

Is the Henan latrine promotion a success?

What can China learn from it?

A case study report

Dick de Jong

IRC International Water and Sanitation Centre

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Executive summary

The Henan province latrine promotion case stands out positively compared to other provinces in China. From 1989 to 1994 improved latrine construction increased from 1% of the population in rural areas to 29.3%. At the end of 1994, nearly five million households were using the double urn funnel-shaped latrine, which had been developed in the province since the late 1970s. A striking fact is that this programme has been run completely on local resources and using the existing party and government structures only. No external funding has been going into the latrine programme. As such Henan stands out from experiences elsewhere. The sanitation promotion cases from Bangladesh and Lesotho for example, both had large externally funded components.

What made the Henan experience work? The lessons learned can be summarized as follows:

1. *Get the policy right.*

Given the right policies set at the national level the provincial authorities translated those into action plans with targets at the provincial level.

2. *Get the design right.*

The design is technically adequate, affordable and acceptable to the farmers, local materials are available.

3. *Get high level commitment for improved latrine promotion.*

From the Governor and Vice Governor of the province, to the village leaders, their commitment to the programme has been essential.

4. *The beneficiaries pay most of the costs of improved sanitation.* Only small subsidies and incentives are provided to get maximum participation of targeted villages.

5. *Strong focus on promotion at all levels,* making use of the clear economic and convenience and health benefits. The use of good demonstration assists in this process.

6. *Ensure proper organization using the existing structures,* right at the village level, and involving all possible allies.

7. *Latrine promotion work takes a lot of time.* It can not be done in a hurry, and requires constant attention.

Although from the construction side the Henan province latrine improvement work can be called a success, a number of problems still need to be overcome. They concern insufficient maintenance and effective use of the latrines, and hygiene education. As a result, only half of the improved latrines in Henan province were found to be sanitary in a 1993 nation wide survey on sanitation. The lack of a communication strategy, insufficient

use of mass media and insufficient monitoring of effective use are among the other weaknesses which need to be remedied.

The major challenge ahead for the Henan province is to develop a revolving fund and other credit options to spread the latrine improvement to reach the poorer villages in the province, beyond the better-off and medium villages which were covered in the 1989 - 1994.

1. Introduction

Data on rural sanitation in China became available for the first time during the 1992 Child Survey (China/UNICEF 1994). This survey revealed that nine out of ten Chinese in rural areas use the "dry latrine", which is a hole dug in the ground, possibly connected to a pigsty or fish pond. These latrines are in most cases unsanitary. The National Patriotic Health Campaign Committee estimates that only 10% of the rural latrines are sanitary. Coverage varies per province. While 16% of rural people in Guangdong province have access to flush latrines, rural residents in most other provinces do not have access to this type of latrine facilities. In 1993 a nation-wide National Sanitation Survey was done, from which no official data have been published so far. At the presentation of the mission's findings to the National Patriotic Health Campaign Committee the NPHCC staff mentioned that the survey revealed that of the 85.9% households having one or two latrines, only 7% were found to be sanitary and 13.5% were found to meet the standards of non-hazardous treatment.

Unhygienic use of night soil as fertilizer in agriculture is widespread, resulting in the transmission of intestinal diseases, including helminth infections. *Ascaris* infection is as high 70-90% in many areas. High diarrhoeal disease rates in infants are very much linked to the lack of sanitation, hygiene and water. Demand for sanitary latrines is relatively low, since the recognition of their health impact is poor, and hygiene education programmes have so far not been well developed in China. Even most rural primary schools lack safe drinking water, sanitary latrines and an appropriate hygiene education curriculum. (Water and Environmental Sanitation Programme Plan of Operations, 1994 p. 1-2).

In the 1994/1995 China/UNICEF country programme Water and Environmental Sanitation is being introduced as a new component. The goal is to improve conditions of water supply, environmental sanitation and hygiene education for 140,000 people in six counties in four different provinces. Counterpart funding to the projects managed by NPHCC amounts to US\$ 765,000 over two years and the same amount for the projects managed by the Ministry of Water Resources' Rural Water Conservancy Department. UNICEF's contribution is US\$ 1.53 million for two years.

The 1996-2000 China/UNICEF Water and Environmental Sanitation Programme is based on a two-pronged strategy: one at the national level to affect water and environmental sanitation policies for the achievement of the National Programme of Action (NPA) goals and one at sub-national levels to demonstrate the benefits of the integration of safe water supply, sanitary latrines and hygiene education, the so-called "three-in-one approach".

Elements of the programme will include:

- strong, nationwide advocacy and social mobilization to raise the awareness and commitment of high-level government officials and to create demand from communities on sanitation and hygiene improvement;

- strengthening the inter-sectoral linkages to ensure unified communication strategies and social mobilization for promoting environmental sanitation and hygiene as well as the convergence of the programme with other sectors;
- the promotion of low-cost, community-managed and sustainable deep-well handpump technology, especially in water scarce areas where groundwater conditions are favourable; and
- further strengthening of the capacity of the water and environmental sanitation sector in monitoring and evaluation.

Special efforts will also be made to improve school sanitation and hygiene. The UNICEF-supported programme has a budget of US\$ 5.4 million from General resources and US\$ 7.5 million from Supplementary Funding.

China's National Plan of Action for the year 2000, in follow-up of the World Summit for Children, targets an increase in coverage rate for improved sanitation, without mentioning a specific figure.

In most areas of China there are limited resources in terms of budget and staff as well as a lack of clear plans of action for sanitation programmes. An outstanding exception is Henan Province, which in 1989 launched a "Latrine Revolution" campaign all over the province with strong commitment and full support of the provincial Governor. From 1990 to 1993 resources were mobilized and reallocated, not only from the Health Bureaus, but also from all other related agencies. Of the 10 counties in China that are most advanced in improved latrine coverage, 9 are in Henan province. Of the 27 medium counties, 10 are in Henan.

UNICEF China requested the IRC International Water and Sanitation Centre to analyze and document the experience in Henan Province. This case study is the result of a mission to China by IRC information communication specialist Dick de Jong from 29 December 1994 to 26 January 1995.

A second part of the mission concerned guidance and a strategy for the communication materials which could be developed out of the Henan experience for wider promotion of sanitation improvement in China. This has been presented in a separate document entitled "Guidelines for Communication Materials on Improved Sanitation in China".

The methodology used included observations, interviews and discussion with farmers, wives of farmers, women cadres, village masons, village leaders, township and county magistrates, the provincial staff representatives of the Patriotic Health Campaign Committee (PHCC), Public Health Bureau (PHB), Health Education Institute and Water Resources Bureau (WRB) during 13 days in Henan province, as well as discussions and presentations with the NPHCC and UNICEF staff in Beijing.

2. Sanitation in China

The use of excreta as fertilizer for agriculture is a fundamental part of the Chinese culture and behaviour. In this respect China is unique in the world. Traditional latrines are usually a dug hole with two stones, from which excreta are scooped out regularly and stored for direct use in the fields. Or ditch latrines are located above ponds.

Any sanitation programme aiming to cut the pathways that exist to transmit diseases by using untreated manure has to take this strong "excreta is fertilizer" perception into account.

Safe excreta management technologies in use in China are: in the hotter climate of the South the three component septic tanks option is the most appropriate, but most costly option. In the cold Northern parts of China the very deep pit latrine is also a costly option. Other options used are composting latrines, biogas digestion and flush toilets. The double urn latrine as developed in Henan Province is the most appropriate for the climate in the central part of China.

Latrines are only one part of an excreta management system. Effective use, cleaning and maintenance of the latrines, personal hygiene (especially handwashing after defecation and before touching food) are equally important. The China Low-Cost Rural Sanitation Manual (draft 1991, which is constantly being updated) developed by NPHCC, with assistance from the UNDP/World Bank Water and Sanitation Program, summarizes the requirements of a non-hazardous latrine as follows:

1. protect the environment from manure pollution and enable the hygienic use of human waste for agriculture,
2. prevent contact with manure by flies and other disease-spreading insects,
3. operate in conjunction with excreta treatment that is to a safe, hygienic standard,
4. supply treated manure for agricultural crops,
5. be maintained in a clean, tidy, sterile and odourless condition,
6. be operated within established sanitary regulations, enforced by appropriate management
7. be properly laid out with washing facilities and equipped to prevent maggot and fly entry.

2.1 The work of the National Patriotic Health Campaign Committee

The National Patriotic Health Campaign Committee (NPHCC) is responsible for leading, integrating and coordinating health campaigns and prevention of diseases in the whole country. It is headed by State Councillor Mrs. Peng Peiyun; all related ministries and committees are members of NPHCC. It is located in the Ministry of Health. The Minister of Health, Mr. Chen Minzhang, is the Director of the Executive Office of NPHCC. Water supply and environmental sanitation and health education are among the NPHCC's responsibilities (see Appendix 1).

The NPHCC has been involved in promoting improvement of latrines at the national level since the 1950s. In the late 1980s this promotion was stepped up in parallel with the success of the improved latrine campaign in Henan Province. Since 1989, three experience exchange meetings have been organized, one for the Northern provinces, one for the Southern provinces and a national one. The NPHCC has conducted studies on non-hazardous treatment of excreta and developed criteria for examination of night soil. It is also involved in demonstration work on improved latrines in 43 counties and 37 demonstration villages for comprehensive health.

