



The value of indicator tools for managing development progress

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DEVELOPMENT ORGANISATIONS HAVE set very specific water and sanitation goals¹ to be reached by the years 2015 and 2025. The obvious targets of these goals are developing countries that find themselves at the lowest end of the provision chain of, amongst others, water and sanitation provision. It is admirable to set the goals, to put water and sanitation firmly on the international development agenda and to encourage governments to allocate energy and funding, but without the concomitant delivery mechanisms as well as the appropriate measurement tools, the goals remain exactly that: goals.

In testing the feasibility and applicability of an indicator toolkit², developed and designed by the London School of Hygiene and Tropical Medicine, in conjunction with the Water and Sanitation Collaborative Council (WSSCC), a number of questions emerged:

1. How applicable is the indicator toolkit to Africa and other developing regions?
2. Who will pay for the broad-based testing of the indicators to determine where on the provision continuum countries find themselves?
3. In the absence of baseline data from most developing countries, how will the progress be determined?
4. Can the sampling, as determined by the indicator toolkit, be done in the same simplistic manner as other summative assessments, e.g. polio surveys, etc.
5. If governments are to spend money on doing the summative assessments, are the five required outputs (as per Vision 21) sufficient to inform them of the watsan development needs, or should more focus be placed on formative assessments?

Vision 21 targets

Vision 21 has five water, sanitation and health and hygiene targets to be reached by 2015 and 2025:

Terminology used to define the Vision 21 targets:

1. **Good hygiene practices:** Behaviour / conduct of the household reduces risk of pathogenic transmission
2. **Access to adequate sanitation:** Excreta disposed of to reduce the risk of faecal-oral transmission
3. **Access to improved water supply:** Sufficient quantity and quality of drinking water
4. **School children know about hygiene:** Primary school children have been taught hygiene at school and gained understanding
5. **School is equipped with facilities for sanitation and hand-washing:** Primary schools have improved excreta

Table 1. Vision 21 Targets

2015 Targets	2025 Targets
Universal public awareness of hygiene	Good hygiene practices universally applied
The percentage of people who lack adequate sanitation globally should be halved	Everyone should have access to adequate sanitation
The percentage of people who lack safe water should be halved	Everyone should have access to safe water
80% of children should be education in hygiene practices	All primary school children should be educated about hygiene.
All schools should be equipped with adequate sanitation and hand-washing facilities	All schools should be equipped with adequate sanitation and hand-washing facilities

¹ WSSD and Vision 21

² In a cholera area in the northern part of KwaZulu-Natal Province in South Africa

disposal and hand-washing facilities for students and staff

Research objectives and expected outcomes

The objective of testing the indicator toolkit for global use was to

1. Firstly, test the design of the toolkit in a formative manner to determine whether Vision 21 targets could be reached globally and
2. Secondly, use the toolkit to simultaneously apply it as a summative assessment tool.

The outputs were concerned with the following:

1. Characterisation of a situation only and not as a wide-spread formative evaluation
2. The study was not intended to include a situation analysis, a qualitative diagnosis or resolutions
3. The expected outcomes aimed at providing information on progress achieved against the set of indicators, measuring the position of the study area on a continuum towards attaining Vision 21 targets.

Summative assessment methodology

The questionnaires were drawn up after investigations in Kenya’s high-density areas surrounding Nairobi. In South Africa, both the formative assessment of the toolkit *per se* and the summative testing of the toolkit were done in a remote rural area, which was an identified cholera region. The methodology used to refine and test the toolkit for global application was to pilot the questionnaires and subject the data to an analysis process in line with the summative assessment directives as prescribed by the drafters of the toolkit. A sample area was surveyed and objective observations of the habits of members of households and

school children were done. The expected outcome and result of the second objective – the piloting – was to emerge with five indicators, compatible and comparable to the five Vision 21 targets.

1. A total of 260 households were surveyed in the seven villages. Of the 260 surveys, 17 survey forms were discarded because of corrupted data. A total sample of 454 entities was surveyed.
2. 190 school children were surveyed. All the data forms were used. The bulk of the children were surveyed at the schools to ensure that a reasonable size sample was used. 38 of the 190 children were surveyed in their home environments.
3. Four schools were surveyed and in each school, the principal or senior teacher in charge was surveyed.
4. In all instances the observations took place at the households and schools. In the case of the schools, the children could not be observed going to the toilets, as it was already school holidays. However, the state of the toilets, toilet types, separation between boys and girls toilets, distances between them, and the presence of water points were all observed and noted.
5. The survey period was 8 weeks by four researchers, two of which were highly skilled and two local teachers who were trained beforehand.

Village clusters forming part of study area

Three village clusters – seven villages – were identified within an accessible geographical area, with the following characteristics:

1. **Ndatshana:** A village with a completed sanitation programme (completed meaning Ventilated Pit Toilets were installed at each household in the village and as part of the contractor obligations, health and hygiene training took place.)

