

Using Traditional Faiths and Knowledge are Secret of Science and Technology by the Tamil Communities in Batticaloa, Sri Lanka

Ruban Thaya*

Department of Botany, Eastern University, Sri Lanka

*Corresponding author: Ruban Thaya, Department of Botany, Eastern University, Sri Lanka, Tel: +94 65 2240757; E-mail: thayarubaneusl@gmail.com

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Abstract

Sri Lanka has been enriched with Traditional Knowledge (TK) on Medicines and Agriculture. After the arrival of western culture, traditional faiths and knowledge are gradually started eroding, because of which farmers now face lots of problems such as difficulty in accessing agriculture, unbearably high treatment costs etc. This paper is going to be remember and document our Inheritance patterns using in agriculture and food safety at Batticaloa, Sri Lanka. It is a qualitative research based on secondary data analysis. Primarily, it is intended to document the faiths and knowledge because existing researches of the country does not provide adequate protection for TK. While this study does not trial the efficacy of these methods, it provides an indication of what methods are being used and therefore a starting point for further researches in Sri Lanka. The findings were classified into Spiritual Faith and Traditional Knowledge included traditional compost, pest control and food preservation methods which are used in Batticaloa, Sri Lanka.

Keywords: Traditional knowledge; World intellectual property organization; Carbon nanotubes

Introduction

Traditional faiths and knowledge have been enriched in all over the world. Cultures from all over the world have developed different views of nature throughout human history. According to World Intellectual Property Organization (WIPO) definition, Traditional knowledge refers to the content or the substance of knowledge resulting from intellectual activity in a traditional context. TK in a broad sense can include knowledge related to agriculture, ecology, medicine and etc. Traditional treatment methods for human beings were combined with astrology, spiritual practices and then the physical medical treatments. The importance of this traditional knowledge for the protection of biodiversity and the achievement of sustainable development is slowly being recognized internationally [1]. The South Asian region has been blessed with a rich heritage of Traditional Knowledge (TK). Sri Lanka had a rich knowledge of agriculture, animal health and treatment methods. Because, rural farmers still prefer indigenous veterinary practices to western treatment methods in Sri Lanka [2]. The Cultures of Batticaloa Peoples' were clearly explained in "The monograph of Batticaloa District of the Eastern province" was written by Kanagarethanam in 1923 and "Maddakalapu Manmiyam" was written by FCX Nadarasa in 1962 [3,4]. The literature confirms that Batticaloa is a traditional district of Sri Lanka.

In 2015, The SEMA is a Sri Lankan government Agency running under presidential Secretariat was introduce new Scheme to implement organic agriculture all island in Sri Lanka. Whereas past histories of the Govt. of Sri Lanka said that The importance and value of traditional knowledge in all the fields of human endeavor including scientific, technological, industrial, economic, cultural, educational, social and spiritual; and the necessity to promote the protection, development, conservation and preservation of traditional knowledge. It is clear that traditional faiths and knowledge are consistently being

applied as part of response to agriculture and food safety. The identification of TK has been done in several ways but Snowball sampling techniques offer an established method for identifying and contacting hidden populations and, potentially, for their enumeration although often this may be a secondary concern.

From this we may want to make a distinction between snowball strategies as a method of contact in a practical sense and as a method of sampling in more formalized and statistical sense. Identification and documentation of traditional faiths and knowledge provide important impetus for Sri Lanka to recognize traditional approaches in their agriculture and food safety with proved scientific reason.

Justification

Due to Lack of Intellectual Documentation on Traditional faiths and Knowledge to Sri Lanka compare with other Asian Country, The Identification and documentation of traditional faiths and knowledge which are hidden of Science and Technology is vast important to Sri Lanka.

Methodology

Study site

Study site Selection was Vaharai to Kalmunai of Batticaloa District, Sri Lanka. Batticaloa located between 7°24'-7°46'N, and 81°35'-81°49'E is one of the Heritage District in Sri Lanka. The boundaries of Batticaloa district, are North: Verugal Aru and Trincomalee District, East: Bay of Bengal (Sea), South and South West: Amparai District, West and North West: Polonnaruwa District.

