

Pastoralism in *Banni* Grasslands

Absolute Change in Population of Human & Different Livestock Species

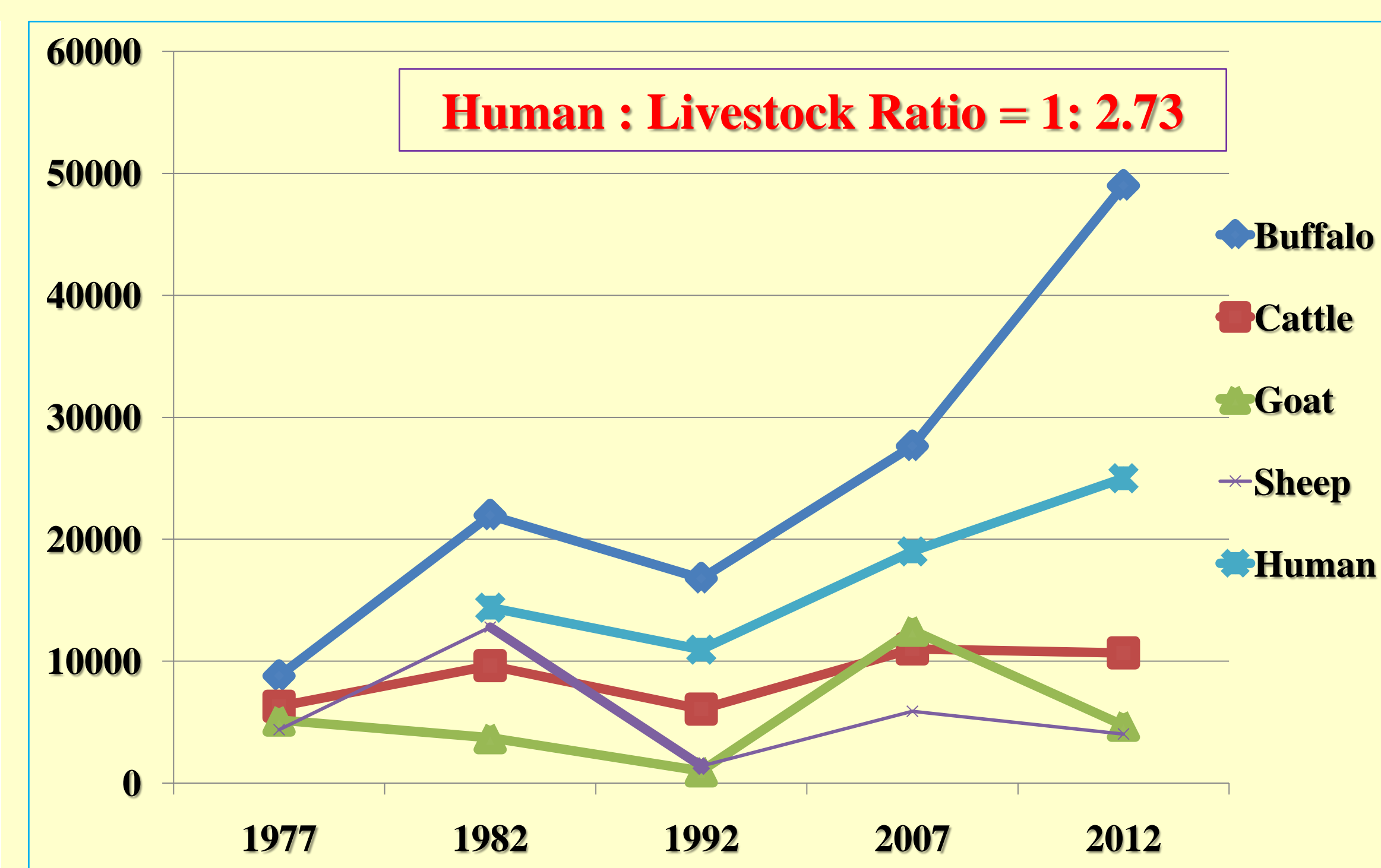


Species	1977	1982	1992	2007	2012
Buffalo	8789	21957	16776	27626	48982
Cattle	6295	9640	6065	11006	10681
Goat	5173	3726	1006	12537	4746
Sheep	4379	12791	1399	5892	4022
Human	9540	14389	10949	19000	25000



