

## Notes from Discussion Groups: Social acceptance

### Group 2

- Education needs to be continuous, and especially when certain level of project is in operation
- SEEING is believing
- No decision or choice by HH
- Dry system is a tradition, “urine diversion” is new to the people
- Local staff for service was not trained enough
- Problems need to be solved immediately
- Is it a problem if the system or a problem of the user?
- Organizational problems
  1. No local people to link between local and international experience
  2. Need for 1 local person for PR with professional skills in government team
- 2<sup>nd</sup> hand owners feel, that they have been ‘cheated’
- For any kind of new technology: 10% of HH against it, but 10% supporters, so these are the champions
- For change of residents, individual trainings by staff is necessary
- Improve planning of the project
- Improvement on design of toilet
- Allocate appropriate site close to agriculture
- Target group selection necessary
  - assessment and selection with support by government
  - Non compulsory, rather voluntary choice of system
- If Reuse is not done by household, a relevant ‘service’ is needed
- Real estate company should be responsible for proper education
- Advanced concept with backward technology
- Costs of improvements, government cannot continue with financial input
- Acceptance takes time
- Impossible in this community to refurbish

### Group 3

- The users did not have opinions about the system beforehand.
- At first they know that some problems are unavoidable, it was new after all. But later there were many problems and a lack of spare parts to fix them all.
- The lid of the toilet was a problem so that the bowl wouldn’t turn sometimes
- The maintenance staff worked very well and very fast. Happy with their efforts
- The sawdust was a problem and the plastic stick to mix it was easily broken. Lots of repair work!
- There were problems with the sealing
- Odor! Especially when using the kitchen fan and during bad weather
- Sawdust is not healthy. If it gets damp it sticks and doesn’t drop down the hole. It clogs the chute and turning bowl. It is also a problem for women’s health.
- There are flies in the toilet room since there are feces stuck on the chute and turning bowl
- The turning bowl had many mechanical problems. It got stuck. It was costly to keep repairing.
- Roshan suggested having a good fan in the basement and ventilating the basement room instead of the chute pipe.
- Or sawdust could be added directly to the bins by O&M staff instead of by households. Some people tried this, but there were more odor problems by frequent opening of the cabinets in the basement.
- Urine odor was a more serious problem than from the feces. It can come from the odor traps and precipitation of struvite. Crystallization can build up in the pipes after 20-40 days.
- S-trap and water-lock for greywater were also problematic.

- In winter 2007 the pipes froze and got blocked. Maintenance workers had to go to the roof to fix ventilation pipes that froze because they were not insulated. Dangerous for workers.
- The odor was a technical problem
- The living standards in Erdos were increasing and people thought that the toilet should have been better. A better toilet should look nice, be convenient to operate and not smell! A flush toilet is easy to clean and convenient. It is a better toilet.
- This dry toilet was inconvenient
- They would rather pay more to have a flush toilet than have a dry system that has problems. They wanted a better toilet
- There was a low acceptance because the problem took too long to solve. The users lost confidence and patience.
- They did not consider the need for treatment of the waste after it leaves the household. They do not want to pay a lot of money for this treatment. But they think that the gases from the excreta should probably also be treated.
- There was no reuse from the eco-town. The farmers refused to use the urine, no greywater reuse and compost quality too low. Why should we have ecosan toilet if there is no reuse?
- It is a problem of quality! Both in the toilet and the reuse products (not enough NPK in compost, low quality of reuse water). Compost was too wet, so added more sawdust which reduced the quality of the compost.
- There were many problems – in design, construction and O&M. Many of these problems compounded each other.
- The project was doing design during construction and re-designing during implementation – so there were problems in changing plans.
- The users were not there in the beginning. It took time for them to form a users committee.
- They suffered for many years. “It was like having a pit latrine in the house”
- If we want to promote this system, need a robust technology!

#### Summary

- Users were patient with the new system
- But too many problems – odor, turning bowl, sawdust, urine blockage, greywater, etc.
- Took too long to solve, they lost confidence and patience
- In addition, the living standards were increasing and they wanted a better toilet, one that looked nice, was convenient and had no smell. They saw flush as the solution
- Need a quality and robust toilet
- Finally, the reuse aspects should have been improved, otherwise there was no motivation to have the dry system.

#### Group 4

Inhabitant in the Group: Lu Goiling (L)

She bought the flat in 2004, moved in 2005 December. She started to use the toilet in 2006 June – she used public toilets before.

- What was the worst thing about the toilet?
- *The odor was the worst, in the winter it was a bit better. If we left the flat for a few days, there were about 40-50 flies in the toilet – She looked like really don't liking flies...  
We were happy about the dry toilet in the beginning we welcomed it, also the education was good we were happy to save water.  
But we waited 3years to become the system better and as not much changed we became more and more angry.  
I still think the dry toilet is a good thing, but more in areas where is a shortage of water.  
It was especially uncomfortable to explain to mans how the toilet works.*
- Why did you bought the flat?