In 1993 the NPHCC did a nation-wide Sanitation Survey in 470 counties, involving 470,000 households and 3.4 million people. Outcome showed that of the 85.9% of the household latrines, only 7% are sanitary, 13.5% are providing non-hazardous treatment, 34.3 % of the nightsoil is collected with limited treatment, and 95% of the manure is being reused as fertilizer, or other energy source such as biogas.

In November 1994, the State Education Committee, together with the NPHCC did a survey in two counties each of seven provinces about the sanitation and water situation in primary and secondary schools. Results are expected to become available in February 1995, after which remedial actions will be proposed to the leaders of the country.

Right now there is no national monitoring system for environmental sanitation in operation. NPHCC plans to set up a national monitoring system for environmental sanitation, which is scheduled to result in annual progress reporting.

Shortly, the NPHCC, together with three ministries, will start on a national health education campaign for the 900 million farmers, in which water and environmental sanitation will also be covered. Ministries involved are those of Public Health, Agriculture and Communication. The National Health Education Institute (part of NPHCC) will be producing communication materials on 12 subjects. NPHCC and Ministry of Health will provide scripts and guidance.

The strategy that the NPHCC employs to achieve the goals for 2000 consists of the following points:

1. put latrines as a management goal in government work,
2. increase the capacities in management skills,
3. strengthen hygiene education and behavioural change of people first,
4. do construction, maintenance and use later,
5. PHCC will provide training, communications and research,

6. find out low-cost technologies,
7. strengthen advocacy for leaders and social mobilization for alliances with other sectors,
8. strengthen annual monitoring and evaluation,
9. strengthen scientific principles.
10. introduce more external experience and organize additional funds from external support agencies.

The main problem for the NPHCC is the lack of priority given to sanitation and the lack of consistent communication planning and communication materials for sanitation, which leads to insufficient and irregular budget allocation.

3. Sanitation in Henan Province

Henan Province is situated in central China, see the map below. With 88 million population, it was in 1987 the most densely populated area of China. It is an important agricultural producer; wheat, maize, cotton and apples are the main crops. Income per capita it is not very high.



The early days

From the 1950s to the 1970s the departments of Agriculture and Husbandry and Public Health have done a lot of exploratory work to reform the traditional latrine in the rural areas of Henan province, advocating different types of latrines. But all these failed to be widespread, for various unexplained reasons (Yang Longpeng 1990).

From 1977 to 1981, Mr. Song Lexin, Physician of the Health and Epidemic Prevention station of Yucheng County, and Mr Xu Guoxiong, Chief Physician of the provincial Health and Epidemic Prevention Station began a study on latrine reform on the basis of the front-pool-back-jar latrine. They first developed the single-chamber funnel latrine, which they changed into double jars, inspired by the three-chambered septic tanks developed in other provinces.

Their study showed that this toilet helps towards a higher effectiveness of manure and has a more powerful effect on extinguishing pathogenic bacteria and eggs of parasites. In 1983

their latrine won the third prize in a Provincial Government contest for important scientific and technological achievements. For various reasons its was not spread then. But after some newspapers reported it, many peasants tried to build this kind of latrine spontaneously and found it favourable.

In 1988 staff of the Public Health Department in Henan found in a health survey that intestinal infectious diseases were prevalent. The health authorities in Henan decided to give prevention and control of these diseases priority in their epidemic prevention work. The main proposed measures were management of water, management of excreta, management of food and extinction of flies.

The involvement of leaders

PHCC people in Henan province made use of every opportunity and meeting to get the leaders committed to the improvement of latrines. In early 1989 the 13th Provincial PHCC meeting proposed to spread the double-jar funnel-shaped latrine in the whole province. The provincial government took over the suggestion, on paper. But again, the idea failed to attract due attention. More than six months passed and nothing had been done. To change this, the provincial PHCC organized a meeting from 6 - 7 Oct 1989 to exchange experience on latrine reform and management of human excreta in rural areas in Yucheng County.

This first meeting was attended by 150 people, local PHCC directors, bureaus of Agricultural and Husbandry, magistrates and directors of the provincial government. Yu Youxian, Vice Governor addressed the meeting and proposed a three-year approach: pilot experiments in the first year, spread in the second year, and achievements coming in the third year. They also visited the improved latrine demonstration villages that by that time had been organized by Mr Song Lexin.

By that time also, various newspapers and radio programmes reported on the latrine revolution in Henan. During the mission's visit to Henan the Vice Director of the Public Health Bureau in Zhengzhou explained how one of those newspaper articles played a role in drawing in the support of high level leaders. In early 1990, the Governors of all provinces were to report their annual progress on Education to State Councillor Mr. Li Tie Yin, in Beijing. Informally these meetings were also used by provincial health leaders to brief the State Councillor on the health situation in their province. The Ministry of Public Health phoned the Henan PHB people shortly before this meeting with the State Councillor, asking them to grasp this opportunity to let the Governor himself present a case study of health promotion. The Henan PHB had only one day to prepare the case, and presented the improved latrine promotion campaign, which had started in 1989.

The Public Health Bureau in Henan wrote the paper for presentation to the State Councillor and attached a newspaper article about improved latrines. The Governor used this in the discussion with the State Councillor. The Henan document was the only one on which the State Councillor commented. He wrote in the margin of the newspaper article "This is worth further promotion, especially in the prevention of schistosomiasis areas. Minister Chen Minzhang: please investigate and take action".

Following up this push from a high-level outsider, Minister Chen Minzhang (Minister of Public Health and Deputy Director of the NPHCC) was quick to react. Only weeks later, in March 1990, he headed a delegation of central ministries and commissions concerned and the directors of Public Health Bureaus of the 12 provinces in South China to look at the Henan double jar funnel type latrine experience. This event drew in high level support and made Henan go far ahead in latrine promotion.

Why the leaders pay attention -

The reasons why high government and party leaders in Henan have paid attention to sanitation are a mix of perceived economic, political and public health benefits.

During the first field trip to Henan province of the Vice Governor in 1989, a villager made a very clear and strong plea to the Vice Governor for wider promotion of the double urn latrine . According to Mr. Ma Zengyin, Vice Director of the PHCC Office in Henan province, and present at the occasion, this was the most convincing argument that made the Vice Governor into a great supporter and promoter of the latrine improvement programme (personal communication).

Vice Governor of Henan Province, Zhang Honghua, during the 10th meeting of the NPHCC in February 1994, explained why the provincial Party Committee and provincial government leaders pay great attention to improvement of latrines:

- it vigorously develops agriculture,
- it improves health conditions in rural areas,
- it is 'doing good deeds' for the masses, and
- it builds closer relations between the party and the masses (Zhang Honghua, 1994).

The negative effects of dirty latrines and toilets on China's international reputation also play a role. Minister Chen Minzhang in his opening speech to the 1993 Nationwide Rural Area Improved Latrine Experience Exchange meeting in Puyang city warned that tourists complain to him and in letters to the leaders of the state, that the good impression of the beautiful China is lost because of the dirty toilets. And although in 1992-1993 the toilets in cities have improved considerably, it was still a big problem for China's bid to host the Olympic Games.

The years of success and the dip in 1993

In the first year of the campaign to promote the double urn latrine, all the levels of government had produced concrete programmes, raised funds, and had mobilized the villages. In 1991, 1 million peasant families built a new latrine or improved their existing one. In 1992, 1.1 million additional units were built or improved. In 1993, the rural area latrine improvement was made the focal point of the Patriotic Health Campaign in the whole province.

In May 1993, all activities halted suddenly. This was caused by the confusion emerging from the instruction by Premier Li Peng that burdens for the peasants should be avoided. Some counties saw forced latrine building as a burden, and the construction promotion stopped. The Ministry of Public Health wrote to the Premier that, if China wants to

achieve its goal of Health for All by the year 2000, the improvement of latrines, water and health should be exempt from the 'reduce burdens' policy. By September, it had become clear through various channels that Premier Li Peng and Vice-Premier Zhu Rongji did not want to cancel improvement of latrines, but rather that this should be strengthened.

To achieve as much as possible of the 1993 campaign, NPHCC convened a second nationwide Rural Area Improved Latrine Experience Exchange Meeting in Puyang city in Henan province, in September 1993. In that meeting Minister Chen Minzhang spoke highly of the latrine improvement work in Henan province. This gave the programme another boost. Meetings at local level after this and hard work in counties, townships, and villages, made it still possible to construct 930,000 improved latrines in the latter part the year.

"Reduce burdens for farmers" still active

Early 1995, this mission found that traces of the 'reduce burdens for farmers' problem still exist in Henan. Some village leaders said that little action on improved latrines had taken place in 1993 and 1994. Even a deputy magistrate said that, in his area, no latrines had been improved since 1993 because of this policy. The Agricultural Bureau in Henan has played a limited role in the improved latrine programme in 1993 and 1994, compared to their input in earlier years. The mission made considerable effort at all levels in Henan to talk to representatives from the Agriculture Bureau, but did not succeed in making contact.

When asked about this confusion, the NPHCC office in Beijing said that in 1995 the Agriculture Ministry, with inputs from the NPHCC will perform a study to confirm that improved water supply and environmental sanitation efforts should be strengthened rather than reduced. NPHCC stresses that most of the costs paid by farmers for improved latrines can be earned back within a year or two, because of the agricultural benefits of the improved manure. They will report this to the State Council, with the advice that this practice has been working effectively for years now.

