Fact Sheet: The concept of water-person-years (WPY)

The concept of 'water-person-years' (WPY) is a new way of measuring the impact of investments. Assessing investments in WPY over a defined period of time, allows for a more efficient allocation of resources, and calls for a rethinking of the current development approach. Measuring in WPY is necessary for shift a focus from new infrastructure development to operation and maintenance of existing water systems, something that is crucial for sustainability.

What is it?

Being a static indicator, coverage does not take into account the number of people that will get water every year in future from a new water system, if it is kept functional. It is therefore necessary to add a time aspect to the coverage figure when allocating funds, and this indicator is called WPY. WPY tells us how many people get access to water from year one and each year throughout the lifetime of the infrastructure, and makes it possible to express the impact of an investment in a cumulative way, over a period of time.

Who can use it?

WPY is a tool that can be used by governments, donors and NGOs to justify long-term funding and higher budget allocations for operation and maintenance.

How is it used?

An example: an organization has in total 300 units of money to spend on water supply, and the investment cost of each supply is 100 units for a village of 1,000 people. To simplify, the 100 units include both hardware and software costs, where the relative distribution will depend on local settings. For this example, we also assume a constant population and that money today has the same value tomorrow. According to the approach used today, the main goal of the implementing organization will be a quick increase in coverage. It will therefore construct three water systems for 100 units each in three villages of 1,000 people each. The total cost is 300 units. However, without any money reserved for follow up, operation and maintenance, each water system can be assumed to break down after about 3 years. The total water-person-years this investment gives is therefore:

3 villages × 1,000 people × 3 years = 9,000 WPY

If the organization instead focused on one village and constructed one water system for 100 units, and set aside 10 per cent of the investment cost (10 units) for operation and maintenance each year for the next 20 years, the result looks like this:

1 village × 1,000 people × 20 years = 20,000 WPY

Conditions for Use

WPY should be used alongside existing indicators such as coverage and functionality. The indicator also needs some adaptation to reality, such as taking into account population growth and the value of money spent today versus its future value. The indicator will also suffer the same weaknesses as functionality and coverage if data collection methods and updating of databases are not improved.

Publications

The concept has been described in detail in three publications:

Koestler, A.G., Koestler, M.A. and Koestler, L. (2009) '**Coverage as a misleading development goal; the concept or Water-Person-Years**' *Water, sanitation and hygiene; Sustainable development and multisectoral approaches,* 34th WEDC International Conference, Addis Ababa, Ethiopia

Koestler, L., Koestler, A.G., Koestler, M.A. and Koestler V.J (2010) '**Improving sustainability using incentives for operation and maintenance: the concept of water-person-years**' *Waterlines,* Vol. 29 No. 2, Practical Action Publishing, UK

Koestler, L., Koestler, M.A. and Gisler, C. (2010) '**New incentives: economic projections with the water-person-years concept**', *Pumps, Pipes and Promises – costs, finances and accountability for sustainable WASH services,* IRC Symposium, The Hague, The Netherlands

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Publications and more information can be found at www.fontes.no