

Smart Village: New Agro-Biz Valley Model for Rural Value Chain

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KAIST GCC

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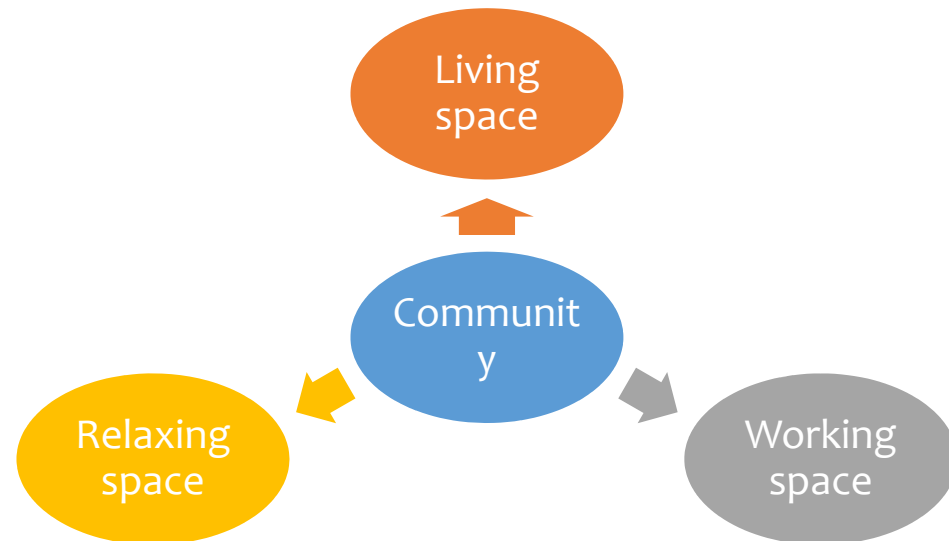
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1. Introduction

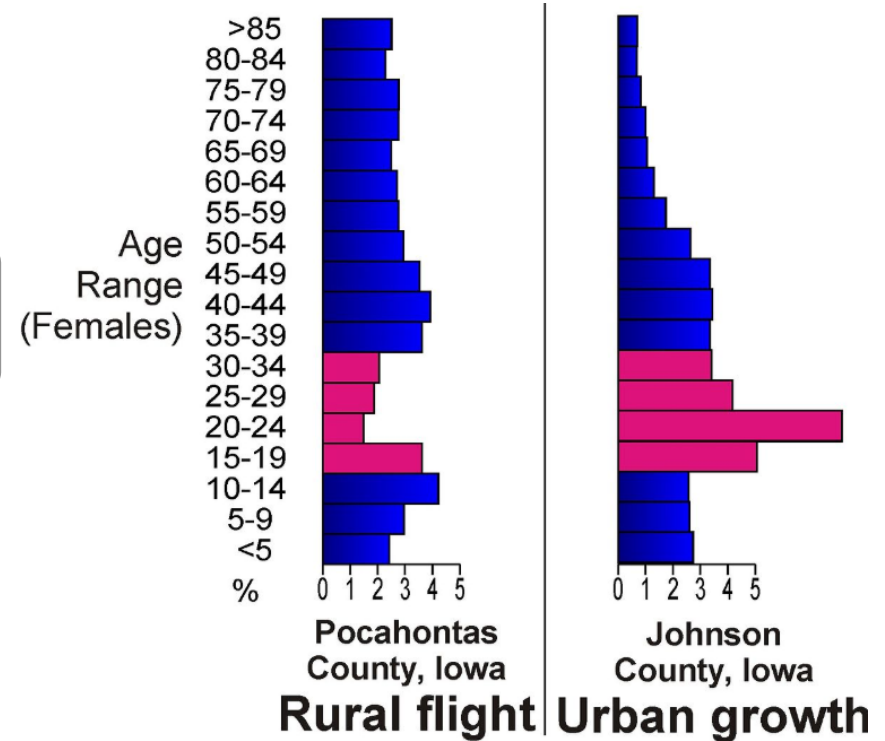
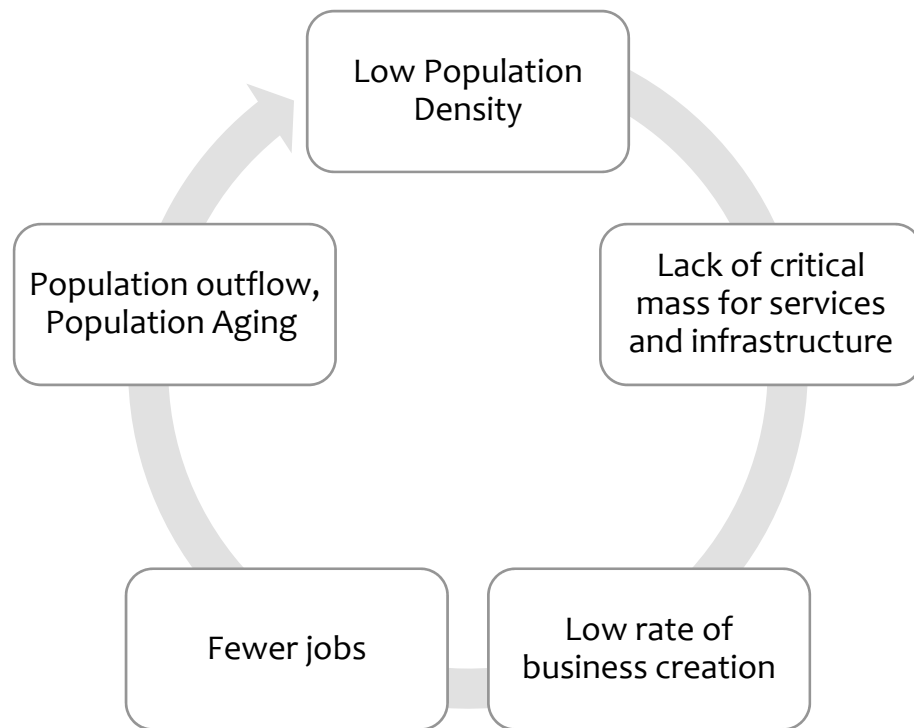
The Importance of Rural Areas

- For 47% of world's population, rural areas are simply home - a place to live, work and raise families (EU).
 - Villages are the heart of the nation (India Government).



- But, 70% of the world's poor live in rural areas.

