

# Out of the mouths of babes: an honest evaluation of water and sanitation in Ecuador

by Jan Teun Visscher, Mariella Garcia, Carlos Madera, Alberto Benavides, and Edgar Quiroga

**Children should be seen and not heard? Not according to one team trying to get a clear picture of water and sanitation practices in the far-flung highland communities of Ecuador.**

AFTER PLAYING WITH the health-workers, the children gather in small groups and start to whisper. 'I just go behind school, I don't use the latrine — it's horrible! It smells and it's dirty. And you have to go a long way to fetch the water to flush it,' says a small girl. Another child whispers, 'I just use the bush, because sometimes you can't wait, so you just sit down.' What started out as a welcome short-cut to gathering information in a participatory evaluation of the water supply and sanitation conditions in 40 dispersed communities in Ecuador, became a very interesting avenue in need of further exploration.

For a long time, children have been treated more as passive objects of development than as active participants in a development process. Yet they can give us a lot of useful information about the water and sanitation situation as they perceive it. Their uninhibited talk may provide a picture of the use of water and sanitation facilities, and help us to understand the difficulties children and adults face in using those facilities; it may confront water committees with messages they did not expect; it may help children to learn from each other, and help them to change their behaviour; and it may provide a starting point for hygiene promotion.

## NGO evaluation

With this in mind, staff from IRC and CINARA, the Cali-based Centro Inter-regional de Abastecimiento y Remoción de Agua, developed a participatory evaluation, in collaboration with CARE Ecuador, the Subsecretaría de Saneamiento Ambiental (SSA) and the Empresa Telefono, Agua Potable y Alcantarillado de Cuenca (ETAPA). It set out to review the sustainability of the water supply and sanitation facilities, established with support from CARE, SSA, and ETAPA between

1979 and 1993, in 40 of Ecuador's dispersed, highland communities.

The evaluation was implemented by three teams of staff from the participating organizations. The water committees and the systems operator were the primary partners within the communities. House visits were also included, but were kept to a minimum, as the villages were scattered over such a wide area. In 24 communities, these visits were complemented by working sessions with schoolchildren aged between 10 and 12 and, in the seven communities with no school, with children who were attending bible classes. The sessions were implemented by two or three people with technical and socio-economic backgrounds.

divided into two blocks, one on water supply, and one on sanitation. In both sessions, the IRC/CINARA teams concentrated on matrix ranking. During the water-supply component, children were asked where their families and neighbours got their water — and what they did with it.

Then, either in small groups or on their own, the children painted or drew a specific source or use on a sheet of paper. These drawings were then put into a matrix, with envelopes placed where the lines crossed. The children were asked to vote, by inserting a piece of paper for each specific purpose in the pocket representing the most important water source currently being used in their homes.

## Revealing results

The results were very interesting. The children indicated that they used the piped drinking-water far more than the researchers had been led to believe by



*A group of children from Cican draw their community's water sources and uses.*

## Matrix ranking

A maximum of 40 children attended each session, which the facilitators began by introducing themselves and explaining what they hoped to achieve. Then, to break the ice, everyone took part in an activity. The sessions were

their parents when interviewed at home. This may be explained by the fact that, whereas adults are away from home and the system for most of the day, children have access to the system at home and at school.

Far greater differences were recorded on issues such as watering animals and,



*It gets my vote. Water-supply questions are easily dealt with in groups (above). A section of the completed pocket chart of Pontara Chico in close-up (right).*

in particular, irrigation. In some cases, every child indicated that his or her water-supply system at home was used for this purpose, whereas their older relatives told interviewers that they obey the regulations which forbid irrigation. With this sort of information, the project workers could tackle the parents on an individual basis, but that would both defeat the purpose, and infringe trust. It is a great opportunity, however, to present this feedback to the water committee, and to discuss it in a community meeting where the problem — and potential solutions — can be identified and discussed.

## Drinking-water

Some 66 per cent of the children indicated that tapwater was their main source of water, while the rest plumbed for streams and ponds. The children threw light on water-supply related problems, such as discontinuity of the

supply, and water shortages. Very few of the children had any idea about whether the water was treated, but indicated that they did drink it direct; 80 per cent of the children did not like the taste of boiled water.

The children particularly enjoyed the drawing part which allowed them to be creative in portraying their lives. Most of them were very confident in using the technique, although some needed more explanation, particularly about voting. On water-supply questions, it was easy to vote in a large group. When it came to the rather more awkward subject of sanitation, the children worked in smaller groups.

The children indicated that they did use latrines, but they also used the surrounding fields; bad smells, the presence of flies, and having to carry water for flushing put them off using the latrines. In brief interviews, 65 per cent of the children said that they did not wash their hands after going to the toilet, and only 40 per cent washed

them before eating. Small children do not use the latrine because of its height.

## Sanitation in school

Although there were some positive findings, general conditions in the highland schools need to be improved considerably before the sanitary environment can be classed as safe and sound. School facilities must be inviting, and teachers' encouragement is crucial if the children are to use the facilities regularly. Over 95 per cent of the schools had a connection to a piped system and, in all but one, the schools did not charge parents for water use. Schools suffer from intermittent water supply, and there is a lack of shallow tanks which would enable them to store water to bridge the periods without water supply. With its inadequate treatment and poor chlorination the water presents a considerable health risk.

