



How behavioural science could revamp development

Speed read

- Behavioural science aims to make desired actions the easiest option
- Unlike legislation or incentives, it often costs little to apply
- Providing chlorine dispensers in Kenyan homes boosted water sterilisation

At the end of a hectic six days, Simon Ruda and Stewart Kettle took their data (<http://www.scidev.net/global/enterprise/data/>) to the superintendent of the Guatemalan tax authority. The two men had spent several weeks redrafting letters sent to citizens, reminding them to pay tax. It looked like their efforts had generated a significant windfall for the cash-strapped Guatemalan administration. “When we showed these results to the superintendent he was just so happy,” says Kettle.

Ruda and Kettle work for the Behavioural Insights Team, a social purpose company that began life as part of the UK Prime Minister’s Office. But its services were in such demand that it was spun out of government to become an independent company to allow it to expand more rapidly — the first time this has happened to a Whitehall policy team. The unit specialises in delivering ‘nudges’: tiny changes in how governments operate (<http://www.scidev.net/global/governance/>) that make it more likely their citizens will behave in a certain way.

For example, if a government wanted to promote healthy eating (<http://www.scidev.net/global/health/nutrition/>), it could introduce a law that everyone had to eat 100 grams of carrot every day. Or it could reduce

any sales tax on carrots, encouraging people to buy them.

But research has shown that another approach is often cheaper and more effective: arrange things so the behaviour you want to encourage is the easiest and most attractive option. In our healthy eating example, this might mean nudging children towards eating vegetables by simply asking schools to place them in front of the chips when serving lunch.

These ideas have been circulating in developed nations for some time and have gained prominence in governance discussions over the last ten years. Apart from the United Kingdom, Australia, Singapore and the United States also have units dedicated to using behavioural insights in policy.

But now Ruda and Kettle say they have conducted their first trial of behavioural insights in partnership with a developing country government, there is hope that the idea could start to be widely used in developing world policymaking (<http://www.scidev.net/global/governance/policy/>) too. And because — unlike legislation or incentives — such techniques often cost little to apply, the effects could be transformational.

Marco Hernandez, the World Bank's economist for Guatemala, certainly thinks so. "We have been using behavioural insights for some years at the bank, though we haven't necessarily been calling them that," he says. "But it's true that the idea has received increasing attention in developing countries over the past couple of years."

In recognition of this, the World Bank's *World development report 2015*, which was released on 4 December, is all about behavioural insights and tries to "push the message" that they are useful, he says. [1]

Hernandez first started sharing ideas with the Behavioural Insights Team when, after several years at the World Bank, he took up his current position focusing on Guatemala in May 2013. For a while, he had known that even carefully designed poverty reduction policies sometimes fail. "I started getting interested in why that is," he says, and he wondered if behavioural sciences could offer some answers. So when he started working more with the Guatemalan authorities and realised the scale of the challenges they faced, he turned to science.

"The government there is actually one of those that collects the least amount of tax in the world," explains Hernandez. "As a result, it is not able to provide basic goods or public services, which are much needed to deliver the bank's two key objectives: to reduce poverty and create shared prosperity."

He says a decision was made to begin a project that would aim to increase tax revenues at a low cost and without introducing new legislation.

Green shoots in Guatemala

After some initial discussions early this year the World Bank hired the Behavioural Insights Team to work with it and the Guatemalan tax authority on improving tax take. In May, Ruda and Kettle flew in just after the tax year had ended. The World Bank paid Behavioural Insights US\$50,000 for their part in the project, but Ruda says this was a fraction of the extra revenues the trial ended up bringing in for Guatemala.

But that positive outcome was uncertain at the outset. Kettle says that their first few days in Guatemala involved giving presentations to civil servants to demonstrate how they had achieved past success. "They weren't definitely on board when we went out there," he says. "We had to convince them."

Ruda explains that his background as a civil servant was helpful because he could speak to the Guatemalans in a way that showed he understood the policymaking environment. "And, of course, having been part of the UK Cabinet Office helped too," he says.

With the tax year just over and the Guatemalans preparing to send reminder letters to those still to declare their tax, the partnership decided to modify the letters' wording using behavioural insights. They would then follow each individual to see what effect the changes had. In all, just over 43,000 citizens yet to file their tax return were divided into six groups. The first group was not sent a letter and the second group got the standard letter, while the other four groups received modified letters (see table 1).