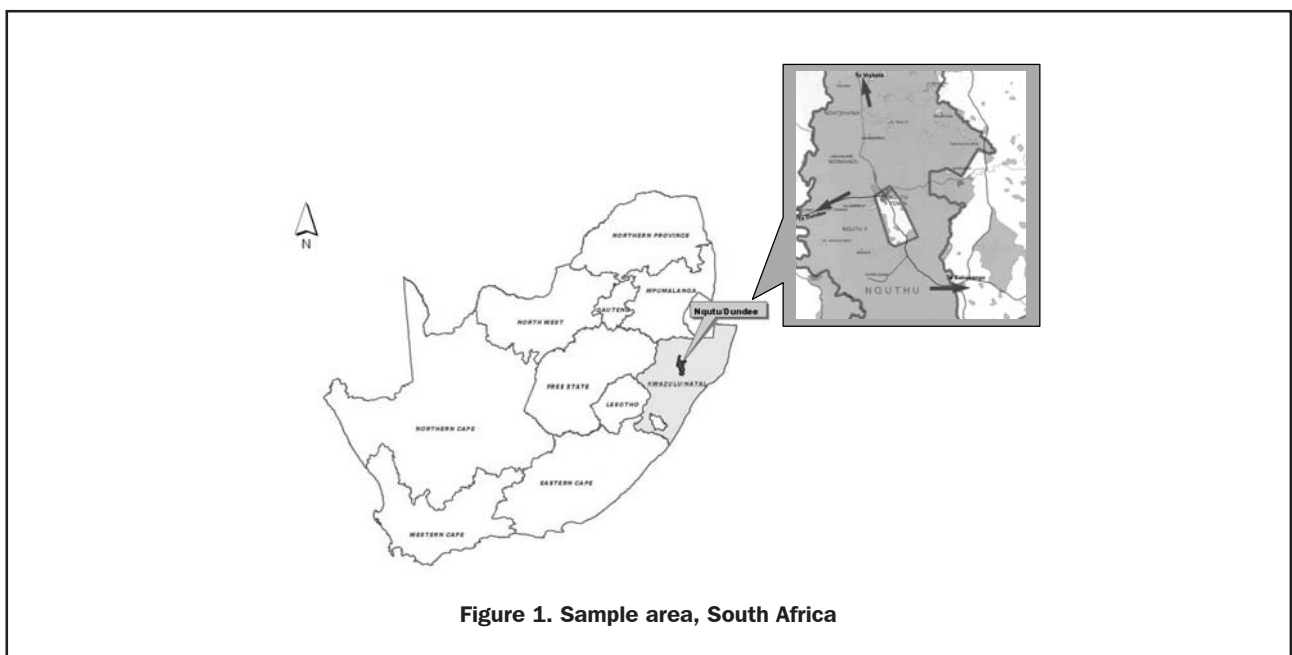


Figure 1. Sample area, South Africa

2. **Nqutu 4:** A village cluster with partial sanitation facilities provided (partial meaning some homes have VIP toilets, some have pit latrines and some have no toilets at all). According to official documentation health and hygiene training formed part of the contractor obligations in the villages where VIP toilets were being built or completed.

3. **Ndindindi:** A village with no sanitation facilities provided (none meaning that there was no formalised sanitation programme, although a few homes have dug their own pit latrines.)

An additional consideration in selecting the villages was the number of primary schools in the village and surrounding areas.

NAME	POPULATION	HOUSEHOLDS	SERVICES AVAILABLE
Ndatshana	8,099	1,256	VIP, hand-pumps, electricity (0.6%) and telephones (0.6%)
Ndindindi	4,500	644	No sanitation, limited access to water, electricity (0.5%) and telephones (1.6%)
Nqutu 4 Cluster	8,300	1,248	VIP & hand-pumps (50%), electricity (0.9%) and telephones (0.8%)

