroop.

According to Mr. K.C. Pant, generation of electricity from biogas, produced particularly from cowdung was nothing unusual. But electricity from biogas out of human excreta was rather a new feature at least in India.

“The Patna experiment is unique in more than one way”, according to Mr. Pant. First, positive result have been achieved through voluntary efforts.

Secondly, the entire project is economically viable and can function without any financial assistance from any agency.

The department of non-conventional sources of energy has asked the Sulabh Institute of Applied Research, the agency which has undertaken the project to extend the street lighting from Bailey Road to the round about near Raj Nivas a distance of above three kilometers.

The department has offered Rs. 10 lakhs for the project. But the Chairman of the Institute, Mr. B. Pathak told this correspondent that assistance was required only to cover the cost of poles and wiring. Patna Municipal Corporation should be able to do this.

The experiment began about three years ago on a modest scale. Sulabh International a sister organisation is maintaining a set of public latrines with about 46 seats on Bailey Road.

The flush latrines are connected to two big pits where night-soil is stored. Users were charged 20 paise each. This included facility for a free bath.

About three years ago efforts were made to produce biogas for general use. But many objected to the use of gas from human excreta for cooking. It remained a demonstration project for about a year.

In August last year the Institute purchased a small engine and put it to experimental use. Electricity so generated was used for lighting the latrine complex only.

Mr. Ramashray Prasad Singh, Minister for urban development visited the site and asked Mr. Pathak if street lighting could be provided on Bailey Road to coincide with the visit of the President, Mr. Giani Zail Singh on December 4.

The challenge was accepted by Mr. Pathak and the Bailey Road was lit in the night for the first time without a penny being spent.

There has been uninterrupted power supply ever since on Bailey Road.

To make it economically viable the fee for using latrines and bathrooms has been raised from 10 to 20 paise. The additional amount of about Rs. 300 per day collected for using latrine is sufficient to meet the running cost of street lighting.

The Institute has now set up another division to carry out research and develop an engine which could run only on biogas and generate electricity.

# THE TIMES OF INDIA

January 20, 1987

## Sulabh's Work to better Bhangis' lot

The Time of India's News Service

Lucknow January 19

**S**peaking at the untouchability conference held at Belgaon on December 27 1924, Gandhiji said, "Socially, they are lepers. Economically, they are worse than slaves. Religiously, they are denied entrances to place we miscall houses of god. But I do not regard *bhangis* in any sense a low order. Many *bhangis* are worthy of reverence to which even some of the Brahmins I know are not entitled."

Untouchability was abolished by articles 17 of the Consitution, yet liberty, equality and fraternity have still to acquire meaning for bhangis, specially those who are engaged in scavenging. The inhuman practice of removing night-soil and filth physically still continues to perpetuate their status as untouchables of society. While government's polices for Harijans have improved their lot, the lowest Harijans among them continue to be yoked to a system that reduces them to a status inferior to human beings.

Since independence a number of committees and commissions have gone into the problems of scavengers and they have all expressed their sentiments to end this down grading practice. But in India, even today one-third of the urban households have no latrines and a further 40 per cent of households depend on bucket latrines, the problem is by no means easy. If there is any voluntary organisation zealously engaged in translating Gandhiji's concern for Harijans into reality today, it is Sulabh Shauchalaya Sansthan, which now, because of extension of its work to several other countries is called Sulabh International, founded by Dr. Bindeshwar Pathak of Patna.

It is with a view of focussing attention on the problem of liberation of scavengers by converting dry latrines into other available excreta disposal system that the Sulabh Shauchalaya Sansthan, jointly with urban development department of the state government and the social welfare department of the Central Government is holding a two-day seminar in Lucknow from January 20 to January 21. Leading social scientists besides public health experts have been invited to participate in it.

Dr. Pathak, founder of Sulabh Shauchalaya Sansthan (SSS), is a social scientist with impeccable credentials. Not only has the World Bank and several international organisations commended his work, he is also recipient of the

environment pollution control award of the Rs. 1 lakh given by the Asian Cables Foundation. A water seal pour-flush toilet design evolved by him has been widely recommended for adoption in under developed countries. Its chief virtue is that it does away with the practice of manned removal of night-soil. Thanks to Dr. Pathak's untiring efforts, dry latrine complexes have been substituted by Sulabh Shauchalayas of Dr. Pathak's conception in almost all major towns of Bihar.

In Lucknow alone, there are as many as 40 toilet complexes where excreta disposal system evolved by Dr. Pathak is in vogue. In several other towns of the state and in almost all other states in the country, Sulabh Shauchalayas are being increasingly introduced. But considering that there are over 8 lakh dry latrines in UP's urban and rural areas, lot still remains to be done.

Dr. Pathak started as an extension worker in the bhangi mukti cell of the Gandhi Centenary Celebrations Committee in Bihar in 1969. But now he is widely regarded as a public health expert and frequently invited by agencies in the country and abroad, which are engaged in slum eradication programme.

In an interview, Dr. Pathak said : "Right from the beginning I was tempted to study various aspects of sanitation problems and their possible solutions. With a view to end demeaning work of carrying night-soil as headload I thought of undertaking conversion of dry latrines into low-cost water seal latrines. Since the Gandhi centenary committee was not interested in introducing a new concept to ensure bhangi mukti, I resigned and evolved a design which ultimately has come to be known as Sulabh Shauchalaya. Once I succeeded in persuading Arrah municipality in Bihar to introduce my toilet design, there was no looking back. The idea quickly caught on as every municipality wants to end degrading practice of night-soil removal as headload."

Now, in the conversion of dry latrines into Sulabh Shauchalayas, Sulabh International only acts as a catalytic agent between the local bodies and the house-owners and assist them in filling application forms for loans and grants available for the purpose under Harijan welfare schemes. When construction is completed the house-owner gives a certificate to the effect that the shauchalaya has been constructed as per plan and is functioning well. The SSS gives an undertaking to repair or rectify the system in the event of complaint.

The success of Patna experiments of public conveniences, besides the success of the Sulabh disposals systems in Lucknow and over a score of other towns throughout the country, has convincingly demonstrated that community convenience system with proper maintenance and financial arrangement are feasible options. "Our experience everywhere has proved that people do not mind paying service charges as long as public conveniences are kept clean. In the present social economic stage of development in the country, when every civic body lacks resources to undertake provision of underground sewers and introduce flush type of latrines, Sulabh system, which does not involve drainage

of wastes to nullahs or rivers is the best available options for the country”, Dr. Pathak said.

Dr. Pathak said : “In conformity with our commitment to liberate scavengers through low-cost sanitation and rehabilitation of scavengers, the Sulabh Shuchalaya Sansthan has launched a crusade to liberate scavengers from this demeaning practice and seek assistance of the people of all walks of life like politicians, administrators, educationists, scientists, engineers, local bodies to join our hands in achieving our objective and make the dream of Gandhiji a reality”.

“But the problem of scavengers does not end barely by substituting dry latrines with other excreta disposal system. The victims of social apathy and age-old stigma have to be suitably rehabilitated in alternative occupations which do not bear the stigma of untouchability or lower caste. Without this bhongi mukti would remain a distant dream. We hope to discuss all these problems in the two-day seminar opening in Lucknow on Tuesday”, Dr. Pathak added.

# THE HINDUSTAN TIMES

New Delhi Saturday November, 22 1980

## A CONVENIENCE TO SOLVE HUMAN WASTE PROBLEM

Hindustan Times Correspondent

**M**r. Bindeshwar Pathak of Bihar may well become a household name in West Bengal.

The Calcutta Metropolitan Development Authority (CMDA) has entered into a 20-year contract with the Sulabh Shauchalaya Sansthan, an organisation founded and led by Mr. Pathak, for supplying sanitary water-seal latrines for Calcutta and various municipal areas.

Mr. Pathak's job in West Bengal is to convert service latrines into "Sulabh Shauchayalas" (sanitary water-seal latrines). This latrine, developed by Mr. Pathak from a presecond world war design and lying forgotten with the Indian Institute of Public Health and Hygiene, Calcutta, costs at present Rs. 400. It is constructed in a simple way. It is an ordinary latrine with a special type of water seal. The water seal is connected with two equal size pits. Only one functions at a time, while the other one is kept closed. When the first is filled up, the second one is opened for use. While the second one is being used, manure is available from the first pit. Human excreta is stored in the pit which is *kutcha* at the ground level. The construction is such that it allows bacteria to be consumed by earth and prevents bad smell and unsanitary conditions. No scavenger is required to clean the pit. The pan can be flushed by one mug of water and in one year human excreta turns into earth, which can be taken out of the pit.

Mr. Pathak's "Sulabh Shauchalaya" has brought about a mini-revolution in Bihar where municipalities are now extensively using this latrine, replacing service latrines. As in Bihar, so in West Bengal, Mr. Pathak's non-profit organisation has undertaken the task of constructing the latrines.

A CMDA team which visited Bihar to see how they are working was highly impressed by Mr. Pathak's innovation and his method of popularising them. It is now learnt that Mr. Pathak's fame has spread abroad and the United Nations Development Programme (UNDP) has recommended the "Sulabh Shauchalaya" for developing countries.

The first "Sulabh Shauchalayas" in Calcutta have come up in Deshbandhu Park. Within two weeks of their introduction, the latrines are being used by an average of 600 people who pay 10 paise for using the latrines. The money collected meets the maintenance needs. The CMDA has decided to introduce this latrine all over the city and in a large number of municipalities.

## UN body praises Sulabh work

**T**he United Nations Centre for Human Settlement has identified Sulabh International, a voluntary organisation, as one of the 55 global agencies commended to be employed in the programmes of the International Year of Shelter for the Homeless (IYSH).

A Press release from Sulabh said the IYSH programme included providing and improving shelter, drinking water, sanitation and waste disposal, upgrading infrastructure and services for the poor, like roads, public transport and low-cost sanitation.

Of the 55 agencies, Sulabh is the only voluntary organisation, the release added.

Sulabh specialises in providing sanitation through low-cost solutions and converts bucket latrines into pour-flush systems which rule out hand cleaning of excreta.

Sulabh International, in the latest brochure of UNCHS (Habitat), has been mentioned as a premier organisation with special skill and know-how for providing adequate sanitation "through low-cost solutions under efficiently administered schemes supported by public authorities." Sulabh creates clean environment by converting bucket latrines into pour-flush system which rules out hand cleaning of excreta and, thus, abolishing scavenging which is also the trust area of Mr. Rajiv Gandhi's programme for rural construction.

Sulabh also maintains community latrines which operate independent of city sewerage system, already overburdened because more houses have been constructed than were originally planned. Unauthorised colonies can be provided Sulabh sanitary system which will not put pressure on the civic system. Since Sulabh also maintains these community complexes for as long as 30 years and more, civic authorities save on maintaining them. These are also being turned into growth centres which would provide many other facilities.

Dr. Bindeshwar Pathak, the man behind the Sulabh movement and the liberator of scavengers, said today in a statement that Sulabh movement is catching up in the developing countries from where he is receiving inquiries on the programmes. Many delegations from abroad recently visited Sulabh

complexes in the Capital and studied the system. Dr. Pathak is a widely travelled man and a leading environmentalist known all over the world.

Besides low-cost sanitation system Sulabh has also developed technology to produce biogas from human excreta through digester which is served by Sulabh toilets to produce about 55 cm biogas a day. The gas is fed into the prime mover for generating electrical power for a 10 KWA generator. The system is working in Patna.



## Plea to check urban decay

**U**rban decay is not only a problem of resources crunch, but also of inadequate attention to strengthening linkages to city living like water supply environment, sanitation and healthcare. This was the unanimous view expressed by experts at a conference organised by the Indian Institute of Public Administration which is currently organising its sixth training programme on management of urban development.

Senior officers of State and local Governments are attending the course which is designed to improve urban development and management within the country, according to a Press release.

During the two-week training programme, the Institute offers exchange of views with experts in various fields pertaining to urban development and planning, housing and civic amenities including sanitation. Public health and sanitation have become very crucial for urban living and it has not got much attention. Proper attention to these aspects can take care of most of the human problems such as health and environment.

Dr. Bindeshwar Pathak, founder of the Sulabh Movement and an expert in sanitation, shared his experiences of the low-cost sanitation system which he developed some 20 years ago. His plea to the officers attending the training programme was that they should be open to innovations. Sulabh International is carrying out works in 20 States of the country, have constructed about six lakh individual toilets are maintaining over 300 community toilets, and in the process liberated about 25,000 scavengers, and rehabilitated them in other dignified occupations. These scavengers no longer carry human excreta on their heads.

Dr Pathak said Indian cities are under pressure due to migration from villages. And this called for special approach in city planning. Or else our cities will turn into festering slums, "which, as a matter of fact, many of them have become now".

Prof. D.D. Malhotra, the programme director, and Mr A.K. Lal, a social scientist, also participated in the programme.

## Quota for scavengers urged

**N**ow that the reservation policy is being revised in view of the acceptance of the Mandal Commission recommendations submitted in 1980, it is in the fitness of things that 10 per cent of the total jobs be reserved for scavengers who comprise people of all classes and castes said Dr. Bindeshwar Pathak, founder of the Sulabh Movement which works for liberation of scavengers.

In Meghalaya, Sikhs are also scavengers, so are Christians, Muslims and almost all castes of Hindus. In Kerala, in one family, the members are of different castes. It is the first case of unity based on profession, said Mr. Pathak.

Sulabh International is the largest voluntary agency which has until now redeemed 25,000 scavengers and rehabilitated them with the help of the Government on its own resources which it raises by setting up low-cost sanitation (toilet) facilities almost all over the country and in some South-Asian countries, according to a Press release.

Dr. Pathak said in the statement issued in New Delhi on Sunday that scavenger have not been identified as a class in the Mandal Report and since they have no caste, their interest is not sufficiently taken care of in the Mandal report. Some job reservation is done for scavengers, but only for Hindu scavengers. There is no provision for scavengers of other castes who are quite in large numbers.

For this reason, Dr. Pathak wants the Government to group the scavengers not on basis of caste, or religion, but on the basis of profession. "This is the only way to serve the most deprived section of society," Dr Pathak said.

The 10 percent job reservation for scavengers is all the more necessary, now that the Government has set a deadline, (well before the turn of the century) when the last of the scavenger will be liberated from having to carry night-soil on head.

Dr. Pathak, a social reformer and educationist, therefore, has requested the Central Government to declare ten per cent job reservation for scavengers, based on profession, and not on caste and religion, and, thus, help save this most helpless class of people.

## An interview

### Dr. Pathak, a redeemer

New Delhi, December 31, when Romes first built a gigantic sewerline (cloaca maxima) in sixth century, little did they know that they were producing a revolution in city planning which would change life as nothing did before. The modern sewerage system was later improved in Britain when in 1460 Sir John Harrington developed WC (Water closet), a contraption as important to human civilisation as the invention of the wheels.

There was nothing like that in the US until then. And, American farmers, who would go to towns to sell their products, used to collect human excreta at night for use as manure in their fields. And, thus, came the term "night-soil". In India those who were forced to collect and carry human excreta were conquered tribes, or the poor and the abandoned. We have sketchy information when scavenging came to be done by a class of people, known by a variety of names, including *Bhangis*, *mehtars*, *chandals* and untouchables.

Dr Bindeshwar Pathak, founder of Sulabh International, a non-profit social organisation, said this in an interview the other day while talking of redeeming scavengers in India. In terms of sanitation, India is still in the fifteenth century; for only 217 towns, out of the total of 3,245, have modern sewerage facilities and that too, partially. "In a country where some 70 crore people, which is more than the population of the US and Europe, defecate in the open, the periodic outbreak of cholera, jaundice and gastroenteritis should not occasion surprise", said Dr Pathak, also a scholar and social reformer.

In Delhi alone, there are some five lakh households on the periphery out of which about 3 lakhs house holds have no latrines at all and they go for open defecation and about 2 lakhs houses have only dry-latrine systems which are either physically cleaned by scavengers, or the wastes fall into the open drain, polluting water source and causing stomach-related diseases — the ones that caused some 200 deaths in Delhi recently when the Prime Minister had to visit JJ clusters in the trans-Yamuna areas.

One does not have to depend on statistics; take round of the town in the morning and you'll know the number of people who defecate in the open and lack the facilities which were provided to city-dwellers in the times of Mohenjo Daro in 1,500 B.C." Dr. Pathak has evolved low-cost technology for the proper

and hygienic disposal of human waste, based on the researches done in India which is affordable and appropriate to suit the economic conditions of the countries like India. The water-sealed Sulabh system has been recommended by the World Bank (UNDP), WHO and UNICEF for adoption in other developing countries”.

Sulabh International has set up more than 4 lakh toilets in individual households and more than 1000 community Sulabh complexes in the country which it is committed to maintain for 30 years or more. Many such complexes will have facilities like TVs, and viewing halls, telephones, ambulances and first-aid kits in near future.

## **HARIJAN REDEMPTION**

“However, city planning is not the area of my chief concern. Nor am I an engineer. I am a social reformer and social scientist, working to redeem scavengers, who are Harijans among Harijans. Nobody touches them; they live outside the village and city and are subjected to economic exploitation and social humiliation. “Gandhiji had started the work of their redemption and sought to give them respectability by cleaning latrines himself at the 1901 AICC session in Calcutta. Mrs. Indira Gandhi also wanted to the physical cleaning of latrines in phases. But, the work is too stupendous and social prejudices too deeply cut to be removed just like that.

“I changed the approach; first, I innovated a technology based on the researches already done in India which need no physical cleaning of latrines and then started various social programmes. Sulabh institutes were set up to train the wards of scavengers as plumbers, teachers, tailors, drivers, electricians and masons. The government also gives assistance in this work”, Dr. Pathak said.

Asked about how many of them have been employed, Dr Pathak replied; “I don’t know if any of them are jobless. All liberated have been provided with alternative employment and for their wards a massive programme for training and rehabilitation has been started in Bihar. Maharashtra, Madhya Pradesh and other states are also going to start this programme very soon.

Our target is to train and find jobs for two million such scavengers by the turn of the century which is sought to be achieved by extensive use of Sulabh technology and training.

Sulabh International has been able to obtain biogas from human excreta collected at public toilets. The entire Jawaharlal Nehru Marg in Patna, a stretch of four km, is illuminated by Sulabh biogas. “It is there for all to see”, Dr Pathak said Sulabh also works with the Department of Non-conventional Energy Sources to produce biogas from such plants to be set up all over the country.

“If this programme is effectively implemented,” the Sulabh founder said, “the

entire street lighting of urban areas in India can be met from the biogas produced from human excreta collected and matured through Sulabh technology”.

“These programmes will also create immense job possibilities Sulabh International is not a business outfit; it has never meant to be one. It is only an instrument to carry out the social programmes, started by Gandhiji and carried forward by all the Prime Ministers, specially by Mrs Indira Gandhi and now by Mr Rajiv Gandhi”.

While taking of his hunt for a “piece of dream”, the Sulabh founder said : “Vedas have given no sanction for discrimination against Harijans which became evident when I entered the Nathdwara temple on Oct 31 alongwith 102 Harijans without resistance. People and priests welcomed us. Nor is there any structural flaw in the Hindu social system which has evolved after two thousand years. It is only the distortion which we have to correct more by compromise than by confrontation,” Dr Pathak said in the interview.

# PM keen to promote rural sanitation

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NEW DELHI, NOVEMBER 27, 1990.

**P**riime Minister Chandra Shekhar said yesterday that he was keen on abolishing scavenging and, thus, free some six lakh people who still carry human excreta on the head in 3,245 towns and cities of the country where sixty lakh dry latrine still exist.

Talking to Dr. Bindeshwar Pathak, Founder of Sulabh Movement, the Prime minister said this should not be difficult at all, when there were funds for this work. The Prime Minister suggested to Dr. Pathak that he should construct Sulabh shauchalaya complexes at all religious places of all communities and castes and also at other places where people gather in large numbers. Mr. Shekhar was anxious that these facilities, including toilets for women in all villages, should be extended to include the entire rural and urban areas, according to a Press release.

The Prime Minister also showed keenness on the Sulabh proposal to train some one lakh "change-agents" to



The Prime Minister, Mr. Chandra Shekhar, discussing scavenging problems with Dr. Pathak in New Delhi on Nov. 25, 1990.

wrok in each village of the country who will look after primary facilities like healthcare, pumpset repair, road, building and other related activities necessary for strengthening rural infrastructure in the country.

Sulabh International is the largest voluntary agency working for liberation of scavengers, upgradation of the depressed classes and protection of environment by setting up community toilet complexes and also in individual households.

The Prime Minister appreciated the work done by Sulabh and said that his Government would look into proposals to expand the sanitation movement in the country in order to provide clean environment and healthy living conditions for the people in rural and urban areas. The Prime Minister also assured that scavengers liberation work would be speeded up to be able to meet the deadline. "Carrying human excreta on the head is a blot on our society and it has to go, whatever be the cost", he said.

## New strategy urged to end scavenging

**W**hile welcoming the Central Government decision to abolish scavenging by the end of the eighth Plan through conversion of dry latrines into a low-cost pour-flush sanitary units in some 500 towns a year, Dr. Bindsagar Pathak, founder of Sulabh International, said today that the funding pattern had to be changed in order to meet the deadline. According to the proposal presented to the Consultative Committee attached to his Ministry, Mr Daulat Ram Saran, Urban Development Minister, said yesterday that there would be 45 per cent subsidy, 50 per cent loan and five per cent beneficiary contribution for conversion of dry latrines.

Dr. Pathak, in a press release, said the scheme would not work fast enough to hit the deadline; for, the five per cent contribution is hard or very slow to come from the beneficiaries, in which case the project is being delayed. And, this five per cent is hardly Rs. 100 assuming that the cost of conversion is Rs. 2000 per unit. Therefore, it will be advisable to add this meagre amount to the loan component and make it 55 per cent loan and 45 per cent subsidy. The total burden by way of enhanced loan amount should also not be enough to stymie the project.

Dr. Pathak, who is also a member of the Planning Commission's Task Force on scavenging and the HUDCO's Committee on low-cost sanitation, said that the present funding pattern which first

suggested by UNDP/World Bank in 1981-82 at the Udaipur conference, but all the State and the Central Governments rejected it to adopt 50 per cent loan and 50 per cent subsidy funding pattern. Which continued till 1989. And the work progressed well. But now the Government has again reverted to the once rejected funding pattern for the dry toilet conversion plan. This, according to Dr. Pathak is delaying the project considerably.

Dr. Pathak agreed with Planning Commission Chief Mr Mohan Dharia's conviction that the subsidy component should be reduced. "It is a good move, but to that extent loan component should be raised so that the beneficiary may not have to make cash-down payment and the work may proceed apace to hit the deadline", Dr. Pathak said.

He also suggested that the disbursement pattern should also be changed. At present the Centre sends the money to the States which, in turn, disburse to civic bodies or the implementing agencies. What happens in fact is that the State Governments keep the money in the "ways and means accounts" and delay the transfer of money to municipalities, sometimes by three years. This, again delays the project "If the Government wants to hit the deadline for the liberation of scavengers, it will have to look into these problems and put them right, he added.

## Two biogas-linked toilet complexes approved

**T**he municipal administrator, Mr. V.K. Kapoor, has approved a plan to build biogas-linked community toilet complex each in the Trilokpuri and Manglapuri resettlement colonies. They should be ready in six months.

The plan is to sell the biogas, charging Rs. 32 monthly for a family connection. The department of non-conventional energy sources will provide stoves free.

The Municipal Corporation's water wing charges Rs. 7, plus Rs. 9 in taxes per family member each month, for the biogas supplied by it from the Okhla sewage treatment plant. The MCD decided on Rs. 25 plus taxes a family because it has to supply to "weaker sections".

The Rs. 38-lakh project is the outcome of a meeting convened in March by the Environment Minister, Ms Maneka Gandhi. There it was decided that Mr. R.P. Sharma, Director of the Ganga Project, would coordinate. Apart from the directorate, the agencies involved are the MCD, the DNES and Sulabh International, which has been given the work. Of the Rs. 38 lakh the DNES contribution will be Rs. 5 lakh.

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## Dr. Ambedkar lauded as great redeemer

**“M**ore than being a founder of the republic, its law minister and a distinguished academic, Dr. Bhimrao Ambedkar was also a redeemer and an architect of secular India whose 'Mahaparnirvan Diwas' falls today when the Harijan-turned Buddhist died serving the poor and the deprived”.

This was the sentiment expressed at various mass meetings, seminars and talks held by Sulabh International at all its State units where mass pledge was renewed to abolish untouchability and redeem scavengers well before the deadline, that is 1995. Dr. Bindeshwar Pathak, founder of Sulabh Movement, has sent message



on the occasion to all units and the Press, praising work and achievements of Dr. Ambedkar. Dr. Pathak is currently in Pakistan, visiting slum areas in Karachi on the FAO invitation to suggest low-cost sanitation projects appropriate to local conditions, according to a Press release.

Dr. Ambedkar (April 14, 1891 to December 6, 1956), the first Law Minister of the country, was born in an untouchable Mahar family in Western India and he suffered humiliation at the hands of high-caste schoolfellows. In a grim determination to outperform the so-called upper-caste students, he studied hard in India, the US, and Britain to become an intellectual giant of his times. Dr. Ambedkar resigned as Law Minister in 1951, disappointed over lack of influence in his government and became a Buddhist together with 2,00,000 fellow-untouchables at a ceremony in Nagpur.

In his message Dr. Pathak said and added that things have changed much since; now we are half-way through the redemption of untouchables, specially six lakh scavengers who still carry human excreta on the head. "Scavengers are the untouchables among untouchables. Their conditions are ultimate in human degradation; they are most deprived, most condemned people of this age. And, still the scavenging practice continues". Dr. Pathak said while praising Prime Minister Chandra Shekhar for renewing the national pledge to liberate scavengers and resettle them well before the deadline.

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## I

### CONTINUING DISGRACE

**T**he primitive methods of removing human excreta still being used in India are a disgrace to the country. In the circumstances, Mr. Jagjivan Ram's plea to abolish scavenging will be widely endorsed. But no laws on the subject can be effective unless alternative methods are available.

A recent survey revealed that only 217 out of the 3,119 towns in India have sewerage system — most of them with partial coverage. Only 20 per cent of the urban households have toilets connected to sewerage systems. Water-borne latrines connected to septic tanks serve another 14 per cent of all urban households. Nearly a third of the urban population uses bucket privies that have to be cleaned by scavengers. The remaining one-third of the urban people do not have any toilet facilities whatsoever, hence they make do with any available open space with all attendant hazards to health.

In view of the tardy progress of sewage disposal systems, it can at best be considered a long-term solution. Similarly the expenditure and space required for a septic-tank facility rule it out for most people. A feasible alternative is the water-seal pit privy which costs about Rs. 150 to 200. A Patna-based social service organisation has already converted some 30,000 dry latrines into this type of flushable toilets. The same organisation is now engaged in converting 160,000 service latrines into water-seal toilets in Calcutta. This needs to be emulated by municipalities everywhere. Even this modification in toilets will take some time. Meanwhile, hand-carts, protective overalls, masks, elbow gloves and gumboots must be provided to scavengers.

## II

### HUMAN WASTES CAUSING HIGH SOIL POLLUTION

March 9, 1981 (UNI) :

Indiscriminate defecation and unscientific disposal of human excreta have been mainly responsible for the rapid increase of soil pollution in India, according to Dr. V. Ramalingaswamy, director-general, Indian Council of Medical Research (ICMR).

Dr. Ramalingaswamy told UNI that soil pollution due to bacterial agents occur as the disposal of human excreta had not been satisfactory and had posed a major problem.

With rapid urbanisation and over-population in the cities, land area for disposing wastes was decreasing. The presence of a large number of service-type latrines in the cities and towns resulted in heavy soil pollution. These latrines were also breeding places for house flies which transmit many diseases.

Of the numerous diseases that emanated from soil pollution, diarrhoeal diseases were the commonest, Dr. Ramalingaswamy felt. Diarrhoeal diseases in India mainly comprised hookworm, roundworm and dysentery.

Asked whether 1.4 million children died of diarrhoeal diseases in India every year, the ICMR chief said the figure was "quite close".

Dr. Ramalingaswamy said the high incidence of the hookworm disease in rural areas was the result of the death of environmental sanitation. He said parasitic eggs in human excreta hatched immediately and rural people, who mostly moved about bare-foot were infected by them through cuts or wounds on their bodies because of indiscriminate defecation. "Hookworm is a chronic debilitating disease that leads to anaemia and reduces working capacity", Dr. Ramalingaswamy said.

Another source that transmitted diarrhoeal diseases was contaminated water, he said. Also, soil and crops grown on polluted lands could become contaminated with various bacterial agents.

Asked how soil pollution and the diseases resulting from it could be prevented, the ICMR chief said the foremost need was the provision of safe excreta disposal systems for both urban and rural areas. For the latter, non-sewered or water-seal latrines would be the answer. He cited the example of social organisations like the "Sulabh Shauchalaya Sansthan" in Bihar where such latrines had proved a great success.

Although the latrine was the best proposal for human excreta disposal in unsewered areas, the doctor said what was needed in these areas was the appropriate control of irrigation practices and protection of health of the workers so that it did not create any health hazards.

# THE SUNDAY STATESMAN

CALCUTTA BOMBAY NOVEMBER 30 1980

45 Paise

## PATNA FIRM TO TACKLE A CALCUTTA PROBLEM

By a Staff reporter

One of Greater Calcutta's most serious environmental hygiene problems — proper management and disposal of human wastes and provision and maintenance of public toilets is now being tackled by a private organization with the financial backing of the CMDA and municipal bodies.

Sulabh International, a Patna-based organization having the expertise in the construction of inexpensive and modern sanitation facilities, has been allowed to take up the conversion of 1,500 service privies into modern lavatories in 15 municipalities of the Calcutta Metropolitan Development area.

There are about 150,000 service privies in the unsewered parts of the CMDA area. The CMDA, which is financing the conversion scheme plans to complete the job through this agency in stages.

The agency has also been asked to maintain eight public conveniences, which have either been constructed or are in the process of being built in Calcutta and Howrah. They will cover 200,000 pavement dwellers, besides a part of the *bustee* population and pedestrians.

The toilets being built by the CMDA on land given free by municipal bodies will provide both toilet and bathing facilities for which the users will have to pay 10 paise each.

One such toilet is in use at Deshbandhu Park. Although the notice board at the entrance says that those who are unable to pay the fee may use it free of cost; the daily collection has gone up from Rs. 25 to about Rs. 100. Soap is provided free there.

The most encouraging feature is the inclination even among the poor to pay and use the toilet. It is the young educated who at time create problems over payment. About 1,000 people use this facility daily.

The decision to appoint this agency was taken because of the failure of the West Bengal Public Works Department and the municipal bodies to maintain even the few toilets built by them in and around Calcutta. The Patna-based agency has done a good work in building toilets in most of the major towns in Bihar.

The agency has developed an inexpensive type of modern lavatory, which will cost Rs. 1,100. The type being built by the MDA costs Rs. 1500.

The lavatory being built by the agency has a new feature. The trap of the pan through which the wastes pass has been designed in such a way that very little water is required for flushing.

One of the main reasons for the failure of the toilet modernization scheme of the CMDA has been lack of adequate water to flush down wastes. In the *bustees* especially, water is scarce.

The Rs. 3.5 crore Howrah sewage treatment plant, which has been idle since its construction three years ago because of absence of sewerage connexions, will begin operations next year. The Howrah Improvement Trust has been asked to convert 15,000 household privies to enable the plant to secure sewage.

However such a small number of conversions will not be able to fully utilize the plant's capacity, which can treat 10 million gallons of sewage a day. The plant requires 100,000 sewerage connexions.

# LOOK

Bindeshwar Pathak has devoted 17 years to one experiment—  
producing biogas and electricity from human waste,  
writes **Uttam Sengupta**

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## Wondrous waste

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**I**n 1981, it was estimated that 94 per cent of the country's population did not have any scientific or hygienic method of disposing their accumulated waste. Little has changed in the intervening years. But for the past 17 years, one man has devoted his life to human excreta disposal, and by all accounts, very successfully too.

Bindeshwar Pathak, 44, and the organisation he floated—Sulabh Sauchalaya Sangsthan, which is now known as simply Sulabh International—are both much in demand. Today he supervises the work of 15,000 persons scattered over 17 Indian States and his organisation grossed an annual turnover of Rs.60 crores last year. He is hailed as a pioneering sanitation expert in the Third World, invited and feted by United Nations and Common-wealth agencies the world over.

Startling, no doubt, but true. The enormous dimension of the problem perhaps explains Mr. Pathak's success. According to the World Health Organisation (WHO) there are 600,000 scavengers in India who earn their livelihood by cleaning service latrines and literally carry excreta on their heads.

This is the depressing scenario in which Pathak has made his invaluable contribution, the most significant part of it being his successful experiment of running community latrines in urban areas. The design of the latrines, which require much less water than in the flush system, is, admittedly not new. But as a study by the International Labour Organisation (ILO) put it Pathak, for the first time, proved that community latrines could work and that if proper facilities were provided, people would not mind paying small amounts for them. The idea has now caught on in 17 states where Sulabh International manages around 700 community latrines where users pay 20 paise each for the service. Forty-two of these community latrines are situated in Patna alone where 30,000 people make use of them every day earning Sulabh Rs. 6,000. The collections, by and large, says Pathak helps keep the staff required to man and maintain the community latrines, making them self-sustaining.

Pathak has earned another feather in his cap as his organisation became possibly the first in the world to use human excreta collected from community latrines to set up a biogas plant and generate electricity for street lights. Human excreta has conventionally been turned into manure but Pathak undoubtedly provided a new dimension to waste disposal, lighting up Patna's Baily Road and the historic Gandhi Maidan in the process. If a sufficient quantity of waste is available, then the ideal mix, he says is 20 per cent diesel and 80 per cent bio-gas derived from excreta.

Yet despite the almost revolutionary thinking, Pathak faces so every practical problems. He admits that the concept of generating electricity from excreta was still not viable in rural areas. The people in the countryside, he points out are far too scattered and with social stigmas so strong it would be difficult, if not unthinkable to bring people belonging to different castes and sexes to use the same community latrine. Managing such latrines in rural areas would be equally difficult, he adds. However, he suggests, if entrepreneurs in villages could be persuaded to set up poultries, dairies and oil extraction plants, etcetera, together with the public latrines, the composite venture could become a viable proposition with the added incentive of being able to sell fertilisers and electricity. But for the time being, it is obviously far more lucrative to concentrate on urban areas, at least as far as Sulabh is concerned.

# Toilet for the commons

**I**t is a simple idea that worked. And keeps working—for the people. Sulabh Shauchalaya Sansthan (Easy Toilet Society) was started in 1970 to free night-soil scavengers from their demeaning labour. This crusade, over the years, has become a voluntary non-profit enterprise installing flush latrines in thickly-populated urban centres. Such "Sulabh Shauchalayas" aim at eliminating indiscriminate defecation, cleaning up and deodourising the city streets.

The Patna-based organisation runs such public conveniences in 41 locations in the city. Many other urban centres in Bihar, West Bengal, Delhi, Uttar Pradesh, Mdhya Pradesh, Tamil Nadu, Andhra Pradesh and Tripura have public latrines maintained by it. Sri Lanka too has taken up constructing "Sulabh Shauchalayas". The United Nations Development Agency has adopted them with some modifications, in 19 countries in Asia, Africa and Latin America.

The Sulabh Shauchalaya Sansthan turned Sulabh International in 1980.

The first latrine-cum-bath complex in Karnataka is being constructed at Bangalore. As elsewhere the site for this is the busiest and dirtiest locality in the city — Kalasipalyam.

## BATHROOMS

The complex at the north-eastern corner of the bus stand will have a 30-seat latrine seven bathrooms, two dressing rooms and 10 urinals. Attached to the complex are a watchman's room, a collection room, two water tanks, a sump and a mini-garden. The men's and women's facilities are separated by a wall.

The Rs.1.75 lakh complex is financed by the City Corporation. But Sulabh International does not charge the Corporation anything for the maintenance. Under the agreement, it would maintain the complex for 30 years with the money collected from the users. The Corporation, on its part, supplies water and electricity free.

The maintenance costs are covered by collecting 10 paise from users of latrines and bathrooms. Detergent powder for washing hands is supplied free.

The complex will be open round-the-clock and will have a supervisor, three collectors, who take in the fees, one watchman and one sweeper.

Five such complexes have been sanctioned by the corporation: Three in



Kalaspalyam, one in Malleswaram and one on Gundopanth Street. Mr. Yugal Kishore Singh, Resident Programme Officer for Karnataka says that these will be completed in a year.

Each complex is tailor-made to suit the locality and its needs. The organisation has prepared blueprints for facilities in Koramangala and Bagalur slums, Jolly mohally, Chickpet and Upparpet, Mr. Singh says.

The Sulabh Shauchalaya Sansthan was founded by Mr. Bindeshwar Pathak 12 years ago. As a young man in 1967, he had joined the Bihar Gandhi Centenary Committee. Two years later, he was entrusted with the job of "*Bhangi Mukti*" (liberation of scavengers).

Soon he grew disenchanted with the inactivity of government agencies and fellow Gandhians. Gathering a group of designers and engineers he designed low-cost, flush latrines with shallow odour-free subterranean tanks.

These could function without being connected to a sewerage system. And thus, service latrines both in rural areas and urban centres could be converted to "Sulabh Shauchalayas".

### **30s' DESIGN**

The Pathak model, adapted from a pre-World War II design, is an ordinary latrine with a special type of water seal. The water seal is connected to two equal size pits. Only one functions at a time while the other is kept closed. When the first pit is filled up, the second one is opened for use. The night-soil collected in the first pit becomes valuable manure in a few weeks and can be removed by the householders themselves.

Unlike other latrines, "Sulabh Shauchalayas" can be flushed with two litres of water. As the sides of the pits are open to the earth, gases and moisture get absorbed by the soil.

The conversion of a dry type latrine to a "Sulabh Shauchalaya" costs between Rs. 700/- and Rs. 1,100/-. In Bihar, the government pays half the cost and gives an equal amount as a loan. In West Bengal, the entire cost is borne by the Government.

Mr. Singh says one lakh conversions have been made by Sulabh International. One thousand persons work for the organisation.

The Sulabh International engineers have prepared a blueprint for a two-storey latrine complex for the Howrah Railway Station. In one Patna complex, they have set up a stool-gas plant that provides the fuel for lighting the complex.

Slowly, says Mr. Singh, people have come to realise that open-air lavatories need no longer be a part of the urban landscape. In a country where a third of the urban population does not have its own toilet facilities, "Sulabh Shauchalayas" may indeed be the answer to one of the most unpleasant problems of environmental pollution.

# SUNDAY HERALD

## Poor Man's Toilet

By Ujjayant N. Chakravorty

**P**atna has had the reputation of being the dirtiest State capital in the country. But things are changing fast. More than 25,000 poor people who previously fouled the streets and parks, now, daily use the string of public baths and toilets set up by non-political, non-governmental organisation called Sulabh International.

Thanks to Sulabh; Bihar is witnessing a revolution in urban sanitation. For more than a decade Sulabh has been organising a massive door-to-door campaign to popularise low-cost flush latrines in various parts of the State. Over 50,000 units have already been installed, and another 10,000 have been converted from existing bucket privies.

"Every rickshaw puller in Patna now bathes twice a day", quipped Bindeshwar Pathak, Chairman of Sulabh International (popularly known as the Sulabh Shauchalaya Sansthan) and the spirit behind the whole movement. Mr. Pathak was exposed to this problem while working as a 'Pracharak' with the Gandhi Centenary Celebrations Committee in 1969. He soon got disillusioned because of the inactivity of most voluntary organisations and with the help of Mr. Rajendra LalDass, a noted Gandhian reformer, formed the Sulabh Shauchalaya Sansthan.

