

# SIXTY-FOURTH SESSION OF COPUOS

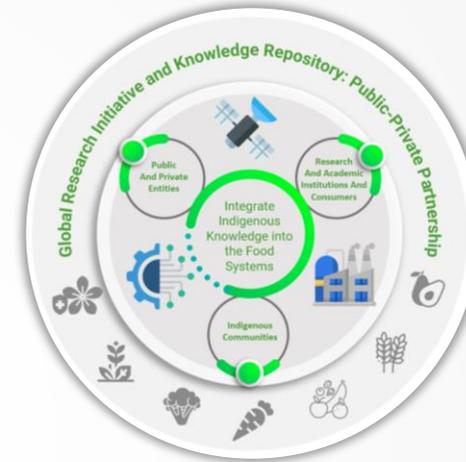
**United Nations  
Committee on the Peaceful Uses of Outer Space**

## **AGENDA ITEM 8: Space and Sustainable Development**

**A Global Initiative to Integrate Indigenous Knowledge with Frontier and Space Technologies based Solutions for Building Diverse and Resilient Food System**

### **PRESENTERS:**

*Milind Pimprikar (CANEUS),  
Shirish Ravan (UNOOSA),  
Chandrashekhar Biradar (ICARDA-CGIAR)*



VIENNA

25 August - 3 September 2021



UNITED NATIONS  
Office for Outer Space Affairs

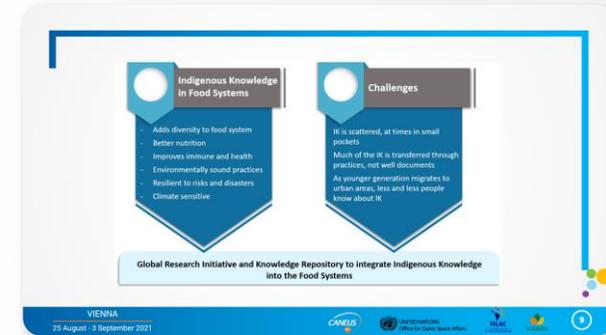


# PRESENTATION OUTLINE

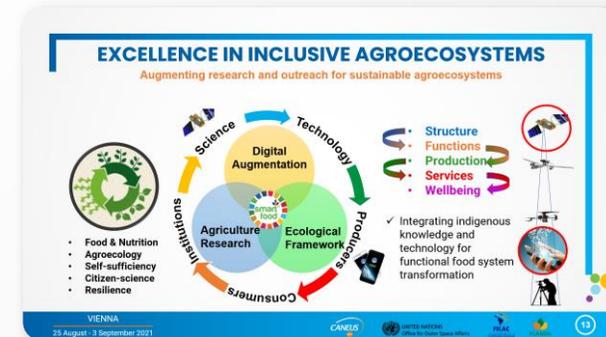
**Overview, Objectives and Significance to the UNFSS 2021**  
**Process** Leading to the Proposed Initiative



**About** the Global Research Initiative and Knowledge Repository



**Framework** and Implementation Plan



# OVERVIEW & OBJECTIVES

## Global Research Initiative and Knowledge Repository to Integrate Indigenous Knowledge into the Food Systems



Integration of Indigenous Knowledge with Frontier and Space Technologies based Solutions.



The world will come together at the Food Systems Summit (FSS) in September 2021.



The UN engaged global community to identify and develop innovative solutions



Formulate Potential Global Public-Private Partnership



Identify & Mobilize Potential Public and Private Financing Mechanisms



Define the Components, Procedures and Best Practices for the Global Research Initiative

Contributing, and to be Launched at UN Food Systems Summit on 23<sup>rd</sup> September 2021

# PROCESS LEADING TO THE PROPOSED INITIATIVE



# PROCESS FOR INTEGRATION OF IK WITH STI SOLUTIONS



## STEP 1: COMMUNITY ENGAGEMENT

### Community engagement:

- Collaboration with community and stakeholders
- Identification of community goals
- Establishing a rapport and trust

## STEP 2: IDENTIFICATION OF VULNERABILITY FACTORS

### Identification of intrinsic and extrinsic components contributing to hazard vulnerability.

#### Identified through:

- Community situation analysis
- Identification of priorities

## STEP 3: IDENTIFICATION OF INDIGENOUS AND SCIENTIFIC STRATEGIES

### Indigenous strategies:

- Past and present
- Examples may include: land use planning, building methods, food strategies, social linkages, and environmental strategies

### Scientific strategies:

- Past and present
- Examples may include: land use planning, building methods, food strategies, social linkages, and environmental strategies

## STEP 4: INTEGRATED STRATEGY

### Integrated strategy:

- Addressing intrinsic components to hazards
- Dependent on effectiveness level of each strategy identified



