

# Introduction of Rural Research Institute of KRC



**KRC-RRI**  
**Dr. Younghwa Kim**  
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# 1. Who we are – organization

- People : 133 Researchers & Assistances

Researchers' major are

(Engineering) civil eng., agricultural eng., environmental eng.,  
marine tech., mineral & energy resource eng., electronical eng.

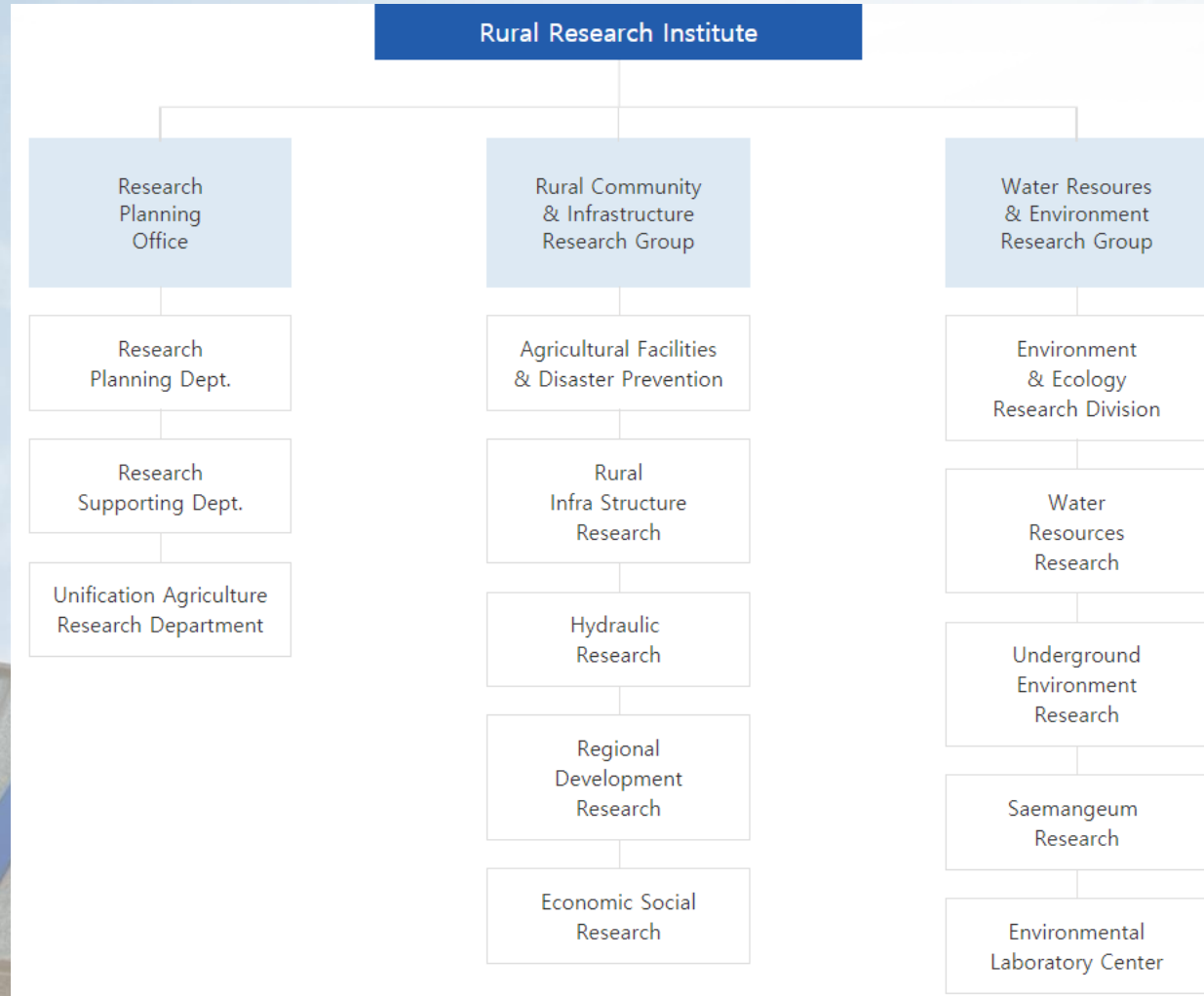
(Natural Science) agriculture, chemistry, agrichemistry, biology,  
fishery science, geology

(Socio-economy) : agricultural economy, economics, tourism, law,  
business



# 1. Who we are – organization

- Organization : 3 offices, 3 departmentants, 10 research areas





## 2. Research Budgets & Projects

Investing KRW 14 Bil (2017)

