

# NATIONAL CHILDREN'S SCIENCE CONGRESS 2018

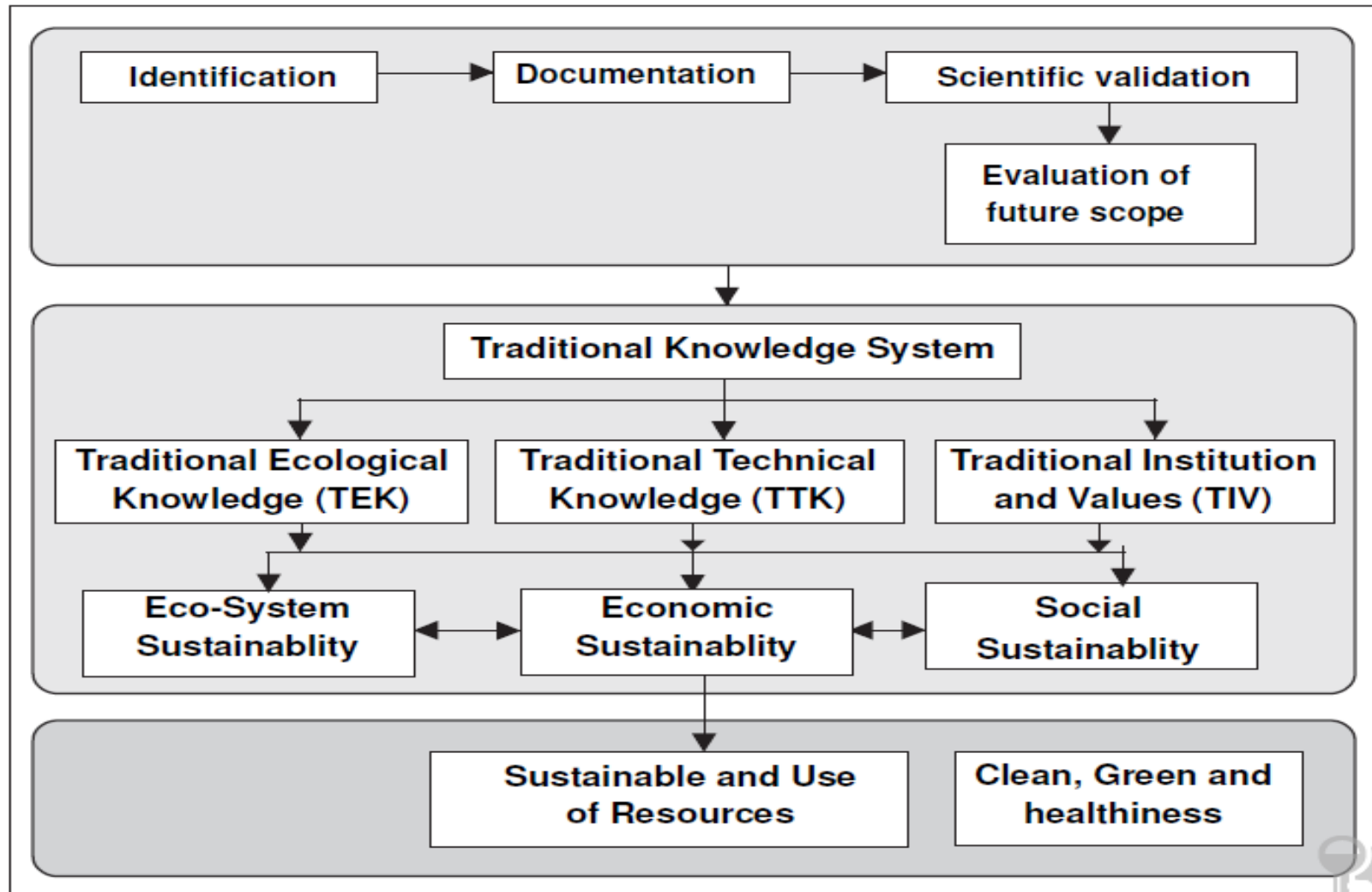
## Sub Theme- V Traditional Knowledge Systems


Presented by  
Dr. J. Arockia John Paul  
Asst. Prof. of Zoology  
APSA College

# Traditional Knowledge Systems (TKS)

- Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment.
- Traditional knowledge is transmitted from generation to generation orally.
- It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds.

## Framework of the sub-theme



- 
- settlement system,
  - housing, agricultural and allied practices, natural resource management, food systems,
  - disaster management, mitigation of human and wildlife conflict, handloom and handicraft,
  - traditional medicinal practices, etc.

