IRC

FAST FACT June 2016

IRC Propeller Corporate Campaign

The facts

Propellor campaign

In June 2018 IRC launched a new campaign to promote systems thinking in the water, sanitation and hygiene (WASH) sector. The direct mail campaign juxtaposes a clichéd image of a young woman at a gushing, life-giving water pump with an absurd image of a man holding a propeller that purports to be an airline. The line reads 'if this (the pump) is a lasting water supply...then this (the propeller) is an airline.'

Typically, 30% of pumps fail. The campaign highlights the level of failure of current approaches to delivering WASH services. It points to the need for complete solutions that understand that comprehensive WASH systems are required, not simplistic piecemeal building of pumps and pipes. Currently, 2.1 billion people lack access to safe water at home and 4.5 billion to safely managed sanitation.

With the Propeller campaign IRC is asking readers to actively promote a systems approach; to ensure that funders and investors support solutions based on delivering sustainable WASH systems; and, asking that WASH sector organisations (including IRC) are held to account for their ability to achieve lasting change through WASH systems strengthening.

IRC's Propeller campaign is highlighting the unacceptable level of failure of the hand pumps used for many rural water supply schemes (itself an indicator of the high levels of failure of infrastructure across the WASH sector), but where does the figure of 30% come from?

There is no one catch-all figure for how many handpumps aren't working at any one time. Indeed, even the definition of what is meant by broken down - "non-functioning" in preferred sector jargon - is contested. Some define it as whether a pump is functioning at the time of an inspection visit; others include in the definition the percentage of time the pump has worked over a certain period (e.g. a year); again others include what are effectively service level characteristics into the definition, such as water quality.

For that reason, there is currently an effort underway in the sector to standardise the definition of 'functionality', as well as other service level parameters (Banks and Fury, 2016; Bonsor et al, 2018; WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene, 2018). As these efforts evolve, we will get a better understanding of the real levels of non-functionality, and other and arguably more important aspects of under-performance such as providing poor water quality or low reliability.

However, the daily experience of IRC staff on the ground is that the 30% or "around a third" is right - it chimes with what we see in the districts and communities where we work. It's also something of a rule of thumb figure for many others working in this sector.

That there is no single figure doesn't mean that there's no data. Actually there's quite a lot, all of it pointing to the fact that failure rates are unacceptably high - resulting in wasted investment and blighted lives. In the list of annotated links below, we've provided a selection of our own and other's data on poor functionality and premature failure of handpumps. This data runs from the low teens to as high as 50% - all depending on what exactly is measured; all representing potential wasted investment. Why potential? Because in the end there's nothing wrong with a pump breaking down - it's to be expected. What is wrong is when once broken down it stays that way. A healthy system is one that is able to repair itself quickly and effectively.

LIST OF LINKS TO FURTHER DATA AND READING

Non-IRC - International data and reports

A 2010 report published by Rural Water Supply Network (RWSN) estimated that around 36% of handpumps were not working at any one time in Sub-Saharan Africa. A 2016 update drawing data from the Water Point Data Exchange on 11 countries, revealed that an average of 22% of water points (including handpumps, piped supplies and unimproved sources) are non-functional. There were high failure rates early after installation: almost 15% after one year and 25% by their fourth year after installation. This indicates widespread problems with poor quality water point installation (Banks and Furey, 2016).

In a recent article on "The need for a standard approach to assessing the functionality of rural community water supplies", the authors cited figures for non-functionality of handpumps in rural Africa and South Asia that ranged from 15% to 50% (Bonsor et al., 2018).

Susan Davis' Improve International maintains an excellent list of 'sad stats', publications on water point failures.

IRC DATA AND REPORTS

Burkina Faso

A 2015 IRC survey in two municipalities found an average non-functionality rate of 11% for boreholes with handpumps (11% in both Gorgadji, Séno province and 10.58% in Aribinda, Soum province). A water point is deemed functional if it is likely to provide a minimum flow of 0.7m3 / h without failure for a period of more than 12 months. However, if water quality and distance to waterpoints are taken into account, the lack of access to water is much higher, nearly 60%, for both municipalities as measured in 2012. (IRC Burkina Faso, 2015, 16-17).

A larger survey of 842 boreholes with handpumps found that only 12% of systems that had benefited from major maintenance were non-functional. However, overall non-functionality was increasing because it was becoming too expensive to maintain the systems (Pezon and Bassono, 2013).

Ghana

In this 2012 report from IRC's WASHCost project on the functionality of rural handpumps in three districts in Ghana, between 15% and 37% (average 29%) of facilities were non-functional. Using a different indicator (reliability over the last 12 months) - 15% to 42% (average 28%) of the facilities provided an unreliable service (Nyarko et al, 2012). A similar 2013 report from IRC's Triple-S project, covering three districts, found that about a third of the point sources (mostly handpumps installed on boreholes) were broken down or non-functioning. Just two years after implementation, 10% of point sources had already broken down. Between 58% and 81% of the systems were unreliable (Adank et al., 2013).

As part of the SMARTerWASH programme, IRC and partners collected data on the service levels of

20,366 handpumps in six regions in Ghana. Some 26% of the handpumps were not functional or not used. The overall proportion of handpumps providing basic services in line with national norms and standards was just 6%. The majority (61%) of functional handpumps, which provide sub-standard services failed on the distance indicator as they didn't have all users within 500 m (Adank et al., 2016).

Handpump functionality data was collected from 2012-2016 in two districts in Ghana: Sunyani West and East Gonja. While non-functionality in Sunyani West stayed at more or less the same level (20%) it increased in East Gonja from around 30% to 45%. This shows that merely collecting data is not sufficient to ensure improved services. The difficulty is putting in place the "systems" required for ensuring ongoing monitoring and the use of monitoring data: the tools, capacities, logistics, but also the district, regional and national level mandates, motivations, incentives etc. (Adank, 2017).

The baseline for the masterplan of the Clean Asutifi North Initiative recorded a relatively high functionality of handpumps, with only 17% not functioning. However, more than a third of handpumps do not provide reliable services (meaning they are functional less than 95% of the year). Traveling distance is a challenge for many, as only a quarter of handpumps were reported to have all its users within 500 meters. Users found the water quality of 29% of the handpumps, mostly those near to the mining area, to be unacceptable (Asutifi North District Assembly, 2018).

India

In Andhra Pradesh, India, boreholes with handpumps are often used as an alternative source to the main piped schemes. A 2013 WASHCost project report revealed that 46% of handpump users faced reliability problems, while 13% had problems with water quality (Burr and Fonseca, 2013, fig. 6).

Uganda

In Kabarole District the combined non-functionality rate of point sources and piped schemes in urban and rural areas, 22 % and 18 % respectively, compared to the national average of 16%. (IRC Uganda, 2015).

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About IRC

We're catalysts of change, working in every corner of the WASH sector to build and strengthen systems that transform lives. With sector colleagues we are currently using our expertise to deliver WASH systems in 6 countries and 21 districts and municipalities. We work with local and national governments and with international partners across the world to promote systems thinking and delivery.

Our international team is made up of over 90 recognised WASH service specialists and dedicated field staff, based in our focus countries, Burkina Faso, Ethiopia, Ghana, Honduras, India and Uganda, and international experts in the United States and our head office in The Hague, the Netherlands.

Through our digital offerings, events and publications we seek to make our expertise and learning available to everyone. To find out more about a systems approach and why it's integral to sustainable WASH services, visit our website at www.ircwash.org.

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