Sulabh Interantional is now a sought-after organisation and has spread its activities to Andhra Pradesh, Haryana, Madhya Pradesh, Uttar Pradesh, Orissa, West Bengal and even Sri Lanka. Eight hundred service latrines have already been converted into Sulabh Shauchalayas in the Colombo Municipality.

The Calcutta Metropolitan Development Authority has entered into a 20 year contract with Sulabh for undertaking a massive programme of latrine conversion and operating public conveniences for the million-odd floating population of Calcutta City. There are about 150,000 service privies in the Calcutta Metropolitan Distrist alone.

The Sulabh Shauchalaya is an improved version of the standard hand-flush latrine. A specially designed pan and water seal trap is connected to a pit, three fit square and four to five feet deep. Normally, an extra pit is also provided. Usually, the top of the pits is at the ground level. The excreta undergoes bacterial decomposition and is transformed into high quality manure. Once the pit gets filled (three to five years for an average family) the manure is dug out and the pit becomes ready for use again.

The total cost of the Sulabh latrine is Rs. 700, not including the cost of the superstructure. The Bihar Government gives Rs. 360 as grant and the remaining

Rs. 360 as loan repayable in easy instalments. Sulabh is financed by charging the customer 10 per cent of the construction cost. The public facilities have been built on land donated by municipalities. The maintenance cost is covered by collecting a fee of 10 paise from those who can afford it.

Every morning hundreds of poor people can be seen scurrying into these public baths before they set out on their daily chores. Sulabh baths in Patna located at vantage points like the railway station, the Gandhi Maidan and other city squares, are centres of intense activity even at 4 a.m. in the morning. Long queues are a common feature. "The daily intake in this complex often exceeds Rs. 300", says Krishan Lal who manages a unit near the railway station. Do most of the people pay? "Certainly", says Krishan, "but occasionally people ask to let them in free and we allow it".

Is Sulabh Shauchalayas then, the ideal sanitation alternative? According to Mr. Pathak, "none of the existing practices of waste disposal are suitable for easy and effective popularisation". Sewer systems, he believes, are the best solution but too expensive for our country. It is estimated that at the present rate of taxation, if the entire revenue of the Central and State Governments for the next 60 years was exclusively utilised for provision of under-ground sewers, it would cover only half the country's population. Septic tanks, the other alternative, "require more water for flushing, emit bad smell and also demand specialised construction techniques", Mr. Pathak contends. In these circumstances, Sulabh's water-seal latrine seems to be a logical choice.

Proper disposal of human excreta is crucial for the control of enteric diseases. In the case of the service privies the latrine seat, the squatting hole and the collection pit expose excreta to flies, and encourage profuse fly breeding in the locality. The contents of buckets are often spilled in the vicinity and all along the road while transporting these to the disposal site. The bucket is sometimes left in the open without cleaning, thus exposing it to flies. These flies carry particles of excreta with disease germs and deposit them on food.

Year ago, before the first waves of rural migrants hit these towns and played havoc with their service systems, bucket cleaning was not a problem. The population was small and scavengers plenty. But with the increased emphasis on social reform, availability of better education facilities and a general awakening among scavengers for improving their lot, their numbers have dwindled. Municipalities now find it difficult to recruit scavengers at wages they can afford. Thus, privies remaining uncleaned for days is a regular feature of most unsewered urban communities and a major health hazard.

Liberating scavengers itself could not have been sufficient unless those who were liberated were provided alternative modes of livelihood. So far Sulabh International has built 4.5 lakh toilets in private houses, not covered by sewerage or septic systems and has liberated around 15000 scavengers. While the young scavengers were trained to work as carpenters, drivers, shorthand typists and other such jobs, those above 40 were given other humane jobs.

With this unprecedented success, Sulabh reoriented its ideology. From liberating the scavengers, now the basic theme of it is restoration of human rights and social transformation, prevention of environmental pollution etc.

Dr. Pathak says that since 1931 when the total population of scavengers was 19 lakhs, today they are in crores. These people have been denied their human rights since times immemorial. Now there are only two ways left in this regard, says Dr. Pathak, that is either to end this profession as Sulabh is trying to do or to humanise this profession. "In China they do not have the community of scavengers. Everybody is supposed to clean and remove his excreta himself, as Gandhi did, If this is done in India we won't need scavengers and their rights could be restored," Dr. Pathak says.

Dr. Pathak, while trying to get these scavengers accepted by the society is also persuading the professional brahmins to perform *poojas* at Harijan's residence, which brahmins did not do earlier. He has succeeded to some extent and a big breakthrough is expected soon as hundreds of brahmin children are right now undergoing training at Patna who will later on perform *poojas* at Harijan's residences. This he said would also open new avenues of earning for poor brahmin families. He feels slowly the system of untouchability will end.

As if to prove that all charity must begin at home, Dr. Pathak who works with the liberated scavengers, is to donate 1 kathas of land to over 100-odd Harijan families of his village soon from his inheritance. Similarly, he has employed a Muslim cook at his native village.

The process, he says, is slow and one swallow does not make a summer unless more people and organisations come forward in this regard.

the cholera epidemic broke out in the city last year, claiming more than 300 lives. The highwatermark for Sulabh was when the prime minister, after his visit to the cholera affected areas of the capital passed on-the-spot orders to provide Sulabh facilities to the residents. Sulabh got the chance it was looking for. It was engaged to contract 30 complexes in 13 resettlement colonies of the capital, work for most was completed in record time and many of them have already been commissioned for public use. In the Nand Nagri complex, Sulabh has added new dimensions by installing colour TVs and VCP for mass viewing of programmes on sanitation and hygiene, public telephone, and making provisions of a doctor, and ambulance. It has also got contracts for building Sulabh complexes in the congested walled city areas.

While propagating the message of sanitation and cleanliness, Sulabh also added new dimensions by generating biogas bio fertilizers. Biogas is being used for generating electricity and cooking gas. The bio fertilizers produced by are considered very good. "The basic logic behind this was wealth from waste," Dr. Pathak explains. .... We Indians had forgotten that excreta is the best fertilizer," he adds.

Sulabh technology is simple. It makes two pits. When one pit gets filled, the other is put into operation. It takes around two years for a pit to fill. So by the time the first pit turns into soil or fertilizer. It has special layers which soaks the water content from the excreta.

Sulabh is also very useful in the areas where water is in short supply. While in the flush system toilets, it needs 12.5 ltrs of water to flush the excreta, in Sulabh technology the same work is done with two.

Sulabh technology, while being in consonance with the Gandhian ideology of liberating scavengers, is anytime better than the septic or sewerage systems. Out of 3,245 towns of India only 217 towns have sewerage facilities. Even in these cities, not one is fully covered by sewer. For that matter even a city like Tokyo is only half sewered. "Sewer is outdated and is very costly," says. Dr. Pathak

Dr. Pathak has a point here as around 30 per cent of Delhi's population is covered by sewerage system. And one of the main reasons for the cholera outbreak in the capital last year was open defecation by the residents of the resettlement colonies.

The other technology for night-soil disposal is the septic tank system which was first invented and used in France in 1460, Dr. Pathak informs and adds adoption of both technologies has been rather slow all over the world resulting in still large number of people defecating in the open or the service latrine system, which requires transportation of excreta of one human being by another. The sulabh technology thus is the safest, the cheapest and the best.

Committee was wound up. The then chief minister of Bihar Daroga Rai once told one of his cabinet colleague, Shatrughan Sharan Singh that this work of scavengers liberation must be continued by some non-governmental organisation. I too had the desire to do the same. And this is how Sulabh Shauchalaya Sansthan (now Sulabh International) was born in 1970's"

However, this social voluntary organisation had to wait for a few years before it could take off. Like any other organisation it too started on Government grants. "Mr Rameshwar Nath, senior IAS officer told me not to depend on Government grants as organisations depending on Government grant get bogged down when grants are delayed or declined," say Dr. Pathak. The organisation then devised its own methods of resource mobilisation – the pay and use service at public toilets and the construction of toilets for which it charges nearly 20 per cent extra over the actual cost. "Till now these are our only sources of income," informs Dr. Pathak.

Soon the organisation was on its own when the first experiment of building the public Sulabh toilets was taken up in the Gandhi Maidan area of Patna. "People were apprehensive that nobody would pay to use toilets but I always felt that if one is provided clean toilets, one wouldn't mind paying 10 paise. And how true I was. On the very first day our collection was more than Rs. 50. People and the authorities, liked the idea and Sulabh was on its way to success," Dr. Pathak says.

The experiment of providing bathings facilities and soaps to wash hands was soon extended to other parts of Patna, and then to other cities of Bihar. In no time Sulabh nearly conquered the whole of Bihar. The real test however was when it got invitation from the Calcutta Municipal Corporation to construct such toilets in the city. "I was told Calcutta would prove to be my Waterloo as Calcuttan set afire anything if the fare of buses and trams are raised. However, I went ahead and people there too liked it," Dr. Pathak recalls.

Soon Sulabh, which by now had started representing India in international seminars abroad spread to other states of India, including the capital city of Delhi. Instead of listing where all Sulabh is active, Dr. Pathak says only four states – Sikkim, Mizoram, Nagaland and Himachal Pradesh – are so far not on its map.

"Temples and toilets are both for *shudhi*, while the former is for the *shudhi* of *atma*, the latter is for the *shudhi* of body. I told my men that these toilets were temples for them and so to keep them as clean. I also told them these toilets alone were providing them their bread and butter," says Dr. Pathak. These words indeed were taken to heart by the Sulabh employees. Sulabh today is synonymous with hygiene and cleanliness.

Sulabh made its debut in Delhi with a complex at Turkman Gate made by it for DDA. This was followed by complexes at Pusa Buland and Kotla Mubarakpur. The MCD however kept dragging its feet for nearly four years until

# For a scavenger-less society

“**T**he problem in our country is that nobody is willing to raise the basic issues concerning the society. Everybody just talks of the problems which we all know too well. What we need is solutions, which unfortunately nobody is willing to offer,” says Dr. Bindeshwar Pathak, the founder of Sulabh International, an organisation that works to mitigate the sufferings of the underprivileged.

And true to his words, Sulabh International is busy providing solutions to our social problems and even trying to solve them in its own way.

Set up in 1970 as a small organisation which looked towards the government for grants to fulfil its ambitious projects, Sulabh today is not only a glowing example of what revolution a social voluntary organisation can bring about in the society, but also how such an organisation can generate its own finances while serving the society.

“It was in 1967 when I took up a job with the Gandhi Centenary Celebration Committee at Patna. One of the tasks undertaken by this committee was to liberate the scavengers. I was fascinated by this idea though I was not a wee bit happy about the methodology they had adopted for this. Then committee was shy of implementing the programme. While working there I managed to read literature which included the reports of the All-India Institute of Public Health and Hygiene, Calcutta and PRAI (Lucknow). What you know now as the Sulabh technology was invented by them in the late '50s. The PRAI report however had said that this technology was more suited for rural areas than the urban area. This technology was tried in some states like Gujarat, Tamil Nadu, Uttar Pradesh and Kerala but could not take off. The basic flaw with this was that it needs two pits, to save money only one pit was made. As a result, it was reduced to the level of septic tanks which you have to get cleaned manually when it gets filled.

“I also saw a book written by Wagner Lanoix of WHO on excreta disposal in rural areas and small communities. This book concluded that the pit system was the best of all technologies as far as excreta disposal was concerned. This left a deep impact on me for I wanted to do something for liberation of scavengers.” Dr. Pathak pauses for a while before recalling the events further leading to the birth of this organisation which now has the recognition of almost all states and even the centre. “It was in 1970 after the Gandhi Centenary Celebration

technology, affordable in poor countries. According to Prof. Pickford, the problem was not of technology so much as of social taboos and attitudinal problems. "Therefore, the approach to the sanitation problem should be multipronged, with special emphasis on educating people to keep themselves clean so that, a healthy organised and modern life could be possible".

Mr. Francois Dost, Research Officer and Coordinator for South East Asia. Economic Et Humanisme, France, presented the paper and said that all the methodologies to check the efficiency of the sanitation systems should be tried and cross-checked before they are recommended for adoption. Mr. Dost said the situation like the one now prevailing in India very much existed in France some 48 years ago when this organisation was set up by social scientist J.L. Lebert to promote a more humane society by analysing the socio-economic facts.

Dr. Yogendra Singh Professor in JNU said th entire economic, cultural and social conditions have to be studied before finally evolving sanitation models, with regional variations for adoption in urban and rural areas. Mr. B.N. Ojha, Chairman of Sulabh International explained the objectives of the organisation.



## Sulabh technology becoming popular

**T**he Economie Et Humanisme, a French social organisation has joined hands with Sulabh International, non-profit outfit, in expanding and evaluating the various low-cost sanitation technologies and recommend their adoption in India and other developing countries of Third World.

At a workshop organised here on Tuesday by Sulabh International in collaboration with Economie Et Humanisme, Lyon, France, Dr. D.N. Prasad said that sanitation was no more a complex concept. The rising population, urbanisation and the consequent congestion at city centres have made the problem of sanitation complex, "but unfortunately, the problem is not given adequate priority in respect of resources allocation and research and development. However, much of the problem will be solved now that sanitation is given under the direct charge of panchayats which will also have the authority to allocate resources, Dr.Parsad said.

Dr. Binderswar Pathak, founder of the Sulabh movement said that people should not forget the civilisations like those developed in Iraq vanished only because people then failed to develop viable sanitation systems.

"Sanitation, in its broader sense include healthy and clean systems of disposal of human waste besides clean social habits without which civilised life is not possible on this planet" Dr. Pathak said.

Mr. P. Biancher, Director, Economie Et Humanisme, France said that the Sulabh experiment was a major breakthrough in the various low-cost sanitation technologies developed so far. Besides its being locally appropriate in terms of cultural and social acceptability, the Sulabh sanitation technology will also not add up to the pressure of the civic facilities already strained in Indian cities.

Mr. Kalyan Biswas, Joint Secretary, Ministry of Programme Implementation, Dr. T.R. Bhaskaran, expert in sewerage and water treatment, Mr. V.R. Iyer, Joint Secretary, Ministry of Food and Civil Supplies, spoke on various social and technological aspects of the "evaluation methodology of low-cost sanitation programme", which was the theme of the discussion at the workshop attended by experts from India and abroad.

Prof. John Pickford of Water Engineering and Development Centre, Leicestershire, England, said that until 1971, the concept of low-cost sanitation was not recognised at all. Of late the UNICEF the UNDP and other national and international organisations have accepted the need of evolving low-cost

A Home Ministry working group on the welfare of scheduled castes is planning to recommend a ban on dry latrines. Alternative arrangements like water-sealed closets will then be a pre-condition for all housing.

But whether a similar programme in other States requires the function of a social organisation like Sulabh is the moot point. The voluntary organisation is a medium for the transfer of technology tailored to the needs of the people, says Mr. Pathak. "Government bodies neither have the flexibility nor the dedication to perform this role, especially with technologies which can reach the poorest sections of the society," he feels.

**An organisation called the Sulabh International in Bihar has generated a mass programme for latrine conversion in the State. Public baths and toilets are now a familiar sight in Patna and several other Bihar towns. The movement has now spread to other States and even to Sri Lanka.**

The pit privy is surely a satisfactory solution. But the risk of polluting ground water supplies because of bacterial contamination from the pit has often been cited while criticising mass-scale implementation programmes like that of Sulabh laboratory studies in India and elsewhere have revealed that pollution arising out of the pit privies is very limited and the system is safe provided there is a minimum eight metres between the pit and the drinking water source. A great deal also depends on the soil quality.

While Sulabh has always tried to maintain a moderate degree of technical control over its operation lack of look-up research has clearly been a deterrent. For instance, the sign and depth of the leach pits, the exit area for dispersion of effluent into the soil and such other data are based on a rule of thumb according to a WHO report on the Sulabh latrines. The report recommended a complementary research programme on the performance of these latrine units under varying conditions to ensure the soundness of the programmes as a long-term measure.

“It is the duty of academic and research institutions to carry out research and suggest improvements,” commented Mr. Pathak, “and we would encourage such programmes”. “But it is clearly beyond the scope of an executing agency like Sulabh.”

The overwhelming success of Sulabh has been because of its role in assuming the house-holders burden of processing, organising and constructing such works. Thousands of people using Sulabh's community facilities in Patna and Calcutta prove that the programme meets the felt needs of the people.

“It is only committed voluntary agencies like Sulabh, with financial and political independence which can catalyse Governmental organisations into developmental work,” asserts Mr. Pathak. The success stories of Sulabh in Bihar and the Safai Vidyalaya in Gujarat (the latter established by the Harijan Sevak Sangh of Gandhi Ashram, Ahmedabad, has done pioneering work on the emancipation of scavengers) have demonstrated that the urban dweller is ready and willing to use the water-seal latrine in preference to the bucket privy or open air defecation.

SANITATION

# A Clean Revolution

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## Voluntary agency brings hygiene to five million

**W**ALK in, pay 20 paise, and use a clean public toilet. That sums up the sanitary revolution being engineered by Sulabh International, a voluntary organisation that has already brought hygienic sanitation services within the reach of five million people across the country.

Employing retired bureaucrats, scientists, engineers and architects, the once inconspicuous voluntary agency has grown into an internationally acclaimed research institute on sanitation technology. Employing over 20,000 people, it has an annual outlay of Rs 20 crore.

Within 15 years of its inception, the agency's pay-and-use concept seems to be working well — with 2,037 of its toilets operating in 532 towns. Enthused Ram Dayal, a regular Sulabh user at New Delhi's Kotla Mubarakpur : "Cleanliness and after-care has made Sulabh click with the masses."

Says Bindeshwar Pathak, founder of Sulabh International: "Through sustained efforts, we have so far provided five lakh houses with latrines in 390 towns and have made 30 towns scavenger-free". National and international agencies like WHO, UNICEF, UNDP and HUDCO are presently collaborating with Sulabh in an effort to make a dent into the sanitation problem.

It all began in 1969, when Pathak — a graduate in sociology from Patna University — joined the Gandhi Centenary Celebration Committee as a pracharak (propagator). He moved from town to town and village to village on his mission to propagate Mahatma Gandhi's teachings.

But was soon disillusioned by the propaganda approach. Pathak then moved on to the committee's 'bhangi liberation cell'. However, before any appreciable change could be made, the committee wound up its activities.

Though unemployed, Pathak continued his work and laid the foundation of the Sulabh Shauchalaya Sansthan, renamed later as Sulabh International. Recalls Pathak : "Sulabh's path to success was full of bureaucratic hassles." The Bihar Government took four years to understand the concept and finally in 1974, it entrusted to Sulabh the task of *bhangi-mukti* in the state. Since then, Pathak hasn't looked back.

Although more than 19 designs are prevalent all over the world for the disposal of night-soil, only three systems have been found technically fit for adoption on a mass scale in India. While a sewerage system and septic tank are expensive, Sulabh is the cheapest and yet ecologically sustainable.

Sulabh is an ordinary latrine to look at, but for the specially designed slopypan, which requires no more than two-litres of water to flush the excreta as against 12.5 litres for a normal flush toilet. The two covered pits receive the excreta in rotation so that one is used at a time. This twin-pit combination can last for at least 100 years.

Water being a scarce commodity, Sulabh has recently designed a low-volume flushing cistern which releases only 2.5 litres of water per flushing. "A bit of improvisation on the existing flush system could save lot of water," says A.K. Roy, principal adviser to Sulabh. Although the cistern awaits marketing, Roy is confident that it would click. Many other innovations are on the cards to take into account the peculiar Indian situation.

Having realised the viability of the concept for the Third World, the World Bank recommended it to 19 countries in South East Asia, Africa and Latin America. Says Pathak : "Currently we are not into developing shauchalayas abroad, but would appreciate it if the Indian Government could work out such bilateral projects as is the case with other technologies."

Backed by a fully equipped research laboratory, a computer division and a documentation section, Sulabh is all set to change the country's dismal sanitation scenario.

Meanwhile, to demonstrate that its toilets are clean and odour-free, Sulabh's registered office at Patna's Gandhi Maidan is located amid a cluster of 48 such latrines. And even as 4,000 people ease themselves each day at the complex, Pathak carries on his good work stink-free.

— Sudhirendar Sharma

# HEALTH FOR ALL BY THE YEAR 2000

## THE COUNTDOWN HAS BEGUN!

World Health Day – 7 April 1983

### SANITATION PAYS

**F**or centuries, the poorest class in India had the job of removing buckets of night soil from private houses, with all the stigma attached to such work. Inspired by Gandhi's philosophy, a public-spirited group in Patna, India, has put an end to this degrading work and improved the environment, both aesthetically and hygienically, at virtually no cost to the community. The experiment showed that pay toilets pay for themselves.

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Gandhi Maidan in Patna is one of the city's biggest parks. It is a landmark, and the venue for all important public meetings and rallies. Early in the morning, one can see hundreds of people taking a brisk walk; in the evenings it seems to be taken over by children who play the games children usually play.

Till a few years ago, however, all this was not possible. The Maidan, as an elderly Patna resident put it, "was strictly off limits, and one avoided going anywhere near it. As for the smell, well, you certainly did not have to ask for directions. Your nose would lead you to it". The park was being used as one vast, open-air public convenience.

As Mr. Bindeshwar Pathak, Chairman of the Sulabh Shauchalaya Sansthan (now known as Sulabh International) explains, "it was certainly a very real nuisance and a shame too. The only solution seemed to be to provide the people with an alternative". And that is exactly what his organization, a voluntary agency involved in providing appropriate sanitation services, set about to do.

It was clear from the beginning that the facilities available in Patna were woefully inadequate to meet the demand. Apart from the city's own population, Patna has a sizeable "floating" population. There are also a large number of rickshaw pullers (over 50,000), many of whom do not have a permanent place to stay.

This pattern is similar to that in many other cities where an estimated one-third

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\* Information Officer for the WHO South-East Asia Regional office in New Delhi.

of all urban households have no latrine; another third have to put up with bucket service latrines; the remaining third are served by; shared flush latrines, 21 per cent; individual flush latrines, 7.2 per cent and septic tank latrines for 5.2 per cent.

In effect, according to modest estimates, 7 million urban households in India have bucket latrines which should be replaced with water-seal latrines. There are another 7 million households without latrines that need to be provided with the new, water-seal latrines.

In the eight years since the first pair of "Sulabh Shauchalayas" (which means "easy-to-use convenience") were installed off Gandhi Maidan, there are now over 70,000 in Bihar State, with nearly 10,000 in Patna city alone. Today, over 50,000 persons daily use the cubicles set up in the 40 centres which are run and managed by Sulabh International.

### **Everyone pays**

At one such centre, the busiest in Patna, over 3000 people use the services daily. There were office-goers and rickshaw pullers, tailors and shop-keepers and casual visitors. What each of them appreciated was the ease and speed with which everything was done. "Even during rush hour, from 5 a.m. to 7 a.m. when there is a queue of 5 to 10 persons outside each cubicle, there is no pushing or shouting. All you do is pay 10 paise (one US cent), get a pinch of soap powder, collect your container with water and find an empty cubicle". The cubicles are cleaned by a band of paid workers who take great pride in keeping everything neat and tidy. As Mr. Pathak explained, although nobody is asked to pay, "nobody refuses". He explained, however, that women and children could use the facility free. Also, those who are unable to pay are not charged.

Most of the centres run by Sulabh International in Patna have an area kept aside for bathing. "We do not have cubicles yet, but hope that this will be possible later", says Mr. Pathak.

At one of the bigger centres, a highly successful experiment has been conducted in using human waste to produce biogas. Enough of it is produced to light not only the lamps at night, but also to use for cooking purposes. There are plans to install more biogas plants at other centres and to provide gas to the neighbouring households. "The potential is immense," says a confident Mr. Pathak.

The agency has also launched a scheme to train people to make and install "Sulabh Shauchalays". It actively helps householders with the necessary formalities of getting loans from the local authority to convert bucket privies into water-seal latrines and then goes ahead and installs them. Sulabh International gives a guarantee of two years and looks after the maintenance, where needed.

Mr. Pathak says that his main purpose in taking on this work was to see

Mahatma Gandhi's dream of putting an end to the degrading system of scavenging come true. "I must say that though the mental inspiration came from him, it was a WHO publication that really set me off." And then he pulls out a much-used copy of "Excreta Disposal for Rural Areas and Small Communities", by E.G. Wagner and J.N. Lanoix (WHO Monograph Series 39, 1958).

"I was most impressed by this simple approach to a complex problem, and even though I am not an engineer or scientist, I believed in the concept." At the first available opportunity, he tried to put what he had read into practice. "And I'm glad to say that in this case the theory proved practical."

It is not only in Patna that this is being tried out. Already, similar centres have been established in the States of Andhra Pradesh, Karnataka, Madhya Pradesh, Orissa, Tripura, Uttar Pradesh and West Bengal. There are plans now to open up "Sulabh Shauchalayas" in Jammu and Kashmir and Rajasthan.

As Mr. Pathak points out, the Sulabh Shauchalaya movement has proved more than one thing. "We all know that with the people's participation, you can achieve anything. We are fortunate that we have been able to show in practical terms that there is an alternative to scavenging. People need not make a public nuisance of themselves if they are provided with a convenience, which is clean, for which they will be willing to pay a nominal charge. We have also shown that if the municipal or State authorities can provide public conveniences, the community can effectively and efficiently maintain and run them. In fact, we have generated employment for at least 300 people in Patna city alone, not to mention the soap manufacturers and others engaged in making and maintaining the 'Sulabh Shauchalayas'."

As one can see clearly from the experiment in Patna, sanitation certainly means cleanliness, and it pays too!



**Produced for the International Year of Shelter for the Homeless (IYSH)**

Relevant to the IYSH action area : Services

## **Low-Cost Sanitation Project in Bihar, India**

**D**isposal of human excreta is one of the key infrastructure services necessary in any settlement. Fully reticulated waterborne sewerage systems are generally too expensive for developing country budgets. Alternative low-cost sanitation technologies are constantly being sought in many countries to suit different sizes of settlements. The pourflush water seal sanitary latrine project in Bihar, India, known as the Sulabh Sauchalaya scheme, is one such approach which has shown positive results in a variety of situations.

The scheme is based on the idea of converting the bucket latrines into water seal ones and can be replicated extensively in suitable social and soil conditions. The scheme is executed by a voluntary non-profit agency through government sponsorship and aid. It is now being widely extended to other parts of India. This monograph is a brief description of that project.

### **Sanitation Goals for Developing Countries**

Today, the most important priority of excreta disposal programmes in developing countries is the improvement of health through reduction in the transmission of excreta-related diseases by sanitation technologies which are cheaper than sewerage. In response to such objectives, the UNDP has sponsored several research projects to popularize low-cost sanitation based on systems which are financially and technologically appropriate and which incorporate the integration of socio-cultural aspects of excreta disposal as a necessary, if not easily quantifiable component. In addition, the World Bank has moved strongly towards support for programmes aimed at incremental sanitation improvement as the best way to meet the sanitation goals of the International Drinking Water Supply and Sanitation Decade. These promotional activities and also those of the WHO and UNICEF within the framework of their respective mandates are helping countries establish realistic goals and take up projects which are replicable in varying degrees, towards the main objectives of safe water and sanitation for all.

## **Sanitation Goals for India**

In 1967, on the eve of the birth centenary of Mahatma Gandhi, the Government of India launched a massive campaign against manual scavenging and through the Ministry of Home Affairs grants were given to state governments to retrain scavengers and to rehabilitate them in more productive and cleaner occupations. In the following year, the Ministry of Works and Housing directed all states to convert existing bucket latrines to pour-flush latrines and to connect them to sewers wherever available, or to leaching pits if sewers were not available. Today, the Government has resolved to step up efforts to provide safe water to the entire population of the country. The target for self human waste disposal for the same period is 80 per cent for urban areas either through sewerage systems or pour-flush latrines and 25 per cent for rural areas through simpler but effective pour-flush latrines.

## **Partnership with N.G.Os**

These targets require enormous financial resources estimated at \$ 11,300 million at today's prices. Government response has been encouraging through allocations of \$ 3,230 million in the period 1980-85 by declaring urban and rural drinking water supply and sanitation as priority sectors for integrated action. In addition, UNDP organizational, promotional, demonstrative and research skills as also those of WHO and UNICEF and funds through the World Bank and donor countries are being dovetailed into the programme geared primarily towards low-cost solutions for maximising coverage and beneficiary participation. Yet, these efforts are not enough and therefore an important area of co-operation has to be addressed to non-governmental organizations in general and voluntary action groups in particular.

## **Merits of Sulabh Shauchalayas**

Although more than 20 methods of safe night-soil disposal are identified the world over, only 3 systems are found to be most suited for adoption in India: (a) the high-cost sewerage system: (b) the medium-cost septic tank and (c) the low-cost pour-flush water-seal sanitary latrine, popularly called the Sulabh Shauchalaya. The first two are socially accepted systems. All 216 cities in India with a population exceeding 100,000 have plans for sewerage system including upgrading of septic tanks despite excessive construction and maintenance cost and a large unserved population. Untreated and partially treated sewage and badly maintained systems could precipitate health and pollution hazards and septic tanks are rarely free of mosquitos.

A wider application of Sulabh Shauchalaya pour-flush water-seal latrine in both urban and rural areas offers the best prospects for cleaner environment . It is easy to implement in most soil conditions and even in high density situations.

The latrine cannot function satisfactorily if the household grey water is discharged into it. It could also be connected to septic tanks and sewerage system where required. It however involves rapid changes in attitudes and traditions and requires careful rehabilitation of scavengers and dependants. It therefore cannot operate fully within the government framework nor entirely outside its umbrella. The project implies a subtle partnership with success depending on decisions to enable efficient voluntary agencies to operate without constraints. In this regard the Government has no doubt been encouraged by the success of Sulabh International and their pioneering efforts in the State of Bihar aimed at a "people's programme" for social change.

### **The Founding of Sulabh International**

Until recently, urban and rural sanitation in Bihar was about the worst in India and the campaign for improvement on this score got immediate support when it was first initiated in 1968. Legislation was amended in the State in 1970 to declare bucket latrines illegal. The water-seal latrine, as it was known at that time, was available to all households through a 50 per cent central grant and 50 per cent state loan passed on to beneficiaries through local bodies. This scheme was administered through the Bihar State Gandhi Centenary Celebration Committee. Due to tardy procedures and social taboos the scheme was all but a nonstarter and soon funds were diverted by local bodies to other priority projects. The Centenary Committee wound up in the normal course in 1974 Sulabh International (formerly known as Sulabh Shauchalaya Sansthan) a society registered in 1970 as a non-profit voluntary social organization was entrusted by the Government of Bihar to execute this programme with Government funds on a no-profit basis. There were also other forms of co-operation with the State and local governments.

### **The Objectives and Programmes of Sulabh International**

The Organization, today in its eleventh year, has received recognition from twelve states in India and is likely to operate throughout the country within this decade. Sri Lanka has also commenced programmes with expertise from the organization and several other developing countries are closely studying the project in operation in Bihar. From a single exercise of converting bucket to water-seal latrines, Sulabh International has defined their full scope of operation to tie up with policies and targets of Government aimed at cleaner environment for all within this century.

These objectives are:-

- i) To liberate scavengers by converting existing bucket latrines (also known as service latrines or dry latrines) into Sulabh Shauchalaya (hand-flushed water-sealed sanitary latrines);

- ii) To construct or have constructed and maintain community toilet-baths and urinals on pay-and-use basis;
- iii) To utilize biogas generated from human excreta for different purposes;
- iv) To impart training to engineers, sanitary inspectors, masons and other, for the diffusion of this innovation (Sulabh Shauchalaya) in urban and rural areas;
- v) To provide latrines in rural areas;
- vi) To assist government in the implementation of the above programme;
- vii) To propagate the above ideas through demonstration units and media of mass communication (including publication of literature);
- viii) To carry out research in the field of sanitation biogas and various themes of applied social research;
- ix) To rehabilitate scavengers and their dependants by making provision for their training in various vocations.

During its eleven years of operation, Sulabh International has been directly responsible for the conversion of more than 150,000 bucket latrines into pour-flush latrines. It has constructed and maintains 200 community toilets with baths on a pay-and-use basis. About half of these have been constructed in the State of Bihar. But the movement is fast picking up in other states of India. Rapid expansion of the programme is expected as a result of recent financial support from the Government of India, State government, HUDCO, the World Bank and technical assistance from the UNDP.

### **The Management of Sulabh International**

The Sulabh International is controlled by a Board of which most of the members including the President are elected by members who are workers of Sulabh International. It now has a staff of over 2500 workers all of whom receive monthly honoraria or amounts which are marginally better than equivalent government salaries. Their turnover in works today exceeds \$15 million per year. Their main source of income is through implementation and handling charges of contracts. These are 20 per cent for community latrines and biogas plants and between 10 to 20 per cent for conversion from bucket to water-seal latrines.

The other source of income is collections from pay-and-use facilities and for generating street lighting. The honoraria are paid from these amounts; the surplus is ploughed back for other activities which include maintenance and expansion of their offices and factories; training of their workers mainly masons and motivators training and rehabilitation of scavengers and their dependants, research and publicity publications distributed free for wider applicability of the system undertaking demonstration projects and a number of other services like engaging doctors, distribution of free medicines etc. If there is a surplus, it goes

to the society for further activities or incentives to workers but no individual member can appropriate any part of the surplus. There is also a provision that in case the voluntary organization winds up, the assets go to government after meeting all liabilities and debts.

### **Design and Construction of Sulabh Shauchalayas**

The idea of double pit pour-flush latrines is not new although some details of the Sulabh International plans are original. What is new is the success of the scheme whereby a voluntary organization has been able to convert thousands of latrines in a short time. The first success of the organization was to show that the single pit latrine was not workable. This was until then widely used as it saved initial investment and space. But it created problems once it was filled in less than the time required to convert it into manure. Sketch A explains in plan and section the 2-pit Sulabh Shauchalaya as most widely in use today in urban areas. The pan, the water seal and the reinforced concrete airtight cover to the pits are manufactured in the Sulabh factories under strict supervision. The platform and foot-rest, drains and pits are masoned at site by trained personnel or under their direct supervision.

The dimensions have been arrived at after a lot of experimentation particularly the factory made items as shown in Sketch B. In rural areas where space is not a constraint the pits may be circular. Only 2 litres of water is required for pour flushing as against 10 to 20 litres of water used through cistern flushing. The slopes of the pan and drains are important to ensure proper flushing into the pit. These pits, which are used one at a time, were initially brick honeycombed on three sides but as they often attract rodents they are now constructed of full brick. The bottom is earth based so that water leaks out and helps easy decomposition and transformation of excreta into organic manure free of pathogens. The pits function in a wide variety of soils provided they have certain minimal levels of porosity. In high water-table areas it must be ensured that the water-seal is well above ground water levels. In porous soils the pits should be at least 10 metres from a water source and this may be a design constraint or challenge in high density situations.

The reinforced concrete cover to the pit is at least 3 inches thick to enable the top to be used and to prevent exposure and rusting of reinforcements. It has to be airtight to prevent any leakage of gas. The water seal also prevents odour and the total system is free of flies and mosquitos unlike septic tanks. A small vent connects the 2 pits for regulating gas not absorbed in the earth. Under the soil conditions in Bihar each tank can be used by a household of five members for 5 years. About 2 years after its closure, manure can be taken out and the pit reused.

## **Housing and Sulabh Shauchalayas**

Sketch C shows various alternative arrangements of the Sulabh Shauchalaya. A pan can be placed in any part of the house or in the open space within the plot though this would require a separate covered structure over the pan area.

The pits can even serve upper floors through pipes but each 2-pit unit serves only one household-32 Sq.m.is the smallest plot size now recommended in India so as to enable individual ablution facilities. An additional floor for an extra household would require ingenuity in design for 2 extra pits within the plot or along the street to the front of the plot. In any event the system is not suited for structures over 2 storeys. The constraint however is adequate for self-cleansing of sewers.

The system is also not easily adaptable in spontaneous low-income settlements without space for locating pits though these can even be constructed below living spaces. Introduction of such latrines in settlements with small plot sizes requires ingenuity, very close involvement of householders and careful maintenance. There are many cases however where these have been successful and are preferred to community latrines and baths.

### **Sulabh Shauchalayas and Implementation**

There are several variations in design and the cost range is from US \$ 55 to US \$ 115 for a complete operational unit (early 1985 prices). A cement mosaic pan is the cheapest, strongest and most easily moulded for mass production, but china clay pans which look neater are also available. UNDP is now popularising PVC pans. A household that seeks a conversion from a bucket to a water-seal latrine approaches the municipality or local body concerned. This is done through Sulabh International motivators. Agreements are then signed under the loan-cum-subsidy scheme for the total cost of construction. This amount is not given to the individual but to the organization. This cost includes an implementation charge varying from 10 to 20 per cent. Half of the total amount comes as a Central Government incentive grant and the other half as a loan from the local body recovered from the beneficiary in instalments as part of his property or holding tax. The organization hands over a complete unit to the beneficiary with free maintenance and replacement up to the time of the first removal of manure from the pit. Removal of manure is also done free of charge when requested.

At all stages participation of the beneficiary is encouraged especially in low-income areas. An advantage to the beneficiary is that he is relieved of the burden of procurement of items like cement and steel and hiring of trained labour. In this process the role of Government is primarily to ensure that grants and loans are correctly spent and the scheme benefits are maximised. The organization acts as turn-key contractors in this three way involvement, the

implementation charge being sufficient for staff upkeep, maintaining and servicing records of each beneficiary plus savings ploughed back to their pool funds for other related activities.

### **Rehabilitation of Scavengers**

As the scheme gathers momentum more and more scavengers need rehabilitation. It is estimated that their number in India is over 600,000. No retrenchment is normally resorted to but municipalities help by reducing fresh staff intake and retraining scavengers for street cleaning and allied tasks. Sulabh International also engages some at community toilets and for other tasks after training. The rehabilitation and training programmes of the organization however are primarily for children of scavengers. Their surveys have shown trades like carpentry, shoemaking, car repair, driving and lathe operations as preferred alternatives by males and dressmaking, typing and handicrafts by females. This coupled with some formal education would help in course of time in rehabilitation and income generation.

### **Sulabh Community Latrines**

Community latrines in congested urban areas is today an important programme of Sulabh International. This was first started by them in 1974 near Gandhi Maidan, Patna where a large number of pavement-dwellers, mainly rickshaw-pullers, slept and used the *maidan*, road berms and open drains for ablution purposes. As a consequence, a busy thoroughfare and area around was increasingly unhygienic and nearby Municipal latrines were no solution due to poor maintenance. At the behest of the Municipal Corporation, the organization constructed a 30-seat pay-and-use community latrine on land given by the Municipality. On completion it was asked to maintain it on pay-and-use basis, with recurring costs to the Municipality being only for water and electricity.

Due to its success, more than 100 such facilities have been provided all over the state, at railway stations, bus stands, hospitals, markets and other crowded areas for the use of pavement dwellers, short term visitors, passers-by and staff of establishments without access to such facilities. Where land is a constraint, double storeyed facilities are provided. The scheme is now in operation in 10 other states and is likely to extend to all major urban areas in the country.

The success of the community latrine project is due to its design and operation. The total area has to be enclosed and women and children segregated from men. In addition to sufficient number of latrines, it is also necessary to provide bathing rooms, wash basins, taps for washing clothes, cloak room, overhead water tank (to ensure continuous availability of water), water pond (used for manual flushing), a staff room and stores. The pour-flush latrines are connected to a septic tank which requires proper maintenance and regular emptying. Today in Patna and other crowded urban areas fewer people use road berms and other

open spaces. Many other cities are gradually becoming cleaner and this is leading to less complacency from citizens in other spheres of civic life.

