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Curing Role of Underutilized Plants at Household Level

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ABSTRACT

The world is precariously dependent on a limited number of food crop species despite its wealth of traditional, locally-adapted underutilized species. These plants have many advantages like easier to grow and hardy in nature, producing a crop even under adverse soil and climatic conditions. These neglected and underutilized species (NUS) play a crucial role in the food security, income generation and food culture of the rural poor. They are also often more resilient than staple crops, because they are better adapted to grow in marginal areas, with little need for irrigation, pesticides and fertilizers. Yet the lack of attention by mainstream research and development programs means their potential value is under-estimated and under-exploited, with many under threat of disappearance. The belief behind this mode of eating underutilized fruit crops is good for health and acts as a remedy for various ailments like relief of strain muscle, laxative, sedative, herbal hair lotion shampoo for antioxidant, dysentery, diarrhoea, jaundice, cough etc. This could be attributed due to the presence of phytochemical in these minor fruit crops that enhance the power of immunity of human body.

Keywords: *Underutilized plants, value added products , disease prevention*

INTRODUCTION

If the 20th Century witnessed the undertaking of systematic collecting to rescue the genetic resources of staple crops **(Pistorius, 1997),** the 21st Century has started with the awareness on the need to rescue and improve the use of those crops left aside by research, technology, marketing systems as well as conservation efforts. The underutilized crops often referred as minor, orphan, neglected, underutilized, underexploited,

underdeveloped, lost, new, novel, promising, alternative, local, traditional, niche crops are the category of wild and cultivated crops whose potential have not yet been fully recognised. The term itself does not provide any information as to geographical (underutilized where?), social (underutilized by whom?) and economic (underutilized to what degree?) implications. It is thus not surprising that whenever underutilized species are being addressed in national or international flora there is inevitably a call for a clarification over the exact meaning of such a term **(padulosi, 2009)**. With the changing scenario the fate of underutilized crops is falling into disuse for a variety

Many underutilized crops were once more widely grown but are today falling into disuse for of agronomic, genetic, economic and cultural factors. The use of such crops is minimized because of a reason that they are less competitive than the other species. The growth of such plants is highly restricted among the traditional farmers where these crops are important for the subsistence of local communities. Traditional knowledge of these species is quite known yet its scientific implementation is somehow limited. The underutilized plants species has basically the following characteristics (**Guillaume et, al, 2006)**

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1. The species is a local species in as compared to the ones that are globally abundant, it means that they are collected ad produced in a single area are restricted geographically.
2. The local users have a vast practical knowledge of the available underutilised species yet its scientific knowledge is neither known within or outside their circle.
3. These plant species do have a potential to generate local income yet they do not occupy a significant share of national or international trade.

These crops are locally abundant but are produced in small scale, scientific knowledge about them is very scant and their use is quite limited yet that have a very high value.

NEED OF UNDERUTILISED CROPS

Agriculture being the major source of livelihood for the rural population, constituting about 85% of the population survives on agriculture. However due to low productivity of soil and small land holdings, food security is not assured. Lower crop yields is even due to lack of irrigation facilities in India **(Hegde, 2007).** The ever increasing pressure of population and fast depletion of natural resources, the need is to diversify the present day agriculture to meet the various human future needs **(Pugalenthi, 2005).** Considering the importance of the crops as food, medicine and for industries, these underutilized crops can be

exploited at the commercial level. The high nutritional qualities indicate that the cultivation and consumption of these crops may be helpful in overcoming the nutritional deficiencies predominant in many rural areas of the country and boost the socio-economic condition of the society. With ever increasing population and consequent shortage of food grains, collection and utilization of various types of unutilized crops are considered very essential (**Deb et.al, 2013).** A study conducted on the role of underutilised plants in combating iron deficiency in Indians showed that various underutilised crops had an excellent relative contribution of iron to the recommended dietary allowance such as grain amaranth (7.6 mg/100g),finger millet (3.9 mg/100g),phalsa (3.1 mg/100g), sword bean (3.6 mg/100g), hyacinth bean (11.7 mg/ 100g), little millet (9.3 mg/100g) **(Arivalagan,2012).** Nutritional anaemia is a worldwide concern putting pregnant women, children, adolescents, infants at risk and this increases morbidity to various infectious diseases leading to impairment of various functions. Thus provision of iron through such crops can prove to be beneficial for the needy. Underutilized and underexploited horticultural crops form an integral part of health food green parks, neutraceutical industry, home decorations, renewable sources of green energy and above all food reserves during calamities.

