1. Natural Farming for a Sustainable Future: Strengthening Climate Resilience and Rural Livelihoods

2. Location: **Village:** Baguakata, **G.P.**-Lunibahal,**Block:** Harbhanga, **District**- Boudh
Agro-climatic zone- Western Central Table Land Zone.

3. Profile of the farmer:

- **Name of farm woman:** Mrs. Lipika Bhoi
- **Landholding:1 acre**
- **Livelihood base:** Farming & working as Krishi Mitra.
- **Socio-economic background:** Mrs. Lipika Bhoi has been engaged in farming since 2010. Belonging to a small farming family, she faced financial constraints as her husband's occupation as a Mason provided only an irregular and limited income, making it difficult to meet the family's daily needs. Determined to improve their socio-economic condition, she looked upon agriculture as a sustainable source of livelihood. After joining as a Krishi Mitra in 2019, she gained exposure to scientific farming practices and actively participated in various agricultural extension programmes.

4. KVK Intervention:

- **Year and season of intervention:** The intervention was initiated during the Kharif season of 2024 by Krishi Vigyan Kendra (KVK), Boudh under its Natural Farming promotion programme under 100 days action plan. Based on regular field interactions and diagnostic visits, Mrs. Lipika Bhoi was identified as a progressive farm woman willing to adopt eco-friendly and low-cost farming practices. She was provided with continuous technical guidance, training, and on-field handholding support for the adoption of natural farming technologies.
- **Technologies demonstrated (name, scientific basis, rationale) :** KVK, Boudh demonstrated a package of Natural Farming technologies, including *Bijamrita*, *Jeevamrita and Ghanajeevamrita*, mulching for moisture conservation, intercropping with legumes, botanical extracts (*Neemastra/Brahmastra/Agniastra)* and the use of locally available organic inputs. The rationale behind the intervention was to reduce the cost of cultivation, improve soil health, ensure sustainable crop production and enhance farmers' net income through the efficient utilization of locally available farm resources.
- **Stakeholder involvement and participatory planning:** The intervention was implemented through a participatory approach involving Mrs. Lipika Bhoi, KVK scientists, other local Krishi Mitras, and neighbouring farmers. Before implementation,

discussions were held to identify existing farming constraints, available resources, and suitable natural farming practices for her farming area. KVK organized capacity-building programmes, field demonstrations, regular monitoring, and advisory services to facilitate technology adoption. The active participation of the farmer in planning, implementation, and experience sharing ensured the successful adoption of natural farming practices and encouraged neighbouring farmers to replicate the technologies in their own fields.

5. Technology/Application Details:

- **Description of technology/practice introduced:** KVK, Boudh introduced Natural Farming practices involving the use of *Bijamrita* for seed treatment, Jeevamrita and Ghanajeevamrita for soil fertility enhancement, mulching for moisture conservation, and botanical formulations such as Neemastra for eco-friendly pest management. The package emphasized the use of locally available farm resources to reduce dependence on external chemical inputs and promote sustainable crop production.
- **Scientific principle:** The intervention is based on the principle of improving soil biological activity, enhancing natural nutrient cycling, conserving soil moisture, and maintaining ecological balance. It encourages the use of beneficial microorganisms and natural inputs to improve soil health, reduce cultivation costs, and ensure long-term agricultural sustainability.
- **Mode of implementation (demo, training, capacity building):** The technology was implemented through on-farm demonstrations, hands-on training programmes, field visits, and regular technical guidance by KVK, Boudh. Continuous monitoring, advisory services, and farmer-to-farmer learning strengthened the adoption of natural farming practices and built the confidence of Mrs. Lipika Bhoi to successfully implement the technology on her farm.

6. Outcomes and Impact

- **Change in yield/productivity (with data):** Adoption of natural farming practices on 1 acre (Kharif paddy and Rabi vegetables) resulted in an 18% increase in crop productivity. Paddy yield increased from 18.5 q/acre to 21.8 q/acre, while vegetable yield increased by approximately 20% compared to the conventional practice.
- **Economic benefits (before vs. after intervention):** The cost of cultivation decreased by about 28% due to the use of farm-made natural inputs. Annual net farm income increased from approximately ₹72,000 to ₹1,08,000. Additionally, Mrs. Lipika Bhoi earns around ₹70,000 per year through the preparation and sale of natural farming inputs (*Jeevamrita,*

Ghanajeevamrita, botanical formulations, etc.), increasing her total annual income to nearly ₹1.78 lakh.

- **Risk reduction/resilience achieved:** The adoption of natural farming reduced dependence on costly chemical fertilizers and pesticides, improved the farm's resilience to erratic rainfall through better soil moisture retention, and minimized production risks by utilizing locally available farm resources.
- **Environmental benefits (soil health, water use, biodiversity, etc.) :** Continuous use of natural farming practices improved soil organic matter, beneficial microbial activity, and soil structure, leading to enhanced soil fertility. Mulching and organic inputs improved water-use efficiency, while the elimination of synthetic chemicals promoted greater biodiversity, including beneficial insects and soil organisms, thereby contributing to a healthier and more sustainable farming ecosystem.

