

An abstract graphic on the left side of the slide, consisting of a complex network of interconnected green lines and semi-transparent green polygons of various shapes and sizes, creating a mesh-like or crystalline structure. The pattern is denser on the left and fades towards the right.

# Diversity Management for Public Human Resources in Science and Technology

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# I. Background

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## 1. Newly Emerging Challenge and Crisis

- Outbreak of MERS(Middle East Respiratory Syndrome) in South Korea, 2015
  - A lack of awareness about the severity of pandemic disease
  - A lack of expertise with responding to the highly infectious disease
  - Political dilemma between economic growth and public health
  - A critical challenges to the SYSTEM of epidemic disease prevention
- COVID-19 and scientific approaches toward pandemic disease
  - Results of experience, learning, research that go beyond the existent boundary
  - Central roles of highly trained and professional experts in COVID-19 prevention



# I. Background

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## 2. Disruptive Future and Nature of Challenges

- Complexity and Nonlinearity:
  - Change of natural environment, science and technological progress, new type of threats
- Critical limits in understanding and predicting the pattern of changes
- Necessity for adaptive and evolving system based on highly intelligent experts
- New government functions/methods for adaptability to the emerging problems
- Reexamination about the current Korean HR system which values efficiency and integrated/centralized system(universality, integration, control-oriented)



# I. Background

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## 3. Research on Rural Development Administration

- How many different type of critical challenges we can imagine?
  - Climate changes, food security, cybersecurity, radioactive risk, and others
- Traditional framework of HR system for scientist and engineer groups in government agency (i.e., CDC, Ministry of Drug and Food Safety, etc.)
- Given the rising social risk, is it appropriate for applying the traditional framework to those high-tech public employees?
- Relationship of future government functions for social risk with scientific and technological expertise/professionalism in the sense of diversity of HRM



## II. HR system in South Korea

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### 1. Job Classification, Job Family, Category, Functions

- Job classification: 1<sup>st</sup> ~ 9<sup>th</sup> class
- Job family: 5 job family (e.g., general civil servant, technical civil servants, research civil servants, etc.)
- Job category: 54 job category (e.g., industry, agriculture, public health, statistics, immigration, etc.)
- Job function: 164 job function (e.g., electricity, tax, persecution, social welfare, agricultural chemistry, etc.)



# II. HR system in South Korea

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## 2. Characteristics of the HR system in South Korea

- Framework and Structure of HR: Merit System, Rank-in-person system
- Universality: Unitary System
  - Centralized and universal system (i.e., recruiting and hiring)
  - Grounded on the HR system/institution designed for general public servant
  - A small portion of open position system at middle and high-level officials
- Integration of HR system:
  - Promotion opportunity
  - Compensation/Pay scale
  - Performance evaluation
- Recent effort for specialized position/job, but...



# III. Case of RDA in South Korea


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## 1. Introduction of Rural Development Administration

### ■ Mission and Vision

- Development of Science and Technology for the Korean Agriculture

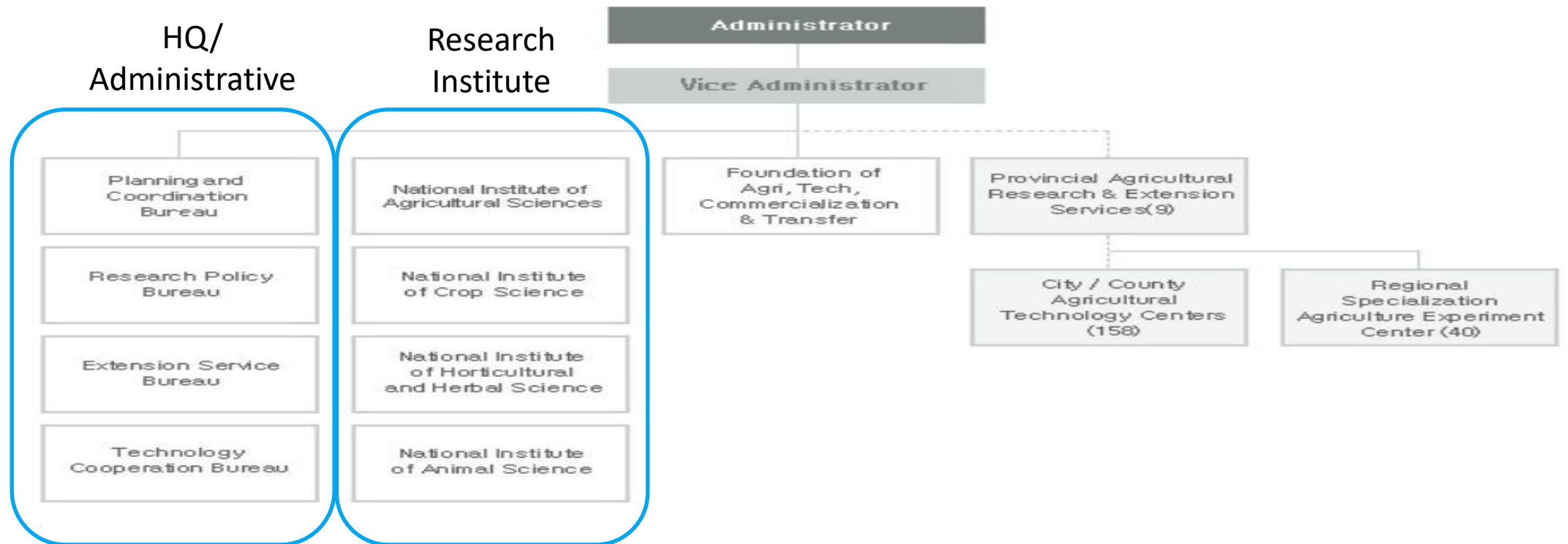
### ■ Organizational Structure

- Headquarter and administrative/service-oriented functions/bureau
  - National Institute of Agricultural Science(NAS)
  - National Institute of Crop Science(NICS)
  - National Institute of Horticultural and Herbal Science(NIHHS)
  - National Institute of Animal Science(NIAS)
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# III. Case of RDA in South Korea