# Important aspects need to be focussed

- *(i) Observation and identification of practices*
- *(ii) Detail documentation*
- *(iii) Validation of core principle:*

# Ideas for projects

- Knowledge on spiritual conservation
- Knowledge on medicinal plants-ethnobotany and treatment
- Knowledge on building
- Knowledge on tools and techniques for hunting
- Knowledge on weather prediction
- Knowledge on food and water storage
- Knowledge on NTFP
- Knowledge on agricultural practices
- Knowledge on celestial navigation
- Knowledge on ethnoastronomy
- Knowledge on harvesting
- Knowledge on proverb
- Knowledge on land utilization and crop rotation

# Ideas for projects

## Knowledge on spiritual conservation

- Festival during summer
- Turmeric water spray & tie neem twigs
- Cowdung coating and spraying over floor
- Playing Udukkai
- Thulasi madam
- Yagam for rain
- Sprout in a pot
- Mosquito repellent (Deepam)
- Kumbabishekam (grains)

**Project 1: Recording and analysis of spiritual activities in a scientific manner**

# Sacred groove







**Project 2: Conduct a survey on sacred groves in our area and the list of medicinal plants protected and endemic diseases**

# Knowledge on medicinal plants-ethnobotany and treatment





**Project 3: Document the treatment methods of tripe, herbal vendors and elders**

# Knowledge on building

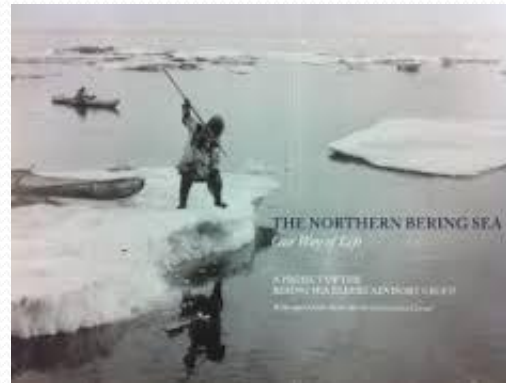


**Project 4: Record the significance of chetnad buildings, Temples and water outlets**

# Knowledge on tools and techniques for hunting



**Project 5: Honey  
collection methods,  
Fishing methods  
(leaves), Leaf for nerve  
stimulation, water plant**



# Knowledge on weather prediction



In Kenya- Nganyi Indigenous Knowledge Adaptation Project



**Project 6: Dragon fly**  
**Ants**  
**Frog**  
**Cow**

# Knowledge on food and water storage



**Storage of butter**



**Project 7: Pongal  
Koorai flower,  
Salt preservation ;  
Fermented food,  
Water tank**

## Handicrafts



Fig.1 Mixing of sand & clay



Fig. 2 Manaithal



Fig. 3 Loom used for weaving



Fig. 4 Sticks cutting for basbetry

## Knowledge on NTFP



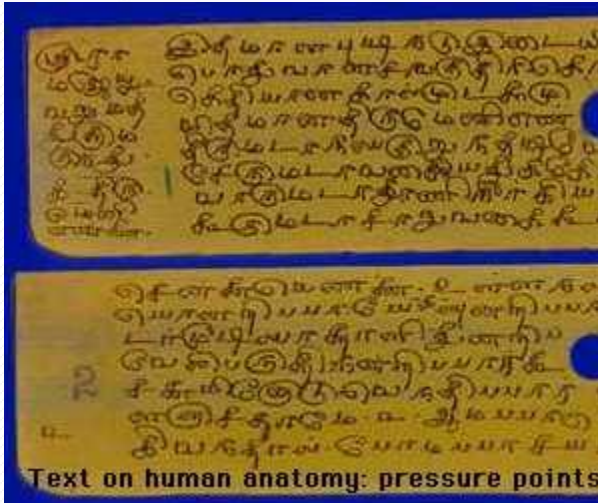
## Project 8: Preparation of Handicrafts and NTFP and their use



# Knowledge through Tamil Literature

Current status of transcription of the traditional medicine formulation in the Traditional knowledge Digital Library