What next

A December 1994 document provided by PHCC Henan reports that, by the end of June 1994, 4.03 million latrines had been improved, accounting for 23.1% of the rural population. According to provisional figures received on the last day in Henan, 1.1 million households improved their latrine in 1994, bringing the total to 4,982,813, or 29.31% (PHCC Henan 1994).

The new Vice Governor of Henan Province, Mr. Li Zhi Bin, announced during the final dinner that in a few weeks' time a new promotion campaign on improved latrine will start and will continue until 2000, with higher targets set for all levels than in the earlier improved latrine campaign.

4. Policy issues

A number of national policies exist in China which are supporting the promotion of sanitation. The major ones are mentioned below.

In 1987 the Chinese Government issued "Hygienic Standard for Safe Treatment of Excreta" (GB7959-87), which formulated different requirements for different treatment systems.

Since 1988, the Agriculture Ministry has been implementing the State Council's "Instruction of paying great attention to and enhancing use of organic fertilizer" (1988). In 1989 the Law for Prevention and Control of Infectious Diseases was issued. It determines that "every local government would develop and improve the public health facilities in a planned way and carry out safe treatment of sewage, dirty water and excreta", thus providing a legal basis for safe treatment of excreta in China.

In follow up of the international healthy city campaign, NPHCC has also introduced the Clean City campaign in China, in which improved public and private latrines are an element. In two "clean cities" in Henan province, Shanqiu and Puyang (in the whole of China 120 cities have this status), the mission saw that city authorities pay great attention to this campaign, and visited improved public latrines.

China is also committed to the Health for All by 2000 goal. NPHCC has translated this goal for China into improved sanitation coverage for 35% of the poor people by the year 2000, and for 45% of those having adequate food and clothing. For the moderately well-off people the goal for 2000 is 70% coverage, for well-off people it is 80% coverage. Henan Province has translated this policy into action and sets goals for each county.

The NPHCC has published instructions to the provinces on how they should try to reach the goals for sanitation in the year 2000. The NPHCC has set two standards for the sanitation improvement programme:

- Sanitary latrine standard: the latrine must have walls, roof, no flies and no smells.
- Non-hazardous waste treatment standard: reduction of *E coli* to less than 10^4 , of helminths by 95%, and of hookworm by 100%.

Two other policy measures play a role in creating the higher levels of latrine coverage in Henan Province. The provincial authorities have made rural area latrine improvement one of the 18 indicators for villages to qualify as 'comfortably-off' village. It is also one of the 10 indicators for cadres' performance.

Some places in Henan province have stipulated new building regulations, which help sanitation. When they give out ground for new houses, the design must include

construction of a sanitary toilet. Building inspectors should check and reject a building without an improved latrine.

In the effort to spread Henan's latrine revolution to other provinces, Minister Chen Minzhang has advised to first tackle the easy townships and counties, and use them as demonstration sites for further expansion.

5. Organizational aspects

Improvement of latrines is one of the important parts of PHCC's responsibility. It is not possible to find out from the PHCC at the national level or provincial level in Henan how much of their time and money is spend on this part of their operation.

PHCC staff at all levels in the Province amount to between 500 - 600. Each of the 118 counties has one Epidemic Prevention station staff member who is responsible for environmental sanitation (Ma Yunxiang 1995). There is usually also one Health Education staff member at county level involved in improved latrines, according to Dr. Ma Yunxiang, Deputy Director PHCC. This brings the total number of people at county level who are intensively involved in improved latrines in Henan to approximately 1,000. Another 1,000 (county magistrates, Public Health Bureaus, Water Resources Bureaus, Agriculture Bureaus may be involved occasionally.

Village leaders, village doctors and women cadres have been occasionally involved in 2,000 to 3,000 villages which were involved in the latrine improvement programme, or 10% of the total number of villages in the province. The limited staff available and the campaign approach forced the PHCC in Henan province to first target the easy-to-reach, moderately and better off counties and villages in the improved latrine campaign. A major challenge until the year 2000 will be to spread the improved latrines also to the poorer villages.

In Henan province technical assistance teams were established at county and township level involving specialists from the PHCC, PHB, WRB and Agriculture Bureau. These teams went to the villages and assisted in training local masons and technicians in construction of the double urn latrines.

Good use has been made of demonstration villages with improved latrines in one county or township that can demonstrate the benefits to farmers. Minister Chen Minzhang has stressed that cadres, village leaders, rural area school teachers and village doctors should give a good example for the masses. If they do not improve their own latrines, it would be difficult to convince the masses to do so. Also, township hospitals and schools should serve as demonstration sites for latrine improvement.

During the mission it was found that village leaders, village doctors and masons were not always good role models. Some of them did not have an improved latrine themselves, or if they had one, did not know how to maintain it.

A very strong point about the Henan latrine promotion experience is that only local resources and existing organizational structures have been used.

In most of the villages visited, it became clear that the PHCC and PHB people have been able to use the existing organizational structure at village level (village leaders, cluster leaders and masons).

The mission heard numerous times from PHCC officials, village leaders and villagers that the Chinese villagers are still very much following what their leaders say. As such, that is a top-down approach, but in better and moderately off villages and townships with strong leadership, it seems to have worked for the construction of latrines. For effective and sustained use of the latrines, and improved hygiene behaviour like washing hands after defecation and before touching food, a more participatory approach in dialogue with the community and with respected role models works best in other cultures. Whether or not this is also the case in China needs to be further researched.

Promotion of improved latrines in Henan province has focused heavily on construction of the double urn system without a balanced integration of operation and maintenance issues and hygienic use.

An ongoing monitoring system to follow progress and problems in the improved latrine programme in Henan is not in place. Occasional spot checks concentrate on construction figures rather than on the effective use of the latrines.

Only limited involvement of women was found in operation and maintenance, effective use and cleaning of the improved latrine and other hygiene behaviour such as flushing, putting the cover on the funnel and handwashing.

Commitment

The PHCC campaign in Henan has made use of contracts to get more than token commitment from the party and government leaders. The Vice-Governor signed contracts (which included goals and targets) with mayors. They in turn divided the targets and signed contracts with counties. The county leaders did the same with townships, the townships with villages, and the village leaders divided the numbers of the latrines to be constructed per cluster.

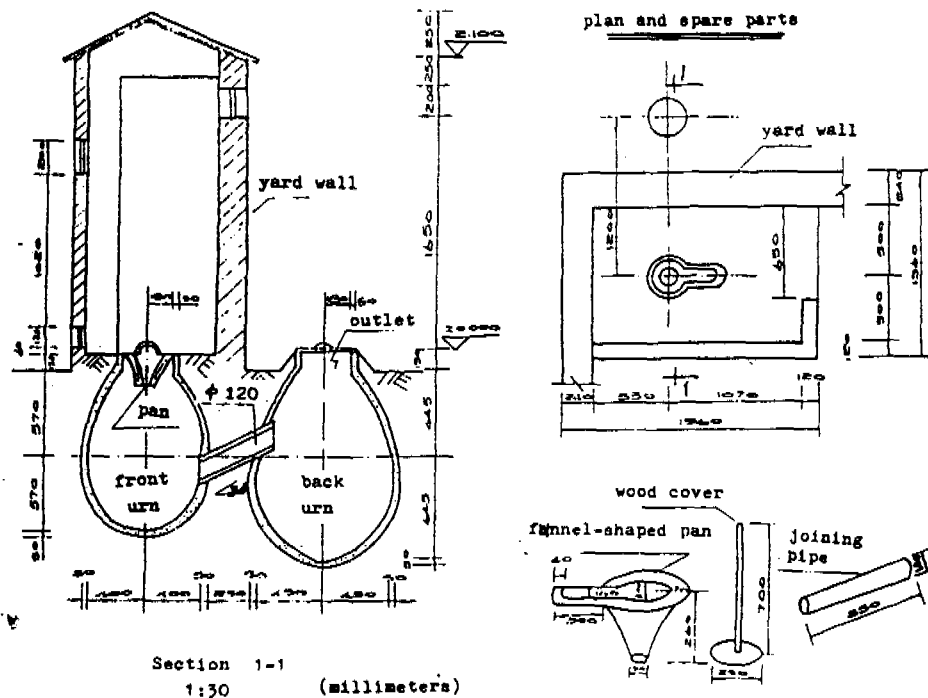
Contracts do not always work out as planned as is shown from the example of Kaifeng's five counties. At the end 1993, this economically backward region had constructed only 30,000 improved latrines. With only 2.84% coverage, Kaifeng was third from the bottom on the provincial list of progress in improved latrine coverage. In 1994 the mayor signed contracts with the five counties for 80,000 latrines, of which 39,830 were achieved, as follows:

	target '94	achieved
Taifang	14,000	11,000
Lankao	14,000	14,500
Wichi	14,000	850
other	14,000	NA
Qiuchen	14,000	2,448
Kaifeng	10,000	11,000

6. Technical aspects

The double urn latrine in Henan province consists of four parts (see figure 2): a funnel-shaped, removable, but tightly fitting pan, a front and a back urn and a joining pipe between the two urns. They are made of cement mortar, bricks, earthenware or plastic.

