



KOFST FORUM on KSP and Science Diplomacy
Nov 7, 2013
Seoul, ROK

Global Challenges and Korean STI Development Experiences

Jeong Hyop Lee, Ph.D.



Contents

- Introduction
- New Approaches with Korean Experience
- Poverty Traps: Least Developed Countries
- Health Challenges: Africa
- Water, Food and Green Energy: ASEAN
- Conclusion

- Requests to Develop STI Strategies by Benchmarking Korean Experiences
 - Poverty Traps of LDCs by UNESCAP-APCTT
 - Health Challenges of Africa by WHO and ANDI
 - Global Challenges of ASEAN by ASEAN COST
- Lack of Longitudinal Approaches and Prevalence of Benchmarking Practices
 - Rush to Benchmark Korean Experiences without Contextualized Understanding
- Need to Develop New Approaches for Diagnosis and Strategy Development



- Pilot STI Strategies Development and Extension to Other Countries
 - Poverty Traps: Nepal (2012), Laos (2013), Bangladesh (2014)
 - African Health Challenges: Nigeria and Tanzania (2013), Ethiopia (2014)
 - ASEAN Global Challenges (2013): Indonesian Water, Vietnamese Green Energy, and Filipino Food
- Iterative Process for Multilateral and Bilateral STI Strategy Development with Selected Cases



2. New Approaches with Korean Experience

● Strategy Development Principles

Korean Experience

- Future-oriented vision and goal
- Coordinating mechanism for successful innovation
- Collective adaptation to changes and cumulative capacity building

Global STI Context

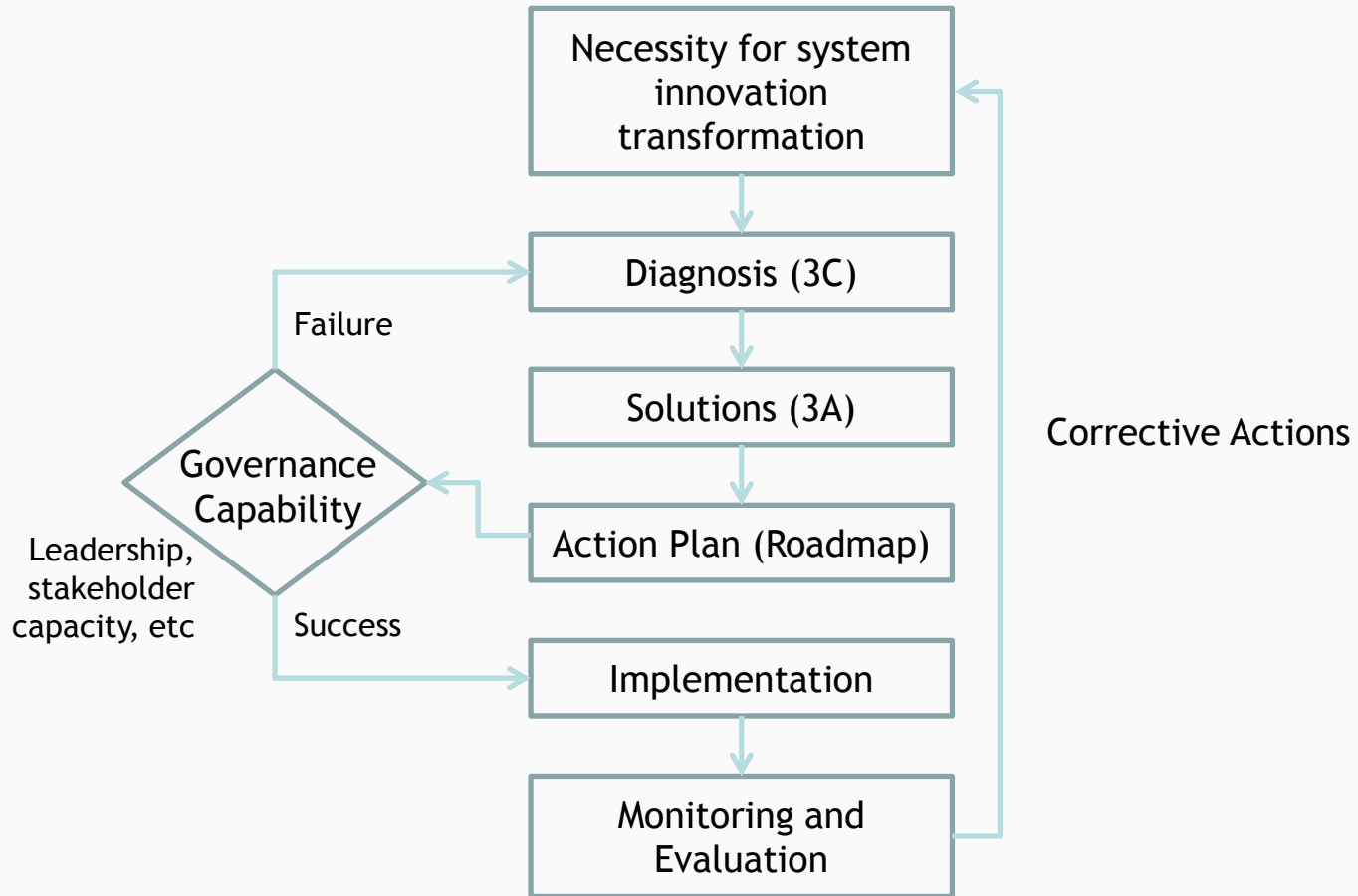
- Importance of innovation and extension of its scope
- Uncertainties and changes in government intervention
- Proper STI strategy implementation

Principles

- Oriental holistic approach for prioritization of focus areas
- Intuitive decision making leading to strong execution and consensus building
- Future-oriented goals and a pathway to minimize uncertainties



