Science, Technology and Innovation ODA and Gender Issue

2015 Gender Summit – Asia Pacific

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Introduction of STEPI and STEPI-IICC

Science and Technology Policy Institute (STEPI)

- Based on「Act of the Establishment, Operation and Fostering of Government-funded Research Institutions」, STEPI is a government-funded research institute that belongs to 'National Research Council for Economics, Humanities and Social Sciences' under the Prime Minister of ROK
- STEPI's role is to research and analyze STI activities, interaction between S&T and socioeconomics, S&T regional cooperation, global S&T trend etc. in order to establish national STI policy and ultimately contribute to S&T development

International Innovation Cooperation Center (STEPI-IICC)

- IICC was established within STEPI in January 2014
- IICC aims to implement STI ODA that corresponds to the demand of partner countries by utilizing highly-recognized Korean STI model
- IICC will be the hub that efficiently connects and coordinates the cooperation between the partner country and university-industry collaboration agents

Science, Technology and Innovation Official Development Assistance (STI ODA)

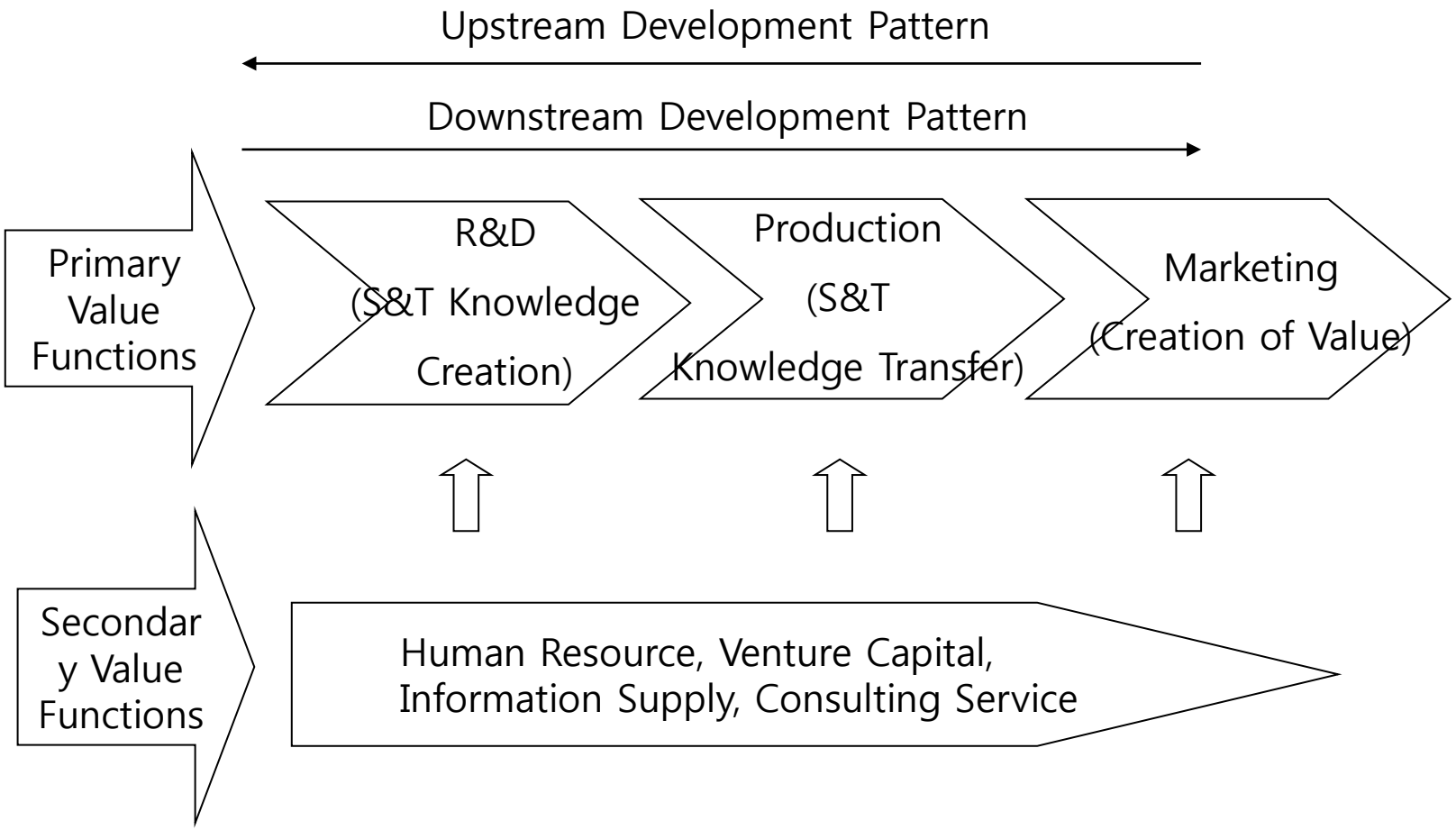
- Objective (Why)
- Areas (What)
- Process (How)
- Stakeholders (Who)