Figure 2. The Latrine with funnel-shaped pan and double urns, Henan China



Through the funnel shaped pan excreta drop down in the first urn. There is no need to flush the excreta down with water every time some one has defecated. The pan covers the front urn tightly to prevent flies and larvae escaping from the cracks. A locally made cover should be used in the funnel opening to prevent flies, larvae and odour from escaping.

The front urn is based on a traditional design and has a big abdomen and small mouth to facilitate excreta fermentation. The 0.3m^3 volume is enough to receive urine and excreta from a family of five persons. With retention time of over 40 days, fermentation and precipitation of organic materials takes place. The joining pipe runs from the lower and middle part of the first urn to the middle and upper part of the second urn at an angle of 30 degrees to keep faecal liquid in the front tank at high level. The effluent from the middle layer overflows in the back urn, where the liquid manure is stored, and from which the farmers take the manure at any time for fertilizer.

The double jar funnel type is the first choice in Henan province because:

- it has a simple structure,
- it is inexpensive to make (underground work 20-100 Yuan),
- preservation of the fertilizer effect of the manure stored is more than twice that of old fashioned toilets,
- in a 3-months storage period, 75-95% of the nitrogen content is retained.

Because of the fermentation process in the first jar, the double urn latrine can reduce fly density by 96%. The *E coli* killing rate has been found to be 99%, the sedimentation rate of parasite eggs 99%. Other advantages are that the manure from the second urn no longer contaminates the water sources and the soil. The system can reduce 75% of the intestinal infectious diseases (Xu Guxiong, 1991).

The materials used for building this latrine vary from county to county. Full cement for the urns is used, or a combination of soil mixed with lime, with the inside of the jars strengthened with cement. Pans were made of clay, ceramic or plastic. Pans have to be removable in order to clean accumulated sludge from the first jar once a year. The superstructure is usually made with brick walls and tile roofs. All these materials are available locally. Construction of the jars usually takes place at the village level, after some training has been given to a few masons or other technicians in the village.

Problems encountered during the mission include:

- insufficient quality control (fixed pans instead of removable ones),
- hardly anyone is aware of the right procedure to take the sludge out of the first urn and dispose of it hygienically once a year,
- sometimes manure is also taken out of the first urn, thus spreading a high level of bacteria and pathogens,
- insufficient maintenance of the first urn, may be due to lack of knowledge of what are the adverse effects both for health and fermentation,
- hygienic use not practised sufficiently (cover not in place, insufficient cleaning, no brush available for cleaning, or no bucket for paper),
- sanitation promoters such as village leaders and trained masons do not always provide good examples of proper improved latrine construction, use and maintenance

Some of the latrines inspected were long overdue for desludging. In these cases, the good design features and pathogen removal abilities have been negated by the failure to desludge at the correct, regular intervals.

7. Promotion and marketing activities

In the Henan latrine improvement programme special attention has been paid to what is being called "propaganda and education". To popularize the double jar funnel type latrine, a mix of media has been used. Newspapers, periodicals, wire radio, television and videos were mentioned in various reports.

Those reports also identified key messages for cadres as well as villagers, explaining why latrine improvement is important. For the cadres these messages include:

- a. it increases agricultural production,
- b. it contributes to national quality,
- c. it helps China's "reform and opening" policy,
- d. it enhances China's international reputation,
- e. it contributes to Health for All by 2000,
- f. improves health knowledge, changes prevailing habits and customs.

The key messages on improved latrines for the masses include:

- it is good for health, beautifies the environment in rural areas, and decreases diseases;
- it increases production through better fertilizer, improves the soil, and realizes high and stable yields in agriculture;
- the input needed is small, the benefits are high.

When checking on the existence and use of communication materials in Henan province the mission found that only in some counties has occasional use been made of county TV broadcasts, and radio and village wire broadcasts. The mission found four video productions and looked at three videos, which had had only very limited TV screening. Two were from Puyang, one from Yucheng (PHC in the year 2000 on improved latrine benefits and impact), and one 40-minute one from Linzhou. The Yucheng one was the best one, and had been shot in U-Matic; 200 copies of it have been sold to visitors at 100 Yuan.

In 1993, the health and economic benefits were reported by Dr Xu Guoxiong. He calculated that a family of four, collecting 2000 kg of urine and faeces per year, increased wheat production by 16%, and corn production by 26%. In money terms, this would mean that 121 Yuan additional income could be earned, and that the initial investment would be recovered within a year. "This kind of benefit is rather direct, it can be seen and touched by every farmer. The farmers are convinced, and accept the improved system, and are therefore becoming one of the basic reasons for the vitality of the double jar toilet".

In households which have an improved double urn latrine, the mission found that users identified clear benefits. In general, women mentioned 'no smell' and 'no flies'. Men identified 'better manure' as benefit number one, leading to higher crop production and higher income. In villages in which preparatory meetings and training on improved latrine construction had taken place, but where construction had not started, most of the wives

were not aware of the programme. We learned that in most information meetings organized by village leaders, mostly men attended, and only a few women.

In one of the earliest demonstration villages, Chihuazhuang in Yucheng (1,401 population, 315 households and 100% improved latrine coverage in 1989/1990) the village leader found the manure to be very effective for his apple trees. "The apples are much bigger and sweeter". He later said that his apple production is 20-30% higher than before, bringing in 20 fen per pound additional income.

In the few control villages the mission was able to visit in Henan there was no awareness of the existence and benefits of an improved latrine. Even in the suburb of Xisu/Kaifeng, an owner of a two-storey house who had invested 30,000 Yuan in his house and 500 Yuan in a sanitary two trench latrine had not been aware of the double urn latrine, which would have been 200 Yuan cheaper.

Other problems encountered include:

- PHCC in Henan province had and has no communication strategy and plan in operation,
- the masons who were trained in construction of the latrines were not asked to communicate hygiene messages,
- there is a lack of staff trained in communication,
- national and county television charge money for public health broadcasts,
- insufficient use has been made of the mass media in the media mix.

A good example of the use of different communication tools used in improved latrine comes from Nanle (report 1992 from booklet).

Nanle county adopted as a goal the improvement of 38,000 latrines. They achieved 50,000 in one year (+65% coverage), by signing contracts with goals to be achieved at all levels, rewards of 1,000 Yuan and fines of 1,000 Yuan, and making village leaders responsible for:

- implementation of improved latrines,
- timing and quantity,
- rewards and fines,
- mobilization of other cadres.

A 24-man county construction group assisted in the work in 12 townships. Each township trained 3 to 5 persons to assist the villagers. In each of the villages, 2 to 3 masons were trained. This resulted in a network of 600 technical staff having been trained in the county.

To raise awareness, various meetings were held in the county; county and township staff made 80 narrations which were broadcast over the radio and village wire system, and more than 3,000 slogans with "improve our latrines and we can compete with the city" were put on walls and banners, and 70,000 printed materials distributed. According to the report, altogether, these communication tools reached 250,000 contacts. This has spread awareness about improved latrines in the county and created a positive atmosphere for improved latrine promotion.

The county also organized good demonstration sites. Party members, village leaders and village cadres were the first to construct improved latrines.

Quality control was ensured by technical teams from the county on design, measurements and capacity to construct. The materials were bought collectively, the urns were produced and installed collectively. PHCC assigned 6 staff who went in two groups to the townships to investigate problems and resolve them and guarantee the quality of the improved latrine.

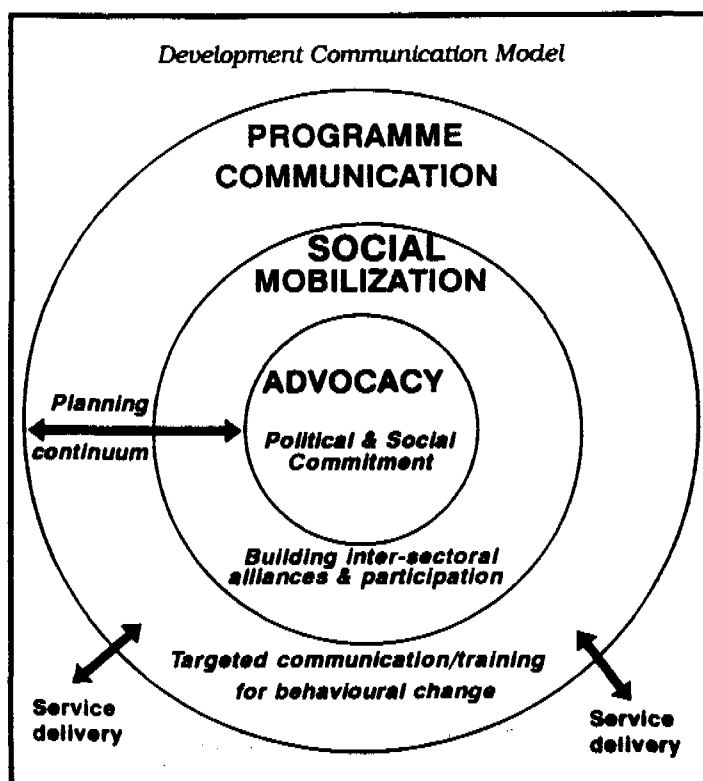
The improved latrine programme in Nanle was pushed by a very active female magistrate.

At the end of the investigation in Yucheng county, the Deputy Commissioner of Shanqiu (he and the county magistrate Yucheng both accompanied the mission) said that it had been a great opportunity to experience what was happening on improved latrines at the grassroots level, in relatively well to do villages. Through the visits and the replies of villagers to the mission's questions about income level, costs and benefits of the improved latrine he had learned a great deal about the household conditions, and the benefits as perceived by the villagers. This had really changed his attitude towards improved latrines, and he would certainly be advocating for the improved latrine programme in his future work.