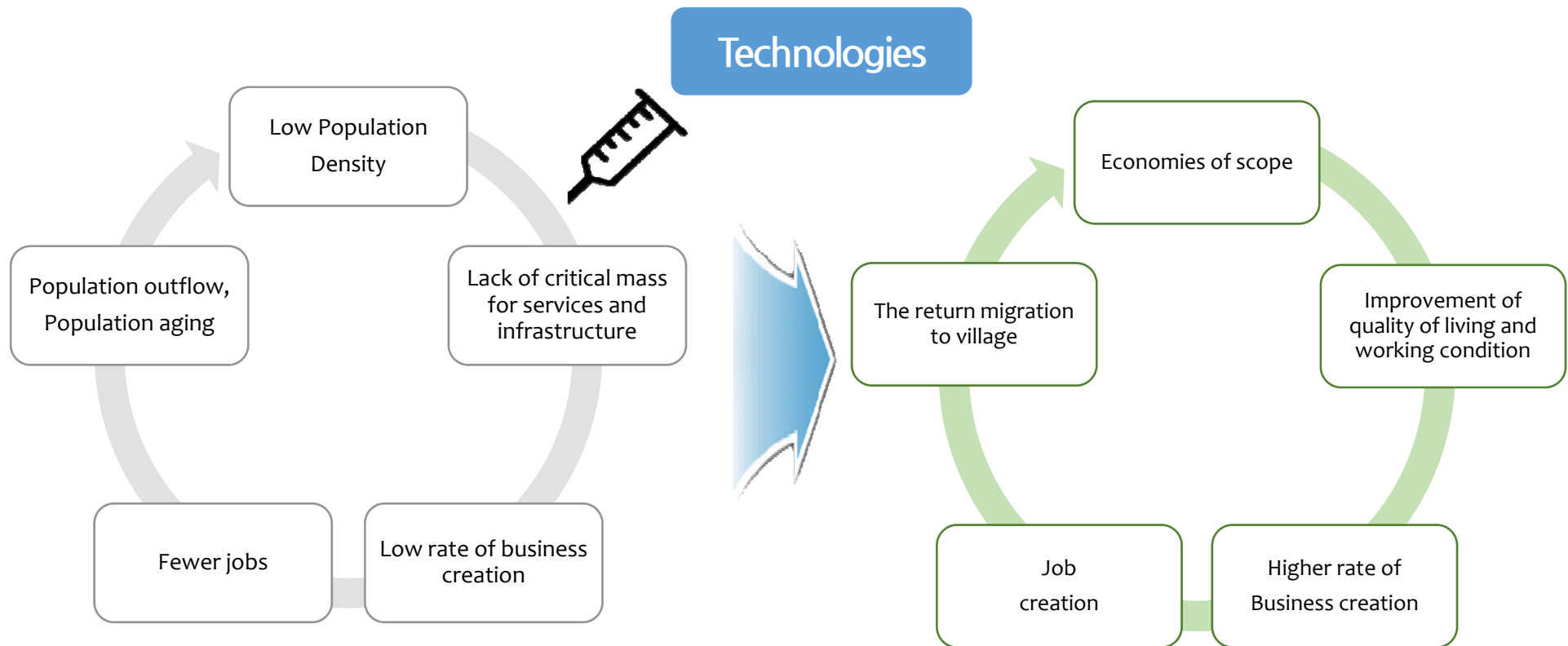
The Status of Rural Areas



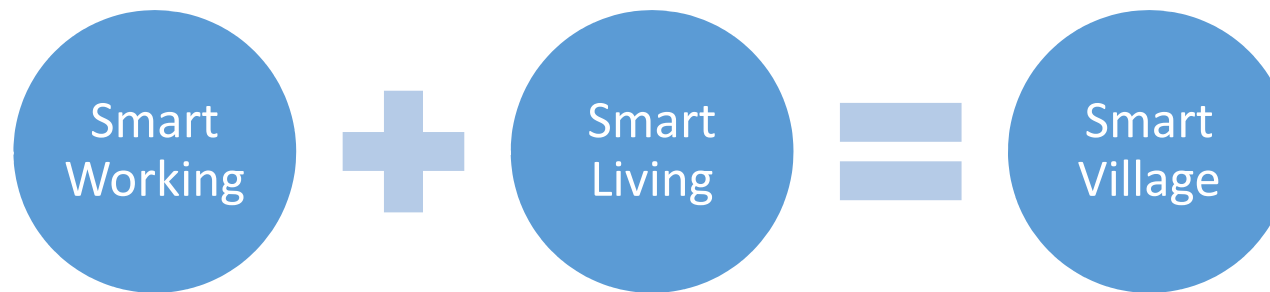
2000 U.S. Census Data

How to Break the Vicious Cycle of Rural Areas

Technologies enable small-scale production of multiple types of products and can support a small-scale infrastructure suitable for the size of the village.



Definition of Smart Village



A sustainable and attractive future community space that is economical, environmentally and socially sustainable by innovating the rural area as a settlement and working space by fully utilizing the benefits of new technology (KAIST GCC, 2018)

Smart Village Strategy in Korea

SMART: Sustainable Management and Rural settlement

Vision

Live Well Together,
Establishing the World's Leading Smart Village

Purpose

Creating SMART Village where everyone can have a
better Work-Life balance by using converged
technologies efficiently/effectively