STI ODA

- ✓ Political, diplomatic objective
  - National prestige, humanitarian purpose
- ✓ Science and technology development
  - Technology transfer
  - Building S&T infrastructure (RI, S&T Univ., S&T Park)
  - Development of local S&T capacity
- ✓ Socio-economic effect
  - Industrial development
  - Societal change

STI ODA

The framework for Science and Technology ODA:
Value Chain of Technological Innovation



STI ODA

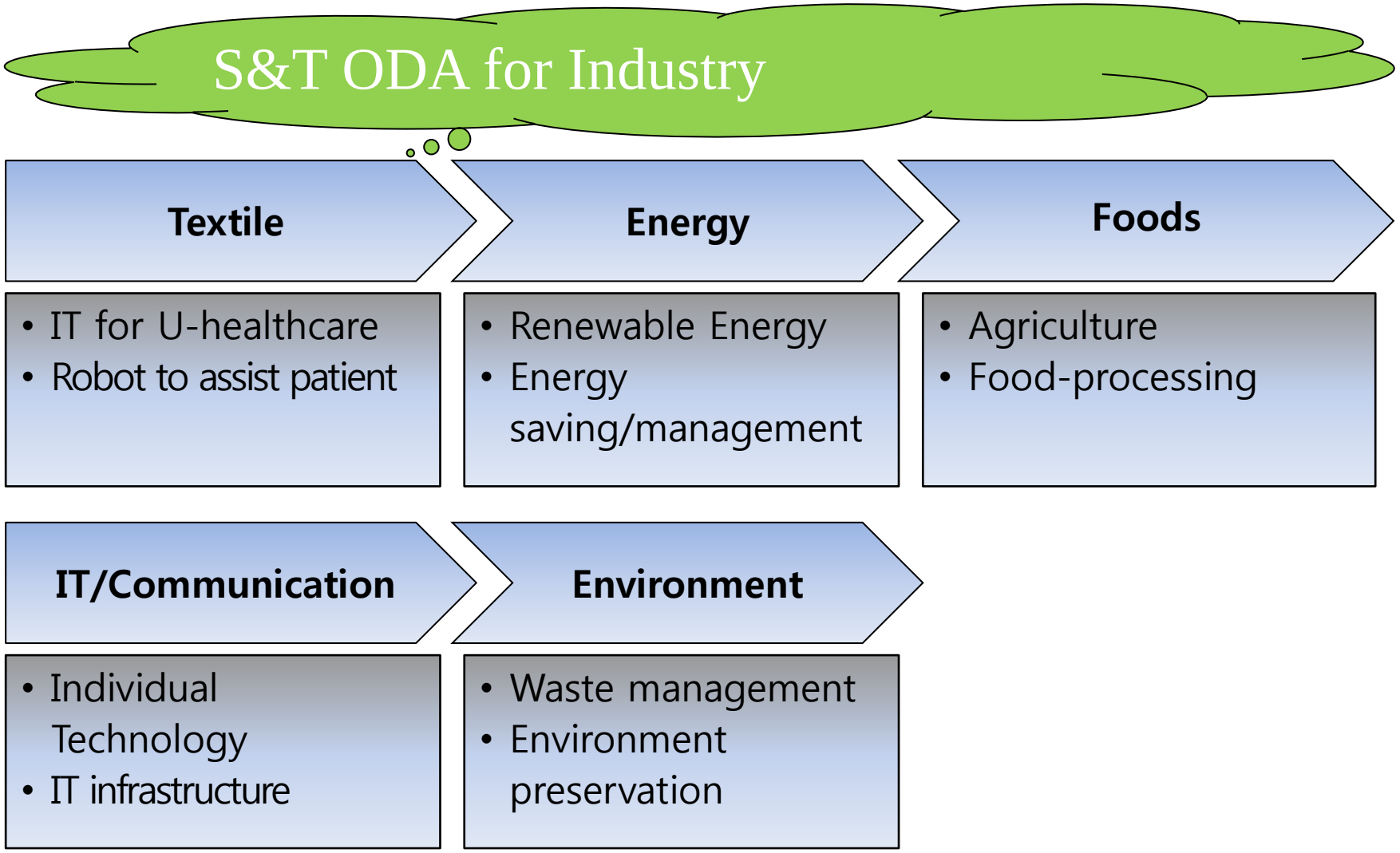
S&T ODA for S&T and Innovation

Science, Technology and Innovation Policy	Nation/Industry R&D Program	Technology Transfer & Commercialization
• Human Resource Dev. • S&T Think-tank • STI Master Plan and Roadmap	• Public, University, Private sector R&D • Management of R&D programs • I-U-R Cooperation	• Incubation • Tech Transfer • Tech Commercialization

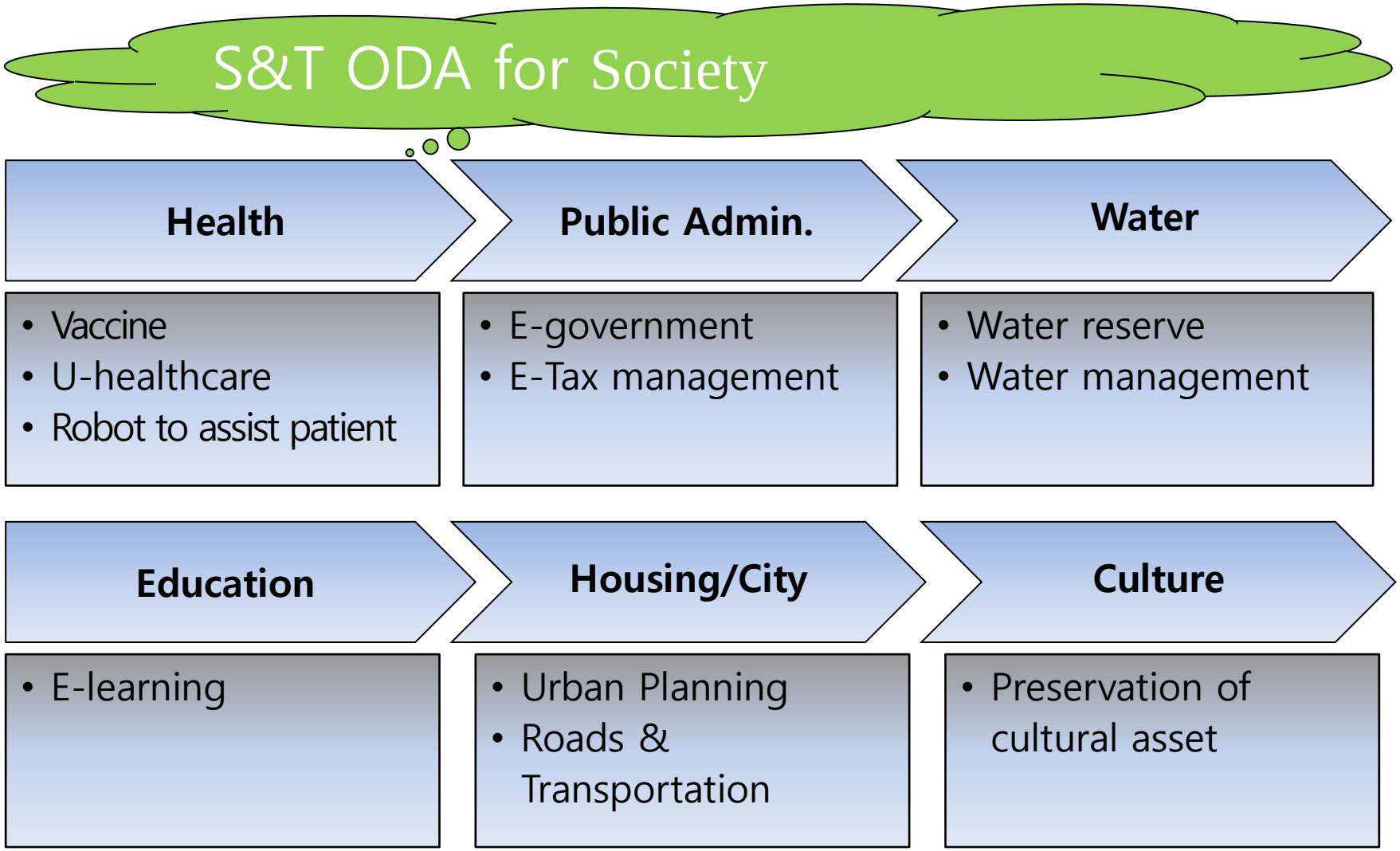
S&T Infra.