Contribution to Frameworks

# GLOBAL DIALOGUE PROCESS



## Panel B

### Addressing Tracks 1 and 2:

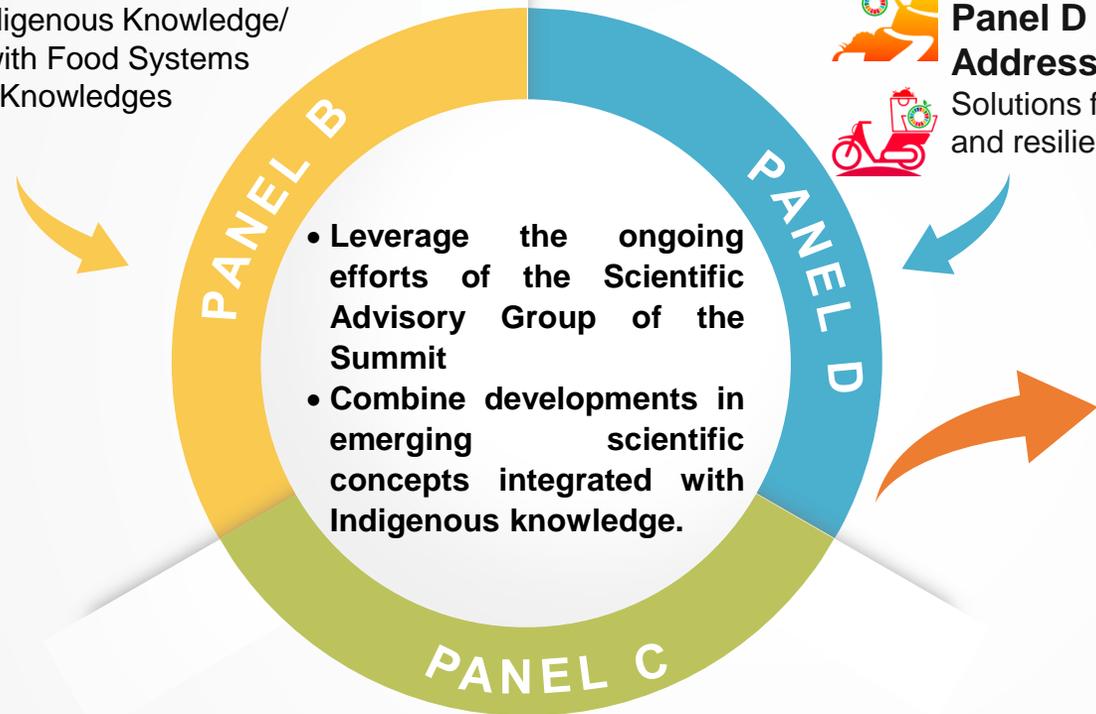
Challenges, Barriers, and Policy Issues for integrating Indigenous Knowledge/ experiences with Food Systems and Scientific Knowledges



## Panel D

### Addressing Track 5:

Solutions for sustainable and resilient food system



- Leverage the ongoing efforts of the Scientific Advisory Group of the Summit
- Combine developments in emerging scientific concepts integrated with Indigenous knowledge.

To provide answers that can deliver wide-reaching benefits for each of the five “Action Tracks” of the Food Systems Summit



## Panel C

### Addressing Track 3 and 4:

Emerging S&T based solutions applicable for integrating Indigenous knowledge/experiences for food security.

# PRE-SUMMIT PROCESS

## Mobilize multi-stakeholder partnerships:

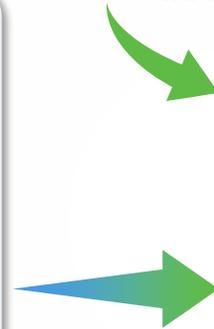
- Public and Private entities
- Research and academic institutions
- Producers and consumers groups
- Indigenous communities
- Financing mechanisms

## Building on our recent related efforts:

- UN STI Forum Session held on May 4th, 2021
- UN FSS Global Dialogue held on May 31st, 2021
- UN HLPF 2021 SDG learning session held on June 7th, 2021
- UN FSS Pre-Summit, July 26, 2021



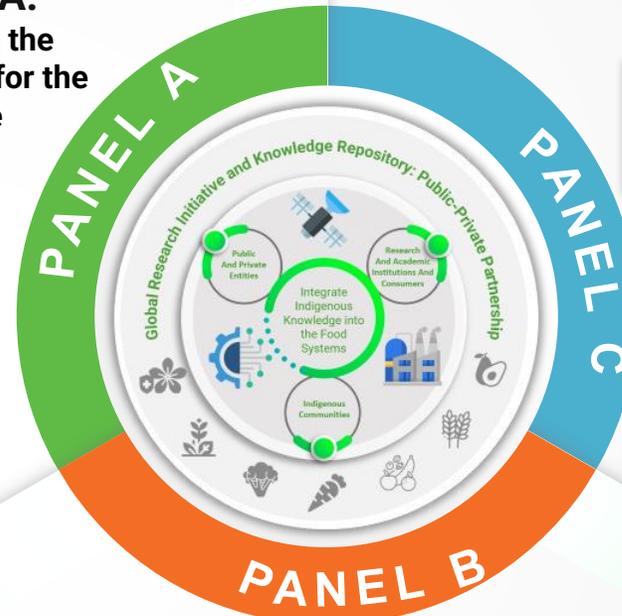
**Panel A:**  
Creating the  
context for the  
Initiative



