

Upscaling Camel Milk Market

An experience from Kachchh, Gujarat



Presentation by:

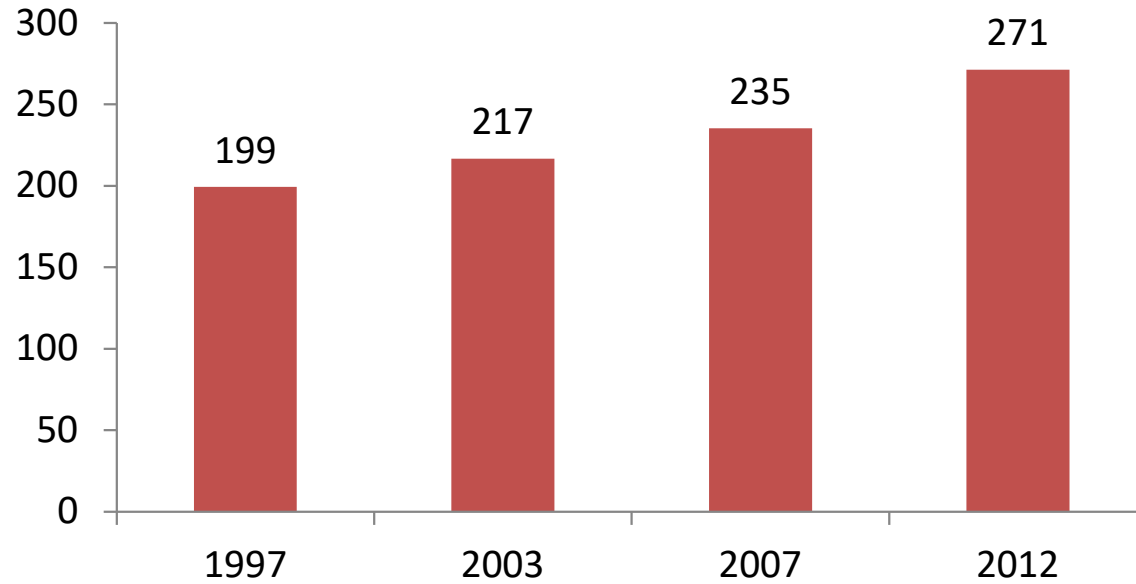


Centre for
Pastoralism



sahjeevan

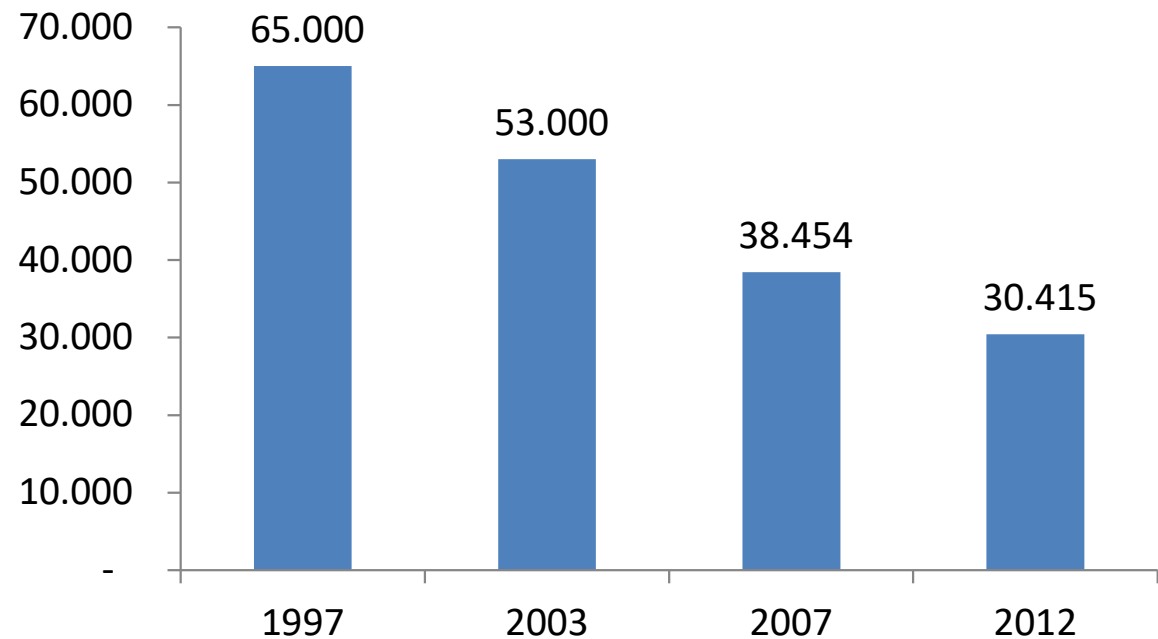
Livestock Population trend ,Gujarat (in Lakh)



- 25% Decade Growth
- 15.36% Increase in Previous Census

- **-43%** decline in Decade
- **-21%** decrease in Previous Census

Camel Population of Gujarat



Source: Gujarat Livestock Census

Camel Breeding : Challenges?