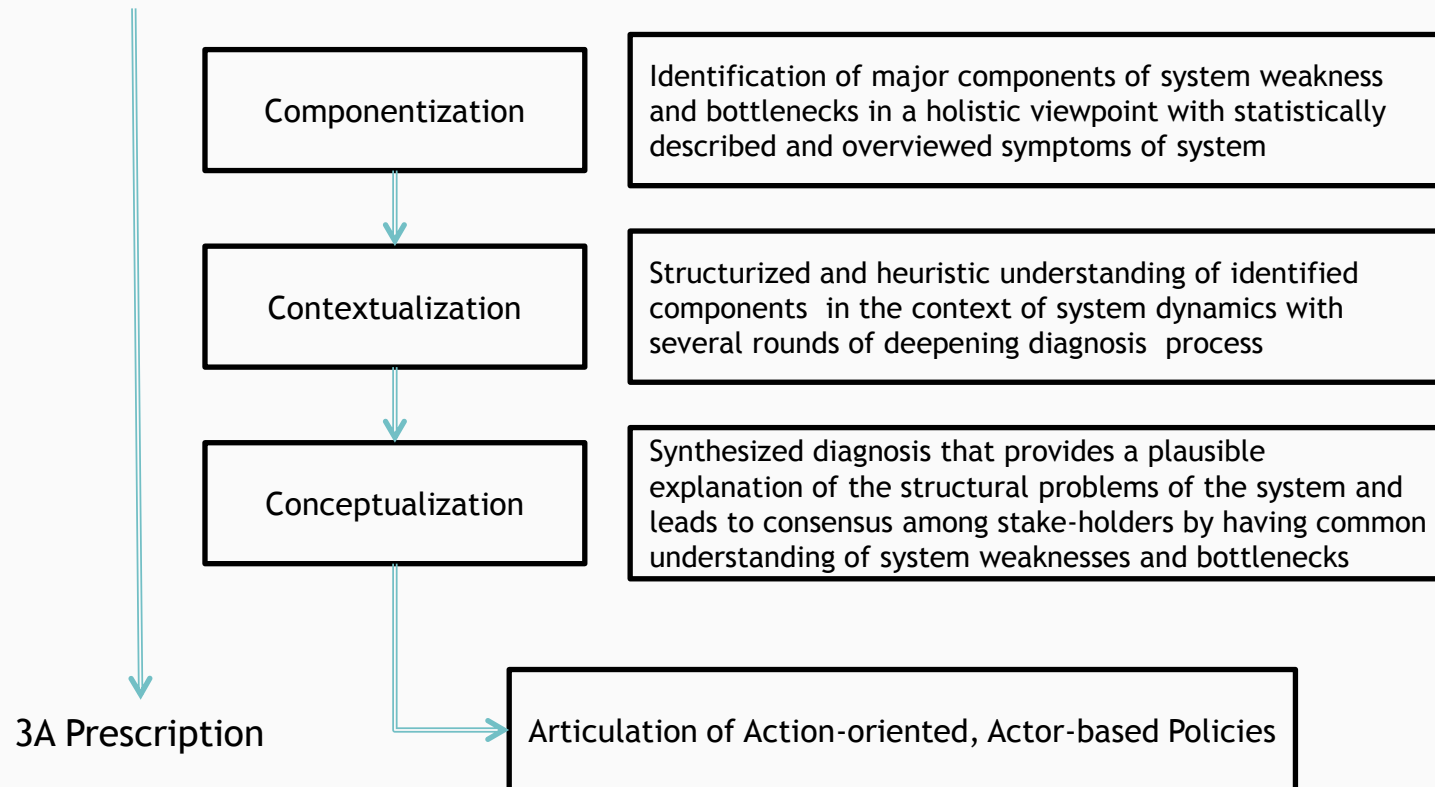
● Strategy Simulation





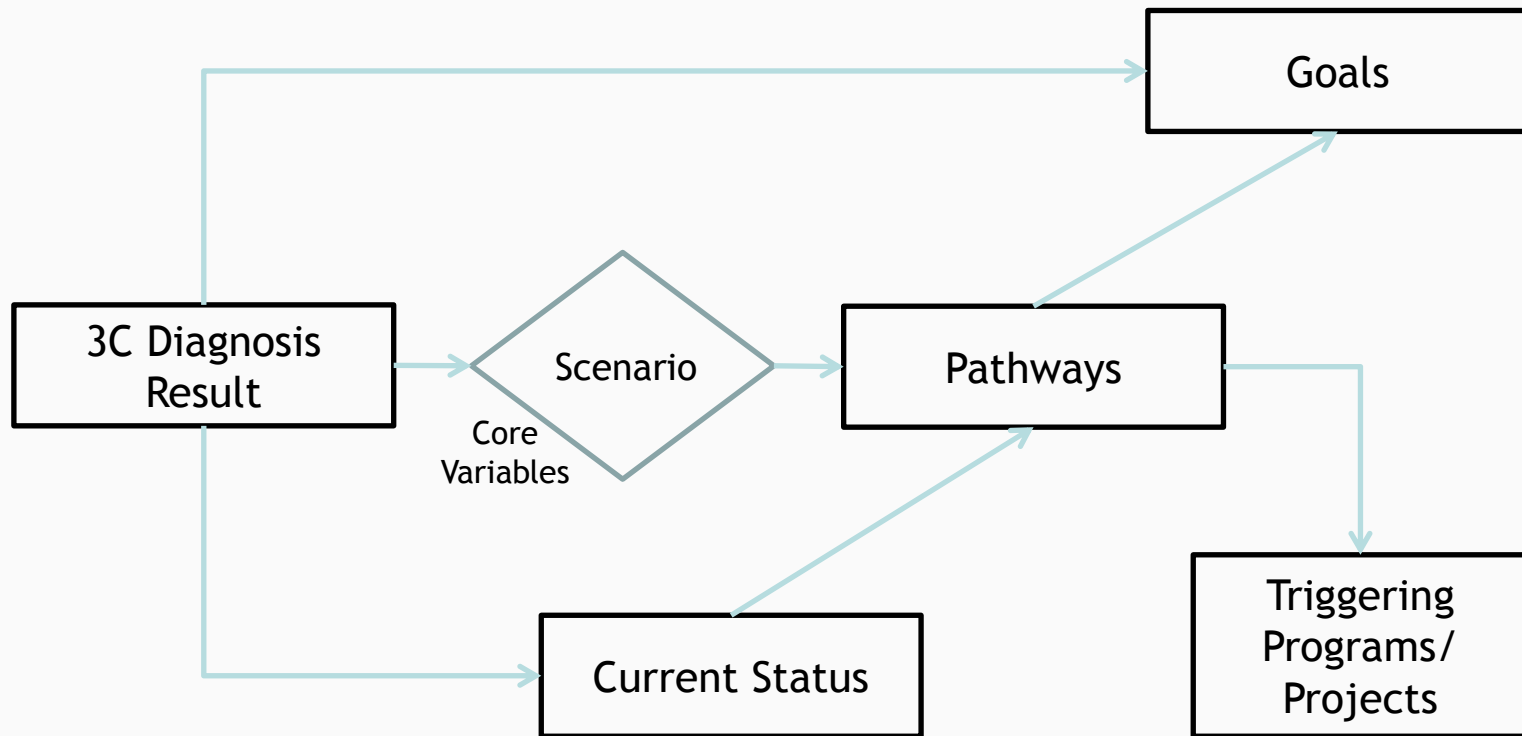
● Holistic Approach: 3C Diagnosis and 3A Prescription