**Panel B:**  
About the Global Research  
Initiative and Knowledge  
Repository



**Panel C:**  
Stakeholders,  
Potential Partners,  
and implementation  
Mechanism



Contributing, and to be  
Launched at UN Food  
Systems Summit on 23<sup>rd</sup>  
September 2021



**Dr Shirish Ravan**  
UNOOSA

**Global Research Initiative and Knowledge Repository to  
integrate Indigenous Knowledge into the Food Systems**

## Indigenous Knowledge in Food Systems

- Adds diversity to food system
- Better nutrition
- Improves immune and health
- Environmentally sound practices
- Resilient to risks and disasters
- Climate sensitive

## Challenges

IK is scattered, at times in small pockets

Much of the IK is transferred through practices, not well documents

As younger generation migrates to urban areas, less and less people know about IK

**Global Research Initiative and Knowledge Repository to integrate Indigenous Knowledge into the Food Systems**

## Indigenous Knowledge

### Components

- Food/nutrition
- Traditional medicines

### Procedures

- Cultivation practices
- Food handling/storage/processing
- Consumption practices

### Best practices

- Resilience to disasters
- Resilience to climate change
- Natural resources management

## Technology-based Repository

Frontier Technologies (Earth observation and geospatial intelligence with 4<sup>th</sup> Industrial Revolution Technologies) for Development of portal to capture, process, analyse and present indigenous knowledge through

- Compiling knowledge from existing studies
- Sponsor new studies
- Specific need-based projects
- Routine surveys

## Objectives

- Sensitise decision making
- Trigger public-Private interest
- Develop entrepreneurship
- Protect geographic set up of indigenous systems
- Producer to consumer connection
- Technology transfer

## Outcomes

- Preservation of Indigenous knowledge
- Sustainable food systems
- Improved nutrition/health
- Long-term economic gains
- Preservation of food diversity
- Sustainable supply demand chain

**Key stakeholders: Indigenous communities, Public and Private entities, Research and Academic institutions and consumers**





## **Dr. Chandrashekhar Biradar**

Research Team Leader, ICARDA- CGIAR Research Center

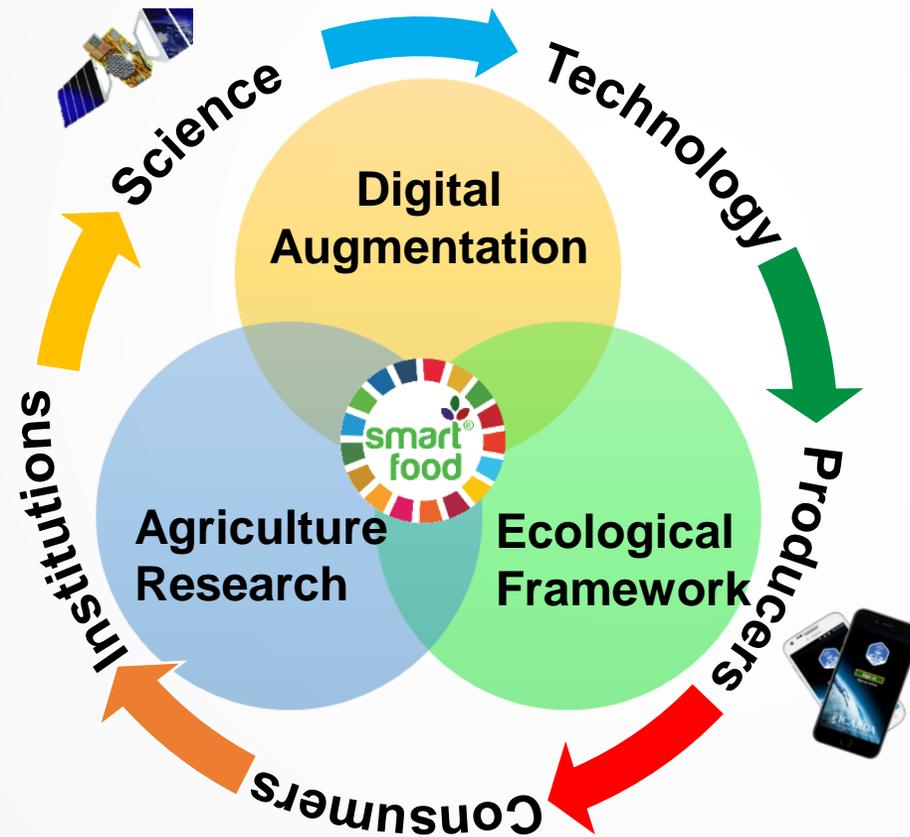
**Global Research Initiative and Knowledge Repository to integrate  
Indigenous Knowledge into the Food Systems Transformation**

# EXCELLENCE IN INCLUSIVE AGROECOSYSTEMS

Augmenting research and outreach for sustainable agroecosystems



- Food & Nutrition
- Agroecology
- Self-sufficiency
- Citizen-science
- Resilience



- Structure
- Functions
- Production
- Services
- Wellbeing

✓ Integrating indigenous knowledge and technology for functional food system transformation

