Fodder Cultivation in Odisha:

A Strategy for Livestock Productivity and Rural Livelihoods

1. Introduction

Fodder cultivation is a vital aspect of the livestock sector, providing essential feed for cattle, buffalo, goats, and sheep. In Odisha, where over 80% of rural households rear livestock for livelihood security, ensuring year-round availability of quality fodder is crucial for dairy development, draught animal power, and integrated farming systems. However, Odisha faces a significant gap between fodder demand and availability, affecting livestock productivity.

2. Importance of Fodder in Odisha's Context

- **Livelihood Dependency**: Over 70% of farmers are smallholders; livestock provides regular cash flow.
- **Low Productivity**: Average milk yield and livestock productivity are below national averages due to poor nutrition.
- **Climate Resilience**: Fodder grasses and legumes help build resilience against droughts and floods.
- **Women's Role**: Women play a key role in livestock rearing, making fodder cultivation a gender-inclusive development strategy.

3. Agro-Climatic Profile and Fodder Suitability

Odisha has ten agro-climatic zones, ranging from coastal plains to upland regions, with varied rainfall and soil types. The climatic conditions support diverse fodder crops, especially during the Kharif and Rabi seasons.

Fodder Potential in Key Agro-Climatic Zones

Agro-Climatic Zone	Fodder Suitability	Districts Covered
North Western Plateau	Sorghum, Guinea Grass, Cowpea	Sundargarh, Sambalpur, Deogarh
Coastal Plains	Napier, Hybrid Bajra, Berseem, Maize	Cuttack, Puri, Jagatsinghpur, Bhadrak
North Eastern Ghat	Cowpea, Rice Bean, Stylosanthes	Gajapati, Rayagada, Koraput

Agro-Climatic Zone	Fodder Suitability	Districts Covered
South Eastern Ghat	Guinea Grass, Stylosanthes	Malkangiri, Nabarangpur, Kalahandi

4. Status of Fodder Resources in Odisha

Type of Fodder Resource	Estimated Availability (Million tonnes)	Requirement	Deficit (%)
Green Fodder	7.6	14.5	47.6%
Dry Fodder	12.5	17.2	27.3%
Concentrates	1.6	3.5	54.3%

Source: Department of Animal Husbandry & Dairy Development, GoO

5. Major Fodder Crops Cultivated in Odisha

Crop Type	Common Varieties	Season	Yield (t/ha)
Grasses	Hybrid Napier (CO-3, CO-4)	Round the year	350–400
Cereal Fodders	Maize, Sorghum, Bajra	Kharif & Rabi	35–45
Legumes	Cowpea, Berseem, Lucerne	Rabi	30–40
Tree Fodders	Subabul, Sesbania	Year-round	–
Fodder on Bunds	Hybrid Napier, Guinea Grass	Round the year	200–300 kg/m

6. Challenges in Fodder Cultivation

- Lack of awareness and access to quality seeds.
- Low prioritization of fodder crops by farmers.
- Limited extension services on fodder agronomy.
- Inadequate irrigation support for fodder crops.
- Seasonal scarcity and absence of fodder banks.
- Fragmented land holdings and low mechanization.

7. Government Interventions and Policies

Key Schemes Promoting Fodder Development

- **National Livestock Mission (NLM)**: Provides support for fodder seed production, fodder block making units, and silage preparation.
- **Rashtriya Krishi Vikas Yojana (RKVY)**: Supports integrated livestock and fodder development initiatives.
- **State Plan - Odisha Livestock Resources Development Society (OLRDS)**:
    - Distribution of Hybrid Napier root slips and fodder seeds.
    - Training for dairy farmers on green fodder cultivation.
    - Fodder seed farms (e.g., in Khurda, Dhenkanal).

Fodder Development Programs under MGNREGS

- Land development, trenching, bunding, water harvesting for fodder plots.
- Plantation of perennial grass and legume species.

8. Innovations and Best Practices

- **Silage Making**: Use of chopped maize/sorghum stored in silos during surplus periods.
- **Azolla Cultivation**: Protein-rich floating fern used as poultry and cattle feed.
- **Fodder Banks**: Community-managed units for storing green/dry fodder in deficit months.
- **Intercropping with Legumes**: Improves soil fertility and increases fodder diversity.

9. Role of Institutions and Stakeholders

Stakeholder	**Role**
KVKs & OUAT	Research, demonstration, and capacity building
OLRDS & Fisheries & ARD Dept.	Scheme implementation and subsidy disbursement
NGOs & SHGs	Awareness generation and farmer mobilization
Dairy Cooperatives	Promote fodder on member land through FPO model
ICAR–IGFRI	Supply of climate-resilient fodder varieties

10. Recommendations

Short-Term (1–2 years)

- Promote community fodder nurseries.
- Provide minikits of quality seeds through Panchayats.
- Converge fodder development with MGNREGS and OLM.

Medium-Term (3–5 years)

- Establish decentralized silage units and fodder banks.
- Promote intercropping in orchards and bund plantations.
- Train farmers and SHGs on fodder conservation.

Long-Term (5+ years)

- Integrate fodder development in watershed and dairy projects.
- Promote Public-Private Partnerships for fodder commercialization.
- Establish state-level Fodder Security Policy and Resource Centres.