- Due to Mechanization, **decreasing demand** for draft purpose
- **Shrinking Grazing Resources** due to restricted access in Forest area, rapid industrialization, and conversion of land for other purposes
- **No** formal investment in **Market Development** for Milk, Fiber and other products
- **Policy neglect** as Camel has never been considered in category of productive livestock

Gujarat (District Map)

DISTRIBUTION OF CAMEL



Rabaris



Jats



Kachchhi Camel



Kharai Camel



Camel Breeding

Herd Composition

- Average herd size 40
- Ranging from 10 to 100
- 25% Milking Camel

Breeding

- Season: Winter
- Puberty: At the age of 4 Years
- Gestation Period 12 Months

Milk Yield

- Inter-calving Period: 18-24months
- Average Milk Yield 2.5 litre to 6 Litre /day

Sale of Camel: only Source of Income

- **Sale of Male Camel** (Age of 1-2 years) @ price between **Rs.10,000/-to Rs.15,000/-**
- Male camel raised **for breeding purpose** can fetch higher price upto **Rs. 25,000/-**
- Rabaris have **shifted to other livestock** (Cattle, buffalo, sheep & Goat)
- Rabaris normally give their **herd to Jats for grazing** by paying Rs.100-150 per camel/pm
- Shifted **Wage laborers/ Agriculture laborers** (can earn Rs.10,000-15,000 per month)

Camel Breeder's Association in 2011

Members – 351

201 Men

150 Women

Executive Committee

10 Men

Members - 17

7 Women

Villages/Blocks

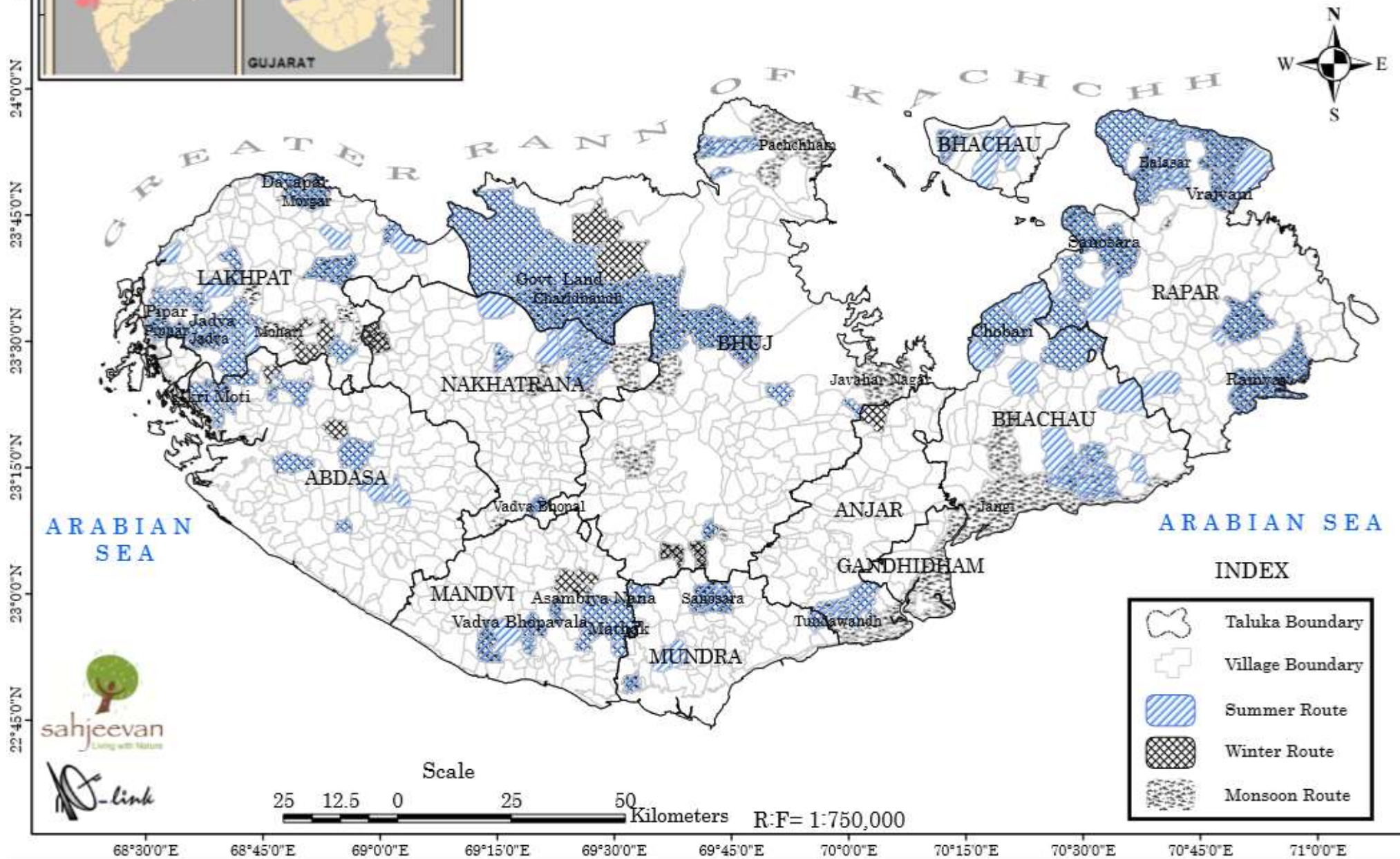
8 Blocks



Location Map



CLUSTER WISE SEASONAL GRAZING ROUTE OF CAMEL PASTORALIST, KACHCHH DISTRICT, GUJARAT



ARABIAN SEA

ARABIAN SEA

INDEX

	Taluka Boundary
	Village Boundary
	Summer Route
	Winter Route
	Monsoon Route



68°30'0"E 68°45'0"E 69°0'0"E 69°15'0"E 69°30'0"E 69°45'0"E 70°0'0"E 70°15'0"E 70°30'0"E 70°45'0"E 71°0'0"E

Camel Milk : Source of Nutrition



Composition of Camel Milk

Parameters of Milk Properties	Devendra Kumar & Reghuvendar Singh		Remarks
	Camel Milk	Cow Milk	
Moisture (%)	90.5	87.5	
Total Solid (%)	9.5	12.5	
FAT (%)	2.5	4.1	helps reduce cholestrol
SNF (%)*	7.25-8.25		
Protein (%)	3.6	3.2	
PH	6.35	6.5	Increase longavity
Lactose (%)	4.0	4.5	
Lactoferin (mg/ml)	2.5	0.5	
Vitamin C (%mg)	5.3	1	Increase longavity
Insulin (μ /ml)	40.5	16.3	Helps manage diabetes
Mineral (%)	0.85	0.7	

