BBC NEWS

The pending scramble for water

ANALYSIS
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In 2008, Saudi Arabia ceased to be self sufficient in wheat production.

It is looking to access land overseas to grow crops, possibly in Pakistan or the Horn of Africa.

China is acquiring agricultural land in Southern Africa for similar purposes.

And Daewoo Logistic is looking to lease land in Madagascar, to grow food for South Korea.

Other countries in South Asia and the Gulf are considering similar moves.

Scale of problem

None of these countries needs the land for the sake of territorial expansion.

What they need the land for is more fundamental: food. In all these cases, it is a shortage of water that has prompted this move.

The experience of Saudi Arabia, China and South Korea today could be a foretaste of what will follow elsewhere.

It stems from the failure of national governments and the international trade system to address the looming water crisis. Without changes, we face a scramble for water over the next two decades.

When water availability drops below 1500 cubic meters per person per year, a country needs to start importing food, particularly water intense crops.

Saudi Arabia faces this problem. Twenty other countries fell below this threshold in 2000, and another 14 will join them by 2030.

Industrialisation

It is not just about absolute water scarcity, however.

For many of the fast growing economies in Asia and the Middle East, there are trade offs.

As economies expand, governments have to choose whether to allocate water to agriculture, or to expanding cities and industries instead.

This is a challenge that China and South Korea face.

When a country devotes 40% of its renewable water resources or more to irrigation, it starts to face these water allocation issues.

By 2030, under business as usual, all of South Asia will reach the 40% threshold; the Middle East and North Africa region will have hit 58%.

Agriculture almost always loses out to the industrialising economy, especially to the energy and manufacturing sectors, in such water allocation decisions.

Current trends suggest that by 2030, demand for extra water will soar.

Rapidly industrialising economies across South Asia, the Middle East and North Africa, which support approximately 2.5 billion people, will be forced to look elsewhere for water-rich land for their food.

Deep problems

Why is finding the water for agriculture becoming such a profound issue?

First, we have been incredibly wasteful with our agricultural water over the years, and now face shortages of groundwater in many parts of the farming world.

Second, as we grow richer, we tend to eat more meat, which requires more water.

Third, trying to reform water use in agriculture is often deemed political suicide, so inertia prevails.

Fourth, we have an outdated global trade system for agriculture.

While over 70% of the world's freshwater withdrawals are used for agriculture, historically this water has been heavily subsidised and therefore free or hugely under-priced.

It has been used wastefully as a result.

More than a quarter of India's harvest, for example, could be at risk by 2025 as groundwater is depleted beyond recovery; already 10% depends on water mined from unsustainable groundwater sources.

Water scarcity may soon cause a loss of global crop production of 350 million tonnes, almost equal to all the grain the US grows.

Different diets

Food demand is projected to grow by 70-90% by 2050. But more than 25% of the increase in grain demand will be due to changes in diets, rather than to population growth.

A typical meat-eater's diet requires about 5,400 litres of water a day to produce, double what a vegetarian requires for the same nutritional value.

Global production of meat is projected to more than double from 229 million tonnes in 1999/01 to 465 million tonnes in 2050, notably across Asia.

Ironically, while more "crop-per-drop" is required to meet future grain demand, the fastest-growing nations are also diverting more and more water away from agriculture to support growing cities and industry, compounding the problem.

Volatile prices

Making agriculture more water-efficient commonly involves government intervention to re-assess historical allocations to farmers, raise water prices, and implement technological change.

Most politicians choose to avoid addressing such issues.

And there is no correlation between the places that are best suited to grow different foods and those that actually do in practice.

Three of the world's top ten food exporters are water scarce, and three of the top ten food importers are water rich.

There is less overall global trade in agriculture, when we need more. Food prices have become much more volatile, as recent price rises showed.

Bilateral alliances

Without bold water reforms in national agricultural policies or reform to the global trade system, bilateral land-for-water deals will inevitably increase.

Such deals may seem rational now, but the scale of the problem in the next two decades demands a global solution.

Under business as usual, by 2030 we could see multiple countries from South Asia and the Middle East competing with each other to secure bilateral land-for-water deals: cash-rich, water-poor nations competing to secure deals with water-rich nations around the world.

A rapid retreat from a globalised, 21st Century world, back into a 19th Century style network of bilateral alliances and trade deals, with all of the associated political and economic complications, is likely.

The scramble for water has begun, and governments must react; the implications of doing nothing are too profound to contemplate.

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