

# India, Sri Lanka, Pakistan, Bangladesh, The Middle East, Egypt, Turkey and more countries

## India accounts for 7.6% of the world's milk production

India is the world's second largest cow's milk producer, accounting for 7.6% of world production and producing over 44 million tonnes in 2008. And India is endowed with the largest livestock population in the world. It accounts for 57% of the world's buffalo population and 14% of the cattle population.

According to Livestock Census (2003), the country has about 185 million cattle and 98 million buffaloes. India possesses 27 acknowledged indigenous breeds of cattle and seven breeds of buffaloes. (Source: India Year Book 2008).

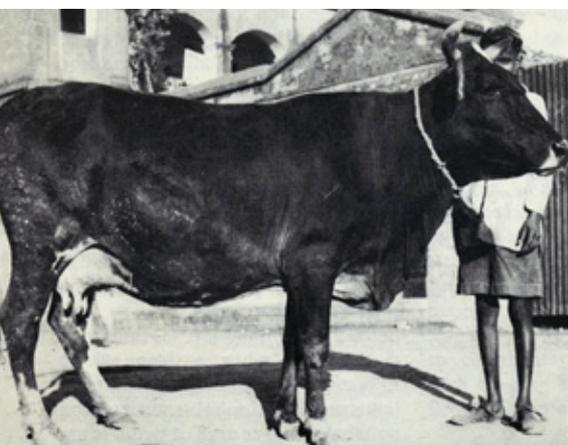
A significant increase compared to 1982, when the chairman of the National Dairy Development Board in India, Dr. V. Kurien reported, that India was the fourth or fifth largest milk producing country in the world. At that time there were 87 million milking cows and buffaloes in India, plus 81 million draught males.

From 1970 to 1981 India's milk production increased from 21 to 32 million tonnes. (Source: WJCB, 1982)

In 1983, it was estimated by the WJCB that there were 1,000,000 million Jersey cattle in India.

## Crossbreeding with the local Zebu

Taylor cattle found in Patna, Bihar, was created since 1856 by crossing Shorthorn and Channel Island bulls with local zebu



Taylor cattle found in Patna, Bihar, were created in 1856 by crossing Shorthorn and Channel Island bulls with local Zebu cows.

cows. Taylor cattle are hump-less and black, grey or red in colour.

In 1988 it was estimated that the breed numbered between 100 and 1,000 animals. Today the breed is probably almost extinct. William Taylor, the Commissioner of Patna Division, in 1856, had started an Industrial Institution by raising funds from the public. There was to be a breeding establishment of cattle, sheep and pigs as a section of this Institution.

With this idea in view, he obtained four English bulls. There is no definite information as to the exact history or breed of these bulls. A close study, however, of the physical conformation of their progeny leads one to surmise that they were probably of either Jersey or Guernsey origin, as the features of these animals are more akin to them than to any other English breeds.

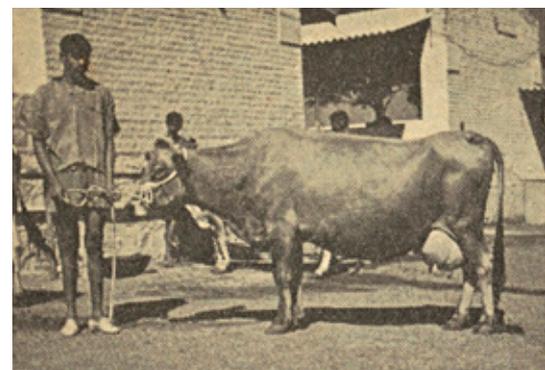
It is said that these imported animals were the progenitor of the existing herd of the cross-bred cattle found in Patna. The main results of this cross-breeding was an improvement in milk producing capacity in the cows, whose yield ranged from 16 to 28 lbs of milk per day.

The breed, for a number of years, was localised within the Patna town area and its suburbs. Later it, however, gradually penetrated in the neighbouring villages. The animals did not seem to thrive well outside Patna. It was perhaps due to extreme care and attention paid to them by the vendors in Patna.