Category	Basic Research	Rural Development Pilot Research (National R&D)	Contracted Research
Total Amount (KRW)	4.4 bil	2 bil	7.6 bil

85 On-going research projects



# 3. History

- 1962** Agricultural Engineering Research Center established in ULIA (Union of Land Improvement Associations)
- 1979** Completion of Sea-dike Construction for the Site of *Ansan* Hydraulics Laboratory
- 1990** Establishment of Rural Development Corporation (RDC) merging ADC, Rural Research Institute (RRI) consisting of Integrated Rural Development, Research Center and Agricultural Engineering Research Center established in RDC
- 1993** Completion of *Sae-man-geum* Hydraulic Model Hall (the largest in the world) construction
- 2017** Restructuring organization – 3 offices, 3 departments

# 4. Research agenda

**1960s**

Irrigation and drainage research

(Water capacity in farmland, magnificence irrigation, wetted rice paddy drainage, water management for each crop's growth and development cycle, etc.)

**1970s**

Diversified research area to production infrastructure facilities

(Ground structure, upland irrigation, agricultural land development, drainage gateway, etc.)

**1980s**

Large size reclamation research & environmental area research

(hydraulic model experiment, mechanization farming, field base alignment, water purity control on reservoir, etc.)

**1990s**

Human-social approach for Rural area

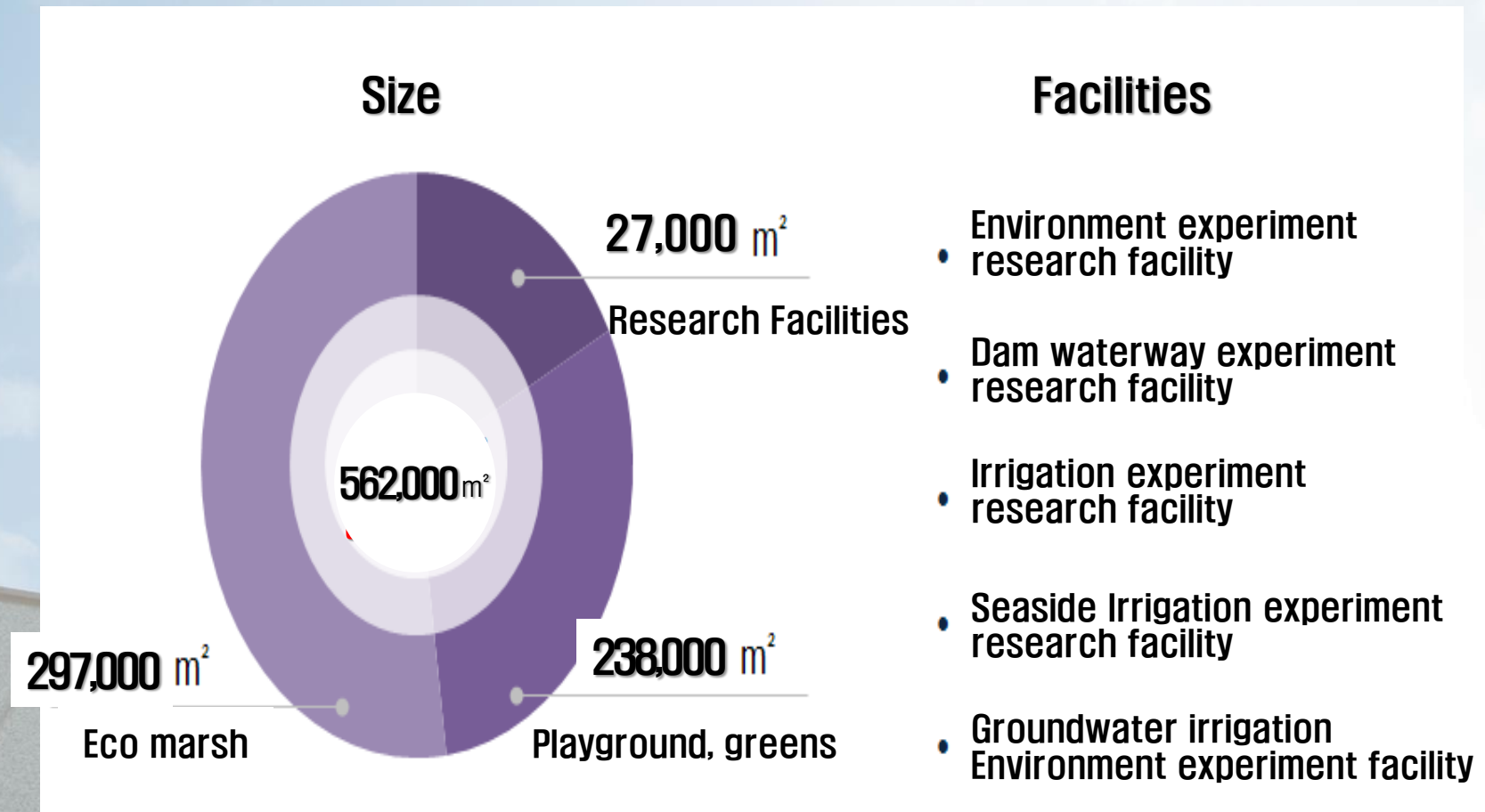
(Structure improvement, house standardization, optimal size of farming, and *Sae-man-guem*, etc.)

