LITERATURE REVIEW:


   Author reported compositional data for several foods that comprises the annual diet among Hadza Foragers. They found macronutrient composition of six fruits which is comparable to those of agricultural fruits, although they were somewhat higher in crude protein, carbohydrates and energy and somewhat lower in fat. They found Baobab seeds is high protein as reported in other studies after all. They observed in combination with our analytical data. They suggest that baobab seeds are an important source of energy and protein for these foragers.


   Author studied the wild edible fruits play a significant role in the dietary requirement of the tribal and local communities of Kerala. They studied 218 plant species of fruit, out of that 10 species they selected for chemical analysis. They studied moisture, protein, fat, non-reducing and total sugar, fiber, total vitamin. Vitamin C, iron, sodium, potassium and energy value were carried out and they compared the result with ten common cultivator fruits.


   Author were studied the proximate composition and the physicochemical characteristic of the Deterium microcarpum, Balani tesaegytiaca and Gemilin arbora oils. They measured saponification value, iodine value, peroxide; acid value and percentage free fatty acid. They measured refractive index. They found iodine value of the oils were not greater than 88g but saponification value were in range 122 +0.14 to 201+0.05 mg KOH. Proximate value of the protein oil and carbohydrates content of the seed suggest that they may be adequate for the formulation of animal feed. The vitamins A and C found to be present in the seed were low, though could alleviate the symptoms associated with these vitamins. They studied qualitative and quantitative chemical analysis showed that the entire sample studied contains hydrogen cyanide in the form of cyanogenetic glycoside. They found the aglycone for all the glycoside detected was found to be benzaldehyde.
4. Rathor M (2009): Nutrient content of important fruit trees from arid zone of Rajasthan. Author was studied around 600 plant species in Indian forest that plant has good food value. Arid zone vegetation comprises a wide range of edible fruit bearing and food producing species. But out of 600 species she focused on only 10 plant species from arid zone which play an important role in the nutrition of children in rural and urban area. That rich in source of protein and energy. She said Ber is richer than apple in protein, phosphorous, calcium, carotene and vitamin C. however they are often undervalued and underutilization as more exotic fruits. These production and consumption provide a dietary supplement as well as commercial opportunity.

5. Clolombo M. L. et al. (2010): Most commonly exposures and intoxications from outdoor toxic plants. Author emphasized on the increased recognition of the important of wild plant used as food, as a source of micronutrients and play secondary metabolites. They said non cultivated plant was perceived as important and healthy food. Many adult are often unaware of the toxicity of certain plants or they consume them, as a result of mistaking them for alternative herbs. Author describes plant species are related to the high frequency of exposures or intoxications that was related to the survey of the 1995-2007. Hence they say avoid some mistakes, a morphological comparison of edible species versus toxic plants which produced the poisoning.

6. Sathyavathi R. and Janardhanan K. (2011): Wild edible fruits used by Badagas of Nilgiri district, Western Ghats, Tamilnadu, India. Author summaries the Nilgiri means Blue Mountain. They said it was originally a tribal land and was occupied by the Todas, kotas Kurumbas and Panyas, But Badagas are one of the Major Communities in the district who reside the mountain. They maintain about the weather which is favorable for the wild edible fruits. They maintain 30 wild edible fruits used by the Badagas of Nilgiri district, But local people was not aware about the economical value of such fruits. Hence author suggest this study is being taken to conserve those wild edible fruits and cultivate in large scale to uplift their economic status in near future.

7. Reddy B. M. (2011): Wild edible plants of chandrapur district Maharashtra, India. The authors have emphasized the study of different wild edible plants species used by tribal and rural people from Chandrapur district of Maharashtra state. They revels information about various edible parts of plant species including dicot and monocot i, e corms, tuber, leaves, flowers fruits and seeds. They also focus on collection and utilization of wild edible plants provide seasonal food security and become source
of income to the local people author also said there are large number of plant species which can be used to fulfill nutritional requirement of growing population. Tribal are the part of nature they fulfill most of their needs from wild resources; they got knowledge of wild edible plants traditionally.