* **Gorakhmal & KML Pathak**

Research on Camel Milk

- **4-5 times higher Vitamin –C** than cow milk
(Gorakhmal & KML Pathak)
- **30-100 times** as much **lactoferrin** as Cow milk
(Yagil, 1985) helps in treatment of infectious disease and act as anti-viral, anti-fungal anti-inflammatory anti-carcinogenic (El-Agamy et al.,1992)
- **High Mineral Content** (Mal et al., 2007)
(Sodium, Potassium, Copper, Iron, Zinc, Magnesium)
- **Low total Solids and Fat Content** (Singh et al., 2006)
(Agrawal et al., 2003)
- **Self life is > 10 hrs** in room temperature

Research on Camel Milk

- **High unsaturated** fatty acid and **low saturated** fatty acid than human milk
- **Insulin-like Protein** detected **52 count /litre**.
500ml camel milk everyday reduces need of insulin dose by 30% (Agrawal et al., 2002)
- High Concentration of 6 type volatile fatty acids (Linoleic acid and polyunsaturated fatty acid) is **effective in improving skin tone and wrinkles**
- Alpha hydroxy acids known to **plump the skin and smoothes fine lines** (NRCC, 2007)

Research on Camel Milk

- Camel milk is used for curing **tuberculosis** **antidote for typhoid and toxicity, jaundice** **multiple sclerosis, psoriasis, ulcers, skin** **cancers** (Mal et al., 2000, 2001 and 2006a)
- Controlling **high Blood Pressure, food allergies,** **autisam, malaria, constipation** (Al Jasim 2004, Shabo et al., 2005, Wernery 2006, Eyassu Seifu 2007)
- Contains **wonder drugs** containing enzymes with **anti-bacterial** and **anti-viral** properties.
- Camel milk for **lactose intolerant people** and **food allergies**

Ibrahim Haji Ali Jat Age: 45
Rodasar, Lakhpat



“I gave up medicines
camel milk is doing the
work instead for my
diabetes and cancer”

Danabhai Visha Rabari
Kanmer, Rapar



“30 year ago, Camel milk
helped Khimabhai Parmar
from Palashva for his
tuberculosis”

No Camel Milk Market in India?!

- Religious and Social taboos not to sale camel milk as Gift of *Godess*
- Myths or stigma amongst mass consumers
- In Livestock policy, Camel has never been considered as Dairy Animal
- Food Safety Standards Rules doest not recognise camel milk as food item
- After, LL Exhibition, New Delhi (Dec.16)-FSSAI included in Food Item

Camel Milk Promotion by KUUMS, Gujarat

ગુજરાતમાં પહેલી જ વાર કચ્છમાં બનશે ઊંટડીના દૂધનો આઈસક્રીમ



૩૧૫ માલધારીને ફાયદો થશે

ભુજ, લખપલ, અબડાસા, રાપર, મુન્દ્રા, ભરાઈમાં ૩૧૫થી વધુ માલધારીઓને ફાયદો થશે.

લોકોએ માનસિકતા બદલવી પડશે

ઊંટડીનું દૂધ સામાન્ય રીતે લોકો ખાવા કે, પીવામાં વાપરવા નથી, તેથી એના વિશે લોકોની માનસિકતા બદલવા પણ સહયોગ સંસ્થા પ્રયત્ન કરશે.

લોકોને સ્વાદ ગમ્યો

એક્ટિવિટીઓના ભાગ રૂપે

કચ્છ ઊંટ ઊંટડીના દૂધ માલધારી સંગઠનની અનોખી પહેલ

ઈમરજન દલ/જિલ્લા વરસાદી, ભુજ

કચ્છની બજારમાં ઊંટડીનું દૂધ વેચાતું લઈને કોઈ પીતું નથી પણ કચ્છીઓને હવે ઊંટડીના દૂધના



Multi Stakeholders' Engagement

State AH Dept.

- Bringing stakeholders on board
- Investment for Infrastructure
- Investment for Breed Conservation & Health

GCMMF

- Value Addition
- Marketing Support
- Promotion

Sarhad Dairy

- Infrastructure
- Procurement
- Quality Check
- Bottle Pack

KUUMS

- Mobilising Communities
- Setting up Milk Cooperatives
- Ensure quality Milk Supply