### **Sulabh Biogas and Its Use**

Community toilets have necessarily to be connected to septic tanks which can be constructed within the compound itself. However, where space is available and there is sufficiently intense use of toilets biogas is being considered for subsequent conversion into energy. In 1982 the first such plant was constructed at Patna by Sulabh International. Thirty Sulabh Sauchalayas feed an underground digester and the plant produces about 55 cubic metres of biogas per day. The operation of the plant requires careful monitoring since critical chemical and physical processes are involved. The gas is fed into a prime mover for generating electrical power for a 10 KVA generator. This provides electricity to the complex and the adjoining park and the rest is used to light a 4 km portion of a busy city road. The organization erected 100 light poles and fitted each with 125 watt mercury lamps from its surplus funds as a demonstration project.

The process involves 1/5th the portion of diesel and the biogas produced is not as effective as that from bovines. There are therefore no cost savings but a great advantage is that in a situation of acute power shortage as in Patna a more reliable alternative has been made available. It is therefore being replicated in several situations where sufficient quantities of biogas can be generated and land for constructing these units is available. The process however does not have prospects for domestic use. A thirty-seated Sulabh Complex with a biogas system, electric generation and street lighting together with a 20 per cent overhead charge costs about US \$ 70,000. The organization undertakes this as turn-key project for the municipality and operates and maintains the system but receives electricity generating fees from the municipality.

### **Synthesis**

The national programmes for safe water and sanitation now being rapidly implemented in India is encouraging the conversion of bucket latrines to water seal units. Most developing countries plan for full sewerage systems but due to high costs are willing to settle for incremental sanitation. Sulabh Sauchalayas however can serve both incremental sanitation or be an alternative to full sewerage systems at affordable costs for all income ranges and with considerably reduced level of water consumption. The Bihar experience with the pour-flush water seal sanitary latrine at both the household and community levels is already being widely replicated in India with flexibility adaptable to a variety of climates, soils and social situations. For maximising coverage the role of government is best restricted to that of a financier and promoter encouraging committed voluntary agencies to act as turn-key contractors and maintenance agencies



operating on actual costs plus reasonable overheads. Innovative designs reducing operational and manufacturing costs, motivating and increasing the number of beneficiaries, rehabilitating scavengers and training of persons is a continuous exercise through UNDP, UNICEF, WHO, the World Bank and other agencies. The stress is on implementation through voluntary action groups with Government at the fulcrum to ensure that overall targets and goals are achieved. Further information on this project can be obtained from the Chairman, Sulabh International, Gandhi Maidan, Patna (Bihar)

## habitat feature — ASIA

### Community toilets that pay their way

**S**ulabh International, a private and voluntary non-profit association established in Patna, the capital of the Indian state of Bihar, has developed a unique system for making the provision of safe modern sanitation a paying proposition. In a 42-hectare commercial plant, built at Adalatganj in the centre of Patna, Sulabh has replaced the pit latrines with a small bore sewer that transports the human wastes to a biogas plant to produce electricity through a modified diesel generator. The electricity is sold to the state electricity board. However, the success of this venture lies not in the technologies that Sulabh has adopted but in the set of managerial practices that have evolved.

#### Norminal fee for clean latrines

Sulabh's experiment has matured gradually over ten years of learning by doing. It began in 1973 when Sulabh offered to build a set of communal latrines for the Bihar government at Gandhi Maidan, the public meeting ground-cum-park in Patna, which had been rendered virtually unusable due to public misuse. However, Sulabh soon realized that merely building latrines was not enough. To Make people use them, it would have to maintain them also. It made its first managerial innovation here, and began charging 10 paise (less than one US cent) for the use of the latrines. But it tempered the impact of this levy by permitting women and children to use the facilities free of charge. The income from this small levy (which to many people's surprise the poor willingly paid) was sufficient to meet the cost of maintenance, and the Sulabh communal toilet complexes became popular because they were clean and completely free of odours.

When the Bihar government asked Sulabh to take up the construction of more communal latrines, it made its second innovation. It added 20 per cent to the construction cost of the toilets and created a capital fund for financing maintenance, and for its own expansion. Since the Sulabh toilets were 25 to 30 per cent cheaper than the ones built by the Public Workes Department, the Bihar government, other city officials, and state authorities gladly agreed to the scheme despite this levy for the capital fund.

Some idea of the success of Sulabh's scheme may be gained from the fact that in less than ten years (1974 to 1983) it built over 300,000 latrines. In Bihar it has largely eliminated open defecation in eight medium-sized towns and has been entrusted with the task of doing this in three more. It has also been entrusted with converting 150,000 latrines in Calcutta, by the Calcutta Metropolitan Development Authority. Sulabh is also taking up projects in other South and South-East Asian countries.

## **Human waste converted into energy**

Sulabh's most important innovation has been the recovery of methane gas from the accumulated excreta. In its Adalatganj complex, it has installed a biogas plant to digest the waste and is using the gas to run a generator, which in turn is providing power to a mile of street lights on one of Patna's most crowded roads.

While the Adalatganj facility is designed mainly as a test-cum-demonstration unit, it has already proved that power generation in small power plants from human wastes, on the lines Sulabh has planned it, is a paying proposition. The 42 toilets at Adalatganj and the biogas plant have cost around Rs. 85,000 (\$US 6,800 in 1984 prices). The generator has cost another Rs. 100,000 (\$US 8,000). Alongwith some other expenses, the total investment is around Rs. 200,000 (\$US 16,000). About 2,500 people use the facilities every day, and two-thirds of them are paying 20 paise each (women and children use the latrines free of charge, all are provided soap and taps for a free bath). The communal latrine is therefore generating Rs.350 per day. This is sufficient to meet the staff cost of the toilets and the power plant.

The 4,800 cubic feet of gas generated (nearly twice the conventional estimates) consists of 60 per cent methane and 40 per cent carbon dioxide, and it is capable of generating 280 units of power per night from a generator with less than 30 per cent conversion efficiency. The power generator is enough to light thirty seven 100 watt bulbs for a period of four hours each night. In 1984, Sulabh was selling the electricity to the municipal corporation at 50 paise a unit (less than 5 US cents). Thus the income from the sale of power came to over Rs. 50,000 per year. Allowing 1.25 per cent depreciation on the buildings and 10 per cent on the generator, the net return after deducting this comes to almost Rs.40,000 on an investment of Rs.200,000 a respectable 20 per cent.

## **Social and economic effects**

The Sulabh experiment has profound social and financial significance even for congested cities in developing countries, for it opens up a whole range of new possibilities in the design of low-cost sanitation networks for sites-and-services and slum upgrading schemes. To begin with, the complete Sulabh package of

managerial services and installations can make communal toilet facilities a viable option in highly congested slums and shanty towns. So far nearly all other communal facilities have failed because they are not kept clean and become breeding grounds for disease. Secondly, if the planners decide to build individual latrines in each dwelling unit, these can be connected by small bore sewers to a community biogas plant, whose gas can then be piped back for cooking or used to meet the street lighting needs of the community. Even if the provision of such small bore sewers doubles the cost of the toilets, this will raise the cost of the toilets, sewerage, and biogas plant to around Rs.200,000 for 40 latrines at a unit cost of Rs.5,000 (\$US 400 in 1984 prices). This is less than one third of the \$US 1,280 that was estimated by the World Bank in 1978 to be the average cost of providing off-site and on-site sewerage alone.

Lastly, the biogas plant not only prevents the water in the sewage from being wasted, but also performs part of the function of a primary sewage treatment plant, that of an anaerobic pond. It removes nearly all the particulate matter, and the water that comes out has a PH level of between 7 and 8. Thus, it is possible to link a large number of small bores, local sewerage systems and biogas plants to the city's sewage treatment plants, give the water secondary treatment and then recycle it to industrial and other non-domestic users.

# depthnews india

PRESS INSTITUTE OF INDIA

## CHEAP TOILETS FOR BETTER HYGIENE

By Patricia Gough

**S**ulabh Shauchalaya or waterseal latrines have relieved scavengers of the unpleasant task of carrying night soil on their heads for disposal. And not only scavengers but people all over the country are discovering that Sulabh Shauchalaya is the cheapest and fastest way of getting rid of night soil.

According to the National Sample Survey, only 20% of urban households in the country use toilets connected with the sewerage system out of which only 7% have exclusive use of toilets and the rest either share with other households or make use of public toilets. 14 per cent of the households have water-borne latrines connected with septic tanks. Nearly one-third of the urban population is served by bucket privies. Households having no toilets account for the remaining one-third.

Although more than 19 designs like sewerage, septic tank, hand flush waterseal pit privy, aqua privy, chemical toilet, borehole, dug well, trench latrine, etc., are prevalent all over the world for the disposal of night-soil, only three systems have been found technically fit for adoption on a mass scale in India. These are Sewerage System, Septic Tank and Sulabh Shauchalaya.

Sulabh Shauchalaya requires little water to flush and can function where no water is available. It is free from air pollution, provides manure on the spot, can be cleaned by the house-owners themselves and alternately the two pits can work for 100 years.

### ORIGIN

The system first started in Patna, then spread to other districts in Bihar and now to Haryana, West Bengal, Orissa, Uttar Pradesh and Andhra Pradesh. It all started in 1967-1970 during the Gandhi Centenary period, as a tribute to him. At the instance of the Government of India, the Government of Bihar, through its Local Self Government Department, directed local bodies to get all the existing bucket privies converted into hand flush latrines and to connect them either with sewer lines or leaching pits.

The Government of Bihar gave grants to the Bihar State Gandhi Centenary Committee and the programme kept going but had no real impact. People wanted result-oriented work and not just preaching.

Mr. Bindeshwar Pathak, then a '*Pracharak*' devised a latrine known as Sulabh Shauchalaya which functions as a flush latrine with or without being connected to sewerage system. The movement received a shot in the arm when the Bihar Government promulgated an Ordinance in 1970 amending the Bihar and Orissa Municipal Act whereby a blanket ban was imposed on construction of new dry latrines. The new law made continuance of dry latrines a cognizable offence.

To help people convert their latrines into Sulabh Shauchalaya, the local bodies aided by the State Government gave grant of Rs. 350/- each and a loan of the same amount to those interested. A similar procedure was adopted in West Bengal also.

Sulabh Shauchalaya intervened between householders and municipalities to process each loan application. Volunteers went from door to door, persuaded people, had forms filled and processed and after the grant was sanctioned, conversion work started.

### **INEXPENSIVE**

These latrines can be constructed within a small space of seven feet long and four feet wide and two litres of water is enough to flush out excreta from the pan to the tank. The water seal prevents gases from leaking out of the pit and all the gases produced in the tank are absorbed by the soil. It can be constructed on a corridor or in an upper floor of a building or in a bedroom.

It is a permanent installation which is economical and durable. It can be adopted by both the rich and poor. In Bihar its minimum cost is Rs. 700/- with a mosaic pan and Rs. 742/- with a china clay pan. In West Bengal it is Rs. 1,075/-.

Perhaps the biggest advantage is that nightsoil is always underground, inaccessible to flies and insects. As tanks are covered with air-tight and water-tight RCC slabs, the place can be utilised for other purposes too. All it requires is an ordinary mason working under the supervision of a trained worker. 28,378 bucket privies have been converted till March 1980. 10,000 more are likely to be converted by the end of this year.

Another plus point is that Sulabh Shauchalaya can work in any soil condition whether it be rocky or sandy. Although the distance between the water source and Sulabh Shauchalaya largely depends on the soil, the safe distance between the source of water and the Sulabh Shauchalaya in homogenous soil, black cotton soil and sandy soil should be 20 feet.

The metropolitan city of Calcutta with a population of nine million has poor sanitation and the sub-human and unhygienic system of carrying night-soil on the head continues in some parts of the city.

To provide proper facilities for defecation two programmes have been launched within the Calcutta Metropolitan District by the Calcutta Metropolitan Development Authority and the Sulabh International. (Sulabh Shauchalaya Sansthan turned International last year).

It was decided to put up public conveniences like toilets, baths and urinals in different parts of the city. But as usual, this system ran into trouble as the public did not care for its cleanliness and upkeep.

### **PATNA PATTERN**

Thankfully, these conveniences are maintained by the Sulabh International on the Patna pattern. According to this pattern residents of the city, pavement dwellers, rickshaw pullers, the weaker sections of society and commuters use these conveniences round the clock.

Caretakers are posted to ensure all-round cleanliness and also provide soap powder to the users of toilets. They are required to pay 10 paise as maintenance expenditure. Children and beggars are exempted. Sulabh Shauchalaya does not allow the use of earth for cleaning purposes.

The system of public convenience by Sulabh Shauchalaya started in India in 1974 when public baths and urinals were constructed in Patna and Ranchi. The land and finances were made available by the two local bodies. They are now being maintained in a big way by the Sulabh Shauchalaya Sansthan and the scheme has since been extended to eight other big towns of Bihar.

A 24-seat public latrine was first constructed in Patna near the Gandhi Maidan which was the filthiest part of the town. At present there is a 48-seat public lavatory at this place maintained by the Sulabh International whose head office is also in the same campus. This is unique because the surroundings are clean and well-maintained.

Such public latrines are now maintained by the Sulabh International in Patna at 35 places with a total number of 551 seats. There are 52 urinals and 313 baths. The conveniences are located near railway stations, bus stops, markets, hospitals, offices and other busy areas.

Scavengers relieved from their daily chore have been given jobs as sweepers and there are programmes to give their sons and daughters employment.

A critical review of the Sulabh Shauchalaya already constructed by the Sulabh International has started. The present study on the filling of pits is one of the important aspects which will help further development of the activities in different areas.

The idea has spread to Sri Lanka too. An 11-member team made in-depth study in Patna and Ranchi and 800 service latrines have already been converted into Sulabh Shauchalayas.

The designs of Sulabh Shauchalayas with certain modifications have been adopted by the United Nations Development Programme for 19 countries of Asia, Africa and Latin America including India.

Experts from International organisations like WHO and UNICEF made a study of this scheme in 1978-79 and suggested that the cost of construction of Sulabh Shauchalaya could be slightly reduced by providing just one pit. But the two-pit system has been readily acceptable for the convenience of the people.

In May, 1978, a seminar was organised in Patna under the joint auspices of the WHO, the UNICEF and the Ministry of Works and Housing, Government of India. The representatives of the Planning Commission, World Bank, WHO, UNICEF, All India Institute of Hygiene & Public Health, Calcutta, Environmental Engineering Research Institute, Nagpur, Directorate General of Health Services (Intelligence), Government of India and all State Governments participated.

The seminar recommended that the water-seal latrines and community latrines as set up in Patna could be adopted anywhere, with minor variations wherever required. The cost of the latrines and the infrastructure of the agency to be engaged in the actual implementation should be determined according to local conditions.

Sulabh Shauchalaya is convinced that voluntary social service organisations are necessary to motivate and persuade people to adopt this scheme as mere provision of technology will not benefit the people.

The Central Public Health Environmental Engineering Organisation, Ministry of Works and Housing, Government of India has taken up this scheme in a big way. It has directed all the States to convert the existing dry latrines into water seal latrines, specially in medium and small towns. Adequate financial provision has been made in the Sixth Plan for this purpose.



## SOLVING PATNA'S SANITATION PROBLEM

**A** young man called Pathak was troubled each time he saw people openly defecating on the streets of Patna. He knew this was raising many health problems. He also realised that people practised this habit because they had no other place to go to. He thought a good deal about it and came up with a solution.

Alongwith a group of people, he formed an organisation called the Sulabh Shauchalaya Sansthan, to provide better sanitation facilities at a reasonable cost.

At first people did not share his enthusiasm. They were reluctant to accept his ideas. But the Sansthan firmly believed that every city requires proper sanitation service to minimise health problems. The sewage system is the best way, but it costs vast sums of money. The Sansthan offered the water-seal latrine as the most effective, durable and economical for Indian conditions.

Patna has a population of 70,00,000. Pathak found there were 25,630 dry latrines in the city. The agency slowly converted 11,636 dry latrines into Sulabh Shauchalayas and is optimistic about changing the remaining ones. It has also introduced this idea into homes where no facilities existed.

The total conversion cost is Rs. 400. Of this amount, the Government, the municipality or a voluntary agency is willing to pay 50 per cent as grant and 50 per cent on loan as an incentive.

The Sansthan has built and maintains 138 public latrines and baths in Patna on behalf of various local bodies as well as 500 urinals installed for the Corporation. Located at public places like the railway stations, bus stops, markets, hospitals and offices, they have proved a boon for the pavement dwellers, rick-shaw pullers, commuters and shopkeepers. About 6,000 people use the public baths and latrines.

The Sansthan has helped people realise that efficiency will be real only when people use and maintain the facilities properly. Simply providing a service does not remove the problem. Caretakers work round the clock on eight-hour shifts, to keep these public latrines and baths clean. A person pays 10 paise to use the service, for which he is also given soap powder. Poor people, women and children can use the services free. The money collected pays to keep the place clean and covers the workers wages as well.

The Sulabh Shauchalaya Sansthan under Pathak has grown manyfold. Working tirelessly, the agency has finally won the confidence of the people in some parts of Bihar. They have convinced people that their way offers better health to the community.

## **UNDP APPRECIATES SULABH WORK**

**Mr M.J. Priestly, Resident Representative, United Nations Development Programme (New Delhi), in his letter dated January 12, 1983 has appreciated the work of Sulabh International and has said how it has brought about revolutionary changes in the sanitation situation through low-cost technology. The following is the part of the text of communication:**

**D**uring the Gandhi Centenary period (1967-1970), at the instance of the Government of India, the Govt. of Bihar, through its Local Self-Government Department, directed all the local bodies to get the existing bucket privies converted into hand-flush latrines and to connect them either with sewer lines or leaching pits. To encourage mass adoption of this programme, the Govt. of Bihar started giving Rs. 200/- (now Rs. 700/-) as 50% subsidy and 50% loan to the house owners, through the local bodies. The task of propagation, demonstration, training to engineers, overseers, sanitary inspectors, VLWs, masons etc. was entrusted to the Bihar State Gandhi Centenary Committee. However, the Committee failed to make a visible impact on the people. Bindeshwar Pathak who worked with the Committee realized that people wanted action-oriented work. Consequently, he resigned from the Committee and designed a latrine now popularly known as Sulabh Shauchalaya. In 1970, Sulabh Shauchalaya Sansthan was registered as a voluntary social organisation. The Sansthan now known as Sulabh International has grown into a vast organization and is working actively in India and abroad.

The stated objectives of the organization are to get converted the existing dry-latrines into Sulabh Shauchalaya (pour-flush latrines) in order to do away with the sub-human custom of the scavengers having to carry the night soil. The other objective is to construct and maintain community toilets, bathis and urinals.

In 1974, the Government of Bihar recognized the Sulabh Shauchalaya Sansthan as a catalytic agency between the Government, local bodies and the house owners for the conversion of bucket privies into Sulabh Shauchalaya. Since then the organization has been working in several towns of Bihar state. Presently, Sulabh International is working in W. Bengal, Orissa, Tripura, U.P., M.P., J&K., and Karnataka as well as some neighbouring countries in the region.

The main activities of the organization relate to conversion of dry latrines to Sulabh Shauchalaya and installation and maintenance of public latrines. 70,000 latrines have already been converted and towns of Ranchi, Deogarh, Saharsa,

Biharsharif and Purnea have succeeded in freeing the scavenger of the demeaning practice of disposing night-soil.

The special expertise of the agency lies in the fact that it has provided a viable model for installation and use of latrines. The agency has shown how adoption of Sulabh Shauchalayas can be maximized among people. Through experience, the agency has developed organizational skills that are responsive to the needs of the users. It has also provided suitable follow-up action to ensure continuity and proper up-keep and maintenance of toilets.

The existing efforts of the agency relate to sanitation only. The main emphasis is on infrastructure building i.e. conversion of dry latrines into Sulabh Shauchalayas. Individuals are informed about the advantages of conversion and are persuaded to get their private latrines converted to Sulabh Shauchalayas. Folders are made available to explain the design of Sulabh Shauchalaya and its advantages. Forms are also made available so that those who are willing, can fill them up immediately. The agency has realized the importance of educating the educated. As such the mass media such as newspapers, magazines etc. are utilized to create general awareness among the educated about the need for better sanitation. A book has been designed for the sanitary engineers to enable them to understand the importance of Sulabh Shauchalaya as an alternative to septic tank.

Rather than dealing with groups, the agency emphasizes individual participation. Individuals are approached and are convinced of the need for conversion of dry latrines. An attempt is made to understand the psychological and social barriers to adoption. Thus, it was realized that Sulabh Shauchalayas were perceived to be only for the poor. Consequently, a variety of designs were made available now ranging from Rs. 100/- to Rs. 7,000/-. The adoption rate has thus risen.

In the case of public toilets, however, the latrines and bathing places are open to those who pay 10 np for using the facilities (women and children are free from payment) detergent is provided for washing hands. Water is available plentifully for bathing, washing clothes etc. The money is collected by one person who is paid out of the proceeds thus collected. Cleanliness and maintenance of the toilets is also ensured by hiring sweepers whose work is supervised. Experience thus far has shown that in urban areas, such public facilities provided by Sulabh International are used by the floating population of the city in large numbers. The organizational structure of the agency and proper up-keep and maintenance of latrines ensures proper utilization of public service by a large section of the urban population.

The resources of the agency are in the areas of training and technical expertise. The agency has staff, space and demonstration models available for running training programmes. It could also act as the resource agency for technical support.

## UNICEF PRAISES SULABH ROLE

UNICEF in its report titled : 'Assistance to Programme for the urban poor in India 1977-81' (A case study for the 1982 UNICEF Executive Board) published by Urban Development Section, UNICEF India, in October 1981 says : "Sulabh is a premier agency of which UNICEF functioned as an advocate and a Public Relations Officer for S.S.(Sulabh Shauchalaya Sansthan) in many parts of India as well as abroad". This compliment is an evidence of the good work done by Sulabh in low-cost sanitation and liberation of scavengers. The following is an excerpt from the report :

### **Low-cost Experimental Programmes in Water & Sanitation**

1. Most of UNICEF's efforts in this area have been in low-cost sanitation. In the past four years UNICEF has been involved in a national conference at Patna and an international one in Calcutta on low-cost sanitation. The Patna conference was sponsored jointly by WHO, UNICEF and the Ministry of Works and Housing. The Calcutta conference which focused on low-cost sanitation in small and medium towns, was sponsored by UNICEF and the UNDP World Bank Global Project on low-cost sanitation. It was held in cooperation with the Indian Institute of Engineers and included government engineers from states throughout the country; representatives of small and medium towns; representatives of UNDP, the World Bank, the School of Tropical Medicine in London, WHO and UNICEF. Both of these conferences had as their main aim advocacy for the adoption of practical low-cost methods of disposing of human waste in urban areas; particularly the use of hand-flushed water-seal latrines. The Patna seminar was especially effective in overcoming some of the traditional bias of engineers from the various states.

This was because it centered around the pioneering work which had been done by Safai Vidyalaya, a Gandhian Institute in Gujarat and Sulabh Shauchalaya Sansthan, a non-governmental organization in Patna.

2. The Patna experiment is notable for its pragmatic approach to improving sanitation. Their work has two aspects. The first is the construction and operation of public latrines in densely crowded areas. Often, public latrines quickly become public health menace, because of poor maintenance and the irregular supply of water. The Patna project has not only dealt effectively with these problems, but has also found a means of running public latrines on a paying basis which makes them self-maintaining. The system is this : The city finances the original construction of a block of latrines — say 20 or 30. It then turns them over to Sulabh Shauchalaya Sansthan which operates them at no cost to the city.

Sulabh Shauchalaya charges five paise to each person who uses the latrine and ten paise if they take soap. Children and women are free; as well as people in need who do not have the ready cash. Incidentally, in addition to the latrines there is a public bathing place which people can use free. Sulabh Shauchalaya Sansthan generates enough revenue by this method to employ not only the sweepers who keep the latrines clean, but also those who collect the money at the entrance. It also generates enough surplus to pay the technical and administrative staff and meet overhead expenses. The latrines are kept scrupulously clean, partly because the citizens who pay to use them can call for latrines to be cleaned before they use them.

3. Another secret of the success of this project is the simple design of the latrine itself. They are simply basins with an S-shaped syphon which empties into a pit with walls of honeycombed brick. Actually, there are two pits and when one is full, the pipe is blocked off and the latrine empties into the second pit. After some time the material in the full pit matures and has been converted into almost odourless manure; is then removed and sold to farmers. Because this is a hand-flush latrine there is no problem with plumbing or shortages of electricity which prevents the water from being pumped into an overhead tank. The latrine can be flushed simply with half a bucket of water.

4. Sulabh Shauchalaya Sansthan (SSS) also offers the same kind of latrine to individual families which are using the traditional "bucket latrine", which is a public health menace emptied by a human being. Where there is a sewer line nearby, the latrine is connected to that. If there is no sewer line, the two pits are dug and the latrines are connected to them. One explanation of the success in getting people to convert their latrines is their marketing approach. They ask people if they would like to have the conversion; they offer to do it for them; they inform them of the subsidies and loans available from the Municipal Corporation for such conversions; they supply them with all the necessary forms to get the loans; and they guarantee trouble free maintenance for one year. Often the repayment of the loan is not much more than the fee which the householder had to pay the sweeper for cleaning his bucket latrine daily.

Thus, the whole project is based more on pragmatic factors of convenience than upon public health education and persuasion. This makes the project very effective and very interesting.

5. UNICEF has functioned as an advocate and a "public relations officer" for SSS in many parts of India as well as abroad. It has also informed people about the work of Safai Vidyalaya which has experimented with a number of types of latrines, soak pits and urinals suitable for different soil conditions. This is a case where UNICEF has not assisted financially, but has given moral support and wide-spread advocacy.

# Views of the People

## **VIEWS OF EMINENT PERSONS ON DR. PATHAK'S WORK**

**T**he outstanding work done by Dr. Pathak, in the fields of low-cost sanitation, liberation of scavengers and harnessing of non-conventional sources of energy, has been widely acclaimed by a large number of national and international organizations, experts and important political/diplomatic dignitaries. They have expressed their opinion and views in writing and have sent them to Dr. Pathak, Some of which are reproduced here.

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Harry G. Barnes, Jr.  
Ambassador of  
the United State of America,  
New Delhi.  
May 26, 1983

I wanted to write to thank you again for the time you and your colleagues spent with Consul General Sherman and myself during our visit to Patna last week. As I told you, I had already heard much about your work and still it was especially helpful for me actually to see what you have been able to do in improving public sanitation in Patna. I can well believe that your work has been an inspiration to people in many parts of the country.

J.M. Kalbermatten  
World Bank  
Kathmandu  
February 17, 1982

I am happy about your continuing success with the pour-flush toilet programme. I have mentioned your work to various people here in Kathmandu. As a consequence, UNICEF, directly or through the Ministry of Health, will invite you address a National Sanitation Workshop which will take place here March 2-5, hope you will accept the invitation.

At that time you will also meet Mr. Thapa, Manager of the Solid Waste

Project and Clean-up Campaign. He is very interested to provide public toilets on your Patna model and needs your advice on how to organise and implement such an activity. Once a project is prepared, we may approach Habitat, UNICEF, WB or GTZ for funding. Mr. Thapa, his German Advisor, Mr. Ringeltanbe and the WB Resident Representative, Mr. Slade, would like to have your book and visit you in Patna. Could you invite them, please, and send them the books?

Finally, I am sending my copy of the book to China with Mr. Gunnerson. He will describe your work there. I assume you will hear from China subsequently. Maybe some day we can have you accompany A.K. Roy to China to provide PF toilets. In the meantime, I would appreciate it if you could send to me in Washington D.C. two or three copies of the book so I can use it again for promotional purposes.

Richard Middleton  
Project Manager  
UNDP (World Bank)  
Washington D.C.  
June 24, 1979

Before leaving India I wanted to write and thank you for an extremely interesting and enlightening glimps of the work of your organisation. I wish to make another visit and look forward to being closely associated with the evaluation of your work and with devising means to extend these principles to other States.

John Pickford  
WEDC Group Leader  
University of Technology  
Department of Civil Engineering,  
Loughborough Leicestershire  
LE 11 3TU

For several years I have been taking special interest in pit latrines in Asia and Africa. I have seen a great variety of pits and pit construction programmes, and have heard about others. Of all these the SSS programme in Patna seems to me to be the most successful.

I was in India in the latter part of 1978 and visited Patna. You will kindly send me copies of any papers you have produced dealing with any aspect of your dry latrine conversion and public latrine building programmes. I am interested in construction details, and also in your organisation and the remarkable way in which you have obtained the willing cooperation of so many people. As well as knowing about your many successful achievements.



A.K. Roy  
Resident Manager,  
South East Asia,  
Technology Advisory Group,  
UNDP Global Project GLO/78/006  
Demonstration Projects in Low-cost  
Water Supply and Sanitation,  
Executing Agency: The World Bank  
April 21, 1981

Mr. Ted Flaxman, who is the current year's President of the Institution of Public Health Engineers in U.K. and presently in Australia, has shown keen interest in our low-cost water sanitation programme. He is planning to make a two-day visit to India to discuss and see some of the work done by us in this respect. Mr. Flaxman is interested in meeting you and seeing some of the excellent work done by you.

Krishno Nimpuno  
United Nations Centre for  
Human Settlements, (Habitat)  
Nairobi, Kenya

In connection with the preparation of a training programme that I am writing to you for help. I have been asked by the UNCHS (Habitat) to prepare some case studies on sanitation projects and review especially the project organisation and communication support element in these. The Bihar experiences are being considered to be included in the series of case studies that are being prepared here for the UNCHS training module on Participation in Sanitation.

Wilfrido C. Barreiro  
Programme Officer  
UNDP/World Bank  
Regional Office for Water & Sanitation  
East Asia and the Pacific  
Singapore

I express deep appreciation for excellent work which Sulabh International has been doing in the delivery of urban sanitation services in Delhi. The field trip organised last September 13 provided a good opportunity for the participants to see first hand the much talked about Sulabh project. They were clearly impressed with what was seen and heard. It was very refreshing to hear your practical views on the subject matter. The ITN directors acquired information which would reinforce and enrich their training activities. The participants who joined us have expressed an interest in continuing their correspondence with you.

Charles Wereko-Brobby  
Project Officer,  
Commonwealth Secretariat  
Commonwealth Science Council  
Marlborough House,  
Pall Mall,  
London SW1Y 5HX  
September 25, 1987

Mr. Gerald Leach of the International Institute of Environment and Development (IIED) has informed me of your work in using biogas plants for sanitation management of public latrines. In particular he spoke of the Patna Latrine Project for which a video has been produced.

We are in the process of establishing a number of pilot demonstration projects in Ghana using the same concepts and will therefore be grateful if you could provide some background information and technical documentation on your programme. If possible we will be grateful to receive a copy of the video. We look forward to receiving your response and perhaps to cooperating with your organisation in the extension of the Ghana project.

A. Besa  
WHO Sanitary Engineer  
UNICEF  
New Delhi  
December 2, 1977

I came to Bihar to observe the programme of urban and rural sanitation. As a Sanitary Engineer of WHO and adviser of the UNICEF I am interested to study rural and urban sanitation programme in India and other countries in South East Asia. I am impressed by the programme of conversion of service latrines into water-seal latrines which have come to be known as Sulabh Shauchalayas in Bihar.

There are many rural sanitation programmes being carried on in various States in this country. But what has been achieved in Bihar in a short period of about two years seems to be unique. I have examined latrine conversion programmes, visited a number of sanitary latrines and seen the functioning of community latrines and baths in Patna and Ranchi. I am told that this type of work is being carried on in 43 towns of Bihar.

I am of the opinion that if such a programme is extended to rural areas with suitable modifications to suit local requirements, it would be a long way to improve sanitation in general and public health in particular. Sulabh Shauchalaya Sansthan seems to have done quite an impressive

task in the conversion of dry latrines into water-seal latrines and there is ample scope for similar organizations in other regions to learn from its experience. I am of the opinion that this type of method for disposal of human excreta is quite helpful in bringing about desired sanitary conditions and should be encouraged elsewhere.

Wilfrido C. Barairo  
Programme Officer  
UNDP/World Bank  
Regional Office for  
Water & Sanitation  
East Asia and the Pacific

Our counterparts in Indonesia have taken a keen interest in the sanitation approaches adopted by Sulabh International under the guidance of Dr. Pathak. Some of key policy-makers from Indonesia will be at the Delhi Consultation Meeting. Would it be possible to arrange a visit to acquaint them better with the approaches promoted by Sulabh? Following discussions between our RWSG/EAP Manager, Saul Arlosoroff and you in Delhi your participation in a sanitation workshop in Indonesia sometime in November-December 1990 has been suggested. We hope you can join us. Let's discuss this further in Delhi.

Ramnath C. Dore  
Resident Programme  
Officer in South India  
UNICEF  
Mount Road, Madras-600002  
March 5, 1980

This is just a line on behalf of Mr. S.P. Perumal and myself to thank you and your colleagues of the Sansthan for a very useful and educative visit to the various parts of Patna where your august institution has been able to successfully establish public latrines and maintaining them ensuring best possible environmental sanitation. To say that we were highly impressive would be an under-statement of the year.

J.S. de Vries  
Casewel 19  
3238 XI Zwartewaal  
Holland

"The most interesting achievement of this mission is without any doubt the participation of Sulabh International, very famous and welcome to us".

Dev D. Chopra  
Programme Officer (UDEV),  
United Nations Children's Fund  
South Central Asia Region,  
Unicef House 11, Jor Bagh,  
New Delhi-110 003.  
4 December, 1980

You and your colleagues deserve our grateful thanks for arranging an excellent programme for the Sri Lanka Team's orientation on your very innovative and now expanding programme. They were highly motivated by the success of your advocacy with the Government, the Eastern Railways and the public, and the self reliant methods that have led to an expanded programme.

Raghuvansh Prasad Singh  
Bell Communications Research, Inc.  
331 Newman Springs Road,  
Red Bank, NJ 07701-7020  
USA  
26 September, 1989

The visit to various Sulabh organisations, including the vocational training centres and the Shauchalayas, was quite illuminating for us. It is indeed remarkable to see that Sulabh has come a long way in a short span of time of less than two decades. The role of Sulabh in promoting low-cost sanitation by constructing hygienic and ecologically suitable facilities for the use by the common people and in creating an infrastructure of human capital trained in various vocations is indeed exemplary. Not only that the skills earned by the young people at the Sulabh training centres will prepare them for a livelihood through self-employment, but in the long run they will become an engine of social and economic transformation in the country-side. This becomes even more important in view of the concomitant new decentralized political structure at the grass root level.

B.B. Rau  
Sanitary Engineer,  
UNDP, World Bank  
New Delhi

Conversion of dry latrines into water-seal flush latrines is an immediate necessity to improve the sanitation in any area necessitated due to both health and sociological reasons. The Sulabh Shauchalaya Sansthan, Patna has changed the face of Patna by its work during the couple of years. By repeating this marvellous and dedicated work all over the country, it should be possible to achieve substantial freedom from disease and insanitation during the current Plan period.

Leo Fonseka  
Asst. Project Officer  
UNICEF  
United Nations Childrens Fund  
5, Queens Avenue, Colombo 3,  
Sri Lanka  
5th February, 1980

This is to express our sincere thanks and gratitude to you for having accepted our invitation and come over to address the National Workshop on Sanitation concluded on 25 January, 1980.

There is no doubt that your presence and contribution enhanced the quality and image of the Workshop and that your contribution was so deeply appreciated by our Govt. colleagues. Your experiences in India have, as you know, motivated the Govt. officials who participated at the Workshop and I am sure that they would attempt greater things, on their return, in the field of sanitation.

We are thankful to you for having helped us in the Workshop and wish you all the best in your continued endeavours in India.

M.S. Hoda  
Chairman  
India Development Group (UK) Limited  
32A Lingfield Avenue, Kingston,  
Surrey.

We will be interested in assisting your project in various parts of India and we would like you to combine your lavatory project with biogas plants for street lighting and other such uses in towns and villages.

As you may know, we work in close association with the India Development Group (India Chapter) as well as the Appropriate Technology Development Association, Gandhi Bhawan, Lucknow. If you could prepare a project proposal for other towns and villages in India in cooperation with the two above-mentioned organisations, we will be more than happy to assist you by exploring the possibilities of technical and financial support.

K.S. Naidu  
United Nations  
Children's Fund  
South East India Office  
Hyderabad-500 016  
April 16, 1980

Concerning the success of the programme, I must say that it is one of the most practical and dedicated programmes in the field of social work. What is amazing is that the people have adapted themselves to this system on payment basis. The several centres I had visited, I haven't heard a single syllable uttered or exchanged between the user and the SSS staff. I can understand the amount of hard work and perseverance that has gone into this project.

H.W. Butt  
Indo-Dutch Project for Child Welfare  
(Stichting Nederlands Kinderhulp Plan)

I cannot describe to you how happy and impressed I was at the dedicated work you have undertaken to improve the attitudes of the lower socio-economic levels. I appreciate very much your zeal and enthusiasm in introducing the water-seal latrines to improve the health and sanitation of the area as have rightly been said 'seeing is believing'. It is only after seeing how the people have accepted the new idea of water-seal latrines that one is convinced that an impossibility of this kind can also become possible.

I feel that this effort of yours will go a long way to relieve humanity and at the same time help in many different ways both from the health and sanitation points of view as well as improving cultural values emphasising on human dignity.

जगजीवन राम  
रक्षा मंत्री, भारत  
नई दिल्ली  
18 सितम्बर 1977

सुलभ शौचालय संस्थान पटना द्वारा बिहार एवं अन्य राज्यों में कमाऊ पाखानों को सुलभ शौचालयों में परिवर्तित कराने का कार्य किया जा रहा है, यह जानकर प्रसन्नता है। उक्त संस्थान, के प्रयत्नों से पटना शहर को भंगी-मुक्त शहर बनाने का प्रयास हो रहा है, यह रचनात्मक कार्य सिद्ध होगा। संस्थान अपने लक्ष्य की ओर अग्रसर हो।

Sikandar Bakht  
Minister of Works, Housing, Supply  
and Rehabilitation & Wakfs India  
November 1, 1978

I write to express my appreciation for the job undertaken by your organization in regard to latrines and baths at Patna and Ranchi. It is really a commendable job which is being done by your voluntary organization. If such projects could be undertaken in other States as well, this will go a long way in keeping the cities clean and hygienic. As mentioned to you at Patna, I shall be grateful if you could forward to me the scheme of Sulabh Shauchalayas (Toilet) Baths, so that this could be extended to other cities also.

S.B. CHAVAN  
Minister of Planning and  
Deputy Chairman,  
Planning Commission,  
New Delhi-110001  
March 5, 1984

Thank you for your views on the scheme for liberation of scavengers during the Seventh Five Year Plan. Liberation of scavengers has been receiving attention in the Planning Commission. The matter is being considered in detail by a working group concerned with development of Scheduled Castes during the Seventh Plan and another working group of the Works & Housing Ministry. The Ministry of Works & Housing has also been looking into low-cost sanitation for the decade programme (1981-90). The paper sent by you is being forwarded to the two working groups. I am sure they will pay close attention to its contents.

K. Natwar Singh  
Minister of State for Steel  
Government of India  
March 18, 1985

I am given to understand that Sulabh International has undertaken the conversion of dry latrines into low-cost flush latrines in the whole town of Bharatpur (Rajasthan). I will be grateful if the pace of this work is speeded up so that the project is completed by the end of this year. At present you have been requested to involve about 3,000 dry latrines in the project but the completion of the plan for the whole town will involve some 6,000 dry latrines.

