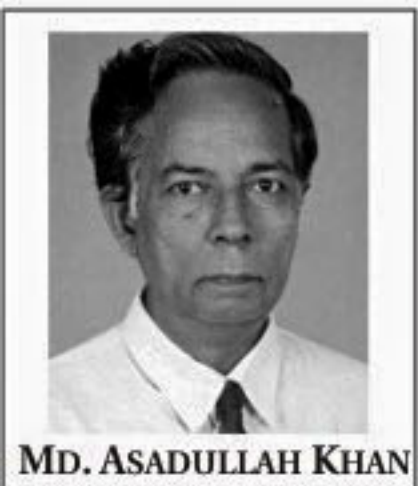


BITTER TRUTH

# Conserving surface water for food security



Md. ASADULLAH KHAN

**T**HIS year's theme "Water and Food Security" highlights the challenges associated with the precious resource. Clean water is growing scarcer in densely populated

Bangladesh. In the backdrop of critical shortage of water in Asia and Africa, the goal is to inspire political and community action and encourage greater global understanding of the need for responsible water use and conservation.

Half of the world's population could have profound trouble in finding enough fresh water for drinking and irrigation when world's population grows by another 2 billion in 30 years. At least 80 countries representing 40% of the world's population are subject to serious water shortages, and it may get worse as global warming disrupts rainfall patterns.

On a planet that is 71% water, less than 3% of it is fresh. Most of that is either in the form of ice or snow in Greenland and Antarctica, and less than 1% of that water -- .01% of all the earth's water -- is available for human needs; even then much of it is far from large populations.

From being a necessity, water has now become a luxury. With pipes running dry people, especially in Dhaka and Chittagong urban areas, look for alternative sources like

water supplied in tankers by Wasa. Desperate people, not only in cities but also in many towns and villages, are forced to buy water in water-starved areas

The demand for fresh water in Dhaka city is about 225 million litres per day. Dhaka Wasa provides about 210 million litres through 550 deep tube wells and four water treatment plants. About 87% of the requirement has to be met from underground water. The first signs of water stress were visible from the 1980s, but most municipalities and city corporations focused on the immediate -- tapping groundwater resources in and around the cities and towns.

Reports say that 80% of the irrigation needs and 90% of the drinking water needs are met from underground water. With underground water being extracted more quickly than can be recharged naturally, the situation is set to deteriorate. Pumps are being sunk deeper and deeper every year. Contrary to popular perception, water shortage is not just an urban problem but is, in fact, worse in rural Bangladesh. And as basins and rivers dry up, the country's food security is also threatened.

With drying up of ponds, and no efforts to dig fresh ponds during the last one century, farmers remain mired in their old practice of digging tube wells deeper and deeper to reach the decreasing ground water. With groundwater table going down by about 2-3 metres every year in Dhaka city and adjoining places, and sea level going above ground water level,

the problem has assumed alarming proportions.

Reports by agriculture ministry sources indicated that out of 3,166 observation wells sunk in different regions of the country from 2009 to 2011, underground water table in about 16 wells was found to be below the sea level, an ominous signal stemming from over-exploitation of underground water. The crisis seems to have been exacerbated after the

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construction of Farakka Barrage in India.

Experts opine that India's river linking project will greatly jeopardise agriculture and food security in downstream Bangladesh. It will inevitably lead to an alteration of the seasonal water availability pattern in both India and Bangladesh. The project, if implemented, will cause massive withdrawal of Brahmaputra waters (source of two-thirds of Bangladesh's surface water) for diversion to

the Ganges above Farakka point, turning Bangladesh into a thirsty and parched land.

Till now, a vast tract of arable land could not be brought under cultivation due to unavailability of irrigation water. BADC sources say that out of 3 crore 42 lakh and 19 thousand tons of paddy produced in 2011 in about 76 lakh hectare irrigated land, boro production, which is singularly dependent on irrigation water, rose to 1 crore and 84 lakh tons. That means 54% of the total output came from boro production, while 23 lakh hectare arable land could still be brought under boro cultivation provided irrigation water was available.

Once there were lakes and canals running through the city. About 250 sq.km of watersheds have either been encroached upon or dried up due to inadequate flow in the main water bodies. The result has been a drastic depletion in the water table evidenced by the fact that bore wells in the city have to go deeper and deeper.

Known to be the barometer of the ecological health of a city, water bodies also determine its climate. They help control humidity and temperature levels, recharge aquifers and also act as instruments of rainwater harvesting. These lakes could be formed into a hydrological chain and, during monsoon, surplus water from the upstream lake could be diverted into the next lake. Rapid urbanisation has led to the loss of wetlands.

Uttara lake, almost 5 km in length and 200 m wide, is now a giant sewer. All such lakes,

with water retention capacity increased by fresh digging, apart from being an aesthetic and ecological utility could be a source of water in times of water crisis. Shockingly, violation of the original Master Plan of the Uttara Model Town and in disregard of the prime minister's directive to recover and restore Uttara lake, Rajuk is creating new plots on the Uttara lake bed in flagrant contravention of the water body act and environmental regulations. Fully aware that water in the lake was seriously polluted, Rajuk leased it to for cultivation of fish.

