BUNDS OF BEAUTY -BUNDLES OF INCOME

An Article on the Cultivation of *Celosia cristata* in Rice Bunds, Nizamabad

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INTRODUCTION

Paddy cultivation is a predominant agricultural practice in Nizamabad, with vast areas dedicated to this staple crop. This region's reliance on mono-cropping has led to several ecological & economic issues, particularly affecting the soil and plant diversity. Mono-cropping, the agricultural practice of growing a single crop season after season on the same land, has been a common practice in modern farming.

However, the modern paddy production is also responsible to be significantly contributing to the environmental problems which poses significant risks to soil health, particularly concerning soil biodiversity.



ISSUES WITH MONO-CROPPING

■ LOSS OF PLANT AND SOIL BIODIVERSITY:

Mono-cropping has significantly altered biological processes, lead to a decline in soil health and fertility over time. The primary impacts include a reduction in microbial diversity, increased pest and disease pressure, and soil degradation. Continuous cultivation of a single crop leads to a decrease in the diversity of soil microorganisms, affecting nutrient cycling and soil structure. This uniform environment also attracts specific pests and diseases, which thrive under these conditions, requiring increased use of chemical pesticides and fungicides.

■ IMPACT ON FLOWER AND WEED POPULATION:

Mono-cropping of paddy has significantly reduced the diversity of flowers and weeds. The continuous cultivation of a single crop type depletes soil nutrients and disrupts the natural ecosystem. This practice has led to the decline of various wildflowers and beneficial weeds that once thrived in the region, contributing to a loss of biodiversity and ecological imbalance.

■ SIGNIFIANCE OF BATHUKAMMA FESTIVAL:

Bathukamma is an iconic floral festival celebrated by women in Telangana during Dussehra (September-October). The festival involves crafting beautiful floral stacks and immersing them in water bodies. Traditionally, various wild flowers, including those growing on paddy bunds, are used in these celebrations. The decline in flower diversity due to mono-cropping has impacted the availability of these flowers, affecting the cultural practices associated with the festival.

■ DISAPPEARANCE OF WEEDS:

The practice of mono-cropping, combined with high water usage and extensive chemical inputs, has led to the disappearance of many beneficial weeds. These weeds, which were once abundant and used in festivals like Bathukamma, are now scarce. The high-water usage in paddy fields creates conditions that are unfavourable for many native weed species, while the use of chemical pesticides and fertilizers further reduces their presence.



CONCLUSION

Integrating **Sethajada Puvvu** into paddy farming has proven to be a sustainable, profitable, and eco-friendly approach. This initiative not only enhances biodiversity but also provides farmers with a secondary income source, making rice farming more resilient and regenerative. The success in Doosegaon Thanda is a testament to the benefits of this practice, encouraging more farmers to adopt similar methods (bund-cropping) for a sustainable future.

Given its low-maintenance and cost-effective nature, promoting the cultivation of Sethajada Puvvu, perennial red gram, Glyricidia, and other suitable crops along paddy bunds increase biodiversity, farmers' incomes, and help preserve cultural traditions on a larger scale. Additionally, widening the rice bunds, following the A-Grade model promoted by *Rythu Sadhikara Samstha (RySS)*, Andhra Pradesh Community Managed Natural Farming (APCNF), can enhance the biodiversity. This holistic approach will contribute to the long-term sustainability and resilience of agricultural practices in Nizamabad and beyond.



OUR INTERVENTIONS

To address these issues, the Krishi Vigyan Kendra, Rudrur and the Centre for Sustainable Agriculture (CSA) introduced the cultivation of Sethajada Puvvu (Celosia cristata) along paddy bunds under the Regenerative Rice cultivation.

- Introduction of Sethajada Puvvu: Celosia cristata, locally known as Setha Jada, is resistant to water and can thrive in the conditions prevalent in paddy fields. Unlike other weeds, it can withstand the high moisture levels associated with paddy cultivation. This makes it an ideal for cultivation along paddy bunds, where it can grow without competing with the main crop.
- Increased Biodiversity: By cultivating Setha Jada at the paddy bunds, we have reintroduced floral diversity into the fields. This practice promotes ecological balance and supports beneficial pollinators and pest control. The presence of Setha Jada attracts bees and other pollinators enhancing the overall health of the ecosystem. Additionally, it acts as a trap crop, diverting pests away from the main paddy crop and reducing the need for chemical pesticides.
- Secondary Source of Income: Farmers sell Setha Jada flowers in local markets, especially during the Bathukamma festival, providing them with an additional source of income during the Kharif season. Each bunch of Setha Jada is sold for 15 to 50 rupees, depending on quality and time of sale. A farmer earning between INR 6,000 to 8,000 during the festival season by bund cropping Setha Jada. This additional income helps farmers diversify their revenue streams and reduces their dependence on a single crop.
- Widespread Adoption: This practice has been adopted in Dooasegaon Thanda villages located in Dichpally mandal. The initiative has covered approximately 50 farmers cover in 80 acres. The success of this practice has encouraged more farmers to adopt similar methods, leading to a community-wide effort to enhance biodiversity and improve livelihoods.

ACKNOWLEDGEMENT

We would like to thank **Krishi Vigyan Kendra (KVK), Rudrur**, for adopting Doosegaon Thanda in promoting sustainable agriculture and bringing new technology to small and marginal farmers. We also thank DIAGEO India for their support in promoting the regenerative rice cultivation in this region. We would like to thank Dr Gurpreet Singh from DIAGEO India and Dr. T. Anjaiaha, KVK – Rudrur, Dr G.V. Ramanjaneyulu and Dr. G. Raja Shekar from Centre for Sustainable Agriculture (CSA) and Smt. Vimala Mesala from SWRDS. Their support has been instrumental in promoting sustainable agriculture.