Smart Village Strategy in Korea

Keywords

Inclusivity

Sustainability

Innovativeness

New Industry
Creation

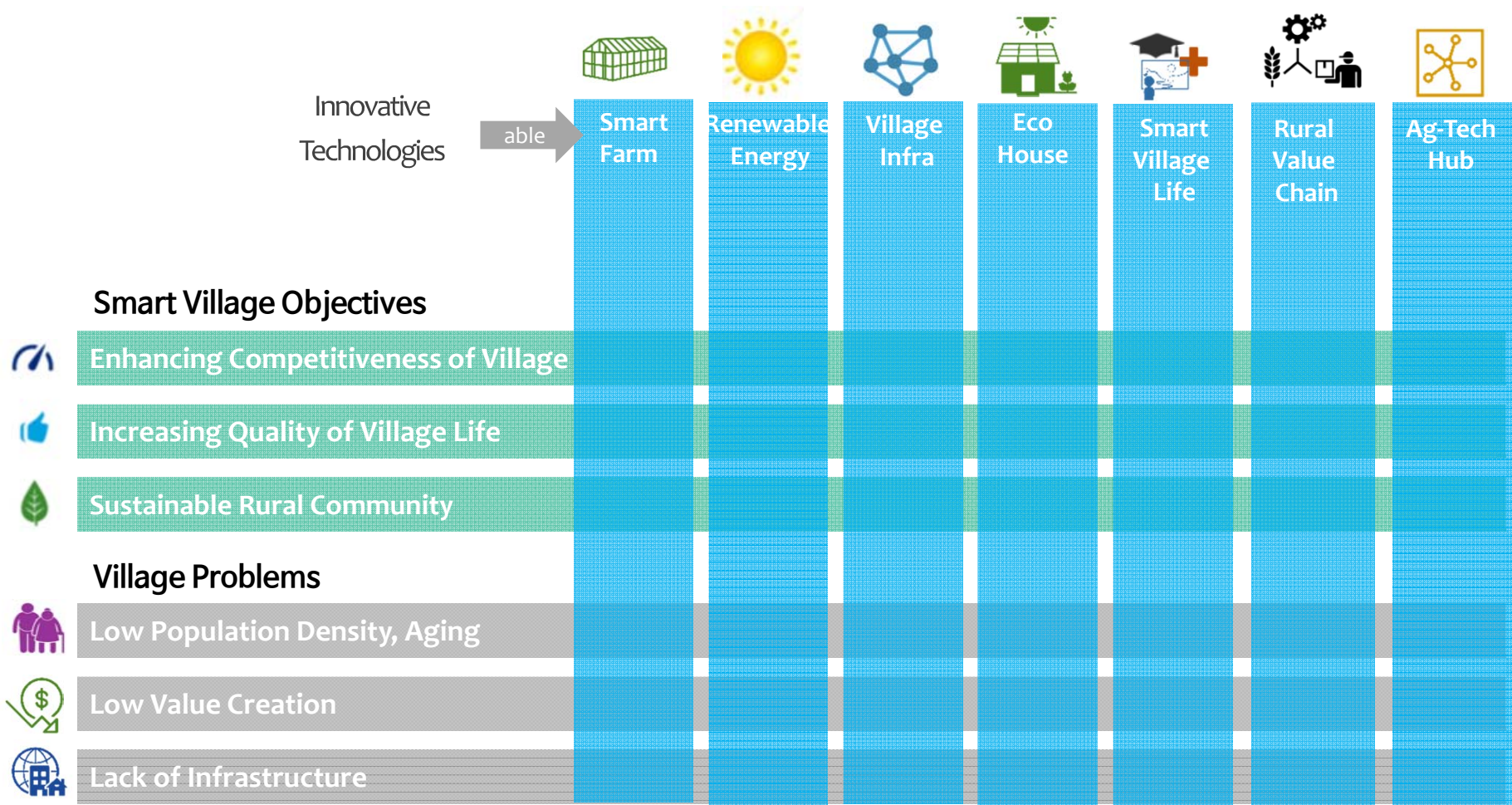
Strategies

- Approaching a bottom-up strategies based on advantages of resources in rural areas
- Solving local problems in rural areas and finding new industries
- Providing a comprehensive problem-based solution
- Applying a suitable converged technologies for a rural environment
- Targeting for an open platform through consumers and private participants

Conceptual Diagram of Smart Village



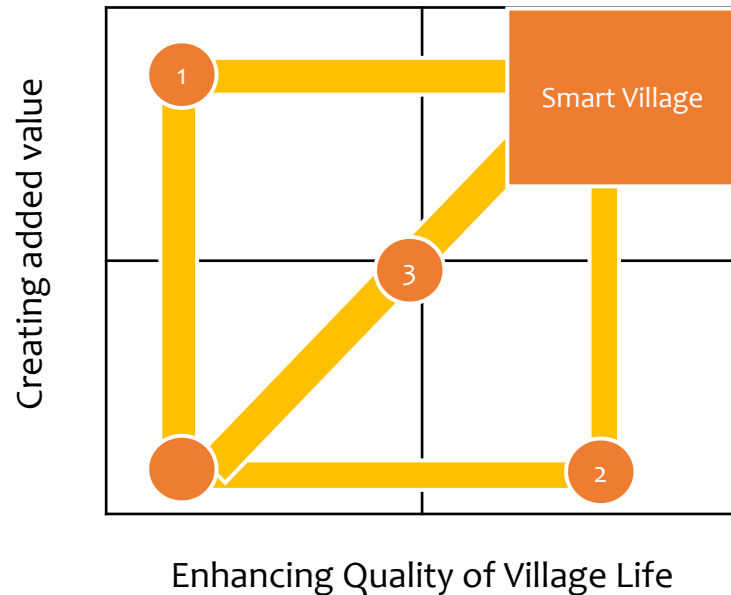
Smart Village Concept Model



By KAIST GCC

2. Agro-Biz Valley Model

Smart Village Development Path



1 Path 1 (Agro-biz Valley Model)
 Creating added value
 → Enhancing quality of village life

2 Path 2 (Smart Rurban Model)
 Enhancing quality of village life
 → Creating added value

3 Path 3 (Future Village Model)
 New set of capabilities for
 Both Creating added value and
 Enhancing quality of village life

Concept & Purpose

To create high value-added such as the improvement of productivity, efficiency and quality throughout the entire production, distribution and consumption process by integrating IT technologies into agriculture

Vision

Securing sustainable competitiveness of rural villages by increasing income and creating jobs through “Rural Value Chain”