7. Indicators of Sustainability/Adoption

- **Number of farmers replicating:** Encouraged by the successful results on Mrs. Lipika Bhoi's farm, 25–30 farmers from the surrounding villages have started adopting natural farming practices with technical support from KVK, Boudh.
- **Inclusion in panchayat/block-level planning:** The success of the intervention has been recognized by the KVK Scientist, Gram Panchayat and Block Agriculture Office, and natural farming promotion has been incorporated into farmer awareness programmes and village-level agricultural planning.
- **Integration with other schemes (MGNREGS, PKVY, OLM, etc.):** The intervention has been converged with Mission Shakti (OLM) for women SHGs and the Department of Agriculture & Farmers' Empowerment for capacity building and wider dissemination of natural farming technologies.
- **Institutional mechanisms supported:** Regular technical guidance, training, field demonstrations, and follow-up advisory services by KVK, Boudh, along with support from Krishi Mitras, SHGs, the Department of Agriculture, and local farmer groups, have strengthened the institutional framework for the sustained adoption and horizontal spread of natural farming in the area.

8. Challenges and Learnings

- **Implementation Difficulties:** During the initial phase, preparing bio-inputs, ensuring timely availability of organic materials, and overcoming farmers' hesitation to reduce chemical inputs posed significant challenges. Regular technical guidance from KVK, Boudh helped address these issues.
- **Farmer Perceptions and Behavior Change:** Initially, many farmers were doubtful about the effectiveness of natural farming. However, after observing the reduced cost of cultivation, improved crop performance, and additional income generated by Mrs. Lipika Bhoi, they gradually developed confidence and showed greater willingness to adopt the technology.
- **Lessons for Upscaling and Replication:** The success of the intervention demonstrated that continuous handholding, field demonstrations, capacity building, and farmer-to-farmer learning are essential for the large-scale adoption of natural farming. Strengthening convergence with line departments and SHGs can further accelerate the horizontal spread of sustainable farming practices across the district.

9. Policy and Programmatic Implications

- **Suggestions for integration into broader program:** Natural farming should be integrated with KVK extension programmes, PKVY, National Mission on Natural Farming (NMNF), ATMA and State Agriculture Department initiatives to promote sustainable and low-cost agriculture through regular training, demonstrations, and farmer exposure visits.
- **Need for convergence, investment, or policy tweak:** Greater convergence among KVKs, the Department of Agriculture & Farmers' Empowerment, OLM (Mission Shakti), Panchayati Raj Institutions and FPOs is needed to strengthen the adoption of natural farming. Policy support for establishing village-level bio-input production units, financial assistance for small-scale natural farming enterprises, and market linkages for naturally produced commodities will facilitate wider adoption and ensure long-term sustainability.

10. Testimonials and Quotes: Natural farming has transformed my approach to agriculture. With the continuous guidance and support of KVK, Boudh, I have reduced the cost of cultivation, improved my crop yield, and earned additional income through the production and sale of natural farming inputs. Today, I am confident in promoting these practices among fellow farmers and encouraging them to adopt sustainable agriculture."

Mrs. Lipika Bhoi, Progressive Farm Woman & Krishi Mitra, Boudh.

(ପ୍ରାକୃତିକ କୃଷି ମୋର ଚାଷ କରିବାର ଧାରାକୁ ସମ୍ପୂର୍ଣ୍ଣ ପରିବର୍ତ୍ତନ କରିଦେଇଛି। । କୃଷି ବିଜ୍ଞାନ କେନ୍ଦ୍ର, ବୌଦ୍ଧର ନିରନ୍ତର ବୈଷୟିକ ମାର୍ଗଦର୍ଶନ ଓ ସହଯୋଗରେ ମୁଁ ଚାଷର ଖର୍ଚ୍ଚକୁ ଯଥେଷ୍ଟ ହ୍ରାସ କରିବାରେ ସଫଳ ହୋଇଛି, ଫସଲର ଉତ୍ପାଦନ ବୃଦ୍ଧି କରିଛି, ଏବଂ ପ୍ରାକୃତିକ କୃଷି ପାଇଁ ଆବଶ୍ୟକ ଜୈବ ଆଦାନର ପ୍ରସ୍ତୁତି ଓ ବିକ୍ରୟ ମାଧ୍ୟମରେ ଅତିରିକ୍ତ ଆୟ ମଧ୍ୟ ଅର୍ଜନ କରୁଛି। ଆଜି ମୁଁ ଅନ୍ୟ କୃଷକମାନଙ୍କ ମଧ୍ୟରେ ପ୍ରାକୃତିକ କୃଷିର ପ୍ରଚାର କରିବା ସହ ସେମାନଙ୍କୁ ସ୍ଥାୟୀ ଓ ପରିବେଶ ଅନୁକୂଳ କୃଷି ଗ୍ରହଣ କରିବାକୁ ପ୍ରେରଣା ଯୋଗାଉଛି ।

ଶ୍ରୀମତୀ ଲିପିକା ଭୋଇ, ପ୍ରଗତିଶୀଳ ମହିଳା କୃଷକ ଓ କୃଷି ମିତ୍ର, ବୌଦ୍ଧ)

11. Supporting Visual Evidence



1.Preparation of Jeevamrut 2. Application of Beejamrut 3. Field Visit of KVK Scientist



Exhibition stall at Farmers fair in KVK, Boudh & Suvadra Shakti Mela



Horizontal spread of Natural Farming Technology in neighbouring village

Sd/-
Sr. Scientist & Head
KVK, Boudh