Growth & Variability in Population of Human & Livestock Species

Species	% Growth				Overall growth (1977 to 2012)	CAGR (1977 to 2012) (% p.a.)	CDV Instability Index (1977 to 2012) (%)
	(1977 to 1982)	(1982 to 1992)	(1992 to 2007)	(2007 to 2012)			
Buffalo	149.82	-23.60	64.68	77.30	457.31	5.89	31.29
Cattle	53.14	-37.09	81.47	-2.95	69.67	1.78	22.87
Goat	-27.97	-73.00	1146.22	-62.14	-8.25	-0.29	89.48
Sheep	192.10	-89.06	321.16	-31.74	-8.15	-0.28	77.67
Human	18.09	-23.91	73.53	31.58	162.05	2.02	42.63



Occupational Shift (*Kankrej* Cattle to *Banni* Buffaloes)

Push factors:

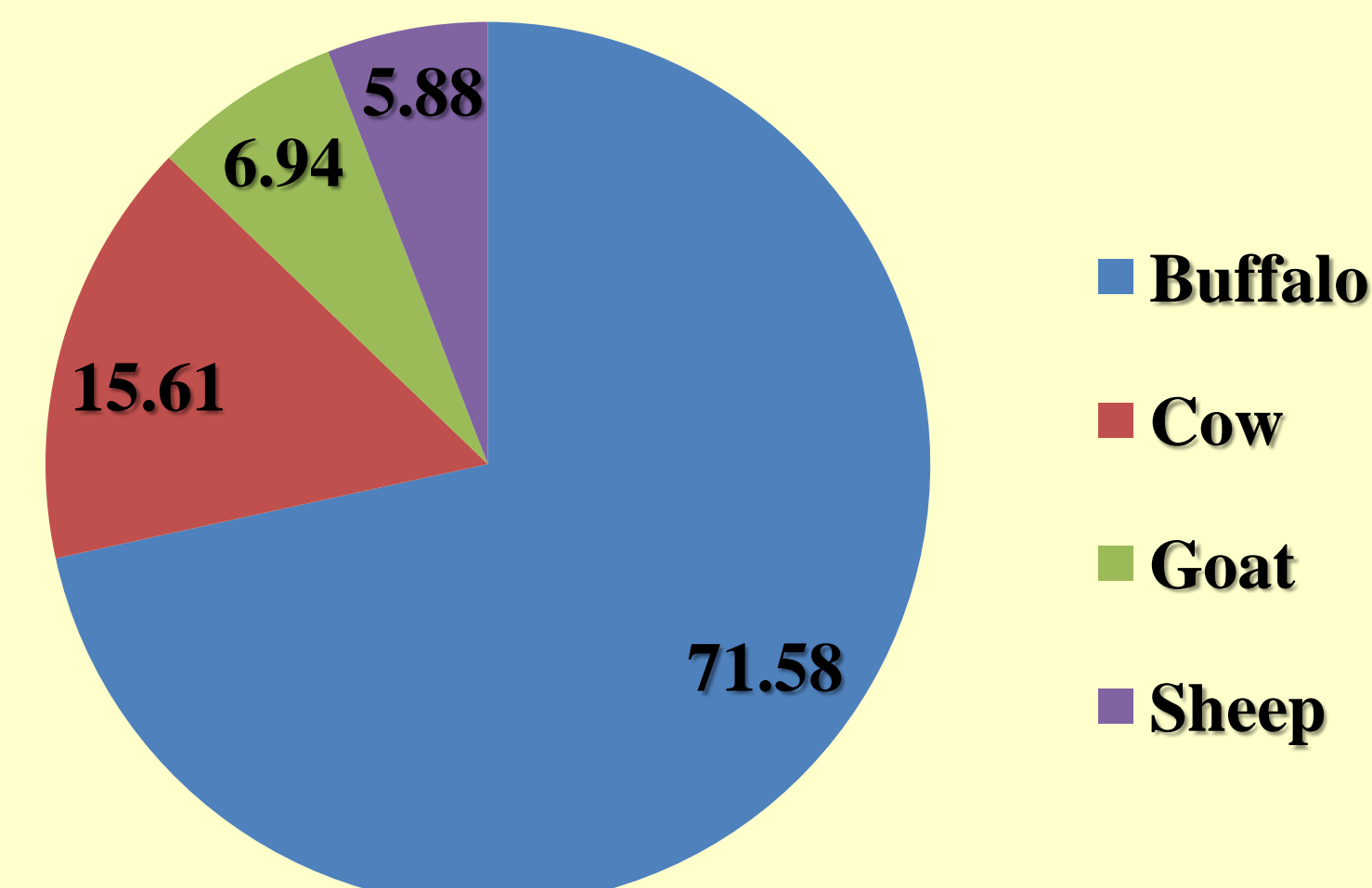
- Decrease in demand for *Kankrej* bullocks
- Negative impact of *P. juliflora* on cows

