Indonesia's 'Water Decade'

Only one-third of Indonesia's population has access to a clean water supply. **Dr Scott Younger** believes everyone could have access by 2015 if the Government and the private sector work closely together.

In 1980 the UN declared the 'Water Decade': Within ten years, at a cost of about US$10billion, every community in the world would have access to clean water. It was a noble aim, but the 'Water Decade' was one of the great failures of the 20th century. World leaders were simply not listening, entrapped in matters of greater perceived political and business importance. Their failure to act then means that today, in a world with 50% more people than in 1980, the need to provide access to clean water is even greater.

In Indonesia, thanks to the monsoon, there is enough rainfall to provide the population with all its domestic water needs, as well as sustain the entire nation's agricultural needs. So it's rather shocking to consider that only one-third of the population has access to a clean water supply. This makes Indonesia one of the countries with the worst water coverage per head of population in the world. The problem? Most of this valuable resource is simply not being harnessed for use. It runs off the land into water-courses prior to use for water supply and discharges into the sea.

Tackling Indonesia's water problem lies at the very heart of her ability to effectively combat poverty and reduce infant mortality to accepted world norms. The task is large but with political will, sustained investment, and some institutional restructuring, all Indonesians could realistically enjoy access to a clean water supply within the next ten years.

If the next ten years is to be Indonesia's 'Water Decade,' a holistic, cross-sectoral approach to water resource management must be adopted, taking note of the particular characteristics of the country's 90 river basins.

Hurdles

A recent Public Works Ministerial decree dealing with fifteen important river basins, where water resource management is considered strategic and critical for human development, is definitely a nod in the right direction, but much remains to be done in terms of implementation, and there are many constraints:

First, increasing urban and rural population pressures on natural resources, particularly in highly populated Java, are compounded by the lack of clear spatial planning policies and unenforced environmental regulations. For example, this applies to the relatively uncontrolled use of groundwater, particularly in the major cities, where excessive pumping is causing some irreversible harm to the groundwater table. Many challenges are inter-related, affect downstream users and must be considered within the framework of river basin management.

Second, institutional arrangements in Indonesia tend to be complex. There is a labyrinth of local and central government organisations with various managerial responsibilities, several overlapping.

Third, the combination of unsustainable cultivation practices on steep upland slopes, unregulated urbanization and pollution, conspire to create a host of water resource problems, including: widespread soil erosion; landslips; high flood water runoff; sediment-laden rivers; poorly maintained irrigation and flood channels; garbage clogged flood gates; polluted and anoxic urban drainage; and widespread flooding and groundwater over-exploitation, particularly around the main urban centres of West Java.

Lessons from the Citarum basin

The Citarum basin in West Java is Indonesia's most strategic and critical water basin and has been the subject of several river basin studies. It is the principal surface water resource serving Jakarta and Bandung. The Citarum river, is formed with many tributaries flowing from the Central Volcanic Mountains confluence within the Bandung plateau, a sedimented volcanic lake. The basin covers some 11,500km_ and supports a population of over 10m people. At least half of them live in urban areas, including the rapidly expanding conurbation around Bandung. Furthermore, the bulk of the water harnessed in the basin is used for irrigation.

From the Bandung plateau, the river cuts west and then north through deep gorges, now dammed by the Saguling, Cirata and Jatiluhur dams. The reservoirs provide hydropower, irrigation water and strategic water supply to Jakarta from Jatiluhur, via the West Tarum canal.

Unfortunately, early studies focussed on supplying water to the greater Jakarta area rather than taking an integrated approach, which could also have solved the problems in the upper catchment area. By the end of the 1990s, however, both were subject to an integrated, holistic development and management plan for the eastern part of West Java.

Early implementation of this holistic approach, with due account of the many stakeholders and community interests involved, has yet to start, but it is essential

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Left: Water storage facilities at Baturraden, Central Java.

if the Citarum basin is to fulfil the many demands being placed on it. Without proper management and care of the basin, which is currently dealing with unacceptable levels of pollution, very serious environmental problems will arise within a decade. The result: the crucial surface water supply to the expanding conurbations of Bandung and greater Jakarta will be badly affected.