Table 1: How payment reminder letters in Guatemala had their wording altered

Letter (Click on the thumbnail to enlarge)

What it includes

None sent

—

Standard letter



http://www.scidev.net/filemanager/root/site_assets/data_pice/josh_behavioural_science/original_letter.pdf

It had details of what was required from the recipients by law and told them that they should pay but did not explain how

Modified letter 1



http://www.scidev.net/filemanager/root/site_assets/data_pice/josh_behavioural_science/BI1.pdf

- > It started with a short 'call to action' making clear that payment was needed now
- > It gave a link to a tax paying website
- > It told people they can pay in instalments
- > It included the message: "If you do not declare you may be audited and face the procedure established by law"

Modified

letter 2



http://www.scidev.net/filemanager/root/site_assets/data_pice/josh_behavioural_science/BI2.pdf

Same as modified letter 1 but with:
> “According to our records, 64.5 per cent of Guatemalans declared their income tax for the year 2013 on time. You are part of the minority of Guatemalans who are yet to declare for this tax”

Modified
letter 3



http://www.scidev.net/filemanager/root/site_assets/data_pice/josh_behavioural_science/BI3.pdf

Same as modified letter 2, but in addition:
> “Previously we have considered your failure to declare an oversight. However, if you don’t declare now we will consider it an active choice and you may therefore be audited and could face the procedure established by law”

Modified
letter 4



http://www.scidev.net/filemanager/root/site_assets/data_pice/josh_behavioural_science/BI4.pdf

This excluded the call to action that was in modified letter 1 or the deterrent in letter 3. The tone was softer, including an image of the Guatemalan flag and the phrase:
“You are a Guatemalan citizen and Guatemala needs you. Be a good citizen and submit the 2013 annual return of income tax ... Are you going to support your country?”

The results showed that small changes to the letters — things such as making tax demands clear and simple or evoking a sense of national pride — could increase the number of people filing tax returns. The best performing letter made it clear what recipients had to do and evoked a sense that the state was watching them.

The increases may look small (see graph 1, below). For instance, modified letter 3, the best performer in terms of increasing the numbers of people who declared their tax, only led to a 5.5 percentage point rise in people filing returns compared with sending no letter at all. And when it came to the amount of people who followed through on that declaration and actually paid their tax, the biggest rise seen was 1.3 percentage points for modified letter 2.

But these small differences add up. “If you think about rolling that out across the whole section of the population who haven’t declared their tax, that’s big money,” says Ruda.

Graph 1. Difference in those who file their taxes and those who paid their taxes in Guatemala after receiving one of several letters with different wordings.

Analysis by Kettle, who specialises in econometrics within the Behavioural Insights Team, shows that if modified letter 3 had been sent to all 43,000 citizens in the trial it would have generated an additional US\$400,000 more than the standard letter.

The team is now working on a much larger project with the Guatemalan tax authority (a trial involving 800,000 people), looking at honesty in tax declarations. Kettle says the results of these –

the first large scale trials of their kind anywhere in the world – should arrive in January.

The limitations of academics

Despite the connotations of the term behavioural science, it is people with practical economic or policy expertise who are making it possible for developing world decision-makers to engage with the discipline. After all, the research has been around for a long time. Some trace it back to the work of Nobel prize winning psychologist Daniel Kahneman in the 1970s. But it’s only after persuasion from the World Bank, as well as Ruda and Kettle, that Guatemalan officials took an interest in the tax-saving drive.

Alix Zwane is one of the few people who has worked on behavioural insights as both an academic and as part of an NGO (<http://www.scidev.net/global/enterprise/>), in her case one set up to help governments apply the insights in the field. And she agrees that academics can only play a part.

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“There are many steps in between having a great, innovative idea and turning that into an institutionalised programme at scale, and academics can’t do all of them,” she says.

A case in point is one of Zwane’s own projects that, by the end of the year, could be ensuring that four million Africans have safe drinking water (<http://www.scidev.net/global/environment/water/>). The story starts in 2007 when she won a grant while working as a behavioural economist at the University of California, Berkeley, in the United States.

The grant was to research how behavioural insights might be used to get more Africans using chlorine to sterilise their water. Bottles of dilute sodium hypochlorite, a sterilising agent, are widely and cheaply in Kenya from local shops. But the Bill & Melinda Gates Foundation had noticed that few people bothered to use them to sterilise their water at home. The foundation wanted Zwane and her colleagues, Edward Miguel, also of Berkeley, and Michael Kremer from Harvard University to find a way to fix that.

“Those chlorine bottles are not a great technology because you have to remember to buy them, you have to spend money on that instead of on something else, you have to take them home and you have to remember to use them every day,” says Zwane. “It’s a bit like taking blood pressure medicine or flossing your teeth: people have to commit to doing it every day when the payoff is not readily apparent. In general, adherence to those kinds of technologies is quite low.”

Easing ‘cognitive burden’

After trying a few interventions focused on improved marketing — which only appeared to deliver small improvements — the team started to realise that the problem was at least in part the ‘cognitive burden’ of using chlorine. It wasn’t that people didn’t like the idea, it was simply that it was too much effort.

This illustrates an important early lesson from behavioural science: people are less likely to do something if it needs to be consciously remembered. The Behavioural Insights Team says four principles are vital to avoid this, which they sum up using the acronym ‘EAST’. To encourage a particular behaviour — from paying tax to using chlorine — it has to be *easy*, *attractive*, ideally done in a *social* group and come at the right *time*.