Study method

The Identification of traditional faiths and knowledge in Batticaloa district investigated through Snowball-based methodologies are a

valuable tool in studying the lifestyles of groups often located outside mainstream social research. The principle of this sampling method includes the identification, done by the researcher, based on specific reasoning, of a number of respondents to be interviewed, and which in their turn, shall indicate other respondents which will make the object of the research [5].

Finding and Discussion

Spiritual faiths in Batticaloa

Indigenous knowledge refers to smaller, culture-specific or nation-specific religious groups. This study found that some rural peoples of Batticaloa believes and maintains hereditarily spiritual faiths because of valuable output on such faiths but they don't know actual mechanisms of knowledge.

The crop planting and seeding dates

The crop planting and seeding dates were decided from Tamil Almanac. The few number of rural peoples are yet using Tamil Almanac to start their planting and seeding in the agriculture field. This faith was distributed in all over the Batticaloa especially in Tamil Area. But, Efficiency of the Growth of Plant new plant is depending on their Seed Germination. The scientific definition of germination says that the events commence with the uptake of water by the quiescent dry seed and terminate with the elongation of the embryonic axis [6]. Seed dormancy is a block to the completion of germination of an intact viable seed under favourable conditions. Therefore, The Seeds need certain environmental conditions to break that dormancy such light intensity, temperature, PH and Soil moisture. As a consequence, the induction and loss of physiological dormancy following seed dispersal can be triggered by divergent environmental cues activated through many apparently different physiological mechanisms. These cues can be seasonally characteristic (usually temperature) and integrated by the seed over time. For example, dormancy may be broken by higher temperatures or lower temperatures, depending on species, in order for germination to occur in the correct season (autumn or spring, respectively) for subsequent growth [7]. Day by Day the physical parameters of environment differ due to Reeling Earth. According to the statement of interviewed peoples, the rates of germination of the seeds are vigor in the day mention on Tamil Almanac rather than other days. There are no research evidences to proof that. They only believe that Ancestors had done for their welfare.

The type of mixed water solution is used to wash the god statue during their worship time were used to control pest and diseases

The type of mixed water contains cow dung, cow urine, ghee, cured, cow milk, honey, lemon, lime, kind of fruits, ash of cow dung etc used to wash the god statue. After worship, this water would be collected to apply in agriculture land. They sprayed such water in their agriculture land and they believe that would be control pest and disease and would be helpful for their high yield.

Organic wastes in agriculture are to achieve a sustainable cycle in which agricultural products are converted to secondary organic resources that are reused in agricultural production. Ideally, a state of sustainability is reached when the organic waste is returned mainly to its place of origin, subsequently closing the nutrient cycle [8]. Several micro-organisms were identified as biocontrol agents in compost-

amended substrates and *Bacillus amyloliquefaciens* shown the antagonistic activity to controlling bacterial wilt of tomato in the field [9,10]. There are bio compost such as organic liquid fertilizer, Pancha kowviya, Jeevamirtha, fruit tonic fertilizers which are recommended to Sri Lankan farmer and it contain most of cow materials and organic wastes. Whereas the organic wastes obtained from temples had been used by the rural peoples of Batticaloa as a fertilizer and bio controller without knowing mechanism since many years.

The fruits and plant waste material used to worship the god which was only dumped in agriculture land to ensure the fertilizing in soil

The peoples are worshiping their god in traditional ways in Batticaloa. There were lot of fruits; plant materials and several cow products are using for their annual worships take continuously latest for 3-5 days. All the waste materials were collected and kept together for few days and used it as a fertilizer. While they were continuing the methods, they only believe spirituals faiths but they don't know the mechanism.

Composted organic material is being applied on agricultural fields as an amendment to provide nutrients and also to enhance the organic matter content and improve the physical and chemical properties of the cultivated soils. Organic wastes Material were used to production of Organic compost. Most of the beneficial microorganism enriched in organic compost. Microbial population were determined during composting of different organic wastes such as mixture of sugarcane trash and cattle dung, press mud, poultry waste and water hyacinth biomass [11]. Rotten vegetables, fruits, grass and leaves are common ingredients of compost which is then used for Agriculture purpose because such kind of waste contains organic carbon and Nitrogen. Composted organic material contains essential nutrients for plant growth, especially N and P [12,13].

