

Underutilized Vegetables and their Existence

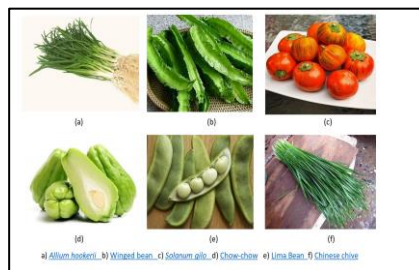
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The focus on a few widely used species has helped to sustain the explosion in human population over the last two hundred and fifty years, but it has narrowed down dramatically the number of species upon which global food security depends. Food production would fail to keep pace with the increase in the demand for food by the growing population in many developing countries. This food gap would be doubled, making some of the world's poorest people even more vulnerable to hunger and possible famine. Thus, the food basket has reached a highly vulnerable situation, and urgent action to promote diversification is needed. The narrowing base of global food security is limiting livelihood options for the rural poor, particularly in marginal areas. Addressing their needs requires that we broaden the focus of research and development to include a much wider range of crop species. Many of these species occupy important niches, adapted to the risky and fragile communities. They have a comparative advantage in marginal lands where they have been selected to withstand stress conditions and contribute to sustainable production with low-cost inputs. They also contribute to the diversity richness and hence the stability of agro-ecosystems.

About 600 species constitute the global diversity in vegetable crops. However, presently only one-fourth is utilized as major vegetable crops, and the rest are named as minor, underutilized, rare vegetables, wild edible vegetables, and so on. Ethnobotanical surveys indicate that hundreds of such species are still to be found in each country, representing an enormous wealth of agrobiodiversity with the potential to contribute to income, food security, and nutrition. However, these locally important species are frequently neglected by science. Lack of attention by research and development has meant that their potential value is under-exploited. This neglect status places them in danger of continuing genetic erosion, further restricting development options for the rural poor. Research to increase their value and make them more widely available would broaden their resource base and increase the livelihood options for rural communities.



Underutilized crops are species with underexploited potential for contributing to food security, nutrition, health income generation, and environmental services. They are well-adapted to existing and adverse environmental conditions and are generally resistant to pests and pathogens. They are a cheap alternate source of protein and can alleviate protein malnutrition in rural areas. Limitations of underutilized crops The potential role of underutilized vegetables in sustainable agriculture through

crop diversification has yet to be exploited.

Despite production and marketing-related barriers, underutilized vegetables have a very bright scope to find a place in food and nutritional security. Conservation and utilization of underutilized vegetables will bring immense prosperity not only locally but also globally.

Constraints

- Lack of awareness among the farming community about the nutritional and medicinal value of it
- Lack of researches
- Lack of desirable planting materials
- Limited application of advanced on-farm agro-techniques.
- Lack of application of innovative and novel technologies such as biotechnology, and plasticulture for enhancement of productivity
- Lack of post-harvest management practices
- Limited and inadequate marketing support and infrastructure facilities for transportation, storage, and processing.
- Poor recognition of these crops in horticulture promotion programs
- Improper institutional arrangements and the limited role played by financial institutions in setting up agro-industrial and horticulture-based

Strategies for the development of underutilized horticultural crops

- Domestication of potential wild species through homestead cultivation should be encouraged to avoid over-exploitation from natural resources. Supports are required in terms of the multiplication of planting materials and their distribution besides providing market

access through a marketing network for perishables.

- Underutilized horticultural crops are nutritionally rich and adapted to low-input agriculture. More R and D efforts in these will add substantially to food security and nutrition vis-à-vis human welfare.
- Underutilized horticultural crops are mainly grown/managed under traditional farming systems by diverse ethnic communities. Increased focus to document indigenous knowledge is required such as through ethnobotanical studies.
- Strategies need to be worked out particularly at national and regional levels to develop and make available promising selection/varieties, overcoming constraints of production of good seed material, planting material, in-vitro/tissue cultured material, etc. This would boost production, meet local needs, promote domestic markets, and thereby, enhance income generation of small farming communities.
- Systematic local-specific crop planning by agro-climatic suitability of the region needs to be done.
- Special emphasis should be on export-oriented production programs and border trade involving high-value produce
- At the very onset, there is a necessity to make the farming community aware of the nutritional importance of unexploited horticultural crops through extension works at the micro or macro level, through mass media like radio, TV, newspaper, and other printed literature to create awareness among farmers

Conclusion

Underutilized crops are tolerant to various biotic and abiotic stress conditions, they are very hardy and require very little input

for their sustenance. Moreover, they possess immense nutritional and medicinal value. In the upcoming years, there is a great scope for cultivating underutilized vegetables for our national economy to combat both economically as well as nutritionally.