



Plant-Based Economy As Exhumed From The Epic Ramayana: An Insight

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Abstract

The epic Ramayana has been the source of information and inspirations on many ground internationally. It is written by a great sage Valmiki prior to 1000 BCE. It is informative not only religiously but also geographically, sociologically, ecologically, apart from human behavior and scientifically regarding plant wealth in Indian subcontinent. Its rich contents obviously caught attention of the present author. It is examined from the point of plant-based economy of the said epic period. This attempt sheds more light on the economic plant-wealth, either exotic or native. There is a wealth of information regarding cereals, millets, edible fruits, vegetable, spices, oil and fibre yielding sources, apart from miscellaneous ones. The socio-economy of people of this epic period in Indian subcontinent is thereby limelighted as well as bioinvasion in the region in ancient period of India. Investigations on ancient Indian Sanskrit scriptures are still desired for welfare of mankind and for biodiversity management and conservation.

Key Words: Ramayana, Economy, Bioinvasion, India.

Introduction

One of the great epics is Ramayana possibly written prior to 1000 BCE (*cf.* Amirthalingam, 2013). Thus it has great antiquity and certainly heritage of India. It was written by the sage Valmiki. It is hold as most sacred and religious ancient Sanskrit scripture and influenced for very long time the people of India over several generations. It is very popular even outside India and attracted attentions of the Indians as well as scholars of foreign countries. The contents are so rich not that it is studied from various angles of enquiries like, social, political, geographical, literary, cultural and importantly as religious one. The present author studied it earlier in the perspective of bioinvasion in the erstwhile India (Patil, 2018). The present state of knowledge warranted that epic Ramayana is not investigated from the economy point of view in the said period of time. It contains certain plant species with Sanskrit plant names and indicative of economic *vis-à-vis*

nutritional value. This account emphasizes particularly exotic plant sources for the upliftment of the then Indians in ancient period. The results of this study are being communicated in this account.

Methodology

Ramayana contains Sanskrit plant names of wild as well cultivated species. The literary sources for tapping information of these are those of: (i) Shastri (1957), (ii) Tulsidas (1966), and (iii) Anonymous (1960). The Sanskrit plant names are equated with the recent botanical (Latin) plant names and assigned to their respective families. This account particularly laid emphasis of alien plant or crop sources to limelight economy of this epic period, apart from the indigenous sources. The results so obtained forms the subject matter of this communication. It also reveals plant invasion (bioinvasion) in the erstwhile India. Information thus tapped is provided in the Table I & II.

Results And Discussion

The sage Valmiki appears well-versed with biodiversity of the region he described in Ramayana. The contents of Ramayana are not only religious but also inform on many counts about geography, environment, human sustainability and composition of the then forest areas. It is, therefore, worth to examine the epic Ramayana on different grounds of scientific enquiries. It is studied by many scholars, however, they are silent regarding exotic bioresources available to the people in the days of Ramayana. The contents of this great epic is replete with glory of nature and also warrant about potentiality of the biodiversity in the erstwhile Indian subcontinent. The present author has made attempt to highlight the exotic bioresources sustaining the then populace, apart from indigenous beneficial vegetable sources.

The exotic 20 plants or crop species tapped from the epic Ramayana belong to various useful resources for mankind. They belong to cereals and millets (03 species) edible fruits (08 species), vegetables (02 species), legumes (pulses) (02 species), oil -yielding (03 species), spices (01 species) and for miscellaneous purpose (01 species each). These exotic taxa are also ascertained for their nativities. They belonged to various continents, countries, islands or specific geographical regions of both Old and New Worlds. These are hailed from Africa (05), Europe (04), America (02) and South-East Asia (02). The figures in parenthesis denote the number of exotic crop species. Some countries *viz.*, Japan and China contributed 02 species each. Likewise, other countries or geographical regions are represented by a single exotic crop species each e.g. Australia, Taiwan, Java, Malaysia, Afghanistan, Baluchistan, Persia, Persian Gulf, Tahiti Island, Fertile Crescent, Tropic and Warm Subtropics (Table-I). Apart from the exotic bioresources, the people of the said period also enjoyed some indigenous economical and nutritious bioresources ones. These are revealed as such: Edible fruits and nuts (07 species), spices (03 species), legumes (pulses), cereals, oil and fibre yielding ones (01 species each) (Table-II). This resume indicates that people of Ramayana period also have contacts with the other continents or countries of both worlds *viz.*, Old and New directly or indirectly. The exotic bioresources have played a considerable role in human sustenance in the said period of time.

In a nutshell, the ecosystem described in the epic Ramayana do not appear uniform all over but is very varied as indicated by the floral elements therein. It contained exotic floral elements, apart from the indigenous ones. The latter was exploited beneficially by the then local populace. At the same, they also bioprospeted some exotic floral elements for their welfare and sustenance. This indicates that even in the ancient periods, man has always experimented on plant-wealth, whether native or exotic for his betterment. The ancient Sanskrit manuscripts, whether epics like Ramayana, Vedas, Samhitas, Nighantus are very informative and should be studied on scientific grounds for welfare of mankind.

