FOREWORD

It is clear that without access to clean water, life is unbearable, unhealthy and inhuman. It is also clear that governments, at the Centre and in states, have worked over the years to provide clean water to rural communities. But the experience shows that even as water supply is "reached" to villages, the number of villages which again fall into the "unreached" category would grow. This zero-sum game is because water supply is not only about building pipes but about ensuring the sustainability of the source of the water system.

This is why, in this generation of water-supply programmes, the focus has been to ensure that the asset that is built to supply water does not become unfunctional—this means learning to invest in the sustainability of the water system, through rainwater harvesting and recharging of groundwater with grey water and even treated wastewater. The most important objective of the Jal Jeevan Mission—drinking water scheme—is to provide a "functional" tap in every home. This means that water has to be assured, not just provision of the tap.

Now the question is what then is working to ensure sustainability of the source of the water system. It would involve ensuring that the water source—and river, lake or well—is recharged and it is not polluted—by sewage from households that now have toilets and the excreta is then dumped on the land or wastewater is allowed to contaminate surface water.

Grey water—defined as wastewater from all other human uses other than toilets—is part of the source-sustainability story of water supply. The fact is 80 per cent of the water supplied to households is discharged as wastewater. It is also a fact that in rural households, the sanitation programmes focus on building toilets which use minimal water. In this case, the wastewater is mostly from other uses—bathing, washing clothes, cooking and washing utensils etc. This grey water becomes another source of contamination as it is discharged into the open, creating pools of water and breeding grounds for vectors and other diseases.

In this way, scarce water is also "wasted". This is why grey-water management—to reuse that used water for cultivation or for recharging groundwater—is key to source sustainability. What then are the best technologies to do this? This is what needs to be learnt, emulated and scaled up.

When we pollute water, we waste it. This is also why water supply has to be linked to the system of sanitation and wastewater generation. The fact is the toilet-building programme is incomplete unless the wastewater—the faecal sludge that is contained in the receptacle of the single- or double-pit or unlined, linked or honeycomb individual toilet—is safely disposed of. This means that the faecal sludge must be either treated within the toilet itself —in situ treatment—so that when it is emptied the sludge can be reused without polluting water or land. Or that there are systems to collect faecal matter and to take it to treatment plants before it is reused on land.

The most important learning is that faecal matter—what we excrete after eating food that takes the nitrogen and phosphorous from the soil—is full of nutrients. This matter must be put back on the land and not disposed of in waterways. But it must be done after treatment so that wastewater does not add to our health burden.

So, there is no doubt that India has had a rich development laboratory—a fertile ground of learning of what does not work and why. The journey has also brought lessons on what works and why.

The most exciting part of this development laboratory has been the fact that this time change on the ground is being upscaled. It is being done through government programmes, which have learnt from the experiences on the ground and have experimented and innovated. Big change is possible and this is why this development journey has milestones that need to be celebrated.

What is also clear in all that we have seen not working or working is that unless communities are involved, the programmes will remain dysfunctional and broken. The fact is sustainability requires natural resources to be managed not through fractured bureaucracies but through decentralized systems of local community control. This is where the next big evolution in practice has to be—this is the experiment that will be the real gamechanger.

But for the moment, let's exhale together and take the time to learn from the change on the ground and the change-makers who have had the courage to practise it and make it work.

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