- National Innovation System/ Regional Innovation System
- Public Research Institute
- S&T University
- STI Park (management & operation)
- Venture Capital
- Innovative Culture / Public Awareness
- STI Promotion Organizations

STI ODA


S&T ODA for Industry
Textile
Energy
Foods
• IT for U-healthcare
• Robot to assist patient
• Renewable Energy
• Energy saving/management
• Agriculture
• Food-processing
IT/Communication
Environment
• Individual Technology
• IT infrastructure
• Waste management
• Environment preservation

STI ODA


S&T ODA for Society
Health
Public Admin.
Water
• Vaccine
• U-healthcare
• Robot to assist patient
• E-government
• E-Tax management
• Water reserve
• Water management
Education
Housing/City
Culture
• E-learning
• Urban Planning
• Roads & Transportation
• Preservation of cultural asset

STI ODA

Uniqueness of S&T ODA

- ✓ Cross-cutting: Water, Energy, Environment, Industry….
- ✓ It is about Science, Technology and Innovation
- ✓ Technological Innovation Process is complex
- ✓ STI is integrated into industry and society
- ✓ Intangible characteristics of STI activities
- ✓ Longer period to get result but huge sustainable result

→ Needs different approach for S&T ODA

STI ODA Barriers

Developing Countries

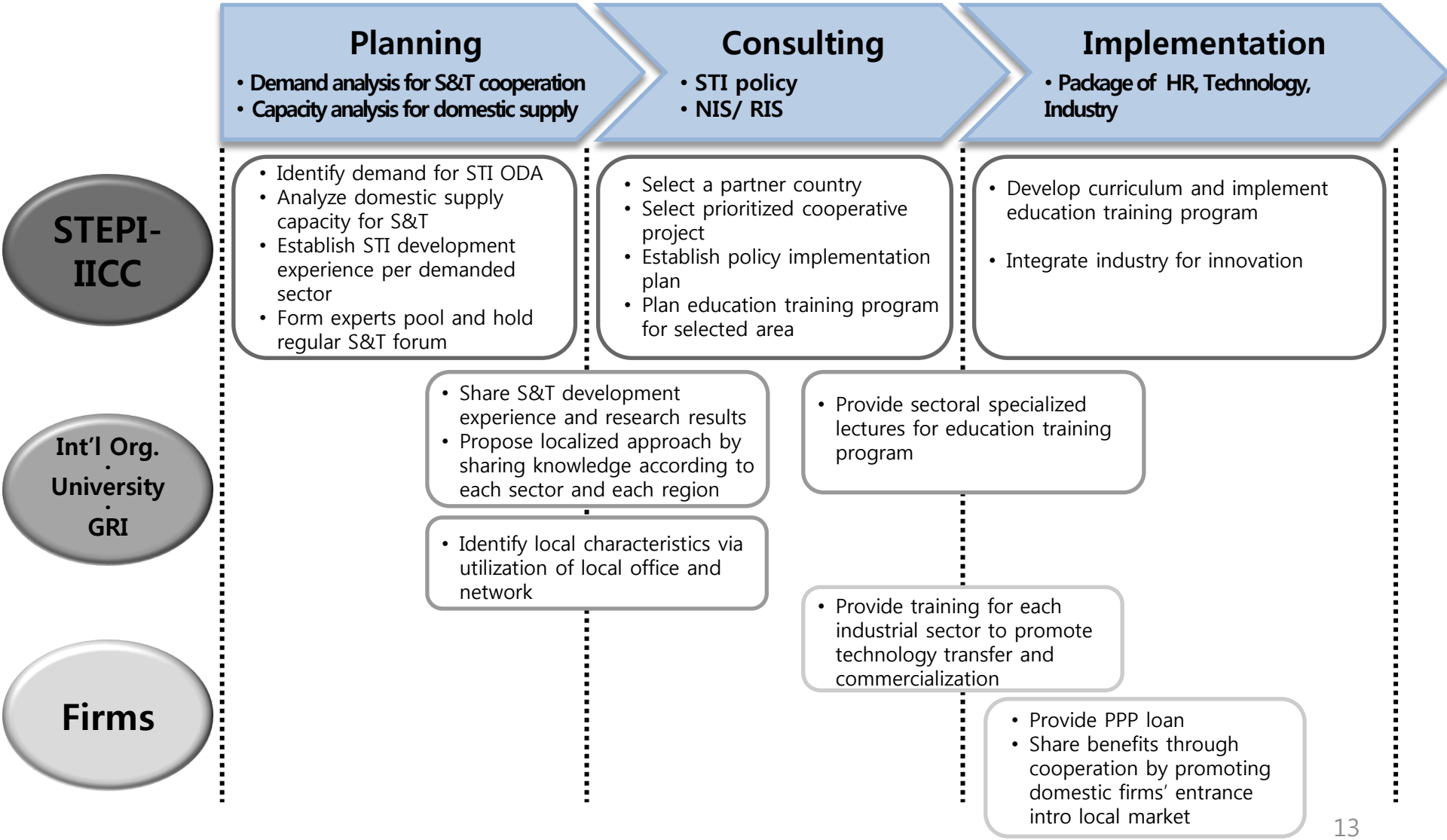
- Technological competiveness of developing countries is still at low level.
- Low capacity for S&T policy planning and implementation.
- Brain drain problem.
- Low consideration for demand side of industry.
- Science and Technology is the backbone of industrial/economic development.
- It is necessary to have internal S&T capabilities from R&D to technology commercialization.

STI ODA Barriers

Donor Countries

- Many actors but activities are not harmonized.
- Network among the actors.
- No clear cut definition for S&T ODA
- No national strategy for S&T ODA

STEPI-IICC approach