Sahjeevan

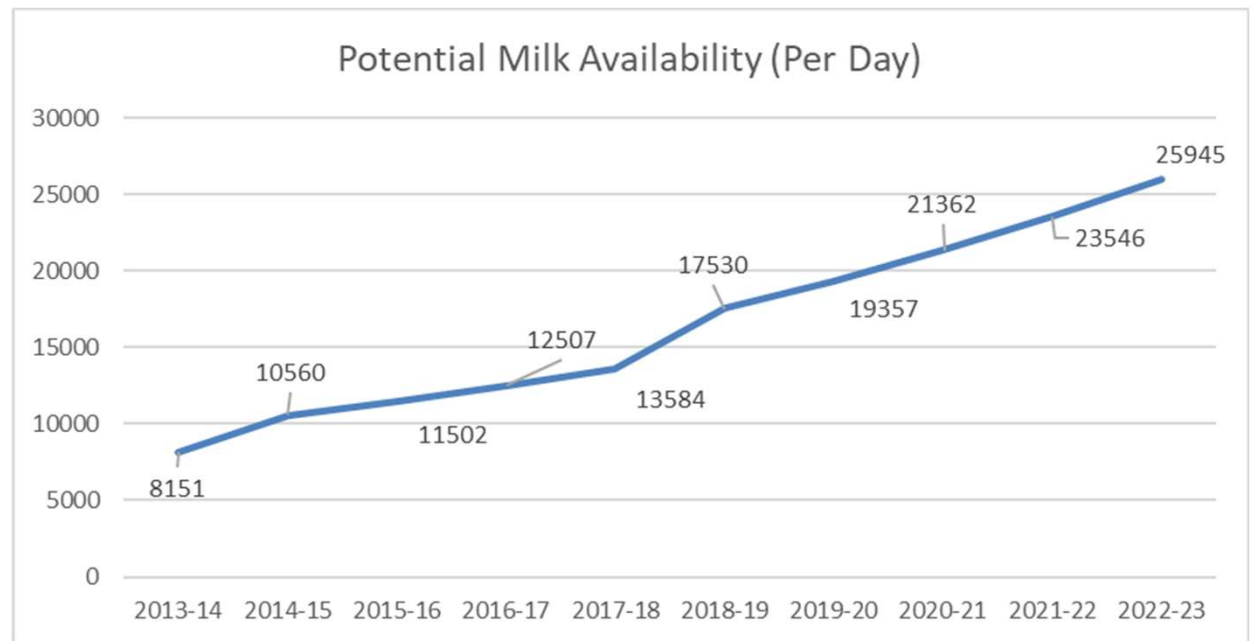
- Anchoring the Process
- Resource Mapping
- Feasibility/Seasonal Milk Availability Plan
- Breed Registration and Conservation

Camel Milk Dairy in Gujarat.....

Camel Milk Dairy Project submitted by Sarhad Dairy and State AH Department under RKVY FY 2012-13

Proposed Infrastructure Plan :

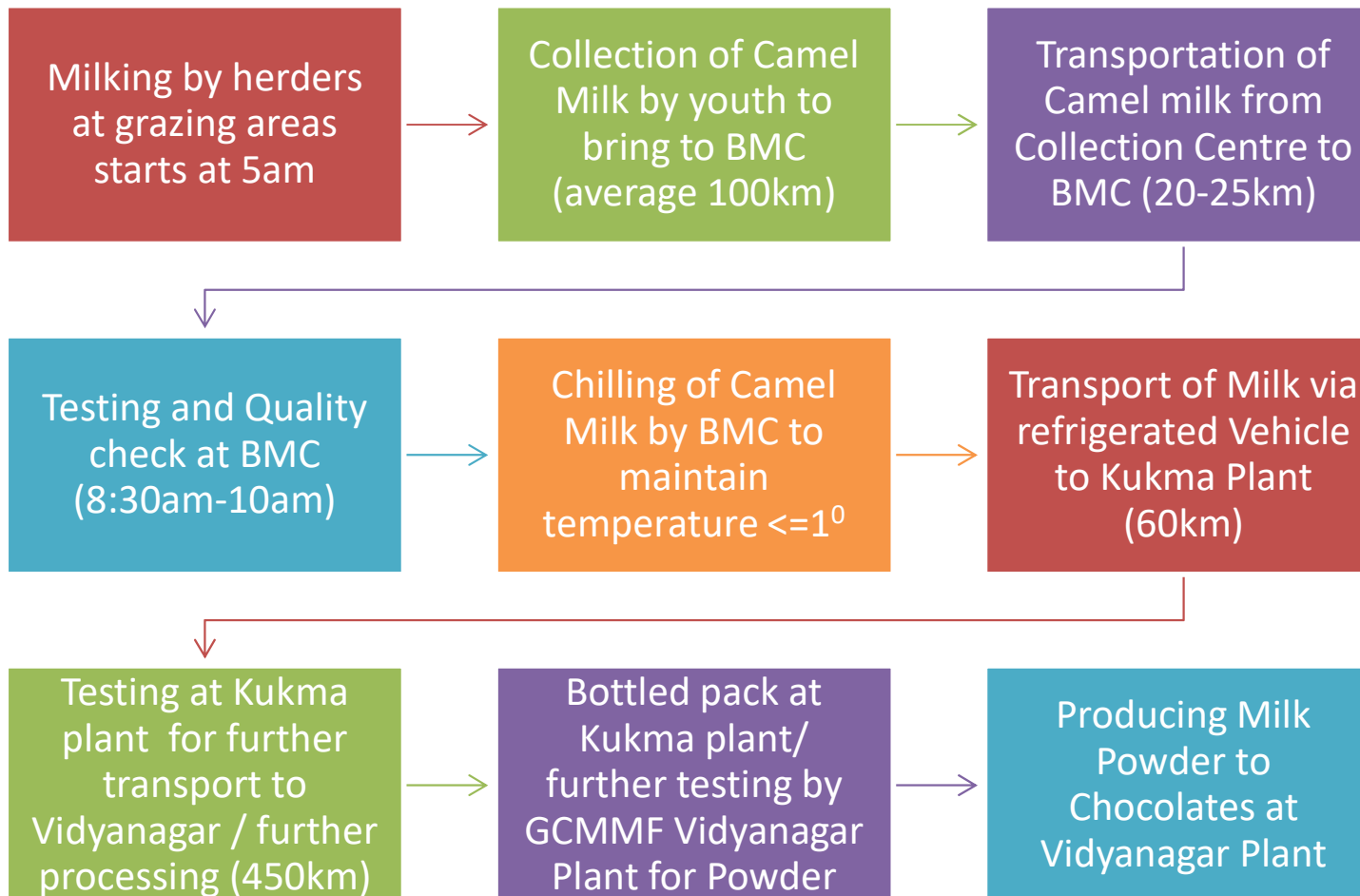
- Camel Milk **Processing** and **Packaging** Plant at Kukma with **capacity of 20KL/day**
- **Deodorization Plant** to enhance acceptability amongst consumer
- 3 BMCs having capacity of 5-8KL each
- **Refrigerated Vehicles** to transport Camel Milk