Purpose

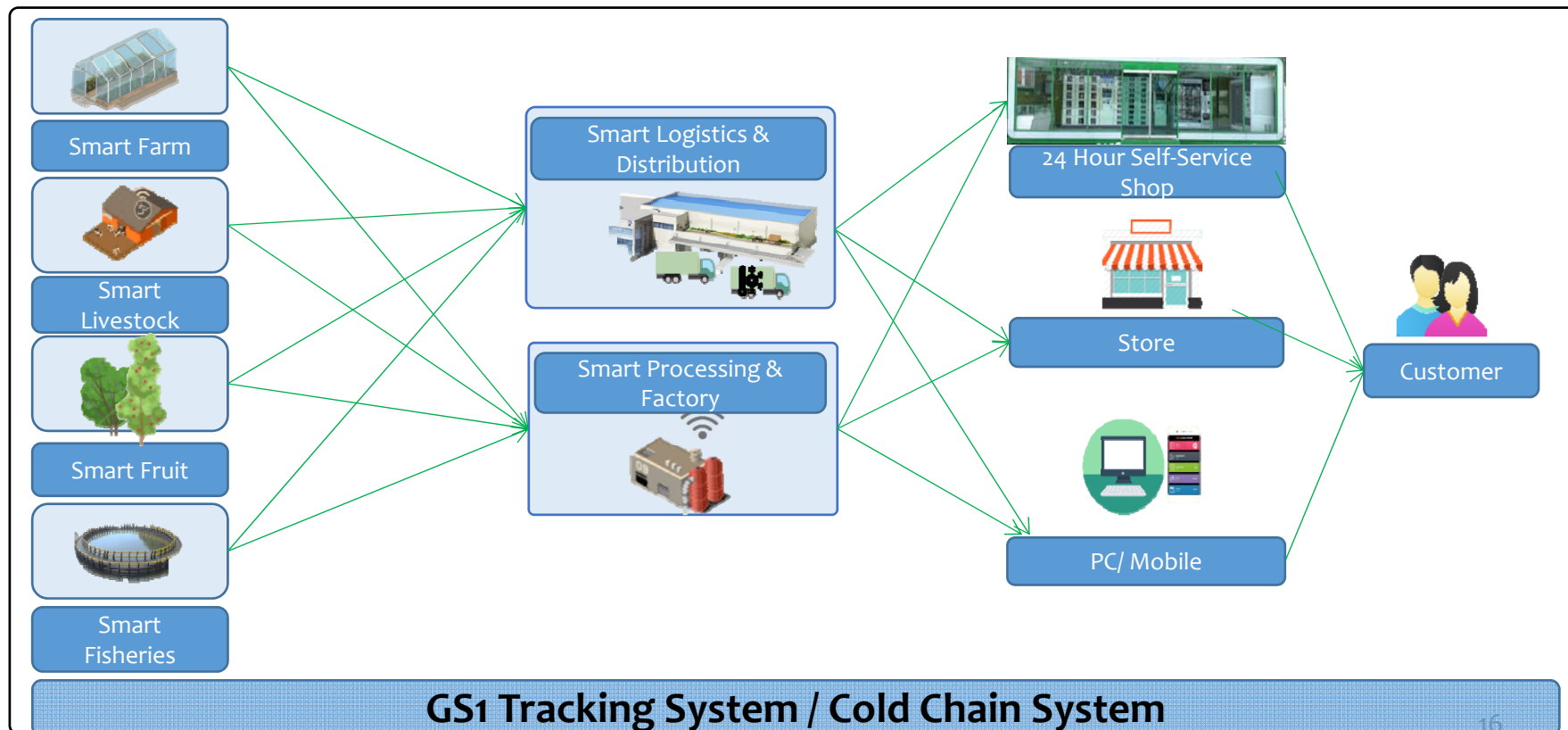
- Innovative connection and improvement of end-to-end value chain through convergence technology application
- Creating demand based regional converged industries and jobs

Direction

Direction	Main contents
<p>Revitalizing the rural economy and strengthen the competitiveness of the farming villages by regional-specific convergence industries</p>	<ul style="list-style-type: none"> • Expanded to the 1st (production) and 2nd (processing and distribution) and 3rd (cultural experience program and tourism) of Local products in rural areas • Value Added to Local Products • Planning, Production and Distribution of Products Based on Customer Demand through Regional Cooperative Smart Factory • Securing safety and quality of local products through a history tracking system from production to processing, distribution, sales • Diversifying rural household incomes through cultural experience program and tourism
<p>Creating New Industries and Jobs through Agro-tech Startup Hub</p>	<ul style="list-style-type: none"> • Promoting and educating youth startup farmers • Supporting for creating with locally specified industries and ICT convergence industries and jobs • Establishment of R&D support system for related fields

Smart Rural Value Chain

- **Smart Rural Value Chain** : Digital solutions are applied to the entire value chain of production, processing, and distribution to provide safe foods for consumers and to create added value for farmers.



Conceptual Diagram of Agro-Biz Valley Model



3. Successful Business Case #1

Wanju Local Food Case

Definition of Local Food

Local food means that the food is sold and consumed in or near the area where the food was grown.

By reducing the travel distance of food, fresh food can be provided cheaply. It can also contribute to reducing fossil fuel use.

Customers can identify production areas and producers, which leads safe and reliable food.

Local food is a sustainable win-win model that both producers and consumers can satisfy.

“Local Food” means **seasonal, fresh, tasty, healthy, and sustainable food** and **sustainable win-win model**.

Wanju Local Foods



- Area : 820.98 km²
- Population : 90,153(2014)
- # of farms : 9,700 farms
- Less than 1ha :
6,200 farms(72.8%)
- Over 65 years : 36.5%

Challenge: 68% farms consumed their products by self-consumption, which made it difficult to create a sustainable production structure in Wanju country.

Wanju Local Food Cooperative

- To promote regional agriculture by providing small family farms the opportunity to sell their locally grown products directly to consumers
- To ensure that all the consumers have access to **the freshest, most nutritious locally grown food** the region has to offer.



완주로컬푸드

WanJu Local Foods
농업회사법인 (주)완주로컬푸드

2,500 farmers at Wanju Local Food Co-op



Main Directions

1. **Market Creation**(School cafeteria, Direct mall)
2. **Stability of Supply**→ Product planning,
Standardization & Grading, Logistics(Cold chain)
3. **Product Diversity**→ Development of New
Processed products
4. **Value-added Service** → Farm Restaurant,
Experience Tourism
5. **Market expansion across Korea** → Online mall

