3. India's Sacred Cow and Its Economic Uses

by Marvin Harris

To Americans and Europeans, the attitude of most people in India toward cows is perplexing. Hindus regard the cows as sacred and will not eat beef. Hinduism bans (prohibits, considers taboo) killing cattle and eating beef.

In India a large population of cows wanders freely through both rural areas and city streets, undisturbed by the millions of under-nourished people. Why?

By collecting information, Marvin Harris develops an answer. In this famous article, he suggests that India's sacred cow is in fact quite a rational cultural adaptation -- because the cow is so extraordinarily useful.

The cultural practices of other people often seem strange, irrational, and even inexplicable to outsiders. And the members of the culture may be unable to give a rationally satisfying explanation of why they behave as they do: they may say that "the gods wish it," or that "it is always done that way." Yet a fundamental assumption of social science is that no matter how peculiar or even bizarre human cultures may appear, they can be understood, at least in part.

Introduction

News photographs that came out of India during the famine of the late 1960s showed starving people stretching out their hands for food while cattle strolled behind them undisturbed.

Western specialists in food habits around the world consider Hinduism an irrational ideology that compels people to overlook abundant, nutritious foods for scarcer, less healthful foods. Many Western observers believe that an absurd devotion to the sacred cow pervades Indian life. Many Indians agree with Western assessments of the Hindu reverence for their cattle, the zebu, a large-humped species of cattle prevalent in Asia and Africa. An Indian anthropologist states:

> *"Orthodox Hindu opinion regards the killing of cattle with abhorrence, even though the refusal to kill the vast number of useless cattle which exists in India today is detrimental to the nation." Even the Indian Ministry of Information*

formerly maintained that "the large animal population is more a liability than an asset in view of our land resources."

Accounts from many different sources point to the same conclusion: India, one of the world's great civilizations, is being strangled by its love for the cow.

The easy explanation for India's devotion to the cow, the one most Westerners and Indians would offer, is that cow worship is an integral part of Hinduism. Religion is somehow good for the soul, even if it sometimes fails the body. Religion orders the cosmos and explains our place in the universe. Religious beliefs, many would claim, have existed for thousands of years and have a life of their own. They are not understandable in scientific terms.

But all this ignores history. There is more to be said for cow worship than is immediately apparent.

History of Cow Worship

The earliest Vedas, the Hindu sacred texts from the Second Millennium B.C., do not prohibit the slaughter of cattle. Instead, they ordain it as a part of sacrificial rites. The early Hindus did not avoid the flesh of cows and bulls; they ate it at ceremonial feasts.

The belief that the cow is sacred and should not be eaten is a relatively recent development in India; it evolved as the Hindu religion developed and changed. This evolution is recorded in religious texts over 3,000 years of Indian history.

By a thousand years ago, all Hindus were forbidden to eat beef. The Hindu belief in the unity of all life was the spiritual justification for this restriction. But it is difficult to determine exactly when this change occurred. An important event that helped to shape the modern practice was the Islamic invasion of India, 800 years ago. Hindus may have found it politically expedient to set themselves off from the invaders, who were beefeaters, by emphasizing the need to prevent the slaughter of their sacred animals.

Around then the taboo or ban on eating beef assumed its modern form and began to function much as it does today. The place of the cow in modern India is every place -- on posters, in the movies, in brass figures, in stone and wood carvings, on the streets, in the fields. The cow is a symbol of health and abundance and is not to be eaten by Hindus.

The Economic Uses of The Cow

The cattle are not just worshiped and revered in India. They are also extraordinarily useful.

First of all, the zebu cow provides the milk that Indians consume in the form of yogurt and ghee (clarified butter), which contribute subtle flavors to much spicy Indian food.

This is one practical role of the cow, but cows provide less than half the milk produced in India. Most cows in India are not dairy breeds. In most regions, when an Indian farmer wants a steady, high-quality source of milk he usually invests in a female water buffalo. In India the water buffalo is the specialized dairy breed because its milk has a higher butterfat content than zebu milk. Although the farmer milks his zebu cows, the milk is merely a by-product.