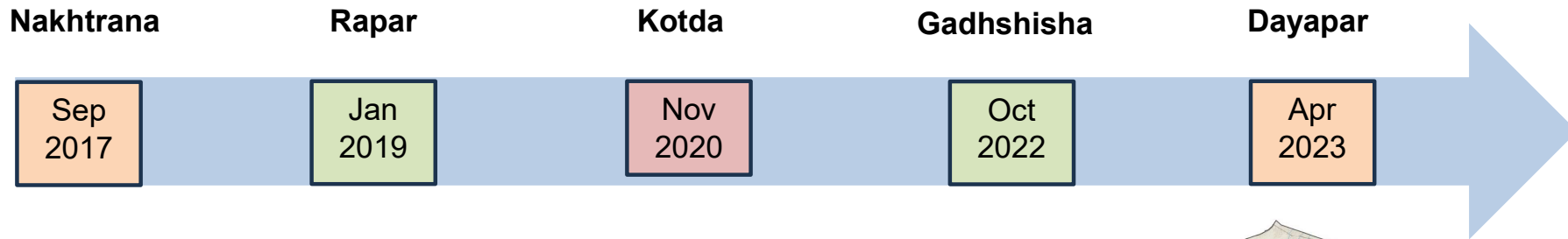
10 Year Projection Plan for Camel Milk Availability from Kutch

Processing of Camel Milk

- An Interim Operation for launching a camel milk chocolate in Indian market started from September 2017 .
- Processing Plant at Sarhad Dairy Kukma operationalized in 2018-19.



Locations of BMCs in Kachchh



Locations of Bulk Milk Chillers (BMCs) in Kachchh



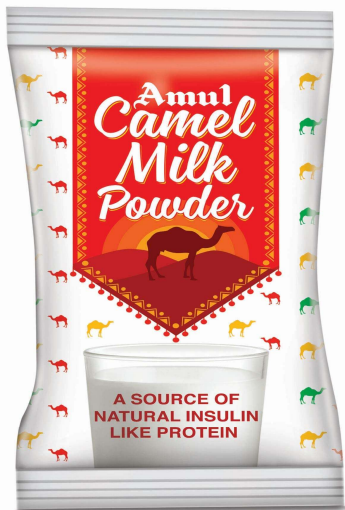
Location of BMC	Name of Block
Nakhatrana	Nakhatrana
Rapar	Rapar
Kotda	Bhuj
Gadhshisha	Mandvi
Dayapar	Lakhpat