- *It was cheap. Much more cheap than in other cities.*
- *Did you know that it has a different type of toilet?*
- *I only knew that I have to use sawdust. We were educated after we bought it.*
- *How is your relation to Mrs. Ren?*
- *We liked her in the beginning; she was like a friend, but later not so much...*
- *Was she there for the people or for the project?*
- *Project.*
- *When the odor did begin?*
- *15 days after we started to use the toilet.*
- *Did you ever use water?*
- *No I only used sawdust, even it was sometimes really difficult to clean the toilet – some used their hands to clean it.*
- *All of your friends had this problem with odor?*
- *Yes*
- *I really liked the idea of the project, my friends even thought I'm hired by the government.*

Group5

See Powerpoint

## Notes from Discussion Groups: Project Management

### Group 1

The Project Management Method won't be too wrong if in the western context. However the Chinese context may change the project problem into a government problem.

Government acts too much and takes too much responsibilities, which is not necessary. To introduce market approach to alleviate the burden of government may solve the problem

To apply this project and the future possible similar projects, we recommend to position the construction company at the top of the management of the project to lead it. Of course the company should get education on what to do and how to do and reach the point where the company would love to do.

### Group 3

- Management must be at the bottom as well as the top so that decisions are made at the right time
- Toilet is a key issue. Who designed it? Who tested it? Who got the feedback?
- Management decisions were made away from the project
- In Mexico, the users were involved in the planning and design. The project started with a toilet that the experts liked, but after the users tested it and gave feedback they were forced to change the toilet. It has made a big difference in the project.
- In China participation can be difficult...
- The eco-town has to be a town, not just eco-buildings. Have to get the community involved in their town. This was a missed opportunity at Erdos.
- (Sun Lixia) The project was a residential area, not a town! A town would have been much more complex to do. The households were not involved in the decision making. The project meant to develop an area and attract residents. The technology needed to be more robust. Education and public relations/awareness are based on a good technology.
- There was no one responsible for technology in this project. No one assuring quality. Needed a technical supervisor that was consistent throughout the project. Needed well structured R&D to follow-up design and a way to communicate the problems. In 2006, DPO asked SEI to find this person.
- The changing local government was a challenge (although this is normal)
- SEI staff also changed so that information was lost
- The relationship with Daxing – The construction company hid the errors. The design was always changing, even during construction. They did not have the experience with dry systems. They also had problems with the mother-company. There many were sub-contractors which multiplied the problems.
- SEI supervised the ecosan design, but even this was always changing
- If the design is not standard, it is normal that things will change under construction.
- Uno was very famous and everyone trusted him very much. He was in charge of the design and signing off on the design. The Design Institute just did it according to him. For example, in normal water flush there should be an s-pipe, but this is waterless urinal so Uno said to have a straight pipe. In the 1<sup>st</sup> phase all had straight pipes, but the smell was so bad that they had to put in s-pipes. Just one example of not thinking properly and changing things.
- The project did not know the residents. Should have started piloting with 10 families, creating champions and getting feedback before going to scale.
- Construction quality was bad.
- The large scale of the project meant that retro-fitting costs were too high when things were done wrong!
- No pilot. Why? They should have had the developer sign a contract to respect the pilot timeframe

- But from the developer perspective – originally the project was outside DS and the developer did not think they could sell just 4 buildings on the edge of town. They demanded it bigger. SEI was optimistic and agree to expand. Uno was the decision-maker at SEI. There was a lot of trust in Uno.
- PMO (Sun Lixia) did not know the relationship between Daxing and SEI to start with, did not know that they had agreed to go bigger. Daxing went straight to Uno.
- Design Institute only translated the designs into blueprints. Did not question Uno's design
- However, now there is some question if Uno had experience with large scale urban planning before this project
- Normally a developer wants profit. They should have considered these factors. Maybe it should have just been government sponsored, no developer.
- Ecosan is more suitable to projects that are directed connected to land and agriculture
- A key person responsible for technology design and development is important, both for design and training
- If they did not have this expert, at least should have had a good technology
- This project was special since it imported a technology. Normally the Design Institute should sign off on a design, but since this was a special project Uno did it.
- EETP is appreciated for its greenery, open space and parking. In this sense the "eco" design did work and was appreciated from a city planning perspective (was also Uno).
- The sustainable urban area concept that is underneath the project idea never got fully realized or appreciated
- Scale was too large. We would have had more capacity to recover if it was smaller.

#### Group 4

- With a large project, many stakeholders, it is like EU with too many people, and that will make project management very inefficient
- Need a „president“ for coordination, who has management capacities, and bilingual
- Frequent changes of staff, so no permanent team
- SPO/DPO had no more knowledge about the project than local people
- Government should be responsible for O&M,
- After 6 years, the review can say a lot of human and financial resources has been put into the project
- SPO and DPO has been 2 separate Units
- Service technicians should be permanent with respectable knowledge. They need to receive training
- O&M training should be 7 days prior operation
- Big loop in procurement, such as from HH to SEI to local government to DPO, no fast and local decision making