Bhishma Narain Singh  
Minister of Parliamentary Affairs and Works & Housing  
New Delhi-110 001  
21 September, 1982

I have just seen the report on the Low-cost Sanitation Conference held at Udaipur on 27-28 August, 1982 in which representatives of Bihar also participated. I am extremely happy to know that your State Government in collaboration with Sulabh International has been successfully implementing the low-cost sanitation programme in Bihar and that your community latrines are a model for other States to follow. We are all keenly aware how the successful implementation of this programme will also liberate scavengers from the deplorable practice of manual handling of night-soil. I hope this good work will be kept up. While appreciating the efforts of the Bihar Government, I would request that all facilities may be afforded to representatives of other States to visit various low-cost Sanitation schemes in Bihar.

Mulk Raj Anand  
Lokayata,  
Hauz Khas Village,  
New Delhi-110 016  
March 2, 1989

HOMAGE to Sulabh International for vision of liberation of millions of scavengers.

Abraham Lincoln liberated five million black slaves — Sulabh dreams of liberating 20 million rejected for handling dirt. All honour to Dr. Bindeshwar Pathak for actualising Gandhiji's dream of abolishing untouchability.

As author of novel, Untouchable, written in Sabarmati Ashram, I am proud to be associated with this liberation movement. I congratulate Dr. Pathak and his associates for the persistent, organised and imaginative initiatives in the struggle to free the untouchables from bonded labour.

May the dream be realised in the whole of our country.

P.H. Vaishnav  
Joint Secretary (State Plan)  
Planning Commission,  
Government of India,  
New Delhi  
April 18, 1979

It is important that there is organised dissemination of information about the success achieved by voluntary organisations like Sulabh



Shauchalaya Sansthan in Bihar. The scale on which the Sulabh Shauchalaya has implemented this programme, and its visible impact over a large State like Bihar, must get known all over the country. It is, therefore, fitting that a brochure on this subject is brought out. It will deepen our conviction in favour of this inexpensive intermediate solution. It will also develop in us a confidence that voluntary agencies can produce results with minimum government assistance.

Nilay Chaudhuri  
Central Board for the Prevention  
& Control of Water Pollution  
New Delhi-110 001  
March 31, 1979

The attempt of Sulabh Shauchalaya Sansthan to provide pit privies by converting dry latrines into water-seal ones is laudable. It is my firm belief that a good many of the class I cities, let alone the other medium and small towns, will have to combine sewerage systems and pit privies for many more years to come for the very simple reason that most part of our large cities is crowded having narrow lanes where sewerage cannot be the solution.

P.K. Chatterjee  
Adviser  
Central Public Health Environment  
Engineering Organisation,  
Ministry of Works and Housing,  
Government of India,  
New Delhi  
October 25, 1980

I had the opportunity of visiting Sulabh Shauchalaya Sansthan and also study its activities in Patna and other parts of Bihar. I have been greatly impressed by the improvement in environmental sanitation in the areas where the Sulabh Shauchalaya Sansthan has provided low-cost sanitation measures by providing onsite excreta disposal arrangements. The attempt of the Sansthan in this regard and its impact on a sizeable population of Bihar State is laudable. I hope, similar activity is also undertaken in other States. I wish all success to this dedicated voluntary organisation.

Commodor Narindra Singh  
Advisor  
Deptt. of Non-Conventional Energy  
Sources, Ministry of Energy,  
Government of India,  
New Delhi  
February 23, 1988

The Sulabh International has done commendable work in installation and management of community toilet complexes in the country. We have given technical and financial support for the night-soil recycling-cum-biogas generation system which inter-alia includes electricity generation, water pumping, energy and forestry etc. Detailed project proposal may kindly be formulated and sent to us. We should be happy to sanction 90% of the capital cost for the above project which would, no doubt prove to be of considerable demonstration value, not only for the U.P. but in neighbouring States such as Haryana, Himachal Pradesh and Punjab.

M.M. Datta  
Assistant Adviser (PHE),  
Central Public Health and Environmental  
Engineering Organisation,  
Ministry of Works & Housing,  
Nirman Bhavan,  
New Delhi

Dedicated efforts of the voluntary organisation like the Sulabh Shauchalaya Sansthan for conversion of dry latrines into sanitary latrines in a city like Patna and its impact over a large population in Bihar State, not only have improved the sanitation of the city but have also helped in achieving a part of the long cherished goal of the Father of the Nation, Mahatma Gandhi to abolish manual handling of night-soil as headload. The marvellous work of the Sansthan has demonstrated a cheaper method for safe disposal of spent water and human wastes in lieu of complete underground sewerage system and treatment. Similar activity is urgently needed in other States also. I wish all the success to the Sulabh Shauchalaya Sansthan.

N. Radhakrishnan,  
Director,  
Gandhi Smriti Anad Darshan Samiti,  
5, Tees January Marg, New Delhi-110001  
3rd November, 1990

We appreciate the efforts the Sulabh International and its Founder Dr. Bindeshwar Pathak are taking to make India a scavenging-free country, which was the dream of Gandhiji. We would like to collaborate with Dr. Pathak in our youth programmes.

S.V. Bhave  
Deputy Director  
Lal Bahadur Shastri  
National Academy of  
Administration,  
(Government of India)  
Mussoorie.  
July 31, 1990

I write this to specially keep in records my sincere thanks for your participating in the seminar on Urban Management held in the Academy on 27th and 28th July, 1990 and sharing your views and experience with the IAS Probationers Professional Course, Phase-II. I am very confident that the probationers have gained immensely from the interaction they had with you and have also felt encouraged by your remarks about the quality of papers prepared and presented by them.

INDIAN EXPRESS  
(Report)  
September 24, 1980

A Patna-based social service organisation has already converted some 30,000 dry latrines into this type of flushable toilets. The same organisation is now engaged in converting 160,000 service latrines into water-seal toilets in Calcutta. This needs to be emulated by municipalities everywhere. Even this modification in toilets will take some time. Meanwhile, hand-carts, protective overalls, masks, elbow gloves and gumboots must be provided to scavengers.

INDIAN EXPRESS

(Editorial)

February 20, 1984

Sulabh International in Patna successfully introduced a cheap waterseal privy in parts of Bihar. Some of these efforts should be studied and replicated. Sanitation has proved a far more intractable problem than supplying water because it deals with the most personal aspect of daily existence and involves age-old habits. Yet, without extending sanitary facilities, merely supplying potable water will not be enough to stop the spread of water-borne diseases.

Opinion of the  
Press

**D**r. Bindeshwar Pathak has been speaking at conferences, seminars, mass meetings and writing for newspapers and periodicals in English and Hindi. Apart from news reports and features published on Sulabh, Dr. Pathak, Founder of the Sulabh Movement has been writing himself. The Hindustan Times, The Times of India, Dinman, Hindustan and a large number of other publications carried his articles some of which are reproduced in the book.

Dr. Pathak also edits Sulabh India, a non-political development monthly magazine , which reports on critical areas of growth and social equity. Dr. Pathak always complains that more is written about politics these days than is necessary for a developing country like India. And Sulabh India does just that. Apart from sanitation, environment, habitat and population growth Dr. Pathak has been writing on a large number of social and economic issues, persuading people to keep their shoulders to the wheels in order to push the country out of poverty trap. Dr. Pathak says that much of our miseries are avoidable and all of them can be eliminated if we change our attitude towards social issues and decide to work hard and modernise society by applying science and technology, without losing trust in God. Some selected articles are given in the book to know Dr. Pathak's thinking on various issues, national and international.

## THE PROBLEM OF SCAVENGING AND ITS SOLUTION

**T**he problem of disposal of human excreta is as old as the human civilisation itself. However, when man lived a nomadic life, there were all the land and forests for him to defecate in the open. And, that he continued to do for as long as one thousand five hundred years.

When the congregation of people shifted to convenient places along riverside, from where they could get plenty of water to drink and arable land to grow food, the problem of disposal of human excreta arose, and that is about the point where the story of scavenging began (scavenging for purpose of this write-up means physical cleaning of human excreta and scavengers are of a class who do this inhuman job in India).

History has recorded that during the Indus River civilisation, people had common bathing places, the evidence of which had been found at Mohenjo-Daro near Larkana in Pakistan. There is also evidence that Cretans, Egyptians, Incas and later Greeks used different methods

The paper presented in a function organised by Sulabh International on the eve of Ambedkar Day in New Delhi, 1990.

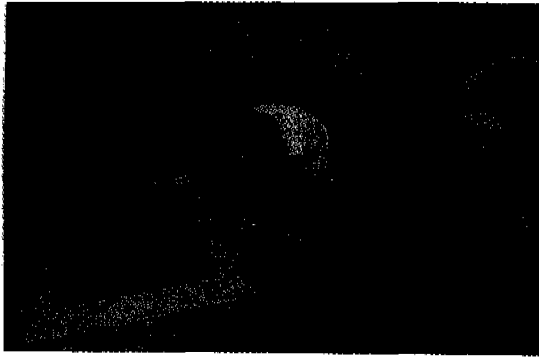


A Sulabh pan being fixed in a toilet.

for the disposal of human excreta. But, Romans who developed urban civilisation were the first to set up a gigantic sewerline known as Cloaca Maxima in the sixth century BC. In AD 300s, there were public lavatories in Rome. Pure drinking water was separated from washing water supply points.

The main drainage system was first built in London in the 1,200s and, later in 1,400 Paris had this system. Water closet (WC), the symbol of modern living, was incidently developed by an Elizabethan courtier, Sir John Harrington, who was banished from the court twice for discussing as profane a thing as water closet.

It may be recalled that development of these sanitary contraptions has been almost entirely an urban phenomenon. Villages had been out of this system. At many places in England including at the royal places, the WC system was set up. Harrington's model was further improved by a London watchmaker, Alexander Cummung, in 1775 and later inventor



**Sulabh Shauchalaya can be constructed in many shapes and sizes, circular and rectangular.**

Joseph Braham changed it to become that the water-closet is today.

However, WC was not enough; there has to be a sewerage system for WC to be functional. In 1840s, the modern sewerage network was laid with the arrangement to flush excreta into river water. Sir Joseph Bazargette equipped London in 1850 with efficient sewerage system and invented automatic flood-doors and other devices. From then on, the sewerage system and WC became the most accepted form of the disposal of human excreta, now extensively used in the cities of the developed countries.

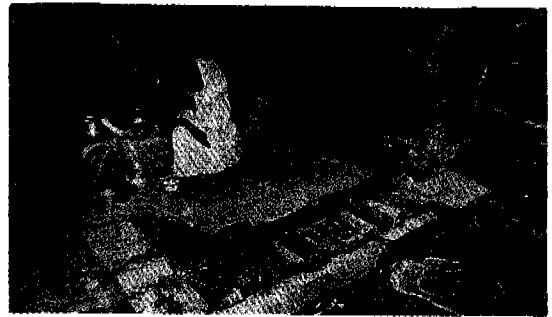
But, WC is largely used in cities and that too not in the entire city areas. For instance, even the cities like Tokyo and London are not fully sewered and, hence, different methods of disposal of human excreta have to be found. In the developing countries including India and China, the situation is none too happy. In India, for instance, out of 3,245 towns, only 217 have sewerage system and that too not for the entire city areas.

In Delhi, almost one-fourth of the people still defecate in the open and another one-fourth have manually

cleaned latrine system where a large number of scavengers work. Only seven per cent households have modern toilets with WC connected to city sewerage network.

## **THE SOLUTIONS**

Undoubtedly, the sewerage system is the best; for the human excreta is disposed of through underground channels. But, lately, it has been found that this system is also not entirely safe to set up until there are treatment plants at discharge points; or else rivers will get polluted. The Ganges is no more holy. The



**Food being cooked on stink-proof slabs over Sulabh pits.**

Seine in France and the Thames in London are no more clean rivers, also because of the modern sewerage systems, many of which are connected to these rivers without adequate sewage treatment facilities.

## **SEPTIC TANK SYSTEM**

The septic tank system is also costly. Moreover, it involves special kinds of skill and requires space also which is not always possible in cities. No wonder, even after 600 years of its popularisation drive, only 14 per cent of population is covered by this system in India. Septic tanks also require lots of water to keep



them clean. The gas pipes in the septic tanks emit foul smell and pollute air. Therefore, these types of latrines have to be set up away from the house.

Besides these disadvantages, the need to clean human excreta continues to persist because the septic tank has to be cleaned. It was against this background that the Sulabh technology was developed by Dr. Bindeshwar Pathak, the founder of Sulabh International — the largest voluntary, non-profit and social organisation in India.

### **SULABH TECHNOLOGIES**

After experiments with various methods and technologies of disposing of human excreta, leading agencies of India and world, including UNDP, UNICEF, World Bank, have found Sulabh technologies credible and with some changes they have recommended for adoption in other developing countries of the world. The Sulabh technology is simple and practicable.

The waterseal pour-flush Sulabh system of individual and community latrine system is a permanent, durable and affordable method of disposal of human excreta. After years of use, the system is functioning efficiently

The Sulabh systems work absolutely without foul smell, nor is there any pipe to pollute the air because the waterseal prevents gases from leaking out of the pit through the pan. Therefore, no gas pipe is required. The gas produced in the tank gets absorbed because the Sulabh pit is earth-based and there is the honeycomb system of brick-laying which facilitates leaching of fluid.

Sulabh toilet requires very small quan-

tity of water, say two litres and the privy stays clean. This is important characteristic in view of the deepening water crisis in most countries of the the world. Even the US government has announced incentive for saving water which is becoming scarce in the world, probably because of the depleted underground water runoff.

The Sulabh toilets, individual and community ones, can be constructed on a very small space, say seven feet long and four feet wide, with all amenities, including the provision of a platform and two pits with waterseal device in the middle of the particular wall. It can be constructed even in the corridor or in the bedroom of the building.

Sulabh toilet can be set up in all types of soil, sandy, rocky and homogenous. The maintenance cost of an individual latrine is virtually nil. It can be constructed where subsoil water table is high. The Medical Council of India has testified to it.

Organic manure of extremely good quality is available from the Sulabh pits which can be cleaned once every two year even by the house owner.

The Sulabh technology is tailor-made to redeem scavengers, for there would be no work left for them to do. The technique is simple and inexpensive. And, since the pit is absolutely smell-free, and the pits are covered by air-tight RCC slabs, the area can be used for other work also.

In sum, the Sulabh toilet technologies are the best for adoption in the developing countries where it is not possible to lay sewerline all over the country and set up sullage treatment plants. The efficiency, productivity and excellence have

close relation with the health of a nation.

### **COMMUNITY SULABH COMPLEXES**

Sulabh International has developed special expertise in constructing community toilet complexes and maintaining them for as long as thirty years or more. At such complexes, a very small amount is charged from each user which is spent on its maintenance. Women, children and handicapped have not to pay anything. Such community Sulabh complexes are being run by Sulabh International in almost every state of India and in very large numbers.

Sulabh International has set up biogas plant from human excreta at Patna, capital of Bihar. A stretch of 12 km is lit by the gas produced from human excreta collected from community centres operated and run by Sulabh staff. This is absolutely a new step in energy saving and prevention of environmental pollution which is very necessary for man to be at peace with nature. Such gases can be used at bus stops and other public places for lighting. Hence, projects are economically viable and employ a large number of people which is a big advantage for a country with large population.

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— by Dr. Bindeshwar Pathak

## ABOLISH SCAVENGING, HERE AND NOW

**E**ven worst of critics will agree that India has made tremendous progress since independence despite many hurdles and attitudinal problems which manifested themselves in the unwillingness of the people to accept social reforms and industrialised ways of living and thinking. The physical resources in abundant water, land, minerals and an attractive tapestry of ethnic and religious diversities have made our cultural heritage rich and perhaps rare. India, as a matter of fact, is a nation of nations.

The country's record on science and technology has been no less impressive. We had sages, thinkers, innovators who made great impact on social and economic life of their times. The science during the Mahabharata and Ramayana periods had no parallel in the history of mankind. To dare to say that these golden periods did not exist because we do not know about them as a proven fact of history, is not a valid argument. For, the earth moved round the sun since much



before Copernicus (1473-1543) said it and it had magnetism also well before Newton (1642-1727) saw the apple fall in his kitchen garden. Ignorance of a thing cannot be the cause of its non-existence.

However, the best periods of Indian history began to disappear from 11th century when the country slipped into foreign rule which continued for as long as 900 years, longer than Romans ruled the then known world. It was during this long and dark period that much of what was achieved earlier was lost. And, what

we have been able to preserve are only the left-overs of our golden past. In fact, we have retrieved the half-told story of our lost glory from the debris of time. This is the tragedy of Indian history which is a shining record of great human endeavour in many fields, science, technology, sociology, religion and much else besides.

During the period of foreign rule, many distortions developed in Indian society; the cultural fabrics were torn apart and faith and fallacies replaced reason and sound judgment. It was also about the time when Indian society under pressure, split into castes and sub-castes based on professions, or simply on beliefs, much to the detriment of the holistic growth of a cohesive social structure. And a people, adrift and unmoored from the past, stumbled from one crisis to another, neglecting in the process many social problems, or creating new ones.

Indian society has always been affluent in part; poverty being all pervasive, layered thick and hard between groups. The rulers were on the top of the pyramid, enjoying social prestige and economic benefits; on the bottom were Harijans. And scavengers were the worst among them. To be sure, scavengers have always been Harijans among Harijans, the poorest among the poor. This has been the continuing fact of Indian social life which has remained unchanged.

The origin and growth of scavenging as profession is a widely debated issue. For all we know, there has always been a class which did it. Although sanitation, in a wider context, connotes several other aspects also, in India, it is commonly associated with the practice of disposing of human excreta and nothing else. A simi-

lar attitude is held towards scavenging. Though scavenging includes various other operations, in this country, it generally forms an inseparable part of sanitation through bucket privies.

According to the National Sample Survey (NSS 1973-74), almost the entire rural population, barring less than one per cent, defecate in the open. Only one-third of urban households have the facilities for the water-borne waste disposal systems while the other one-third has bucket privies and the remaining

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**The *bhangis* (scavengers) go about practising their profession of carrying human excreta on the head, generation after generation, without protest or representation to the power that be. They have no forum, no union nor any caste leader to plead for their salvation. These are the defenceless people, almost perpetually waiting for a redeemer who doesn't seem to be coming.**

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one-third houses have no latrines at all. The situation has not changed much since the sample was taken by NSS. The *bhangis* need not be introduced; we know them but refuse to mention their names. We quietly dismiss them at the backdoors after flinging at them the day's leftover of the kitchen. In small towns, these mysterious figures materialise in dark shadows early in the morning; stealthy scurrying between lanes and by-lanes, cleaning dry latrines and collecting human excreta on the head to the tankers which cart it away to disposal spots.

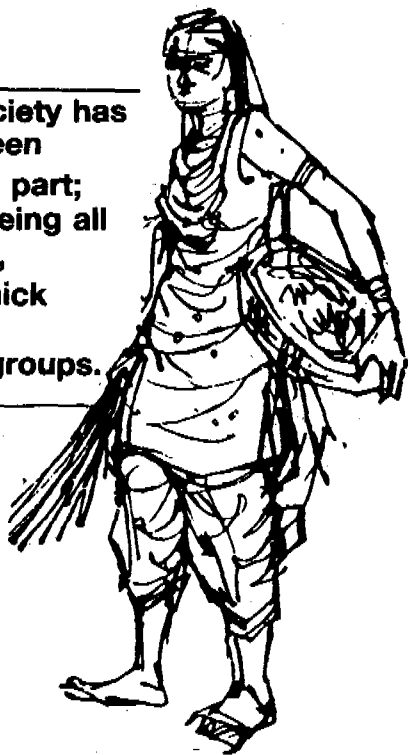
And, such people are 6 lakh in the country who service some 60 lakh dry-lat-

rines, about five lakh of them in Delhi alone. Of the total 3,245 urban settlements in the country, only 217 have sewerage system which serves a mere one-fifth of the people there. The estimated five crore people who use dry-latrines are more than the total number of such people in the 25 countries of the Third World where service latrines are in use. No wonder, India has the largest number of scavengers in the world; in China family members themselves clean latrines.

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**Indian society has always been affluent in part; poverty being all pervasive, layered thick and hard between groups.**

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And worse still, many such latrines are in knock-down conditions, as a consequence of which these helpless people carry night-soil on the head in leaking buckets after manually hauling it from the pit. The social degradation of scavengers is revolting to the conscience of any civilised society which is set wondering if in the past there had been any cruelty more hurting to the dignity of man than scavenging which is practised in India

without flinch or apology.

Scavenging started in India during *Puran* period when people were divided into 15 castes and one of the castes called *Chandal* was allotted the work of cleaning and carrying human excreta. The number of dry-latrines increased during the Mughal period when women in *purdah* were provided with this indoor facility. Later, it spread to other communities as well because of increasing insecurity to women. Warriors who were made captives or those captured in wars, were forced to clean latrines and later there emerged a class of scavengers who belonged to different castes and social background only to unite in the work of scavenging which became an institution and a running sore on India's social structure. Ironically, persons from all the religions, Hindu, Sikh, Muslim and Christian, are scavengers today.

The Government has taken a number of steps to end this practice. Gandhiji had made it mandatory for the inmates of his *ashram* to clean these places, (Mrs. Indira Gandhi had done that). All the Prime Ministers had tried to help scavengers. Mr. Rajiv Gandhi revised the 20-point programme to end scavenging. Recently, the Planning Commission had set up a "Task Force" on scavengers and their rehabilitation. (This author is a member of the Task Force).

Uptil now, roughly Rs. 100 crore has been spent and about one million dry-latrines have been converted into Sulabh Shauchalayas (pour-flush toilets) but this is just about 10% of the total need identified so far; yet, we have to cover a long distance. In the sixth and seventh plans, a provision of Rs. 4,690 crore was made for urban water supply, of which only Rs. 938 crore was spent on expanding or reinforcing

ing the sewerage system. The Govt. also made efforts to that end but those did not go very far. Scavenging has many linkages — social, economic, historical and attitudinal. These have to be snapped one by one before last of the scavengers is freed and rehabilitated in other professions.

Scavengers, as professionals, have been growing in number; first, because of the general growth in population, and, second, because of the rising demand for their services in fast-growing urban and semi-urban settlements, most of which are unplanned and, hence, unsewered. This situation has also produced ready jobs for them which are hard to come for other untouchables; equally poor, illiterate and outcaste.

Socially, scavengers are untouchables among untouchables. They are completely sealed off from the mainstream of social life. The law (Article 17 and 42 of the Constitution and the Protection of Civil Rights Act, 1955) does not help in this respect at all. The sporadic attempts of private persons, or social organisations have not changed the situation either. The question of social acceptability is not a matter of law; it is an attitudinal problem which has to be solved differently.

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**Uptil now, roughly Rs. 100 crore has been spent and about one million dry-latrines have been converted into Sulabh Shauchalayas (pour-flush toilets) but this is just about 10% of the total need identified so.**

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Hence, the first step towards solving this problem is the total ban on scavenging and setting a final deadline (many had

been set before) when this practice will be declared unlawful. All civic bodies should warn scavengers that they should equip themselves for other vocations by that deadline and for so doing civic bodies and voluntary agencies should play a leading role. The second most important step should be to make the conversion of dry-latrines into leach-pit, water-seal and flush latrine mandatory and house-to-house search should be conducted to ensure that none exists there.

As Mrs. Indira Gandhi said in 1983 that scavenging could not be abolished without providing an alternative to it. Now we have Sulabh technology which works independent of the sewerage system and is hundred per cent pollution-free. UNICEF, UNDP and the World Bank, so also the Government of India have recognised this technology which is working well in the country and outside it as well. The Sulabh system does not need scavenging; it is fail-safe, appropriate to Indian conditions and affordable to all.

Once dry privies are converted, scavengers will have to give up scavenging. They can be absorbed in other sanitation work. Having done this, extensive programmes for their education and rehabilitation should be launched with full publicity in all cities and towns of the country. Adequate money should be spent on such programme for scavengers who should be persuaded and pressured to change over to other profession.

Some attempts have been made by the Central Govt., State Govts. and voluntary organisations for the liberation of scavengers and some scavengers have been made free from scavenging and their sons and daughters trained in different vocations.

However, these efforts are inadequate

and sporadic. The diffused thrust with inadequate support of appropriate alternative technology and funds have succeeded only in very small measure. The problem of liberating scavengers is too big to be solved just like that. It is the time to or-

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**“Good Sanitation is the Need of the Nation”.**

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ganise our national efforts and energy in order to abolish scavenging once and for all. The nation must pool all its resources and borrow, if necessary, from international lending agencies to obliterate this stigma from Indian society which hurts our claim to civility and culture.

And, in so doing, at least for once we will be borrowing money on interest to restore human rights and solve a great social problem of human slavery which caused in the past many wars in the

world, including one in the US which President Lincoln had to fight in 1862 and fell eventually to an assassin's bullets. This attempt will also help in achieving

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**As Mrs. Indira Gandhi said in 1983 that scavenging could not be abolished without providing an alternative to it.**

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the mission of “Good Sanitation is the Need of the Nation”.

Ministry of Welfare, Ministry of Urban Development, HUDCO and now the Planning Commission have started work in the direction of the liberation of the scavengers and the rehabilitation of their wards and, hopefully this sub-human practice may be removed by the end of the century which will coincide with the target of WHO; “*Health for all by 2000 A.D.*”

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— by Dr. Bindeshwar Pathak

## UNTOUCHABILITY : DEFYING SOLUTION

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**Despite legislation, the problem of untouchability is very much there writes BINDESHWAR PATHAK. In fact, it appears more intractable than ever before.**

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**J**UDGING from the way Gandhiji had launched his crusade against untouchability, abolition of this evil practice should have been among the top priorities of free India. Provisions against untouchability were incorporated in the Constitution, since Jawaharlal Nehru and other leaders attached considerable importance to its removal and within a decade or so of independence most states had passed legislation making untouchability a penal offence.

In spite of all this, the problem of untouchability is very much there, looking more intractable than ever before. It is linked to the profession of scavenging. Scavengers carry or remove night-soil as a means of earning a livelihood and, thus, qualify to be called in our caste and class conscious-society untouchables. Our

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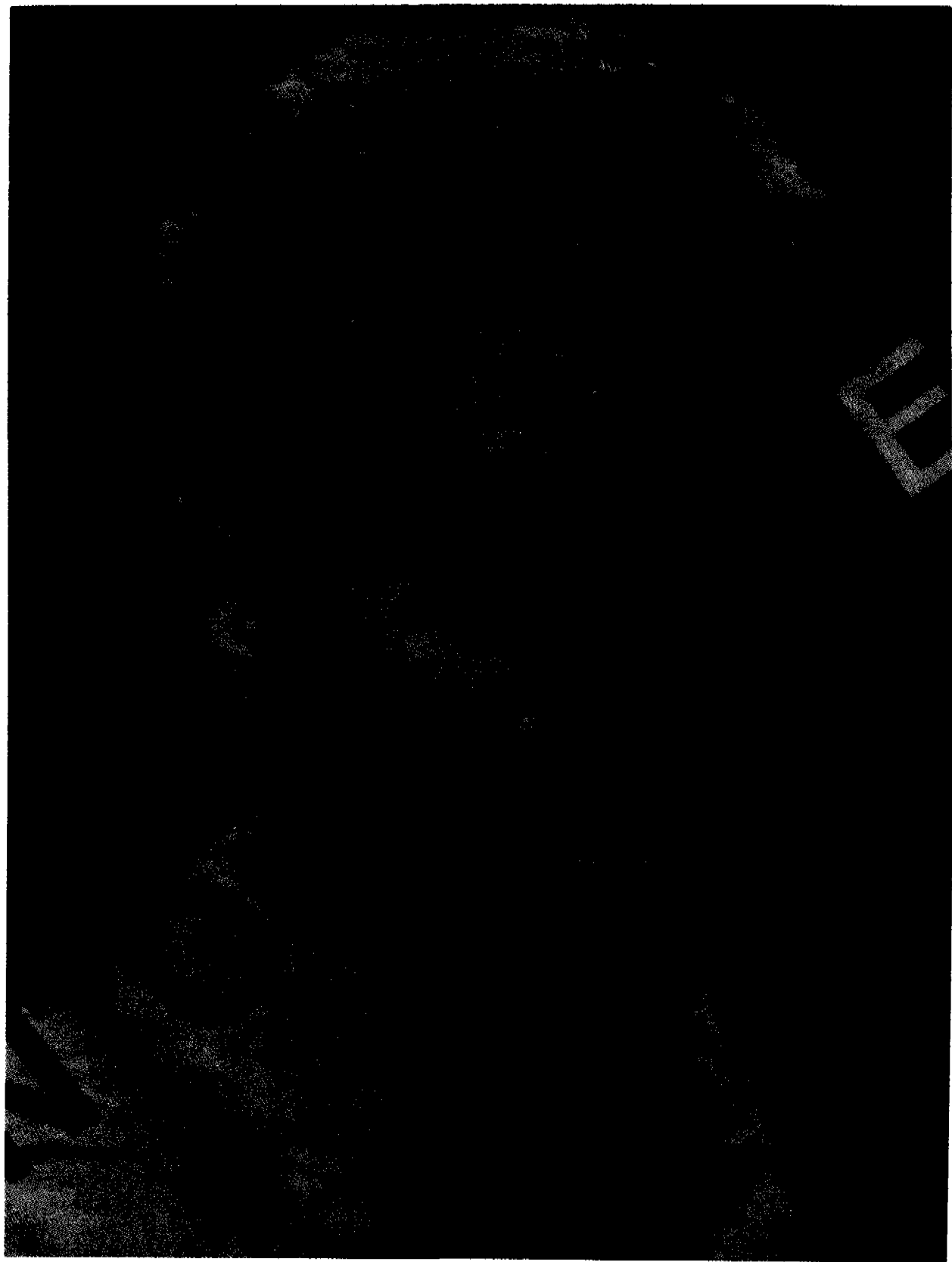
planners have so far not found a way to put an end to this profession. Due to the population explosion 'Mehtars' and 'Doms' who are usually engaged in this calling and who are notoriously polygamous, the number of people engaged in scavenging today is many times more, than in 1947.

Although the number of liberated scavengers (those who have been made to give up this profession and been provided other jobs) is estimated at about 10,000 there are as many as 14 lakh people still engaged in scavenging. The latest annual report of the Union Ministry of Welfare estimates the number of dry-latrines in the country at 53 lakh approximately. The total cost of eliminating these latrines and rehabilitating the liberated scavengers together with their dependents is reckoned at Rs. 1500 crore.

Faced as we are with a resource constraint it is not possible for the country to spare such a huge amount, now or in the near future. Consequently, one can safely say that notwithstanding efforts to check the problem, the number of scavengers will go on multiplying. Perhaps one simple solution is redoubled efforts in making family planning popular among 'Mehtars' and 'Doms'. If there are no scavengers to clean dry toilets, people are bound to switch to other systems. But this is just as impractical as our efforts to check population explosion among other sections of people have failed.

Although the liberation of scavengers has been going on for long, it was only at the beginning of the seventh Plan that the Central Government accorded it the status of a national priority and began to offer generous assistance to the states for the purpose. So far (1989) the Union Ministry of Welfare has made a total in-





vestment of Rs 40 crore.

But a study to evaluate the scheme of liberation of scavengers and assess its impact, sponsored by the Planning Commission and conducted by Dr. Bakshi D. Sinha of the Council for Social Development, New Delhi, makes one uncertain of official claims. For instance, it has revealed that dry-latrines have not altogether disappeared even from "liberated or scavenging-free towns". On the contrary in some places the so-called liberated scavengers were found engaged in cleaning dry-latrines on the sly.

The study was confined to four officially-declared scavenging-free towns viz., Bhagalpur, Gaya and Daltonganj in Bihar and Bhilwara in Rajasthan. In Bhagalpur 80 out of 153 scavenger-households, in Gaya 100 out of 219 scavenger-household, in Daltonganj 39 out of 50 and in Bhilwara 100 out of 103 were selected for survey. Although after liberation, their monthly income had increased from Rs 595 to Rs 1204 in Bhagalpur, from Rs 478 to Rs 804 in Daltonganj and from Rs 283 to Rs 994 at Bhilwara, the scavengers still continue to live in poverty. The increase in income has not brought about any improvement in their socio-economic condition. Addiction to drinking was widespread among all the surveyed households and it was a veritable curse on the community. Wherever the liberated scavengers have relapsed into the old profession, it is in places where dry-latrines continued to

exist although they had been officially replaced by other types of conveniences. The study concluded. "So long as dry latrines exist in towns, the question of liberation of scavengers and scavenging-free towns does not arise."

In spite of the fact that they had been officially declared scavenging-free, there were 2,913 dry latrines in Gaya, 414 on Daltonganj and 17 in Bhilwara. Earlier night-soil of these toilets was kept at assigned dumping places and properly disposed of from there. Now night-soil is indiscriminately thrown by scavengers or by the people themselves into open spaces, rivers, pits or fields. This results in greater environmental degradation than before.

The survey concludes that in order to make programme for the liberation of scavengers and their dependents effective there is need for reorganising the existing mechanism for the implementation of the programme. For instance, it should be taken away from municipal corporations and municipalities because these bodies are preoccupied with other problems, and are, therefore, not able, to pay much attention to scavengers liberation. Instead, there should be a committee consisting of district magistrates, representatives of local bodies, welfare department and voluntary organisations for implementing the scheme. This committee could undertake the role of giving regular feedbacks to the State Government to resolve shortcomings of the programme.

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— by Dr. Bindeshwar Pathak

## CASTE IS THEIR ONLY CRIME

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**Who says untouchability is a thing of the past? In many parts of the country it still exists, though lawfully banned, due to the need for "scavengers" to service the hundreds of dry latrines used by the population. Institutionally as well as traditionally, untouchables have always been hired to do the job; therefore, no amount of government policies to uplift this section of society has helped eradicate this deeply ingrained caste bias.**

**Bindeshwar Pathak assesses the current status of Harijans.**

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**U**N**TIL** a few years ago, the covers of inland letters used to carry Gandhiji's famous message : "Untouchability is a crime against God and man". The discontinuation of this message and the absence of any organised movement or agitation by untouchables themselves against their plight might suggest the evil

no longer exists. Untouchability however continues to stalk the country.

Despite sustained efforts of the Union and state governments, the number of untouchables has hardly dwindled. The only change that has taken place over the years is that earlier they were openly derided; now under the threat of law, they

are treated with reserve bordering on contempt.

It is estimated that there are over 6.5 lakh untouchables who continue to carry night-soil as headloads as a means of earning their livelihood. Out of 3,245 urban settlements in India, only 217 have sewerage facilities available to just about one-fifth of the population in these centres. Wherever there is no sewerage, there are dry-latrines serviced by what are called untouchables.

It is little comfort to know that the problem is not unique in India. There are as many as 25 other backward countries, where people depend on dry-latrines. But while the total number of people using dry privies in India is about five crore, there are only 1.37 crore people in the rest of the world who have to depend on the services of these "scavengers"

About two lakh untouchables are engaged in clearing night-soil from as many as 60 lakh bucket privies in the whole country of which five lakh alone are in Delhi. Notwithstanding claims to the contrary, those engaged in this profession continue to be victims of untouchability in one form or the other.

What the Backward Classes Commission wrote about them in 1956 is true even today. The commission had stated: "The condition of *bhangis* is extremely miserable and the betterment of this unfortunate section is one of crying needs. When compared with the average income of the common people, the earnings of the *bhangis* attached to local bodies and municipalities may not perhaps be very low. Yet the condition of these people is miserable. Drinking and gambling habits, lack of education and lower standard of living are responsible for many of their ills"

Of course, untouchables or their families are no longer denied water from village wells or kept at an arm's length in markets or social gathering but they continue to suffer due to a deeply ingrained bias against them.

All this flies in the face of Article 17 of the Constitution which provides for the abolition of untouchability. Article 42 requires the states to make provisions for securing just and human conditions of work and Article 46 stipulates that states must promote the interests of the weaker sections, particularly scheduled castes and scheduled tribes and protect them from social injustice. In no other country, is scavenging amalgamated with the evil structure of caste and untouchability as is the case in India. The communities engaged in scavenging are at the lowest bottom of the social hierarchy. Caught in the quagmire of miserable living and working conditions, they live in separate localities segregated from the main settlements.

In towns and cities untouchables live in slums, devoid of the basic amenities.

Notwithstanding the socialistic rhetoric of our politicians, scavengers do not have access to the state-sponsored welfare schemes, either due to official apathy or their locational isolation.

Looking at the magnitude of the problem, very little has been done to solve it so far. Under the Protection of Civil Rights Act 1955, untouchability is a crime and nobody can be denied service, on the ground of their profession in a shop, hospital, or any public place or the use of village well or even entry to a temple.

Sometime ago, Swami Agnivesh and subsequently several other organisations engaged in Harijan welfare led a group of

History reveals that household privies were not part of Indian culture and tradition in the past. In the Arthashastra of Kautilya (320 BC) of the Maurya period, defecation in public places or near reservoirs was prohibited.

With the advent of the Muslim era bucket privies were introduced in many houses, mainly for the convenience of women in *purdah*. Consequently, the lowest castes or POWs were assigned the meanest task of scavenging. With subsequent urbanisation, the system increased rapidly and has brought in the present chaotic situation.

Although the eradication of scavenging and rehabilitation of scavengers have now been included in the revised 20-point programme, the approach of the authorities to the problem remains muddled. For instance, if the government really wants to end the evil, why should municipal bodies all over the country keep scavengers on their pay roll! Instead they should embark on vigorous programmes for conversion of dry privies into sanitary toilets.

The availability of scavengers who do not charge much for their services mainly because of the salaries they receive from local bodies acts as a disincentive for the people to go in for conversion of dry privies into other forms of toilets involving leaching pits or septic tanks.

It is estimated that now about Rs 15 to Rs 16 crore are being spent by the Central and state governments on the welfare of scavengers and for financing dry toilet conversion programmes. This sum, however, is insufficient if scavenging is to be eradicated by the end of this century because with the present rate of conversions, it will take more than half a century



them into the famous Nathdwara temple. That there was no organised resistance on the part of casteist Hindus or temple priests to such a publicised show only serves to delude the people about the actual plight of untouchables.

to eliminate scavenging.

In the sixth and seventh five year plans there was a provision for Rs 4,690 crore for urban water supply and sewerage, of which nearly Rs 938 crore were for sewerage. A major portion of this could have been diverted to the conversion programme by not taking up any town for sewerage but concentrating sewerage where it is absolutely needed.

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**All men are not born equal; visit a scavengers' colony and you will know it.**

**Dr. Bindeshwar Pathak**

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Attempts have been made in the past to improve the working conditions of scavengers. They were provided with gloves, gum boots, collection implements, covered buckets and wheel barrows. During the Gandhi Centenary year in 1969, the emphasis was on the emancipation of scavengers. The government offered 25 per cent subsidy and 75 per cent loan for conversion of dry-latrines into a water flush toilet and its connection to public sewer.

Another attempt was made to end the system by promoting a special campaign for conversion of dry privies into water flush units. The state governments were specifically asked not to allow construction of new buildings without water flush toilets. In the unsewered areas, it was suggested, septic tanks or leach pits should be provided for converting dry-latrines into water flush units.

In the fifth five-year plan in 1975 state governments were asked to provide community collection tanks and carriage of

their contents in mobile vacuum tankers to oxidation ponds for leaching. Some 30 towns were selected in the country and provided 100 per cent grant for this provision. But this scheme was also not successful in ending the evil.