The cows were mostly adapted to stall-feeding, because the town provided no facility for grazing. But on account of their high milk yield, cows had been very much popular with the milk traders, who carried on trade in milk supply. Therefore, majority of the cows were reared and maintained by them. A fraction of the total strength of cow was, however, also maintained by private individuals for their domestic needs. (Source: e.g. Sinha, 1951)

## Purebred Jerseys in the Kashmir State

A more systematic effort to increase milk production in tropical countries by cross-breeding with European dairy breeds dates back to early 20th century. Several



Australian Jerseys in India. In 1971, some 300 Jerseys were exported from Australia to India. The cattle were a gift from the Australian Government to India under the Colombo plan which was a post-colonial initiative launched in 1951, initially by seven Commonwealth nations, to boost Asian economic and social development through economic and technical assistance.

purebred Jerseys in 1904 existed in the Kashmir Valley in western Jammu and Kashmir State, northern India.

They were imported from Australia before the date. Pure exotic breeds, however, were very much susceptible to the Indian climate, so Jerseys introduced into India were usually crossbred with a high yielding breed in India like Red Sindhi and also other indigenous breed of cattle, to produce or boost up the yield of milk. Following Indian cattle breeds have until 1988 been crossbred with Jersey: Gir; Haryana or Harayna; Kankrej; Rathi; Red Sindhi; Sahiwal; Tharparkar.

In the late 1950s a project was commenced with crossing Haryana cattle with Brown Swiss, Holstein and Jersey cattle as part of the "All India Coordinated Research Project on Cattle". The results confirmed the superiority of the reproductive performance of Jersey crosses. The essential conclusion was that in arid areas of India the use of exotic breeds should be restricted to Jersey, which displayed the best adaptability to high ambient temperature.

In 1956, a development program was initiated in Darjeeling, in which the Siri breed was improved with Jersey blood. The Siri breed – the cattle belonging to the kingdom of Bhutan, since then spread



across Sikkim into the Darjeeling region and also into Nepal, located in the Himalayas and west by India. In Nepal, the descendants of some Jerseys, imported by nineteenth-century British residents are now also used as draught animals in preference to the local hill cattle.

### Making cattle for the local conditions

New breeds in the 1960s were developed when at Allahabad Agricultural Institute Red Sindhi cows were mated to American Brown Swiss and Jersey bulls respectively. The idea was to increase milk yield of indigenous breeds. The results of crossbreeding suggested that Red Sindhi x Jersey crosses had the most desirable traits for Indian conditions.

These include small body size, better adaptability and high fat percentage. The Jersey crossbreeds between 3/8 and 5/8 have been interbred and named as 'Jersind'. Similarly, 3/8-5/8 Brown-Swiss x Red Sindhi crosses have been interbred and named as 'Brown-Sind'. Jersind crosses gave milk yield between 1,557 and 1,861 kg. in first lactation.

The Jersind breed, however, has shown deterioration over the years mainly because of small numbers and being confined to the Institute farm. (Source: e.g. FAO, Newsletters, Felius, 1995).

### Knowledge from Denmark used in India

Dr. V. Kurien was instrumental in raising the milk production of India from 1970 to 1981. His colleague Dr. A.S. Bindra spent many years in Denmark learning the dairy business and returned to India with perhaps one of the first shipment of Jersey cattle to go to India in recent times.

Dr. Bindra was instrumental in founding the National Jersey Breeding Society of India, and he was also President of the Hindustan Livestock Sales Corporation, a company that was deeply involved in the importation of Jerseys and Jersey semen into India and the whole South-East basin. On his initiative bull mother farms were established – at least one in each of the 22 states in India, to which Jerseys had been imported from all over the world – from Denmark, Australia,

New Zealand and America.

That was the first step they took to improve the breed in India to see how these bloodlines performed as parent stock to the agro-climatic conditions of India. The Danish Jerseys imported, adapted successfully to the climatic conditions, so from the late 1970s India over three years imported more than 3,000 head of cattle from Denmark in addition to large quantities of semen.

In 1981-1982 500,000 doses of Jersey semen were imported and distributed to three states that already were crossbreeding along Danish lines. A.I. centres were established ca 1980 and frozen semen stations placed at a radius of every 15 miles so they could cater to all milk shed areas. In the centre of every small village there was a chilling centre with modern bulk coolers. It was within walking distance for all villagers.