Ndatshana	Some parts of this village had sanitation infrastructure and some parts had none. In the case of the latter area most respondents still went to the bush, field or donga to relieve themselves. Hygiene practices were of a low standard with all the respondent households using a communal container for handwashing. In all the households the water was either dirty or very sparse and there was no evidence of soap. The containers for drinking water was mostly closed but the receptors were uncovered and open to contaminants. The village has communal standpipes and handpumps. The distance between the households and closest water point are not disproportionate to the scattered nature of the village. The area is mountainous and households are very far apart, thus the water points are also at a distance. The same water is used for drinking and washing.
Ndindindi	Most of the households do not have acceptable levels of sanitation. Some badly constructed pit toilets were evident, and many respondents were aware of the danger of these toilets. Most of the toilets were almost full and very unhygienic. The main source of drinking water is piped water to a communal standpipe. Washing is done in the nearby river. The average distance or time to get to the river is approximately 30 minutes. Water from the standpipes is free of charge.
Ngoboti	This is part of the larger village of Masotsheni and is very isolated from the main road. The source of water is the borehole. As the water usually runs out during peak months/hours there is a ration system working in the village. The problem here seems to be that there is one borehole pump, which serves the entire village. All the households have VIP toilets, which seem to have been recently built. People do not pay for water.
Ngobintsimbi	This is located with Bambisanani and forms part of the greater Basotsheni. The source of water is the borehole installed in 1983. Villagers do not pay for this water. There is however a tap water that has just been installed. It is not being used, as villagers have to buy the "key" to use it. The village has VIP toilets. However, some are in the process of the being completed.
Jabavu	This is part of the greater Masotsheni and is isolated from other similar villages. The source of water is the borehole (hand pump). Villagers get water for free. Before this was operational, the villagers used to get water from the river. There is a combination of pit latrines and recently built VIP toilets that are being used. Those that do not have the VIP toilets say their pit latrines are usually water-clogged. It appears that the toilets were built on a waterbed. Washing is done in the rivers.
Ngonini	Like the previous village, the Ngonini households get their water for drinking from a borehole with hand pump in the village. This water is free of charge. They do their washing at a nearby river. Villagers also use the borehole water for hygiene purposes. All the households have VIP toilets, which look as if they have been recently built. Before these were built they used pit latrines or the bush.
Masotsheni	This is a village within the greater Masotsheni area. The source of water for drinking and hygiene purposes is communal tap, which was installed recently. The villagers buy a key to access this water. The key prices range from R10 to R50. The water is regarded as clean and pure. The VIP toilets are still under construction and villagers hope that these would be completed during 2003. They currently use a combination of pit latrines or the bush.

1. In Ndatshana there are five (5) primary schools, of which two (2) were randomly selected.
2. In the Nqutu 4 cluster there are three (3) primary schools, of which one (1) was randomly selected.
3. In Ndindindi there are two (2) primary schools, of which one (1) was sampled.

A peripheral consideration in the sampling process was the accessibility of the villages in terms of a road leading to the village and traceable contacts. The villages can be reached by road accessible by normal motorcar and a 4X4 was not needed to get to the houses. Most households and schools were reached by foot once the car was parked at the end of the accessible road.

Note: Although the target sample for the household surveys were women, most of the role-players that the team interacted with regarding permission and co-operation were men. This note only serves as a confirmation of the entrenched gender discrimination in South Africa's rural environment.

The study – conclusions

In relation to the rural area in South Africa that was surveyed, the service backlogs seemed in line with the Department of Water Affairs and Forestry's internal data and for the pilot communities in the poor and under-resourced area of KwaZulu-Natal, the results were encouraging as targets were attainable if the current delivery momentum is maintained. However, considering that a cholera area was used as the target, this is not representative of the delivery speed throughout the country, as service delivery in the cholera areas of the country was fast-tracked in an attempt to curb the disease.

In terms of target 2, the 2015 target has already been surpassed and for target 5, an enormous problem was confirmed, namely that only 8.42% schoolchildren had access to improved sanitation at schools.

Toolkit perceptions - assessment and critique

Assessment of the five summative outcomes on their own reduces the value of the information of the expectation is to also attain a level of formative, qualitative outcomes. This point consistently emerged during the discussions about the outcomes, particularly from government officials who expected to know the reasons for the outcomes. In this regard, it would be in the interest of the drafters of this type of measurement tool to take a dualistic approach to the tools, particularly as individual governments would see a benefit for themselves and for their planning processes. The 'single mindedness' of the summative outcomes was not enough.

Once the five outcomes are read in their correct global context, however, and balanced against the Vision 21 targets, it is clear that internationally, this is a most appropriate tool to measure progress.

The toolkit – assessment and critique

1. Researchers found the toolkit very cumbersome, too long and in need of streamlining, with the questionnaire sequence cumbersome. The researchers had to jump between questions to ease the flow.
2. Although a level of duplication is valid for cross-referencing, the questionnaires had too many duplication of questions
3. The questionnaire construction created problems as many questions had a prescribed format requiring the researcher to skip questions depending on specific answers. This made the process cumbersome and seemed to confuse the recipients.
4. The researchers were required to do observations in terms of the validation criteria. This was nearly impossible due to cultural and social barriers to strangers lurking around to see who goes to the toilet, if and how hands are washed, etc.
5. The data interpretation and analysis was complex, which makes widespread application questionable, particularly because the Toolkit was issued for testing without data management software.
6. As the Toolkit stands at present, it is an academic exercise and widespread application is questionable.
7. The estimated survey times were massively underestimated by the Toolkit designers and researchers because the distances between households and the social habits of community members were barriers.
8. The question of sample size versus cost makes the widespread surveying also questionable, although the toolkit designers are of the opinion that very small samples would yield the same result.
9. Linking to the question pertaining to the sample size, the issue of cost becomes crucial. Who will pay for the national surveys globally?

Recommendations

The following recommendations are mooted, should the toolkit be refined for widespread, global use, although the author believes that its successful application is subject to the following remedial action:

- For (wide) global use
 - The questionnaire structure needs to be reviewed
 - The data capturing and analysis software (developed in this study) should be tested widely
- For individual country use
 - A *formative analysis* component should be added

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