STI ODA Stakeholders

Donor Country	Int'l Agency	Recipient Country
Government	UN WB Regional Network NGOs	Government
S&T Institute		S&T Institute
University		University
S&T Individual		S&T Individual
Local Community		Local Community
NGOs		NGOs

Why Gender Matters in STI ODA

- Women can participate in creating S&T knowledge
- In addition, they are the key persons who use science and technology knowledge in the society.
- But women factor is often neglected in the STI ODA.
- Evidence based S&T education in the local community (e.g. environment, Tsunami)

Why Gender Matters in STI ODA

- UNESCO: The gender inequalities are also the product of a failure to recognize women's knowledge and know how, in other words a failure to recognize that Women are responsible for half of the human knowledge and technical expertise as agriculturalists, gardeners, animal-breeders, forest users, managers of their community water needs and resources and last but not least as technological innovators and agents of change.

  (http://www.unesco.org/new/en/natural-sciences/priority-areas/gender-and-science/)

Myanmar Education Recovery Programme

- UNESCO empowers women to reduce their vulnerability to disaster.
- In collaboration with the Ministry of Education, the programme provides disaster risk reduction in education training to education personnel. Most of the training participants are female teachers responsible for the care of children in the basic education sector.
- A series of training modules have been developed, together with Information, Education and Communication materials. These include a set of nine posters on disaster awareness and an activity book for children and the community. Importantly, Module 5 contains information on the vulnerability of women in times of disaster, with suggestions on how to incorporate gender issues into disaster risk reduction.

