

# **GobarDhan**

## **An initiative on Creating Wealth from Cow dung**

### **Problem Statement: Why GobarDhan**

- High Cost of Keeping Cattle
- A Young Cow may cost Rs.50, 000 to Rs.1, 50,000 depending on Breed.
- Cost of Feed and Care is Approx Rs.3000.
- As the cost is becoming high, population of Abandoned Cow is increasing day by day, hence CRIME AGAINST COWS INCREASES
- With ever decreasing per capita land holding due to increase in population, livestock industry can be only saviour for farmers.
- It is becoming menace for farmers and local administration. Five to Seven Million Stray Cattle.
- 10% to 15% cattle become unproductive every year, shelter and food is available for 10% of these.

### **Current Status**

- Subsidy Bill on Chemical fertilizer: Around Rs.70k Cr to 1 lac Cr
- Future Demand of NPK: 3,51,82,000 ton (Source: NDDB)
- Future requirements of Micronutrients (Zinc, ferrous, etc): 2,29,000 ton (Source: NDDB)

### **Future Market Scope**

- Shift from Non organic to Organic. Global Organic food market to reach 262.2 Billion USD. (Source: Business World)
- Indian Organic food market is projected to Grow at 25% annually.
- As per APEDA, the demand for Indian organic food products is on the constant increase worldwide and India exported organic products worth \$515 million in the financial year 2017-18, from \$370 million in 2016-17. More than 180 Countries moved towards Organic agriculture.
- Demand for Sustainable and eco-friendly source of soil nutrients increasing due to various health hazards associated with Chemical fertilizers (Cancer)
- Increasing Demand for Rural House Hold energy. Statistics indicate India's LPG consumption grew at a CAGR of 7% between 2010 and 2019.
- Rural Areas registers 8.4 per cent growth in LPG consumption, with approx 8cr Ujjwala Yojna Beneficiaries

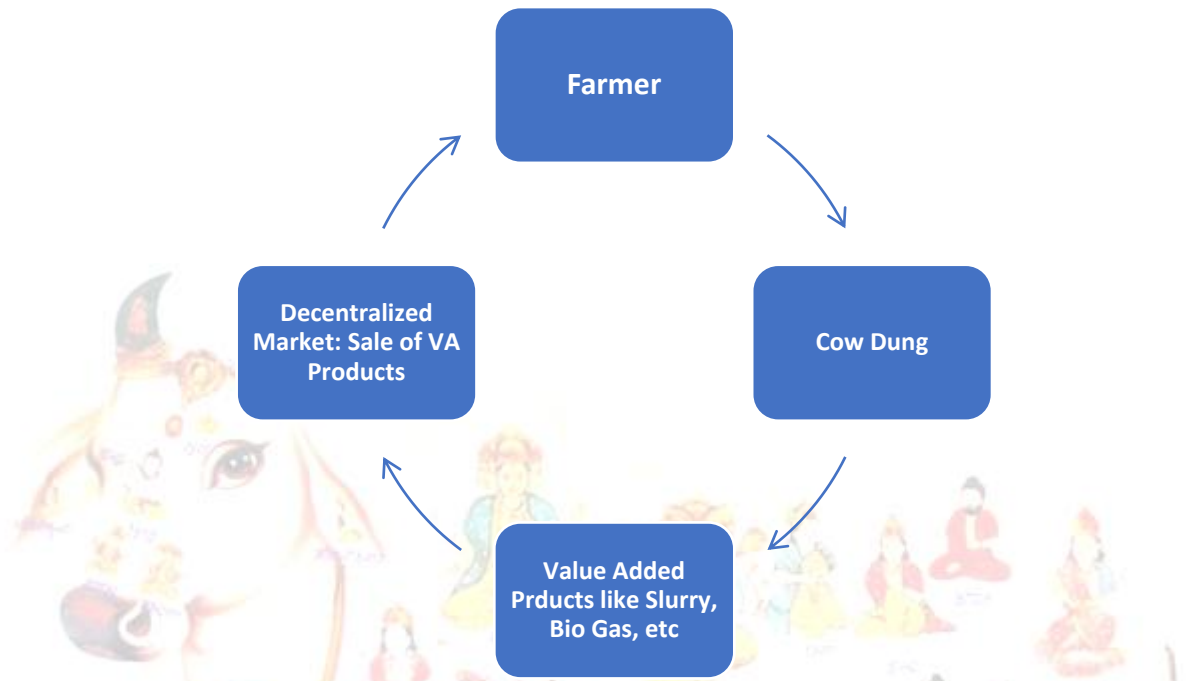
## Potential on Availability of Raw Material