Wherever voluntary social organisation stepped in, the government's efforts started showing some results. For instance, the pioneering work done by the Harijan Sevak Sangh in Gujarat succeeded in large-scale conversions of bucket privies into flush system. Similarly useful service was rendered by the Gandhi Smarak Nidhi in Maharashtra. Bihar provided another instance of a major dynamic nature. The Bihar Gandhi Centenary Committee gave top priority to the *Bhangi Mukti* programme and also identified latrine conversion as the quickest and most effective way of achieving the objective.

With the emergence of Sulabh Shauchalaya Sansthan (Sulabh International) as a dynamic voluntary body with a nucleus of dedicated workers, the programme made much headway from 1973 onwards.

There are nearly 60 lakh bucket privies in the country. The average cost of conversion is about Rs. 1,700 per unit. Considering the escalation of prices, the average cost of conversion may be assumed at Rs 2,000. Thus the total cost of conversion would be about Rs 1,200 crore.

Experience shows that the cost of rehabilitating scavengers would be about 33 per cent of this amount. Thus a total sum of Rs 1,600 crore will be needed for the programme to eradicate scavenging in the country.

Under the Centrally sponsored

schemes for liberation of scavengers, the ministry of welfare, GOI, has released nearly Rs 32.5 crore as grant-in-aid from 1980-81 to March 1988 for converting bucket privies to pour-flush water-seal units to 18 states and three Union territories. Provision made in the seventh plan under the Centrally sponsored schemes for scavengers is Rs 39 crores. In addition, many states are also financing toilet conversion programmes from their own funds.

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**Attempt have been made in the past to improve the working conditions of scavengers. They were provided with gloves, gum boots, collection implements, covered buckets and wheel barrows. During the Gandhi Centenary year in 1969, the emphasis was on the emancipation of scavengers.**

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However, it is unfortunate that attempt to eradicate scavenging cannot succeed easily for the evil continues to be institutionalised in many places. The urban householder with a bucket latrine system looks upon it as a necessary evil.

Where the conservancy service is heavily subsidised by the municipality by paying scavengers a monthly salary (they are also paid by the individual household, although illegally) the local body itself is making scavenging financially more attractive. The fact that their salary per month is met from the general revenue of the local body contributed by the same house-owners as property tax and other levies is seldom realised.

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**The government offered 25 per cent subsidy and 75 per cent loan for conversion of dry-latrines into a water flush toilets.**

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Unless the cost of conversion into a water-seal latrine is heavily subsidised, it would be difficult to persuade the householder to switch over to any sanitary system. Even if loans and subsidies are offered, the various procedural formalities are too cumbersome and time-consuming.

Also, there is considerable scepticism about the design and working of the cheaper handflush toilet system. Another reason for reluctance on the part of the householder is the low-cost of maintaining and clearing the dry toilets at some places.

Why can't our social scientists and sundry other experts advise the government on measures that can end the curse of generations on scavengers? In March 1983, the Prime Minister Indira Gandhi, while replying to a question on the need for abolition of scavenging, told Parliament: "Everybody is conscious of this fact, and we have discussed this many times and there is no doubt that this is a disgrace and it should be eradicated as early as possible. You cannot ban a thing unless you provide an alternative to it..." But how long will the government take?

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Hinduism has got no well-defined, rigid and dogmatic tenets or set of faiths and practices. No wonder, a Hindu can be polytheist, monotheist or an atheist. A philosophy like *Samkhaya Darshan*, propounded by Maharishi Kapil, is an atheistic trend in Hinduism more than anything else.

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## MY JOURNEY TO NATHDWARA



Dr. Bindeshwar Pathak meeting with the President, Mr. R. Venkataraman.

To my mind, Hinduism is a very open and vast religion. It is more like a tree that has grown gradually and not like a building that has been built by great architects at some definite points of time. Hinduism contains within itself the influence of many cultures and, thus, the body of Hindu thoughts find as much variety as the Indian nation itself.

Hinduism has got no well-defined, rigid and dogmatic tenets or set of faiths and practices. No wonder, a Hindu can

be polytheist, monotheist or an atheist. A philosophy like *Samkhaya Darshan* propounded by Maharishi Kapil which is an atheistic trend in Hinduism than anything else. This philosophy is a very vital link in the Hindu philosophy.

Sometimes, Hinduism appears to be a polytheistic religion and sometimes it appears to be a monotheistic religion. We too find a monistic tendency which is very similar to the traditions of semitic religions. It is neither against living religion



of the world, nor does it encourage discrimination on the basis of caste, and creed.

Of course, we find a well-defined *varna* system, based on people's ability to work. Those who were well-versed in Vedic literature were called *Brahmins*; those who knew archery were *Kshatriyas* and the people good at trade were *vaishyas*. And, *sudras* were to serve the people. Formerly, this classification was purely based on the ability and aptitude of the people. But, in course of time, birth became the only criterion and, thus, began discrimination in Hindu society.

If we go into detail of Vedic religion, we do not find any repression on *Sudras* and all the four *varnas* were living happily. But, later people deviated from the basics of Hinduism and indulged in social injustices. My only attempt to remove prejudices which later developed in Hinduism and those elements should be highlighted which bind the society in a well-knit organisation.

With these things in view, I met five *pundits* of Bihar and joined issue with them on prejudices in Hindu society and succeeded in convincing them that no such discrimination has any sanction in Hindu religion, if the *Vedas* are any guide which they are. And, before God everybody is equal. All the five *pundits* agreed with me.

Meanwhile, I came to know that Harijans were reportedly denied entry into the Nathdwara temple and newspapers reported that the President of India also planned to lead a group of Harijans into the Nathdwara temple.

I was surprised at the report because, for all I know, there is no temple where devotees are asked about their caste iden-

tity before entry. Then I decided to go to Nathdwara to find out the truth. On October 29, 1988, I proceeded to Nathdwara along with five learned pundits and group of 102 Harijan boys and girls in three buses from Delhi. We reached Jaipur at 2.30 p.m. and in the night stayed in a youth hostel.

Next morning, I decided not to go with entire flock but only a few of us should find out the position. So, I along with five pundits left for Nathdwara and met the priests of the temple after registering myself as Bindeshwar Raut. I thought they would not allow me to enter the temple on seeing my Harijan name. But, this did not happen.

On October 30, we went in groups and waited at the Nathdwara temple hoping for the gate to the sanctom sanctorium opened. We chanted *mantras* and sang *bhajans* and *kirtans* in groups after which the gate opened at 11.30 a.m. and we entered in full strength. It was a total surprise to us that instead of resentment, we were warmly welcomed by the priests and people in the temple.

Later, we had all-community meal at a local *dharmashala*. We also ate at a Gujarati *bhojanalaya*, with all Harijan boys and girl only to check if there is any local resistance to Harijans eating at these places. But, there was no resistance. On the way back, we also visited Brahma temple of Pushkar and famous Ajmer Sharif shrine. We were asked to put on caps before paying respect at the shrine in keeping with the tradition of the place and religion.

You would agree that there are certain customs and norms in every religion and we have to respect them.

On coming from the Nathdwara odys-



**NO DISCRIMINATION AT HOTEL — Wards of liberated scavengers are taking food in a hotel at Nathdwara in Rajasthan.**

sey, I wanted to tell the truth to the people. On November 3, 1988 I met Mrs. Rajendra Kumari Vajpayee, the then Minister of State for Social Welfare and she appreciated the work. The Minister also met the Harijan boys and girls who had gone to Nathdwara with me. On November 5, I met Dr. Shankar Dayal Sharma, Vice-President, who also applauded our work. On November 7, the Sulabh International organised a *Satnarayan Katha* and the *puja* was performed by Brahmins for all those who had faith in Hinduism. This was the first attempt to organise opinion against discrimination, if there are any.

On November 8, we met the then Prime Minister Rajiv Gandhi at his residence who addressed the gathering of Harijan boys and girls. He said in his brief speech that such attempt would help create harmony in society. The voluntary efforts like the one we made, the Prime Minister said, would go a long way in demolishing prejudices in society.

On November 11, we also met President of India Mr. R. Venkataraman who also appreciated our efforts and expressed warm sentiments about amity in society.

The older the society, the harder its prejudices and if these are not removed with care, violent social and economic clashes take place which do more harm than good.

My argument is strictly limited to the violent attempts made periodically to change the social attitude towards Harijans. First, when I was told of the ban on Harijans' entry into Nathdwara temple and read of the President's willingness to lead a group of Harijans into the 300-year old temple, I thought Hindus have lost all sense of history. And, after I returned from the tour of Nathdwara, I discovered that the report was false.



**The Vedic Pundits, who accompanied the sons and daughters of liberated scavengers in Nathdwara temple in 1988, garlanding Mr. Rajiv Gandhi.**

The question is not of discrimination against Harijans which are many. But, the problem is how to demolish them. For this also, we have not to apply our minds; Gandhiji, the great redeemer of Harijans, has laid out guidelines which have now become blueprints of government policies. The components of the Gandhian policy are; the reforms should come from the top; linkages to discrimination (such as illiteracy, poverty and backwardness) should be cut off and the society should be allowed a long time to adapt to reformed situations.

This is quiet way of bringing about revolutionary changes in a society as caste and creed ridden as India's. The practice which took some 1,000 years to persist cannot be discarded just like that. One way to help the process of reforms in India is to keep telling that it is taking place. And, it is true!

No one can be telling that the social structure has not changed since 1947. Yes, it has. Nor can anybody deny that Harijans now are a lot better than ever before. They are moving ahead and in steps with others.

Not only that Harijans have become an offending community in Tamil Nadu where Brahmins are virtually driven out of the state, most specially from colleges of specialities. This was a historical backlash to which no one can be blamed. History has a way of repeating itself: first as a tragedy then as a farce.

In the social transformation, Sulabh International has a special role to play. We had accepted the Gandhian principle of the trickle-down reform system. All our establishments, activities and programmes turn around the welfare of Harijans to which Sulabh sources are fully committed. We have always used Harijans as yardstick to measure social changes. We try to know how much this or that reform measure have changed the lives of Harijans.

This philosophy is quite a piece with the Gandhian principle which says, "if you cannot figure out which policy should be adopted, throw the document and look to the rolling tears of the Harijans and ask yourself if your decision will make his life less miserable. And, the answer will become easier for you to get."

We do just that when we come across any social problem, we begin to discuss how much will it benefit scavengers, Harijans among Harijans. However, great the ideological fascination, if the Harijans are not served, the policy does not interest us.

But, Sulabh International has only been a path-finder. It is not our forte to launch political agitations or join issue with agitated political leaders whose alleged concern for the Harijans is not sufficiently acknowledged. We quietly try to cover a long distance which is too long to remember without discomfort. Until now, we have been able to set up only four lakh Sulabh toilets and 60 lakh are still to be made. And, thus, we could redeem only 20,000 scavengers out of six lakh who still carry nightsoil on the head!

We are set to redeem 20 million scavengers by the turn of century before we pause in the tract and look back to remember how we all began the journey. It is also an attitudinal problem which involves lifting the whole group of people by the strings of their shoes, as it were, and put them in entirely different social milieu where fairness prevail.

It is for this reason that we react sharply to everything that concerns Harijans, either their entry into the temple or their social status. We are their sounding board which provides them with guidance when one is needed. It was for this reason that we interfered with the Nathdwara controversy. We thought that the tone and tenor of the controversy will not help the Harijans.

The fact of the situation is that nothing like the Vedas can be written again to provide a new religion to Harijans. And, the Vedas have never given sanctions to

social or economic discriminations against any community. Yes, distortions developed somewhere along the line of its development which created discriminations. In which case, the attempt should be not to create a new religion, because one can be created, but to reform the old which can be reformed with a change in attitude.

Christianity faced the similar problem which Martin Luther (1483-1546) resolved not by discarding the religion but by changing its fallacies. The rise of Protestantism in Europe brought about many social and political changes. Luther, a German priest and son of a miner, was first to translate new Testament into German. He caused many political and social upsets but the religion, Christianity, stayed unshaken, rather nobler than ever before.

The protest reforms brought about Science and technology which was reflected in the latter day renaissance, a period which has no match in the history of the world. Everything flourished in Europe after Luther 'protested' against 'paper indulgences' and attacked the authority of the pope who had become a fountain-head of most social and economic discriminations.

But for Luther's reforms, Christianity would have stayed only as a religion of the rich and well-born and an European variety of Harijans would have been created. Europe and the US owes more to Luther than they seem to realise. For

religions being the central theme in mediaeval times, the continent would have been a drift after having lost a religion as enobling as Christianity.

Nothing like that happened in India. The reforms movements were either secularians or limited in scope. Almost all of them failed because they sought to create new religions instead of reforming the old ones. Their preaching suffered from many flaws, one being their aggressiveness and false sense of pride. One cannot say that one religions is better than the other and those who did, lost their followers. Crusade was an ancient concept; to try to practise it today will be very clearly suicidal.

So why not try to remove distortions and produce a discrimination-free Sulabh code of conduct for Hindus with the help of Brahmins and Vedic scholars who have approved of the reform movements in Hindusim. The Sulabh will not pitch Harijans against Harijans even if the Nathdwara discrimination report is true. We will protect and plead for them to a listening and sympathetic Hindus who are many as I could know from my visit to Nathdwara temple where priests, in the temple, and the public, outside it, welcomed Harijans entry into the kingdom of God, putting paid the attempt of those sought to thrive while others suffer.

In this case, the sufferers of the gimmickary will be the Harijans who have already suffered more than anybody else in the history of the country.

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— by Dr. Bindeshwar Pathak

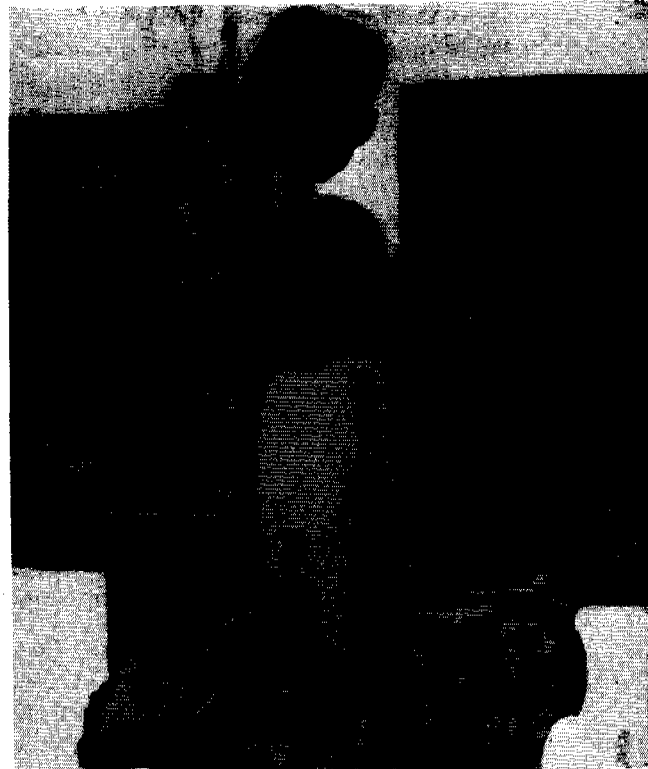
## SANITATION : LOW-COST SOLUTION

**S**anitation has a wide connotation. Human excreta, waste water, solid waste and even personal hygiene and housing are all directly connected with sanitation. The scope of sanitation may vary with the need and communities; but in a developing country like India, safe disposal of human excreta is the most challenging problem in the field of sanitation, both in rural and urban areas.

Researchers and scientists both in India and abroad have concluded that safe disposal of human excreta can bring about maximum improvement in sanitation and environment. The All-India Institute of Hygiene and Public Health, Calcutta, came to the same conclusion and observed in their investigation carried out at the Singur Research Centre that the mortality and morbidity rates were higher in villages with only tube well water supply facilities than where only low cost pour flush toilets had been provided. The best results were observed where both the facilities were available and the worst

where none was present. Health statistics of the country also reveal that excreta-related diseases cause the highest number of deaths.

This article deals with the problem only of excreta disposal as its safe disposal is the prime need, especially when there is a resource constraint.



History reveals that household privies were not suited to the culture and tradition of this country in the past and, there-

fore, were not an essential feature of a house. Defecation direct onto the soil was a matter of habit and convenience. Even now, though in urban areas toilets are regarded as a part of the house, yet only 44 per cent of the houses have latrines and nearly half of these are bucket or dry privies.

The primary objective of public health engineers in converting traditional service latrines into water-flush toilets has been environmental hygiene and protection of the community against health hazards. They have been advocating underground sewerage as the only safe and most effective means of achieving these ends.

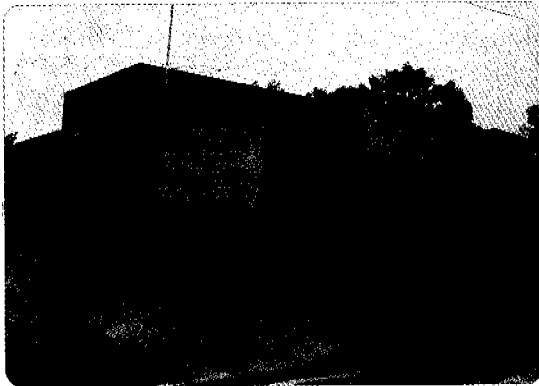
Sewerage is the best system for disposal of human waste as it takes care of both human excreta as well as waste water from bathrooms and kitchens. Sewerage is, however, costly and neither the government nor the local authorities or beneficiaries can bear the capital or operation and maintenance cost. Excreta disposal through sewerage costs almost five to six times more than a pour-flush system with twin pits (PF) which is an on-site system. Moreover it requires almost six times more water for flushing than the PF system and water is a scarce commodity.

Although almost the entire Five Year Plan allocation for urban sanitation has been spent on sewerage systems, either on-going or new, yet there are hardly 232 towns and cities with sewerage at present. None of these sewerage schemes, however, cover the entire municipal city area leave alone the adjoining suburbs included in the municipal limits.

Another difficulty is the operation and maintenance of sewerage. After the in-

roduction of sewerage in the town, the local authorities levy sewerage tax to which there is opposition because everybody has to pay it, whether one has a sewer connection or not. The maintenance cost of sewerage cannot be met from the tax even though it is high. The rate, however, cannot be increased as it is beyond the capacity of the common person to pay higher taxes. Due to the general budgetary constraint, local authorities are unable to maintain the sewerage system even with Govt subsidy and the sewers are getting choked for lack of proper cleaning and maintenance. Moreover, since all the houses on a street are not seweraged, the household waste water along with waste from the streets is let into the sewerage. Discharge of such waste and soil and insufficient water for lack of house connections is resulting in the chokage of sewers, making many of them defunct. The large sums of money spent on sewerage have thus become infructuous.

A sewerage project has to be completed substantially before even a portion of the completed work can be made use of, while with individual on-site systems for each house, this difficulty is not encountered. One of the advantages of a pour-flush system is that the maintenance is not a burden on the local authority. The daily maintenance is done by the house owner. While the dry sludge which is to be taken out every three years, is safe for handling and can be taken out by any labourer as it is dry, and odourless like earth, the returns from the sale of the sludge are more than the cost of the labourer. Low-cost sanitation (LCS) has the advantages that when there is any budgetary constraint and the work has to be stopped or slowed down, all the work



A view of Sulabh community toilet complex at Nand Nagari, Delhi.

completed can be used and people derive the full benefit, which is not so in a sewerage system.

**S**epptic tanks, an alternative to on-site sanitation, costs almost two-and-a-half to three times more than low-cost pour-flush system. Septic tanks have many drawbacks in comparison with PF latrines. They have to be cleaned after one or two years. The wet sludge to be taken out is a health hazard and at times gets mixed up with fresh night-soil and has an obnoxious smell. The sludge has, therefore, to be discharged at a distant places. Emptying the septic tank is, thus, not easy and a burden on the municipality. The traditional quantity of 14 litres of water is needed for flushing. The space required for a septic tank is more than the PF latrine.

On-site sanitation with a pour-flush two-pit latrine popularly known as Sulabh Shauchalaya is acceptable and affordable and is easily available. Nearly 6 lakh dry (bucket) latrines have been converted by adopting the PF system all over the country. Now a two litre flushing cistern has been developed which can be fixed to the pour-flush system and

changed to cistern flush whenever desired. Thus, it has been possible to overcome one of the factors that led to the non-acceptance of the low-cost PF system by the middle income group and high income group population.

On-site sanitation was tried in rural areas in the 1950s and 1960s but did not succeed. The toilets were built with one pit and the second pit was to be constructed by the household when the first pit was filled. The pits were also not lined. The result was that many pits collapsed and the second pit was not constructed and people again started going out for defecation in the open. The people lost faith in the technology, proving a great setback to the programme.

It was Sulabh International, a voluntary social organisation, which showed that PF latrine with two leach pits can be successfully constructed even in the most congested towns. This achievement of Sulabh led to adoption of low-cost sanitation all over India. This system meets the technical, socio-economic and cultural needs of the people.

## Financing

It has undoubtedly been the major problem area in promoting the conversion programme of dry (bucket) privies. Although low-cost sanitation costs 1/5 to 1/6 of sewerage and 1/2 to 1/3 of septic tank, yet it has not made the desired progress because the authorities always gave priority to sewerage. Till 1981, low-cost sanitation had a very low priority. Even now, states either do not make provision for LCS or it is so meagre that it is not sufficient even to match the available central assistance; with the result, most states are unable to avail of the

financial assistance offered by the Government of India.

## **Human resource**

Engineers have been educated and trained in high tech and any engineering work which is grand and can earn applause attracts them. Thus, piped water supply system or sewerage is their natural choice. Less technical men are attracted to the construction aspects of sewerage system. Most of them are, therefore, indifferent to low-cost sanitation.

Big contractors are not interested in taking up the construction of LCS. They prefer to go in for works where the margin of profit is higher. The NGOs also feel hesitant in taking up this work due to difficulty in finding a suitable and willing work-force. Experienced and trained persons, including the masons, leave the job of implementing the LCS and shift to other kinds of construction where the payments are higher and prospects are better. This applies to junior engineers and assistant engineers too.

Since pour-flush toilets are to be constructed in individual houses, each toilet becomes a project by itself. As the construction has to be done to the satisfaction of the house-owner and the work is scattered, the labour and material costs increase. Due to low turnout, chances of wastage of materials and labour and a close supervision by the house-owner, the margin of profit is reduced considerably.

## **Financial assistance to beneficiaries**

The financial assistance made available to beneficiaries should be such that they

can afford to have a toilet in their houses. It has been observed that in many states, the rate of interest and the retiring period for the loans advanced to beneficiaries make the loan repayment instalments too high to be affordable by most people. It results in non-repayment of loans too.

Till now all the households, irrespective of their income, were getting 50 per cent subsidy and 50 per cent loan to cover the full cost of the toilet, up to sub-structure level in most states. The Government of India has now curtailed the subsidy and has related it to the income level of the household. The beneficiaries have also to contribute from 5 to 25 per cent of the total cost from their own resources. It has become a problem for most people to spare money in lumpsum which earlier they could have paid in instalments.

## **Felt need**

Most people who do not have a toilet or have a bucket privy, belong to the economically weaker section and low income groups. For them, a sanitary latrine is not a felt need; they give priority to other necessities of life like food, clothing, shelter etc. The latrine gets very low priority as they are not aware of its importance. It has been observed that most latrines provided in rural areas with 100 per cent subsidy from the government are not used. This happened because the programme was not supported by software inputs like sanitation education, motivation, publicity and communication etc.

## **Legal support**

The Technology Advisory Group of the World Bank had suggested adoption of bye-laws on sanitation in the feasibility



reports prepared by it on low-cost sanitation in order to give legal support for expeditious implementation of the programme. The Government of India has also circulated these model bye-laws to be adopted by the local bodies. But, most of them have not so far adopted them. It is also observed that where such laws are available, enforcement is not possible due to public resistance. The mere formulation of law is not an end; it is equally important to enforce it by making available an affordable alternative to bucket privies and open defecation.

### **Superstructure**

It has been observed that at times when a bucket privy is to be converted, it becomes necessary to construct a new one at a more suitable place which needs a superstructure. Many houses cannot afford to build it from their own resources, resulting in continued use of bucket privies. Similarly, a large number of toilets constructed in houses having no latrines are not used due to non-construction of a superstructure. Most of these houses belong to economically weaker sections who have no means to build a superstructure.

### **Methodology for construction**

It is very bothersome and time consuming to get approval of drawings, sanction of grant/loan from the local authority, ar-

ranging labour and materials and supervising the construction. Though people may be willing to have a pour-flush toilet, all these problems prevent them from getting the latrine constructed. They will be happy to have an agency take the entire responsibility from the which application stage to completion of toilet, including guarantee of the structure and its functioning. The households also need education on use and maintenance of PF toilets. The local authorities and the government department do not have the necessary infrastructure to carry out this job. Only NGOs who are experienced in this field are best suited.

### **Community latrines**

There is a large section of people in every town whose houses have no space for private toilet. For them, the only feasible alternative is properly maintained community latrines. Due to lack of resources, the local authorities are unable to construct community latrines in adequate number and even the existing ones are not maintained properly; with the result, most people prefer open defecation to using community latrines. Most states do not have provision in their budgets or plan for providing financial assistance to local authorities for constructing, operating and maintaining community latrines. These are the problems and possibilities of the new Sulabh system.

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— by Dr. Bindeshwar Pathak

## RURAL SANITATION



**These mud houses have no latrines. And that causes insanitary conditions.**

**I**n rural India, people generally defecate in open space, little knowing the consequential health hazards, like cholera, gastroenteritis, ringworm, hookworms, diarrhoea, dehydration, higher morbidity and mortality among the infants, etc.

Bushes and trees have been removed, the lands have been converted into agricultural fields and hardly any place is left to hide for open defecation. People,

specially women, are worst sufferers.

Late Prime Minister Mrs. Indira Gandhi stressed the necessity of latrines for rural communities in India, particularly for women. In June 1982 she addressed a letter to the Chief Ministers of states mentioning, "another problem is that of latrines in rural areas. With the consolidation of land-holding and expansion of towns as well as cultivated areas, people in villages have great difficulty in this regard. Women specially feel miserable. They can go out only at night, which is not always safe. I have spoken on this matter to some Chief Ministers. The State Government should take up a programme of building latrines where these are not available or get local organisations to take an interest". This needs urgent attention.

### THE SOLUTION

Sewerage and septic tank systems are not at all the solutions in rural areas due to prohibitive cost of construction and maintenance.

The only affordable alternative to stop open defecation would be the two-pit pour-flush toilet system popularly known as Sulabh Shauchalaya.

The cost of construction of Sulabh Shauchalaya ranges from Rs 1,000 to Rs 3,000 it will depend on the beneficiary to choose a particular design according to one's economic condition. Only two litres of water is required for flushing, it prevents air pollution, human excreta gets converted into manure and does not need the services of scavenger to clean. Any person can take out the manure and use it in the field directly. Further treatment after taking out from the pit is not required as all pathogens die during the

period of about 18 months.

The shape of the pit will depend on the availability of the space; it may be circular, square or rectangular. If space is available, the circular pits with one metre distance between the two pits should be preferred. The two pits will not be required if connected to biogas plants.

The community latrines in rural areas should be discouraged as these are capital intensive as well as they require costly maintenance. Hence, it would be worthwhile to adopt the strategy to promote individual latrines in rural areas and community latrines in urban. However, two to four seated public toilets may be constructed in schools, *anganwadis*, health sub-centres, panchayat bhawans and community development centres etc. so that people could know and be educated about the sanitary latrine and its benefits and they may be motivated to adopt this system in their houses. The community latrines at block development office, market yards and bus depots may be recommended as there is likelihood of collection of adequate amount for proper maintenance.

It is desirable to provide two-pit pour-flush toilets along with the Indira Awas Yojana or other housing complexes in rural areas. It may, however, be not possible from the public exchequer to provide funds for the construction of sanitary toilets in all individual houses. Roughly the total estimated cost if it is to be funded by the public exchequer will be about Rs 10,000 crores, which the country cannot afford at present.

In rural areas, there are two types of clientele, who want to have sanitary latrines in their houses; one who are

economically well-off and secondly those who live in the urban areas but visit the villages. They want to have latrines for their convenience. But infrastructure is not available to assist them for the motivation and construction of the toilets.

It may be proposed that some unemployed youths should be trained as motivators and masons at the district and block levels. They should carry out this programme as social entrepreneurs. In the beginning, some element of subsidy say Rs. 500 per latrine will be necessary to encourage the beneficiaries to get the sanitary latrine constructed in their houses. However, the amount will not be given to the beneficiaries, rather it will be given to the institutions concerned who will construct latrines for them to minimise the misuse of money. The same methodology has been adopted in urban areas. The nationalized banks may be instructed to give loans to individuals for the construction of sanitary latrines also at low rate of interest if required by the beneficiaries.

To motivate and persuade the people to have sanitary latrines in their houses, mass media should be utilised in the same way as in the Family Welfare and other programmes. Voluntary organisations should be involved in the motivation awareness, education, implementation, maintenance and follow-up to make the programme successful.

This may be the beginning to improve the living conditions of the masses of rural India.

Pandit Jawaharlal Nehru had said, "The day every one of us gets a toilet to use, I shall know that our country has reached the pinnacle of progress".

**Insanitary conditions in urban slums cause many diseases, including gastroenteritis, cholera and diarrhoea. Children are worst victims.**



## URBAN SANITATION

**T**he scavenging has been found in existence since *Puran* period but the form of latrine for the first time came to visibility in Buddha period which was similar to pit latrine and later during Muslim period in the form of bucket latrine. Thirdly, two systems viz. sewerage and septic tanks were introduced by the Britishers in the 19th century but it could not find favour by more than 14% of the urban population due to prohibitive cost of construction and maintenance. Out of nearly 3245 towns in India only 217 are sewer based and that, too, partially.

Mahatma Gandhi wanted that this centuries old sub-human practice of carrying human excreta as head load should be done away with. But this practice still continues as there was no affordable alternative to this system.

But, now an affordable alternative (pour-flush water-seal toilet) popularly known as Sulabh Shauchalaya has been found in India. Nearly six lakh bucket latrines have been converted and more than 12,000 scavengers have been freed from scavenging. Training and Rehabilitation

programme has already started for the liberated scavengers and their wards. (There are about 60 lakh bucket latrines in urban areas which need to be converted into pour-flush toilets. About 45% of houses have no latrines at all and people go for open air defecation on the drains, fringe areas of towns, both sides of the roads and railway tracks. This has caused stinking situation and a lot of human lives are lost time-to-time due to enteric diseases like cholera, gastroenteritis etc. caused mainly due to unhygienic disposal of human excreta).

This programme is on in 17 states of this country and almost all the states provide 50% grant and 50% loan to individuals for constructing sanitary latrines in their households. With determined ef-

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**Mahatma Gandhi wanted that this centuries-old sub-human practice of carrying human excreta as head-load should be done away with. But, this practice continues as there was no affordable alternative to this system.**

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forts, this sub-human practice can be done away with by 2000 A.D. The total requirement of funds will be roughly Rs. 1200 crore for the provision of pour-flush toilets in individual houses and Rs. 400 crore for the training and rehabilitation of liberated scavengers and their wards.

For the floating population including residents of towns and cities for whom construction of individual latrines is not feasible, rickshaw pullers, footpath dwellers and weaker sections of society, public toilets with baths popularly known as "Sulabh Shauchalaya Complexes" maintained by Sulabh International on "pay-and-use" basis have found favour and acceptance in 17 states of the country including Delhi. This facility may be extended to other areas also on the same pattern. The system of maintenance is round the clock and the soap powder is provided to clean hands.

Biogas from human waste has been produced and converted into energy, to

be used for street lighting in Patna and Ranchi. A proverb "wealth from waste" has been turned into reality.

Prime Minister Rajiv Gandhi appreciating the urgency of eradication of the evil practice of scavenging took a more positive step by including the eradication of scavenging and rehabilitation of scavengers in other professions in the revised 20-Point Programme of 1986. In February 1987 he wrote to all the State Chief Ministers and Lt. Governors that the Government was determined to eradicate scavenging and emphasised the need for active cooperation of citizens and particularly of local bodies and Governments. He also drew the attention to the need of rehabilitation of liberated scavengers who will require training and resettlement in new occupations.

In this way the cities may be kept clean and free from health hazards and the dream of Mahatma Gandhi may come true.

— by Dr. Bindeshwar Pathak

## PREVENTION OF ENVIRONMENTAL POLLUTION THROUGH LOW COST SANITATION



CREATING INSANITARY CONDITION — Night-soil being dumped into a nullah.

**T**he fast deterioration of environmental and ecological balance in India has become a matter of deep concern. Population explosion, urbanisation, industrialisation, felling of trees, soil ero-

The paper presented on National Conference on Environment, Dehradun, September 15-17, 1988.

sion and an ever-increasing number of vehicles and factories are the main causes of this imbalance.

Another major cause of imbalance, which is particular to this country, is the centuries-old sub-human and unhealthy traditional practice of open defecation and the use of bucket latrines cleaned manually. The excreta from the bucket privies often spill over during its transport to the disposal site. Due to cleaning of the privy chambers by pouring water through the squatting holes, excreta flows into drains, running along the houses and, thus, exposing the entire locality to health hazards and foul environment.

Human excreta is the cause of many enteric diseases such as cholera, dysentery, typhoid, paratyphoid, infectious hepatitis, hookworm etc. Over 50 types of infection can be transferred from a diseased person to a healthy one by various direct or indirect routes from excreta. Therefore, safe disposal of human excreta should be the primary objective of improved sanitation in order to build a healthier nation and provide a cleaner environment.

The major cause of the high rate of incidence of these diseases in India is the tradition of open defecation by millions of people every morning and evening, and the existence of hundreds and thousands of bucket latrines in towns and cities. It is a common sight in our country to see the excreta flowing through open drains due to defecation by children as well as adults and also due to the system of cleaning bucket privies by scavengers who discharge the residual excreta into the drains which flows in front of houses.

A painful paradox persists. On one hand a gigantic leap in the field of science

and technology is ready to take us into the 21st century, while on the other, the centuries-old practice of manually cleaning and carrying night-soil on the head by scavengers remains a blot on our society.

The employment of human beings of a particular class called "scavengers", who make house-to-house collection of human excreta in buckets or baskets and carry them on the head, shoulders or by hand for disposal, is perhaps today the greatest stigma on Indian society. The shame of the scavenging system is that a particular class of people are employed for such a demeaning task which is looked down even by those who derive the benefit of their services. The stigma attached to this profession has passed down from generation to generation and the scavengers continue to carry out this work unwillingly. Thus, the conservancy system is being handled by the unhappy, grudging and sullen labour. Scavengers have lost their respect for human and social values of life which have been obliged them to take up such profession since their childhood. This appears to have affected the mental attitude of scavengers at work or at home who are segregated from the rest of community. There are hardly few countries in the world where scavenging is still prevalent. Scavenger's population in India is disproportionately very high, signifying the preponderance of bucket latrines in the country.

Since pre-independence period, the nation has been talking about their plight and has from time to time sought for the end to this demeaning practice of manual handling of night-soil, but in a half-hearted manner; with the result, that the achievement in this regard has been insignificant.

It is amazing to note that out of 800

million people, more than 700 million of this country either defecate in the open or use bucket privies.

Since the 1940s, sanitary engineers, experts and scientists in India started searching for an affordable, acceptable and easily available alternative solution to prevent open defecation in rural areas

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**Environment influences thoughts and habits of man. His social and cultural development would respond only in good community health and personal setup. Sulabh International's goal is to remove such environmental distortions by replacing the bucket privies in individual, homes with low-cost sanitation system**

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of India. The pour-flush water-seal latrine with on-site disposal of human waste which seems to be feasible in most situations and could satisfy the above criteria was initially developed by the All-India Institute of Hygiene and Public Health, Calcutta. Refinements were brought about subsequently by various research and other organisations, both governmental and non-governmental. The few projects taken up were primarily research-oriented to find out inexpensive solution to the problem.

Low-cost on-site disposal of excreta with pour-flush water-seal latrine (LCS) was introduced in India in the late 1950s as a national programme in rural areas, although it did not succeed due to various constraints. In the late 1960s a few small towns which were rural in character had

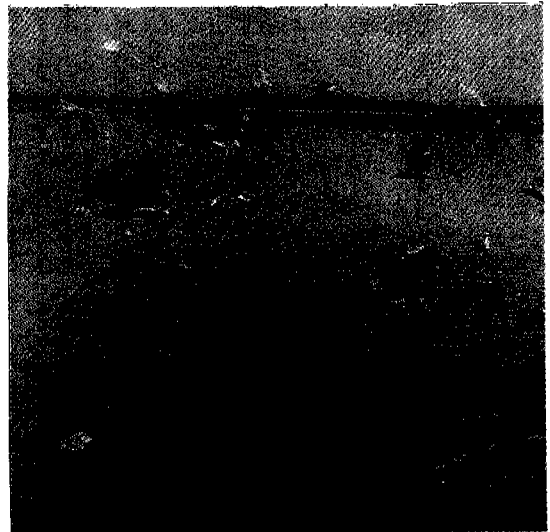


**In India, out of 3,245 towns, only 217 have sewerage facility. In settlements like these, people go for open defecation.**

been provided with LCS in Tamil Nadu and Gujarat in a very limited way. No thought was given to develop this system as a solution to stop open defecation and replace bucket privies.

I pondered over this situation and founded an organisation called Sulabh Shauchalaya Sansthan in 1970 (now Sulabh International) and started advocating the adoption of the same two-pit pour-flush-water-seal latrine, popularly known as Sulabh Shauchalaya, with some modification on what was developed in the 1960s to replace bucket latrines and stop open defecation in thickly populated urban areas. In the beginning, the Public Health Engineers were opposed to the idea and I had to face stiff resistance. But, gradually I was able to persuade the Government of Bihar to adopt this technology in urban areas. Sulabh International was able to introduce LCS in several towns including class-I towns (population above 100,000) and even in Patna, the capital city, with a population above half a million.

In 1974, Sulabh International introduced the system of operating and maintaining pay-and-use community toilet complexes round the clock with people's



**Polluted water areas kill birds and harm marine life, besides being health hazards to humans.**

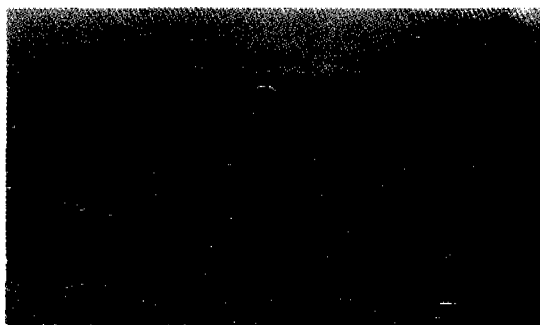
participation without any burden on public exchequer. These Sulabh Complexes offer further amenities like bathing and washing facilities and urinals. Now, it is proposed to provide some other facilities like public telephone, primary healthcare unit, ambulance van and creche for children etc.

Observing the success of the LCS programme of Sulabh International, the Government of India in collaboration with WHO and UNICEF and participation of Sulabh International organised the first National Conference in Patna in 1978, which was attended by public health engineers, public health scientists, planners, administrators and sociologists of the Central and State Governments. All the participants, after seeing the work done by Sulabh International in Bihar, were convinced that LCS technology



adopted there is the only affordable option for improving environment by converting the bucket privy and providing a toilet in every home. Sewerage and septic tanks are not the answer with the present economic conditions as the cost is prohibitive both for construction, operation and maintenance,

Neither the government nor the community could afford them. The Government of India convinced by the unanimous support for LCS in the country requested the UNDP in 1979 (with the World Bank as the executing agency) to prepare feasibility reports. In three phases, feasibility reports for 211 towns in 21 states and 6,000 villages were pre-



**Open defecation is a potent source of environmental pollution.**

pared. In these reports, it was concluded that pour-flush water-seal latrine with twin leach pits was the most suitable technology for adoption in India. Thus, it was the pioneering and successful achievement of Sulabh International in the urban areas in the field of LCS that paved the way for providing a better environment for improving health and hygienic conditions in the country.