(Source: UNESCO website)

Gender and Local Knowledge

- Particular attention is paid to the key role of women as holders of local and indigenous knowledge and as agents of change and community cohesion at the local level. In particular, UNESCO highlights the transmission, preservation and elaboration of local knowledge by women, particularly that related to sustainable development, natural disaster preparedness, biodiversity and climate change.
- In the small island developing states, efforts to assess, monitor and manage coral reefs, mangrove forests and sea grass beds focus upon the knowledge possessed by women, who are the main users of these near-shore marine habitats. Indeed, women are frequently the primary users or collectors of natural resources such as drinking water, fuel or small agroforestry plots, and the primary holders of knowledge concerning such resources.

(Source: UNESCO website)

STI ODA + PPP + Gender

- **Case Study ①**

- The LifeStraw® Carbon For Water

❖ **Vestergaard Frandsen + Technology + Public Support**

- **BEFORE :**

- Less than 10 % Kenyans had access to clean water

- **KEY BENEFITS via this Project**

- **NOW :**

✓ **SAFE DRINKING WATER**: direct to 4.5 million people for 10 years

✓ **A WORLD FIRST**: first project to link carbon credits with water provision, at scale.

✓ **IMPROVED HEALTH**: Prevent water-based disease such as diarrhea

✓ **LOCAL JOBS:** 4,000 health educators employed via this project– distributing filters, training and monitoring use.

✓ **SCALE AND IMPACT**: one of the largest carbon reduction programs in the world!

STI ODA + PPP + Gender

- **Case Study ①**

- The LifeStraw® Carbon For Water

❖ **Vestergaard Frandsen + Technology + Public Support**

- **How Public-Private Partnership Worked**

- Vestergaard developed & launched LifeStraw® Carbon for Water™ that treat at least 18,000 liters of water

- The program earns carbon credits

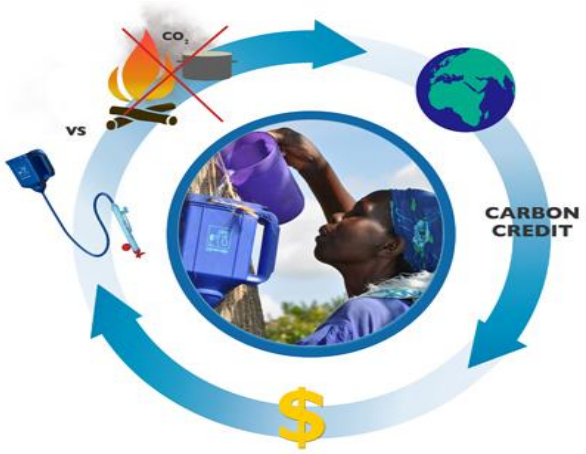
: Because LifeStraw® Family filter eliminates the need to boil water for treatment.

❖ **Framework**

1) Funded by Vestergaard (Private)

2) Implemented in partnership with Kenya's Ministry of Public Health and Sanitation

3) Collaborated with several other ministries including the Ministry of Education and the National Environment Management Authority