3C Diagnosis



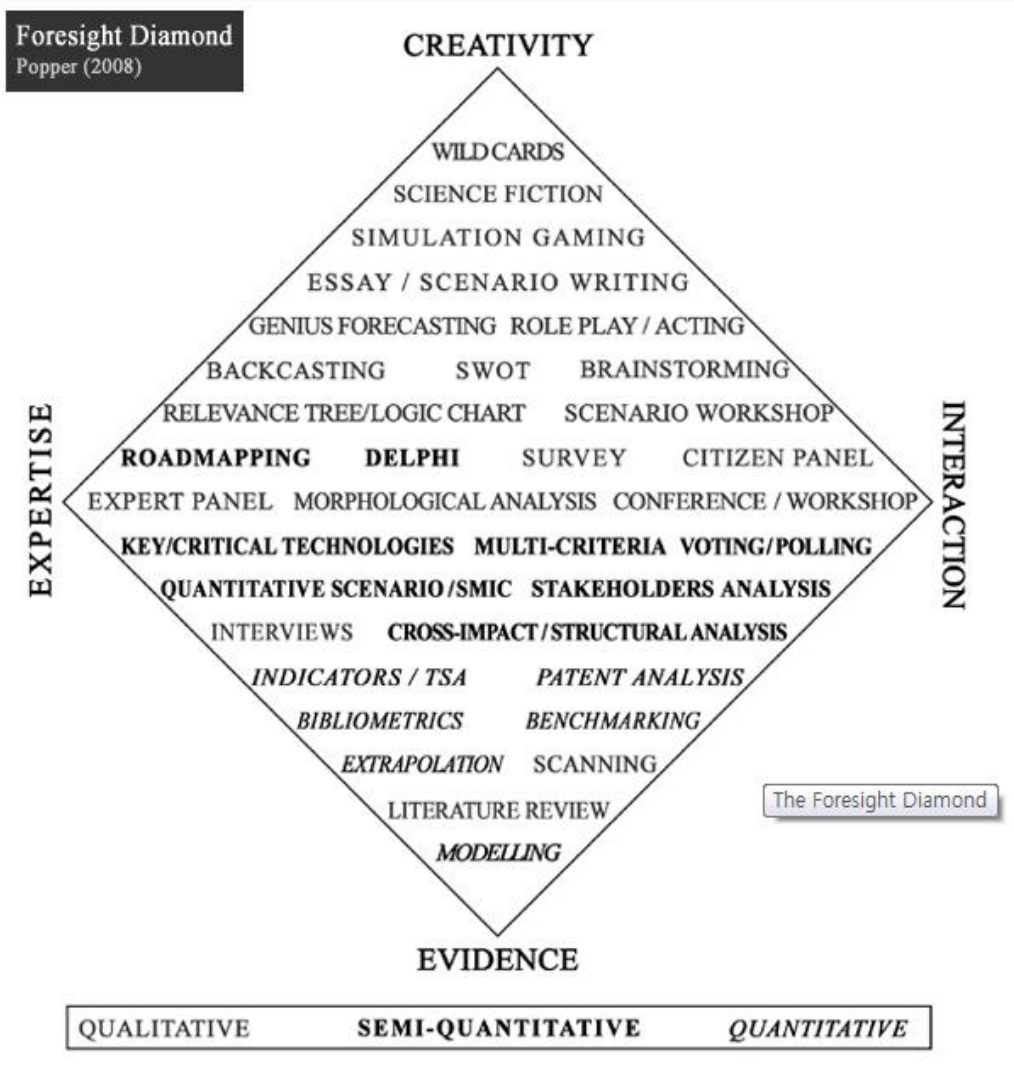


- **Future Design Approach: Goals and Pathways**

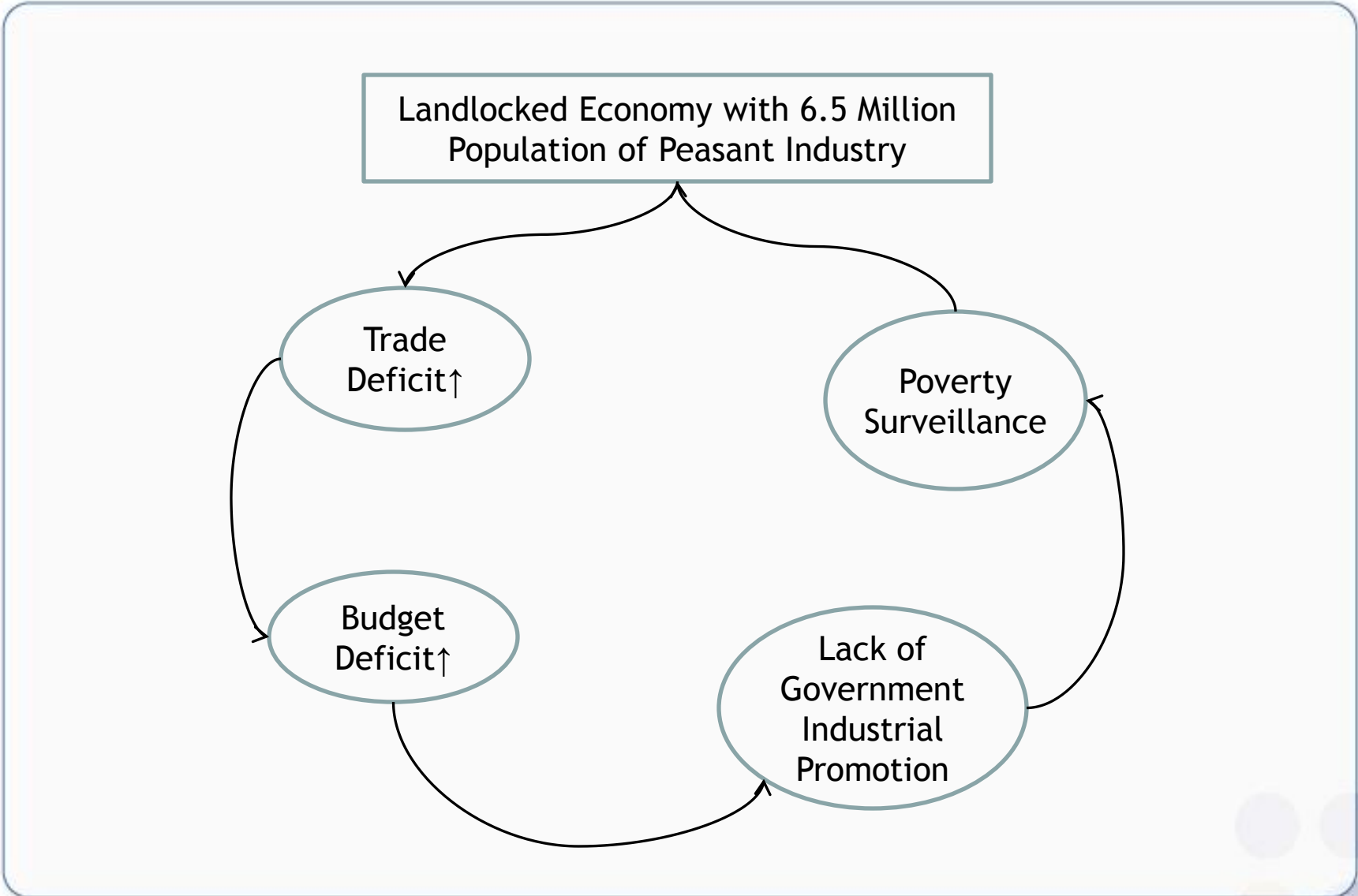


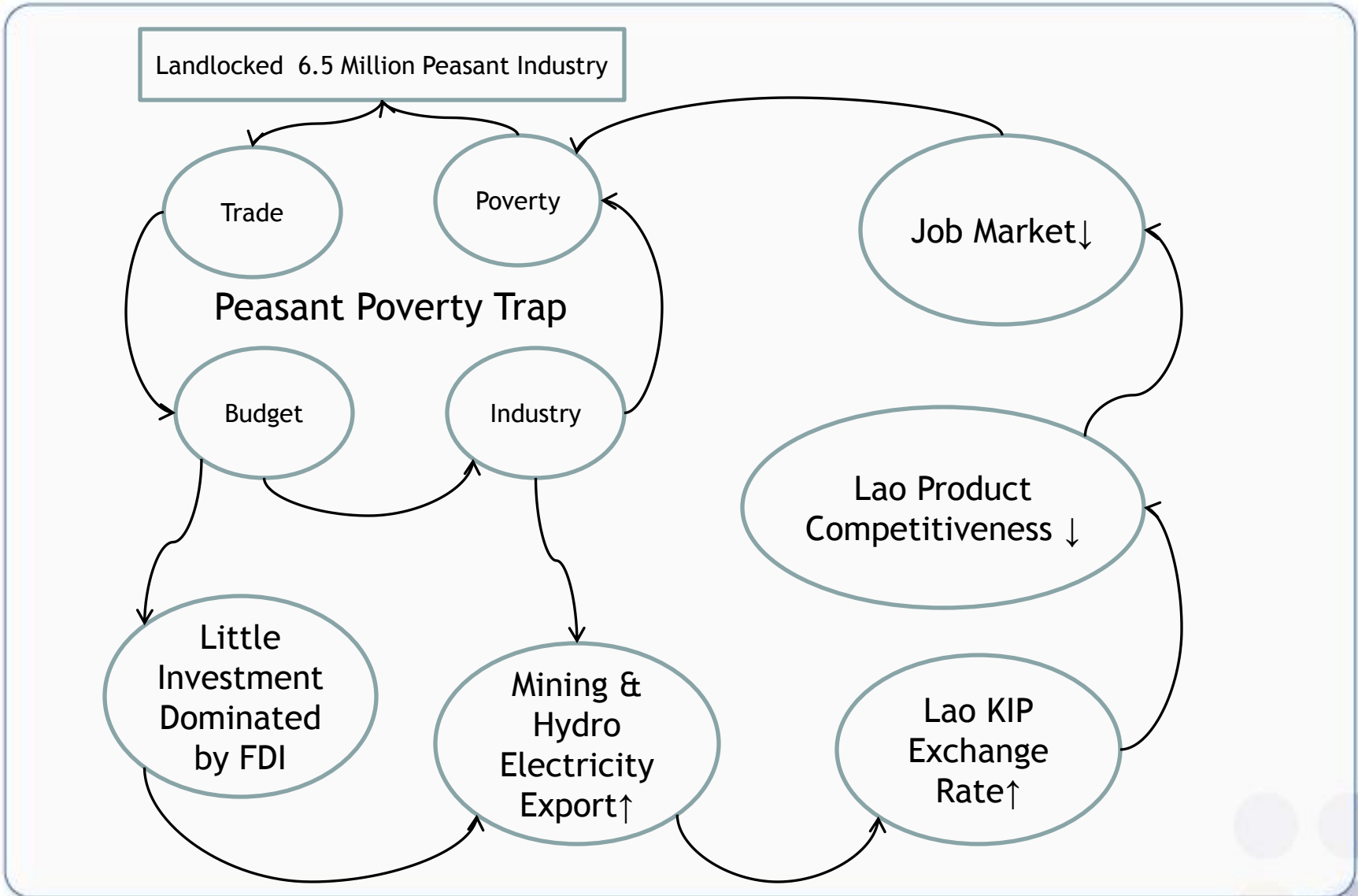


