

# RESEARCH AND FUNDING POSSIBILITIES FOR COLLABORATION WITH KOREA

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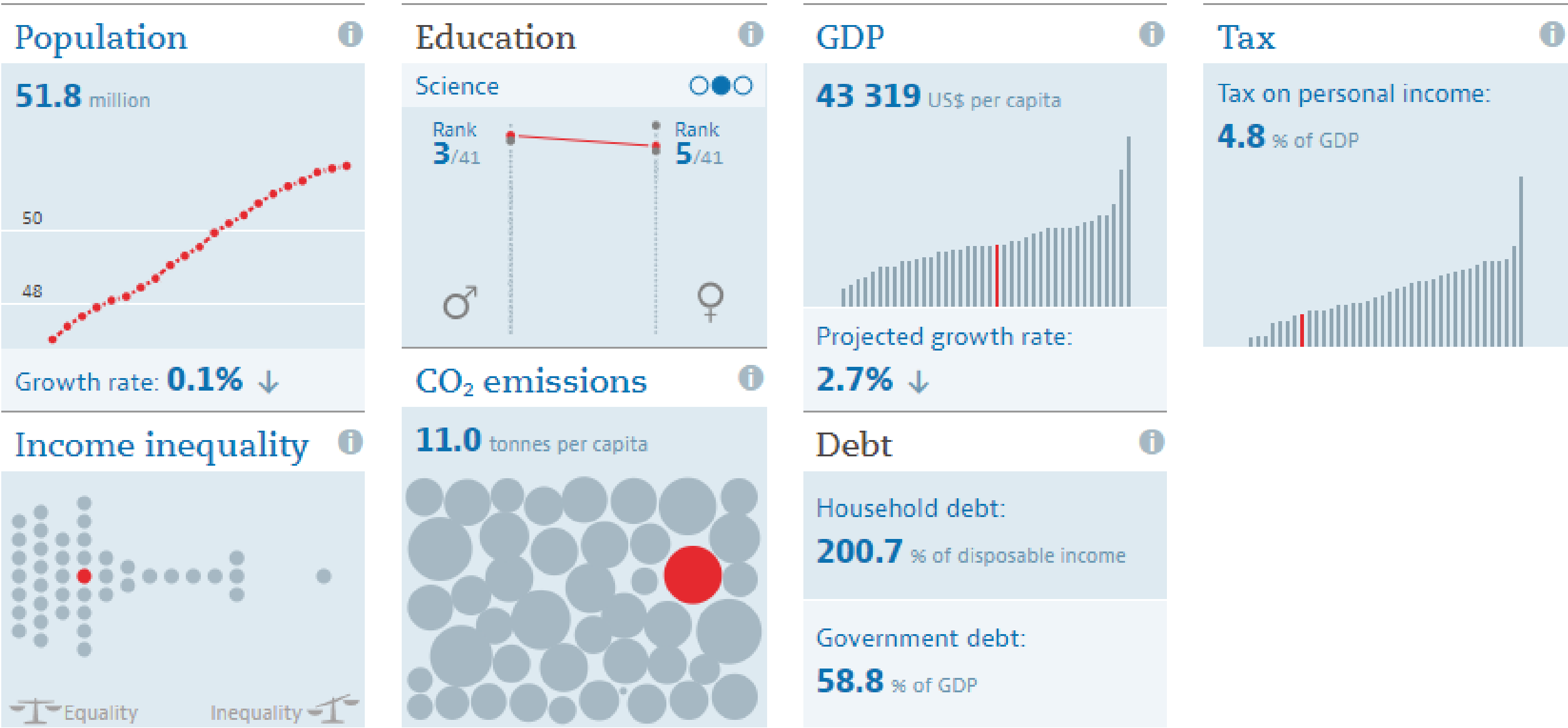
GHENT UNIVERSITY  
GLOBAL CAMPUS