STI ODA + PPP + Gender

- **Case Study ②**

- Bushlight India Project

❖ **CAT Ltd + Technology + Public Support**

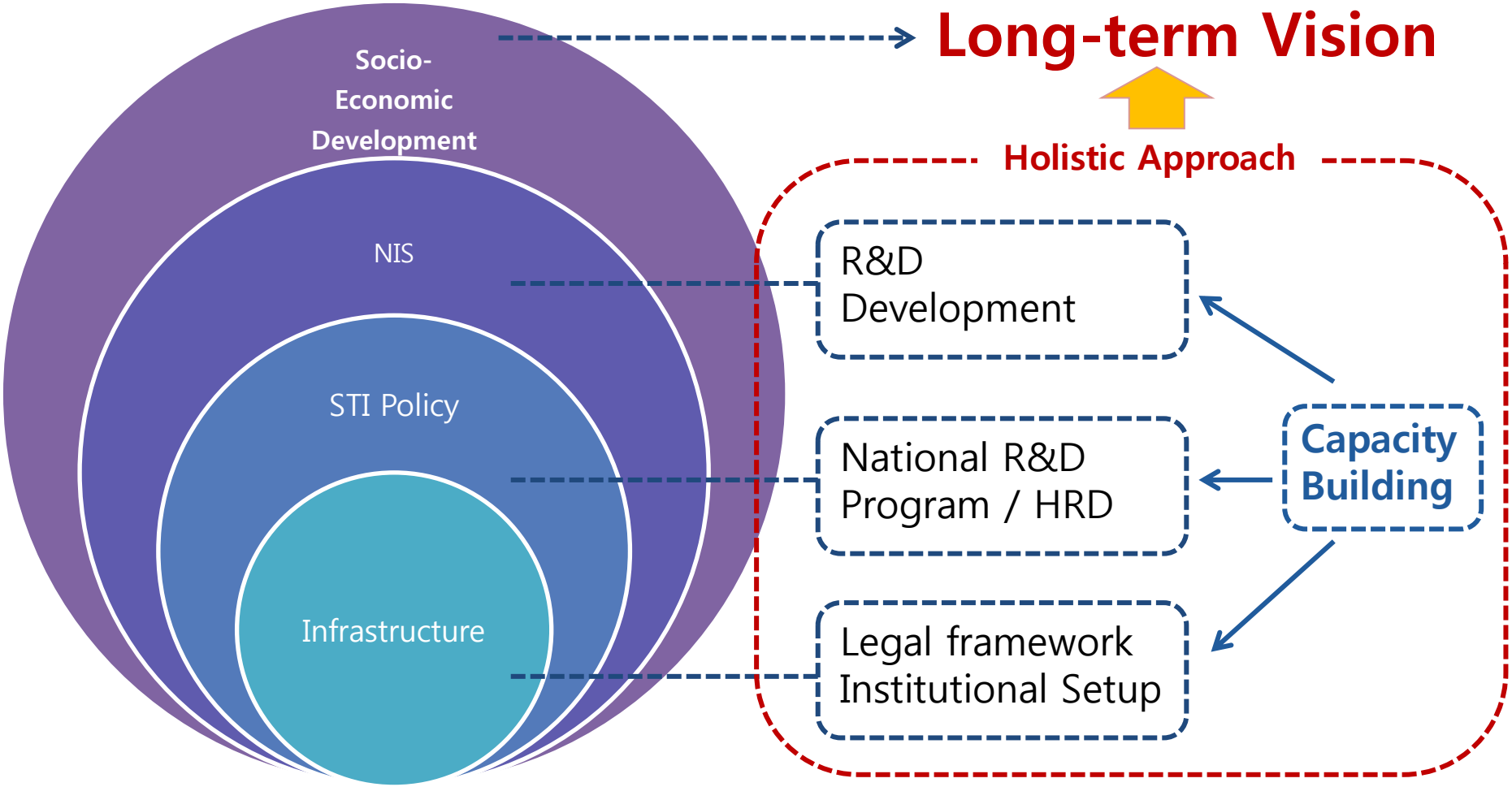
- **Bushlight India Project**
  : Collaborative PPP effort with NGOs, Corporations

- **Goal**: Provide remote village in India with electrification using renewable solar energy

- **Partners**:
  - Center for Appropriate Technology (CAT Australia)
    : Technology & design
  - Multinational Corporations :
    Gram, Vikas, WWF-India, Tata BP Solar, WBREDA,
  - Australian Government
    : Funding via Asia Pacific Partnership
  - Local Communities

- **Output:** India's remote Village 's household has access to a fixed agreed daily energy budget

Conclusion & Discussion



Conclusion & Discussion

- Which area does need more participation of women in the STI processes?
  - S&T knowledge creation vs. use
  - Education & Training
- How can we make sure women's involvement?
  - Funding
  - Project development

Conclusion & Discussion

• First, it is necessary to understand the unique feature of STI in ODA

- Complexity of technological innovation process
- Mid-long term result
- Requirement for HR

• Second, financial mechanism and business understanding?

- How to persuade the international bank?
- How to design the business model?

Conclusion & Discussion

• Third, how we can develop the project management capacity?

- Expertise to understand STI, gender, business, and government
- Communication skills and dedication

• Fourth, how we can treat the S&T ODA and gender as an independent subject?

- In the definition of ODA
- In the budgetary definition

Conclusion & Discussion

Suggestion

- Establishment of an international platform for STI & Gender
  - Policy and case studies
  - Consultancy
  - Networking of international experts

STEPI
과학기술정책연구원
SCIENCE AND TECHNOLOGY POLICY INSTITUTE

IICC
International
Innovation
Cooperation Center

Global Hub for Science, Technology & Innovation Cooperation

Thank you