The milk was brought in cans to that centre, was immediately tested for fat electronically and then went into the bulk cooler. At a fixed time in the morning the cooler tank truck came, picked up the milk and took it to one of the big dairy

plants where the milk was pasteurised and handled. (Sources: e.g. WJCB, 1982)

In 1999, the estimated number of small-holders in India was 70 million, and of these 60 million owned cattle or buffalo, or both. When five help programmes which included the Jersey breed, in 1999, were evaluated, it showed to have been a most efficiently tool to help the smallholders to increase the productivity and to improve the genetic merit of their animals, to manage available resources more efficiently, and to assist local governments in developing sustainable livestock strategies.

### Crossing of Holsteins, Jerseys and Gir

In 2006 a new breed has been introduced to the public, named Phule Triveni. It is developed by Rahuri Krishi Vidyapith, Rahuri by crossing Holstein Friesian (50 per cent), Jersey (25 per cent) and Gir (25 per cent).

Studies on the milk yield of Phule Triveni animals revealed that the breed produces 19-34% more milk than other desi breeds under farm conditions. Phule



*In the late 1950s a project began crossing Haryana cattle with Brown Swiss, Holstein and Jersey cattle as part of the 'All India Co-ordinated Research Project on Cattle'.*



Triveni is resistant to major diseases such as foot and mouth disease, which affects several other breeds of cattle.

The animals are 140-145 cm tall and may weigh 300-400 kg. The average life span is about 18 years, they yield about 10-12 litres of milk per day, and the milk has a fat content of 4.2-5.2 %. The animals are in milking stage for 10-12 months and are quite robust and strong. They are naturally disease resistant and better adapted to drought conditions than other 'desi' breeds and the animals may be fed on green and dry fodder. (Source: The Hindu, 2006)

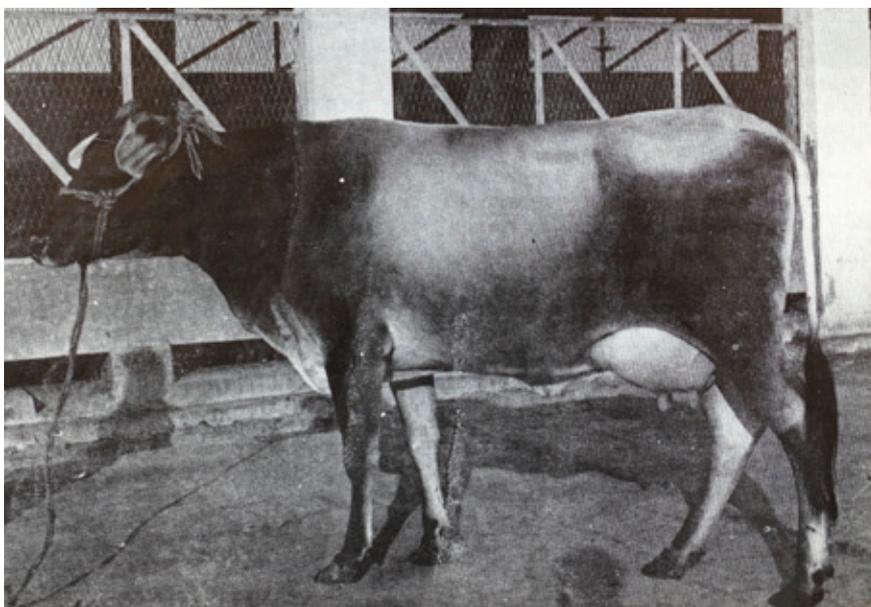
### Producing bull calves for development programmes

In India today there are seven Central Cattle Breeding Farms (CCBFs) located at Alamadhi (Tamil Nadu), Andeshnagar (U.P), Chiplima and Semiliguda (Orissa), Dhamrod (Gujarat), Hesserghatta (Karnataka), and Suratgarh (Rajasthan). They are producing high pedigree bull calves of indigenous and exotic breeds of cattle and important buffalo breeds for distribution to States for use in the cattle and buffalo development programmes.