Looking at the Henan experience with latrine promotion from a global perspective, it can be said that the provincial PHCC has done a good job on *advocacy* for sanitation: getting

political and social commitment (see the Development Communication Model as developed in Bangladesh in figure 3). From 1990 - 1993 the inter-sectoral collaboration for latrine construction worked effectively. Since 1994, this *social mobilization* of partners needs to be improved. Activities in *programme communication* for sanitation to facilitate behaviour change were also not taken up sufficiently.

Figure 3. Development Communication Model (McKee 1993)



The Henan latrine promotion experience also confirms another major lesson from health communication programmes. Advocacy, social mobilization and programme communication activities do not necessarily happen in a consecutive order. In general, advocacy begins the process and leads to social mobilization and programme communication. But the "planning continuum" arrow on the circle is two-directional because advocacy is needed at various times in a programme's life, not only at the beginning. In Henan province, for instance, the new latrine promotion campaign towards the year 2000 will require new advocacy activities, followed by new social mobilization work and programme communication activities. In other provinces in China, the national PHCC and UNICEF have to start with advocacy work before they can get effective partners mobilized and programme communication activities developed.

For a more detailed overview on communication materials used, suggested communication strategy for latrine promotion and communication tools, see the separate document: "Guidelines for communication materials on improved sanitation in China".

8. Community involvement with gender focus

The 1990-1993 latrine improvement campaign has been very much a top-down approach. Planning was done by the PHCC at provincial, county and township level. Targets were passed on to village leaders of better-off and medium villages. The village leaders organized village meetings and mobilized the households to participate collectively. Even in the socialist market economy that China now is, the custom of villagers following what the leaders want is still very strong.

The mission found limited involvement of women in O&M, hygiene education, and monitoring. Yet they are usually doing the cleaning of the latrine. In winter time, that is mostly done with a brush and a little water every two or three days. In summer, it is usually done once per day. In a number of villages women helped by carrying bricks during construction. In some villages All China Women Federation cadres have been involved in mobilizing the villagers, and assisted in construction.

In households with three generations in the family, separate latrines were in use for male and female family members.

In general, the village women interviewed spontaneously mentioned the reduction of smell and flies as the main benefit of their improved latrine. Privacy does not play a role in latrine use in China. In a few villages, latrine improvement had been linked with solar showers. Status seems to play a limited role. The richer households were obviously proud of their mosaic and ceramic flush toilets and bathrooms. On the other hand, people invest a lot of money in new houses without bothering to invest 200-300 Yuan in an improved latrine.

None of the translated Government documents mention the involvement, interest, acceptance, or responsibility of women in planning and implementation of latrine improvement work.

The UNICEF 1994-95 WES programme (p 173) under 'principles for WES cooperation' mentions that "active participation of target community members in general and women in particular, will be sought through all the stages of planning, design, training, and implementation". Furthermore (p 174) one of the main strategies is identified as: "Encourage the full participation of women in all aspects of the programme, especially in training and social mobilization activities. A 25 % target representation of women in training programmes should be attained throughout the programming period".

Yucheng county, where the double urn latrine was developed and where the provincial latrine improvement campaign was started in late 1989, provides the case for a bottom-up approach. Improvement of latrines already started in 1987 in a few villages in Yucheng county because of the efforts of "Mister Latrine", Dr. Song Lexin. He patiently worked with the villagers, without forcing the improved latrine on them.

Dr. Song gave up a post as physician at the township hospital to work at an EPS station and promote his double urn latrine, by going from village to village on his bicycle, with a bottle of water and some modest food. For days he would discuss the benefits of his latrine with the villagers. After they agreed to experiment with a demonstration latrine the villagers were gradually able to see with their own eyes that the manure from this latrine made their apples grow bigger and taste sweeter. Now, the villagers are utterly convinced that their village has become relatively rich because of the improved latrine. They are also well aware of the health benefits. Most of the latrines are still kept very clean by the women, even after eight years.

The mission visited three villages in which Dr. Song Lexin had worked, and in which 80 to 100% of the households are using the improved latrine that he and Dr Xu Guoxiong developed in the late 1970s and early 1980s. These three villages probably represent the best of what the latrine revolution has to offer:

- nearly full coverage,
- mostly clean and well maintained improved latrines,
- nearly full payment by the beneficiaries,
- income increase through better quality apples and other crops,
- demand- driven spreading of improved latrines to neighbouring villages and the county seat,
- hundreds of villagers earning between 20 and 35 Yuan additional income for each double-urn latrine they build elsewhere.

The mission interviewed two masons who had build 50 of these latrines. One of them was asked if he was advertising his skills in constructing the double urn latrine so that he could earn additional income. "Sure", he said, "but villagers listen more to the leader than to a mason". The answer illustrates the important role that the leaders play in Chinese society.

9. Financing and Costs

The financing and costs of the latrine improvement promotion programme in Henan province are difficult to gauge. The provincial PHCC has an annual budget of 300,000 Yuan per year for latrine promotion work. No record is kept of how much time the staff of PHCC, WRB, HEI, and the Agriculture Bureau at all levels are spending on latrine improvement work.

The costs for material and labour for the underground structure vary, depending on the location, type of materials used, transportation costs, regional price differences and digging arrangements. Two jars made from concrete, with new bricks and a ceramic latrine pan, cost 100 Yuan, excluding the digging of the holes. Earth digging by two labourers in two days adds another 30 to 40 Yuan. If existing bricks and sand and lime stone are being used with a cement latrine pan, the material and labour costs are reduced to 60 Yuan.

The costs of the above ground structures vary greatly depending on the materials used. They range from mud walls to brick walls, tiled roof or prefabricated cement slab. Better off families use ceramic tiles, floor bricks and mosaic to cover the floor. In some villages a solar energy shower cubicle or methane-generating pit has been linked with the improved latrine.

In villages that PHCC is selecting as demonstration villages and those having a rich village enterprise, the full costs of the improved latrine are taken care of by the agency. In the other villages the township or village are only contributing the latrine pan or a little money as incentive for the villagers. In practice this means that the communities are paying 90 percent of the total costs for their improved latrines themselves.

As noted before, the Henan latrine improvement programme initially focused on the middle income and better-off villages, where money is available. In the poorer villages which are targeted in the new phase of the programme, financing of a large portion of the latrine construction by the communities will be more difficult. Appropriate revolving fund and credit systems will have to be developed for those villages which have the possibility of earning back the costs of the improved latrine by higher income from their crops, which improve as a result of the better manure.

In a field visit to three villages in 1993 Minister Chen Minzhang found that latrine improvements there had all been subsidized by the government (40 to 150 Yuan). With incomes of the rural masses at between 500 to 700 Yuan for those who are not of the "dress-well and eat one's fill" category, the problem of funds is difficult, the minister acknowledged. But the majority of the people, and especially the better-off families, can afford the investment in improved latrines, which can also be earned back within a year. "The economic problems cannot be regarded too seriously", the minister said.

Nanle county provides one example of ways to overcome the funding problems. Some townships here used money from the social welfare fund to subsidize the latrine

improvement work. Many township leaders gave their own bags of cements to the poor. Township Finance Bureaus organized loans for the Material Bureaus to buy bulk materials at discount rate. This was passed on as options for the villagers:

- take materials first, construct the improved latrine now and pay later, or
- 20% discount on materials price, or
- no transport costs.

In 1991 Nanle county and villagers invested 2.54 million Yuan (of which 150,000 was loan) to push improved latrines.

To motivate grass-roots level cadres to perform well in rural sanitation work, the provincial government has had since 1991 an Award Fund of 300,000 Yuan per year available, which is managed by the provincial PHCC. Some municipal governments also put in some funds to reward or subsidize rural latrine improvement, ranging from several tens of thousand to hundreds of thousand of Yuan (Puyang, Jiaozuo, Xinxyang, Pingdingshan, Luohe and Zhengzhou). In Puyang, for example, the government accepts the policy "Family invests some money, village provides labour, township subsidizes, municipal and county governments award".

The awards range from 1,000 Yuan for every additional 10,000 families with sanitary latrines at the municipality level to a bonus of 10,000 Yuan for counties which achieve 80 % of their farming families having a toilet.

Many counties have set up special starting funds for toilet improvement, or provide low-interest or interest-free loans to the poor villages and families. Other townships and village committees use part of the public welfare fund and collective enterprise profit on rural area toilet improvement.

The mission found counties and townships which have used this award money. Some villages used part of this award money to subsidized improved latrine in schools or the poor. Others used it to replenish the village funds from which money for improved latrine support such as materials had been paid.

Private sector involvement

Minister Chen Minzhang in 1993 welcomed the participation of industry in latrine improvement. Professional families and enterprises participate, and can also assist in installation. He mentioned that he was thinking of having specialized production factories coordinate with NPHCC's latrine improvement work. "I do not promote medicines much, but for sanitary toilets I want to help in energetic propaganda, and I don't take sale commission", the minister said.

He saw advantages in involving small peasant enterprises for a better assured supply of materials, in more varieties and in production in series. Linking the latrine construction with construction of showers on solar energy the minister considered this to be a very big market, as it also includes maintenance, repair and utilization of fermented faeces.