Organic-based agricultural production is a rapidly emerging technology in Sri Lanka which partly solves waste disposal problems through conversion of biodegradable wastes into organic compost; this ensures the availability of organic fertilizer for crop production. Whereas Bio-waste recycling, the production and use of bio-compost were encouraged by the Sri Lankan government under the special scheme of toxin free Sri Lanka introduced his Excellency president onward 2015. The peoples of Batticaloa peoples using waste plant material for their agriculture with faith of religious but they don't know behind the science of their application.

Using *Bauhinia racemosa* plant stem to prevent thunder and lightning affect during rainy season

Peoples in Batticaloa in Eravur Pattu, vaharai site they were used *Bauhinia racemosa* Plant material to prevent the Thunder and Lighting affects during rainy seasons. Few Peoples state that the *Bauhinia racemosa* tree were used by Arujuna is a one of Character in Mahabharatham is a Hindu religious Mythology during Life of the penance. Adrian in 2011 reported that a surprising number of plants are used in Zulu society to protect against adverse weather conditions. More than 30 of the plants recorded by Pooley as being used for protection against lightning are *Kniphofia caulescens* often grew around rural homesteads as a charm against lightning in South Africa. Whereas *Z. impishimphishi* are traditionally used to protect lightning. In a similar fashion fresh leaves of *Hymenocardia acida* (Heart-fruit) are "placed in the roof of a house to protect it from lightning and

branches of the *Gardenia jovicostanensis* (Large-leaved *Transvaal Gardenia*) are placed on the roof of a hut for the same purpose. It was a traditional faith believed by Zulu society in South Africa [14]. This evidence state that the ancient traditional faith had science and Technology to overcome the environmental physical damages. Like that, Batticaloa peoples also had some spiritual faith to protect the effect of Thundering and Lighting. Hence, Future scientific investigation on *Bauhinia racemosa* needs to prove the property of protection against thundering and lighting.

Traditional knowledge in Batticaloa

Ash, bio charcoal and leaf extracts were widely used in the preservation of foods and treatment of illness: Cow dung was used for the preparation of ash which is used to treatment of illness. Bio charcoal used to preserve foods during translocate meals carrier. In addition, the bio charcoal used to reduce salt of food while cooking Cary.

In most studies, microbial biomass has been found to increase as a result of bio char additions, with significant changes in microbial community composition and enzyme activities that may explain biogeochemical effects of biochar on element cycles, plant pathogens, and crop growth. Yet, very little is known about the mechanisms through which biochar affects microbial abundance and community composition [15]. Although an inclusion in the carbon credit systems would certainly boost the nascent biochar industry, current scientific knowledge of large-scale use of biochar in intensive agricultural systems has not reached a sufficient level for safe deployment. Carbon nanotubes (CNTs) gained great importance on account of their wide range applications in field emission, conducting plastics, conductive adhesive, structure materials. CNTs have also shown the efficiency potential in the removal of widespread range of chemical contaminants such as aromatic solutes due to their special shape with high external surface area [16]. The view of the literature analysis shown The peoples of Batticaloa have traditional knowledge in using of bio charcoal without knowing scientific mechanism in the food preservation and disease control.

Variety of rice were preserved for long time in the method of "Paddarai" or "Addala"

This is a model made by paddy straw. Through this method, the paddy seed had been preserved for long time without any insect and it had been used to protect the paddy seed from water damage. The peoples had the traditional faith on that but they do not know the scientific reason.

Storing agricultural products is to provide food between the harvest seasons and to provide seed for subsequent planting and orderly distribution and supply of produce throughout the year or a given period of time. There were some model of food preservation used by Nandurbar districts' peoples in India such called as Kanagi, It is a small scale grain storage structure made out of locally available bamboo tree. Vendala, these are small-scale earthen structures made out of mud clay which are sun-dried and then burnt in fire. These mud pots are called as vendala prepared by village potter used to preserve the food and serials [17]. Whereas, the effect of smoke on agricultural seed quality was discovered by subsistence farmers, long before the recent upsurge of scientific interest in it. The mechanism(s) involved in the role of smoke in seed germination is unknown [18]. There are various

indigenous methods used ancient in their daily life disappeared from us due to globalization.