Environment influences thoughts and habits of mankind. His social and cultural development would respond only in good community health and personal setup. Sulabh International's goal is to remove

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**It is a common sight in our country to see the excreta flowing through open drains due to defecation by children as well as adults.**

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such environmental distortion by replacing the bucket privies in individual homes with Low-Cost Sanitation (LCS) and provide community toilets with bathing facilities wherever needed to prevent indiscriminate open air defecation and, thus, improve the health and hygiene of the poor.

LCS is one of the components of India's prestigious project "Prevention of Pollution of River Ganga" of the Government of India designed to improve the environment.

It was realised that the relieving scavengers from their demeaning task of manual handling of human excreta was not the end of the problem. There was need for rehabilitating them in some socially acceptable profession. Most scavengers lose their sensitivity to the dignity and social values of life. Thus, there is a need for a change in their social life and mental attitude to improve the environment of the community. Sulabh International has, therefore, established model institutes for training scavengers, their wards and other dependents for different vocational training such as for electrical, mechanical, TV mechanics, motor vehicle drivers, pump attendants, typing, basket-making and many other arts and crafts which would enable them to live in society with dignity and class distinction will vanish. The Organisation is helping the state governments in preparing projects for establishing such institutes.



Waste material has to be recycled and reused to conserve the life support system.

**I**n spite of the tremendous success achieved in the rapid adoption and implementation of biogas programmes in India and China, there are doubts in many enlightened minds about its usefulness and even about the justification for its propagation. There are controversies over evolving an analytical framework. A financial cost-benefit analysis must be supplemented by the intangible benefits such as improvements in public health, reduced dependence on fossil fuels (at times imported), reduced deforestation etc. There is no agreed methodology to quantify these benefits.

For understanding the benefits from the system, it is important to compute the value-addition to the substance subjected to the process under consideration. The value added to cattle dung, for example which is the most utilised feed material for biogas plant, depends on the use pattern of the dung before the construction of the biogas plant. The value-addition, in this case, is brought about by (i) separation of the manurial and fuel components so, that the benefit becomes two-fold and (ii) upgradation of both the components.

If these considerations are extended to

## **HUMAN WASTE-FED BIOGAS PLANTS : IMPLEMENTATION STRATEGIES**

the human waste, a very optimistic conclusion emerges. Since, according to the prevailing practice in most cases, human waste is wasted, its value with respect to fuel or manurial components may be regarded as zero.

Rather, a negative value may be assigned to human excreta because it might carry viable pathogen, making its sanitary

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**In spite of the tremendous success achieved in the rapid adoption and implementation of biogas programmes in India and China, there are doubts in many enlightened minds about its usefulness and even about the justification for its propagation.**

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disposal mandatory in the interest of public health. When human excreta is digested in a biogas plant system, the value obtained per unit weight of excreta is the highest in comparison to other animal excrements. It is a sad, however, that this valuable resource remains neglected in

most developing countries. Sociological and psychological toboos rather than pathological considerations stand a big barrier in the way of its effective use. It is, therefore, a formidable challenge for the biogas technologists, planners and programme implementing agencies.

Let us now consider the various possibilities and areas of application. The biogas plants may be categorised into (i) family-owned small biogas plant, (ii) community biogas plant (CBP) and (iii) institutional biogas plant (IBP). The community and institutional plants are usually medium sized, though some industrial effluent-based and sludge-based biogas plants may be large. Human excreta may form a part or the whole of the feed material in any of these categories. Due to the factors mentioned in the earlier paragraph, however, the scheme of connecting the toilet to an existing family 'gobar gas plant' faces a stiff resistance from the individual beneficiary. Even if the beneficiary is told that the addition of human excreta would upgrade the fuel-value as well as the manure value, the family finds it difficult to accept that gas in their kitchen.

The same is the fate of human excreta utilisation in the community plants. However, in this case, the community may use the gas for pumping irrigation water on co-operative basis. In this case, the management and maintenance of community toilets is a more problematic issue.

The situation with respect to human excreta use is less conservative in the case of institutional biogas plants. The experiences of Sulabh International in this area would be briefly recounted here.

This organisation has been concerned with the problem of sanitary disposal of

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**Introduction of a new technology is usually accompanied by lack of trust in the implementing agency and a feeling of uncertainty.**

**Post-installation problems dampen the spirit of the beneficiary. The cost of repairs and maintenance often seal the fate of so many biogas plants.**

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human waste for nearly two decades. Attempts to find suitable measures for the disposal of human excreta from the public conveniences in the unsewered urban areas and endeavours for resource recovery from human excreta have led to our involvement with biogas technology — R & D as well as implementation.

The beginning was made in the year 1982 at Patna when the excreta of a public toilet complex was utilised on the spot in a biogas plant without separating excess water and used for street lighting. The success of this experiment encouraged the organisation to replicate this at many places. To date, about sixty biogas plants have been constructed at Sulabh public conveniences in different towns all over the country. The feed-back from these biogas plants show satisfactory performance.

There is a vast scope for replication of the above mentioned system for human excreta disposal as well as for resource recovery. An idea of the extent of the benefits can be formed by taking Sulabh International's own example. This organisation has already constructed and is maintaining about 2,000 public complexes all over the country. With the cur-

rent trend of expansion and felt need for public conveniences, it is expected that in the next ten years, the number of such plants would increase ten-fold. At present about 50% of our complexes are visited by more than 2,000 users everyday. If it be possible to have biogas plants in 75% of these 10,000 complexes, then about 7,500 public toilets may have biogas plants, their capacity ranging from 60-150 cubic meters of biogas per day. Taking the lower side for a conservative calculation:

— total gas production = 4,50,000 cu.m. per day

— total electrical power available = 4,87,500 units per day

— street lighting with tube lights = 24,375 km. for 10 hours every day.

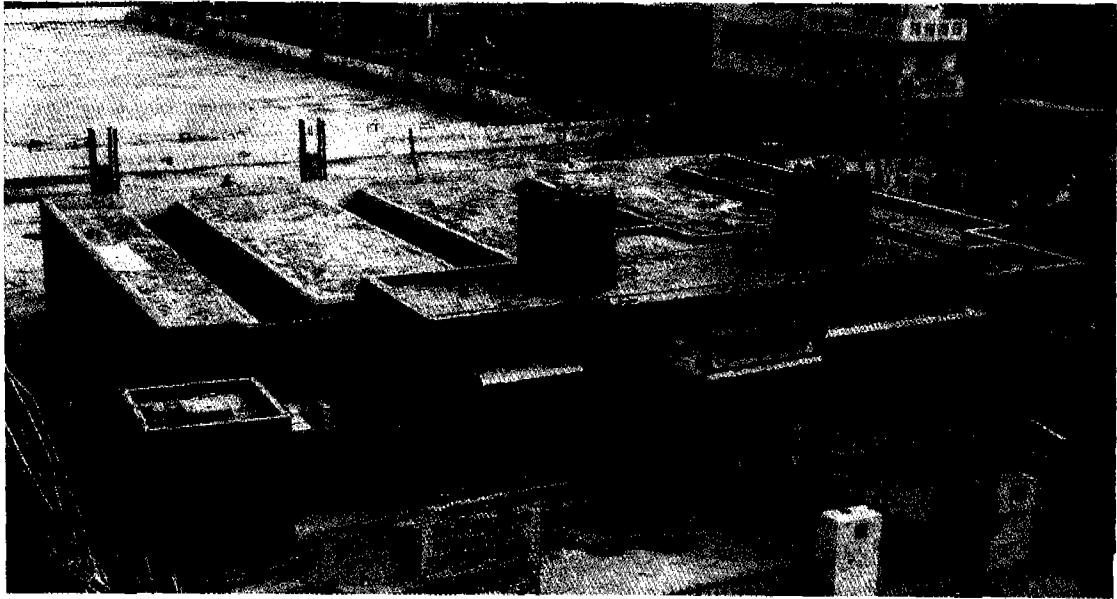
By using additional feed stock, e.g. vegetable wastes, agricultural wastes etc., the gas production could be increased 2-3 fold.

It is evident from the above account that substantial benefits can be obtained from the human waste in unsewered urban areas. Appropriate technology package has been developed through R & D and sufficient experience has been gained already. But there are certain management constraints which should not be overlooked.

Sulabh complexes are situated in congested and busy urban areas where there is a felt need for such facilities from the floating population and the poor people who cannot afford private toilets. Social workers residing in the Sulabh complex, numbering about four to ten, cook their food on the biogas. During winter, they heat water for bathing and also use burner for warming their hands and feet.

In some places, biogas lamps have also been installed. These activities hardly consume 5 cu.m. of biogas. Then comes the question of utilisation of surplus biogas. This can either be used for cooking, water pumping, water heating or for generating electricity. In most places, people are not yet ready to accept exereta-based biogas in their kitchens. We should, however, try our best to dispel the taboo. We are, therefore, planning to set up community kitchens in our complexes where willing persons may come and cook their food at a very nominal charge. Gradually people will come to know that this gas does not harm and is clinically acceptable. Thereafter, the gas can be piped to nearby hotels, restaurants or residential areas. Small-scale industries requiring low range heating facilities may also utilise this gas. Water pumping and supply of hot water at our complexes are also being planned.

Conversion to electrical energy can be planned where at least 60 cu.m. of biogas is available for this purpose. About 65 units of power would be produced from 60 cu.m. biogas. From our experience of about 5 years, we have seen that the cost of electricity is rather high (about Rs. 1.2 to 1.5 per unit) at this scale of operation. This can, however, be improved upon by starting a bigger-scale of operation with the inclusion of vegetable waste (from vegetable and fruit market), provided the situation permits. But even then two constraints remain : sale of electricity is not permitted and the generation cost is more than the domestic tariff. There should be arrangements for licensing for such small generation capacities. At the same time, subsidy, to bring down the cost at par with the domestic electricity tariff, should be available from the Government as is



Sulabh community toilet complexes also produce human excreta-based biogas.

done for the electricity boards. Similarly, the sale of biogas should also be subsidised to take care of the maintenance cost till the time the consumers are ready to pay a reasonable rate.

Introduction of a new technology is usually accompanied by lack of trust in the implementing agency and a feeling of uncertainty. Post-installation problems dampen the spirit of the beneficiary. The cost of repairs and maintenance often seal the fate of so many biogas plants. Therefore, maintenance support for longer periods and some arrangement for risk coverage should get due consideration along with capital subsidy. This could mean a gradual shift of a portion of the State resources from capital subsidy to maintenance support and risk coverage for longer periods.

These strategies may now be summarised to present them in a nut shell :

1. Appropriate and fool-proof technology packages have to be developed for actual situations through rigorous R &

D activities. The package should be able to solve the problems of the specific situations namely, waste disposal, energy needs, soil conditioner and fertilizer requirements. The cur-

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**When human excreta is digested in a biogas plant system, the value obtained per unit weight of excreta is the highest in comparison to other animal excrements. It is a sad, however, that this valuable resource remains neglected in most developing countries.**

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rent trend of trying to find a situation for a particular solution is like putting the cart before the horse.

2. Socio-economic aspects must not be lost sight of.
3. Mass awareness is a very important pre-requisite, not only for the successful assimilation of a new technology

- but is also essential for the well being of the target group itself. Health education should be promoted on a war-footing. Appropriate communication materials should be developed for this purpose. This is all the more important in the context of human excreta use.
4. The role of implementing agencies should be widened to include post-installation care so that the beneficiaries have continued trust in the technology. The voluntary organisations have a very important part to play in this context.
  5. Rethinking on rationalisation of government support and subsidies seems to be desirable. In view of the continued maintenance requirements and occasional failure, part of the capital subsidy from the State may be shifted for long term maintenance support and coverage against failures. This would mean a greater involvement on the part of the beneficiary or the nodal agency. At the same time, this would provide reassurance to the target groups regarding continued operation and trouble-free service. The risk of failure would not loom large.
  6. Provision should be made in the Electricity Acts for giving permission for sale of electricity produced from biogas. Simplified procedures should be available, wherein such permissions could be given by the appropriate project sanctioning authorities.
  7. Thermal power is normally subsidised for sale to the domestic consumers. Similarly, subsidies should be available for selling electricity produced from biogas. In fact, the amount of subsidy should be more, because, this system protects the environment in addition to generating energy and protects soil by producing soil conditioner.
  8. Training programmes should be available for persons involved with this programme at various levels. The training of masons is the most important one for the success of this programme.
  9. Centres for post-installation care are required at least at the district level. Government support is needed for this.

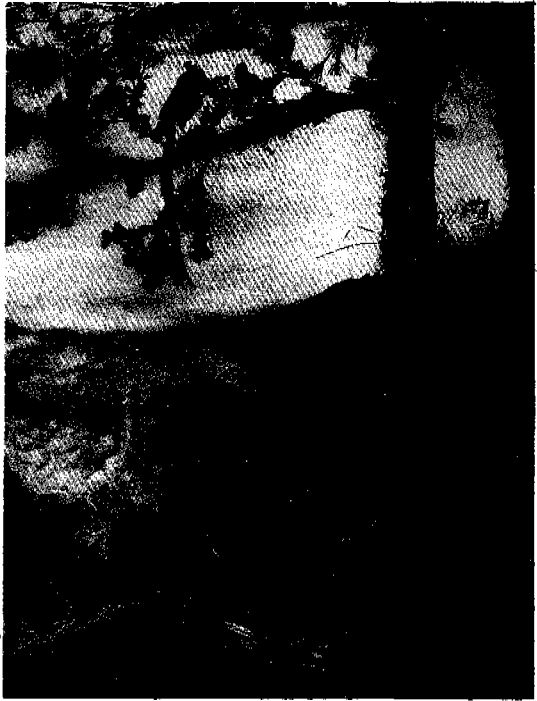
Last but not the least, we should not forget about the feed-back and its analysis to provide an evaluation of the past efforts and guidance for future endeavours.

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— by Dr. Bindeshwar Pathak

## WHAT IS ECOSYSTEM?

**THE SPLENDID BEAUTY : Let it stay undisturbed.**



**T**o understand the meaning of the word ecosystem and to appreciate the role that it plays in communicating man's increasing concern about his environment, one should consider the holistic concept that underlines the term. Holism

is a concept based on the theory that living components (organism including man) function together as a whole according to well-defined physical and biological laws.

Also fundamental to this concept is a

generalisation theory of integrative level or the theory of hierarchical control. By this is meant that as components are added to create larger functional units, additional attributes come into focus; attributes are not present or not evident from the behaviour of the separate component. When hydrogen is combined with oxygen in a certain manner, for example, water, which is distinct from both of its components, is formed.

Similarly, when three evolve together, they form forests with an entirely new set of attributes. To understand water and forest, therefore, knowledge about the functional wholes as well as the parts is required. The importance of the ecosystem concept is its emphasis on the overriding necessity for understanding the large units of nature in which man, his domestic organism, and his energy-demanding machines are interdependent component along with other essential components that maintain the total life support system.

The word ecosystem is a contraction of ecological system. Ecology, in turn, is derived from the Greek word meaning "house" Persons all over the world, seizing on the root meaning of ecology have broadened its scope from the former rather narrow academic confind and use it to refer it to the study of the totality of man and environment or to the whole "environment house", as it were. The word ecosystem has been defined as regularly interacting and interdependent components forming a unified whole.

An anthropocentric, or human-centred, definition of ecosystem, therefore, could be; may as a part of, not apart from, a

life-support system composed of the air, water, minerals, soil, plants, animals, and micro-organisms, all of which functions together and maintain the whole. A formal definition is; any unit, including all organisms, biological factors interacting with the environment (physical factor) so that a flow of energy within a system leads to a clearly defined trophic (nutrient requiring) structure, to biotic diversity and to an exchange of materials, between living and non-living sectors.

There is no size limit implied into the definition of the ecosystem. It may be a square km of jungle, a square meter of desert, a pond, a woodlot, a city, a farm or a closed container of small organism (eg. an aquarium or a vivarium). The largest ecosystem is biospher, the entire world of life and its associated geosphere, the inanimate earth; because of its magnitude, this ecosystem is often referred to as the ecosphere. Only in man-made ecosystem are the boundaries clear; natural ecosystems blend together at overlap areas called ecotones, as at the end of a forest or at the seashore.

In Sum, the term ecosystem indicated the unity of organisms and environment as well as the oneness of man and nature. An ecosystem has two components that are partially separated in space and time; (1) an autotrophic, or self, nourishing component (large green planets) in which light energy is used to build up complex organic substance from simpler inorganic one and (2) a heterotrophic or other nourishing component in which complex organic substances are utilised, rearranged and ultimately decomposed.

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— by Dr. Bindeshwar Pathak



wering snow-clad mountains, the exotic fauna and the luxuriant flora. Indeed, the natural preserve is one of the new surviving primeval ambiances on the globe which has given the river its mythological attributes. And, also continues to inspire the seekers of truth, peace and *nirvana* since the time immemorial.

Now, the Himalayan landscape is being ruthlessly battered by a variety of hazards; the geological catastrophes, earth quakes, land slides avalanches, soil

## THE GANGA: A BEAUTY FOREVER

**F**or millions of Indians, the Ganga is far more than a mere flowing water; it is a myth, a lore, a legend and above all, a faith. Therefore, charting the course of the Ganga from the Himalayan peaks to the shores of Gangasagar (Bay of Bengal) for over a distance of 2,500 km is a daunting challenge.

In the early two parts, as the melting Gangotri glacier (6,600 m) runs and rills on the southern slopes of the Great Himalayas to reappear in the ice cave, Gaumukh (3,900 m) a glacial stream, the Bhagirathi is born.

And, when the Bhagirath descends, it meets yet another tributary, the Alakhnanda at the historic confluence of Devprayag, where the river comes of age; later she was known as the Ganga. There are Great Himalays, the Lesser Himalayas (3,000 m) and later the Siwalik Range of the outer Himalayas (1,300 m) till Haridwar.

On the way, are revealed the most typical of the Himalayan landscapes; the to-



erosion and man-induced ecological devastation, deforestation, overgrazed pastures and toxic pollutions. These hazard are so intricately enmeshed with the gorgeous scenic beauty of the Himalayan landscape that special efforts are required to identify and analyse them.

Still more polluting is the long trek of 1,900 km on the plains where factories spew forth the effluents and wastes and recklessly thrown into the holy river. Nevertheless, here the largesse of the Ganga is at its best feeding the teeming millions and nurturing the 3,500 years old rich cultural, historical and spiritual heritage of India. — by Dr. Bindeshwar Pathak

## THE URBAN DECAY

**The rising population and the massive influx into cities have created many problems, the most urgent of them being of houses, the lack of which has created the most unlivable conditions. Besides regulating the inflow into cities, planners have to diffuse the growth thrust which alone will stem the exodus and stop the urban decay.**

**T**he growth of city centres and the vanishing importance of small towns are the principle factors in the influx which are choking big cities. The growing slums, unplanned colonies, absence of inadequate services, encroachment on public land and open spaces, increasing inefficiencies of the civic staff — all the factors constitute the ugly face of urbanisation in India.

The principle manifestation of growth is the degeneration of old city areas, a



**A view of Dharvi (Bombay), the largest slum in Asia which has no basic sanitation facilities at all.**

negation of planning in the rise of modern colonies and an almost uncontrolled growth in peripheral areas. In new towns, specially those which have grown as a result of location of large-scale industries in backward areas, urbanisation is almost co-terminus with a total absence of planning and of even the elementary infrastructure necessary for the existence of a city. Every major new industrial town present the picture of a thriving industries surrounded by huge slums.

Whether we talk of established town with a traditional economic base or of new towns which have thriving industry, we are referring to settlements which are intrinsically wealthy. In other words, towns such as Bombay or Calcutta and new town such as Korba and Singrauli are all centres which create wealth and possess resources. The investment in the industrial infrastructure of these towns runs into thousands of crores of rupees.

ferred to them. Such areas have little or no urban infrastructure and certainly no management system for handling urban problems. Land is allotted by government or its agencies to industries at throw-away prices with added attraction of the infrastructure to service the industry made available at little or no cost.

A handsome package of incentives such as power, subsidy, capital subsidy, interest subsidy, easy availability of raw



**Congestion in urban areas.**

The investment in power, transportation, telecommunication, etc. is also of a very high order. What seems to be lacking is both public and private investment in providing the supporting facilities in cities and towns. Even in a township like NOIDA, near Delhi, where there is huge industrial base, very little income accrues to the developing authorities for the maintenance of civic facilities. In fact, the situation is funny. The resources base of all local bodies are in inverse proportion to the resource base of the city.

The problem can be looked at from two angles. The first relates to the new industrial towns which are emerging, both out of location-specific industries and out of the attraction of industries to backward areas because of the concessions of-

materials, tax concessions etc. are offered to them. The result is that while the industry is housed handsomely, and equipped with the most modern machines, there is no investment in the townships. The result is that while industry grows the township degenerates.

In other countries, new towns present new vistas of planned settlements in pleasing surroundings while in India they smell and stink from miles away. There does not seem to be simultaneous attempts to develop the town and industries as well. The industry should be partner of the planning, in the making of which they should have a hand.

In new towns, land is provided generously at low-cost and the infrastructure facilities are provided, including link

roads. Later, after the infrastructure services are laid and industries set-up, there are no funds for their maintenance. It is invariably the case with new towns that have come up during the past twenty years when the unplanned growth of towns was most stunning.

Therefore, the question is how to raise resources for the maintenance of civic facilities and other services. One way is to raise the price of land in new towns and make one-time provision for the maintenance of service by investing it in industries. The other way is to raise taxes and ensure the funds at fixed intervals. Both the solutions pose great problems. Raising the land price will be cruel because the prices are high in most towns and cities already. And, taxes cannot be raised in new towns because there are not many people and industries to pay.

Yet another way is to encourage industries for paying for the development of towns. This is also not possible, for these units are brought to backward areas after promise of concessions and subsidy. And, they say they are not able to compete with others because of high production cost. Essentially, there are two types of economic activities which bring pressure on civic facilities.

The first relates to the industries which are obsolete and sick, incapable of contribution substantially to municipal revenues but still reasonably attractive to unskilled labour from rural area. The second are new industries and other business located in large cities because of the advantage of the existing social infrastructure without contributing at all to its improvement or enlargement.

In fact, the existence of such infrastructure is taken into account while costing the project for profitability. Such activity must also be tapped because it causes an increase in city population; exerts greater pressure on civic facilities and also generate a good deal of informal activities. There has to be some token contribution by businessmen for city improvement, largely in the form of decoration of road, roundabouts, etc. but no real contribution by way of housing, investment in services, schools and hospitals.

To meet these expenses, it is advisable to (1) impose heavy tax on business in city centres (2) tax rebates, going all the way up to 100 per cent for investment by business in housing, development of infrastructure within a given locality, construction and maintenance of schools, hospitals (3) tax rebates on assistance given to industries and other business to employees for constructing private or cooperative houses, tax incentives for locating residential colonies of workers outside the municipal limits, developing them properly and providing communication and transport facilities.

To be sure, the decay of our cities is largely or wholly because of neglect or sheer unwillingness to move in the matter. Growth of slums has political background also. And, when tragedies like the Bhopal gas leak takes place, planners again give the appearance of wonder and amazement which is wholly pretended. This is the time when the centre government should take a realistic look at the growth of our cities and towns and decide on their development in a decisive ways, failing which damage to urban life will be hard to repair.

## THE GANDHIAN ALTERNATIVE

**T**hucydides says in his magnum opus, *The Peloponnesian War*, that events should not be judged earlier than 100 years after their occurrence. This time gap is necessary, says the Athenian historian, to give a perspective to be able to



judge events and men objectively. However, Thucydides did not respect his own rules and having fought and lost the war as a commander, he sat down to write the story of his time after he was exiled for the defeat in the battlefield.

Gandhiji is only 41 years dead now and many of those who had worked with him are, very happily, in our midst still to tell the story of those tumultuous times. For this reason, world-renowned historians have been silent, waiting for the famous Thucydidian period of 100 years to be over before judging Gandhiji and Gandhianism to know if it was a doctrine at all.

But before that, an unexpected thing happened. Mr. Gorbachev said that the principle of economic determinism of Karl Marx is not a full and all-time response to human problems. The basic assumptions (class struggle and primacy of money) have been proved flawed. It may be noted that communists are believers, no less fierce than the crusaders of the medieval times. The communists all over the world believe that Marxism is an universal truth and this statement coming as it does from the top communist of the world. Mr. Gorbachev, has shattered the dreams of Marxists who are set thinking if all that they believed throughout their lives was right to all.

Communism is a product of the Age of Reason of the 18th century which assumed that the world was governed by laws and these laws could be comprehended only by reason best expressed in the language of reason; that is mathematics. It was no new invention of the age either; for, the Greek philosophers said it much before the Newton saw the apple fall. But Marx, having studied in the British Museum for

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**“To other countries I may go as a tourist, but to India I come as a pilgrim. This is because India means to me Mahatma Gandhi, a truly great man of the ages... Above all, India is the land where the techniques of non-violent social change were developed that my people have used in Montgomery, Alabama, and elsewhere in the American South”.**

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### **MARTIN LUTHER KING, JR**

ten years, starving and with the carbuncle in the back (which killed him eventually), organised the various thought systems and after synthesis, he produced the book, “*Das Capital*,” in 1867 which split the world into two, half communist and half capitalist.

The Marxist reasoning has been so powerful and seductive that one country after another, mostly in the Third World, fell victims to its charm. After the World War-II ended in May 1945, leaving Russians master of almost half of Europe, it appeared that Communism was the only solution to world problems. And, the global war which left about 60 million people dead was the consequence of the greed of imperialist powers.

Communist parties armed with convincing Marxist dialectic marched triumphantly to become the only dominant class destined to rule the world. And, this regime continued for as long as half a century until the other day when the Soviet President threw the bombshell while talking about limits to socialist legitimacy

The Western media called it a Communist surrender to Reaganomics which was a wild diversion of the Capitalist concept founded by Adam Smith, about 100 years before (*Wealth of Nations* was written in 1776) Marx. Between Communism and Capitalism, the difference is one of basic assumptions. Adam Smith says that all human actions are governed by his basic instincts, like greed, passion and love for profit and these are not necessarily anti-social feelings. Since it is impossible to suppress these feelings, let us recognise them and allow them to grow in a healthy manner.



Basing his doctrine on these assumptions, Adam Smith says that private enterprise, personal profit and market mechanism should be the basis of socio-economic order.

Marx says it is nonsense. The civilization of man is a conscious effort to create a society based on reason and controlled exercise of his self-interests which are not incompatible to the collective interests of society. The angry Marx shouts from the

housetop to say that property is a theft. Since everything grows from land and nobody has created land, how can there be private property except by stealing. And private enterprise is only an attempt to legalise the ill-gotten profits which, in fairness to all, should be socially controlled and equally distributed.

The fiery argument of Marx created revolutions and destroyed ancient social and economic order which ruled the civilised societies. In one stroke, Marx destroyed all the thought systems that were evolved until the mid-nineteenth century. No wonder, Marxism caught up like a wildfire, enveloping in its fold almost half the world. Having done all these and more, Marxism now seems to be running out of steam. Mr Gorbachev says that communism is caught in its own contradictions. No wonder it collapsed in Eastern Europe.

Capitalism does not seem to be in any happier situation either. The system having worked well for many centuries is also caught in its own contradictions. The Green Party, along with defunct socialist parties, captured a good number of seats in the election for European Parliament the other day. The Reaganomics and Thatcherism are becoming the most dreaded concepts as is indicated in the latest opinion poll. Europe and Britain want governments with a human face (Thatcherism and Reaganomics say that let the deserving poor die out, a concept practised by ancient Spartans whom Greeks called brutes).

Capitalism brought about phenomenal growth. In Japan, a strong group has emerged which says that the only way to save Japanese is to stop them from earning more. The enormous growth in their income has destroyed traditional

**Now that the world is running out of ideas and doctrines which can manage the affairs of war and peace, the spotlight is turned on Gandhianism which is a full and all-time solution to world problems, based as it is on non-use of force by the strong against the weak, global cooperation and end to exploitations which have been the credo of the Communism and Capitalism in one form or the other. This is a major development of this century which need to be watched.**

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Japanese life, creating a crisis in the family system and disorder in society. What do we do with the wealth if we cannot enjoy it, argues this new group. And, there is a limit to pleasure which a society can indulge in. As a consequence of "growth sickness", rich nations are beginning to discover that Reaganomics and Thatcherism cannot be substitutes for welfarism which is basic to a society with human face.

Meanwhile, nuclear arms have made even wars, as in Vietnam, Afghanistan and Nicaragua, unwinnable. These n-bombs have cancelled out war as a policy instrument. Today, nobody dares to wage a war in order to win a territory, or spread religions and ideologies which happened so frequently before. However, regional conflicts continue which deepen poverty. And, ironically, because of these regional conflicts, the two super-powers, which have mountains of nuclear bombs, are feeling insecure. They have discovered that arms are not going to take them too far.

It was in this situation (of between the

devil and the deep sea) that Gandhianism becomes relevant; though it is not codified in the manner of Communism or Capitalism. Yet, Gandhianism is a full and all-time response to human problems. Like Capitalism, Gandhianism is also based on basic human instinct. It says that man feels hunger; hence, any system which fails to provide food will not meet the needs of the people. Gandhiji rejected both Capitalism and Communism, calling them time-specific and region-specific solutions to problems. Both the systems assume that human conditions, like cultural experiences, resources base and social situations and problems, don't change. It is not true.

Marxists, for instance, believe in economic determinism just as Capitalists believe in laissez-faire. These concepts were valid in the last century and early this century although only in regional context. (While speaking of the success of Capitalism, its supporters fail to argue that the prosperity of the West was also the consequence of the exploitation of poor countries. And, the US owes its affluence to two global wars).

But, Nicaragua and Vietnam have proved that money does not necessarily bring power. The Soviet Union, having got the bloody nose in Afghanistan, now realises that Communism cannot be im-

posed by force. In economic terms, Capitalists believe that Capitalism can produce wonders; but it did not in the Philippines and many other Third World areas. Rather, it created a class division which produced unrest and chaos as in Pakistan and most African countries.

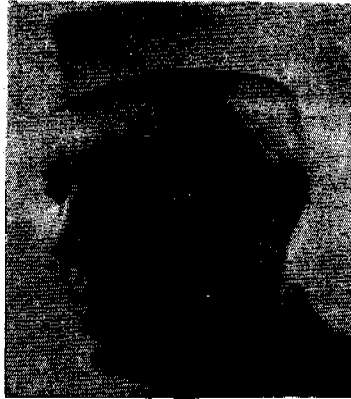
Gandhiji had made soft and flexible approach to the problems of economic growth. Keeping clear of the Right and Left, Gandhianism says that the poorest among the poor should be the central to all economic thinking. And, once poverty is abolished, and freedom is restored, the rest of things will follow on its own. And those who adopt this system will be working to create a social order based on *dharma* (duty), morality and justice. Once, this is achieved, a combination of systems can be evolved by different countries to be practised differently only to serve the common goal and justice to all.

Gandhianism is, however, no simplistic solution to complex human problems. What it says is the outline. Any system which can ensure freedom, equity and justice in an exploitation-free and war-free society approximate to the Gandhianism which is a cluster of value-based ideas consecrated by the finest thoughts and philosophies of which the human civilisation is the product.

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— by Dr. Bindeshwar Pathak





## NEHRU A LEGEND THAT LIVES ON

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**Of the many things for which Jawaharlal Nehru will always be remembered, his ability to evolve a consensus on national and international issues has been most outstanding. And, quite naturally so, for his training as a Fabian and Social Democrat, as they were known in Britain then, equipped him intellectually to reconcile conflicting views. And, that saved the social and political structure from cracking after the British left a divided India in 1947.**

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**T**he manner of his dying, more than that of living, still sticks out in the memory of those of us who had lived in the glorious Nehruvian days. The 1962 Chinese attack had left Nehru a broken man and some 18 months that he lived later is nobody's pleasure today to re-

member. It was believed that the setback would leave Nehru a lost man of history.

But, when Nehru died in 1964 after ruling India for 17 years, the nation was stunned into silence. The grieving sea of humanity thronged the funeral route and greeted the statesman of all times. Nehru

was greater in his death than in life. His stature has not diminished even today, rather increased with the passage of time. Unlike most of his contemporaries, Nehru remains relevant today. One has to mention Stalin, Mao, Sukarno, Nasser, Nkrumah and Krushchev to underscore the point. Even Churchill and de Gaulle are lost to history. Only Roosevelt, Tito and Ho Chi Minh can be said to be in the same category as Nehru.

Of course, Nehru is excelled only by his mentor and master, Mahatma Gandhi, but is only a short step behind his guru while marching into history of great men. Today's India is, however, Nehru's product more than that of Gandhiji's who had values of different kinds which did not yield themselves to the interpretation in terms of understandable terminology. The criticism of Nehru and his deification had started in his lifetime only.

Mr Morarji Desai, Mr. S.K. Patil and Dr. Rammanohar Lohia were some of his old critics. And, admirers were uncountable. In the latter days also, specially during the Janata rule, attempts were made to denigrate Nehru, but it did not work. The nation was not ready to accept and believe anything against the builder of modern India. This has been the historical status of Jawaharlal Nehru.

Nehru was an institution builder who set up the Planning Commission, CSIR, expanded ICAR, and formed a series of other bodies at the State and Central levels to carry out democratisation and industrialisation of the country. Nehru was influenced by the Russian model of growth and set up a vibrant public sector which later became a whipping boy of private investors who forget to mention that without the infrastructural support, the private sector would not have taken off

the ground at all.

The fact of the situation is that both the sectors are complementary. The national economy is an organic whole and it can be divided into sectors only for administrative reasons and for nothing else. Nehru was superb in building up an ambience in favour of his sound ideas. He sought to promote scientific temper which is an extension of Enlightenment of Europe which produced French revolution 200 years ago.

While trying to do so, he wanted to change the social structure and rebuild a new one on the basis of rationalism, human rights democracy which is interpreted to mean a denial of Gandhism which it was not. For, Gandhiji supported science no less than anybody else, but he did not see religion and science as two separate areas. The two must mix in order to create a sound and safe society, Gandhiji said. And, Nehru never denied it either.

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**The private sector has needlessly been bridled by controls and regulations which have stalled its growth. Nehru was superb in building up an ambience in favour of his sound ideas.**

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Nehru believed that institutions last; people don't. And until a system is evolved to bring about changes, the country would not progress. And, this he did both in politics and economy. An elaborate decision-making network was setup in parliamentary subcommittees. Advisory bodies and non official forums which worked sometimes at cross purposes. Nehru only synthesised the conflicting opinions and a convinced the rivals by his superior arguments.

**Nehru allowed the people to make mistakes and encouraged them to confess by confessing his own.**

**When partymen thronged Congress offices in the states during the first election for party ticket, Nehru made them write essays on planning in India.**

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For that matter, Nehru will go down in history as the greatest consensus-builder who trained a whole generation of parliamentarians and administrators in the art of running the system, the most complex one ever built in the World. Never before democracy was practised on such a large scale. When, the first election took place in 1951, and the world saw a large number of people—almost the entire population of Western Europe and the US, going to the polls with Nehru himself standing in a queue to cast his vote along with other Congress leaders, newspaper headlines shrieked. “Democracy Triumphs in India... Down, Down Dictatorship” (obviously, referring to Pakistan and other despotic countries which were many in those days).

Nehru allowed the people to make mistakes and encouraged them to confess by confessing his own. When partymen thronged Congress offices in the states during the first election for party ticket, Nehru made them write essays on planning in India (Planning and first election were launched almost simultaneously). There was no opposition in the country and Nehru persuaded Kripalani to split from the party and set up opposition and

he became the first opposition leader in Parliament.

Nehru similarly encouraged state politicians also to leave the Congress and set up opposition parties, and the first to leave were the Socialist lobby members in the Congress. Nehru suffered indignity at the hands of Dr. Lohia.

## **AS PATH-FINDER**

Arnold Toynbee was entirely right in describing Nehru as a “product of three thousand years of Brahman lineage and a century and a half of British radical and rationalist philosophy.” More complex is the reality about another myth concerning Nehru which was best summed up once by Mrs Indira Gandhi who said; “My father was a saint starved into politics and since he never lacked public support and had, consequently, never had to struggle, he lacked ruthlessness. He was soft to all and that accounted for some of his failures”.

There is no knowing in what context Mr Gandhi said this about her father, but what is undisputable is that Nehru was a path-finder who was constantly in search of new ground to tread.

He was also an impatient preacher who feared that time was fast running out. When Homi J. Bhabha said in 1955 that India should offer non-proliferation of nuclear weapons, Nehru said, “Let us acquire the capability to make one, first. Peace comes through strength”. This was the approach which was substantially different from Gandhiji’s who wanted peace at all costs.

Nehru’s role in building modern India, laying the foundation for a leap into the

next century, making a viable foreign policy which has not been changed even today when the world had changed beyond recognition.... all these and more are tributes to Jawaharlal Nehru who founded Non-Aligned Movement to set up a new bloc between the super-powers if only to ensure peace in the world.

These and many more glorious acts of the first Prime Minister of Indian Republic will be remembered when everything else will be forgotten. Arnold Toynbee, the world-famous historian, said, "Nehru was one of the noble works of God's creation." Nirad C. Chaudhuri, a trenchant critic of India, said that "Nehru was India's ineffectual angel" and Bertrand Russell said, "Nehru is a rare product of an age, a curious combination of science and religion."

Nehru kept Sheikh Abdullah in prison for 11 years, and when Nehru's body was being cremated and before the fire had died down, Abdullah leapt from the platform and threw roses and wept bitterly. "In Nehru, I have lost my best friend. I could have lived all my life in jail if that was necessary to keep Nehru alive, Sheikh Abdullah said sobbing.

This was the *charisma* of Nehru which held a whole generation in fascination. If India is what it is today, it is because of Nehru. Historians can point out many flaws in Nehru but in hindsight, things are easier to judge than is possible in the midst of the battles that Nehru fought during his most fascinating life which constitutes a very interesting chapter of history of which Nehru was a product.

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— by Dr. Bindeshwar Pathak

## Editorial

# NEHRU IS A SLOGAN NOW

**J**awaharlal Nehru has long ceased to be a mere leader to be ceremonially remembered with respect; he is a slogan now that drives you to work harder to be able to reach into the future first. To be sure, Nehru is relevant today while leaders like Churchill and de Gaulle are lost in the mist of history. This is only because during the 17 years of his rule as the first Prime Minister of Indian Republic, Nehru sought to combine growth with justice which now constitutes Nehruvian philosophy of growth and development.

While celebrating the birth centenary of Nehru, a grateful nation remembers all that Nehru did while building a new India, modernising its structure and democratising its polity by broad-basing its systems. Everything that we can boast about today has its origin in the Nehru era. As a matter of fact, modern India is more a product of Nehru's thought system than Gandhiji's who transcended the politics and the governance of the state.

Nehru needs no commendation for his place in history; it remains assured there as always. World famous historian Arnold Toynbee said, "Nehru is the finest species of man", while Churchill, who persecuted Nehru, said, "Nehru is the man who does not hate". Bertrand Russell and Einstein, both his close friends, said, "if the world peace is preserved, it would be because of Nehru no less"

Nehru was the prima donna on the world stage for almost a whole generation which was held in awe by his charisma. However, the most charming aspect of his character was his love and concern for the poor who suffer in silence. He was their greatest spokesman as was reflected in all his decisions. Impatient and occasionally angry with obscurantists, Nehru was a leader in hurry, feverishly working to wake up his sleeping countrymen to greater endeavour at meeting the date with destiny.

