

Introduction of Rural Research Institute of KRC



KRC-RRI
Dr. Younghwa Kim
2017-11-16

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.

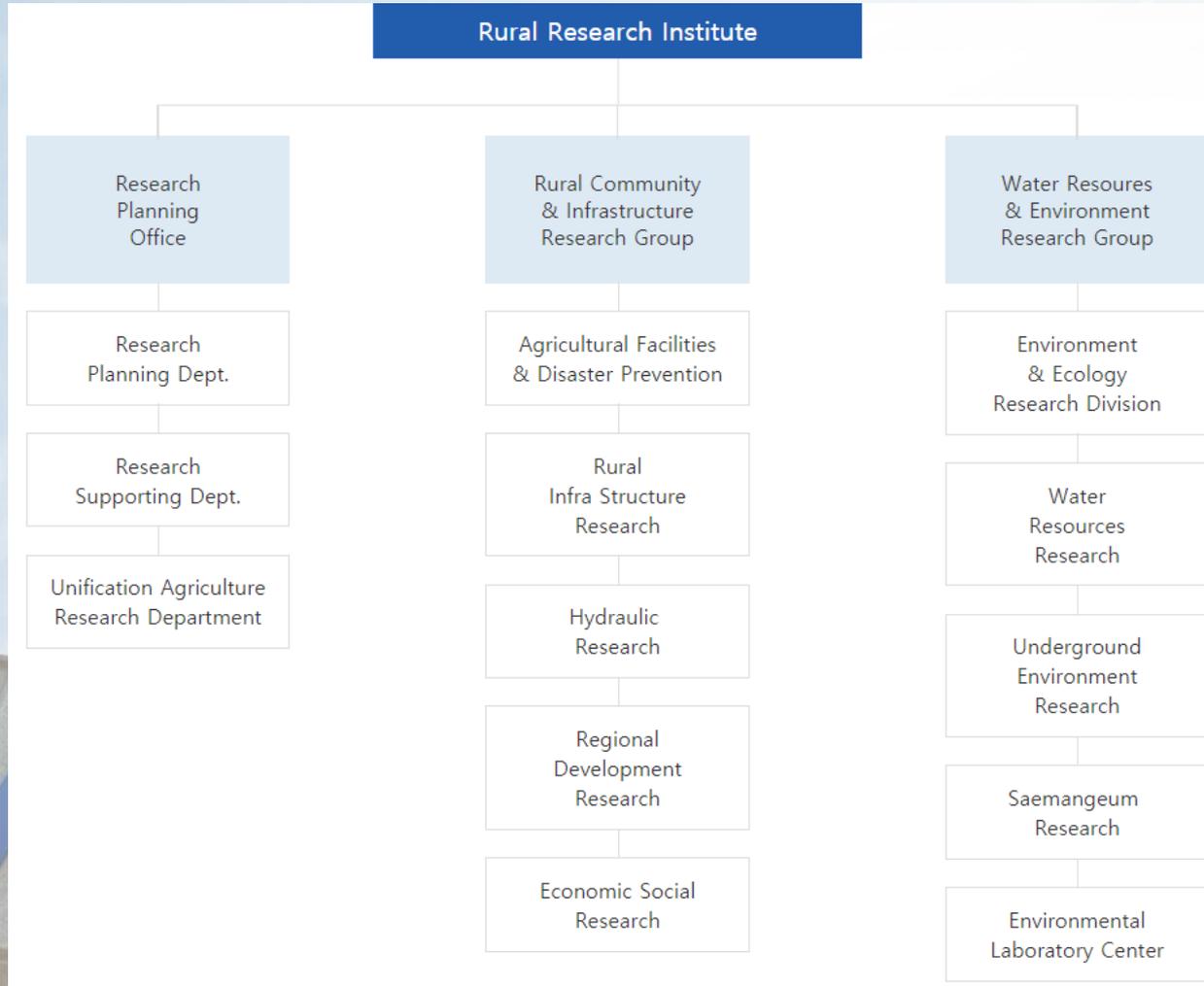
(Natural Science) agriculture, chemistry, agrichemistry, biology, fishery science, geology