Conclusion

The current generation is becoming increasingly aware of the importance of healthy nutrition for general health and overall well-being. They are gradually understanding that unprocessed foods are not as healthy as they seem to be either because most of them are conventionally grown which means with the use of pesticides, chemical fertilizers, antibiotics, growth enhancer.

In addition, our ancient were depending on conventional food production. Still Most of the Peoples in Batticaloa are believing their traditional faiths and Knowledge. Traditional knowledge and wisdom of indigenous peoples has become a major gift for us. I can ensure that Traditional knowledge has been disappearing among the Batticaloa community due to globalization. However, Clear statement provided by Most of the interviewed peoples but there were also a certain ambiguity on the number of interviewed persons about traditional faiths and Knowledge. Hence, this study is going to be as a documentation of traditional faiths and Knowledge were used by Batticaloa Community. It will lead us to find the traditional faiths from our community and is emphasizing the further investigation on Traditional faiths and knowledge are behinds of Science and Technology.

References

1. Gadgil M, Berkes F, Folke C (1993) Indigenous knowledge for biodiversity conservation. *Ambio* 22: 151-156.
2. Balasubramanian AV, Nirmala Devi TD (2006) Traditional Knowledge Systems of India and Sri Lanka. Centre for Indian Knowledge Systems, Chennai, India.
3. Kanagarethanam SO (1923) The monograph of Batticaloa District of the Eastern province.
4. Nadarasa FCXN (1962) Maddakalapu Manmiyam.
5. Irina Maria D, Isaic Maniu A (2013) Snowball Sampling Completion. *Journal of Studies in Social Sciences* 5: 160-177.
6. Bewley JD, Black M (1994) Seeds: Physiology of Development and Germination. Plenum press, New York.
7. William E, Savage F, Leubner Metzger G (2006) Seed dormancy and the control of germination. Tansley Review.
8. Schulz R, Romheld V (1997) Recycling of municipal and industrial organic wastes in agriculture: Benefits, limitations, and means of improvement. *Soil Sci Plant Nutr* 43: 1051-1056.
9. Zhong W, Xingming Y, Shixue Y, Qirong S, Wei R, et al. (2011) Efficacy of Bacillus-fortified organic fertiliser in controlling bacterial wilt of tomato in the field. *Applied Soil Ecology* 48: 152-159.
10. Suárez Estrella F, Vargas García C, López MJ, Capel C, Moreno J (2007) Antagonistic activity of bacteria and fungi from horticultural compost against *Fusarium oxysporum* f. sp. *Melonis*. *Crop Protection* 26: 46-53.
11. Sneh G, Dhull SK, Kapoor KK (2005) Chemical and biological changes during composting of different organic wastes and assessment of compost maturity. *Bioresource Technology* 96: 1584-1591.
12. Beltran EM, Miralles DI, Porcel R, Delgado MA, Beringola MM, et al. (2002) Effect of sewage sludge compost application on ammonium nitrogen and nitrate-nitrogen content of an Olive Grove soils. 12th International Soil Conservation Organization Conference. Beijing, China.
13. Golabi MH, Denney MJ, Iyekar C (2004) Use of composted organic wastes as alternative to synthetic fertilizers for enhancing crop productivity and agricultural sustainability on the tropical island of guam. Isco International Soil Conservation Organisation Conference, Brisbane.

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14. Koopman A (2011) Lightning Birds and Thunder Trees. *Natalia* 41: 40-60.
 15. Lehmann J, Rillig MC, Thies J, Masiello CA, Hockaday WC, et al. (2011) Biochar effects on soil biota-A review. *Soil Biology and Biochemistry* 43: 1812-1836.
 16. Verheijen F, Jeffery S, Bastos AC, Vander Velde M, Diafas I (2010) Biochar Application to Soils A Critical Scientific Review of Effects on Soil Properties, Processes and Functions. JRC Scientific and Technical report.
 17. European Commission, Joint Research Centre Institute for Environment and Sustainability.
 17. Rekha BK, Rajendra SD (2014) Traditional Food Grain Storage Structures in Nandurbar District. *Indian Streams Research Journal* 4: 1-5.
 18. Modi AT (2002) Indigenous storage method enhances seed vigour of traditional maize. *South African Journal of Science* 98: 138-139.