All that is great about the country is Nehruvian, the institutions, policy, systems, and political practices set the trends in all the areas of human endeavours; made forays in the international politics, set up NAM and flew round the world, persuading world leaders to keep peace and free the colonies of Asia and Africa. Nehru strengthened the defences of peace more in the minds of man where the revolutions begin first, than in the battlefields where it is almost always too late to do it.

In historical perspective, it is too early to judge him but as the world swings back and forth on the edges of global crises, thoughts naturally turn to the architect of world peace, Jawaharlal Nehru, who provides a reference point on all that is good in humane conduct of man, judged in sickness and health.

**Dr. Bindeshwar Pathak**



An agitated *jatha* of Akali Satyagrahis walking towards the Golden Temple on October 18, 1982.

**R**evolution, it is said, is an attempt to topple a bad government and replace it by worse. We may name any number of revolutions – the French Revolution (1789), Spanish Revolution (1939) and many small ones that we see taking place in Latin America and elsewhere — none of them has produced a thing of beauty for ever. The lost lives, miseries and deprivation suffered by the people have rendered revolution a game not worth the candle.

Napoleon, standing on the tomb of Rousseau, said, "It would have been better for peace of France if this man had not been born at all. It is evident that all revolutions had been desperate attempts to improve desperate conditions. And, almost invariably, it never happened. Mature societies, with long historical experience, prefer evolution to violent changes. And, even if violent changes are produced by turning the system upside down, the deeper flow of life remains unchanged. It was true of China and Russia where most violent changes took place. And, it is true of Punjab where Hindus and Sikhs still live in social harmony despite the killings.

The conflict in Punjab has deep histor-

## NOT BY VIOLENCE AT ALL

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**Punjab violence is not a sudden development ; it is the result of British conspiracy which sought to keep the Indians divided so that they could rule over the country with only 2000 British force in India. What we see in Punjab is the resentment of the people who have still to read their own history and be wiser by it.**

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ical roots which need to be examined if only to find solutions to the problems, assuming there are some. It may be recalled that it took the British some 100 years to cause split between the Hindus and the Sikhs who had always common source of faith.

Sikh *gurus* had always been the most adored and worshipped gods of Hindus and Gurudwaras had Hindu idols. As a matter of fact, Sikhs were not always born; they were made from among the fittest people whose responsibility was to defend the faith and fight aggressors like Muslims and later the British. Hindus were Sikhs and Sikhs were Hindus; the distinction between the two were functional and not fundamental. This unity of

complementarity was symbolic.

The British administrative report (1854-55) speaks of the unity of the two. The report says that the Hinduism is a 'commonwealth of religions' (Religion of Religions) which nourishes under its fold many strands on plurality, a point often missed by scholars. The report says that Hinduism has a place for idealists, mystics, rationalists, traditionalists and revolutionaries, idolmakers or idolbreakers. For that matter, Hinduism is not an organised religion as most religions are; nor is it a congregational one where collective worship is necessary, according to the British administrative report.

But, this report did not suit British imperialism which thrived on divisions. The British Government immediately invited Dr. E. Trumpp, a German indologist, to look at Sikh scriptures and prove that Sikhs were different from Hindus. But, after extensive research, the German indologist said there was nothing to prove that Sikhs were different from Hindus. The *Vedas* and *Upanishads* are not only Hindu books, but also the sources of Sikhism.

But, the British imperialists would not stop at that. They invited another scholar who invented Hindu-Sikh rift and declared that Hinduism was a threat to Sikhism. Henry Griffen left the propaganda work to British administrator, M.A. Macauliffe, who finally succeeded in creating conflicts between the two. The division was perpetuated at different levels- social, political, military and religious.

The British encouraged Sikhs to set up *Singh Sabhas* manned by ex-soldiers. These worked under *Khalsa Diwans* established at Lahore and Amritsar and

later amalgamated into one body. The Chief *Khalsa Diwan* provided political leadership to the Sikhs who took oath to support British rule in India. These brave people, like many others in the country, were exploited by the British who ruled the country for more than 200 years with only 2,000 British soldiers in India; the rest were all Indians both Hindus and Sikhs, who supported and fought for British imperialism.

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**One does not know where did we forget our past, our martyrs, our common heritage and common destiny and started killing each other. By so doing, we are simply offending those who died so that we could live well in peace and freedom.**

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This was not all; Macauliffe also set up separate Sikh units in the army where soldiers greeted each other and with officers saying: "*Waheguruji Ka Khalsa Waheguruji ki Fateh*". This was the Sikh war cry against the Muslims but this was essen-



Youth burning a motor-cycle belonging to Punjab Police in Ludhiana.

tially made an anti-Hindu slogan coined by the British. Many such efforts were made to ensure that the traditional Hindu-Sikh unity may not prosper, which the British considered was a threat to their rule in India.

Later 'social and religious' segregation became evident with the publication of a book "*Ham Hindu Nahin Hain*" (We are not Hindus) by Chief Minister of Nabha, Mr Kahan Singh, a committed loyalist to the British. This book became the Bible of the separatist elements who grew in number with the ready support of the rulers.

But, the Hindu-Sikh amity was too deep to be destroyed just like that. The two people continued to live in harmony and peace. But, the situation drastically changed when all the gurudwaras came under the control of Shriomani Gurudwara Prabandhak Committee (SGPC) in 1925 and the pro-unity (Hindu-Sikh groups) were driven out of gurudwaras which became the heaven of the Khalsa. The SGPC Akalis (activist Khalsa) became the controller of the Sikhism. And those who controlled the resources of the temples, (or SGPC) controlled Akali politics.

The SGPC Act of 1925 also defined the Sikhs which excluded the Sahajdans. This was the reversal of history. For even during the heyday of Sikh loyalty to the British, there were many saner elements and brave Sikhs and Hindus who fought to preserve the unity of the two religious groups. It may be recalled when Gokhale visited Punjab in 1907, he was greeted with great enthusiasm by the Sikhs. The horses of his carriage were taken out and Sikh youths pulled it. Gokhale spoke from the *dharmshala* from where

Granth Sahib was specially removed to make room for him. It was here that the famous poem "*Pagri Sabhal, O, Jatta*" was recited by Bankey Dayal which became the battle song of the Punjab revolutionaries who sang it while walking up the gallows.

One cannot be telling that Bhagat Singh was of one religion or the other. Shafiqullah Khan who was hanged in the Gorakhpur Central Jail about the time shaeed Bhagat Singh was hanged in Lahore, mentioned his religion on his death warrant as "Indianism". This was the spirit which pervaded the Indian history during and before the freedom struggle. One does not know where did we forget our past, our martyrs, our common heritage and common destiny and started killing each other. By so doing, we are simply offending those who died so that we could live well in peace and freedom.

The Punjab problem is a clear case of historical distortion; all that we have to do is to stop in the track and read into the writing of the past to be guided in our future conduct. The Government cannot be blamed for all that is happening in the State; secession is not the issue. The question is whether or not we want a national and secular polity in the country. And, if we do, we have to ensure that religion and politics don't mix.

The Sikhs are our great pride, a product of history which is full of stories of their bravery and sacrifice without which we would have lost our glory. When we read about violence in Punjab, we begin to wonder why saviours have turned killers. Surely, blame it on Macauliffe and the likes, and not on the extremists who are the pit able victims of history.

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— by Dr. Bindeshwar Pathak



## NO REVOLUTIONARY RECIPE FOR RELIGIOUS REFORMS

Revolution, it is said, is an attempt to topple a bad government and replace it by worse. We may name any number of revolutions, the French Revolution (1789), Spanish Revolution (1939) and the many smaller ones that we see taking place in Latin America and elsewhere; none of them has produced a thing of beauty forever. The lost lives, miseries and deprivation suffered by the people have rendered revolution a game not worth the candle.

Napoleon, standing at the tomb of Rousseau, said, "It had been better for peace of France if this man had never been born at all". It is evident that revolution is desperate attempt to improve a desperate situation. And, almost invariably, it never happens. Mature societies, with long historical experiences, prefer evolution to violent change. And, even if violent changes are produced by turning

the system upside down, the deeper flow of life remains unchanged. It was true of China and Russia which were most hit by violent revolutions.

This is true of political changes no less than of religious reforms. The older the society, the harder its prejudices and these have to be reformed and removed with sufficient care to ensure that the social structure is not damaged beyond repair.

My argument is limited to the violent attempt made periodically to change the social attitude towards Harijans. When I was told that Harijans were not being allowed to enter the Nathdwara temple and no less a person than the President of the Republic himself planned to lead a Harijan squad into the temple, I thought that Hindus had gone mad.

It was factually an incorrect report; Harijans were never stopped at the Nathdwara temple, for when I led a group of 101 Harijan boys and girls and sought entry into the temple on October 31 after announcing our identity as Harijans, the temple *pujaris* and the people welcomed us and allowed to have access to the sanctum sanctorium of the temple. We stayed there the whole day and had community dinner, with *pundits and Harijans*, eating together.

Preventing Harijans in temples has also no religious sanction in Hinduism which is marked by plurality, a point often missed by scholars. Hinduism has a place for idealists, mystics, rationalists, traditionalists and revolutionaries, idol-makers or idol-breakers. For that matter, Hinduism is not an organised religion as most others are: not is it a congregational one where collective worship is necessary.

Despite long is discussions, there is no agreement as to what constitute Hinduism. Is it a religion with written down tenets and codified practices? Or, just a term denoting the practices and habits of the people living in a well-defined geographical area? One argument is that large and small communities have coalesced, not entirely voluntarily, but out of historical experiences, to agree on a certain system of life and faith and, thus, was born what later came to be known as Hinduism.

No wonder Hindu psyche is torn among a number of loyalties, from animal and idol, worship, sacrifice, *yagna* or just renunciation. Do or just don't do any of these things and one's claim to be a Hindu will remain unchallenged. This had been the strong and weak point of Hinduism. For one thing, it became a an umbrella religion (religion of religions); for another many malpractices cropped up which, we were wrongly told, had religious sanction.

Untouchability and discrimination against Harijans (or against any caste, for that matter) are the ones which produced many social distortions and split the already badly fractured Hindu society. But, the problem is how to demolish it. Gandhiji, the great redeemer of Harijans, has laid out guidelines which have now become a blueprint of government policy. The components of the Gandhian policy are; the reforms should come from the top; linkages to social discrimination should be snapped. And, thus the reforms should be brought by a combination of osmosis and fiat.

This is the only quiet way of bringing about revolutionary changes in a society as caste and creed ridden as India's. The

practice which took some 1,000 years or more to perpetuate cannot be discarded just like that. Another way to help the process of reform is to say that it is not long in coming, which is true.

No one can be telling that the social structure has not changed since independence, yes, it has. Nor can anybody deny that Harijans' conditions are a lot better than ever before. The government has taken a series of measure involving huge sums (like the minimum needs programme for which about Rs. 2,000 crore has been allocated in the seventh plan alone and which the Prime Minister is considering to raise to meet the demands).

Besides marked increase in literacy, there is improvement in their social status also, according to the reports of the Commissioner for Scheduled Castes and Tribes. The Hindus on umpteen occasions expressed a sense of guilt for untouchability. And, to ensure that these oppressions are not repeated, as many as 30 clauses had been inserted in the Indian Constitution enacted in 1950 to safeguard the interests of Harijans.

This is, however, not to suggest that there are no discriminations against Harijans; there are many but they are no institutional. They flow from poverty and backwardness and there are as many non-Harijans also who are as much poor and backward. Therefore, there is need for social transformation and economic development of all the poor, whatever the caste grouping.

Sulabh International, a non-profit and social organisation of which I am the founder, is doing just that. We have until now trained and shifted more than ten thousand scavengers (*bhangis*) in diffe-

rent trades, like typists, electricians, plumbers, drivers and teachers. And, Sulabh also introduced a new technology which is thoroughly appropriate to Indian conditions and which will not need physical cleaning. And, they are fully affordable by the poorest among the poor. We plan to liberate 20 lakh scavengers by the turn of the century.

This kind of voluntary efforts need to be made for which the government gives assistance and guidance. Once the economic and social status of Harijans are well taken care of, it will not need anybody to defend them. The religious barriers will also collapse.

It is also mandatory for intellectuals and leading *pundits* and Hindu scholars to put Hinduism in the right perspective. I have tried to do that by inviting a series of conferences and discourses. The fact of the situation is that nothing like the *Vedas* can be written again to provide a new religion to Harijans. And, the *Vedas* have never sanctioned discriminations against any caste and community which is the later-day creation. Yes, distortions developed somewhere along the line of its development which created discriminations. In which case the attempt should be not to create a new religion, for none can be created, but to reform the old one.

Christianity faced its problem of rigidity which Martin Luther (1483-1546) resolved not by discarding the religion but by chanding the papal fallacy. The rise of Protestantism in Europe also brought about the fall of the Hapshurg empire, along with many other social and political changes, without a bullet being fired or a man being killed. Luther was a German

priest, son of a miner, and first to translate New Testament in German. Although he caused many upsets, but Christianity was saved.

The protest reform also brought about science and technology which was reflected in the latter-day Renaissance, a period which has no match in the history of the world. Everything flourished in Europe after Luther protested against "papal indulgences" and attacked the authority of the Pope who had become the source of discriminations.

But for the Luther reforms, Christianity would have stayed the only religion of the rich and well-born and an European variety of Harijans would have been greated. Europe and the US owe more to Luther than they seem to realise, for religion being the central theme in medieval times, the continent would have been adrift after having lost a religion as enobling as Christianity.

Nothing like that happened in India. The reform movements were either sectarian or area specific. Almost all them failed because they sought to create new religions instead of reforming old ones. Their aggressiveness and vanity harmed their spread. One cannot say that one religion is better than the other. Nor is crusade a modern concept: any attempt to launch one will be suicidal.

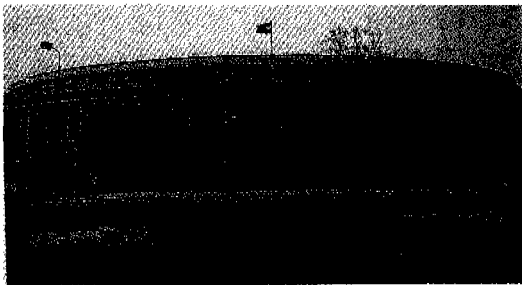
So why not try and remove discrimination and produce a discrimination-free Sulabh code of conduct for Hindus with the help of Brahmins and Vedantic scholars who approved of reforms. If any showdown is forced on Harijans, which is needless, the sufferers will be the poor. For, politics and religion don't mix until it is done in a Gandhian way.

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**The report of physical fights in state legislatures and the attempt at stonewalling the lawful processes in Parliament make one think if we are able to handle the sophisticated system of democracy at all. As a nation, it is our solemn duty to do self-analysis if only to find out whether we have failed the system; or the system has failed us.**

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## **DECLINE OF LEGISLATURE**



**T**HE report of woman being attacked in Tamil Nadu Assembly the other day; the Chief Minister being punched and some legislators being carried away to hospital after fisticuffs in the House made the entire nation ashamed of its failure to operate the democratic system. It

is not Tamil Nadu alone. The Bihar, UP and the legislature of other states are no different. Free exchange of blows, filthy abuse and total lack of decency and restraints at times mark the conduct of many of our legislators in the country.

The conduct of some members of Parliament is also not always praiseworthy when some of them seek to stymie the proceedings only to make a point which is hardly of any consequence, quite forgetting that about Rs. 1,000 is spent on Parliament in session every minute which the poor of the country has to pay. This massive and costly democratic structure (democratic system is very expensive) is built in support of a set of values and belief which get defeated in the parliamentary brawl and exchange of blows.

True, the Opposition and the Press have the role to function as a check on the government but it is unparliamentary of them to try to destabilise a government elected to rule for a period of time. This attempt violates the unspoken rules of the game, nor is it a way to express dissent which has a mystical beginning in the British history.

When Robert Walpole recognised the right to oppose the government in power, little did the first British Prime Minister realise that he was launching a system which would become so popular, so flexible and so fascinating as the parliamentary form of the governments. It was over 200 years ago (1770s) during which period the British Parliament witnessed the Industrial Revolution, won two global wars and survived the fall of an empire on which the sun never set.

Through the years of experiment, trial and error, the new system developed its own infrastructure and the people who

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**Among the Indians who knew to operate the complex system of parliamentary democracy, Jawaharlal Nehru was the foremost. By his sheer integrity and knowledge, he dominated Parliament.**

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practised this system acquired democratic temperament and habits. The qualities of restraints, tolerance and the dignity of the representatives of the country have been the assets of the parliamentary form of the government.

The rules of the game of the parliamentary democracy came to be told by one generation of MPs and MLAs to another which eventually became the unwritten code of conduct. During the period of evolution of democracy, the British learnt to run the system with exceptional skill and restraint. And if ever the island is remembered, it is more for its institutions—the House of Commons and the Bank of England—than for its empire which vanished like bad dream.

Unlike in Britain, which had 200 years of experience in running the parliamentary form of government, when the members of the Indian Constituent Assembly gathered to draw a constitution for the country, they had nothing to fall back upon for guidance. The founding fathers discussed all thoughts and ideologies since Rousseau and debated all constitutions to piece together a document which could suit the Indian genius. But, that was not to be. Indian soil was never fer-

tile for Western ideas. The land had never known any system of the kind, all talks of Nalanda and Patilputra notwithstanding.

At no point of time did India know of the democracy, which for instance, the Greeks practised much before Philips, Alexander's father, conquered the land in 300 B.C. The Greek territory was lost to Romans but Romans became Greeks and the Greek culture and thought system became the rich heritage of mankind. But, for this culture, Europe would have been a continent of barbarians or hunters!

Among the Indians who knew to operate the complex system of parliamentary democracy, Jawaharlal Nehru was the foremost. By his sheer integrity and knowledge, he dominated the assembly and saw to it that all basic ingredients of the British system—dissent, debate and decentralisation—were inscribed into the Indian constitution.

But, of late, there has been a steady and marked decline in the prestige of Parliament. And, also in the quality of debate. The Indian parliament had stronger opposition when J.B. Kriplani led the three-member PSP group; Dr Ram Manohar Lohia without followers at all and when Dr Shyama Prasad Mookherjee had only five MPs to support him in the House.

Seldom did the strength of the Opposition exceed 70 in the House of close to 500 members. But, they were heard with awe and reverence. Nehru gave them the respect due to British opposition leaders. Nehru encouraged dissent, leaked stories to the Opposition to beat the government while he sat smiling in the House to see his own minister being badly mauled in

debate and battered by fiery speeches of the three main opposition leaders. Nehru sat long hours in the House to see how his ministers reeled under the Opposition attack. This was the Nehruvian concept of democracy which he cherished and promoted with great dignity and restraints.

It was the time when a small group of opposition leaders brought the government to its knees umpteen times. And, Nehru never allowed his numerical superiority to be a substitute for moral legitimacy of the government to stay in power. He repeatedly said that democracy would be safe in the country only if the Opposition was strong.

When Nehru visited Acharay Narendra Dev in his village hut near Faizabad in 1960, he dissolved into tears on seeing how the Acharaya was living in a state of absolute poverty in the best Indian traditions of a leader of society. Nehru exploded in stimulated anger and said: "What are you doing here?"

"Village reform", replied the Acharaya. "Reform—that the government will do. Come to Parliament and oppose the government. Or run the government and I'll oppose you". This was the first Prime Minister of the country offering to work as opposition leader in the Parliament which he had himself set up. He encouraged people to oppose the government on every count. Azad once said if ever the Congress was voted down in Parliament, Nehru should be blamed and not the Opposition.

Nehru suffered insult at the hands of Dr Lohia who was elected to Parliament in 1963. Dr Lohia called Mrs Indira Gandhi "goongi gudia" (dumb doll), an epithet which Mrs Gandhi blasted into

pieces after she emerged the strongest Prime Minister the country ever had. The treasury benches were not occupied by docile and submissive members either. The members of the Nehru government were firstclass leaders in their own right. They included Rafi Ahmed Kidwai, Maulana Abdul Kalam Azad, Sardar Patel, G.B. Pant and a host of others who were battle-scared heroes of the country's freedom struggle. Their stern look, and solumn speeches gave dignity to the House.

The opposition was always alert and by seductive wit and devastating logic, kept the government off-balance. When Nehru made exceptional statement after the Chinese invasion in 1962, describing Aksai Chin as a place where "not a blade of grass grows", the entire House rose in protest. The treasury benches joined the Opposition in protest. Amid pandemonium, Mr. Mahavir Tyagi stood up and holding his bald pate exclaimed: "Sir, here is my bald head where not a hair grows; does the prime minister propose to cut it off"!

Acharya Kriplani rose and said: "Alaska is the place where not a blade of grass grows: Is the Prime Minister advising the US to give it to the USSR from whom Americans had bought during the Czar times". The entire House turned hostile and Nehru was left speechless and stunned. The stalwarts like H.V. Kamath, Pandit Kunzuru, Acharaya Kriplani, Dr Shyama Prasad Mukherjee, Sarangdhar Dar, Mahavir Tyagi and John Mathai (who read the first Indian budget figures without consulting the papers) and the like were the most dreaded figures in opposition. And, they had hardly any following in Parliament.

When Dr Mukherjee was delivering

the stunning speech against the preventive detention in Kashmir, he was interrupted and one MP said "Dr Mukherjee, you must face the truth".

"How can I face the truth when I am facing the treasury benches", Dr Mukherjee retorted. And, when Dr Purushottam Das Tandon grew eloquent on the use of Hindi, making speech in chaste and flowery language, making it hard for non-Hindi speaking MPs to understand, Maulana Azad started his speech in equally chaste Urdu. The House burst into laughter and both sides agreed on the use of Hindustani. The issue was settled.

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Now when we see MPs joining in fisticuff in the well of the Lok Sabha or in the state legislature, we begin to realise the distance we have travelled since those glorious days of Indian Parliament. The House has become veritable battleground. The small opposition which could stop Nehru in the track by their debating skill, devastating logic and stunning speeches is now seen engaged in physical combat to settle the issues in the legislature. What a fall, my countrymen!

The political culture of the Nehru era

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**The opposition as a committed group is just not there. We have one-issue groups integrated into parties. We have no opposition party for that matter, only a coalition of groups which strike deals, swap positions of power and split in groups again.**

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has vanished, so also the sense of collective responsibility. Nowhere in the world, not even in volatile Italy, are the parliamentarians so much devoted to the lung power as in India. And, lung power has virtually replaced the brain power.

The opposition as a committed group is just not there. We have one-issue groups integrated into parties. We have no opposition party for that matter, only a coalition of groups who strike deals, swap positions of power and split in groups again. There is no common ideology to bend them together.

In mobilizing votes, these groups ponder to caste and regional prejudices and, thus split the already fragmented Indian society. Reservation of seats and jobs, which was only a one-time measure to help a section of people, has now become an instrument to get vote. In the process, Parliament has failed to become an instrument of growth and social change. The people are increasingly looking for saviours, and not leaders, to salvage the country in the express belief that only demi-gods can do the trick.

Nehru hated mythology in politics and

sharply differed with Gandhiji when the latter attributed the great Bengal famine of 1932 to untouchability. He screamed at those who tried to touch his feet. He appealed to the people to vote the Congress out of power at an election rally when Mr. G.B. Pant, then the U.P. Chief Minister, reminded him that he was supposed to be speaking for the support of the party. But, the people voted for the Congress candidate even though Nehru said that they should not. The people knew that the Congress was about the best thing that could happen to the country.

Once Nehru said his worry was to get the Speaker sign the paper on the delimitation of constituency before he (the Speaker) left for home. The partymen said that there was no problem and the Speaker could be called to the House. The famous frown appeared on Nehru's face and he said *Speaker sahib ko bulate nahin; unake pass jaya karte hai*. (The Speaker is not called; it is our duty to go to him).

We know of many situations when on moral issues the Governments offered to quit. Nehru used to do it often to disarm the Opposition. Nehru challenged Kripalani to "accept his resignation" and the Acharaya shuddered to think what will happen to the country without Nehru. We also know of such cases of resignation on moral grounds. In 1939 when Chamberlain was accused of appeasing Hitler, on which Churchill came cracking down on him. The British Prime Minister resigned and made Churchill, then a leader of only five-MP group in the House of Commons. Chamberlain agreed to function as his junior in the foreign office. The rest is a known history. That was how a battle was won and

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**Nehru challenged Kriplani to accept his resignation and the Acharaya shuddered to think what will happen to the country without Nehru. We also know of such cases of resignation on moral grounds.**

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lost in Parliament—glory to both, the winner and the loser. And, not in the manner Indian legislators fight these days to settle their disputes with the governments in power.

Once Disraeli asked Gladstone, his traditional rival in the Commons; "When do you think a government should resign?"

"When the behaviour of the Prime Minister flows from passion and not knowledge", replied Gladstone.

The enraged Disraeli raised his voice and said in course "Some day William (William Edward Gladstone 1809-1898) you'll die either on the gallows or of some foul disease".

Gladstone quietly stood up, bowed and said: "Sir, it depends on whether I embrace our principles or your mistress". The House burst into laughter on seeing the two ace parliamentarians locked in battle of wits and not in fistfights as was witnessed in the Tamil Nadu Assembly the other day.

We recall these events in sad memory, now that the parliamentary system in India is passing through its gravest crises. It is the duty of the elected representatives to evolve a consensus on the functioning of the country's legislature; or else the system will fail and the future generation will blame us for all our misdeeds which are fully avoidable.



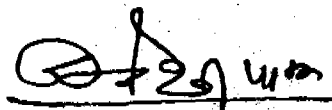
## **Key-hole reporting**

**M**uch of what has been reported about the *Illustrated Weekly*, apologising to Mr J.B. Patnaik for the report on the alleged peccadilloes of the Orissa Chief Minister has not added a wee bit to the glory of the Press which, even in its state of decline, is the most dependable source of news and views. It is apparent now that Editor Prithish Nandi had not taken enough care to check the news, assuming he had one, nor had the reporter S.N.M. Abdi the courtesy to speak to Mr Patnaik in order to know his side of the story.

Reporting sex has been an old habit of journalists all over the world. We know of Christine Keeler and John Profumo, Harold Macmillan and his unfaithful wife; Franklin D Roosevelt and his love for his friend's wife; President Kennedy and Marilyn Monroe. Earlier still, King George-I had locked up his wife, Sophia Dorothea, in castle for 32 years for her infidelity. To be true, the Press in India was born out of such sex scandals which James Hicky reported, involving the illicit relations of the wife of Governor-General Warren Hastings with petty officials of the East India Company.

But only those incidents were reported which appeared to be a threat to national security, or to society's moral order. The others were considered as private affairs. Today, Kennedy and Roosevelt are not rated low because of their sexual aberrations. In the case of the *Weekly*, it was neither the concern for public morality nor love for the profession that prompted the Editor to publish a thoroughly baseless and scandalous story about the Chief Minister who completes ten years in office.

The hurry to raise the circulation of the magazine, or to make a fast buck lured the Editor into such a shameful situation. While publishing this sleazy piece, the Editor should have thought about the high stature of the person who has suffered humiliation and disgrace for no fault of his. The unchecked accusatory remark, twists of facts and arrogant self-righteousness have proved that bad conscience can destroy the ethical basis of the profession—an issue on which the Indian Press will stand or fall. While holding no brief for the Chief Minister, *Sulabh India* would only like Mr Patnaik to forget the incident, leaving the Press alone to count its sins.



Dr. Bindeshwar Pathak

# Sulabh International : The beginning

**T**oday, or a generation hence, some people may like to know about the Sulabh Movement and how it all started to eventually be able to abolish scavenging in India. Like all major revolutions, it had a very modest beginning, more by accident than design. The man behind the mission then was a young jobless youth who wanted to earn a living. It was only after he joined the Bhangi-Mukti Cell, that he discovered he had a date with destiny. And that marked the beginning of Sulabh Movement. Here, the man, Dr. Bindeshwar Pathak, himself is telling about his mission, the Sulabh Movement, and how it all began.

“I have not the slightest hesitation in confessing that I am neither a research scholar nor an expert in environmental sanitation. I am also not a social preacher dedicated to the task of uplift of human society, nor do I claim to be an inventor. But the conversion of dry-latrines into water-flush latrines, and freeing human-beings from the indignity of carrying night-soil as healdoad, has been an article of faith for me. I have only tried to give a practical shape to all the researches made so far by experts on the subject . In doing so, I have been able to point out certain practical difficulties which are sometimes inevitable while translating theory into practice.”

Perhaps, it would not be out of place to relate how I was put on the hazardous path of a long journey. After getting my Honours Degree in Sociology, I was, like any other frustrated unemployed youth, trying for a job. But the post of a teacher or an office assistant would not give me job satisfaction. Call it an accident or God's will, I joined the Gandhi Centenary Celebration Committee as a “*pracharak*” in 1967.

I took up this job simply because I was assured of a sustenance allowance. My work as a “*pracharak*” involved extensive tour to remote villages all over Bihar, where I was supposed to propagate the teachings of Mahatma Gandhi. But whenever I organised some meetings, there was lurking contempt visible on the faces of the people who had high regards for all that Mahatma Gandhi preached, but they demanded result-oriented action and not mere sermons. I was soon transferred to the Bhangi-Mukti Cell of the Gandhi Centenary Celebration Committee. And it was here that I was tempted to

do some spade work and study the various aspects of the sanitation problem and its possible solutions.

During the Gandhi Centenary period (1967-1970), at the instance of Indian Government (Annexure IV), the Government of Bihar, through its Local Self-Government Department, directed all the local bodies to get existing bucket privies converted into hand-

flush latrines and to connect them either with sewer lines or leaching pits, as a tribute to Mahatma Gandhi. To encourage mass adoption of this programme, the Government of Bihar started giving Rs. 200/- (50% subsidy and 50% loan) to homeowners through local bodies. The task of propagation, demonstration, training to engineers, overseers, sanitary inspectors, Village Level Workers (VLWs), masons etc. and extension of this programme was entrusted to the Bihar State Gandhi Centenary Committee (a very august body whose general body's president was the Governor, and the chairman of the Executive Committee was the Chief Minister)

The Bihar Government used to give grants to the Bihar State Gandhi Centenary Committee every year, for making the scheme a success, and the Bihar Gandhi Centenary Committee somehow kept the programme going but there was no visible impact on the people and the Government.

I had learnt the hard way that the people wanted result-oriented work and not preaching. I suggested to the Bhangi-Mukti Cell to take up actual conversion. This was, however, opposed on the ground that taking up of actual conversions would be beyond the scope of the Cell. But I felt strongly about the desirability of taking up practical work to some extent. Such opposite views brought about parting of the ways. I resigned from the Bhangi-Mukti Cell. In due course, I designed a latrine, now popularly known as Sulabh Shauchalaya. This functions as a flush latrine with or without being connected to the sewerage system.

In 1970, the then Minister of Local Self-Government, Mr. Shatrughan Sharan Singh, advised me to set-up a voluntary social organisation for the execution of the scheme since it was not possible for a Government agency to accomplish it.

A few like-minded friends joined me in setting up a voluntary organisation called the Sulabh Shauchalaya Sansthan (now Sulabh International). It was registered under the Societies Registration Act (Act XXI of 1860) as a voluntary social organisation in 1970.

As founder-secretary of this institution, I moved from one muni-

cipality to another municipality and from one Government department to another in Bihar in search of officials who could appreciate the aims and objectives of the society. But political instability and apathetic attitude, frustrated all my efforts.

In 1972, I met Mr. R. Nath, I.A.S., the then Secretary of the Local Self-Government Department of Bihar. He said : "I will just now pass orders for government grants for the next 20 years. But, what will happen in the 21st year?" His advice was to make the scheme economically viable; so that it could be carried on without depending on government grants. This advice changed our thinking. My search for government grants ended. The Sansthan decided to undertake the task voluntarily on a no-profit-no-loss basis.

The Bihar Gandhi Centenary Committee was wound up in the year 1970 and there was no voluntary agency to implement the scheme. But the Government of Bihar continued to give financial assistance to the local bodies until 1974. The implementation of the scheme was left to the municipalities. Between 1967 and 1974, a sum of Rs. 34 lakh was allotted to the local bodies, but the results were not visible. Almost all the money was either diverted to other work or misused.

In September 1973, Mr. R.K. Mishra, the then Municipal Officer of Arrah (a Bihar district), showed some interest in our design. The Sansthan put up two model latrines in the compound of the municipal office. Some people started visiting the municipal office. The first person who agreed to get his dry latrine converted into Sulabh Shauchalaya was an advocate, Mr. Suresh Singh, also a Municipal Councillor. This was a modest beginning of a great movement which is still searching for new frontiers.

The Bihar Government went on allotting money to the local bodies for conversion of service latrines but there was no visible progress. Being disgusted with this state of affairs, the then Congress MLA, Mr. Bhagdeo Singh 'Yogi', wrote a letter to the then Prime Minister, Mrs. Indira Gandhi, and requested her to give this matter her personal attention, so that the funds could be utilised properly and the sub-human practice of carrying night-soil on the head could be done away with.

Within 10 days Mrs. Gandhi replied to the letter of Mr. Bhagdeo Singh "Yogi" and directed the then Chief Minister of Bihar, Mr. Kedar Pandey, to take personal interest in this matter. Mr. Kedar Pandey immediately directed the then Minister of Urban Development, Dr. Ram Raj Singh, to find out ways for proper utilisation of funds and achieve the target of 'Bhangi-Mukti' (liberation of scaven-

gers). The Minister in turn directed the department to take concrete steps for implementation of the scheme with the assistance of the Sulabh Shauchalaya Sansthan.

No. 234-PMO/73.

New Delhi,  
April 5, 1970.

Dear Shri Singh,

I have your letter of the 17th March and am concerned to read that the State Government has not been able to utilise the Fourth Plan provision for Schemes designed to eliminate the odious practice of carrying night-soil on the head.

I am writing to the Chief Minister and asking him to give personal attention to this matter. I entirely agree with you that our Party should be active in this important social programme.

Shir Bhagdeo Singh 'Yogi'  
Member, Legislative Assembly,  
21, Orthodox Chamber,  
R Block, Patna-1.

Yours sincerely,

(Indira Gandhi)

The Urban Development Department was in a fix as to how to utilise the services of the Sansthan and remained undecided for a year. But after a year, Mr. Bishram Prasad (I.A.S.), the then Special Secretary, Urban Development, and Mr. Shrimohan Mishra 'Madhup', Sectional Officer, formulated the methodology for implementation of the scheme with the help of the Sulabh Shauchalaya Sansthan, which was approved by the then Secretary of Urban Development, Mr. I.C. Kumar (I.A.S) and the Minister in-Charge, Dr. Ram Raj Singh. The methodology became so successful that the scheme of conversion of service latrines into Sulabh Shauchalayas received a boost. This methodology has been thrice scanned by the same department, but finally has agreed to keep up this methodology.

In 1974, the Government of Bihar recognised the Sulabh Shauchalaya Sansthan as a catalytic agency, between the Government, local bodies and the houseowners, for the conversion of bucket privies into Sulabh Shauchalayas. Luckily, Mr. Rajdeo Narayan

Singh, I.A.S., who had deep conviction about the utility of the scheme, joined as Administrator of Patna Municipal Corporation and promoted this programme."

The Successful demonstration of a micro-level project on low-cost sanitation in Bihar soon snowballed into a nationwide movement. The positive strides made by Sulabh Shauchalaya Sansthan (till then a Bihar-based voluntary organisation of modest dimensions), let the organisation assumed a new name **SULABH INTERNATIONAL**, not because for sake of having a new nomenclature, but because of its growing frontiers and global acclamations for having made a major breakthrough in the field of low-cost sanitation. Today, Sulabh International has 18 State branches and 727 town branches. From two toilets in 1973, the organisation has, by now, constructed six lakh pour-flush toilets in individual houses and community-toilet complexes at three thousand places. The toilet facilities created by Sulabh International are being used by some nine million people every day.

Presently, Sulabh International renders its services not only in the construction/maintenance of Sulabh Shauchalayas, but also in diverse other fields, such as, emancipation of scavengers, environmental sanitation, pollution control, bio-energy generation from human excreta, low-cost housing construction, collaboration with national and international agencies, scientific and technical research, rural reconstruction and training for human resource development. As of now, Sulabh International is a premier, totally self-supported voluntary organisation with a strong man-power-base of over ten thousand persons. A large number of eminent scientists and experts in the field of environmental engineering, hydrogeology, sociology, health education and administration are on its staff. The Organisation has achieved accolades from many Governmental and non-Governmental organisations and bodies within and outside India. Several eminent world personalities and international organisations like WHO, UNICEF, UNDP and the World Bank have placed their recognition on record. The programmes and activities of the Organisation have received extensive coverage in a number of prestigious national and international newspapers, periodicals and academic/professional journals. Several world-renowned sanitation experts have visited the various projects launched by Sulabh International and have testified to the pioneering work being done. The activities of the organisation have received prominent coverage on BBC, Doordarshan and All India Radio. Appreciative notes of the Organization's programmes and activities have been made in a large

number of national and international seminars. He is recipient of Goenka Memorial Award in 1984 for spectacular achievements in the field of environment and ecology in India.

Looking in retrospect, it appears that the credit for the success of the Organisation goes to Dr. Bindeshwar Pathak for having built such a tall Organisation from the scratch, and that too single-handedly and without enough resources. It would not be unfair to say that Dr. Pathak has achieved this exceptional success in such a short-time only because of his sincerity and commitment to the purpose. Modest, as he is, he worked like a silent revolutionary, discreetly avoiding the glare of fanfare and publicity.

**HOUSEHOLD LATRINES AND COMMUNITY TOILET COMPLEXES CONSTRUCTED BY SULABH INTERNATIONAL**

State	Towns with only Sulabh Shauchalayas		Towns with only Sulabh Toilet Complexes		Towns with both Shauchalayas and Sulabh Complexes			Grand Total		
	No. of Towns	No. of Units	No. of Towns	No. of Complexes	No. of Towns	No. of Units	No. of Complexes	Total No. of Towns	Total conversions	Total Complexes
Andhra Pradesh	16	5504	10	21	7	9780	23	33	15284	44
Assam	3	105	-	-	-	-	-	3	105	-
Bihar	39	18341	7	65	63	175032	825	109	193373	890
Delhi	-	-	-	-	1	-	62	1	2465	62
Goe	4	2055	5	7	-	-	-	9	2055	7
Gujarat	1	5	6	9	-	-	-	7	5	9
Jammu & Kashmir	2	479	1	1	3	9895	18	6	10374	19
Karnataka	3	468	32	61	-	-	-	35	468	61
Madhya Pradesh	145	63131	13	30	26	114694	133	184	177825	163
Maharashtra	11	1372	10	30	3	913	6	24	2285	36
Manipur	1	94	-	-	1	110	3	2	204	3
Orissa	4	596	20	21	9	8044	61	33	8640	82
Punjab	2	3505	-	-	-	-	-	2	3505	-
Rajasthan	24	21617	4	20	5	5208	9	33	26825	29
Tamilnadu	10	10234	2	22	1	1275	1	13	11509	23
Tripura	1	3131	-	-	-	-	-	1	3131	-
Uttar Pradesh	7	794	91	131	24	50641	359	122	51435	490
West Bengal	2	2715	4	4	2	7625	11	8	10340	15
<b>Total</b>	<b>275</b>	<b>134146</b>	<b>205</b>	<b>422</b>	<b>145</b>	<b>385682</b>	<b>1511</b>	<b>625</b>	<b>519828</b>	<b>1933</b>

1. Number of towns made scavenging free 55
2. Number of human excreta based bio-gas plants installed 60
3. Number of scavengers relieved of scavenging 25000
4. Liberated scavengers trained 2500





AFGHANISTAN  
 PAKISTAN

INDIA

CHINA

JAMMU AND KASHMIR  
 SRINAGAR  
 JAMMU

HIMACHAL PRADESH

CHANDIGARH

HARYANA  
 DELHI

RAJASTHAN  
 JAIPUR

UTTAR PRADESH  
 LUCKNOW

NEPAL

BHUTAN

ARUNACHAL

DISPUR  
 NAGALAND  
 KOHIMA

IMPHAL  
 MANIPUR

TRIPURA  
 DIBRUGARH

GUJARAT  
 AHMEDABAD

BHOPAL

MADHYA PRADESH

PATNA  
 BIHAR

SHILLONG  
 MEGHALAYA

WEST BENGAL  
 CALCUTTA

ORISSA

BHUVANESHWAR

MAHARASHTRA  
 BOMBAY

HYDERABAD

GOA DAMAN & DIU

KARNATAKA  
 BANGLORE

ANDHRA PRADESH

MADRAS

TAMIL NADU

TRIVANDRUM

SRI LANKA

BAY OF BENGAL

ARABIAN SEA  
 LAKSHADWEEP ISLANDS

ANDAMAN AND NICOBAR ISLANDS  
 ANDAMAN SEA

INDIAN OCEAN

# Development of Low-Cost Sanitation in India

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A search in India for a safe and affordable alternative to the sewerage and septic tank systems for the disposal of human excreta, suited to our socio-cultural and economic conditions, started in 1930. Various low-cost sanitation methods like *khurpi*, trench, dug-well, bore-hole latrine, over-hung latrine, drop-privy, aquaprivy, off-set compost latrine etc. were tried, but were found not satisfying in Indian conditions.

