

Ganga-India's first cloned gir calf

April 1, 2023

In news—Scientists of the National Dairy Research Institute (NDRI) in Karnal have achieved new milestone by producing country's first Indigenous Gir cow clone calf.

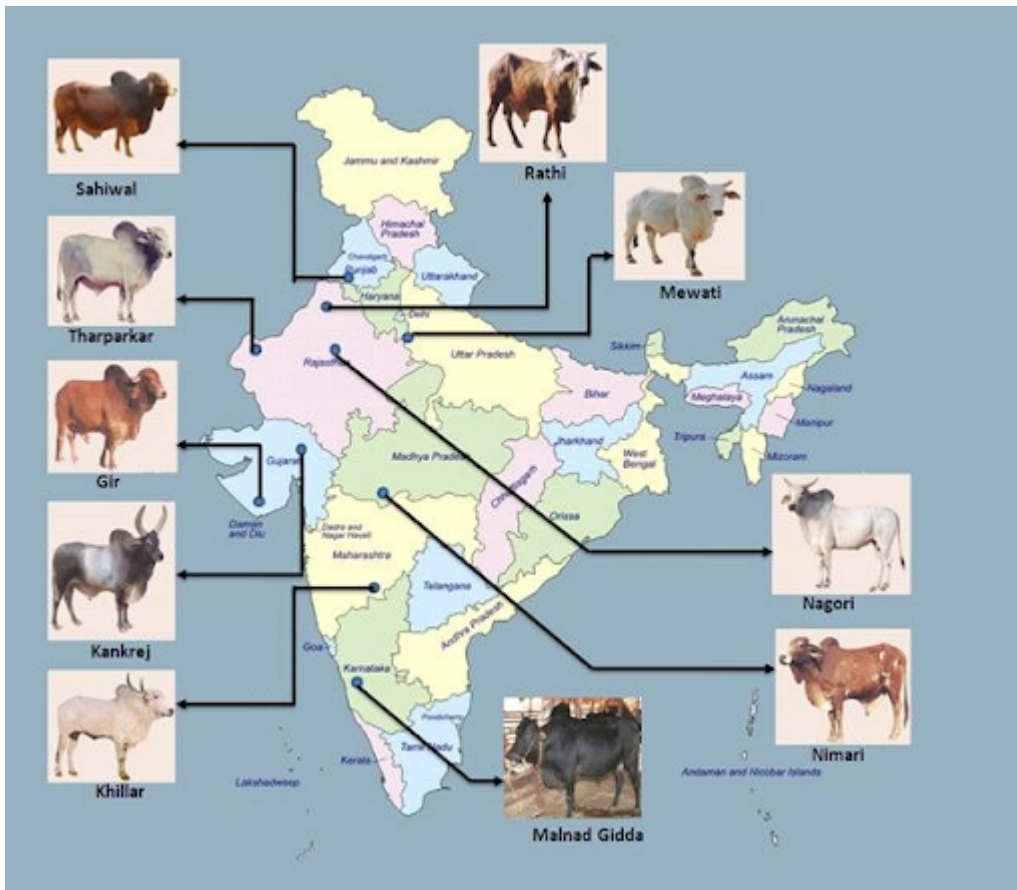
About cloned gir calf-

- The female calf named Ganga was born on March 16 2023.
- **To clone the Gir, oocytes are isolated from live animals** using ultrasound-guided needles, and then matured for 24 hrs under control conditions.
- The **somatic cells of elite cows are used as donor genomes**, which are fused with OPU-derived enucleated oocytes.
- Following chemical activation and in-vitro culture, the developed blastocysts are transferred into recipient mothers to deliver the Gir calf.
- **NDRI in collaboration with Uttarakhand Livestock Development Board (ULDB)**, Dehradun, has **initiated the work on the cloning of indigenous cows** such as Gir, Sahiwal, and Red Shindi.
- It is pertinent to mention here that the institute had produced the world's first cloned buffalo in 2009. But it could survive only for five-six days.
- Later, they had produced **Garima-2** on August 22, 2010, which has so far produced seven normal calves
- Scientists also produced the **first male calf Shresth** on Aug 26, 2010, whose semen is being used for multiplication of good germplasm.