The salient question is, if an organisation that owns water bodies essential for ecological balance and biodiversity continues to wreak havoc on the environment in the heart of the city, what hope can be there that there would be any improvement in controlling the pollution menace?

In the Indian city of Bangalore, an authority constituted under the department of environment has been working to halt the encroachment of water bodies. One of Bangalore's biggest lakes has been drained out and sewage lines have been blocked. Our government should undertake such a project for integrated countrywide tank development for irrigation. Such development work can fruitfully be done when government effort is combined with private initiative.

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## Assessment system in primary education

Md. ASHFAQUL AMIN MUKUT

**I**T is a common tendency among us to identify a child publicly as meritorious or unmeritorious based on the result of an examination. This becomes a nationwide phenomenon after a public examination like "Shomaponi," JSC, SSC or HSC. This identification is simply unjust to a child whom we identify as unmeritorious. It even be called a crime (not in the eyes of any existing law but psychologically of course!) in the case of children of primary level, who are still so innocent that when we single out a child as unmeritorious it can make him feel so low and inferior to others that it can lead to permanent damage in his/her self-confidence and negatively impact his/her future. A psychologist can better describe and provide rationale for my remarks. But I want to depict this issue from other hard facts that we totally forget and ignore.

To identify merit or assess the performance of a child we need to base it on a logical, fair and equitable assessment system. Hence, we need standards or yardsticks to compare with, either through measurement or other methods. The NCTB has defined 50 Terminal Competencies (TC) to be achieved after completion of five years of schooling. These TCs are transformed into grade and subject-wise learning outcomes in different textbooks. But our existing "pen and paper" based terminal exams at each grade and the "Shomaponi" (popularly known as PSC) hardly assess these TCs and learning outcomes, because some memory-based informative questions (that are available in the exercise portion after each chapter of a textbook) have to be answered on paper.

While, development of language skills is essential for the early learners for proper learning, this written exam assesses mostly writing skill, ability to memorise, and partly reading skill of a child. This leads towards rote learning. We do not assess other skills of language i.e. listening, speaking and reading. There is another point; human beings have multiple intelligence, which they use during learning.

For example, a child who learns to multiply easily is not necessarily generally more intelligent than a child who has more difficulty in this

task. The child who takes more time to master simple multiplication (i) may best learn to multiply through a different approach, (ii) may excel in a field outside mathematics, or (iii) may even be looking at and understanding the multiplication process at a fundamentally deeper level, or perhaps as an entirely different process. Such a fundamentally deeper understanding can result in what looks like slowness and can hide a mathematical intelligence potentially higher than that of a child who quickly memorises the multiplication table despite a less detailed understanding of the process of multiplication. Our teacher-centric, one-way and lecture based teaching system does not allow multiple intelligence to work.

An effective assessment system is

*Assessment directly impacts learning and thereby teaching. According to renowned educational psychologist John B. Biggs, students learn what they think they will be assessed on, not what is in the curriculum.*

an indispensable element of a curriculum along with its aims, goals and objectives; proper and appropriate contents and subject matters; and excellent instructional strategies and methods. The success of a curriculum will depend on how much of it has been realised or, in simple terms, what students have learned. The answer depends on the assessment system that is implemented in the thousands of schools in the country.

Assessment directly impacts learning and thereby teaching. According to renowned educational psychologist John B. Biggs, students learn what they think they will be assessed on, not what is in the curriculum. This is mostly true in Bangladesh since assessment of learning is mostly practiced in the form of summative assessment. Students and teachers

tend to be less concerned about lessons or contents that are once covered in the examination.

Our students are accustomed to learning, and teachers put more effort in teaching, only those contents or lessons that are important or likely to be covered in the exam. This has resulted in rote learning becoming the most common vice in Bangladesh, and in underperformance of learning attainments and poor quality of education that are evident in national level assessment reports of both government and non-government agencies. Had we been able to use formative and summative assessment regularly in our education system, and use assessment of and for learning, our culture of learning and teaching would have been different. We did introduce, though partially, creative questioning system to tackle this overwhelming rote learning syndrome. Yet this has introduced a new type of rote learning in the form of question bank. Therefore we need to:

- Find alternative ways to show and publish the performance of a child, especially at the primary level, without hurting his/her self confidence;
- Come up with a comprehensive and appropriate assessment system at the primary level to address all TCs and skills of language. More emphasis should be given on formative assessment and using assessment as learning;
- Change our existing teaching system into one that caters to multiple intelligence and gives a fair chance to each child to learn.

The government has shown courage, skills and management ability to do seemingly impossible things like sending almost 23 crore books to schools (from grade 1 to 10) within the first week of January. The concerned authority should put emphasis on ensuring effective and scientific assessment while transforming the present revised curriculum into teaching instructions, teachers' guide, textbooks, teaching-learning materials, etc. I believe these will go a long way towards a brighter future of our children and the country as a whole. I believe the government has the ability to do it.