The mission found that private sector involvement has suffered from the 'Reduce Burdens to Farmers' instruction. Three enterprises were visited which had been set up with the active support and guidance of the Provincial PHCC staff.

The Sanitation Products factory in Zhengzhou at the end of 1992 invested 200,000 Yuan for a production capacity of 6,000 double urns and pans per year. They produced 1,000 sets in 1992 and the same number in 1993. They sold 1,400 sets, have 600 sets on stock and produced nothing in 1994. The three owners (who are also farmers) took a 100,000 Yuan loan from the bank to buy materials. Staff are hired when needed. The sets sell at 120 Yuan on which they claim to make 10 Yuan profit. They have a one-page information sheet, which they used at markets and was also handed out by PHCC staff. Owner Mr. Zhang Jinzhu is confident that better times for improved latrines will come, and feels that his capital is safe in the sets that he has on stock.

The Plastic Printing Factory in Shanqiu had made 800 plastic sets of urns and pans in 1992 following the so called "Red Hat" document on manure use from improved latrines published by the Agriculture Bureau. The sets sell at 200 Yuan, with a 50-year guarantee. They sold 100 sets in six provinces, mainly to PHCC offices. On the request of PHCC, the plastic set was demonstrated during the 1993 Puyang exchange meeting and the management had hopes on more sales.

The owner here complained that he had to take a loss of 800,000 Yuan because of the collapse in the market as a result of the "Reduce burdens to farmers" policy. The factory had to destroy 700 sets, and reused the plastic in better marketable products such as basins, containers, and washboards. The factory is now producing plastic latrine pans. So far, about 100,000 pans were sold at a price of 7 Yuan in Henan and other provinces.

The Xiazhoang He Pottery and Pipe Factory in Mixiang county has taken up production of ceramic pans in 1990, as an additional product. The local PHCC people have supported the development. This village-run factory has produced and distributed, at 12 Yuan per pan, hundreds of thousands of pans. Factory managers from other townships have visited Mixiang and have set up at least ten other latrine-pan production factories. Some of them sell at 10 yuan per pan, but are of lower quality. The manager from the Xiahoang factory claimed that there is a large enough market for a lot of competitors.

Possibilities for local masons to earn money on improved latrine construction exist, but hardly in villages in which PHCC follows the mass approach. The construction of the latrine is relatively easy, and if villagers have seen it demonstrated they can easily do it themselves. This limits the chance for private latrine builders in the village.

10. Alliances and partners

"I believe in the latrine improvement work. An outstanding achievement can be performed in China. It can also provide some valuable experience for the international society. This requires us to join our efforts". This quote from Minister Chen Minzhang in 1993 illustrates the importance of relevant allies.

The Minister mentioned also that Mrs Peng Peiyun (State Councillor and Director of NPHCC) "energetically supports" the latrine improvement work. "She thinks that water and latrine improvement are basic sanitary measures for the rural areas". She also suggested that the existing family planning network can be used to carry on propaganda work for water and latrine improvement as well, the minister said. Whether this is feasible needs to be further explored.

During this mission some village doctors mentioned that they were pleased to be promoting latrines, "something that people want", and not family planning, "what people don't want". The involvement of these village doctors seems to depend mainly on the drive and influence of the local leaders rather than on a deliberate policy of the PHCC/PHB. Effective involvement of village doctors in promotion and monitoring of latrine improvement and hygiene behaviour remains questionable. In the current situation in the Chinese health system they are forced to look for income from the services they provide.

It also became clear from this mission that the collaboration with the Agriculture Bureau in Henan declined after the first campaign was finished and the 1993 problems with the 'reduce burdens' policy occurred. Every effort should be undertaken to ensure effective collaboration between all organizations involved in the new latrine promotion campaign until the year 2000. At the national level, the recently started health education campaign provides opportunities for effective collaboration between the Ministries of Health, Information, Agriculture, and the Health Education Institute.

In the 1996-2000 Government - UNICEF WES Programme the Water Resources Bureau and its allies will demonstrate at county level the benefits of combined increased access to adequate quantities of water, safe drinking water supply, improved latrine construction and use and hygiene education.

School sanitation

Four village primary schools were visited and the sanitation facilities inspected. One had sanitary latrines only, others had improved latrines with funnel pans and big septic tanks. In one of the villages, money from the award that the village had received for completing the targeted number of latrines was used to improve the school latrines also. Some of the latrines were not very clean. Some of the schools had good messages on basis water and sanitation practices in their regulations and on their big blackboards. Water supply for handwashing and drinking was not available close to the latrines.

Basic messages on water and environmental sanitation are not part of the core school curriculum. They form a small part of the personal hygiene course book. In Puyang we visited a demonstration primary school (3,000 pupils), which was using health education booklets produced by the Provincial Education Committee. So far these booklets had not been distributed widely. They concentrate on general personal hygiene issues, but included messages on hand washing and drinking boiled water.

In Linzhou the local PHB has distributed 160,000 copies of 6-page text leaflets to primary schools with basic questions and answers on water and environmental sanitation. In this experimental development county 60% of the schools and 70% of the health centres have double-urn or sanitary latrines with.

The NPHCC in Beijing confirmed that WES is not part of the core curriculum of primary schools. They hope that the recently completed survey on public latrines and water supply at schools in seven provinces will provide sufficient material to convince the high level leaders that improvement measures on sanitation and hygiene will be needed.

Other allies

In a few villages visited in Henan province, women cadres were involved in the promotion of sanitation improvement. This was more related to their position as cluster leaders than as cadres of the All China Women Federation. PHCC and UNICEF should explore more structural involvement of ACWF members in the villages in maintenance, hygiene education and monitoring of effective use of improved latrines.

Other allies that should be drawn in as partners in the promotion of improved latrine use are the mass media, village theatre and folk artists, corporations and firms. UNICEF's plans to try and get the many soap manufacturers in China to collaborate by adding key messages on hand washing to their advertisements should be further explored.

11. Monitoring and evaluation

There is no monitoring system in operation to check if improved latrines reach the NPHCC standards. In Henan Province township hospitals report annually about diseases and water quality and on the basis of reports from village health doctors and irregular spot checks to the PHCC office at higher levels. The village doctors get their salaries from the village and by selling medicines. There is no subsidy or incentive for them to collect proper data. As a result data may be incomplete and unreliable.

PHCC in Henan province does spot check monitoring on all its work in eight prefectures on an annual basis (Dr Ma Yunxiang 1995). This includes monitoring of status and problems. Five groups of 12 people from PHCC agencies visit one clean city, one prefecture, one county, one township and one village.

Improved latrines form part of what these groups look at. Problems emerging from this on-the-spot monitoring in 1994 include, according to Dr. Ma Yunxiang, construction as well as maintenance mistakes. Some of the improved latrines do not have a removable pan, or are built with too small jars. Maintenance problems occur because of clogging through newspaper and thick paper use and sanitary napkins. The PHCC management realizes that training for improved maintenance and hygienic use of the improved latrines is needed, but has no resources available to remedy the problems.

Only a few studies have been done on the environmental sanitation impact of the double-urn latrine programme. Monitoring data over recent years in Henan provided by Dr Xu Guxiong (1993) and during the mission show that the well-managed double urn latrine:

- reduces bad smells, ammonia smell by 47%, hydrogen sulphide smell by 81%
- reduces the density of flies in the latrine by 96%, in courtyard and kitchen of improved latrine villages by 51-72%, compared to the control village.

The faeces and urine reach the NPHCC standard of non-hazardous treatment. From December 1992 to July 1993, Professor Pan Changing of the Environmental Sanitation Monitoring Institute of the Chinese Academy of Preventive Medicine carried out monthly sample monitoring on double jar latrines of 15 families of three villages in Nanle County, collecting 270 data. Average sedimentation rate of ascaris eggs was 95.9%, the average reduction of *E Coli* in the faeces was 87.8%.

All latrines that were found to be hazardous were either inadequately constructed and inappropriately used and managed.

At the five monitoring points in 1988, soil pollution in the courtyards and in the vegetable fields, where the treated manure was applied, was reduced (ascaris eggs by 70.2% and hookworm larvae by 89%). Pollution of vegetables was also reduced. The *E Coli*-group content of the water from handpumped wells of improved latrine villages was reduced by 98%.

The pilot project in Changge County saw annual incidence of diarrhoea drop from 28 to 11%. These reductions were confirmed elsewhere. Puyang County compared the incidence of intestinal diseases in 4-year old children in 1989 and 1992 among 18 townships which reached 70% improved latrine coverage. In 1989 the incidence was 428 per 1000 children; after latrine improvement in 1992, the incidence dropped to 92 per 1000.

Dr. Xu concludes that if the effect from the Changge County could be extended to the whole province, the 75 million agricultural people would suffer 27 million cases less diarrhoea. In saved expenses for medical care, loss of working time and nutrition per patient on an average of 20 Yuan, an economic loss of 540 million Yuan per year could be avoided.

From the National Sanitation Survey in 1993, the NPHCC reported to the mission that in 1993 only half of the improved latrines in Henan province were found to be sanitary. Hunan province, for example, scores much lower in sanitation coverage, but scored 100% on the sanitary criteria. According to NPHCC, this reflects better maintenance, and hygiene behaviour patterns.