The basin design is standard; the taps are too high for small children, forcing them to climb on top of stones — they also swing from the taps and cause damage. If there are problems, or repairs are needed, the onus is on the parents who are also supposed to cover the costs.

## Latrine neglect

Of the schools surveyed, only one did not have water-sealed latrines or flush toilets, yet wastewater is not disposed of properly, and usually flows without treatment into surface-water flows. Only 32 per cent of the latrines were found to be — in technical terms — in good condition, which compares poorly with the 56 per cent figure for the homes in the communities. Some 32 per cent of the latrines were clean (without major traces of faecal material); 24 per cent were more or less clean, and 44 per cent were found to be really dirty. In 60 per cent of the schools, the latrines were cleaned by the children, equipped with brushes, buckets and, sometimes, soap. In a further 28 per cent, a school employee did the cleaning, while in the remaining 12 per cent, no maintenance was carried out. The children perceive being asked to clean the latrines as a punishment and, wherever possible, do not do the job properly.

CINARA, in collaboration with different teams, found similar problems in other countries in the region which they evaluated as part of the PAHO- and SDC-supported WHO/IRC project

## Schoolchildren help solve sanitation problems in Tanzania

School health and sanitation packages in Tanzania have succeeded in raising children's, teachers', and parents' awareness of environment-related health problems, their causes, and possible solutions. A good example is the SIDA (Swedish International Development Authority)-supported 'Health through Sanitation and Water' (HESAWA) project in Tanzania's lake zone.

The problem-based learning methodology — when coupled with participatory adult-teaching techniques — has proved to be a very effective tool for sensitizing and mobilizing communities to participate actively in solving their sanitation-related health problems. It is also an effective way of going into communities and fostering community ownership.

The package consists of screening schoolchildren for the presence of intestinal worms, checking their levels of haemoglobin, and evaluating their nutritional status. Prior to the screening exercise, between 20 and 30 senior pupils visit each home in the village, in pairs, to collect basic information on the current state of latrines, refuse pits, and drying racks. After the screening has been completed and the results have been compiled by the health team and the teachers, the village chairman invites parents to a meeting at which they are given a written report on their children's health. Using participatory adult-teaching techniques, the health team enables the parents to discuss the underlying causes and possible solutions for the main problems.

The health team then asks 'What are you going to do about these problems?' This starts a dialogue among the parents, who then plan what they are going to do about each problem. This approach ensures that the parents take a keen interest, and helps them in planning, and putting those plans into action; they retain ownership of, and responsibility for, the programme.

This methodology was tried in three pilot districts around Lake Victoria in north-western Tanzania in 1993, with the following results:

- Over 80 per cent attendance at parents' meetings;
- in some villages, up to 75 per cent of the agreed actions were implemented within six months;
- villagers were willing to use locally available materials for latrine construction; and
- within three months, 50 per cent of the parents had taken the initiative to treat children with intestinal worms and/or bilharzia.

In Bwanga village, three months after the project began, there were seven demonstration latrines in different schools, and 305 new household latrines had been built, or were being constructed. The number of households with refuse pits increased from 22 to 63 per

cent, and dish-racks could be found in 77 per cent — a 33 per cent rise.

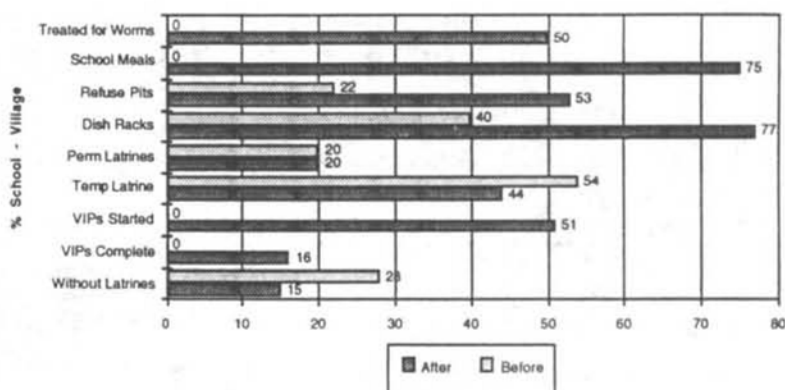
Towards the end of 1993, AMREF (the African Medical Research Foundation) carried out an external evaluation of the Bwanga project. AMREF's assessment of the construction of latrines, dish-racks, refuse pits, and bathrooms shows, overall, that the HESAWA school-health 'intervention villages' performed better than the 'control villages'. This must be attributed to the influence of the problem-based learning approach.

The evaluators also found that the school health and sanitation package promoted co-operation between government extension workers, teachers, and community members in finding solutions to prevalent health problems; and there was a high incidence of replication in neighbouring villages.