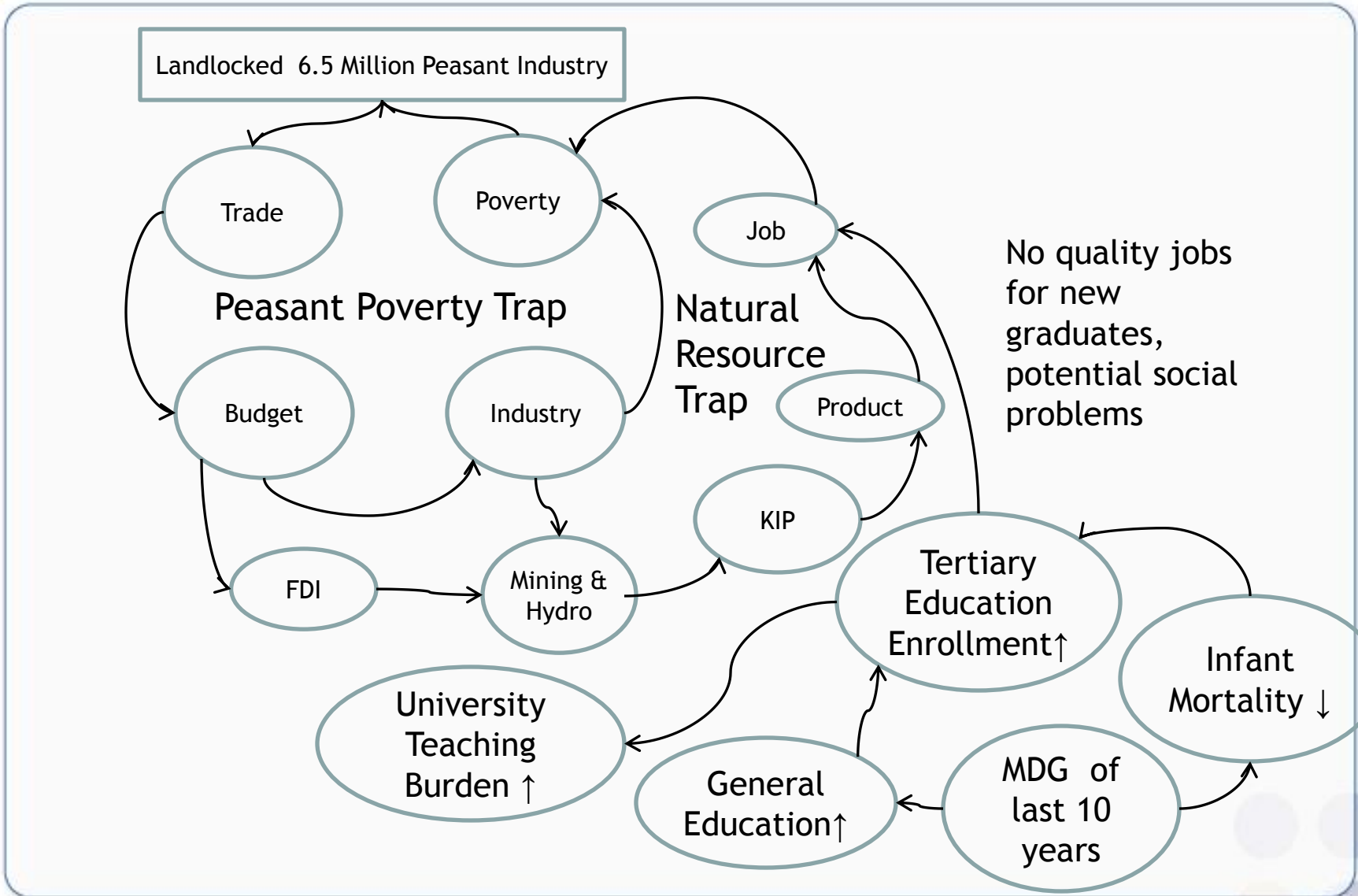
- Intuitive Approach
- Appropriate methodology for effective planning with limited resources and time
- Expert panel brainstorming