The first pour-flush waterseal system with on-site disposal of human waste, was developed by the All-India Institute of Hygiene and Public Health (AIHH&PH), Calcutta, in the mid-forties and it was then known as the "dug-well latrine". The Research-cum-Action (RCA) Project was later taken up by Government of India through the Health Centres of Poonamallee (Tamil Nadu), Singur (West Bengal) and Najafgarh (Delhi) in the mid-fifties. Another institute (PRAI) in Lucknow developed the offset double-pit system in 1958. These efforts were, however, restricted to rural areas.

Several non-governmental social organisations were also working to develop an appropriate technology for low-cost sanitation at that time. The most notable among them were the Gandhigram Institute of Tamil Nadu; Gandhi Smarak Nidhi; Harijan Sewak Sangh (Safai Vidyalaya), Ahmedabad. Their efforts were primarily aimed at rural areas and small towns having rural character. The adoption of the system was very much restricted.

During 1970-74, Dr. Bindeshwar Pathak, for the first time introduced the low-cost sanitation in urban Bihar towns with population of above 1,00,000. Even Patna city with a population of nearly 5,00,000 was provided with this innovative system of excreta disposal in the congested localities. The Bihar programme, conceived and implemented by Dr. Pathak through a voluntary social organisation, Sulabh International (earlier named Sulabh Shauchalaya Sansthan) drew the attention of WHO, South-Asia Region. In 1977, greatly impressed by the modified design of two-pit pour-flush waterseal latrine system (now popularly known as Sulabh Shauchalaya), developed by Dr. Pathak, who decided to study the

actual situation at site. It seemed to be the only viable solution to the problem of excreta disposal in urban areas of the entire South-East Asia Region. It was also the only low-cost solution. The cost of other systems in use or proposed was very high and beyond the bearing capacity of most of the people and even governments. An expert mission of WHO visited Patna. By that time, Dr. Pathak had already converted 10,000 bucket privies into two-pit pour-flush water-seal latrines in the most congested areas of Patna city and 40,000 in other towns of Bihar. WHO, the Indian Government or even the neighbouring States of West Bengal and Uttar Pradesh, which were advanced in sanitary engineering, were not aware of the programme being implemented successfully in Bihar. The WHO mission observed that for making the programme successful, promotional efforts towards motivation, publicity and health education was necessary to create awareness among the beneficiaries. The mission learnt from the Director of Health Services, Bihar, that the toilets constructed by Dr. Pathak had not caused any hazard to the community.

### **Policy Decision**

Dr. Pathak's successful implementation of low-cost sanitation programme motivated the Government of India to adopt the system on a country-wide basis, in towns and cities, and make suitable financial provision, for the first time, in the Five Year Plans. The State Ministers, dealing with sanitation, met in 1983 and took a bold decision by giving low-cost sanitation programme a priority over the sewerage system. This decision was a landmark and provided the much-needed impetus and funds for implementing low-cost sanitation projects in urban areas.

### **Sulabh Shauchalaya**

Sewerage is the ideal solution for the disposal of human and other wastes but its cost is prohibitive. Septic tank with proper effluent disposal is another alternative but this is also beyond the reach of most people; moreover it has other problems like periodic cleaning and disposal of sludge. Effluent disposal is a potential source of mosquito breeding and health hazards if not properly disposed of. Pour-flush latrine with twin pits popularly known as Sulabh Shauchalaya developed by Sulabh International, a voluntary social organisation founded in 1970 by Dr. Bindeshwar Pathak, an Action Sociologist, is an answer to the problem of safe disposal of human excreta in respect of technology and cost.

Sulabh Shauchalaya consists of a pan with a steep slope 25° to 30° and a trap with 20 mm waterseal needing 1.5 to 2 litres of water for

flushing. The pan and trap of conventional design which are used with flushing cisterns should not be used in a pour-flush latrine with leach pits, as it would need more water for flushing and the pits are likely to get filled early.

The excreta is carried into leach pits through pipes or covered drains; one pit is to be used at a time. The liquid infiltrates and gases dispersed into the soil through the holes in the pit lining. When one pit is full, the excreta is diverted to the second pit. In about two years, the contents of the pit already filled get digested and become safe for handling. The pit can then be conveniently emptied and is ready to be put back into use, after the second pit is full. Thus the two pits can be used alternately and permanently. The sludge of the pit is a good manure for use in horticulture/agriculture. The cost of emptying the pit can be met from the cost of manure available.

### **ADVANTAGES**

Main advantages of Sulabh Shauchalaya are:

- Hygienically and technically appropriate.
- Low-cost and easy to construct.
- Eliminates mosquito, insect and fly breeding.
- Can be constructed in different geohydrological and socio-economic conditions.
- Can be located within the premises as it is free from foul smell and fly/mosquito nuisance.
- Maintenance is easy and simple, and costs very little.
- Eliminates chances of hookworm and other infections.
- Does not need scavengers to carry and dispose of excreta.
- Makes available rich fertilizer.

### **NO NEED FOR VENT PIPE**

In a Sulabh Shauchalaya, vent pipe is not necessary because gases are dispersed into the soil.

### **WHY TWO PITS**

Single leach pit is appropriate only if it can be de-sludged mechanically by a vacuum tanker since their contents are not pathogen-free. In the two-pit system, since one pit is used at a time, the filled pit can be cleaned manually by the householder himself because of the long period of digestion which makes it free from foul smell and safe for handling.

In a single-pit system, de-sludging has to be done almost im-

mediately after the pit has been filled up to enable its re-use; this involves handling of fresh and undigested excreta which is a health risk. If a deeper and larger single pit is provided, the desludging operation will be difficult and there would be a chance of pollution specially where ground-water table is high.

### **LINING OF PITS**

The pits are to be lined to avoid collapse. The lining should have holes/gaps for percolation of liquid and dispersal of gases into the soil. The pits can be lined with bricks, stones, cement concrete or burnt clay rings. Where the soil is sandy or where sand envelope is provided, lining should not be in honey comb brick-work but it should be in brick work with vertical joints without mortar.

### **LOW REQUIREMENT OF WATER**

The Sulabh Shauchalaya requires only 1.5 to 2 litres of water for flushing while conventional privy with flushing cistern needs 13 litres. Hence, pour-flush latrines function satisfactorily even in scarce water supply situations. In fact, not more than 1.5 to 2 litres of water should be used for each flushing in a Sulabh Shauchalaya. If more water is used, life of the pit is likely to be reduced.

### **UPGRADATION**

The technology developed has high potential for upgradation. These latrines can be connected easily to sewers when sewerage is introduced in the area.

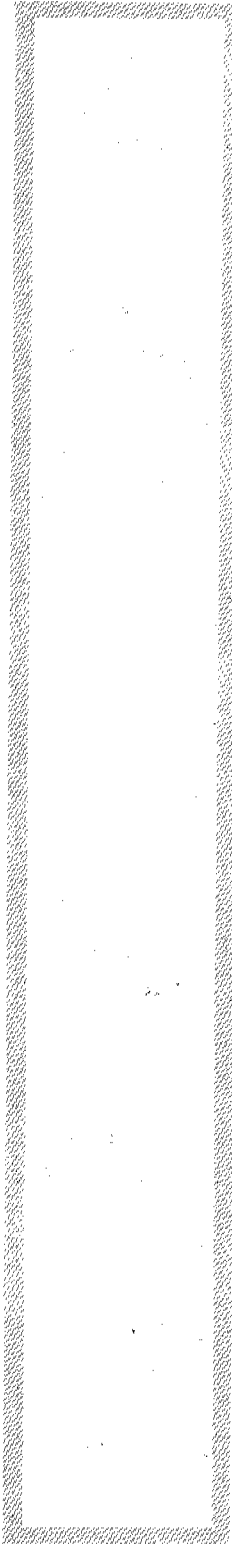
### **POLLUTION ASPECT**

Extensive studies carried out in India and abroad suggest that the proposed technology is appropriate even in adverse soil conditions and high ground-water table areas after due precautions.

### **OPERATION AND MAINTENANCE**

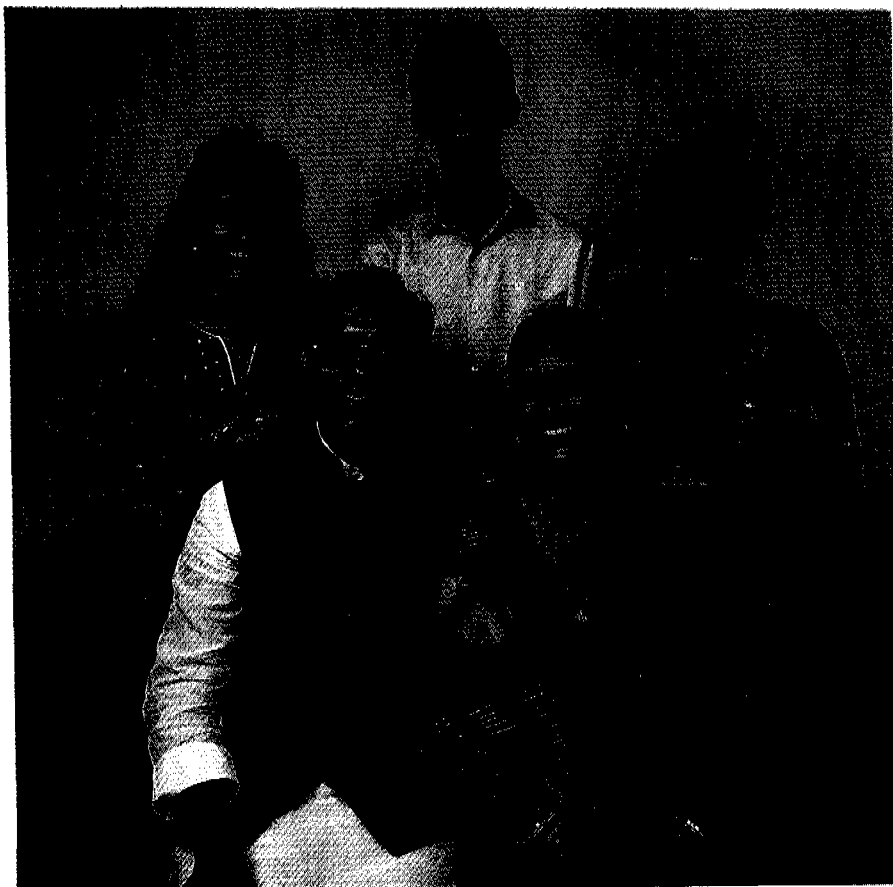
Operation and maintenance of Sulabh Shauchalaya is very easy and simple:

- Before use, some water to wet the pan should be poured.
- After defecation, 1.5 to 2 litres of water should be poured in the pan for flushing.
- The pan should be cleaned once a day with a brush or a broom and soap powder.

- 
- One of the pits is to be used at a time by plugging the mouth of one drain or pipe.
  - Kitchen, bathroom waste-water or rain-water should not be allowed to enter the pits.
  - Other solid wastes should not be thrown in the pan; this will block the latrine.
  - When the pit in use is filled-up, the flow should be diverted to the second pit and the filled-up pit should be de-sludged after about 2 years. The first pit can then be put to re-use when second pit gets filled.

#### **WIDE ACCEPTANCE**

About 1.5 million latrines of the above design have already been constructed all over India in rural and urban areas. The people are satisfied with the functioning of these latrines. The Govt. of India, State Governments, UNICEF, World Bank etc. have accepted the design and are advocating and providing financial assistance for the construction of these latrines.



**L**ike any great man, there was a woman behind Dr. Pathak's work who became his wife in 1965 only to encourage him to still greater effort and glory. Madhubala (right to Dr. Pathak) was born to them in 1973 when the family was in the midst of struggle; with the coming of Kumar Dilip (standing in the Centre) in 1975, the second child, the struggle was intense no less and when Kumari Kiranbala (left to Mrs. Pathak) joined in 1977, the size of the family more than doubled, with a five-member unit living in an idyllic world given to creating a new society out of the old.

# Men & Memories



# Distinguished Visitors

Since the setting up of Sulabh International, a large number of distinguished persons and experts visited Sulabh complexes and laboratories all over the country. The visitors had varied interests such as making indepth studies on socio-economic disciplines, social workers engaged in rehabilitation programmes, voluntary organisations in the area of environment management and non-conventional energy resource.

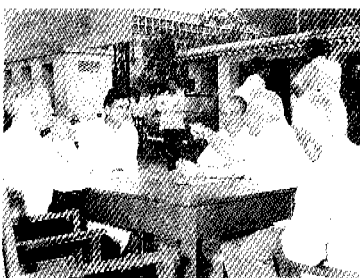
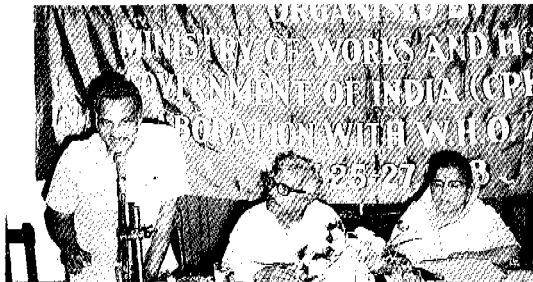
Mr. John Pettigrew (second from right) Senior Sanitary Engineer, World Bank, Washington D.C., discussing the design of toilet complexes at the Sulabh International Head Office, Patna.



Mr. William J. Cousins, Programme Adviser, South Central Asia, UNICEF, and Mr. M.A. Acheson, Regional Adviser, Environmental Health, South-East Asia, went house-to-house to study the functioning of Sulabh Shauchalayas after a Patna seminar in 1978.



FROM LEFT TO RIGHT: Mr. William J. Cousins, Programme Adviser, South-Central Asia, UNICEF, Mr. Karpoori Thakur, former Bihar Chief Minister and Mrs. Sumitra Devi, Minister, Urban Development and Public Health Engineering Department, at a Patna seminar in 1978.



Mr. A.K. Roy (third from left) Regional Manager, South-East Asia Region, UNDP, with Dr. T.R. Bhaskaran and Mr. S. Rajgopalan, discussing the maintenance of Sulabh Shauchalaya complex.

Mr. G.H. Read (in the fore front) Sanitary Engineer from the Ross Institute of Tropical Hygiene, London, excavating the dry digested sludge from the twin-pit of a Sulabh Shauchalaya at Patna.



**Mr. Ketkar (UNICEF) & Mr. B.N. Aiyar, I.A.S. officer, Govt. of Andhra Pradesh, in Patna.**



**Mr. G. Heyland, Financial Analyst of W.H.O Regional Office S-E. Asia (third from left) on a visit to Patna to discuss dry latrine conversion programme of Sulabh International.**



**Mr. Philip Wan of UNICEF discussing with Dr. Pathak the masons' training in low-cost sanitation programme.**

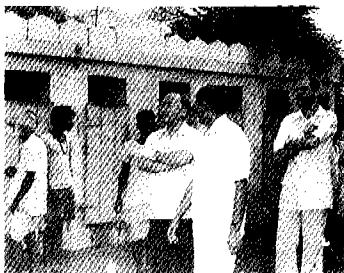
**Mr. Deo Chopra, Zonal Representative, UNICEF, at a Sulabh toilet complex in Patna.**



**Mr. G.S. Srinivasan, UNICEF, inspecting the functioning of Sulabh system in Patna.**



**Dr. A.A. Besa, UNICEF, with Sulabh workers in Ranchi.**



**Dr. Y.G. Lee and Dr. M.F. Vargo, UNICEF, at a Sulabh toilet complex in Patna.**

**Dr. A.A. Besa & Mr. Khyilstov, (second & third from right) UNICEF, at a Sulabh toilet complex in Patna.**





**Mr. Brian Goodwin (grey hair) is a biologist who led a team of students and experts under International Honours programme to Palam Sulabh complex to study sanitation problems.**



**Visitors from Afghanistan.**

**Dutch Embassy official at a Sulabh complex.**



**Visitors from Holland.**



**Dr. Pathak with Finland Counsellor, Mr. Topio Soveri, at the Palam Sulabh complex New Delhi.**



**Dr. D.N. Ojha, a Sulabh scientist, explaining to Mr. H.W. Rackl, Counsellor, FRG, the making of the human excreta-based granulated manure and its various uses.**

**Demonstration of Biogas operation to an ILO team.**



**A lady visitor from the Philippines.**

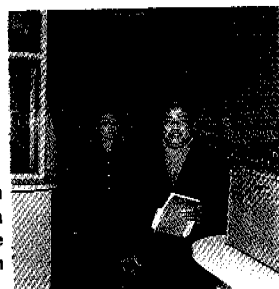


**Mr. M.S. Hoda from London visiting a Sulabh Shauchalaya demonstration complex in Patna.**

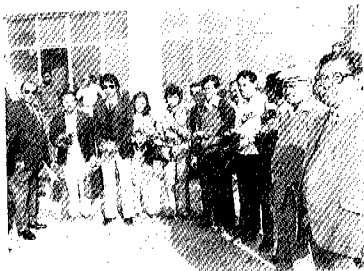


**A visitor from Switzerland at Sulabh complex in Patna.**

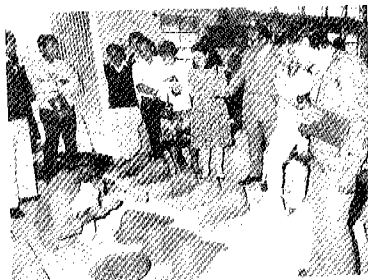
**A delegation from Singapore on a guided tour at the Sulabh complex in New Delhi.**



**Delegates from Vietnam.**



**Delegates from Vietnam at a Sulabh complex.**



**Delegates from Vietnam seeing the making of mosaic pans in Patna.**

**A Vietnamese delegate examining the Sulabh pan-making process.**



**Mr. Sikandar Bakht, Former Union Minister of Works, Housing, Supply and Rehabilitation and Wakfs, visiting a Sulabh complex in a Patna slum area.**



**Union Minister K.C. Pant at a Sulabh complex in Patna in 1985.**



**Mr. S.B. Chavan, Union Minister for Planning and Dy. Chairman, Planning Commission, at a Patna Sulabh toilet complex in 1981.**



**Dr. Bindeshwar Pathak with Mr. Jaya Prakash Narayan and Mr. Jagjivan Ram at Kadam Kuan in Patna.**



**Union Minister Yogendra Makwana at the Patna Sulabh Training Institute.**



Mrs. Sumitra Devi, Minister, Urban Development, Bihar declaring Ranchi a scavenging-free town. To her right is Chief Minister Karpooori Thakur and to left Mr. Kailashpati Mishra, Finance Minister.



Dr. M.S. Swaminathan talking to Dr. Pathak on the functioning of the Sulabh system at Patna.

World renowned agricultural scientists Dr. M.S. Swaminathan inspecting Sulabh toilet systems at Patna.



Union Minister of State for Works & Housing, Mr. Ram Kinkar, at Patna during valedictory address at a National Seminar in 1978. Mr. Kapil Deo Singh, Minister of Agriculture, Govt. of Bihar, is also seen with him. (extreme right).



Mr. Satya Prakash Malaviya, Minister, Local Self-Govt., Uttar Pradesh, visiting a Sulabh Shauchalaya complex in Patna in 1978.



Mr. Rajendra Lal Das, a veteran Gandhian, who inspired Dr. Pathak to start the campaign for the liberation of scavengers.

THIRD FROM LEFT : Prof. Suma Chitnis of Tata Institute of Social Sciences, Bombay (Formerly Nehru Fellow) at a Sulabh community toilet complex in Patna.





Head office of Sulabh International, formerly known as Sulabh Shauchalaya Sansthan.



The Union Minister of Agriculture and Environment, Mr. Bhajan Lal, at the Ganga Project site in Patna.

**GANGA PROJECT:**  
A view of joint efforts of Sulabh International and the Govt. of India on Ganga Action Plan.



Noted litterateur Sachchidanand Hiranand Vatsyayan "Ajneya" at Sulabh complex in Patna.



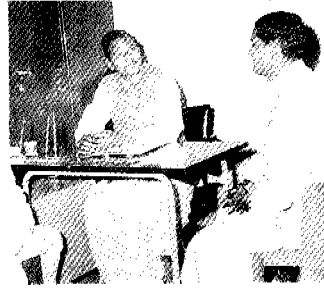
Mr. Ramashray Prasad Singh, Minister, Urban Development, PHED & Housing, inaugurating a Sulabh complex in Chaibasa, Bihar. On his right is Mr. Rungata, Chairman of the Municipality, and left, Mr. V.N. Mishra, I.A.S., Deputy Commissioner, Singhbhum, Bihar.



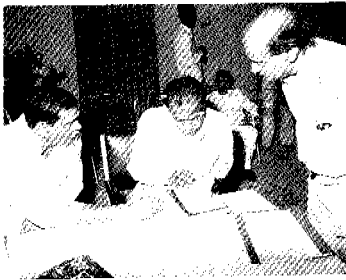
Mrs. Ela Bhatt, M.P., visiting a Sulabh complex in Patna.



**Mr. S.K. Jha, Chief Justice, Patna High Court, inaugurating the Sulabh Foundation Day in Patna.**



**Dr. Pathak exchanging views with Mr. Karamchand Bhagat, Minister of Urban Development, Bihar.**

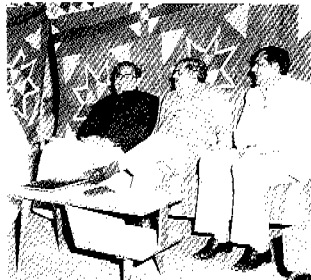


**Mr. Mahabir Chaudhary, Bihar Minister, discussing sanitation plans with Dr. Pathak.**



**Mr K. Prabhakar, Karnataka Minister for Rural Development, at Sulabh complex in Patna.**

**Mr Govind Narayan, Chairman, Rajasthan Institute of Local Self-Govt., Mr. Sriramji Gotewala, Minister, Local Self-Govt., Rajasthan, and Mr Nawal Kishore Sharma, General Secretary, Congress (I) at Sulabh complex in Patna.**



**Dr. K.L. Sharma, Minister of Urban Development, Govt. of Madhya Pradesh, inspecting a Sulabh toilet complex in Patna.**

FROM LEFT TO RIGHT -



**Mr. Edgar E. Ribeiro (extreme right) Chief Planner, Town and Country Planning Organisation, Ministry of Urban Development, Govt. of India, seeing how the PH of the effluent from biogas plant is being measured at a Sulabh complex in Patna.**



**Mr. T.K. Maulik from Ahmedabad, visiting Patna Sulabh biogas complex.**



**Mr. Baldeo Singh, Adviser, Planning Commission, visiting the Sulabh biogas complex in Patna.**

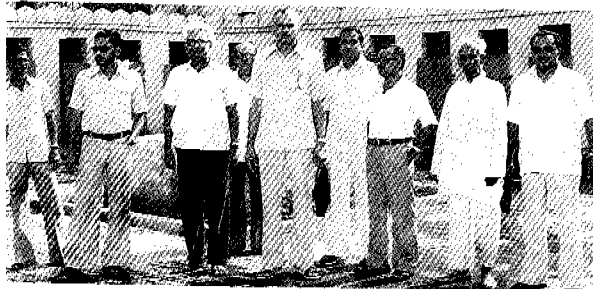


**Mr. K.K. Singh, Department of Non-conventional Energy Sources, Govt. of India, watching the movement of gas flow meter while in use at Sulabh biogas complex in Patna.**



**Participants in the Patna seminar, held in 1978.**

**Delegates at the Patna seminar, held in 1978, visiting slum colonies to see the functioning of Sulabh Shauchalaya systems.**



**The Mayor of Trivandrum Municipal Corporation with Councillor and officials, visiting Sulabh complex in Patna.**



**Dr. Pathak showing to BBC correspondents the Sulabh Shauchalaya constructed in the corridor of a one-room house in a Patna colony.**



**The Madhya Pradesh Director for Scheduled Castes & Tribes, visiting the Sulabh Institute in Patna.**

**Mr. R. Srinivasan,  
I.A.S., Secretary,  
Rural  
Development,  
visiting a Sulabh  
Shauchalaya  
demonstration  
centre, Patna.**



**Mr. B.B. Sahay,  
I.A.S.,  
Commissioner and  
Secretary, Urban  
Development,  
Govt. of Bihar,  
visiting a Sulabh  
complex in the  
slum area of  
Patna.**



**Mr. Ram Bahadur  
Saxena, I.A.S.,  
Secretary to the  
Local Self-Govt.,  
at Patna complex  
with officers of  
U.P. Govt.**

**Mr. V.S. Dubey,  
District  
Magistrate, Patna,  
visiting the  
construction site  
of temporary  
Sulabh  
Shauchalayas  
during a  
conference at  
Patna.**



**Mr. Abhimanyu  
Singh I.A.S. (first  
from left),  
Secretary, Urban  
Development  
Department, Govt.  
of Bihar, visiting  
biogas complex in  
Patna**



**Mr. K.K.  
Srivastava, I.A.S.,  
Chief Secretary,  
Bihar, at a Sulabh  
laboratory.**



**Mrs. Lakshmi  
Singh, I.A.S., at a  
Sulabh complex.**

**Mrs. Shashi Rani  
Mishra, I.A.S.,  
Secretary, Welfare  
Department,  
Maharashtra  
Govt., at training  
Institute in Patna.**



**Mr. C.M. Jha, I.A.S. officer in the Govt. of Bihar, with Dr. Pathak,**



**Mr. Rajdeo Narayan Singh, I.A.S., Administrator, Patna Municipal Corporation (third from left) who initiated the idea of Sulabh complex, and Mrs. P.K. Sushma, Dy. Secretary, Urban Development Department, Govt. of Bihar.**



**Mr. Gyan Sagar, Superintending Engineer, Jal Nigam, Govt. of Uttar Pradesh, visiting a Patna Sulabh complex in 1977.**

**The Sulabh family celebrating the Foundation Day.**



**Mrs. Padma Seth, Minister of Urban Development, Govt. of Uttar Pradesh, at a seminar.**



**Mrs. Rani Sarup Bakshi, UP Minister for Social Welfare, inaugurating a Sulabh complex in Lucknow.**

**A Sulabh community toilet being commissioned by Mr. Lokpati Tripathi, Minister of Health & Family Welfare, Govt. of Uttar Pradesh, at Lucknow.**



Mr. Narendra Verma, Scientist, CBRI, Roorkee, visiting a Sulabh complex.

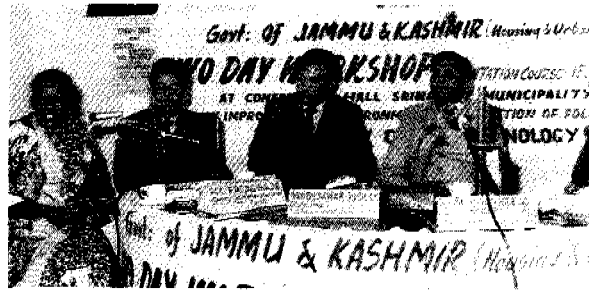


Mr. K.N. Udupa, Professor Emeritus, Banaras Hindu University, with Dr. Bindeshwar Pathak.

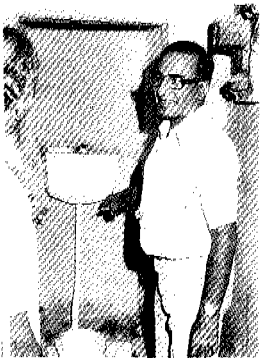


Dr. Pathak speaking at the All India Institute of Hygiene and Public Health (AIIPH), Calcutta, where a seminar was organised by W.H.O., Ministry of Urban Development and AIIPH on August 18, 1987.

Dr. Pathak in a scavengers' colony in Muzaffarnagar, U.P.



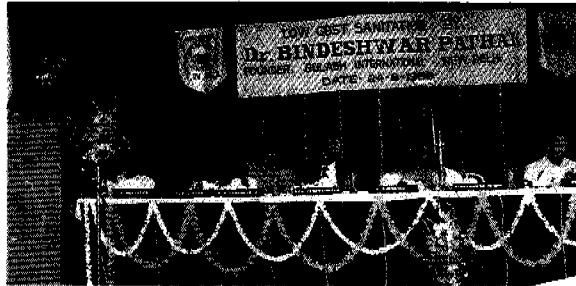
Dr. Pathak attending a seminar in Srinagar.



A Sulabh toilet unit at Thapar Institute of Polytechnic, Patiala, Punjab.

Mrs. Ravneet Kaur, Secretary, Welfare Department, Govt. of Punjab, visiting the Sulabh complex in Patna.



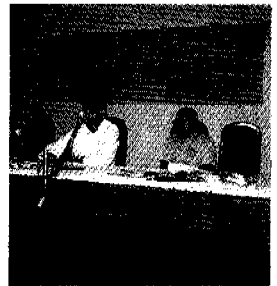


Dr. Pathak delivering his speech at a seminar in Bangalore, organised by the Indian Water Works Association (IWWA).

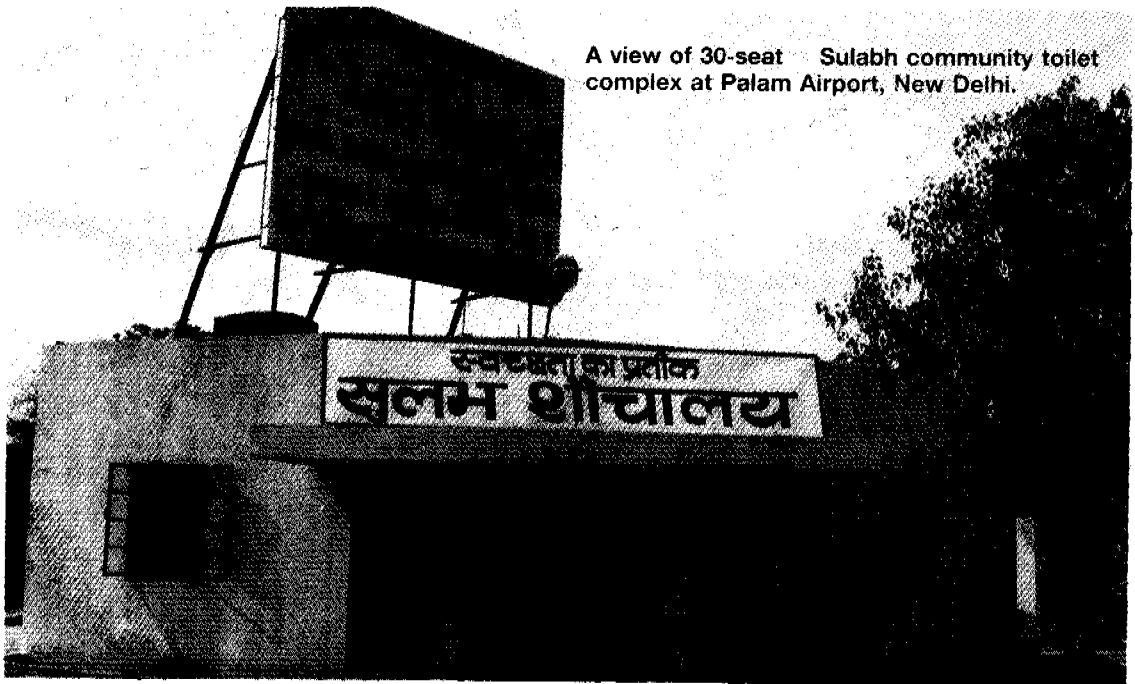


Mr. L.M. Menezes, IAS, Special Officer, Madras Corporation, discussing with Dr. Pathak the implementation of Sulabh Shauchalaya scheme in Madras.

Dr. Bindeshwar Pathak delivering a speech on rural sanitation in India at a Nagpur (Maharashtra) workshop organized by the Rural Development Department, Ministry of Agriculture, Govt. of India.



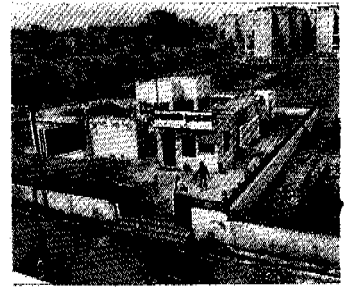
A view of 30-seat Sulabh community toilet complex at Palam Airport, New Delhi.



**Mr. Jag Parvesh Chandra, Chief Executive Councillor, Delhi, cutting the ribbon at the Sulabh Shauchalaya complex at Dhobi Ghat, Nizamuddin, alongwith Mr. Ganga Das, Commissioner, MCD, and Mr. Kuldeep Singh Gujral, Chairman, Delhi Electricity Board (DESU).**



**Mr. Ganga Das Commissioner, Delhi Municipal Corporation, inaugurating a Sulabh community complex at Loha Mandi, Narayana in New Delhi.**



**A Sulabh community toilet complex at Sarai Basti, New Delhi.**

**Mr. S. Choudhary, I.A.S., Joint Secretary, Urban Development, Govt. of India, visiting the exhibition stall of Sulabh International, New Delhi.**



**Mr. R.D. Kapur, Municipal Commissioner of Delhi, opening a Sulabh toilet complex at Old Delhi Railway Station.**



**(Extreme left) Mr. P.P. Srivastava, I.A.S., Commissioner, Municipal Corporation of Delhi, in the Mahavir Enclave complex of Sulabh International, New Delhi.**

**Students of the Vocational Training Institute for Women, New Delhi, visiting Sulabh International complex, New Delhi.**



Mrs. Mohsina Kidwai, Minister, Urban Development, Govt. of India, and Mr. S.K. Sharma, Chairman & Managing Director, Housing and Urban Development Corporation of India, talking to Mr. D.R. Pandey, Director, Training, Sulabh International, at an exhibition held in Delhi.

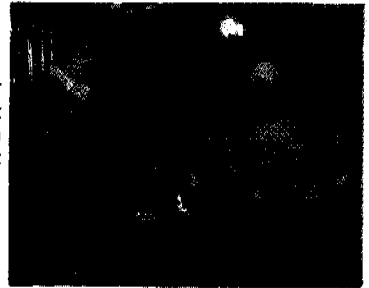


Mr. H.K.L. Kapoor, Lt.-Governor of Delhi, along with Mr. Jagdish Tytler, Minister, Civil Aviation, Govt. of India, at the inaugural function of a Sulabh community toilet complex at Sarai Basti, New Delhi.



Mr. P. Venkat Subbaih, Governor of Bihar, visiting a Sulabh exhibition hall in Pragati Maidan, New Delhi.

Union Minister H.K.L. Bhagat opening a Sulabh toilet complex at Nandnagri in Delhi in 1988. Also seen with him is Mr. Mohinder Singh Saathi, Mayor.



Veteran Gandhian Dr. Sushila Nayar and eminent jurist Dr. L.M. Singhvi sharing concern for scavengers on the Ambedkar Centenary Day at Sulabh International, Mahavir Enclave, New Delhi, on April 14, 1990.

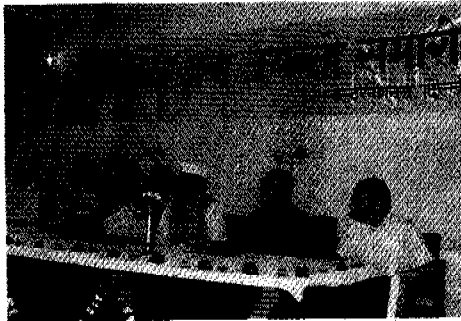


Dr. D.S. Kothari giving an interview to Sulabh India correspondents in New Delhi.

Mr. Murasoli Maran, Urban Development Minister, along with Mr. Manjit Singh, Commissioner (slum wing), DDA, at inauguration of a Sulabh community toilet complex at Meena Bazar, Jama Masjid, Delhi.



The Dr. Ambedkar Day was presided by Mr. Bhisham Narayan Singh (centre) former Governor of Assam, at Sulabh Palam complex on April 14, 1990. The others from left are : Mr. B.N. Ojha, Dr. L.M. Singhvi, Dr. Sushila Nayar, Dr. Mulk Raj Anand and Mr. A.K. Roy.



Senior officials of Haryana Govt. visiting Sulabh complex in New Delhi.



Chairman, Madhya Pradesh Slum Board, with Director, Sulabh Institute of Technical Research, Dr. N.B. Mazumdar, in New Delhi.



Karnataka Minister Chandrashekhar inaugurating a Sulabh toilet complex.

Mr. Sam Pitroda, inspecting goods produced by the wards of liberated scavengers at the Palam complex in New Delhi.



Dr. Pathak discussing with Mrs. Sunita Basant, I.A.S., Joint Secretary, Ministry of Agriculture, Govt. of India, the possibility of involvement of Sulabh International in rural sanitation.



Mr. Babulal Gaur, Madhya Pradesh Minister of Local Self-Government, Mrs. M.V. Garde, Principal Secretary, Local Self-Government, M. P with Mr. P.C. Pathak, Vice-Chairman of Sulabh International, Madhya Pradesh State Branch, at Palam Sulabh complex in New Delhi.



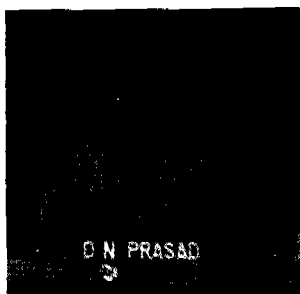
Former Vice- President of India Mr. B.D. Jatti (centre) at the Sulabh Foundation Day function in Bangalore.

**SULABH INTERNATIONAL**





A workshop on evaluation methodology of low-cost sanitation programme in India, organised by Sulabh International in collaboration with Economie Et Humanisme, (France) in New Delhi on May 23-24 1989.



Dr. D.N. Prasad, Adviser to the Planning Commission, presided over the conference.



Mr. Kalyan Biswas, I.A.S., Regional Manager, South-East Asia, UNDP/World Bank, addressing the conference.



Mr. A.K. Roy and Mr. G. Ghosh.



Mr. T.R. Bhaskaran, an eminent public health engineer and environmentalist, addressing the conference.



Mr. P. Blancher of Economie Et Humanisme, at the conference.