8. Domingo J. L. and Bordonaba J. G. (2011): A literature review on the safety assessment of genetically modified plants. Author concern on the safety of genetically modified plants its important and complex area of research. Environmental non-government organization has suggested that all GM plants should be subjected to long term animal feeding before approval from human consumption. The main goal of author was to assess the current state of the art regarding the potential adverse effects assessment of human consumption. As per the review maize and soybeans are as safe and nutritious as the respective conventional non GM plants.

9. Saklani S. et al., (2011): Evaluation of nutritional profile, medicinal value and qualitative estimation in different parts of pyrus pashia, Ficus palmate and Pyracantha crenulata. The author has emphases investigation of Nutritional profile, Antimicrobial activity, and Phyto-chemical screening of wild edible fruit oh Himalaya. They got this fruit with very high nutritional value such as crude protein 1.3 %, Carbohydrates 17.39%, crude fibre3.4, ash content 1.25% and minerals as calcium, magnesium, potassium and phosphorus (1.0, 8.4, 1.98, 0.24 mg/100g) respectively. They shows ethanolic fruit extract of Carissa opaca showed significant activity against streptococcus progeny. They show the fruit contain higher value of fat, protein, fiber and minerals as compared to the cultivated fruit. Consumption of fruit may promote general health and wellbeing as well as reduce the risk of chronic disease.

10. Afolabi and Israel S. et al., (2011): Biochemical effect of some food processing methods on the healthy promoting properties of under-utilized Carica papaya seed. Author emphasized on papaya seed which is a waste product of Carica Papaya Linn, Papaya is abundant in Nigeria, with present study they deals with the effect of some potential food methods, author were examine biochemical properties and compared with fresh sample. They studied pH, tritrable acidity, tannin and acid phosphatase activity of fermented seed. They observed significant increases were observed in all. In conclusion, the seed and the fermentation product may be useful for bio-fuel, medicinal and industrial purpose.

11. Saklani S. and Chandra S. (2012): Phytochemical screening of Garhwal Himalaya wild edible fruit Ficus Palmata. The author have focus on importance
of *Ficus palmate*. This plant is commonly called as Bedu and produce a unique quality in comparisons of all other fruits. These plants have reach source of polyphenolic compound, flavonoids which are responsible for strong antioxidant properties that help in prevention and therapy of various oxidative stress related disease such as neurogenerative and hepatic disease. The present research, author correlates evaluating the nutritional profile, successive value, thin layer chromatography and phytochemical screening of *Ficus palmate*.

12. Saklani S. *et al.*, (2012): *Nutritional evaluation, antimicrobial activity and photochemical screening of wild edible fruit Carissa opaca*. The author evaluates the nutritional profile, antimicrobial activity and photochemical screening of wild edible fruit to rich in nutrients. That contain crude protein, carbohydrates, crude fiber minerals, calcium, Magnesium, potassium and phosphors they extract ethanol content from fruit against Escherichia Coli and Streptococcus pyogenes. They did photochemical screening for glycoside, flavonoids, Phenol, resin and tannins. They does not contain alkaloids .They said after consumption of this fruits they general health and well being and reduce to risk of chronic disease.

13. Olujobi O.J. *et al.*, (2012) : *Comparative evaluation of nutritional composition of African locust Bean Fruit from two locations*. The author emphasized the logical approach towards the improvement and efficient use of indigenous species fruits to supply nutritional requirement for human diet is through the investigation of their nutritional value. Author studied the value of African locust bean. They collect the fruit from different agro-ecological zone. They separate the fruit into two analyzed for proximate, vitamins and mineral contents. They locust bean pulp from rain forest vegetation had the highest value for crude protein, crude fiber, total ash and dry matter. They found highest value of vitamin except vitamine E. They study has shown that location significant affects the nutritional composition of locust beans fruit.