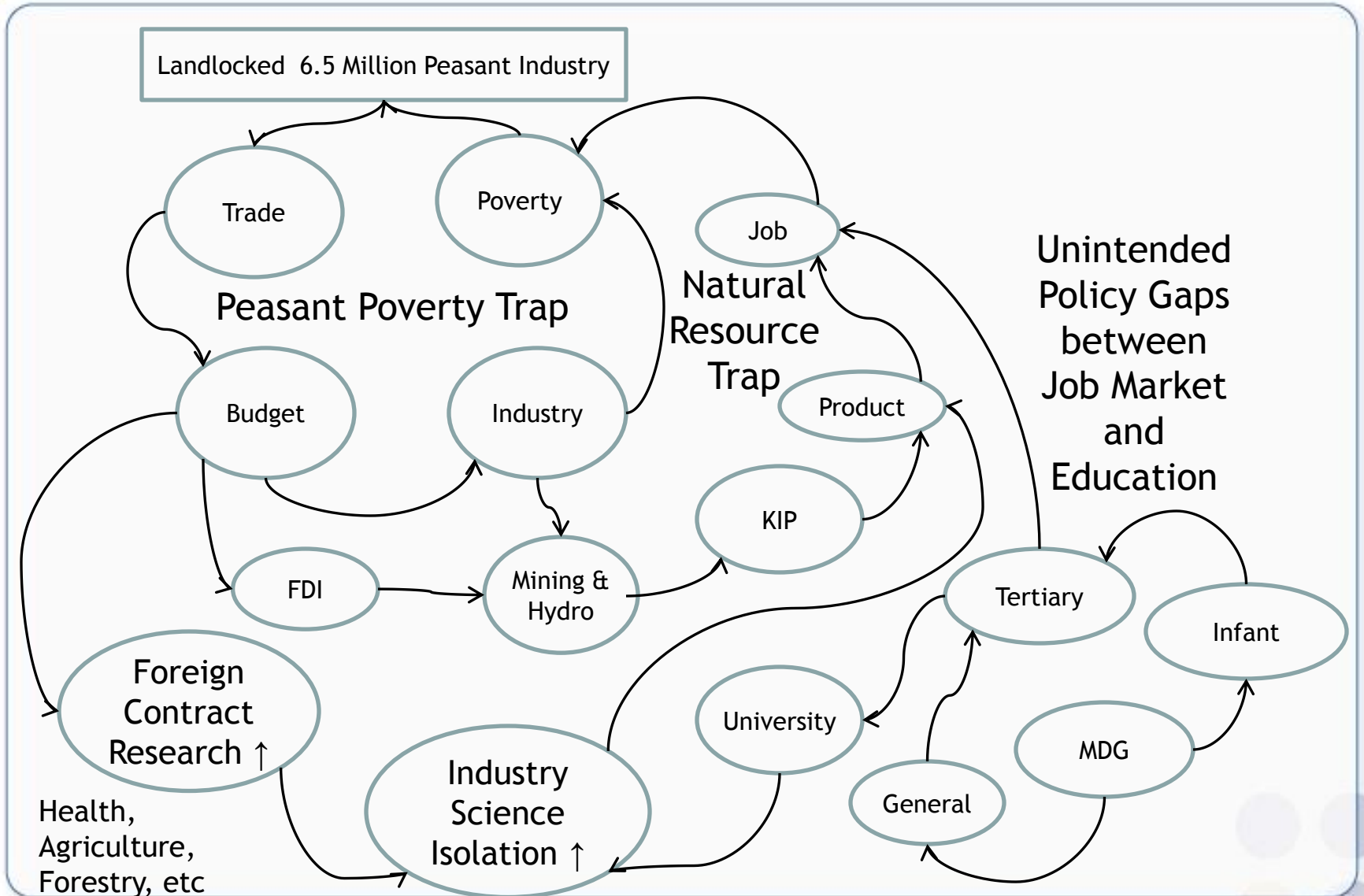


3. Poverty Traps: Least Developed Countries



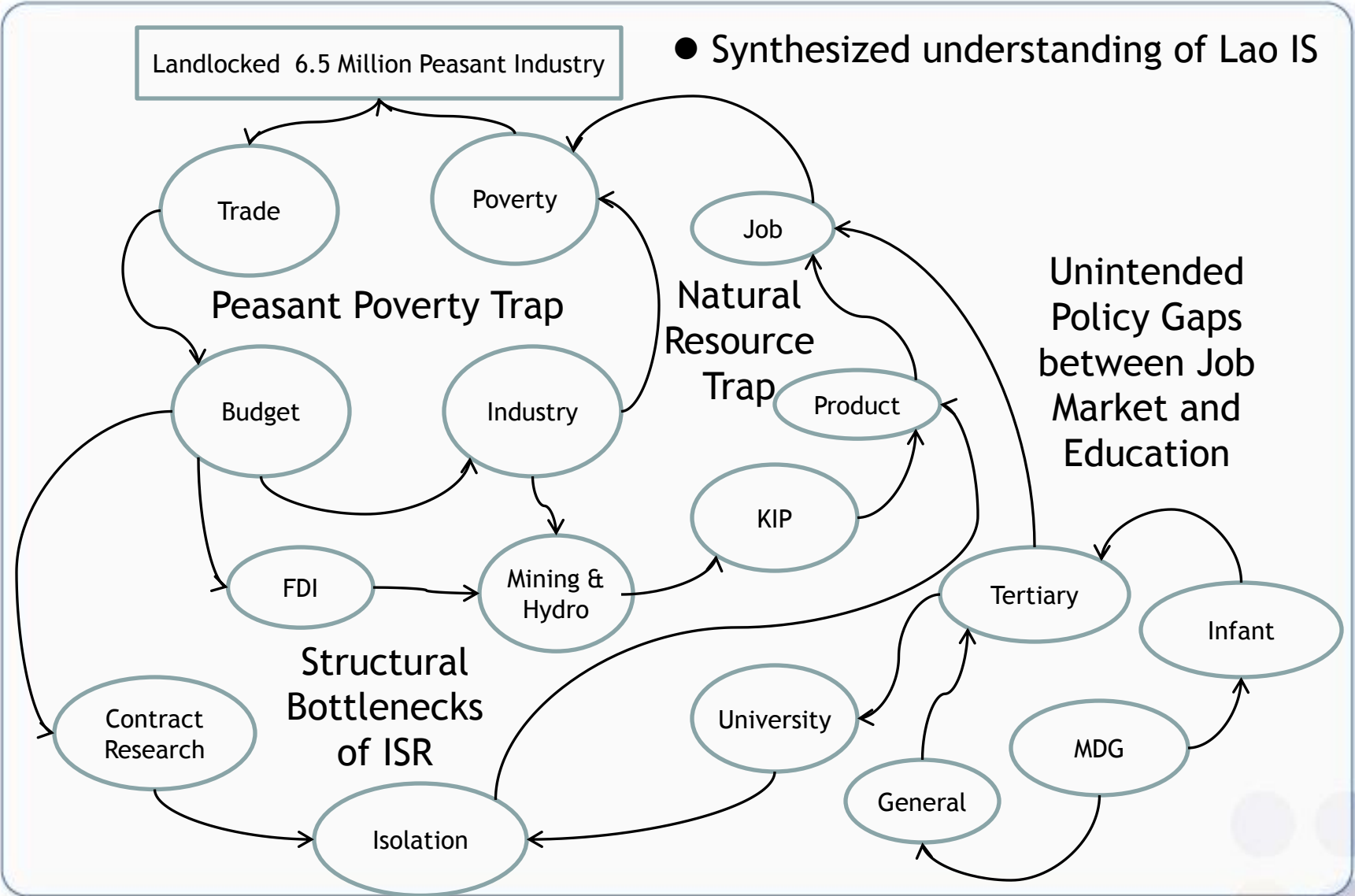






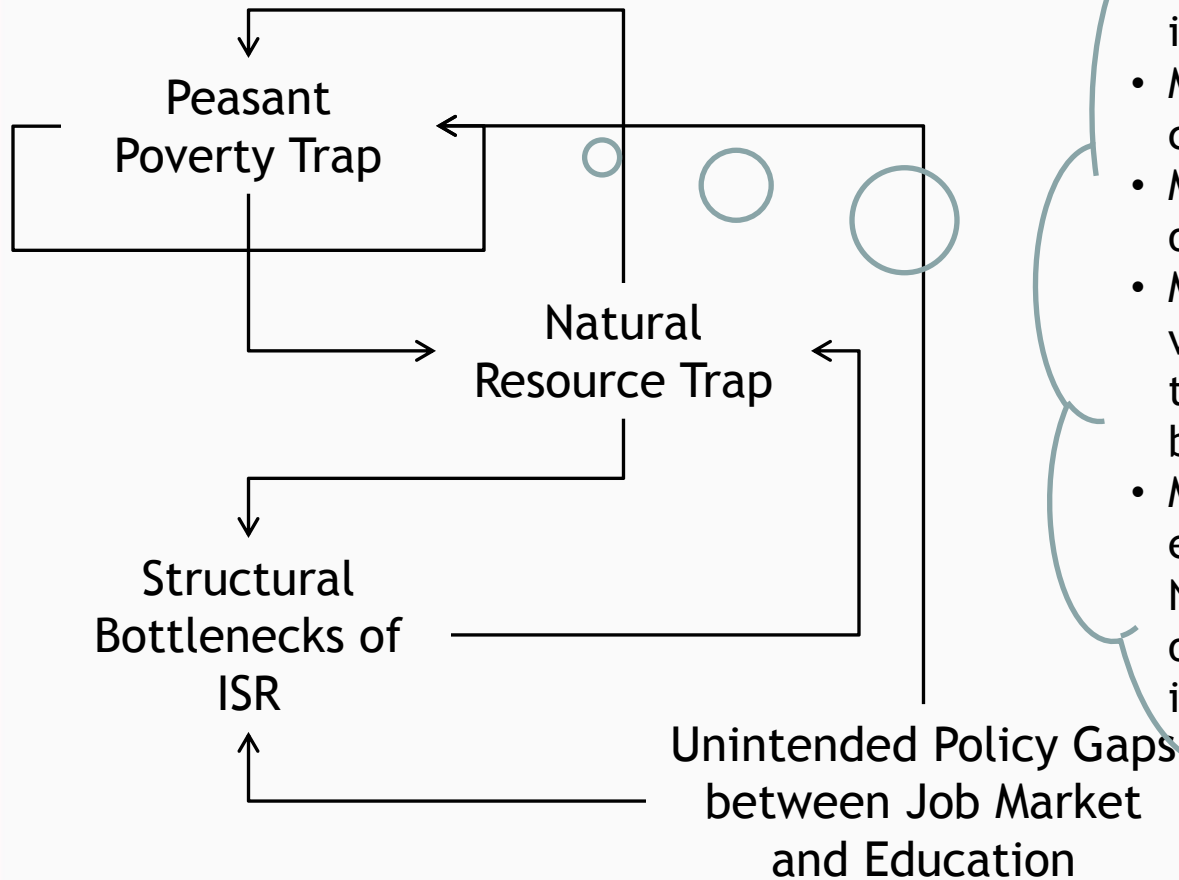


● Synthesized understanding of Lao IS





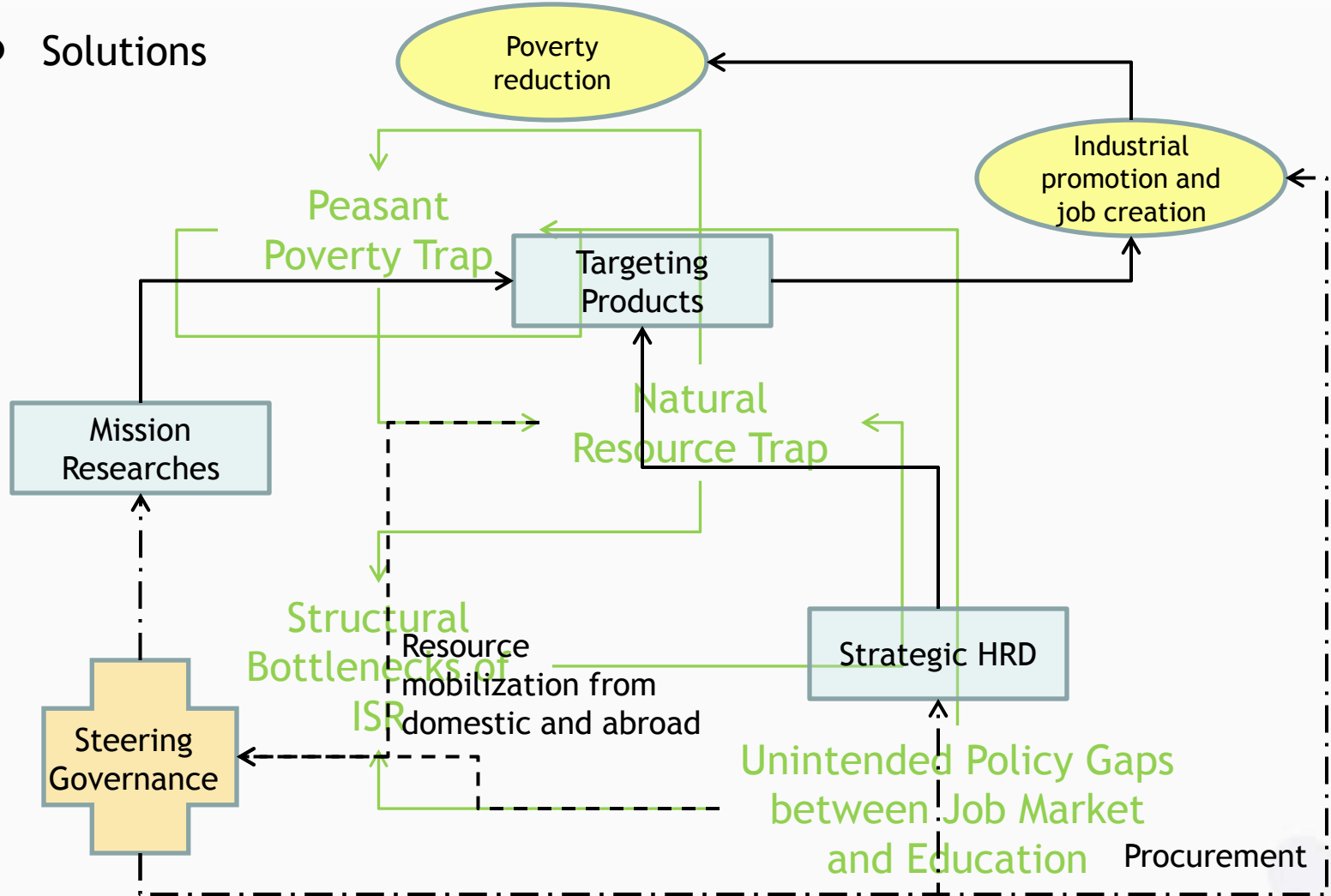
● Critical Review of Lao Initiatives



- MME wants to use its money to promote industry.
- MPI is trying to build core capacity of HRD.
- MOE's HRD plan focuses on tertiary education.
- MOI's industrial plan is vague and not related to the core capacity building.
- MOST was just established and previous NAST's plan was not oriented for industrialization.