The bull calves are produced from Tharparkar, Red Sindhi, Jersey, Holstein Friesian and Crossbred cattle, Surti and Murrah buffalo breeds. The Farm at Andeshnagar and Chiplima are producing HF x Tharparkar crossbred and Jersey x Red Sindhi crossbred bulls respectively. The bulls and bull calves are for sale and distribution to the State Governments.

Cattle Breeding Policy in different States:

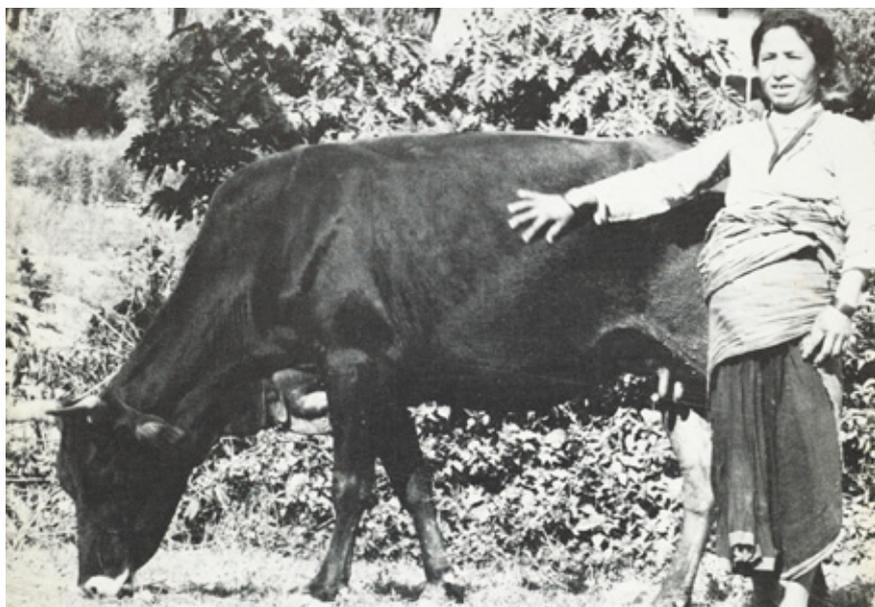
- \* *Anhra Pradesh: Non-descript breed - Grading up, with Ongole, Tharparkar and Deoni cross breeding with Jersey and Holstein;*
- \* *Arunachal Pradesh: Local cattle - Grading up, with Hariana and Red Sindhi cross breeding with Jersey;*
- \* *Assam: Local cattle - Grading up, with Hariana and Red Sindhi, cross breeding with Jersey;*
- \* *Bihar: Local cattle - Grading up, with Tharparkar, Hariana and Red Sindhi; cross breeding with Jersey;*
- \* *Chattisgarh: Local cattle - Grading up, with Tharparkar, Hariana and Sahiwal; cross breeding with Jersey and Holstein;*