# WHEREABOUTS OF KOREA

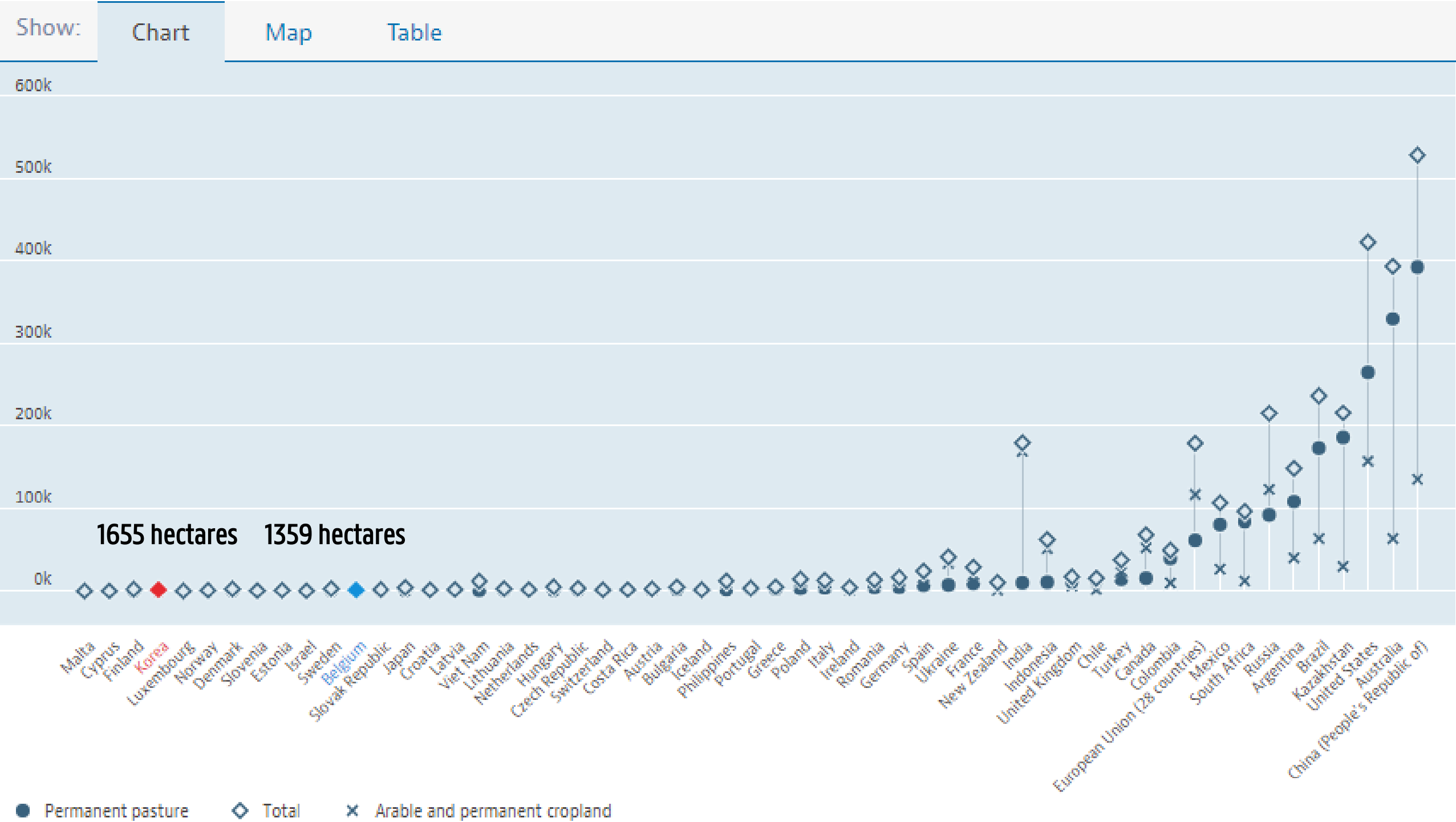


# OUTLOOK OF KOREA