1. Market Creation (Direct Mall)



Wanju Local Foods Direct Market



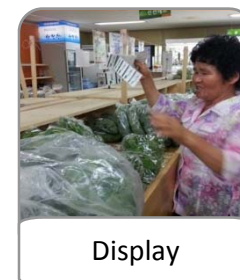
Harvesting



Packaging



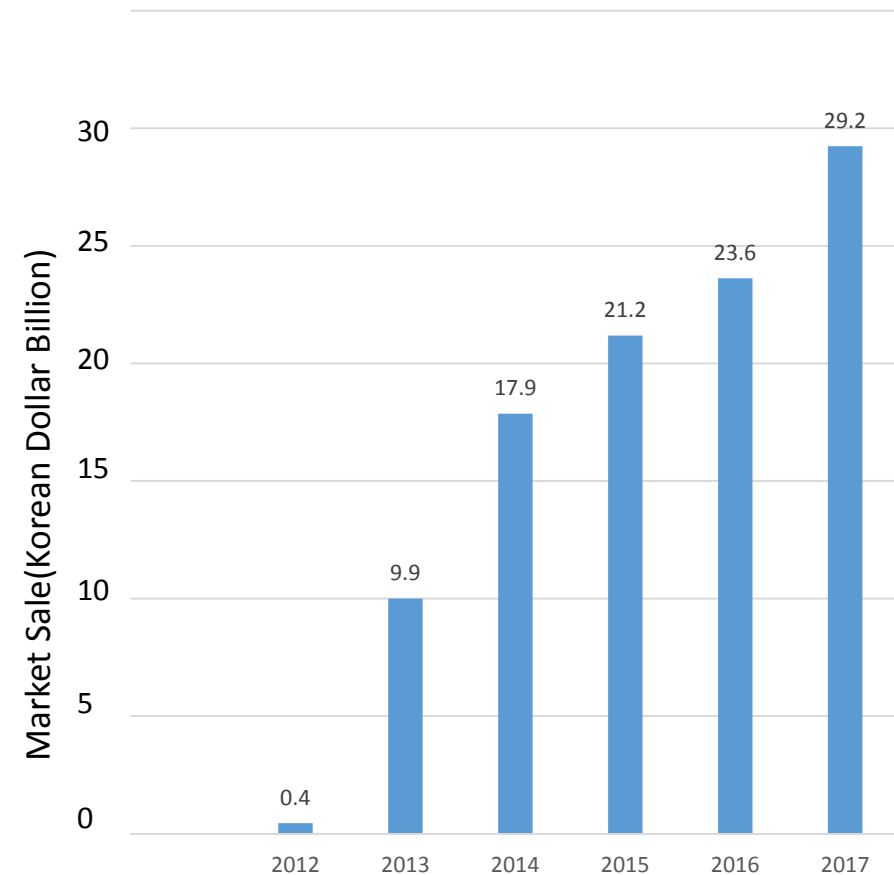
Labeling



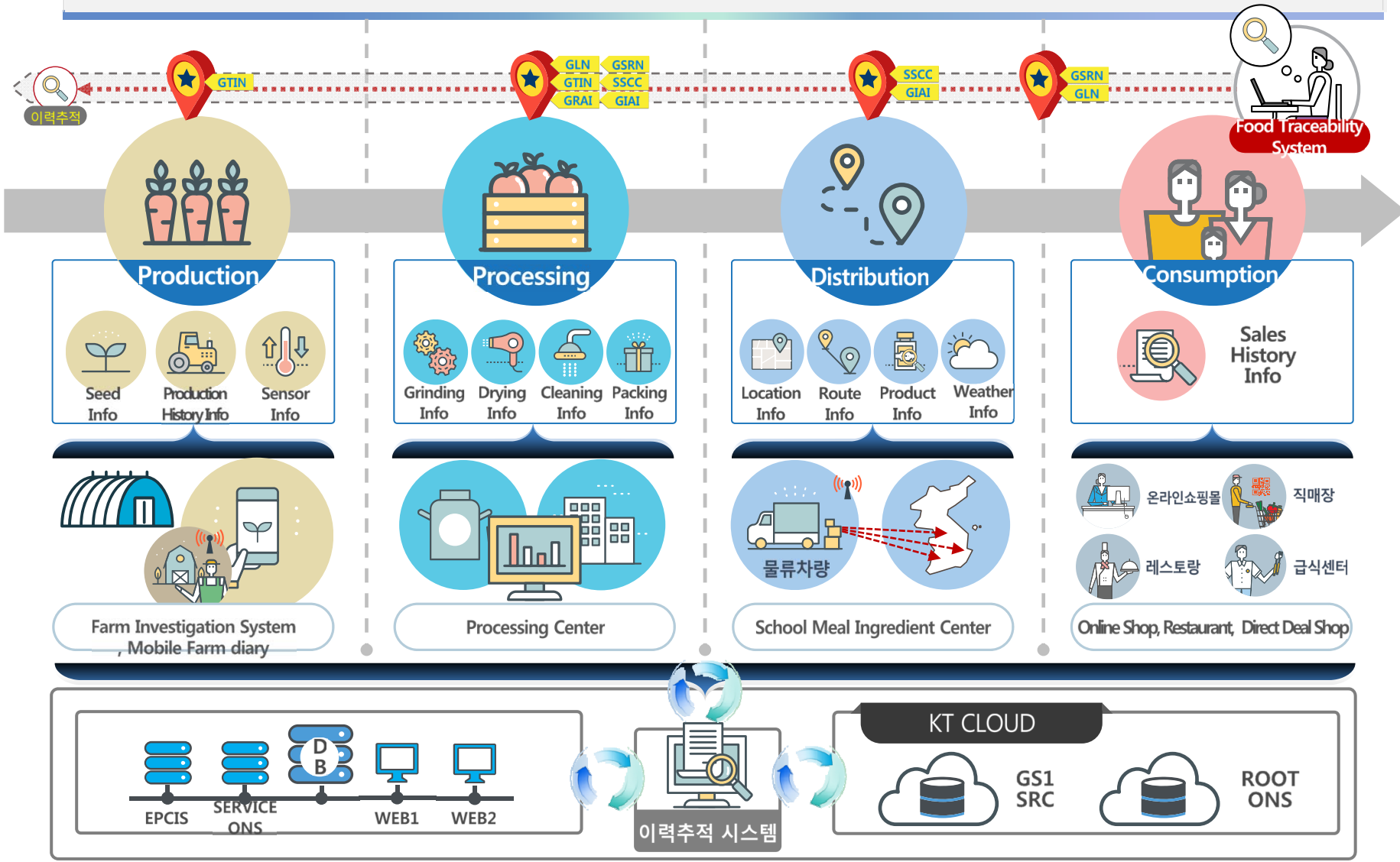
Display

Outcome

- **Total revenue of 12 local food direct sales sites** (April 2012 ~ February 2017) : 102,356 million won (about 92 million dollars)
- **Securing stable income of 2,500 small farmers** in Wanju County : 11.93 million won (about 11 thousand dollars) in annual sales



2. Stability of Supply (GS1 Based Product Planning)



참조 EPCIS EVENT CAPTURING POINT XXXX : GS1 ID MAPPING POINT

3. Product Diversity (Processing Factories)



Base Farming Processing Center



Soy milk Processing Factory

4. Value-added Service (Farm Restaurant)



5. Market expansion across Korea(Online mall)



이용기간
 1개월, 3개월, 6개월, 12개월 단위로 신청받습니다.
 * 완주 로컬푸드 영농조합법인 건강밥상 꾸러미사업단에서 직접배송.