In February 1995, the Primary Health Care (PHC) Ambassadors' Foundation, a local NGO, screened the children of Kisau, a 'sub-village' at Machame in the Hal district of Kilimanjaro Region. PHC then held a parents' meeting, followed by focus-group discussions and awareness seminars. By September, there were significant results:

- 18 village healthworkers had been trained and were carrying out home visits to share what they had learned with their neighbours;
- 47 new VIP latrines were built/under construction using locally available materials;
- 97 mud stoves had been constructed by women; one spring box had been built; and
- 16 new ferro-cement water jars had been constructed

**SHP EFFECT ON VILLAGE ENVIRONMENTAL SANITATION**  
*Bwanga Village - Biharamulo District*



and were in use in villagers' homes.

PHC Foundation is currently training government and church health teams in Africa to use this approach in their community-based health care programmes.

*Dr Eben Mwasha*

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'School Sanitation and Hygiene Education in Latin America'.

### The teachers

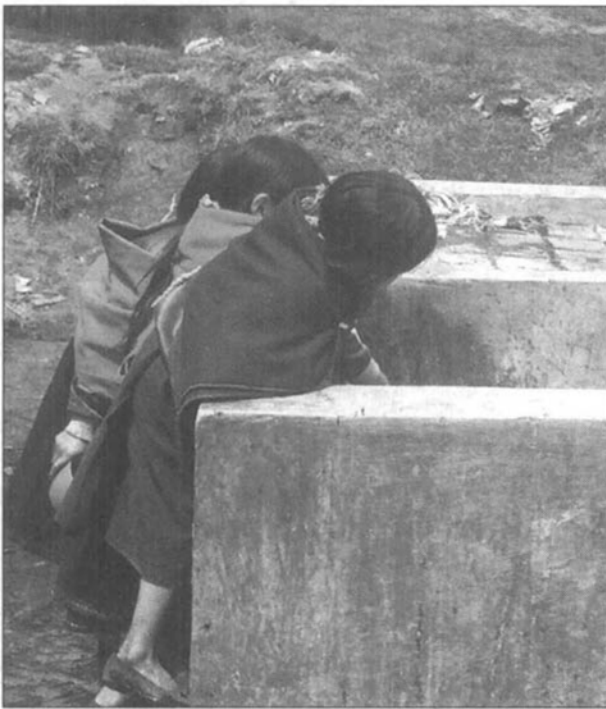
In most (68 per cent) of the schools surveyed, teachers do provide hygiene

education classes, but results are disappointing, if one takes into account the sanitary conditions, and the fact that children have no idea if the water supply is treated. Only 40 per cent of the teachers have received any hygiene education training. As a result, the

lessons do not cover toilet training for young children, and operating and maintaining latrines properly is not explained.

The teachers are not motivated by a strong sense of community: most of them travel in from larger towns and





*Bent but not broken — the highland schoolchildren will benefit most from increased motivation and design modifications — not expensive infrastructural changes.*

have little incentive to try and teach anything other than the obligatory subjects. They have had only limited involvement in the development of sanitary facilities: another reason for their lack of enthusiasm for actively promoting better hygiene behaviour. It is hardly surprising, therefore, that there appears to be no positive

of doing something for their community. It was a change from their normal routine, and had the additional advantage that people's hopes were not raised. These types of participatory techniques can really help to motivate children to improve their situation, and provide a very good starting point for

correlation between teachers who have received training, and the cleanliness of their school's latrines. And no correlation could be established between the cleanliness of latrines in the home and at school, which is clearly an issue for further review and analysis.

### A human investment

Involving children as participants in an evaluation of the water supply and sanitation conditions in their community proved to be a very effective strategy, as a lot of information was generated in a short time. They enjoyed themselves and, at the same time, were proud

hygiene promotion.

The children's answers give a good indication of the situation at home, although some of their complaints about latrines differed from their parents' reactions. Also, their answers were less influenced by what is deemed 'desirable' behaviour, for example, their honest reports about using tapwater to irrigate the family's crops.

Sanitary conditions in most of the Ecuador's highland schools are not adequate, and need urgent improvement. This is clearly a matter of increasing people's motivation and making design improvements, and does not require expensive infrastructural changes. The results of the evaluation have already spurred on the agency staff involved to explore the possibilities of working closely with schools and parent organizations.

### Reference

1. WHO/IRC, 'School sanitation and hygiene education in Latin America', report of a workshop on problems and options for improvements, WHO/IRC, 1993.

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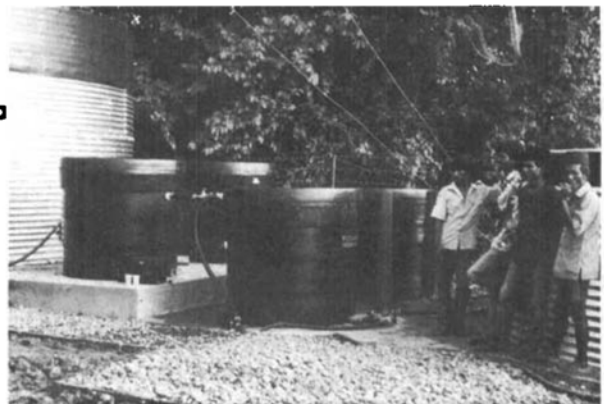
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