12. Recommendations

The mission made a range of recommendations to the PHCC in Henan province as well as to the NPHCC in Beijing. Most of them apply both for further acceleration of the Henan province latrine improvement programme until the year 2000, as well as to the efforts of wider sanitation promotion in China.

On policy issues they include:

- At the central level the Vice Prime Minister and Agriculture Ministry need to clarify and **spell out to the lower levels that "improvement of sanitation is no burden"**.
- NPHCC and key line ministries should **develop a strategy, work plan, and budgets for improved sanitation by the year 2000**. The lessons from the improved latrine campaign in Henan province should be analyzed and applied in sanitation promotion in other provinces in China.
- NPHCC should use the awareness among town and other officials about the **Clean City campaign as entry point** for accelerated improvement of latrine programmes.
- A policy needs to be developed soon on **what financing schemes or credit systems will work to get the poorer villages involved** to improve their sanitation facilities.

On organizational issues the recommendations include:

- NPHCC should review the approach in the improved latrines programme to **integrate latrine construction and key hygienic behaviours**, such as: effective maintenance of the latrine, keep the latrine pan clean and handwashing, as a package.
- NPHCC should **develop a community-based problem-solving oriented monitoring system**.
- NPHCC **staff should be trained on maintenance, hygienic use and hygiene behaviour** around improved latrines, so that in their interpersonal communication with the villagers they can convince them of the importance of these issues.
- NPHCC staff and allies should **train and equip women** at village and cluster level for latrine maintenance, hygiene education and monitoring of effective use of the improved latrines.

On technology the recommended actions include:

- **Improvement of the quality control** on latrine construction by PHCC.
- NPHCC should **conduct further field research in designs** for improved latrine systems for households and schools.
- NPHCC should **conduct research on the feasibility of applying the water-sealed bowl** to the double-urn latrine, in the areas where water is available or in better-off areas.
- **The villages with improved latrines should be revisited at least once a year** to monitor the effective use of the latrines.

On advocacy and communication the following recommendations emerged. More details on these are provided in the document "Guidelines for communication materials for improved sanitation".

- NPHCC and UNICEF should make use of opportunities (for example the World Water Day, 22 March) and create events to **advocate the benefits of sanitation improvement to high-level leaders**, such as governors, county magistrates and township leaders).
- NPHCC and UNICEF should **develop a briefing pack for policy and decision makers**.
- NPHCC and allies should **develop TV spots on key benefits for national, provincial and county TV stations**.
- NPHCC should develop jointly with Agriculture Department **short radio programmes on improved latrines** to be aired regularly on The Peasants Radio.
- NPHCC should **pretest communication materials and retest before reprinting**.
- **The existing communication training materials should be shared** with other provinces (such as the ones developed for the UNICEF WSS programme in other provinces).

On finance the recommendations include:

- NPHCC and allies should **allocate sufficient budgets** for hygiene education and communication for improved sanitation.
- NPHCC and allies should **explore revolving funds and other credit options**, such as "build a latrine now and pay after crops have been harvested".

- NPHCC should **explore additional outside funds** for elements in the sanitation programme, by presenting good selling points in proposals to external support agencies in Beijing.

The recommendations for the alliances needed to achieve 80% effective and sustainable improved sanitation in China by the year 2000 include:

- NPHCC should **develop jointly with Agricultural Ministry a communication strategy** and work plan for sanitation improvement.
- NPHCC and allies should **explore making use of ACWF cadres for sanitation promotion at village level**; they have already been assigned as mobilizers for NPA goals.
- NPHCC and allies should **make use of schools** for promoting improved latrine use to school children, who should be invited to share key sanitation messages with their parents.
- NPHCC and allies should **improve latrines in school and health centres** as a model to promote sanitary latrines.
- NPHCC should **liaise with Water Resources Bureau people**: whenever they plan action to improve rural water supply, they should also initiate action for improved latrine construction and their hygienic use.

A number of research actions need to be undertaken for improved planning of an effective communication programme for improved sanitation, as well as for reporting results from the programme.

- NPHCC should, with allies. **do research on media reach and knowledge, attitudes and practices** on sanitation and communication of various audiences.
- NPHCC and allies should **do additional impact research** in Henan province on diseases reductions and fermentation effectiveness of the double urn latrines.

13. What can the rest of China learn from the Henan improved latrine experience?

1. Get highest level leaders committed for improved latrine construction and use by the year 2000.

How? Spell out the key messages for leaders/cadres why latrine improvement is important and why their involvement is essential.

These messages include:

- a. it increases agricultural production by 15 -25%,
- b. it contributes to national quality of life,
- c. it is part of the Chinese Government's reform and opening policy (as the mayor of Linzhou said: "we need improved latrines in order to attract foreign investments".
- d. it enhances Chinese international reputation (see Lonely Planet guide remarks on toilet use,
- e. it contributes to Health for All by 2000, and
- f. it improves health knowledge and changes prevailing habits and customs.

Minister Chen Minzhang in his opening speech to the 1993 Nationwide Rural Area Improve Latrine Experience Exchange meeting in Puyang warned that tourists complain to him and in letters to the leaders of the state, that the good impression of the beautiful China is lost because of the dirty toilets. And although in 1992-1993 the toilets in cities have improved considerably, "it is still a big problem in applying to host the Olympic Games".

NPHCC and allies should in their advocacy for sanitation also make use of a number of opportunities and articles:

- * the article "Committee sets quota for clean latrines", China Daily 17 March 1994,
- * excerpts from Minister Chen Minzhang 1993 speeches,
- * international celebration of World Water Day (22 March)
- * international celebration of World Environment Day (October)

2. Spread key messages on improved latrines to the masses by using a mix of mass media and interpersonal communication (meetings).

The following messages can be used:

- * it increases your production by 15-25% through better fertilizer, improves the soil, and it realizes high and stable yields in agriculture;
- * it is good for health, beautifies the environment in rural areas, and decreases diseases;

- * it reduces greatly the smell and number of fly and flyworms in the compound and in the house;
- * the input needed is small, the benefits are high, you earn the costs back in one or two years;
- * it brings in a little award for your village;
- * it is good for the county;
- * it helps improve the image of the province and international image of China.

Use can also be made of the appeal to status, such as the slogan used on village walls in Nanle county: "If we improve our latrines we can compete with the cities".

3. *Use good demonstration sites at village level.* Let village leaders, village doctors, masons and the local school act as role models by equipping them first with improved latrines, so that villagers can see the benefits with their own eyes.

4. *Sign contracts with concrete targets* for sanitation coverage, between Vice Governor and mayors, between mayors and county magistrates, between county magistrates and township leaders, between township leaders and village leaders.

5. *Allocate funds.* Beneficiaries pay the main part of the costs, township pays some, village pays some, and county gives awards.

6. *Use incentives* (awards for achieving and surpassing targets, and fines for not reaching them).

7. *Provide training* for masons for construction, and for women for maintenance, hygiene education.

8. *Control the quality* of construction, maintenance and use of the improved latrine

9. *Involve Finance, Agriculture, and Water sectors* to make it a joint programme and to organize "build now-pay later" and other local credit schemes.

10. *Involve committed and charismatic individuals.*

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健康教育处:

- 拟定健康教育的工作方针、政策、法规、编制长远规划和近期计划。
- 组织开展群众性的健康教育活动和重点人群的卫生知识教育。
- 负责全国健康教育机构和队伍的宏观管理, 拟定健康教育人才的培训规划并组织实施。
- 宣传和组织控制吸烟工作。
- 负责影视、文字和形象等各种卫生宣传品的宏观管理和组织开展评价。
- 健康教育科学研究、学术交流的宏观管理和国际交往与合作。

农村改水办公室:

- 研究、制定全国农村改水的长远规划与近期计划并督促实施。
- 协调各委员部门对农村改水的支持、配合和咨询。
- 负责农村改水工程、水质监测及水厂管理的技术指导及专业培训。
- 执行农村改水的多边、双边无偿援助项目。
- 协助卫生部国外贷款办对农村供水贷款共同选定, 组织专家对项目的技术咨询及专业培训。
- 承办《国际饮水供应和环境卫生十年》活动国家行动委员会的任务。

报 刊:

卫生与生活报
健康生活报
媒介生物及控制学报

有关机构、团体:

中国健康教育研究所
中华预防医学会媒介生物及控制学会
中华预防医学会卫生工程学会
中国农村改水培训中心
中国农村改水专家咨询委员会
中国吸烟与健康协会
中国健康教育协会
中国卫生杀虫药械联合会

ORGANIZATION CHART FOR PATRIOTIC HEALTH CAMPAIGN COMMITTEE OF CHINA

OUTLINE:

The responsibilities of NPHCC are to lead, integrate and coordinate overall patriotic health campaign and prevention of diseases in whole country and all local places.

NAME: National Patriotic Health Campaign Committee(NPHCC)
LOCATION: No. 44 Hou Hai Bei, Yan, West District, Beijing, P. R. of China
POSTAL: 100725
TEL: 44,2555; 4015616
TELEX: 22193 MINIH CN
ESTABLISHMENT: On March 14, 1952, the State Council decided to establish Central Patriotic Health Campaign Committee(CPHCC); Since August 11st, 1988, the name of CPHCC has been changed into National Patriotic Health Campaign Committee(NPHCC)

NPHCC:
Director: Li Tieying the State Council member;
Vice-Director: Chen Minzhang Minister of Ministry of Health;
Zhao Nanqi Member of Central Military Committee; Director of Head Rear-Service Department;
Hao Jianxiu Vice-Director of the State Planning Committee;
He Kang Minister of Ministry of Agriculture;
Ye Rutang Vice-Minister of Ministry of Construction;

Committee Members: Total 41 responsible officers in: the State Council; All related ministries and committees, and labour union committees, youth league committees, and the women's federation committees.