**2000s**

Integrated water management – water purity and water resource

(Fresh water quality mgt., concentrated water mgt. system, climate change action, rural development, etc.)

# 5. Facilities





# 6. Facility Map





# 7. International Education and Exchange Center

For 19 priority foreign countries, RRI will plan and organize education and exchange programs

[ 본관 외관 ]



[ 본관 내부 투시도 ]



로비라운지

국제회의실

# RRI' s New project

WEF integration base  
shared FDSS Smart farm platform  
chain management development  
Export Research Cluster





# Basic Concept



## Smart Farm Platform Business

**Plant/  
Construction**

**K-Plant  
(unit : 1ha)**

**Operation  
service**

**WEF-FDSS,  
HM-SaaS**

**Material,  
Device**

**Lagging, hybrid  
environmental  
control system,  
Nutrient, Irrigation**

**Franchised  
distribution**

**Purchase  
& Sales**

**Systematic connection of smart farm value chains  
To minimize variability and risk**



# Cluster map



Cooperation system within the cluster

**KRC Smart Farm Export Research Cluster**

**KRC**

Foreign division    International Cooperation

Hi-tech division    RC-IEEC

Value-chain, Biz model

**K- platform**

RRI    CESL PRIMUS

Narae Trend    KT Eco group

**Products**

Agriculture facility association

**Greenhouse model**

ISU Chemical    YOOIL ENG

**Plant**

Planning, Design, Construction, Operation

**Plant Factory Model**

MIRAEWON    MARIS Garden

**Model**

전세건설    국제산업은행    마이스빌    국제산업은행    삼성생명    마이스빌    MTP MALL

Manufacturing, Distribution, Sales

# Partner candidates



## Candidate countries

### China

- Health trend (functional vegetable, special crops)
- Infra construction boom
- Low self-sufficient in vegetable

### Russia

- Lack of skilled agri-HR
- Low production utility
- Try to increase self-production against economic sanction

### Kazakhstan

- Lack of vegetable production (rely on import)
- Pilot greenhouse project with Netherlands

### Azerbaijan

- Open to ODA projects

### Qatar

- Prefer to cooperate with quasi-government agency
- Try to make new cooperation partner against economic sanction

## Smart Farm Business Model

1

### WEF integration base FDSS Smart Farm Platform

- Design basic model
- Customized growth model
- Operation service: WEF—FDSS, HM—SaaS
- Intelligent water supply and air conditioning/heating using geothermal

Design Smart Farm Export Model



Russian



Chinese

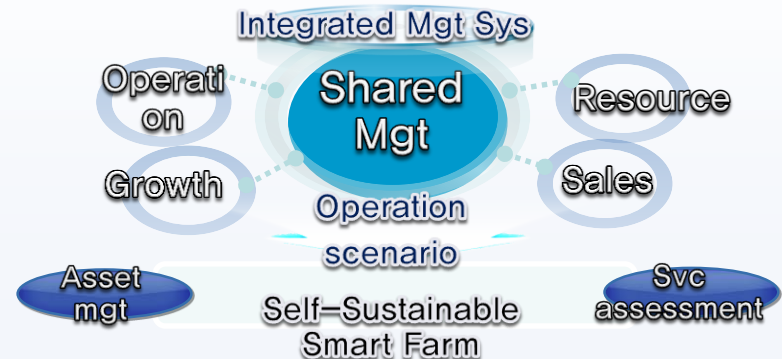


East Asian

2

### Shared Smart Farm Platform Chain Business Model

- Select & Analysis target country
  - Establish export pipeline
- Develop biz strategy & system for platform biz
  - Develop competitive shared management system





**Thank you**