This potential disaster can be averted – all the required environmental technologies are known; they just need to be harnessed and managed. Moreover, the Citarum basin provided a 'just in time' warning about the importance of integrated planning which should be heeded in future projects.

Water supply management

Provision of clean water is mainly the responsibility of district water companies (PDAMs). There are over 300 across the country and most are technically bankrupt. Many were in poor shape before the 1997 economic crisis, but the crisis effectively wiped out any opportunity for improvement and investment.

Consequently, most parts of Indonesia have very old and poorly maintained water supply equipment and leaking distribution piping. The nation requires a large injection of new capital to repair and expand the water supply system to serve new customers. This will mostly have to come from the private sector, which will also have to contribute to the regeneration and upgrading of technical and managerial skills in the sector.

The task is large but with political will, sustained all Indonesians could realistically enjoy access

Administrative constraints

Some steps to rationalise administration have been taken recently. Unlike in other infrastructure sectors, since regionalisation, local government now takes the key decisions on water contracts. Procedures for appropriate action were set out in the 2004 Water Law, but local government has yet to fully understand its role in ensuring that the legal and commercial risks are shared fairly when a private sector investor is involved. For example, are the tariff structures adequate and fair? If not, will the local parliament be prepared to raise them to a proper commercial level, something that should apply even when the public sector is taking responsibility for the water? Fortunately, a few local governments do understand the importance of these issues, but they must be made a priority by all if they are to successfully attract the level of private sector investment needed.

Wastewater and solid waste

No one would dispute that something has to be done to clean up urban environments blighted by uncontrolled discharge of wastewater and solid waste into rivers and unprepared ground. Large sums of money are needed to clean up this kind of pollution. For Jakarta alone, well over US$10bn will be

investment, and some institutional restructuring, to a clean water supply within the next 10 years.

needed to deal with this issue in the next decade.

Again, unfortunately, it is difficult to attract private sector investment into this vital sector of work, as there is no adequate regulatory framework yet in place to encourage and protect private funding. This means that the government must take prompt action, perhaps with the assistance of soft loans. A start might be to charge businesses and better off residential areas, while a tariff structure is set up for all users that will eventually offset the cost of implementation.

For example, the planners of Lippo Karawaci, a new town situated north-east of Jakarta, integrated the financing issues of water supply, waste and wastewater treatment from the very beginning. As well as addressing the initial implementation cost, a comprehensive tariff and payment system worked well from the start. It is the one place in Indonesia where it is safe to drink water from the tap!

A 'do nothing' course of action in major cities, such as Jakarta, is simply not an option. Increasing water-linked pollution is a health hazard that leads to various physical and mental illnesses. The cost to the nation can be assessed as a loss of productivity that is in the millions of dollars. As the economy grows and the population matures, a better environment will be expected. The Lippo Karawaci experience shows that people *are* prepared to pay for a cleaner, better service.

Action

Action must be taken right away to upgrade and expand clean water supply systems to both urban and rural communities using appropriate solutions. The plans to reduce significantly excessive extraction of groundwater in major cities should be pursued vigorously. The private sector can and should be a major partner in making this happen. What's more, implementation can be put under way relatively quickly.

Next, the key river basins must be cleaned up. This will take time, as it must involve the coordination of community and other stakeholder interests. Solutions can no longer be founded simply on a 'predict and provide' basis, but must address both demand and supply-side issues. Again, solutions will have to be sought through public-private partnerships.

Finally, cleaning up water-related pollution and sanitary waste in the major urban areas is a priority. Government will have to take the lead in this area and find ways to attract private sector investment and know-how as this is a particularly capital intensive subsector.

The challenges may seem great, but the idea of all Indonesians having access to a clean water supply and better health and sanitary conditions within the next ten years is no mere flight of fancy. By working together, the Government and private sector really could make this Indonesia's 'Water Decade.'