기본1회 배송품목
 유정만, 두부, 제철채소, 과일, 육류, 기능성건강식품,간식류 등 12가지 내외
 * 배송품목은 신지 사정에 따라 변경될 수 있습니다.



식사를 주로 집에서 해 드시는 일반 가정

Standard package
 Twice a month \$60
 4 times a month \$120



독신자, 자취생, 외식이 잦은 맞벌이 부부

Economical Package
 Twice a month \$50
 4 times a month \$100



기능성 건강식품이나 간식류를 선호하시는 분이나 어르신

Filial piety Package
 Twice a month \$70

3. Successful Business Case #2

Dalraechon

Overview

- To promote **regional Tourism & Service** by building Healing theme park to attract consumers to stay longer and spend more money in Dalraechon



1. Trekking course

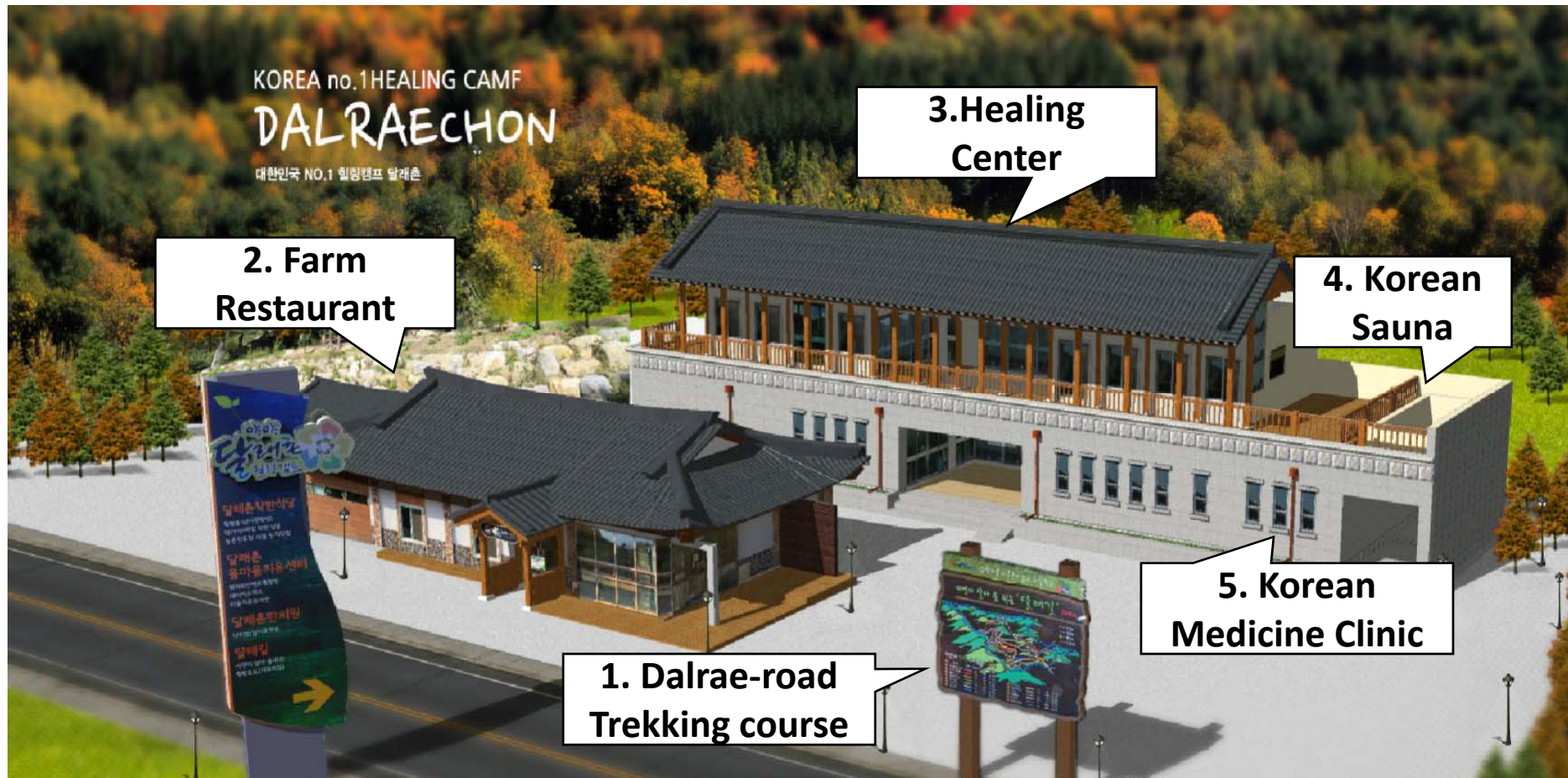


2. Farm Restaurant



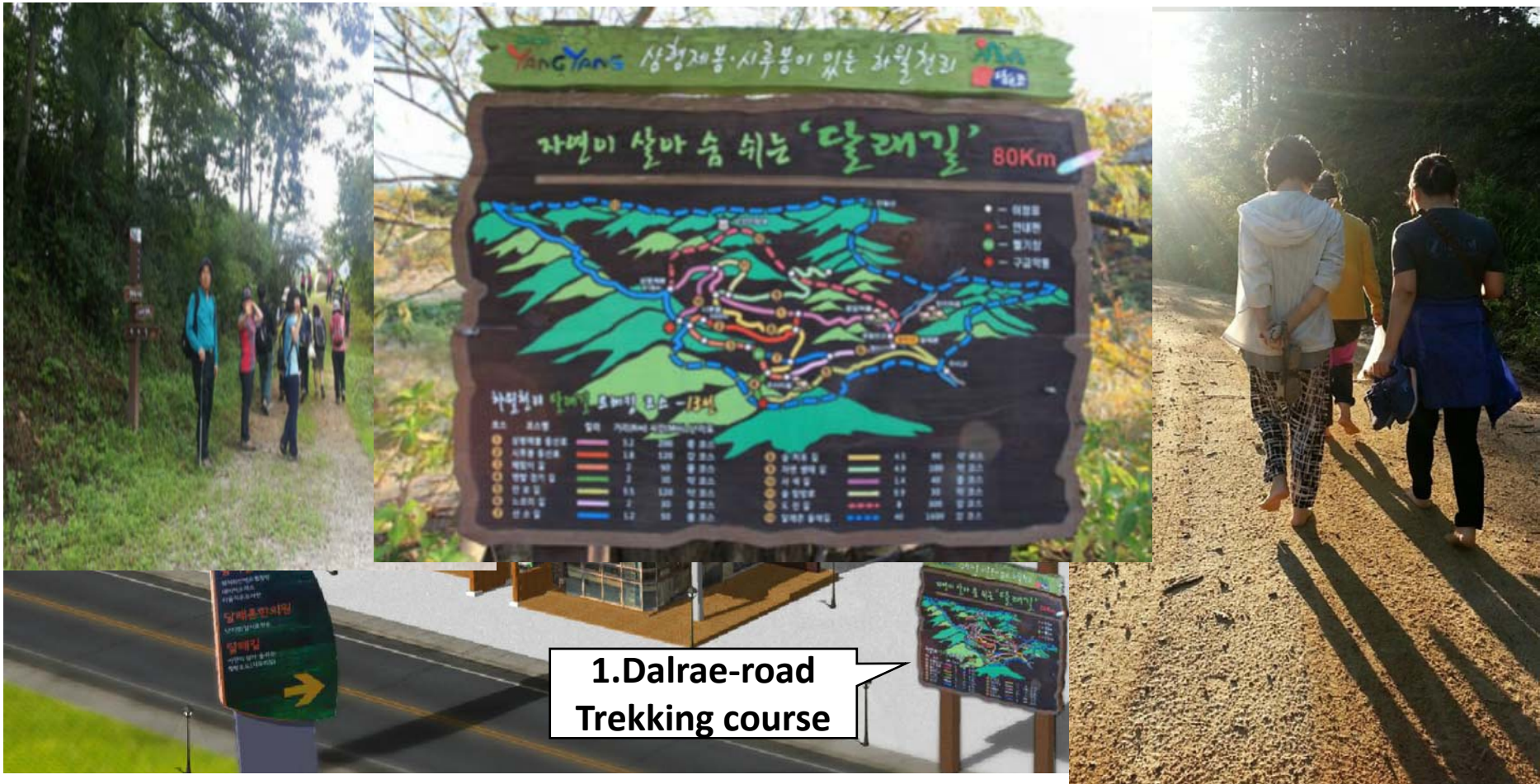
3. Healing Center

(2) Dalraechon



(2) Dalraechon

Experience Tourism



(2) Dalraechon



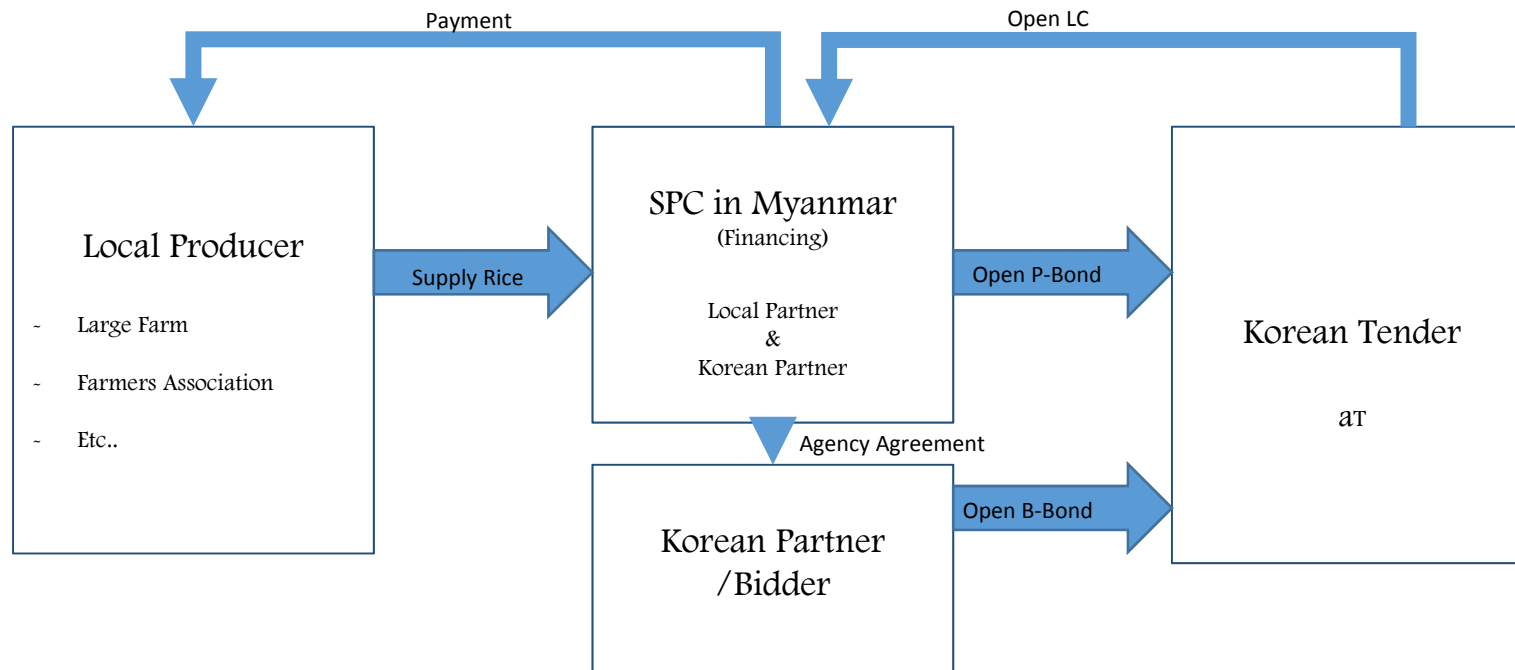
Korean Traditional set menu
 Consisting of **local special agricultural product**(Song-yi mushroom), rice, soup, And eco-friendly vegetable side dishes
 \$15