EAST

Here’s an explanation of how the Behavioural Insights Team ply their trade. It’s taken from their publication EAST: Four simple ways to apply behavioural insights. [2]

Make it Easy

Make it Attractive

Make it Social

Make it Timely

Zwane wanted to use behavioural science to make it easier for people to use chlorine. Her team tried out a series of interventions that removed successive barriers to its use. To do this, they recruited 693 households that got their water from 35 different sources, and split these into five equal groups.

The first group received no interventions. The second group were given coupons to exchange for free chlorine in local shops, removing the cost barrier. The third had chlorine delivered to their homes for free, eliminating both the cost factor and the inconvenience of having to travel to the shop — which could take several hours by bus and foot. With the fourth group, bottles were delivered for free and marketing was also used to reduce the mental effort it took for recipients to remember to use the chlorine. The final group had a free dispenser installed near the water source to dish out the right amount of chlorine for a standard-sized water container. Chlorine was also supplied without charge.

This video by Evidence Action explores the use of the chlorine dispensers.

The team then visited participants' houses without warning to test if they had chlorine in their household water container. All the interventions increased the number of people using chlorine (see graph).

The chlorine dispenser was easily the most promising approach because it would be more easily scalable, says Zwane — there was no need to target individuals to make it work. And, happily, it was also one of the most effective — coming second to the expensive marketing and free chlorine intervention only by a slim margin (see graph 2). According to Zwane, the dispensers work so well because they harness so many insights from behavioural science. Zwane's team measured all the groups' use of chlorine for three years. And the performance of the dispenser intervention has held steady over that period.

“For one thing, it's salient,” says Zwane. “You're already at the dispenser, so it's a low cognitive burden to remember to use the dispenser at that point. And it's in front of your peers, so we leverage peer pressure about what's good behaviour. And it can easily become a habit.”

Graph 2. How interventions altered people's use of chlorine to sterilise drinking water

After evidence, action

Zwane's results are yet to be published in a journal because some final data are still being collected, but they are available online. [3] And the project is progressing. The US Agency for International Development (USAID) and the Gates Foundation provided funding in 2009 and 2012 or the NGO Innovations for Poverty Action to work out how to roll out the chlorine dispensers across Africa and keep them supplied with chlorine. After incubating the work for several years, the NGO spun out the programme to the NGO Evidence Action, explicitly created by Zwane and others to take development projects backed by rigorous evidence to large scale. A few years on, and Zwane says a sustainable social action business is in place. She predicts that four million people across Kenya, Malawi and Uganda will be using the dispensers by the end of 2014, up from two million in August.

Right now, funding for the work to scale up the chlorine dispenser comes from a range of private foundations and the USAID. But the plan is for the continuing costs of providing chlorine to be met from the sale of carbon credits. Under the rules of the UN's Clean Development Mechanism, which was created as part of the Kyoto Protocol that sets targets on reducing greenhouse gas emissions, actions that lead to emissions cuts can be exchanged for carbon credits. Chlorine meets that criterion because, if people lacked access to it they would have to purify their water by boiling

it, most likely on a wood-burning fire.

“There is a lag of two or two-and-a-half years between putting your dispenser on the ground and when the carbon credit lands in your bank account,” Zwane says. But, by 2018, she hopes the dispenser project will be fully funded by credit sales.

Governments are important partners in rolling out the dispensers, according to Zwane. She says she’s working on ways to share the carbon credits with them.

But to collaborate with governments requires knowledge that bridges the space between a great idea and a large-scale programme, she says, such as “making the case to governments in terms they care about”.

Zwane sees behavioural science academics as “critical to filling the pipeline with innovative new ideas”, but she says there is also a need for organisations, such as her own and the Behavioural Insights Team, which can work alongside governments. She notes that this way of doing policy is so new that developing world governments have little expertise in it. “So we can’t just say: ‘This is a cool idea that you should use’. We have to have organisations prepared to offer ongoing technical assistance,” she says.

More nudge units?

This raises the question: will ‘nudge units’ begin cropping up in the administrations of developing countries over the next few years?

Hernandez of the World Bank says the growth of behavioural science in government depends on various factors, and it should be complementary to more traditional policy interventions. One vital point to bear in mind, he says, is how enthusiastic senior officials are about innovative policy instruments.

“But I do think some countries will start developing their own behavioural insights teams,” he says. “In a developing context, these could have as much potential as they do in a developed context.”

References

[1] World Bank World Development Report 2015: Mind, society and behaviour
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[2] Behavioural Insights Team EAST: Four simple ways to apply behavioural insights
http://www.behaviouralinsights.co.uk/sites/default/files/BIT%20Publication%20EAST_FA_WEB.pdf (Behavioural insights team, 2014)

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