- India has potential of 30 cr Cattle
- There is a huge potential of production of dung production from these 30.3 Crores of bovine animals. An approximate production estimates for dung based on an average of 10Kgs per day dung for every adult animal and an average of Rs.5 Kgs dung per day for young animal is given in the following table:

Dung Production Young bovine animals		Dung Production from Adult bovine animals		Total Annual Dung Production (Approximate) (In Million Tonnes)
Total Nos (in million)	Annual Approximate dung production (@ 5 Kgs Dung per Day) (in million tonnes )	Total Nos (In million)	Annual Approximate dung production (@ 10Kgs Dung Per Day) (in Million tonnes)	
129.25	235.89	174.06	635.32	871.21

## Proposed Models

### Zakriapuria Model



### An Example: Zakariapura Village, Anand Gujarat

- Total HH: 461
- HH with Animals: 368
- Village Income from Milk: Rs 66 lacs
- Additional Income from Zakariapura Model: Approx 2 cr
- Every 21 HH gets One Employment each in Cluster based approach

### Strengths:

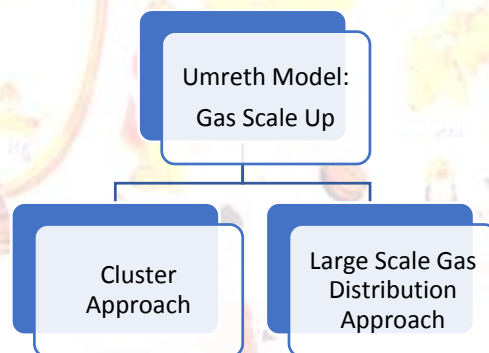
- Empowering Farmers with Additional Income
- High Employment Generation
- Decentralized Management
- Monitored by Organized Milk Unions, Led by NNDB

### Challenges:

- Scale Up
- Market Creation for Organic Manure: Farmers should have choice to buy manure as per his wishes, that can happen only through DBT process
- More Research is needed in Organic Manure for betterment of the product.
- Finance linkage

## Umreth Model

- The objective of Umreth was to make the village litter free by establishing Dung Bank by the pastoralists of the village and to maintain the cleanliness of the village.
- The aim of Thamna Bio-Power and Organic Producer Co. Ltd. was to eradicate the mosquito-borne epidemic from the village.
- The company had about 595 Shareholders.
- Only pastoralists and farmers were members of the company.
- Each house in the village was given a different colored bucket by the said company
- Green bucket - Dung
- Brown bucket - kitchen waste
- Red bucket - other waste disposal
- Village pastoralists collect their cow / buffalo dung in buckets and weigh it as per the arrangement and the bucket is delivered to the plant by the dung bank.
- Number of cattle in Thamna village:
  - Total animals : 1500
- An example of Organised Community Model, but could not be sustainably scaled up. Umreth Model can be scaled up via more sustainable model which can give better returns to our Farmers



## Strengths

- Clean Compressed Gas
- Easily Available Locally as per demand
- Community based development
- Will make the system organised

## Challenges

- Low Gas formation, hence better slurry management required
- Transportation cost of Dung procurement within 10 Km radius plus other costs
- As gas formation is low, Farmer might not get desired cost of Dung, it might be limited to Rs.1/Kg