ECONOMY

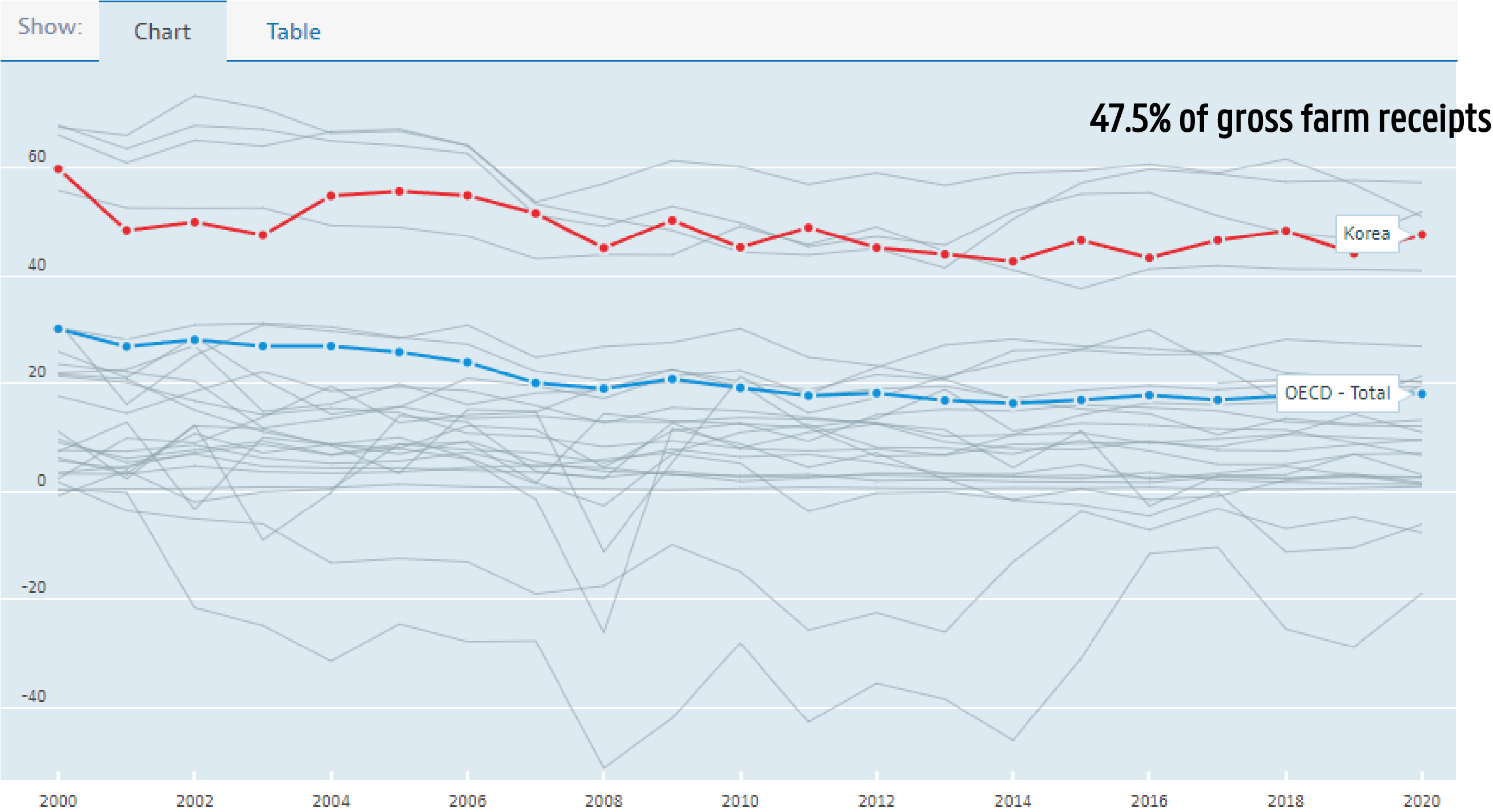
## Selected indicators for Korea