14. Sasi R. and Rajendran A., (2012): *Diversity of wild fruits in Nilgiri Hills of the southern western Ghats- Ethno-botanical aspects*. Nilgiri Hills are situated in the Western Ghats of India, which is known as rich biodiversity hotspot, predominantly tribal population. Author said ethno-botony is an important tool to assess the wild edible species in plant genetic resources. Author studied totally 70 species which is belonging from 48 genera, which are under 27 families. They said the present ethno-botanical aspects on wild and less known plants of the Nilgiri region can be used to determine collection priorities and conservation strategies.
15. Jadhav V.D. and Mahadkar S.D. (2012): Documentation and ethno-botanical survey of wild edible plants from Kolhapur district. Author work deals on the identification, documentation and ethno-botanical exploration with respect to food value of wild edible plants from Kolhapur district. They surveyed 50 wild edible plants. They said edible parts of wild plants were the nature’s gift to mankind; these are not only delicious and refreshing but chief source of vitamin, minerals and protein. They said the popularity of this wild form of fruits, flowers and tubers has defined. They mentioned that special attention should be paid them in order to maintain and improve this important source of food supply.

16. Mahadkar S. and Valvi S. (2012): Nutritional assessment of some wild edible plants as a good source of Minerals. From above investigation, author studied ten edible plants. The name of the plants as Ensete superbum, Gmelina arborea Roxb, Oroscylum indicum Vent, Bauhini ceracemosa Lam, Carota urens L, Smilax zeylanical, Woodfordia fruticosa, Commelina benghalensis, Gaxinia indic, Zanthoxylum rhetsa were studied for their anti nutritional factors,. They found highest level of phytate in Ensete superbum, oxalate was highest in Smilax zeylansea. Tannin was highest in Bauhinia racemosa, saponin was absent in all plants. The values of anti nutrients in all above studied plants are below the toxic levels of anti nutrients.

17. Malik S. et al., (2013): Nutraceutical properties of prosopis cinearia (L.) Druce pods: A component of Panchkuta. Prosopis cineria (L.) Druce is a endemic tree from hot desert of India, from Leguminosa family, Sangri pods of plants are considered as dry fruit of desert, as per author studied pods are one of the main ingredients of Rajasthani dish. Sangri pods were studied for various Phytochemical like alkaloids, saponins, antioxidants potential of pods has also been investigated because of plant formed in water stress area. Acetone and methanol extracted from same pods. Nutritional analysis shows it as a good source of protein and minerals like Calcium, sodium and potassium. These studies demonstrate that p.cineria pods may be employed as nutrsaceutical food with rich nutrition disease prevention and health promoting effects.

18. Hegazy A.K. et al, (2013): Nutritive value and antioxidant activity of some edible wild fruit in the middle-east. The author said the study of wild fruits were deemed essential, they open the possibility for its use as source of nutritional and pharmaceutical materials. They studied there fruit species i.e. Arbutus parami, Ficus palmate and Nitraria retusa were analyzed for evolution of their nutritive values and antioxidant properties. They exceed and coincide protein, carbohydrate and lipid of the above fruits. They demonstrated antioxidant activity and DPPH. They considering the
quality rather than quantity, the nutritional value and pharmaceutical potential of the study wild fruits may out weight the traditional cultivated fruits.

19. Ballabha R. et al., (2013): Wild edible plant resources of the Lohba Range of Kedarnath forest division (KDF), Garhwal Himalaya, India. Author documented the diversity, indigenous uses and availability status of wild edible plants of Lohba range of the Kedarnath forest division as per author said region is rich in wild edible plant resources. They documented 82 species from 62 genera and 46 families, out of that 15 were abundant, 46 common and 21 uncommon to this area, plant part such as leaves, shoots, young, twigs, roots, rhizomes, tubers, flowers, fruits, seeds are used for food by the local people. The study will be helpful in developing a comprehensive data base on wild plant resource, strengthening the food security in area and in conserving the traditional knowledge for the prosperity of the remote area.

20. Pehilvan M. et al., (2013): The some nutrient and trace elements content of wild plant using as ethno-botanical and grown in the Gaziantep region. Authors were collected six different native plants in Gaziantep and its neighbor villages. They were cleaned the collected sample, cut and dried at 105°C for 24 hrs. The samples were dissolved in 14 M H₃A. After mineralization, the metals were determined using an atomic absorption spectrophotometer, authors were investigated contents of some nutrient and trace elements. According to result of author study Portulaca oleracea L. high conc. Then other identified as the result of study, Portulaca oleracea L. inclined to accumulation to heavy metals.