*Half-bred Jersey x Hariana cow at Haringhata.*

- \* *Gujarat: Gir, Kankrej - Selective breeding in Gir and Kankrej; grading up, non-descript breed with Gir and Kankrej; cross breeding with Jersey and Holstein-Friesian*
- \* *Goa: Local cattle - Grading up, with Red Sindhi; cross breeding with Jersey*
- \* *Haryana: Non-descript breed - Grading up, non-descript breed with Hariana, Sahiwal, Tharparkar; cross breeding with Jersey and Holstein-Friesian*
- \* *Himachal Pradesh: Local cattle - Grading up, with Hariana and Red Sindhi; cross breeding with Jersey*
- \* *Jammu & Kashmir: Local cattle - Grading up, with Hariana and Red Sindhi; cross breeding with Jersey*
- \* *Jharkhand: Local cattle - Grading up, with Tharparkar, Hariana and Red Sindhi; cross breeding with Jersey*
- \* *Karnataka: Non-Descript cattle - Grading up, non-descript breed with Red Sindhi; cross breeding with Jersey and Holstein-Friesian*
- \* *Kerala: Local cattle - Grading up, non-descript breed with Red Sindhi, Kangayam and Tharparkar; cross breeding with Jersey and Holstein-Friesian. Crossbreds: Selective breeding with F1 cross bred bulls obtained from progeny tested either jersey or Holstein bulls*
- \* *Madhya Pradesh: Non-descript cattle - Grading up, with Gir, Tharparkar, Hariana, Sahiwal and Ongole; cross breeding with Jersey and Holstein*
- \* *Maharashtra: Non-descript cattle - Grading up, with the breeds of the region and Hariana; cross breeding with Jersey and Holstein*
- \* *Manipur: Local cattle - Grading up, with Red Sindhi; cross breeding with Jersey*
- \* *Meghalaya: Local cattle - Grading up, with Red Sindhi; cross breeding with Jersey*
- \* *Mizoram: Local cattle - Grading up, with Hariana; cross breeding with Jersey*
- \* *Nagaland: Local cattle - Grading up, with Hariana; cross breeding with Jersey*
- \* *Orrisa: Local cattle - Grading up, with Red Sindhi and Hariana; cross breeding with Jersey and Holstein*
- \* *Punjab: Local cattle - Grading up, with Sahiwal and Hariana; cross breeding with Holstein Friesian and Jersey*
- \* *Rajasthan: Non-descript cattle - Grading up, with Hariana, Gir, Tharparkar and Rath; cross breeding with Jersey and Holstein Friesian*
- \* *Sikkim: Local cattle - Grading up, with Hariana; cross breeding with Jersey*
- \* *Tamilnadu: Non-descript cattle - Grading up, with Hallikar; cross breeding with Jersey Holstein Friesian*





*Nepal peasant woman with a 50% Jersey cow near Kathmandu, 1978.*



*Farmer in Nepal with a Jersey cross (left) in 1978.*

- \* *Tripura: Local cattle - Grading up, with Tharparkar; cross breeding with Jersey*
- \* *Uttar Pradesh: Non-descript cattle - Grading up, with Haryana, Sahiwal, Tharparkar and Red Sindhi; cross breeding with Jersey and Holstein Friesian (Website: DEVELOPMENT OF INDIGENOUS COW BREEDS. -www.love4cow.com/cowbreeds.htm)*

### Sri Lanka had European cattle 300 years ago

The first attempts to introduce temperate cattle into the tropics took place more than 300 years ago. Thus the well-known Hatton or Cape cattle in the hill country in the central Sri Lanka are believed to be descendants of European cattle brought to Sri Lanka by Dutch settlers from 1765 to 1815 and during the 19th century by the British. It is a combination of European cattle which have become well adapted to the local climate.

The original ancestors included among others Friesian, Shorthorn, Jersey and Ayrshire. In 1992 a survey failed to find any purebreds in the field. However a few were thought to still exist in small pockets in the hilly regions where there is no A.I.

Herds of European breeds were also

maintained at government farms, primarily the Ayrshire, Jersey and Friesian in the hill country areas that have a high dairy potential. In 1953 a crossbreeding programme was initiated at the government livestock station, Karagoda-Uyangoda in southern Sri Lanka, where Sinhala cattle were crossed with either Jersey or Friesian sires. In another project at Undugoda Farm in the central part of the country Red Sindhi were mated to Jersey sires. At Wiravila experiment station in the dry zone Sinhala animals were first mated to Red Sindhi sires to produce females, and these were then crossed to either Shorthorn or Jersey sires. (Sources: e.g. World Animal Review No. 15, 1975. FAO, 1992)

### Bangladesh

Bangladesh numbered in 2007 around 26 million cattle and buffaloes. In 1973, 125 heads of Friesian and Jersey cattle were imported to Savar Dairy Farm from Australia.

In 1998 the number of milking cows were 3.79 million, which was 18% of all cattle, in 1986 only 1.09% were crossbred cows, but the average milk production of the indigenous cattle was too low compared to the crossbred cattle, so the

number of crossbred cattle has been increasing "day by day", especially since the introduction of A.I.

### Pakistan

In Pakistan there are 22 million cattle in the country with a positive growth rate. Although, more than half of the cattle population is non-descript, Sahiwal and Red Sindhi, along with Cholistani are the distinguished dairy cattle breeds. In 2007 Pakistan numbered 58.8 million cattle and buffaloes. Crossbreeding was allowed at the Government livestock experiment station with Sahiwal, Red Sindhi, and Thari cattle breeds.