CURING ROLE OF UNDERUTILISED PLANTS:

Leafy vegetables like agathi *(Sesbania grandi-flora),* chekkurmanis *(Sauropus androgynus),* waterleaf *(Talinum fruticosum),* drumstick leaf *(Moringa oleifera),* basella leaf are rich in fibre, minerals and beta carotenes **(Deshmukh et,al., 2014).** Cucurbits like ash gourd, pointed gourd, ivy gourd, kekrol *(Momordica dioica)* , snap melons(*Cucumis melo var momordica)* and chow-chow *(Sechium edule)* are rich in iron and amino acids. Fruits like karonda*(Carissa carandas),* aonla and cherries are highly nutritious and enhances food absorption, balances stomach acid, fortifies the liver, nourishes the brain and mental functioning, supports the heart, strengthens the lungs, regulates elimination of free radicals, enhances fertility, helps the urinary system, increases skin health, promotes healthier hair, acts as a body coolant, flushes out toxins, increases vitality, strengthens eyes, improves muscle tone and, acts as an antioxidant.. Noni is a fruit for health. Noni *(Morinda citrifolia)* juice is recommended against diabetes, obesity and sleeplessness. Among spices, long pepper, mint, celery, fenugreek and garcenia possess medicinal properties. There are a large number of underexploited medicinal plants like tulsi and peppermint with considerable economic value. In a global newsletter of underutilised crops published in 2001 by the international centre for underutilised crops witnessed the importance of various such crops such as bael *(Aaegle maramelos)* apart from being anti-helminethetic , hypoglycaemic cardiac stimulant, anti-diarrhoeal and anti-viral it also has a potential to cure cholera in local medicine. The fruit contains 8mg Vitamin C per 100g **(global newsletter of underutilised crops, 2001).**

Bael *(Aaegle Marmelos)*

Basella

kekrol
(Momordica dioica)

chow- chow
(Sechium edule)

Noni
(Morinda citrifolia)

snap melons
(*Cucumis melo var momordica)*

CONCLUSION

Literature available on the underutilised plants clearly depicted their importance in not only providing food security but also economical security as well. The plants have an extremely important medicinal value but their negligence has lead to their exploitation. Besides, due to the lacking medicinal value of this underutilized fruit crops and rapid deforestation, the germplasm of such important plants are threaten to be extinct. Thus, if this hidden wealth of novel fruit species and its medicinal compound is explored without further delay, the country like India which is rich source of genetic biodiversity will be in a position to occupy a sizeable share in the National and International Market for herbal medicine.

REFERENCES

1. A. Deshmukh and D. K. Gaikwad. A review of the taxonomy, ethnobotany, phytochemistry and pharmacology of Basella alba (Basellaceae) S. Journal of Applied Pharmaceutical Science, 2014; 4(01):153-165
2. Deb, Chitta Ranjan, N. S. Jamir and Sungkumlong Ozukum. A study on the survey and documentation of underutili-zed crops of three districts of nagaland,india Journal of Global Biosciences, 2013; Vol. 2(3):67-70.
3. Dr Narayan G. Hegde . Promotion of Underutilised Crops for Sustainable Livelihood and income generation. 5th International Symposium on "New Crops and Uses" organised by the Centre for Under-utilised Crops, University of

Southampton, United Kingdom. September 2007; pg. 3-4.

4. Global news letter (2001), International centre for underutilized crops.
5. Guillaume Gruère, Alessandra Giuliani, and Melinda Smale. Marketing Under utilized Plant Species for the Benefit of the Poor: A Conceptual Framework, environment and production technology division, 2006:154.
6. Hannah Jaenicke and Nick Pasiecznik. International Centre for Underutilised leisa magazine 25.1 march 2009.
7. M. Arivalagan, T. V. Prasad and M. K. Bag.Role of underutilized crops for combating iron deficiency in Indian population, current science, JULY 2012; 103, NO. 2,
8. Pugalenthi, M., Vadivel, V. and Siddhuraju, P.Alternative food/feed perspectives of an underutilized legume Mucuna pruriens var. utilis – a review, Plants Foods for Human Nutrition, 2005;60, 201-218.
9. S. Padulosi, T. Hodgkin, J.T. Williams and N. Haq. Underutilized crops: trends, challenges and opportunities in the 21st Century,International Plant Genetic Resources Institute (IPGRI), Rome, Italy; 2 International Centre for Underutilized Crops (ICUC), Southampton, UK