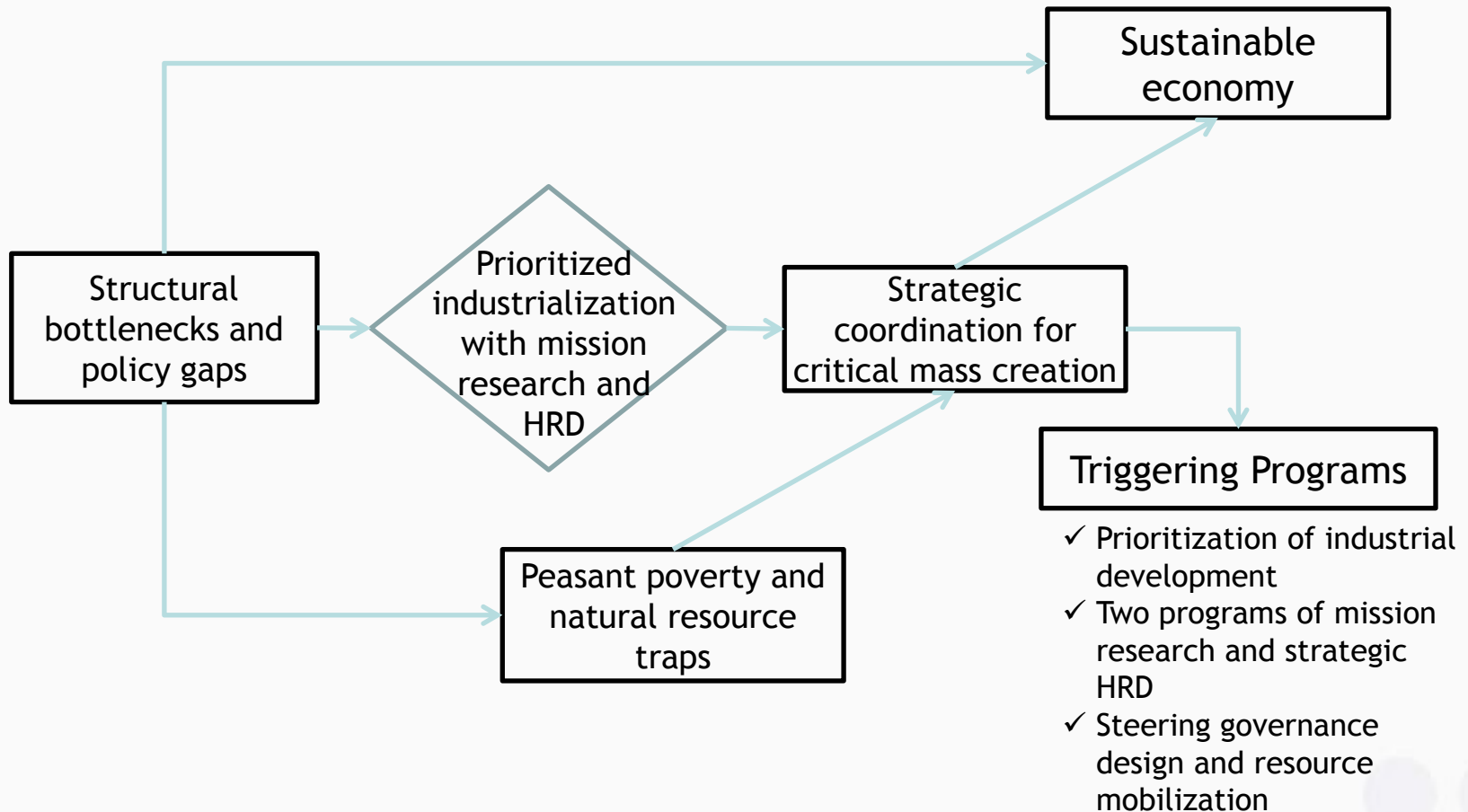


● Solutions



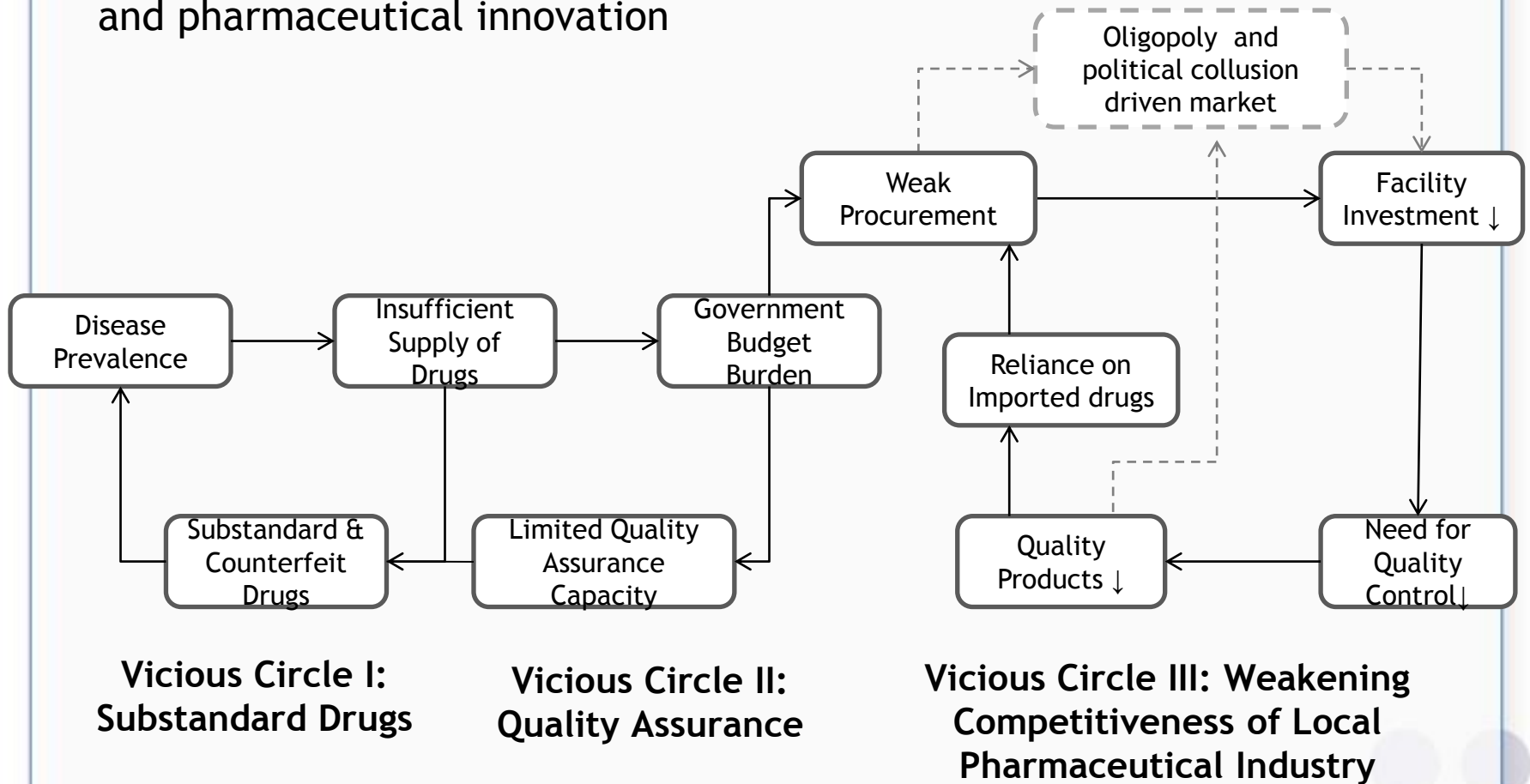


● Innovation Direction



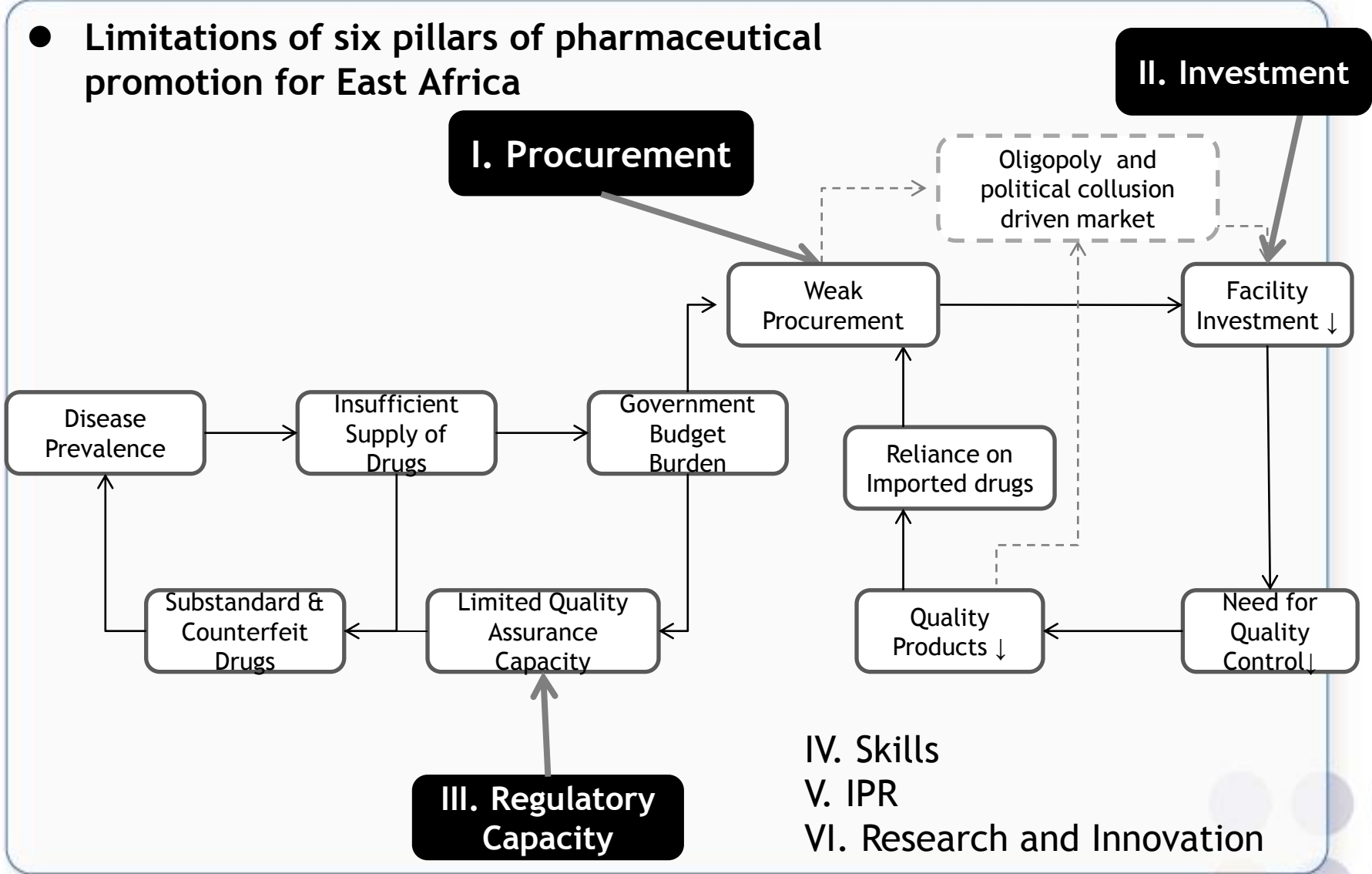
4. Health Challenges: Africa

- Synthesized understanding of Tanzanian health and pharmaceutical innovation





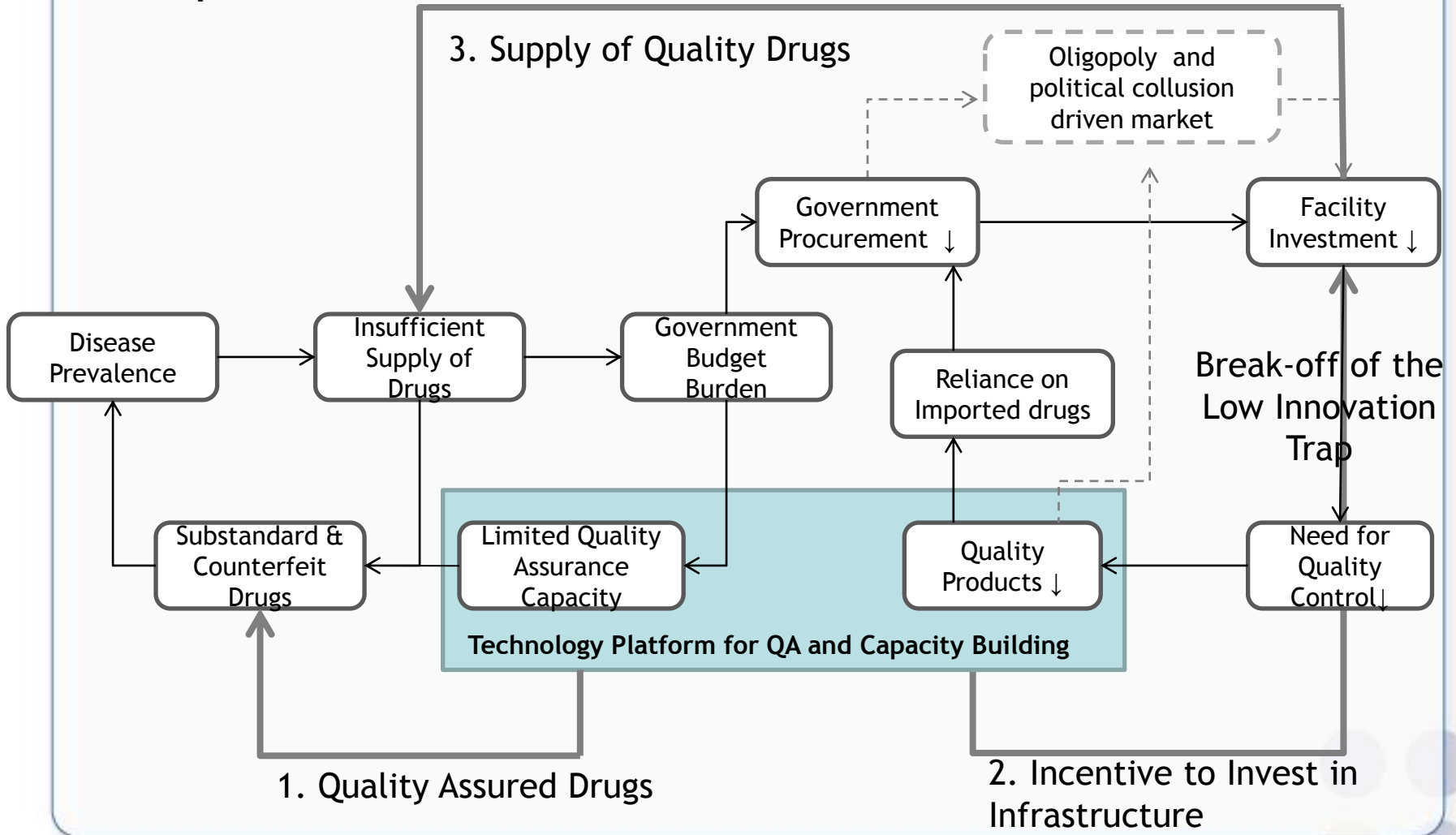
● Limitations of six pillars of pharmaceutical promotion for East Africa





Deter the continuity of Political Collusion Driven Market

● Proposed Solutions



5. Water, Food and Green Energy: ASEAN

	Framework Conditions	Diagnosis	Solutions	Innovation Directions
Indonesia (Water)	<ul style="list-style-type: none"> Decreasing quality & quantity of water in rural and urban areas Limitations of financial assistance and tax income 	<ul style="list-style-type: none"> Ecological degradation Fragmented governance Decreased pipe services 	<ul style="list-style-type: none"> Strengthening coordination and capacity through tech localization Promotion of water-related industries to reduce financial burden 	<ul style="list-style-type: none"> Pathway: Domestic capacity building through implicit coordination Goal: ASEAN Water Innovation Hub
Philippines (Food)	<ul style="list-style-type: none"> Food price surges and endangered food security Weakening agricultural productivity and agricultural technology leading to low rural income 	<ul style="list-style-type: none"> Low productivity and low rural income Industry and research isolation Laissez-faire policy and lack of strategic intervention 	<ul style="list-style-type: none"> Export promotion of agricultural products and processed food driven by global challenges Inclusive development and mission-oriented R&D 	<ul style="list-style-type: none"> Pathway: Competitiveness building through pooling and sourcing of international technologies Goal: Strategic positioning of Filipino agricultural and food industry in global value chain
Vietnam (Green Energy)	<ul style="list-style-type: none"> Premature green energy market and limited capacity Climate change adaptation 	<ul style="list-style-type: none"> Weak producers/providers Poor market Incompetent governance 	<ul style="list-style-type: none"> Promotion of new energy service and production industry Provision of affordable products/services 	<ul style="list-style-type: none"> Pathway: Sustainable production mechanism ASEAN Green Energy Innovation Hub