(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



Clean & Green

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

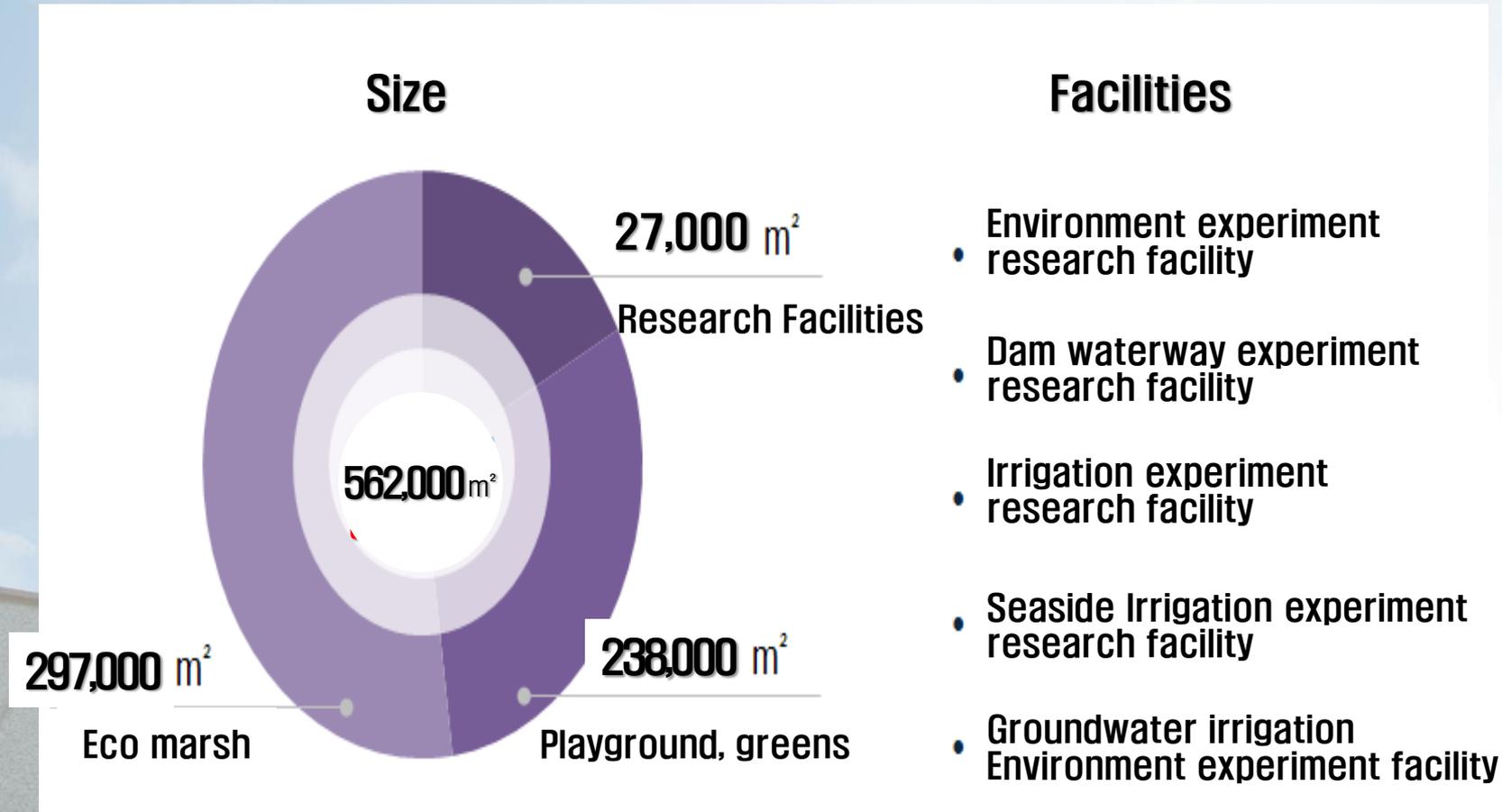
(Structure improvement, house standardization, optimal size of farming, and *Sae-man-guem*, etc.)

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



Clean & Green

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]



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

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

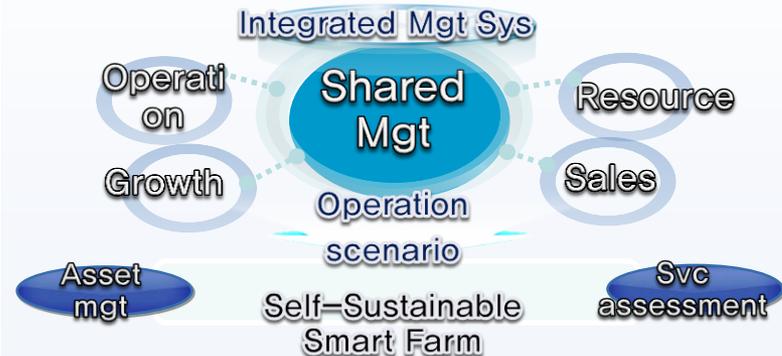


East Asian

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