More vital than zebu milk to South Asian farmers are zebu calves. Male calves are especially valued because from bulls come oxen which are the mainstay of the Indian agricultural system.

The ox is the Indian peasant's tractor, thresher and family car combined; the cow is the factory that produces the ox.

Small, fast oxen drag wooden plows through late-spring fields when monsoons have dampened the dry, cracked earth. After harvest, the oxen break the grain from the stalk by stomping through mounds of cut wheat and rice. For rice cultivation in irrigated fields, the male water buffalo is preferred (it pulls better in deep mud), but for most other crops, including rainfall rice, wheat, sorghum, and millet, and for transporting goods and people to and from town, a team of oxen is preferred.

If draft animals instead of cows are counted, India appears to have too few domesticated ruminants, not too many. Since each of the 70 million farms in India requires a draft team, it follows that Indian peasants should use 140 million animals in the fields. But there are only 83 million oxen and male water buffalo in India, a shortage of 30 million draft teams.

In other regions of the world, joint ownership of draft animals might overcome a shortage, but Indian agriculture is closely tied to the monsoon rains of late spring and summer. Field preparation and planting must coincide with the rain, and a farmer must have his animals ready to plow when the weather is right. When the farmer without a draft team needs his oxen, his neighbors are all using theirs. Any delay in turning the soil drastically lowers production.

Because of this dependence on draft animals, loss of the family oxen is devastating. If a beast dies, the farmer must borrow money to buy or rent an ox at interest rates so high that he ultimately loses his land. Every year foreclosures force thousands of poverty-stricken peasants to abandon the countryside for the overcrowded cities.

If a family is fortunate enough to own a fertile cow, it will be able to rear replacements for a lost team and thus survive until life returns to normal. If, as sometimes happens, famine leads a family to sell its cow and ox team, all ties to agriculture are cut. Even if the family survives, it has no way to farm the land, no oxen to work the land, and no cows to produce oxen.

The prohibition against eating meat applies to the flesh of cows, bulls, and oxen, but the cow is the most sacred because it can produce the other two. The farmer whose cow dies is not only crying over a spiritual loss but over the loss of the farm as well.

The monsoon (rain), on which all agriculture depends, is erratic. Sometimes it arrives early, sometimes late, sometimes not at all. Drought has struck large portions of India time and again, and Indian farmers and the zebus are accustomed to these natural disasters. Zebus can pass weeks on end with little or no food and water. Like camels, they store both in their humps and recuperate quickly with only a little nourishment. *Religious laws that forbid the slaughter of cattle promote the recovery of the agricultural system from the dry Indian winter and from periods of drought.*

During droughts the cows often stop lactating and become barren. In some cases the condition is permanent but often it is only temporary. If barren animals were summarily eliminated, as Western experts in animal husbandry have suggested, cows capable of recovery would be lost along with those entirely debilitated. By keeping alive the cows that can later produce oxen, religious laws against cow slaughter assure the recovery of the agricultural system from the greatest challenge it faces - the failure of the monsoon.

The local Indian governments aid the process of recovery by maintaining homes for barren cows. Farmers reclaim any animal that calves or begins to lactate. One police station in Madras collects strays and pastures them in a field adjacent to the station. After a small fine is paid, a cow is returned to its rightful owner when the owner thinks the cow shows signs of being able to reproduce.

During the hot, dry spring months much of India is like a desert. Indian farmers often complain they cannot feed their livestock during this period. They maintain cattle by letting them scavenge on the sparse grass along the roads. In the

cities cattle are encouraged to scavenge near food stalls. These are the wandering cattle tourists report seeing in India.

