

Livestock production an effective use of water in developing countries - new study

New study indicates that livestock production has high potential for effective, productive and profitable use of water in agriculture.

Contrary to widely held views that livestock production is a wasteful use of water and is destructive to water catchments, a new study asserts that livestock production has a high unrecognized potential for effective, productive and profitable use of water in agriculture.

Animal production, particularly production of grain feeds and forages, is one of the world's largest uses of agricultural water. If properly targeted for reform, this sub-sector may well hold the key to improved water productivity in agriculture. Livestock scientists are arguing that by reviewing the sourcing of livestock feed, increasing animal productivity, and improving grazing and watering practices, water productivity in agriculture could increase dramatically.

“In Africa we could double water productivity of livestock with little difficulty – maybe increase it four times” asserts Don Peden, a scientist with the International Livestock Research Institute (ILRI).

Livestock scientists are further challenging comparisons often made between livestock and crop water productivity. “Most comparisons focus on fresh weights of human foods; yet the water content of diverse foods such as meat, milk, potatoes and grains varies widely from about 10 to 80 percent, making such comparisons virtually meaningless,” says Peden. “Much criticism of high water use by livestock has emphasized grain-fed beef production, but livestock in developing countries consume very little grain, depending almost entirely on grass and crop residues and byproducts”.

Arising from evaluations of water use in livestock production systems as a part of a wider Comprehensive Assessment of Water Management in Agriculture, scientists say greater use of crop residues and by-products to feed livestock, a widespread practice in developing countries, could obviate the need for huge

amounts of water now used to produce grains and other animal feeds in developed countries.

“One entry point for improving global agricultural water productivity is strategic sourcing of animal feeds such as grains, crop residues and by-products, pastures, fodder and forage crops. This issue has been largely ignored in 50 years of research on both livestock and water management,” says Peden.

Equally important is the need to improve animal productivity through better breeding, animal health and nutrition. Research suggests that livestock in Africa’s pastoral areas achieve only about one-third of their genetic production potential. Also needed are improved watering and grazing practices that reduce run-off, flooding, degradation and contamination of water resources.

Sub-Saharan Africa and South Asia are two of the most important livestock production areas in developing regions. In Africa, 500 million people live in livestock-producing areas, half of them below the poverty line. In South Asia, 1.2 billion people are involved in livestock production, 40 percent living on less than a dollar a day. In these two regions, per capita meat consumption is about one-seventh of that in developed countries. The poor in these developing regions often suffer from lack of dietary protein, vitamins A and B12, zinc, iron and selenium.

In poor countries where most people subsist on starchy diets, animal foods constitute one of the best options for supplying these nutrients and helping to eliminate anemia, strengthen immune systems, and overcome malnutrition, as well as enhancing cognitive development in children. The contribution livestock make to the world’s poor is thus critical to their survival and development. Far from being a wasteful use of water, scientists argue that livestock production in developing countries must be seen as both essential and an opportunity to increase water use efficiency.

To maximize the productivity of water, livestock experts recommend factoring in the water requirements for livestock and feed production in mainstream water planning, management and development. Evidence is mounting that integration of animal production into investments in agricultural water development results in more sustainable and profitable livelihoods for farmers and herders alike