(2) Dalraechon

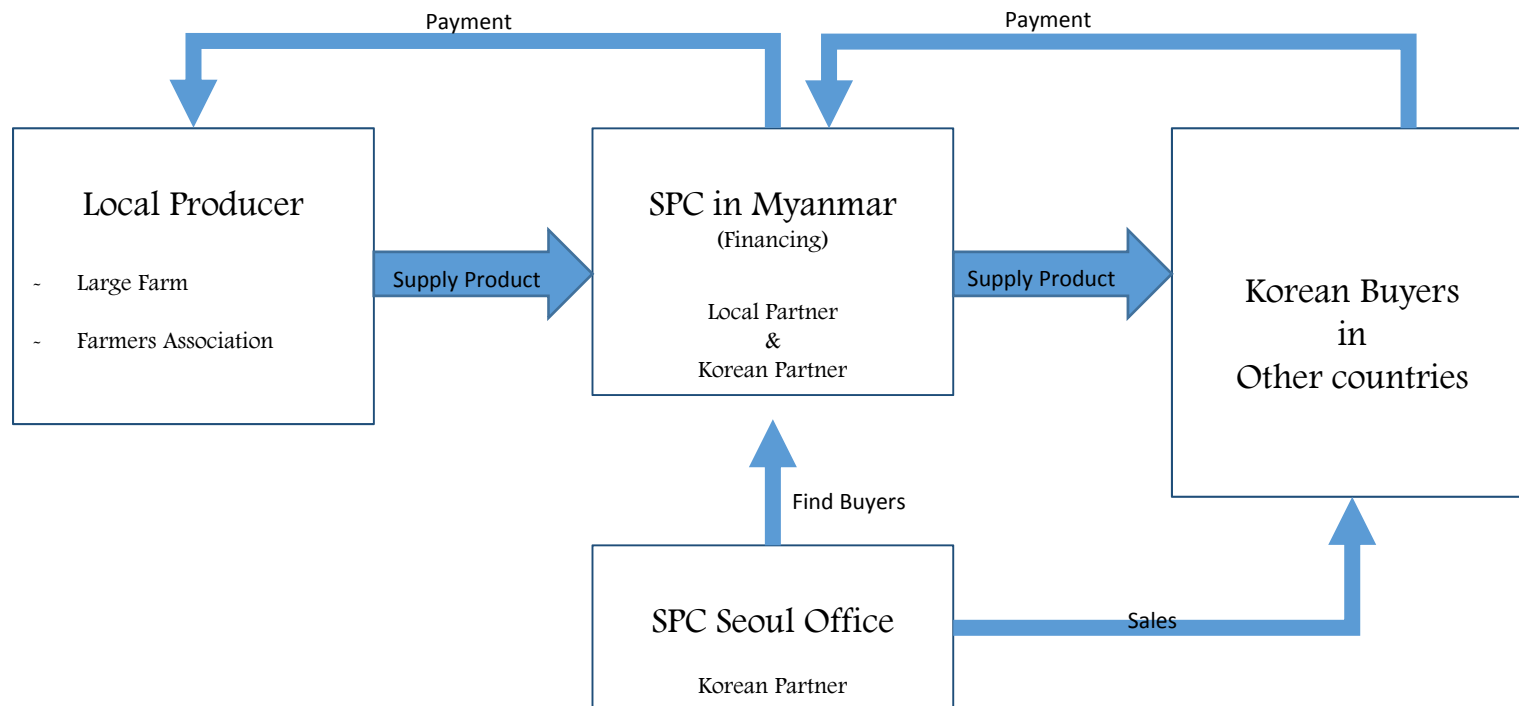


4. Suggestion of Business Model

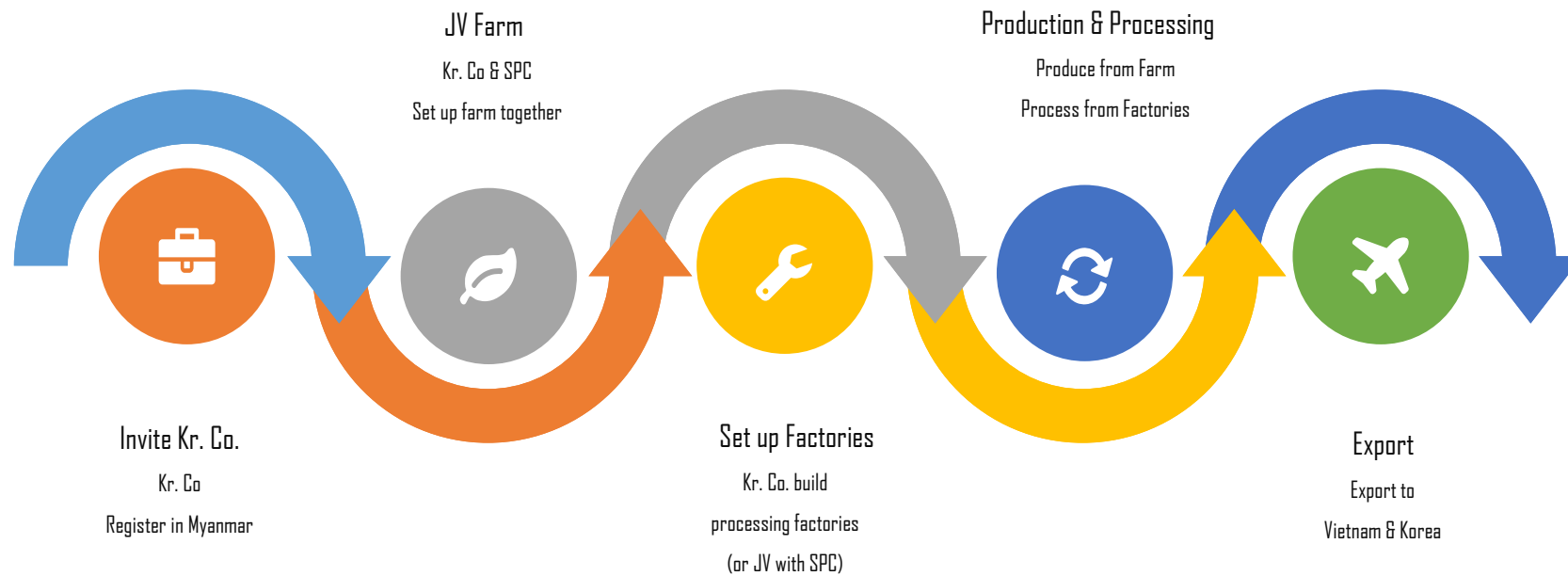
B2G Business (Korean Tender)



B2B Business (Export to other countries)



Local Smart Farming



Thank You
