

Leveraging the nutritional and medicinal potential of wild yam for a sustainable future

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DOI: <https://doi.org/10.5281/zenodo.14556931>



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Wild yam, a staple food in many indigenous communities, has been a vital component of traditional cuisine and medicine for centuries, belonging to genus *Dioscorea* and family Dioscoreaceae (Figure 1). With its rich nutritional profile and medicinal properties, wild yam has the potential to contribute significantly to food security and sustainable livelihoods (Kumar and Jena, 2013).



Figure 1: Field study and characterization of *Dioscorea* species in Odisha state, India

As the world grapples with the challenges of climate change, biodiversity loss, and malnutrition, wild yam offers a promising solution. Wild yam is an excellent source of essential nutrients, including fiber,

vitamins, and minerals. Its high starch content makes it an ideal ingredient for various food products, such as flour, bread, and porridge (Kumar et al., 2012; Kumar and Jena, 2017). Moreover, diosgenin, a range of bioactive compounds found in wild yam, has demonstrated anti-inflammatory, antioxidant, and anticancer properties (Kumar and Jena, 2014; Kumar et al., 2017). These medicinal properties make wild yam a valuable resource for the development of new drugs and therapies (Kumar et al., 2017). Despite its potential, wild yam remains an underutilized resource. Overharvesting and habitat destruction threaten the long-term sustainability of wild yam populations, while lack of awareness and limited market access hinder its commercialization. To address these challenges, it is essential to develop sustainable harvesting practices, establish efficient supply chains, and promote wild yam as a nutritious and medicinal food product. Over the past 15 years, I have been monitoring the *Dioscorea* species population and have observed a continuous decline in Jharkhand and Odisha states in India. By doing so, we can ensure the conservation of wild yam populations, improve the livelihoods of indigenous communities, and provide consumers with a nutritious and sustainable food option. As we move forward, it is crucial to adopt a holistic approach that balances the nutritional, medicinal, and economic potential of wild yam with its conservation and sustainable use. By working together with indigenous communities, researchers, policymakers, and industry stakeholders, we can unlock the full potential of wild yam and create a more sustainable food system that benefits both people and the planet. As we embark on this journey, we must recognize the importance of preserving traditional knowledge and promoting sustainable practices to ensure the long-term conservation of wild yam and its benefits for future generations.

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