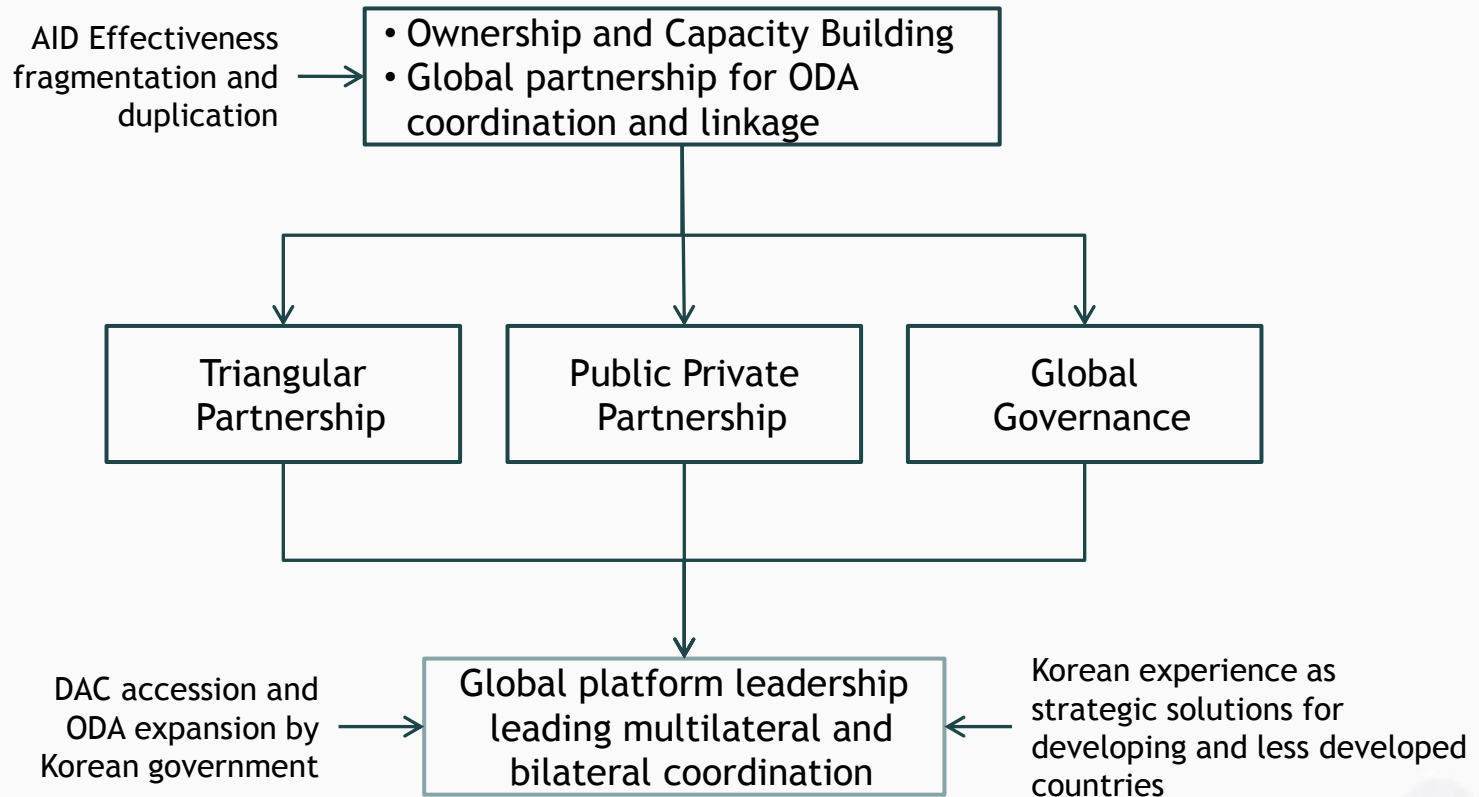
- Action planning of priority setting, program design and roadmapping will follow.
- Theoretical extension of the Korean STI experience and verification with several cases from LDCs, Africa and ASEAN, which complements the humble address of Dr. Choi describing what Korea has achieved

I have not attempted to present a theoretical or systematic exposition of a science and technology development strategy for developing countries. Rather, I have tried to describe the approach we took in Korea in the background of conditions we confronted in the late 1950s and early 1960s with the emphasis on how we actually went about implementing the project planned (Choi, 1988, v).

Choi, Hyung Sup, 1988, *Springboard Measures for Becoming Highly Industrialized Society*, APCTT/UN ESCAP

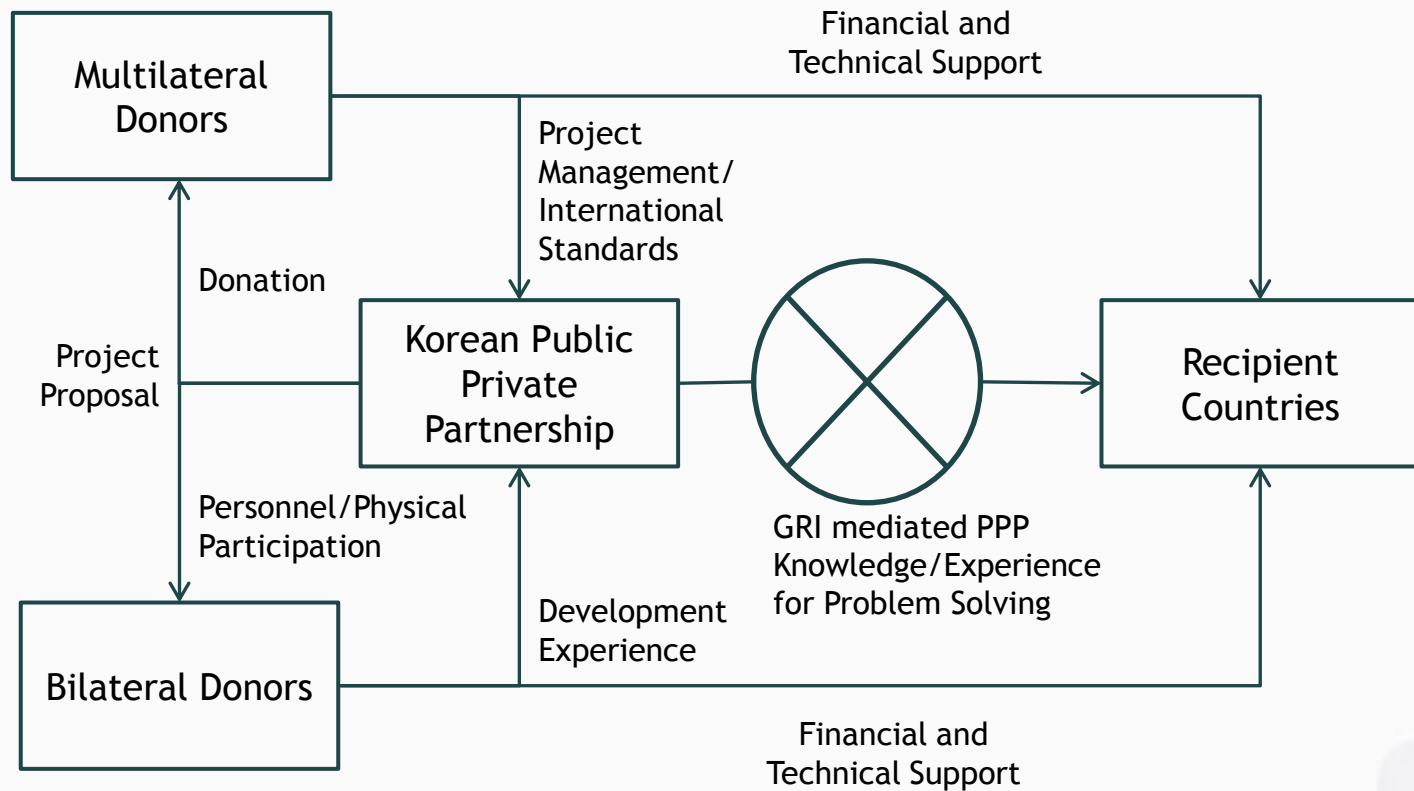


● Position of Korean STI ODA





- Scale-up for global governance





**Thank you for your
attention!**