Camel Milk Market in India Since 2015

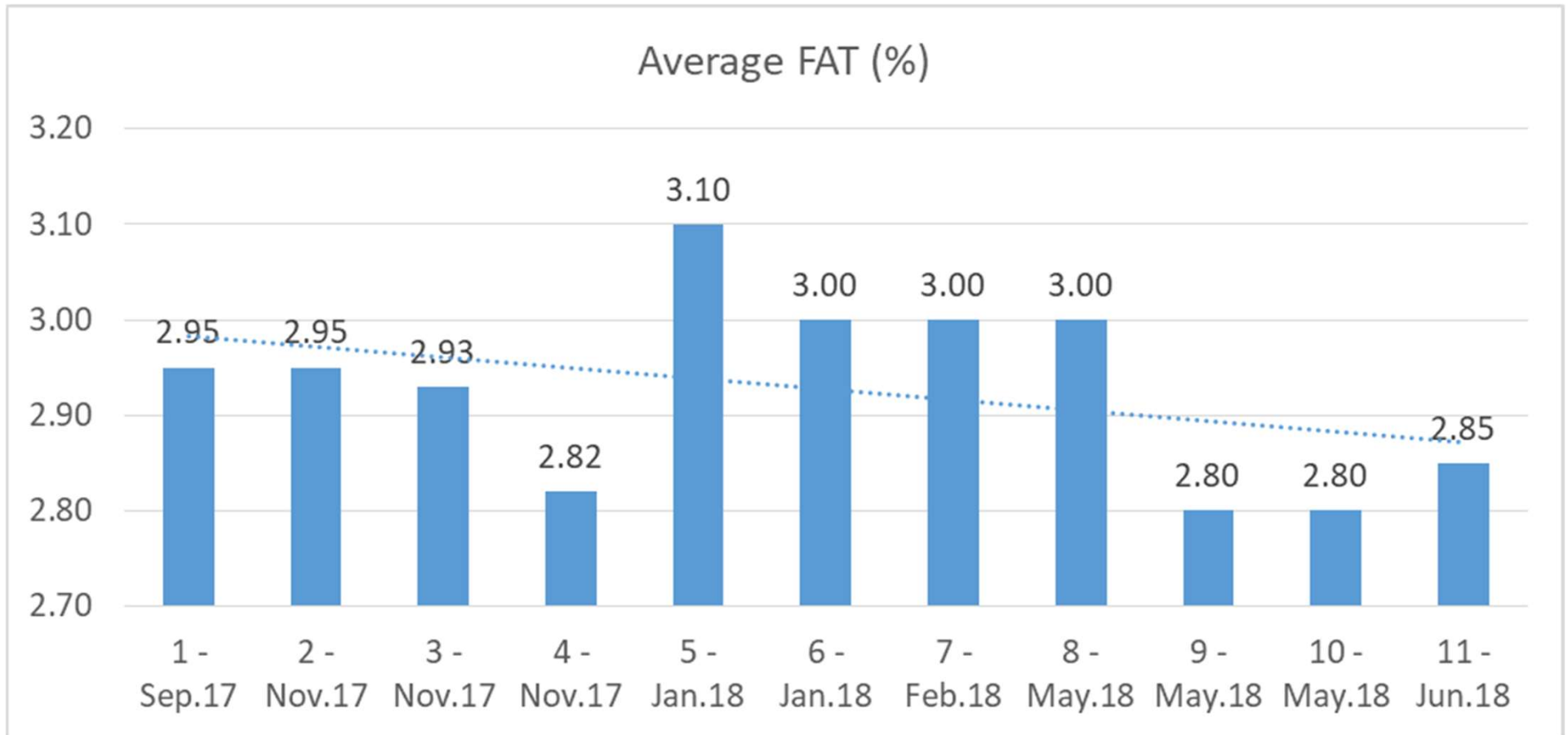


Camel Milk Products by AMUL, 2017 onwards



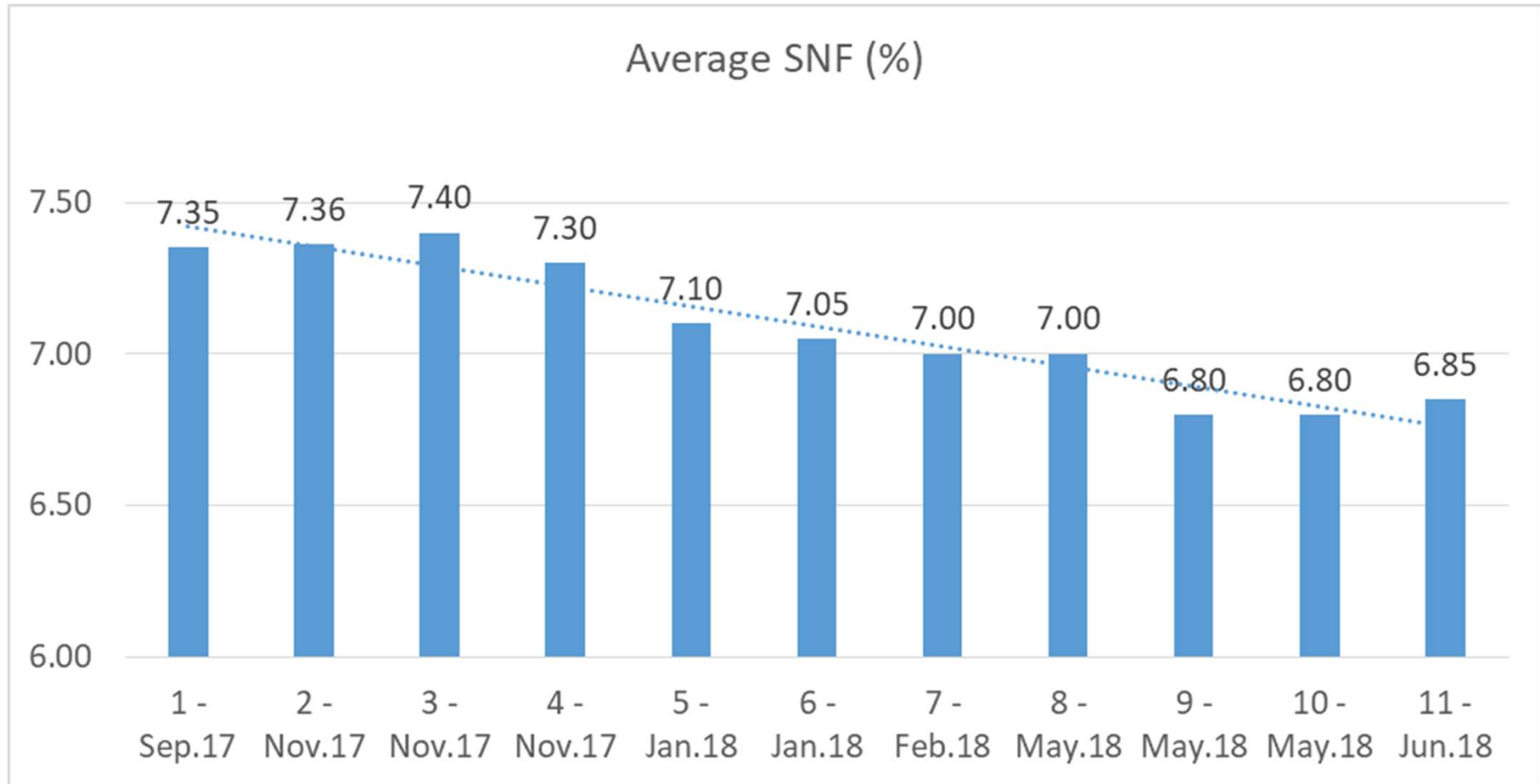
Camel Milk
Kesar Flavour
180
mL

Average FAT : 2.80% to 3.0%



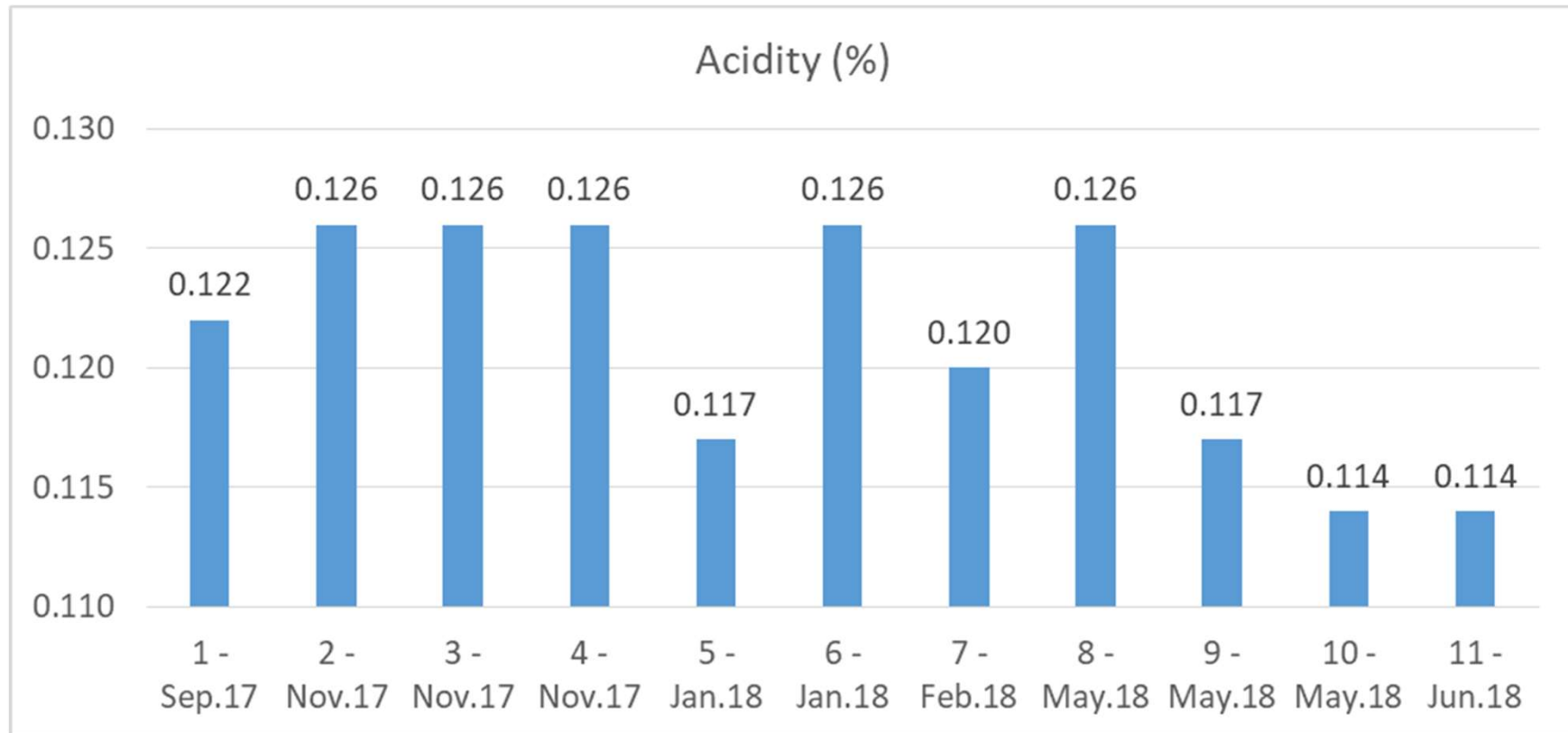
FASSAI Standard :2.5% to 3%

Average SNF : 6:85% to 7.40%



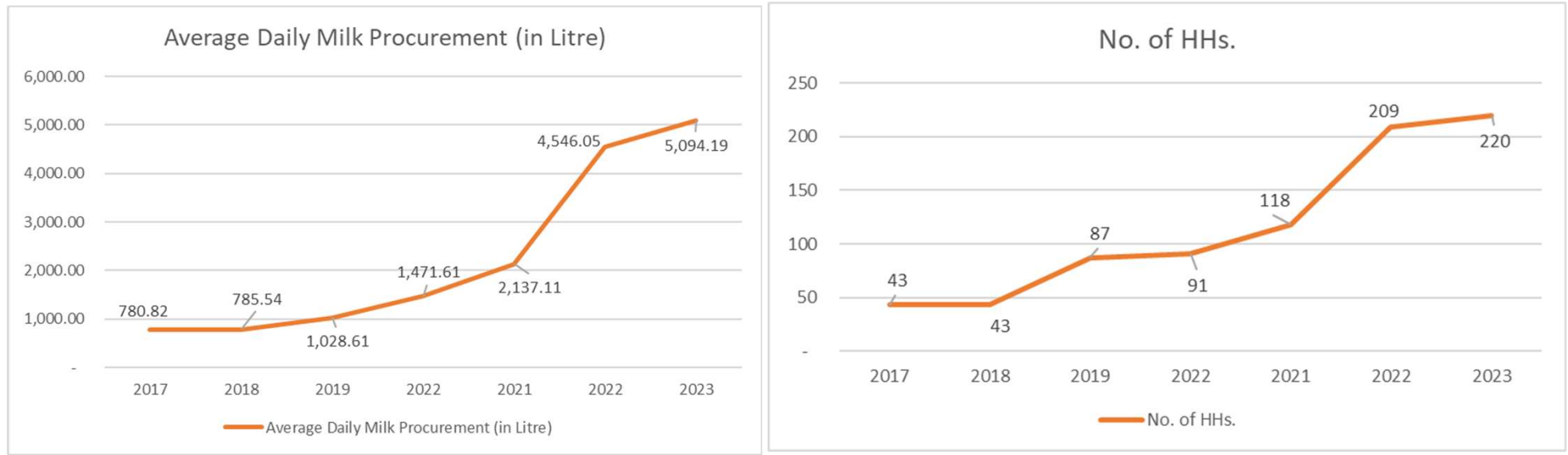
FASSAI Standard :6.5% to 7.5%

Acidity Value : 0.114% to 0.126%



Desirable Value Below 0.130%

Economic Impact Analysis



