# Water Buffalo: Neglected, Misunderstood

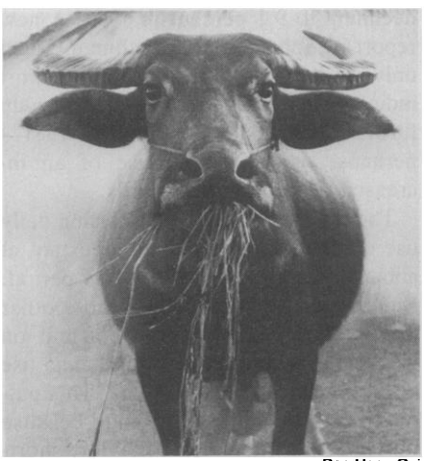
Although some 130 million water buffalo plow the rice paddies of Asia, haul vast quantities of goods, and provide an important source of meat and milk, they are a neglected resource, according to a report published by the U.S. National Academy of Sciences.* They may also be among the world's most misunderstood animals, at least as far as Westerners are concerned.

These great, lumbering beasts are a mainstay of family and village economies throughout Asia, the Middle East, and parts of southeastern Europe. Yet they have barely been noticed by the agricultural research community, and their roles and functions have changed little since they were domesticated some 5000 years ago. They have certainly not benefited from the kind of scientific attention that has dramatically raised the productivity of farm animals in the rich industrial countries, for example. But with a bit less neglect and a bit more understanding, their economic value could be greatly enhanced, says the Academy report. They could even find a niche in American agriculture.

Before that could happen, however, the water buffalo needs a change of image. To many Westerners, the animal is a fearsome beast, with its huge bulk, sweeping horns, and beady eyes. But, says the report, "Despite an intimidating appearance, it is more like a household pet—sociable, gentle, and serene."

It would also benefit from a wider appreciation of its economic and social importance—especially among development planners who often seem more intent on replacing water buffalo with tractors than on enhancing their usefulness. They provide 70 percent of the milk consumed in India, two-thirds of the meat in the Philippines, and more meat in Egypt than any other domestic animal. In south China, Thailand, Indonesia, Malaysia, the Philippines, and Indochina, they supply 20 to 30 percent of the agricultural draft power; for many families, the water buffalo is essential for raising food crops. They even provide a key ingredient of pizza—mozzarella cheese comes from water buffalo herds in southern Italy.

Genetically, water buffalo are a nondescript lot. There are two distinct types: the swamp buffalo, a creature with large swept-back horns that lives in eastern Asia, and the river buffalo, which has curled horns and is found in India, the Middle East, and around the eastern Mediterranean. Unlike cattle in the industrial countries, which have undergone generations of intense selection to enhance properties such as meat and milk production, water buffalo have been subject to very little selective breeding. "It seems likely that further selection could quickly improve their productivity," suggests the report.



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There are, however, some problems. Some of the prime breeding stock is fast disappearing, because farmers often castrate the biggest bulls and use them as draft animals or send them to slaughter. Moreover, because of the relative scientific neglect of the beast, little is known about its reproduction and genetics. The report thus says that urgent action is needed to preserve outstanding buffalo specimens and learn more about the animal's genetic potential.

Another area crying out for attention is the harness used to attach buffalo to plows and carts. Almost universally, farmers use a wooden yoke that has changed little in at least 1500 years. Although it has the advantage of being simple and easy to make, the yoke has one big drawback; it presses on the windpipe and tends to choke an animal under heavy load. The problem should be relatively easy to fix. Experiments in Thailand have shown that horse harnesses adapted for use on water buffalo can greatly increase the animal's efficiency. "If these experiments. . . are an indication, the farm power in Asia could be increased by 25 percent overnight," notes the report.

Although much could be done to improve the productivity of water buffalo in their traditional settings in the Third World, the beast may also have a promising future in other regions, particularly parts of Africa, Latin America, and even some industrial countries. For one thing, water buffalo are not fussy eaters; they will graze on a far wider range of plants than cattle, and they assimilate fodder far more efficiently. And for another, in spite of an enduring myth that the animal can only live in the tropics close to water, it has been shown to thrive in temperate, relatively dry regions.

"The biggest void in the water buffalo map is virtually the entire continent of Africa," notes the report. Some development programs have recently introduced small herds into Africa, however, and they have shown considerable promise in raising local meat and milk production as well as in providing draft power. Similar experiments have also met with success in Latin America, particularly in Brazil.

The water buffalo does have some drawbacks, it should be noted. The animal has a penchant for wallowing in mud, sometimes in pools that it creates itself. This can be a bit of a nuisance in the middle of good pastureland. It also has fewer sweat glands than cattle, which means that it needs a shady area to cool off on sunny days.

Perhaps the most important development in the water buffalo world occurred in 1978, when a small herd was introduced into the United States. "The humble water buffalo, normally considered fit only for the steamy rice fields of Asia, is now proving itself on farm fields in Florida and Louisiana," says the report. "As a result, interest in the animal is on the rise in U.S. university and farm circles."—COLIN NORMAN

**The Water Buffalo: New Prospects for an Underutilized Animal*, Commission on International Relations, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.


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