

## Background

Livestock rearing is one of the most predominant economic activity and source of livelihoods among the rural households of Ananthapur area. This region is characterized by low rainfall, ranges between 300 mm and 500 mm with high spatial and temporal variability leading to risk of severe drought. Among the hot regions of this district, Nallamada and Gudibanda are the two mandals facing scarcity of green fodder, due to depletion of natural resources and increased climate change issues. Due to this reason the production and availability of green



fodder around the year in sufficient quantity is a major challenge. This is constrained by limited cultivable land under fodder production, low water resources coupled with lesser fodder yields.

Dairy farmers and landless shepherds of this region migrate to nearby states in search of feed for their cattle and small ruminants depending on the

common property resources like forests, permanent pastures and grazing lands. Few small farmers who have land depend on left over crop residues and also cultivate fodder in small amounts for feeding. Deficiency in quality of fodder is one of the major reasons for the low animal productivity.

## Climate Smart Villages (CSV)

To sustain the livestock population, this area requires ample amount of fresh fodder supply. Green fodder is an important component of animals ration. It is highly palatable, digestible and rich in minerals & vitamins. Further, the constant increase in the price of concentrate feed ingredients and the limited availability, green fodder is a good economic source for the livestock. While increased use of green fodder in the ration of animals, reduces cost of milk production.

To reduce the gap between demand and availability of fodder, there is a need to improve the yield through enhanced use of fodder varieties in an integrated manner. Addressing the need, **APMAS** in coordination with its donor partner, **AEIN Luxembourg** has initiated a project “**Climate Smart Villages**” in these two mandals to promote food and fodder security and support welfare of livestock as its one



of the core objectives of the project. The duration of the project is 3 years from 2019 to 2022. This project specifically aims to increase the availability of fodder and land under fodder cultivation in 10 villages of 5 GPs (gram panchayaths) from both the mandals to achieve food and fodder security.

### **Integrated Fodder Development Plots**

CSV project, focusing on promoting fodder resource to ensure fodder security for livestock, has designed an innovative model “**Integrated Fodder Development Plots**” with a strategy for promoting fodder entrepreneurship in the selected area.

### **Intervention**

With criteria to develop 4 fodder varieties in 1 acre of land, 62 farmers including 14 women were identified from both the mandals to cultivate fodder, use for their cattle and make available to other farmers in the villages.

These farmers from two mandals were trained on cultivating 4 different fodder varieties based on the availability of land ranging between 0.5 to 2 acres. To provide complete nutrition to cattle and small ruminants, varieties such as Super Napier, Hedge Lucern, Sesbania (Avisa), Stylo hamata were selected and cultivated by the farmers.

With the available one acre land, farmer are cultivating Super Napier in 0.5 acres of land with a spacing of 2 feet between the rows and plants, Hedge Lucern in remaining 0.5 acres of land with 3 feet spacing between the rows and plants, in-between every 2 rows of hedge Lucern a row of Stylo Hamata was spread and on the border of the plot Sesbania is planted with a spacing of 3 feet between the rows.



Super Napier is to meet carbohydrate content while Hedge lucern is important for its fibers. Avisa majorly helps meeting the supplementary needs of small ruminant providing healthy proteins to the diet. Sytlo Hamata acts a perennial green legume fodder supplying protein to

improve milk yield and to enhance growth in small ruminants.

### **Fodder types and protein contents:**

<b>Fodder species</b>	<b>Protein content (%)</b>	<b>Yield (tones)</b>	<b>No. of harvests (times)</b>
Super Napier	10 to 12	50	5
Hedge Lucern	20 to 22	10	6
Sesbania (Avisa)	30	5	5
Stylo Hamata	23	10	Year round grazing

Feeding each small ruminants with 3 kgs of Hedge lucern in the morning hours, 2 kgs of Avisa in the afternoon, 2 kgs of corn feed during evenings and 3 kgs of groundnut crop residues during late evenings while 15 kgs of freshly harvested super Napier to cows everyday has resulted a positive outcomes such as quick physical growth of small ruminants while in milch animals observed an increase in milk yield by 4% along with improved SNF fats by 1% in the milk helping farmers increase in incomes while reduced the dependency on concentrate feed by 50%.

**Murkannappa** from CC Giri village, Gudibanda Mandal says “I have invested a lot of amount on crop cultivation but due to low productivity, low market price I was into debts. So I purchased 5 small ruminants (Sheep) by taking loan from local bank but was unaware of feeding schedules. I showed interested for fodder development and fresh fodder cultivation, so I received the seed material of 4 species. Sowing of seed was done in November 2020, and the first harvest is done in February 2021. I have harvested 15 tonnes of fresh super napier fodder, where I used 5 tonnes for my animals and supplied the rest of the fodder to neighbour farmers and gained profit of Rs. 5,000/-. In addition to this I have supplied Super Napier seed slips to 5 farmers in my village.”

**Bojanna** from Konkallu, Gudibanda says “I have 8 buffaloes. Earlier I used to take them out for grazing and during the summer season I faced challenges in feeding them. I used to grow only groundnut crop in 2 acres of land and crop left over were used as fodder for my animals. In the off season, I used to purchase dry grass from nearby districts at high prices and spent huge amounts on transportation. But with available land in my farm, I am now able take different types of fresh grass everyday to feed my animals. I have observed an increased yield in the milk and improved health conditions in the animals. Now my folk has increased to 11 animals. Adopting integrated method has increased the fertility levels and reduced weeds in my land.”



**Gangamma** from Bairepalli village from Gudibanda mandal says, “I own 2 cows and 3 goats.



Every year I would buy dry fodder, which is expensive, from the neighbouring farms. After the intervention of new fodder grass through the project, I have got it at a very low price. I have harvested the grass five times and observe quick growth after each cutting. Milk quantity and quality from my cattle has improved with this fodder and now I don't

need to purchase any grass from outside. I am now able to collect 2kgs seeds of Hedge Lucern every season from the past season crop and storing this for the next season.”