21. Brahma S. et al., (2013): Wild edible fruits of Kokrajhar district of Assam, North-East India. Author identified, documented and explanation of wild edible fruits consumed by Bodo tribe of Kokrajhar district of Assam. The fruit play an important role in well balanced diet and maintain healthy living. Author said that explanation, documentation, preservation and popularization of wild fruits are very important chief sources of food for Human consumption. Hence author studied 32 wild edible fruit belonging to 23 families in Bodo, time of availability, taste and uses.

22. Morales P. et al., (2013): Wild edible fruits as a potential source of phytochemical with capacity to inhibit lipid per oxidation.” Author has studied small shrubbery edible fruit. Which is tradionally consumed. They were studied to evaluate their potential for human nutrition, considering their content in bioactive compounds. They studied lipophilic compound photochemical like fatty acid and tocopherols etc. Some
hydrophilic antioxidants such as vitamin C, i.e. ascorbic acid and dehydroascorbic acids. They say this was the first report on studied plant. They consider as functional food or potential sources of lipidic bioactive compound. This study provide useful and relevant information to justify tocopherols influence in the prevention of lipid peroxidation.

23. Patil P. C. and Jadhav V. D. (2013): Pharmacognostical studies of leaf of *Antidesma ghaesembilla*. Author studied *Antidesma ghaesembilla* plant, which is small deciduous tree belong to family Euphorbiaceae, plant leaves, fruits were edible, nutritious and plant posses medicinal property. They said due to dual significance in traditional system of medicine the plant *Antidesma ghaesembilla* are selected for present work. The leaves of those plant used as vegetable in rural area of western Ghat and paste applied on headache, also some part they used in powdery form, fluorescence studies and phytochemical screening. They certain alkaloids, xantho-protein, tannin, cystine and oil.

24. Jadhav V. and Deshmukh S. (2013): Evolution of antioxidant potential of *Clitoria ternate*. Author said that the levels of *Citoria ternate* L. are sued in India to treat liver problems; they investigate the antioxidant activities to justify the use of the plant in folkloric medicine. They studied antioxidant activities of different fraction from different extracts. They were evaluated by using antioxidant as say like DPPH, FRAP, metal chelating ability, Reducing power as say metabolic extract of *C.ternata*, *v.pilosa* root showed highest value 87.75±0.057 ad 74.26±0.04 in DPPH and famous ion Chelating activity. This result shows that both varieties have antioxidant properties which provide a basic for the traditional use of plant and could be harnessed as drug formulation.

25. Mahadkar S. and Vavli S. (2013).: Gas chromatography mass spectroscopic analysis of some bioactive compound from five medicinally edible plant. Authors analyze the bioactive compound from the different five medicinally important wild edible plants. These plants were *Bauhinia racemosa* Lam *Caryota Urens* L, *Commelina bengalensis* L, *Garcinia indica* and *Gmelina arborca* Roxb. They study through GCMS. They analyzed different compound from such above plant. They found majority of the compounds were belonging to acid group. Author found common compound i.e. hexadecanoic acid.

26. Anuradha V.et al.,(2013): Nutritive analysis of fresh and dry fruits of *Morinda tinctoria*. Author emphases the important and nutrient content present in wild fruits and also problem of food scarcity. They said all fruits have excellent sources of nutrient such
as minerals and vitamin they studied two medicinal values of *Morinda tictoria*. They focused on ash content, protein, carbohydrates, vitamin, and minerals content of this plant. They maintain the difference between dried and fresh fruit. The ash contains 4% and 1.6% in fresh and dry fruits respectively. They said this fruit contain rich source of ascorbic acid and Niacin but dry fruit contain Riboflavin and Thiamine dry fruit contain calcium and fresh contain iron and copper, Thus this fruit could be as a source of food nutrient.

27. **Kumar Ajay et al., (2013): Nutrient analysis of some selected wild edible fruits of India: an explorative study towards non conventional Bio-Nutrient.**

Author studied 15 wild edible fruits from deciduous forest zone. They found significant of wild fruit species as important sources of nutrient of wild fruits species as important sources of nutrient for value of studied fruits with domesticated population fruit like mango, banana etc. They found high carbohydrates in *Mimusiops elengi* then mango and pomegranate. They noted high concentration of sugar in *Zizphus rugosa* compared to sapota, but protein content in *Bridelia tomentosa, Corissa spinarum* and *Polyalthia suborosa* was found similar to cultivated fruits. Hence they as backyard planning especially farming system suffering from crop loss, food shortage and chronic malnutrition.