## 1. Introduction of Rural Development Administration

### ■ Organizational Structure(cont.)





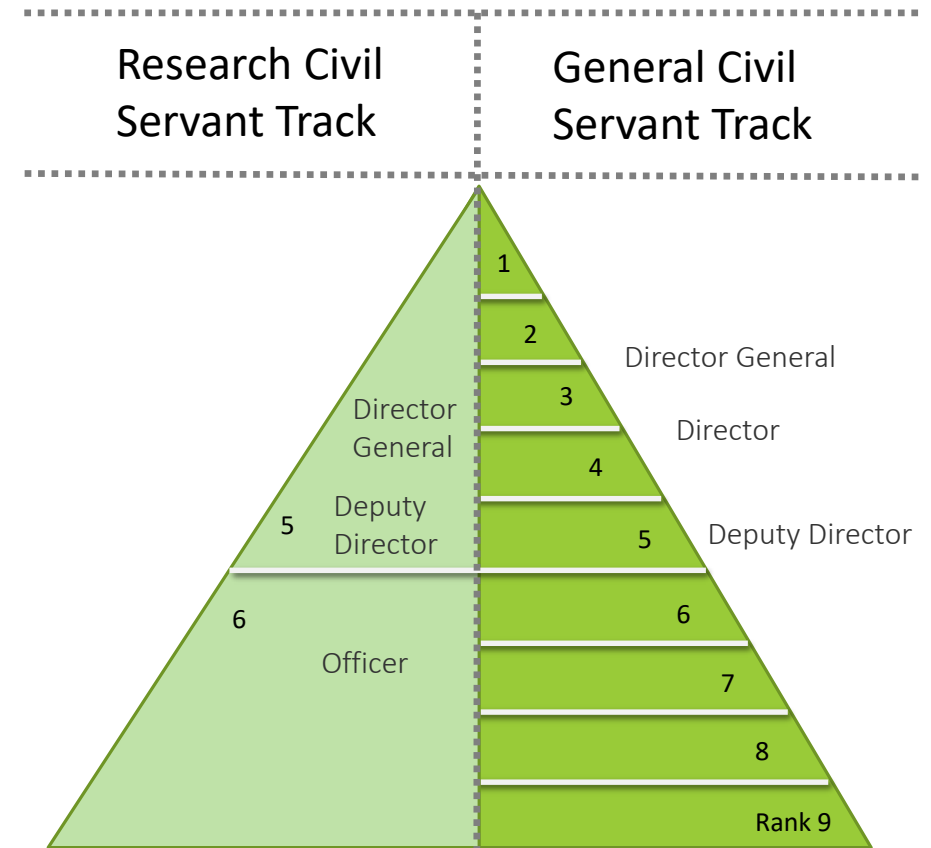
# III. Case of RDA in South Korea

## 1. Introduction of Rural Development Administration

### ■ Human Resource/ Classification

As of October, 2020

Job Category	Function Classification	Size of Employees
Agriculture Research	Crop	260
	Agricultural Environment	124
	Crop Protection	85
	Agricultural Management/Business	39
	Sericulture and Entomology	40
	Horticulture	202
	Biotechnology and Genetics	93
	Rural life	28
	Animal Science	171
	Agricultural Engineering	75
	Agrifood Science	50
Veterinary Research	Veterinary science	16
<b>Total</b>		<b>1,187</b>





# III. Case of RDA in South Korea

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## 2. Characteristics of Organization

- High level of expertise (i.e., Ph.D., M.D.) for research and development
- Simplification of class/rank because of the emphasis on research performance
- Specifically divided function classification
- National fund/grant for research & development (budget)
- Prevention of epidemic disease in rural areas and agricultural industry
  - Animal: cholera virus, African Swine Fever, foot-and-mouth disease, etc.
  - Agricultural: various types of virus, insects, bacteria, microbes, etc.



# III. Case of RDA in South Korea

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## 3. Rigidity and Challenges

- Seek of job promotion in hierarchical structure
- Job rotation weakening professionalism, cultural issues
  - Excellent employees with motivation for promotion → Head quarter
  - Leaving research work over two or three years, even longer
- Rigidity of Function Classification
  - Inequity of promotion inequity
  - Share assumption for maintenance of overall size of functional classification
  - Conflict between research project vs. functional classification

# III. Case of RDA in South Korea

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## 3. Rigidity and Challenges

- Limitation of interdisciplinary collaboration for new research trend/topic, just like departmentalized bureaus
- Difficulty with technology convergence and inter-agency cooperation
- Sense of compensation and motivation orientation
- Socialization process in the structure of current HR system
- Are these scientists and engineers identical to the general civil servants?  
If not, do we need to reconsider the framework/ground of HR system?

# IV. Concluding remarks

- New Challenges to Government Functions and Unitary/Integrated HR system
- Additional typology(job classification, categories, etc.) vs. New Framework in the sense of diversity of government mission and function
- Perrow's typology of technology with consideration about social risk
  - Traditional personnel typology vs. Risk for the society
  - Systematic examination on the necessity of new HR structure for the field of science and technology with high social risk variability