Pull Factors:

- Establishment of milk collection/ processing centres
- Higher productivity/ animal & high fat content
- Better road connectivity
- Supply of Narmada canal water for drinking purpose

Composition of Livestock (2011-12)

Species	Total Population	Percent Composition
Buffalo	48982	71.58
Cow	10681	15.61
Goat	4746	6.94
Sheep	4022	5.88
Total	68431	100.00



Banni Buffalo



Characteristics	Banni Buffalo	Kankrej Cow
Age at first calving	3 to 3.5 years	3.5 to 4 years
Calving interval	12 to 14 months	15 to 17 months
Lactation yield	2500 to 2700 liters	1700 to 1900 litres
Lactation length	290-295 days	290-300 days
Fat content in milk	7-8%	3-4.5%

11th buffalo breed of the country by National Bureau of Animal Genetic Resources, Karnal, ICAR.

Ability to free graze in the night to handle the stress of temperature difference and little fodder in droughts.

Enterprises and Livelihood Security (Family as unit)

Category	Primary Occupation	Secondary Occupation 1	Secondary Occupation 2	% Households
I	Buffalo rearing			
IA	> 40 animals	Charcoal preparation	Tourism/Embroidery	3
IB	20-40 animals	Charcoal preparation	Embroidery/tourism	7
IC	10-20 animals	Charcoal preparation	Embroidery/leather work	20
ID	5-10 animals	Charcoal preparation	Embroidery/leather work	25
IE	<5 animals	Charcoal preparation	Embroidery/leather work	15
II	Charcoal preparation	Labour work (including migration)	Goat rearing/Embroidery	20
III	Sheep & goat rearing	Charcoal preparation	Labour work (including migration)	3
IV	Handicrafts (leather)	Charcoal preparation	Embroidery	3
V	Services	Charcoal preparation	Embroidery	2
VI	Other (retail, trade, etc.)			2

Economics of Milk Production in Banni under Farmer's Conditions (April 2016)

Breed	Average lactation yield (Litres)	Average fat content	Price of milk (Rs./fat unit)*	Gross returns/ animal (Rs)	Gross Expenditure /Animal (Rs.)	Net return/ animal
Banni buffalo	2500	6	3.5	52,500	30,500	22,000
Kankrej cow	1700	3.5	3.5	20,825	10,400	10,425

❑ Population of Banni buffalo has more than quadrupled (457% growth) between 1977 and 2012, whereas that of *Kankrej* cattle has increased by only 70%. The population of goat and sheep has declined in this period.

❑ Variability in population between 1977 to 2012 was highest for goat (89%) and sheep (78%) and it was less for buffalo (31.29) and least for cattle (22.87%).

❑ Contribution of Banni buffalo is significant both in terms of livestock composition (72%) and its contribution to livelihoods (70%).

❑ *Kankrej* is a dual purpose breed. However, on account of market and policy factors, this breed has turned into only milch breed. As milch breed, Banni buffalo is more economical than *Kankrej*.