28. **Deshmukh S. et al., (2013): Role of wild edible fruits as a food resources: Traditional knowledge.** Author said leaves of *Clitoria ternate* L. were used in India treat liver problems. They investigate the antioxidant activity to justify the use of the plants in folkloric medicine. They studied antioxidant activates of different fraction from different extracts. They were evaluating by using antioxidant assay like DPPH, FRAP, metal chelating ability, reducing power assay. This result shows that both varieties have antioxidant properties which provide a basic for the traditional use of plant and could be harnessed as drug formulation.

29. **Mahadkar S. and Valvi S. (2013): Nutritional assessment of some selected wild edible plants as a source of minerals.** Author analyzes the bioactive compound from the different five medicinally important wild edible plants. These plants were *Bauhinia racemosa, Caryota urens, Commelina bengalensis, Garcinia indica* and *Gmelina arborea*. They study through GCMS. They found majority of the compound common i.e. hexadecanoic acid.

30. **Joshi Y., (2014) A review of *Ficus palmate*,** Author studied the *Ficus palmata* plant which is herbaceous perennial plant belonging to the family Moraceae. The fruit
contain chiefly sugar and mucilage. This plant is used in various disease, e.g. gastrointestinal disorder, hypoglycemia, tumor, ulcer, and hyperlipidemia and fungal infection. The phytochemical screening of the extract showed the presence of alkaloids, tannins, flavonoids, terpenoids and cardiac glycosides. The fruit shows antioxidant activity using free radical scavenging and ferric reducing activists.

31. Chothe A. et al., (2014): Unconventional wild fruits and processing in tribal area of Jawhar, Thane District. Author studied on wild fruit resources of Jawhar region; they said people consumed Bhokar, Kakad, Alive and Pendhra. They investigate there preserving method, like salting, drying, pickle making etc. but they observed people did not maintaining unhygienic condition. Hence they said to give training to the tribal women for preservation of wild fruits and uplift their economy by market products. This study will focus on green economy and establishment of wild fruit orchard.

32. Salish, N.K-E, M et al., (2015). Nutritional value and antioxidant properties of four wild fruits commonly consumed in Sudan. Author found proximate composition, mineral content, total soluble phenols, total carotenoid and total antioxidant capacity from fruit pulp of doum, baobab, tamarind and jujabe. They were collected sample from Nuba Mountains. They found minerals content were high i.e. 14-45 mg and total carotenoids were between 7 to 16 mg/kg. Total antioxidant capacity 120-425 limoles. Hence they said richness of these fruit in minerls and antioxidant compounds makes them considerable sources of nutrient and of potential impact on human health.

33. Mahadkr S. et al., (2015). Documentation and Ethno-botanical survey of wild edible plants from Palghar District. Author carried out ethano-botabical survey in rural area of palghar district. They collect data occurred through discussion and interview with experienced persons and traditional helper. They fount some plants with medicinal properties. They collected total 40 plants species out of that 12 are herb, 9 tress, 12 shrub and 7 climbers. Further investigation on their phytochemical and nutraceutical studies may provide better medicinal sources for future.

34. Geeta et al., (2015).Nutritional Value of traditional wild vegetables used by the Kinnaura tribals of Himachal Pradesh , India. Author studied Allium esculentum, Eremurus himalaicus, Fagopyrum tataricum, Lepyrodiclis were selected for proximate composition analysis include minerals and Vitamin content. The range of nutrient present in these vegetables is comparable with the commonly used cultivated green
leafy vegetables. The present study should be helpful to the local youth about the nutrient.

35. **Shah R.K. (2016) Preliminary Nutritional analysis and Phytochemistry of Smilax ovalifolia leaves.** Author studied *Smilax ovalifolia* leaves for nutrient and phytochemical analysis. They studied carbohydrates, protein, amino acid, saponin, alkaloid, steroid, terpenoid, Phenol glycoside and flavanoid and crude fibers. They found various inorganic minerals like S,P, Mg Ca and Fe. The overall data thus support the conclusion that this plant represent a useful dietary sources and can be use as an alternative sources of vegetable for Human consumption.