As follow-up -in the mid 1970's, more experimental studies were performed at Government research stations using Friesian and Jersey semen. Some Jersey cattle imported from USA were maintained at Islamabad. This was followed by artificial insemination of cows with private farmers at a large scale.

Fearing the increased use, cross breeding of Sahiwal and Red Sindhi was forbade and cross breeding was recommended it for non-descript cattle comprising more than 2/3rd of the cattle population. The major objectives of the breeding policy included improvement in milk production of indigenous dairy cattle, and improving reproductive efficiency (Source: e.g. Country Report on Animal Genetic Resources of Pakistan, 2002)



### The Middle East

The Middle East in 1983, according to WJCB numbered 100,000 Jerseys.

From 1926 onwards several *Bos taurus* breeds, including Friesian, Shorthorn, Jersey, and Guernsey, have been introduced to Egypt. The imported animals have been used both for establishing pure exotic herds and for upgrading of local stock. In 1928 three Jersey cows and a bull were brought to Assiut College in Egypt, as it was recognized that Egyptian clover, alfalfa and green corn fodder were perfect for dairy production.

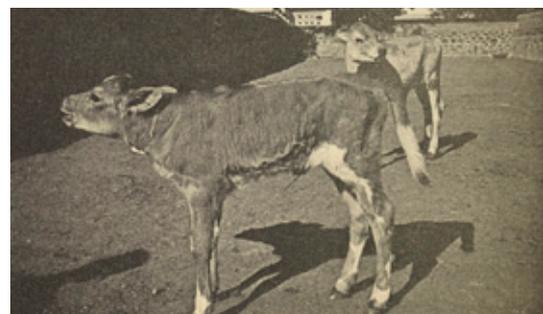
When bred with native cattle, the Jerseys doubled milk production and gave farmers leeway to rotate crops, letting cotton-depleted soil rest while dairy cattle grazed. The bulls were bred in nearby villages through an extension program at the school. This project ended by 1963.



In 1971, Amir Ghali Altawil released a guide for the care of Jersey cows in Arabic.



Good Jersey crosses were a cornerstone in the development of the Indian cattle.



A cross between Danish Jersey and a local Indian breed.

### Turkey

Turkey as well has been supplied with Jerseys. In 1959 a sample consignment of six animals and in the years 1967 to 1971 Turkey received a further 1,625 cows and four bulls from Denmark.

But then the export probably stopped. Much of the animals came to a state farm Karakoy Stud near the Black Sea. Karakoy State Farm already had established a Jersey herd in 1958 with 25 heifers and 10 bulls imported from USA.

In 1962 and 1963 the herd was supplemented by a delivery from UK of 121 heifers and 3 bulls. English Jerseys was exhibited in Izmir 1971 and planned to be sold to ordinary Turkish farmers. In 1998 it is recorded that grade Jerseys are the major cattle population in the Black Sea region of Turkey. (Sources: e.g. WJCB, 1998)

### Iran

It is also recorded that the Jersey has contributed to the development of the Iranian Nejd breed. "Another local name for this breed is "Arabi" and can be found in Khuzestan province in south-west of Iran.

It comes in all colours. The main use is for food (Milk). Both males and females can be with (2) or without horns. They are sometimes humped. The origin of the breed is unknown but it seems that it is a composite of some breeds." (Sources: e.g. Felius, 1995)

### More countries in the Middle East

From Denmark among others, live animals and semen have been exported to most countries in the Middle East, besides Egypt, Turkey and Iran countries as Jordan, Lebanon, Saudi Arabia, and Bahrain etc.

Thus Saudi Arabia received from Denmark 204 heifers and 21 bulls in 1962-64. And Lebanon 51 heifers in 1961-63. But unfortunately we only have a few records available.

The United Arab Emirates dairy herds in Abu Dhabi, Dubai and Fujairah consist predominantly of Jersey cows and "contribute to a national annual milk production which runs into thousands of tonnes. Cream, butter and yogurt are also produced".



In 1992, Iran ordered 1,000 Jersey heifers from Denmark.