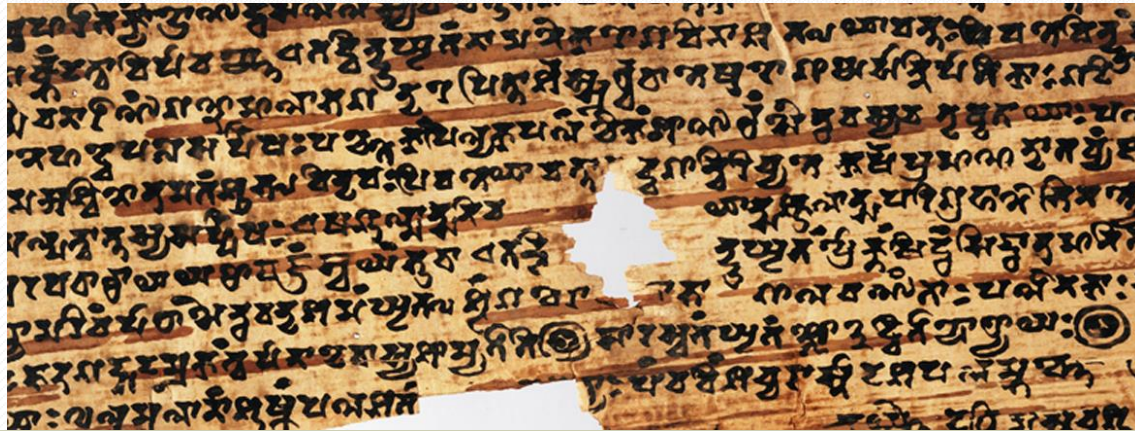
Discipline	No. of texts (including volumes) used for transcription	Transcribed
Ayurveda	75 books	97,337
Unani	10 books	1,75,150
Siddha	50 books	23,016
Yoga	15 books	1,680
Total	150 books	2,92,662





The poor, those suffering from disease and those afflicted by sorrow should be helped. Even insects and ants should be treated with compassion, just as one's own self.

(Ashtangahrdayam Sutrasthanam 2.23)



The Bower Manuscript, 4-6 CE  
Discovered in Central Asia  
(Bodleian Library, Oxford University)

**Project 9: Document the medicinal uses, construction methods, agricultural practices from Tamil literature and proverbs**

## Traditional foods and games



**Project 10: Collect the importance of traditional foods and games for better livelihood**





# Knowledge through sculptures




# Knowledge on paintings



- Project – 1: Biochemical Analysis of Nutritious Insects Eaten in Tribal Areas of India

Nutritional Value of selected Insect serving size			
	<p><b>Crickets</b> Serving size: 100g</p> <p><b>Amount Per Serving</b></p> <p>Calories- 122 total Fat- 5.5g Phosphorus- 185mg Iron- 10mg Calcium-76mg Carbohydrate- 5.1g Protein- 12.9g</p>		<p><b>Nutrition Facts</b> <b>Giant water bugs</b> Serving size: 100g</p> <p><b>Amount Per Serving</b></p> <p>Calories- 62 total Fat- 8.3g Phosphorus- 185mg Iron- 14mg Calcium-44mg Carbohydrate- 2.1g Protein- 12.9g</p>
	<p><b>Red ant eggs</b> Serving size: 100g</p> <p><b>Amount Per Serving</b></p> <p>Calories- 83 total Fat- 3.2g Phosphorus- 113mg Iron- 4mg Calcium-8mg Carbohydrate- 5.1g Protein- 12.9g</p>		<p><b>Small grasshoppers</b> Serving size: 100g</p> <p><b>Amount Per Serving</b></p> <p>Calories-153 total Fat- 6.1g Phosphorus- 238mg Iron- 5mg Calcium-35mg Carbohydrate- 3.7g Protein- 20.6g</p>

- Is Cockroach Milk Really a New Superfood?

- 
- **Project – 2: Study of the Use of Herbal Medicine for the Treatment of Dengue Fever**
  - **Project – 3: Ethno-Botanical Study of Various Important Medicinal Plants and their Important Phytochemical Properties**
  - **Project – 4: To Study Traditional Indigenous Knowledge Techniques in Coping with the Climatic Vulnerability**

- 1. Evaluation of nutritional values of traditional food**
- 2. Documentation of food fermentation techniques and its relation to food quality preservation**
- 3. Study on biodiversity of a particular local community and developing people's biodiversity register**
- 4. Different architectural structures and its importance in maintaining the ecosystem (e.g housing, bridges, water distribution canals)**
- 5. Resource conservation methods and its sustainability**
- 6. Various agricultural farming systems and its importance with the future scope**
- 7. Traditional knowledge of various agricultural tools and its applicability in organic farming**
- 8. Sustainable knowledge of various agricultural practices**
- 9. Traditional knowledge of fisherman and its links to sustainable livelihoods**
- 10. Study on community seed bank and its relation to food security**
- 11. Traditional knowledge on Food Preservation Techniques and its importance as source of livelihood**
- 12. Traditional knowledge on natural fiber and its uses in modern context**
- 13. Study on traditional knowledge on ecological restoration mechanism its impact on ecosystem management**
- 14. Design and development of appropriate technology based on traditional technological knowledge**
- 15. Experiment on water harvesting based on traditional knowledge to verify its contemporary applicability**





**THANK YOU**