Westerners expect shopkeepers to respond to these intrusions with the deference due a sacred animal; instead, their response is a string of curses and the crack of a long bamboo pole across the beast's back or a poke at its genitals. Mahatma Gandhi was well aware of the treatment sacred cows (and bulls and oxen) received in India:

> *"How we bleed her to take the last drop of milk from her. How we starve her to emaciation, how we ill-treat the calves, how we deprive them of their portion of milk, how cruelly we treat the oxen, how we castrate them, how we beat them, how we overload them."*

Oxen generally receive better treatment than cows. When food is in short supply, thrifty Indian peasants feed their working bullocks and ignore their cows, but rarely do they abandon the cows to die. When cows are sick, farmers worry over them as they would over members of the family and nurse them as if they were children. When the rains return and when the fields are harvested, the farmers again feed their cows regularly and reclaim their abandoned animals. *The prohibition against beef consumption is a form of disaster insurance for all India.*

Western economists and agricultural experts are quick to protest that all the functions of the zebu cattle can be improved with organized breeding programs, cultivated pastures, and silos for storage. Because stronger oxen would pull the plow faster, they could work multiple plots of land, allowing farmers to share their animals. Fewer healthy, well-fed cows could provide Indians with more milk. But pastures and silos require farm land, land needed to produce wheat and rice.

A look at Western cattle farming makes plain the cost of adopting advanced technology in Indian agriculture. In a study of livestock production in the United States, one scientist found that 91 percent of the cereal, bean, and vegetable protein suitable for human consumption is consumed by livestock. Approximately three quarters of the farming land in the United States is devoted to growing food for livestock. In the production of meat and milk, American ranchers use enough fossil fuel to equal more than 82 million barrels of oil annually.

Indian cattle do not drain the system in the same way. A study of livestock in Bengal, India, by an American professor found that in India the cattle ate only the inedible remains of subsistence crops -- rice straw, rice hulls, the tops of sugar cane, and mustard-oil cake. Cattle graze in the fields after harvest and eat the remains of crops left on the ground; they forage for grass and weeds on the roadsides. The food

for zebu cattle costs the human population virtually nothing. "Basically the cattle convert items of little direct human value into products of immediate utility."

In addition to plowing the fields and producing milk, the zebus produce dung (manure), which fires the hearths and fertilizes the fields of India. Much of the estimated 800 million tons of manure produced annually is collected by the farmers' children. And when the children see the droppings of another farmer's cattle along the road, they pick those up also. The system operates with such high efficiency that the children of West Bengal recover nearly 100 percent of the dung produced by their livestock.

From 40 to 70 percent of all manure produced by Indian cattle is used as fuel for cooking; the rest is returned to the fields as fertilizer. Dried dung burns slowly, cleanly, and with low heat -- characteristics that satisfy the household needs of Indian women. Staples like curry and rice can simmer for hours. While the meal slowly cooks over an unattended fire, the women of the household can do other chores. Cow chips, unlike firewood, do not scorch as they burn.

It is estimated that the dung used for cooking fuel provides the energy-equivalent of 43 million tons of coal. At current prices, it would cost India an extra 1.5 billion dollars in foreign exchange to replace the dung with coal. And if the 350 million tons of manure that are being used as fertilizer were replaced with commercial fertilizers, the expense would be even greater. A professor at the University of California has calculated that 89 percent of the energy used in Indian agriculture (the equivalent of about 140 million tons of coal) is provided by local sources. Even if foreign loans were to provide the money, the capital outlay necessary to replace the Indian cow with tractors and fertilizers for the fields, coal for the fires, and transportation for the family would probably warp international financial institutions for years.

Instead of asking the Indians to learn from the American model of industrial agriculture, American farmers might learn energy conservation from the Indians. Every step in an energy cycle results in a loss of energy to the system. Like a pendulum that slows a bit with each swing, each transfer of energy from sun to plants, plants to animals, and animals to human beings involves energy losses. Some systems are more efficient than others; they provide a higher percentage of the energy inputs in a final, useful form. Seventeen percent of all energy zebus consume is returned in the form of milk, traction and dung. American cattle raised on Western range land return only 4 percent of the energy they consume.

But the American system is improving. Based on techniques pioneered by Indian scientists, commercial firms in the United States build businesses that turn

manure from cattle feedlots into combustible gas. When organic matter is broken down by bacteria, methane gas and carbon dioxide are produced. After the methane is cleansed of the carbon dioxide, it is available for the same purposes as natural gas -- cooking, heating, electricity generation. The company sells its product to a gas-supply company, to be piped through the existing distribution system. Schemes similar to this one could make cattle ranches almost independent of utility and gasoline companies. The relative energy self-sufficiency that the Indian peasant has achieved is a goal American farmers and industry are now striving for.