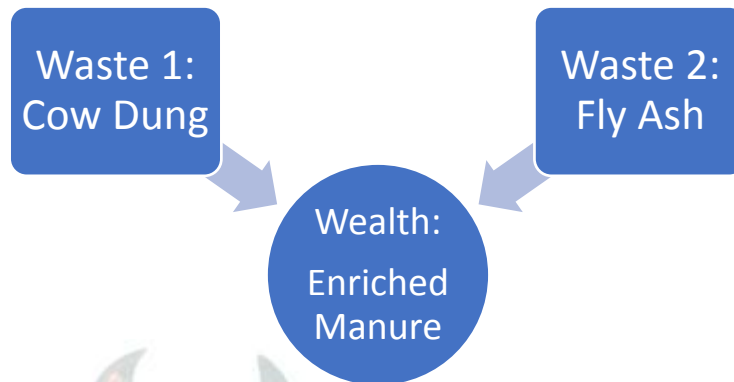
## **First Animal Hostel of Its Kind in India- AKODARA, SABARKANTHA DISTRICT, GUJARAT**

- Envisaged as a place where the cattle of the village are kept and maintained together and have all necessary infrastructure facilities to take care of them.
- It has been conceptualized as a sustainable management model.
- The animal hostel with a capacity of 900 animals was constructed in the village.
- The facilities in the hostel include in house fodder production in the nearby gaucher land, fodder storage,
- Electricity generation through bio gas plants vermin compost production, milk collection room, veterinary service centre and a water storage tank.
- Sale of These products also acted as Source of Revenue to make hostel Self Sustainable
- The recipients have to collect cow dung and dump it in to gobar gas plant unit. Dumped dung is weighed and recorded for each beneficiary who are then paid Rs. 4/kg.
- Slurry of this gobar gas unit is being used for the vermin compost unit.

## **Thadakanapalli, 15 kilometres away from Kurnool**

- The Self Help Group (SHG) members in the village were involved in rearing of animals and farming.
- The proposal was accepted and resources from MGNREGA, the Animal Husbandry Department, District Rural Development Agency (DRDA), Agriculture and Panchayati Raj Department were converged for this purpose.
- Azola units, hydroponic units, supply of silage bales and supply of concentrate feed to the Animal Hostel was undertaken by the Animal Husbandry Department.
- The Hostel included facilities for housing 300 animals. A management committee including nine members from the SHG groups was formed for the monitoring
- On an average, 1,843 litres of milk is produced every day. Approximately 1,200 litres is being utilized to make a local sweet dish called 'Khoa' locally known as 'Thadakanapalli Khoa'.
- Dung was used for Bio Gas production and Compost

## NTPC Fly Ash Model: Double Waste Management Model



### Strength:

- Cost Effective
- Improves physical properties like Texture, Water Holding Capacity, Bulk Density, Ph, etc
- Controls various Pest Infestations
- Environment Friendly
- Promotes Ecological and sustainable Farming
- Increases Land fertility with enriched nutrients
- Double Waste Management
- Rich in Macro Nutrients like P,K,Ca,Mg,S
- Rich in Micro Nutrients like Fe, Mn, Zn, Cu, Co, B and Mo

### Challenges:

- Availability of Fly Ash in Organised Manner
- New Concept which needs to be scaled up



## An example we can adopt

- We need to adopt best standards of the world
- One of the Leading in countries in the field organic Farming has shown the way with master change in its Agriculture policy
- Attributed Farm subsidies with Strict Observance of Good environmental practice
- Mandatory to obtain certificate of Environmental Management System for balanced use of fertilizer, Rotate crops, protection of Soil and Animals, etc

## Why India Needs to Change its Approach towards Farming

- Green revolution led to excessive use of fertilizer, esp in areas of Punjab
- Punjab per hectare fertilizer consumption is 249.7 Kg
- We have now highest use of Chemical usage per acre of land: Pesticide consumption across the country grew by 13.07 per cent between 2014-15 and 2017-18,
- Maharashtra consumed the most chemical pesticides in India in the past five years at 61,138 ton, followed by Uttar Pradesh (UP) at 52,747 ton and Punjab at 29,394 ton, according to non-profit Pesticide Action Network (PAN).
- Need to maintain ecological balance
- Non descript/ Individual cows have low milk productivity as compared to world, need to make cows productive with value addition of Cow dung and Urine
- It is high time to exploit our 871 Million ton of Cow dung production

## Vision for Improvement: The 5F Model