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NAJMUDDIN A. SHAIKH

**M**EETING his Iranian, Afghan and Tajik counterparts in Dushanbe, Pakistan President Asif Ali Zardari made all the right noises: a stable Afghanistan was in Pakistan's interest; the nexus between militancy and drug trafficking needed to be curbed; non-state actors want to destabilise Afghanistan and, implicitly, they should not be allowed to do so; cooperation in all spheres among the four countries would assume added significance after the withdrawal of foreign forces in 2014; etc.

Separately, all four leaders agreed that terrorism and militancy needed to be tackled jointly. This clichéd repetition of public stances adopted earlier should not be the only thing to emerge from the quadrilateral summit. They must have discussed the implications of the following developments and raised the following questions.

One development has been the increase in "green on blue" incidents, the latest example being the killing of two British soldiers by an Afghan at a military base in Helmand and the confirmation that the man was from the Afghan army. Separately, an Afghan policeman shot an American soldier. These brought the number of such incidents in 2012 to 10.

The US commander in Afghanistan, Gen. Allen, has conceded that these incidents have led to an erosion of trust between allied and Afghan forces, though earlier he had suggested "we should expect that this will occur in counter-insurgency operations."

Yesterday, 16 people were arrested from the Afghan Ministry of Defence, at least some of them Afghan soldiers intending to use suicide jackets stored in the ministry itself to blow up buses bringing workers. Where then will trust come from?

In a New York Times poll conducted before the latest incidents, more than two-thirds of those surveyed think that the US should not be at war in Afghanistan when four months ago only 53% felt that way. As regards the state of the war, 68% thought the fighting was going "somewhat badly" or "very badly," compared with 42% who had those impressions in November 2011.

Will there be any support, in the

## Pakistan and regional security

face of these polls and the green on blue incidents, for a continued, albeit reduced, presence of American troops at jointly operated Afghan bases?

Did the participants seek confirmation from Karzai that even if the US agreed to halt night raids he would only sign off on a general strategic partnership document and that the question of basing rights for the Americans would need another year of negotiations? Or was this not raised because of the known Iranian opposition to continued US presence?

Earlier, Gen. Allen in his testimony before Congress said that the build-up of the Afghan National Security Forces (ANSF) to 352,000 would be completed by the end of 2012 and that these forces would be maintained at that level until 2017. It has been estimated that at present pay

*In working for a stable Afghanistan Pakistan must take the lead because it is Pakistan, that would be most affected by continued instability.*

and maintenance of such a force would cost \$7-8bn annually.

On the other hand, it appears that Ambassador Grossman had difficulties in securing firm commitments from European allies for a contribution to the \$4.1 billion annually, post 2014, to support a reduced ANSF force of 230,000. Even if the \$4 billion target is met who will plug the gap for the three years that the ANSF will remain at its present level?

Certainly, Congress would have no appetite for this in the face of the opinion polls cited earlier and the general weariness with the decade-long conflict. What would be the consequences for stability if the forced demobilisation of lethally trained soldiers added to the ranks of the unemployed in an economy strained by the massive drop in foreign aid?

The Taliban have suspended talks with the US ostensibly because of the latter's vague and erratic stance. Is

this the real reason or is it because the Taliban do not want to publicly renounce ties with Al Qaeda or its affiliates -- among the latter would be large sections of the Tehrik-i-Taliban Pakistan -- or because hard-liners in their ranks believe that they can resist regional pressures, wait for Nato forces to withdraw and then restore the Islamic Emirate of Afghanistan? If the hard-liners prevail in Taliban ranks will the result be anything other than a civil war for which the minority ethnicities are now better prepared than ever before?

Could the participants in the summit take the initiative to seek the appointment of a UN special representative along the lines of the Cuellar/Cordovez mission of the 1980s to bring together the government and "armed opposition," the only precondition being the renunciation by the armed opposition of ties with terrorist organisations?

Could the participants call for a meeting of all regional countries for a reiteration of the 2002 Kabul declaration on good-neighbourly relations and ensure that this time pledges of non-interference would be honoured? Would something along these lines work when vested drug trafficker and warlord interests within Afghanistan actively seek to subvert it? Can the government and opposition in that country, unlikely as it may seem, work together to eliminate this threat?

The quadrilateral summit in Dushanbe coincided with the fifth Regional Economic Cooperation Conference on Afghanistan. As against the 11 countries that attended the first conference in Kabul and the 24 that attended the third in Islamabad more than 80 countries and a host of international organisations are present in Dushanbe.

International interest in working for a stable Afghanistan after the Nato withdrawal is obviously at its peak. Any worthwhile initiative by the summit participants and other regional countries will win international support. Pakistan must take the lead because it is Pakistan, as I have shown in earlier columns, that would be most affected by continued instability in Afghanistan.

The writer is a former foreign secretary. © Dawn. All rights reserved. Reprinted by arrangement with Asia News Network.