Studies often understate the efficiency of the Indian cow, because dead cows are used for purposes that Hindus prefer not to acknowledge. When a cow dies, an Untouchable, a member of one of the lowest ranking castes in India, is summoned to haul away the carcass. Higher castes consider the body of the dead cow polluting; if they do handle it, they must go through a rite of purification.

Untouchables first skin the dead animal and either tan the skin themselves or sell it to a leather factory. In the privacy of their homes, contrary to the teachings of Hinduism, untouchable castes cook the meat and eat it. Indians of all castes rarely acknowledge the existence of these practices to non-Hindus, but most are aware that beef eating takes place. The prohibition against beef eating restricts consumption by the higher castes and helps distribute animal protein to the poorest sectors of the population that otherwise would have no source of these vital nutrients.

Untouchables are not the only Indians who consume beef. Indian Muslims and Christians are under no restriction that forbids them beef, and its consumption is legal in many places. The Indian ban on cow slaughter is state, not national, law and not all states restrict it. In many cities, such as New Delhi, Calcutta, and Bombay, legal slaughterhouses sell beef to retail customers and to the restaurants that serve steak.

If the caloric value of beef and the energy costs involved in the manufacture of synthetic leather were included in the estimates of energy, the calculated efficiency of Indian livestock would rise considerably.

As well as the system works, experts often claim that its efficiency can be further improved. An economist at the University of Pennsylvania, believes that Indians suffer from an overabundance of cows simply because they refuse to slaughter the excess cattle. What this economist fails to note is that sex ratios among cattle in different regions of India vary tremendously, indicating that adjustments in the cow population do take place. Some culling of herds does take place; Indians do adjust their religious restrictions to accommodate ecological realities.

They cannot kill a cow but they can tether an old or unhealthy animal until it has starved to death. They cannot ship their animals to the slaughterhouse but they can sell them to Muslims, closing their eyes to the fact that the Muslims will take the cattle to the slaughterhouse. These violations of the prohibition against cattle slaughter strengthen the premise that cow worship is a vital part of Indian economic life and culture.

The Historical Context of the Taboo on Eating Beef

The religious ban on killing cattle and eating beef arose to prevent the population from consuming the animal on which Indian agriculture depends.

It is probable that the elimination of meat eating came about in a slow, practical manner. The farmers who decided not to eat their cows, who saved them for procreation to produce oxen, were the ones who survived the draughts and other natural disasters. Those who ate beef lost the tools with which to farm. Over a period of centuries, more and more farmers probably avoided beef until an unwritten taboo came into existence.

Only later was the practice codified by the priesthood. Indian farmers were probably aware of the role of cattle in their society, but strong sanctions were necessary to protect zebus from a population faced with starvation. To remove temptation, the flesh of cattle became taboo and the cow became sacred.

The sacredness of the cow is not just an ignorant belief that stands in the way of progress. Like all concepts of the sacred and the profane, this one affects the physical world; it defines the relationships that are important for the maintenance of Indian society.

Indians have the sacred cow; we have the "sacred" car and the "sacred" dog. It would not occur to us to propose the elimination of automobiles and dogs from our society without carefully considering the consequences, and we should not propose the elimination of zebu cattle without first understanding their place in the social order in India.

Human society is neither random nor capricious. The regularities of thought and behavior called culture are mechanisms by which we human beings adapt to the world around us. Practices and beliefs can be rational or irrational, but a society that fails to adapt to its environment is doomed to extinction. Only those societies that draw the necessities of life from their surroundings without destroying those

surroundings, inherit the earth. The West has much to learn from the great antiquity of Indian civilization, and the sacred cow is an important part of that lesson.

QUESTIONS

- Native Americans of the great plains never worshiped the buffalo. Based on what Harris has said, can you think of reasons why that might be so.

- One implication of Harris's article is that other deeply held religious beliefs or customs throughout the world might also have very important economic, health and social functions or uses. In fact, they might an important reason such beliefs persist. Can you think of any examples?