- The camel milk market has generated an **economy worth Rs. 8-9 crore per annum** in the region, an average **monthly household income of Rs.28,000/- to Rs.30,000/-**
- In 2022, **twenty-two pastoralist youths** have returned to herding, buying camels as an investment and recognizing camel herding as a remunerative livelihood option.
- **13.5 % increase** in the camel population in the district over the last ten years; it is the only part of the country where camel numbers are increasing.
- **80% of camel population** in the district is being covered under health camps organized by the State AH department in collaboration with KUUMS.



An initiative by LPPS, Sadri



Procurement :120 Litre /day



Bahula Naturals - Bikaner

Procurement :150 Litre /day

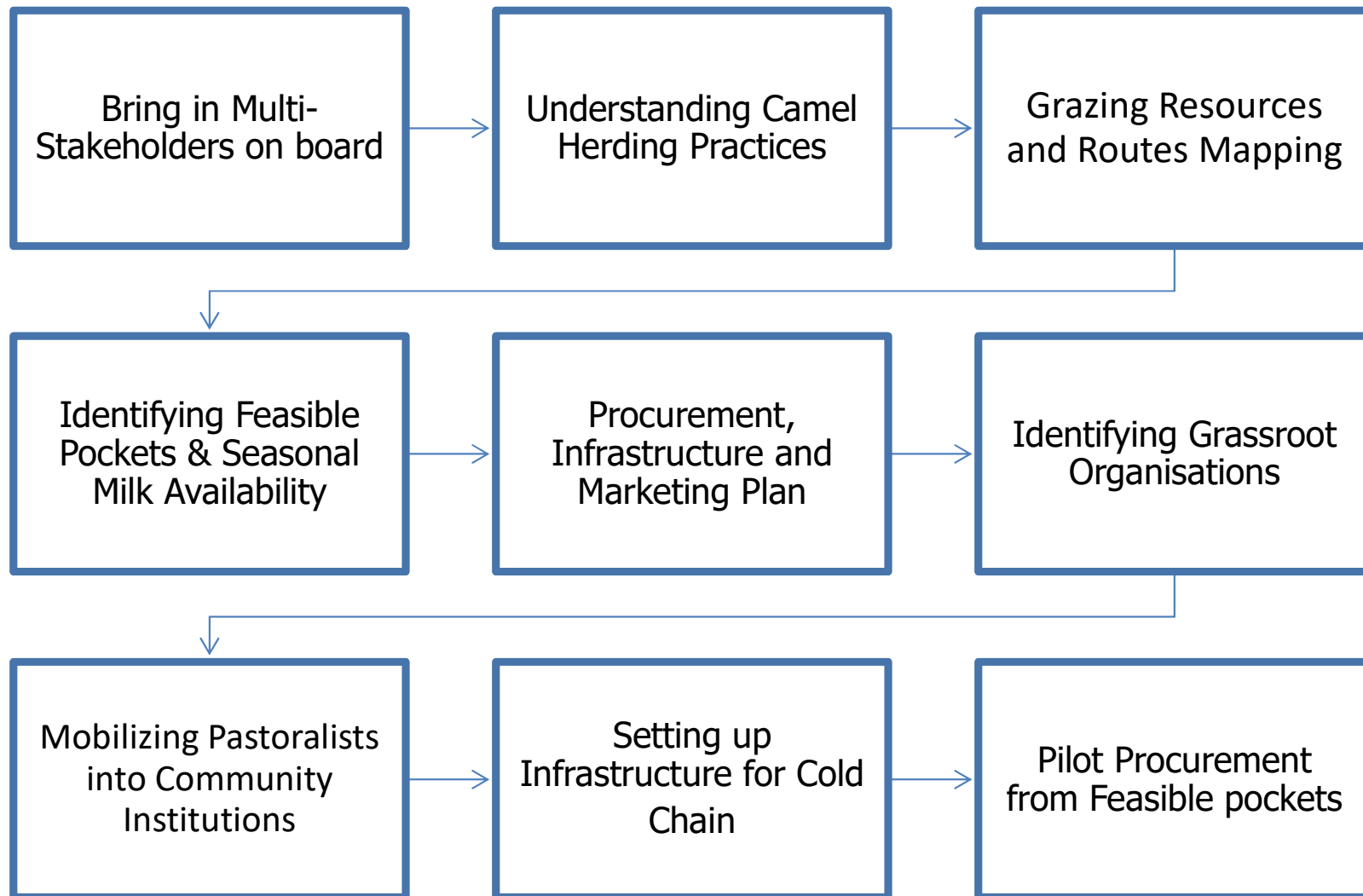


3 Federations

- Bajju
- Chimana
- Pokhran



Way Forward for Rajasthan



District wise Distribution of Camel



Thanks!!!



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