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Table-I: Exotic Bioresources In Epic Period

| Sr. No. (1) | Plant Name & Family (2) | Sanskrit Name (3) | Valmiki Ramayana (V.R.) (4) | Ramcharit Manas (R.M.) (5) | Nativity & Reference (8) |
|-------------|--|---------------------|-----------------------------|----------------------------|---|
| 1. | <i>Annona squamosa</i> L. Annonaceae | Sitaphalam | V.R. | -- | Tropical America: Bailey, 1949. |
| 2. | <i>Benincasa hispida</i> (Thunb.) Cogn. Cucurbitaceae | Timisha | V.R. | -- | Java & Japan: Patil, 1995; Cooke, 1958. |
| 3. | <i>Borassus flabellifer</i> L. Arecaceae | Tala | -- | R.M. | Tropical Africa: Reddy, 2008. |
| 4. | <i>Cicer arietinum</i> Roxb. papilionaceae | Chanak | V.R. | -- | South Europe: Patil, 1990. |
| 5. | <i>Citrus aurantifolia</i> (Christm. & Panz.) Swingle Rutaceae | Vijapur, Nimbuka | V.R. | -- | Malaysia: Yadav & Sardesai, 2002. |
| 6. | <i>Punica granatum</i> Linn. Punicaceae | Dadim | V.R. | -- | Afghanistan, Baluchistan & Persia: Gaikwad & Garad, 2015. |
| 7. | <i>Ricinus communis</i> Linn. Euphorbiaceae | Arandu | -- | R.M. | Africa: Bailey, 1949. |
| 8. | <i>Trachyspermum ammi</i> (L.) Sprague Apiaceae | Aja | V.R. | -- | South Europe: Yadav & Sardesai, 2002. |

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|-------------|--|-------------------|-----------------------------|----------------------------|--|
| 9. | <i>Triticum aestivum</i> Linn. Poaceae | Godhuma | V.R. | --- | Fertile Crescent: Singh & Nigam, 2017. |
| 10. | <i>Ziziphus mauritiana</i> Lam. Rhamnaceae | Badar | -- | R.M. | (i) Tropics & Warm Subtropics: Martin <i>et al.</i> , 1987. (ii) Australia: Veerasamy & Arumugan, 2014. |
| 11. | <i>Citrus medica</i> Linn. Rutaceae | Bijpur | V.R. | -- | China: Patil, 2019. |
| 12. | <i>Coccinia grandis</i> (Linn.) Voigt Cucurbitaceae | Bimb | V.R. | -- | Africa: Medakkar & Sharma, 2016. |
| 13. | <i>Hordeum vulgare</i> Linn. Poaceae | Jav | V.R. | R.M. | Europe & North America: Dar <i>et al.</i> , 2002. |
| 14. | <i>Cinnamomum camphora</i> (Linn.) Nees & Eberm. Lauraceae | Karpur | V.R. | -- | (i) China & Japan: Bailey, 1949. (ii) Japan: Matthew, 1991. (iii) China, Taiwan & Japan: Lesley, 2020. |
| 15. | <i>Paspalum scrobiculatum</i> Linn. Poaceae | Kodav | -- | R.M. | Tropical Africa: Singh & Nigam, 2017. |

| Sr. No. (1) | Plant Name & Family (2) | Sanskrit Name (3) | Valmiki Ramayana (V.R.) (4) | Ramcharit Manas (R.M.) (5) | Nativity & Reference (8) |
|-------------|--|-------------------|-----------------------------|----------------------------|---|
| 16. | <i>Macrotyloma uniflorum</i> (Lam.) Verdc. (Syn. <i>Dolichos biflorus</i> Linn.) Papilionaceae | Kulith | V.R. | -- | South-East Asia: Patil, 2019. |
| 17. | <i>Artocarpus heterophyllus</i> Lam. (Syn. <i>A.integrifolia</i> Linn.f.) Moraceae | Panas | V.R. | -- | (i) South-East Asia: Almeida, 2003. (ii) Tahiti Islands: Mukhopadhyay & Chakraverty, 2008. |
| 18. | <i>Brassica campestris</i> var. <i>rapa</i> (Linn.) Hartm. (Syn. <i>B.rapa</i> Linn.) Brassicaceae | Sarshap | V.R. | -- | Central & Southern Europe: Purseglove, 1968. |
| 19. | <i>Sesamum orientale</i> Linn. Pedaliaceae | Til | V.R. | -- | Africa: Dogra, 2011. |
| 20. | <i>Phoenix dactylifera</i> L. Arecaceae | Kharjura | V.R. | -- | (i) Persian Gulf: Patil, 2019. (ii) Africa: Bailey, 1949. |

Table-II: Indigenous Bioresources In Epic Period

| Sr. No. | Plant Name & Family | Sanskrit Name | Useful Category |
|---------|--|----------------------|-----------------|
| 1. | <i>Mangifera indica</i> L. Anacardiaceae | Amb, Rasala, Chut | Edible Fruit |
| 2. | <i>Syzygium cumini</i> (L.) Skeels Myrtaceae | Jamb | Edible Fruit |
| 3. | <i>Piper longum</i> Linn. Piperaceae | Pipalli | Spice |
| 4. | <i>Buchanania lanzan</i> Spreng. Anacardiaceae | Priyal | Edible Nut |
| 5. | <i>Cinnamomum iners</i> Reinew. Lauraceae | Tilak | Spice |
| 6. | <i>Emblica officinalis</i> Gaertn. Euphobiaceae | Amlaki | Edible Fruit |
| 7. | <i>Musa paradisiaca</i> L. Musaceae | Ken, Kdi, Kadri | Edible Fruit |
| 8. | <i>Limonia acidissima</i> L. Rutaceae | Kapita | Edible Fruit |
| 9. | <i>Piper nigrum</i> Linn. Piperaceae | Maskat | Spice |
| 10. | <i>Vigna mugo</i> (L.) Hepper Papilionaceae | Mugda | Pulse (Legume) |
| 11. | <i>Cocos nucifera</i> L. Arecaceae | Tung, Narikel | Edible Fruit |
| 12. | <i>Oryza sativa</i> L. Poaceae | Neerav, Tandul | Cereal |
| 13. | <i>Crotalaria juncea</i> L. Papilionaceae | San | Fibre |
| 14. | <i>Aegle marmelos</i> _____ Rutaceae | Bel | Edible Fruit |