Gir cows-

- The Gir or Gyr is one of the **principal Zebu breeds originating in India.**

- The Gir cow is a famous Indian-born dairy cattle breed. **Gir's cattle native tract is Gir hills and forests of Kathiawar.**
- This includes Gujarat districts of Amreli, Bhavnagar, Junagadh, and Rajkot. The name of the breed comes from the forest of Gir.
- They are very hardy and well-known for their tolerance to conditions of stress and resistance to various tropical diseases.
- The average Gir Cow Milk **production is 6-10 liters/day.**
- Gir cattle's average lifespan is around 12-15 years. And during their lifetime, a cow develops 10-12 calves.
- Gir is becoming popular among the dairy farmers because of its docile nature and goodness of milk, adding that outside India, Gir cattle are also very popular and have been exported to Brazil, the United States, Mexico, and Venezuela for the development of zebu cows.
- **Indigenous cattle breeds such as Gir, Sahiwal, Tharparkar, and Red-Sindhi,** play a pivotal role in milk production and growth of the Indian dairy industry.



SL NO.	Breed	Region	Type	Related cattle breed	Description
1	Alambadi	Alambadi, Dharmapuri district, Tamil Nadu	draught		
2	Amritmahal	Hassan, Chikmagalur and Chitradurga district, Karnataka.	draught		
3	Gir	Gir forest region and surrounding districts, Saurashtra region, Gujarat	milch	Bhadawari, Desan, Gujarati, Kathiawari, Sorthi, and Surati. Gyr – Brazil,	

4	Red Sindhi	Karachi and Hyderabad (Pakistan) regions of undivided India	milch	Red Karachi, Sindhi and Mahi	
5	Sahiwal	Montgomery District of undivided India	milch	Lola (loose skin), Lambi Bar, Montgomery, Multani, Teli. Australian Milking Zebu, Australian Friesian Sahiwal.	Best indigenous dairy breed.
6	Bargur	Bargur forest hills, Anthiyur Taluk, Erode District, Western Tamil Nadu	draught		
7	Hallikar	Mysore, Mandya, Hassan and Tumkur districts, South Karnataka	draught		
8	Kangayam	Kangayam, Tiruppur district, Tamil Nadu	draught		
9	Pulikulam	Cumbum valley, Madurai district, Tamil Nadu.	draught		
10	Khillari cattle	Satara, Kolhapur and Sangli regions, Maharashtra and Bijapur, Dharwad and Belgaum districts, Karnataka	draught		

11	Umblachery	Thanjavur, Tamil Nadu	draught		
12	Deoni	Bidar district, Karnataka and Latur district, Maharashtra	milch, draught		
13	Haryana	Rohtak, Karnal, Jind, Hissar, and Gurgaon districts, Haryana and eastern Punjab	milch, draught		
14	Kankrej	Banaskantha, Gujarat	milch, draught	Guzerat, Brazil	
15	Krishna Valley	Southern border of Maharashtra and Andhra Pradesh	milch, draught		
16	Ongole	Prakasam District, Andhra Pradesh	milch, draught	Nelore, Brazil	
17	Tharparkar	Tharparkar District in Sindh province in Pakistan.	milch, draught	Karan Fries	
18	Bachaur	Madhubani, Darbhanga and Sitamarhi, north Bihar	draught		
19	Dangi	Nasik and Ahmednagar districts, Maharashtra	draught		
20	Kasaragod	Kasaragod district, Kerala			
21	Kenkatha / Kenwariya	Bundelkhand, Uttar Pradesh and banks of river Ken and Vindhya hilly range, Madhya Pradesh	draught		

22	Kherigarh	Lakhimpur Kheri district, Uttar Pradesh	draught		
23	Malenadu Gidda	Coastal and hilly areas of Karnataka			
24	Malvi	Malwa plateau, Western Madhya Pradesh	draught		
25	Mewati / Kosi	Mewat, Haryana	milch		
26	Nagori	Nagaur district, Rajasthan	draught		appreciated for fast road work.
27	Nimari	Narmada valley, Madhya Pradesh and Jalgaon district, Maharashtra			
28	Ponwar	Pilbhit, Uttar Pradesh			
29	Rathi	Rajasthan	milch, draught		
30	Red Kandhari	Latur, Kandhar taluk in Nanded district and Parbhani district, Maharashtra and North Karnataka			
31	Siri	Parts of Sikkim, Darjeeling and Bhutan	draught		
32	Vechur	Kerala			
33	Motu	Orissa, Chhattisgarh and Andhra Pradesh			
34	Ghumusari	Orissa			
35	Binjarpuri	Orissa			
36	Khariar	Orissa			

37	Pulikulam	Tamilnadu			
38	Kosali	Chhattisgarh			
39	Belahi	Haryana and Chandigarh			
40	Gangatiri	Uttar Pradesh and Bihar			
41	Badri	Uttarakhand			
42	Lakhimi	Assam			
43	Ladakhi	Jammu and Kashmir			
44	Konkan Kapila	Maharashtra and Goa			