Appendix 1

Authorities of Committee Member:

- Ministry of Health
- Head Rear-Service Department
- The State Planning Committee
- Ministry of Agriculture
- Ministry of Construction
- Ministry of Central Propaganda
- The State Education Committee
- The State Scientific Committee
- The State Nationality Committee
- Ministry of Public Security
- Ministry of Finance
- Ministry of Labour
- Ministry of Energy Resources
- Ministry of Metallurgical Industry
- Ministry of Chemical Industry
- Ministry of Light Industry
- Ministry of Railway
- Ministry of Communication
- Ministry of Water Conservancy
- Ministry of Commerce
- Ministry of Foreign Economic and Trade
- Ministry of Goods and Materials
- Ministry of Culture
- Ministry of Broadcast, Movie and Television
- The State Physical Committee
- The State Industrial and Commercial Administration Beaura
- The State Environmental Protection Beaura
- The State Tourist Beaura
- CAAC
- The State Medicine Administration Beaura
- Administration Beaura for Religious Matters under the State Council
- People's Newspaper Office
- National Head Labour Union
- The Central Secretary Department of the Youth League Committee
- National Women's Federation
- The People's Government of Beijing Municipality
- Chinese People's Armed Policeman Troop
- The Secretary Beaura of the State Council
- The Central General Office of Chinese Community Party
- The Executive Office of NPHCC

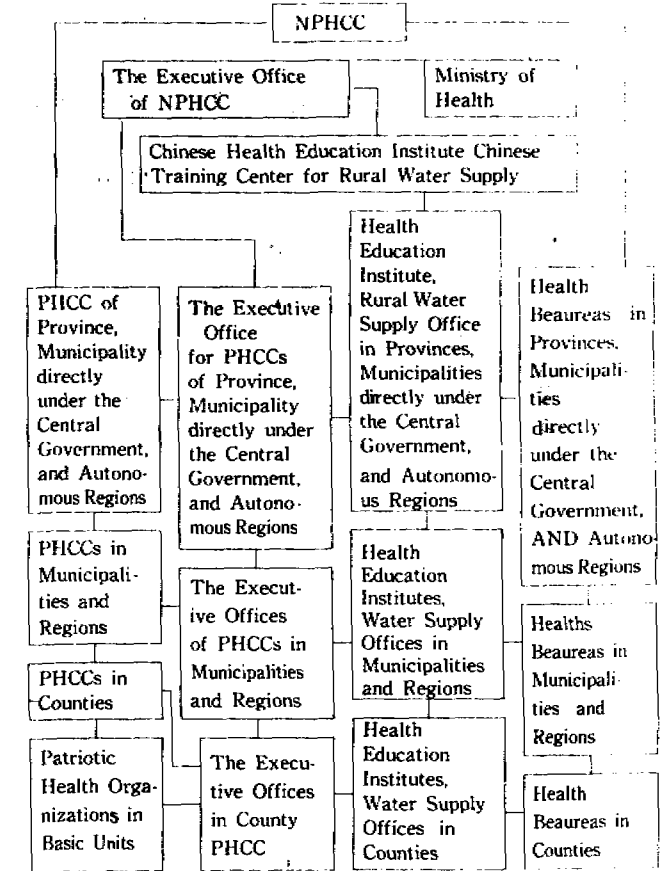
The State Council
↓
NPHCC →

Responsibilities:

To Work out guiding principles, policies, laws and regulations, and programmes for Patriotic Health Campaign; To launch social public health management in urban and rural areas, construct health advanced model units and regions, and regionize the masses for work in health surveillance, examination and comparison and naming; To launch widely the activities for health education, popularization of health scientific knowledge, improvement of the quality of population, and organizing and leading elimination of the four pests; To work out the urgent measures and policies for serious, epidemic situation and poisoning events; To study and work out the programme and plan for rural water supply, and inspect the practical situation of the Patriotic Health work in every related department; To launch international health communication.

Fly, Mosquito, Rat AND BEDBUG (OR COCKROACH)

ORGANIZATION STRUCTURE:



There are also Patriotic Health Committees established in all industrial enterprises, institutions, armed forces, universities, middle schools, and trades and business units.

Administrative Body:

The Executive Office of NPHCC:

Director: Cheng Minzhang

Permanent Vice-Director: Zhang Yifang

THE EXECUTIVE OFFICE OF NPHCC

DEPARTMENT OF
ADMINISTRATION

DEPARTMENT OF SUPERVISION
AND INSPECTION

DEPARTMENT OF PROGRAMME
AND COORDINATION

DEPARTMENT OF
HEALTH EDUCATION

RURAL WATER SUPPLY PROJECT OFFICE

THE SCOPES OF BUSINESS

Department of Administration:

- To be responsible to draw up annual work plans, summary reports and conference files for the executive office; To write the list of items in almanac, and compile and issue bulletins.
- To be responsible to analyze comprehensively the scientific and technological informations and statistics.
- To be responsible for the works of secretary files, administrative management and finance.
- To be responsible for declaration and coordination for enquiries for study and foreign cooperative project.

Department of Programme and Coordination:

- To be responsible to work out long-term and short-term plans, and draw up related policies, laws and regulations etc..
- To be responsible to coordinate among all authorities of committee members to implement all programmes and plans for the Patriotic Health Campaign, and organize and coordinate the implementation for management on all work objectives.
- To be responsible to work out the urgent measures and policies for serious epidemic situation and poisoning events.
- To be responsible to coordinate the tasks of National Action Committee for International Drinking Water Supply and Sanitation Decade.
- To be responsible for coordination with related departments to carry out well the inoffensive disposal for garbage, polluted waste and polluted water.

Department of Supervision and Inspection:

- To be responsible for study and drafting of policies and measurements for construction of model sanitary units and regions, and particular methods for inspection, examination, comparison and naming, and to organize their implementation.
- To be responsible for organizing and launching of mass activities for sanitary supervision.
- To be responsible for launching of the scientific action for elimination of the four pests* and for organizing work on the standard of performance, and to carry out inspection, examination, naming and technical instruction.
- To be responsible for coordination of all related departments to supervise and urge the examination on situation of social public health actions in urban and rural areas, and to sum up and develop experiences, and to commend the advanced units.

Department of Health Education:

- To be responsible for drafting the guiding principles for work, policies, laws and regulations, and to work out long-term and

short-term plans.

- To be responsible for organization and launching mass activities of health education and the education of sanitary knowledge for the community leaders.
- To be responsible for the management of institutions and contingents of health education in whole country, and to draft the training programmes for the personnel of health education and organize their implementation.
- To be responsible for propagation and organization controllment of smoking.
- To be responsible for the macroscopic management on all kinds of publicity materials for sanitation education such as movie and television, scripts and figures, and organizing to launch their evaluation.
- To be responsible for the macroscopic management on scientific study on sanitation education, academic exchange and international association and cooperation.

Rural Water Supply Project Office:

- To be responsible to study and work out the long-term and short-term programmes for rural water supply, and to supervise and urge their implementation.
- To be responsible to coordinate all authorities of committee members to support, cooperate and consult the rural water supply.
- To be responsible for the professional training and technical supervision for rural water supply engineerings, water quality monitoring and surveillance, and waterworks management.
- To be responsible to carry out multilateral and bilateral grant support projects for rural water supply.
- To be responsible to assist the Foreign Loan Office of Ministry of Health to select together the credits for rural water supply, and organize experts to do technical consultant and professional training for projects.
- To be responsible to undertake action tasks of the National Action Committee for International Drinking Water Supply and Sanitation Decade.

NEWSPAPERS AND MAGAZINES:

Sanitation and Life Newspaper
Health and Life Newspaper
Journal of Intermediary Organisms and Their Controlment

RELATED INSTITUTIONS AND COMMUNITIES:

Chinese Institute of Sanitation Education
The Society of Intermediary Organisms and Their Controlment under Chinese Society for Preventive Medicine
The Sanitary Engineering Society under Chinese Society for Preventive Medicine
Chinese Technical Service Center for Rural water Supply
Chinese Specialist Consultation Committee for Rural water Supply
Chinese Society for Smoking and Health
Chinese Society for Sanitation Propaganda and Education

全国爱国卫生运动委员会

简介

概要

全国爱国卫生运动委员会负责统一领导、统筹协调全国和各地爱国卫生和除害防病工作。

所在地: 北京市西城区后海北沿44号

邮政编码: 100725

电话: 44.2555 4015616

电传: 22193 MINIH CN

成立:

一九五二年三月十四日, 国务院决定成立中央爱国卫生运动委员会。

一九八八年八月十一日更名为全国爱国卫生运动委员会。

爱卫会:

主任: 李铁映 国务委员

副主任: 陈敏章 卫生部部长

赵南起 中央军委委员、总后勤部部长

郝建秀 国家计委副主任

何康 农业部部长

叶如棠 建设部副部长

委员: 国务院、各有关部委、工会、共青团、妇联等主管领导41人。