11. Conclusion

Fodder cultivation is critical for unlocking the potential of Odisha's livestock sector. With proper planning, capacity building, institutional convergence, and adoption of sustainable models, the state can bridge the fodder deficit and enhance livestock-based livelihoods, particularly for women and smallholder farmers. Strategic investments in fodder will also contribute to food security, climate resilience, and rural economic development in Odisha.

Enhancing Fodder Cultivation in Odisha: A Strategic Imperative for Livestock Productivity and Rural Livelihoods

1. Executive Summary

Odisha's livestock sector is a cornerstone of rural livelihoods and nutrition, especially for smallholder and landless farmers. However, productivity remains constrained due to an acute deficit in quality fodder. This policy submission proposes a multi-pronged state strategy to promote sustainable fodder cultivation, conserve local fodder biodiversity, and ensure year-round green fodder availability through community-led models, institutional convergence, and technology infusion. A comprehensive fodder development mission can transform Odisha into a model state in livestock-nutrition integration.

2. Background and Rationale

2.1. Livestock and Rural Economy in Odisha

- Over **70% of rural households** rear livestock.
- Livestock contributes over **15% to the agricultural GVA** of Odisha.
- Odisha has around **15 million livestock**, including over 8 million cattle and buffaloes.

2.2. Fodder Deficit and Productivity Crisis

As per estimates by the Department of F&ARD:

- **Green Fodder Deficit**: 47.6%
- **Dry Fodder Deficit**: 27.3%
- **Concentrate Deficit**: 54.3%

This contributes to low milk yield (~2.5 litres/day), high incidence of diseases, and poor reproductive performance of livestock.

3. Key Challenges Identified

1. **Limited Cultivation Area**: Less than 3% of cultivable land is under fodder.
2. **Seed Shortage**: Quality fodder seed production and availability are poor.
3. **Low Awareness**: Farmers prioritize food crops; extension for fodder is weak.
4. **Climate Vulnerability**: Frequent droughts/floods reduce natural pasture productivity.
5. **Lack of Storage Infrastructure**: No widespread silage or fodder banks.
6. **Fragmented Programs**: No unified fodder policy at state level.

4. Policy Recommendations

4.1. Odisha Fodder Security Mission (OFSM)

A time-bound state-level mission under the Department of F&ARD with cross-departmental coordination.

Key Components:

- **Fodder Development Clusters**: 100 model fodder villages per year (at least 1 per block).
- **Community Nurseries**: SHG/FPO-led production of hybrid Napier, Guinea grass, and cowpea seeds.
- **Fodder Bank Infrastructure**: 1 per block, supported by cold-chain or silage pits.

- **Seed Certification & Distribution**: Strengthen OUAT and KVKs as certified seed multipliers.
- **Bund and Orchard-Based Cultivation**: Promote grass-legume mix along bunds of paddy, mango, cashew.
- **Rainfed Fodder Promotion**: Encourage stylosanthes and cowpea in upland regions.
- **Integration with MGNREGS and OLM**: Leverage for fencing, land development, water harvesting.

4.2. Policy and Budgetary Measures

- **Dedicated Fodder Budget**: At least ₹100 crore per year from State Plan, RKVY, and NLM.
- **Fodder Inclusion in District Agriculture Plans (DAPs)**.
- **Custom Hiring Centres**: Equipment for fodder harvesting, chopping, and baling.
- **Mini Kits for Marginal Farmers**: Green fodder seed kits via Panchayats.

4.3. Institutional Strengthening

- **Fodder Research Cell at OUAT** to promote climate-resilient fodder varieties.
- **Fodder Cell at Directorate of AHD** to coordinate fodder production, marketing, and conservation.
- **Capacity Building**: Training of 10,000 farmers annually via KVKs and ATMA.
- **Digital Fodder Tracker**: An MIS for crop availability, deficit mapping, and supply chains.

4.4. Inclusive Development and Gender Mainstreaming

- Encourage **SHGs and Women Dairy Cooperatives** for nursery and fodder bank management.
- Develop **training modules in Odia** for women on fodder cultivation and livestock nutrition.
- Include **women entrepreneurs** in silage making, baling, and fodder supply chains.

5. Suggested Pilot Interventions (FY 2025–26)

Component	**Details**	**Budget (₹ in crore)**
100 Fodder Villages	1 per block with 10 acres each	25.00
314 Block-Level Fodder Banks	Storage, baler, silage pit facilities	31.40
10,000 Farmer Trainings	Through KVKs and NGOs	5.00
Custom Hiring Equipment Support	Mowers, choppers, balers	15.00
Seed Multiplication at OUAT	Breeder and foundation seed production	8.00
MIS and Monitoring	App, dashboards, GIS maps	3.00
Communication & IEC Campaigns	Print, radio, wall art, SMS alerts	2.00
Total Estimated Budget		**₹ 89.40 crore**

6. Expected Outcomes (2025–30)

- **Fodder Deficit Reduction** by 30–50%.
- **Increase in Milk Yield** by 1.5–2 litres/day per animal.
- **Employment Generation** for 1 lakh SHG women.
- **Climate Resilience** in 3 lakh hectares of rainfed lands.
- **Enhanced Livestock Nutrition** improving meat and milk productivity.

7. Conclusion and Call to Action

Odisha stands at a critical juncture in transforming its livestock sector. Investing in fodder cultivation is a foundational step toward building resilient, nutrition-secure, and inclusive rural economies. We urge the Government of Odisha to approve and implement this integrated fodder development strategy under a mission-mode framework to ensure food, fodder, and income security for its farmers.