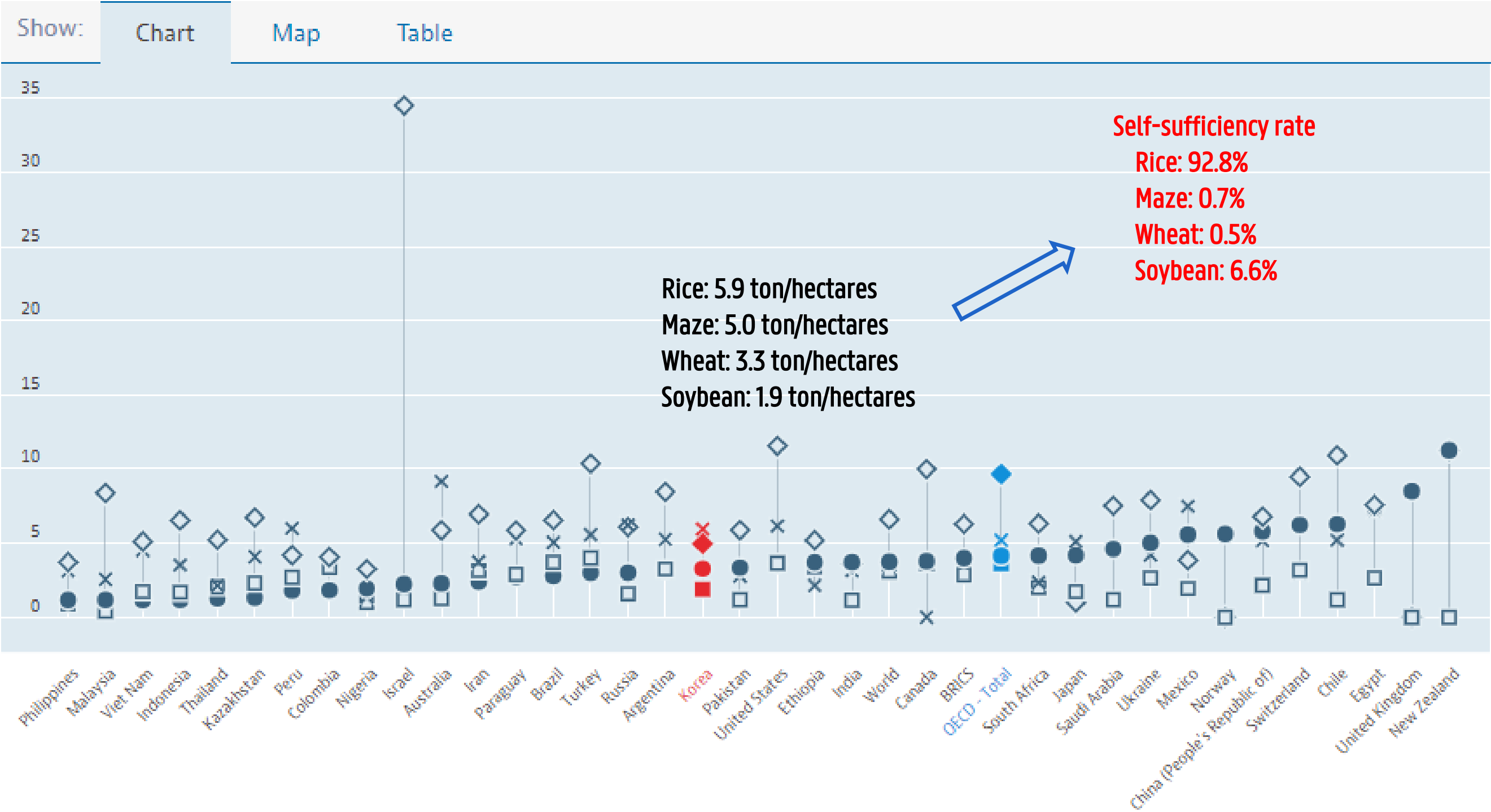
# OUTLOOK OF KOREA: AGRICULTURAL LAND (2019)



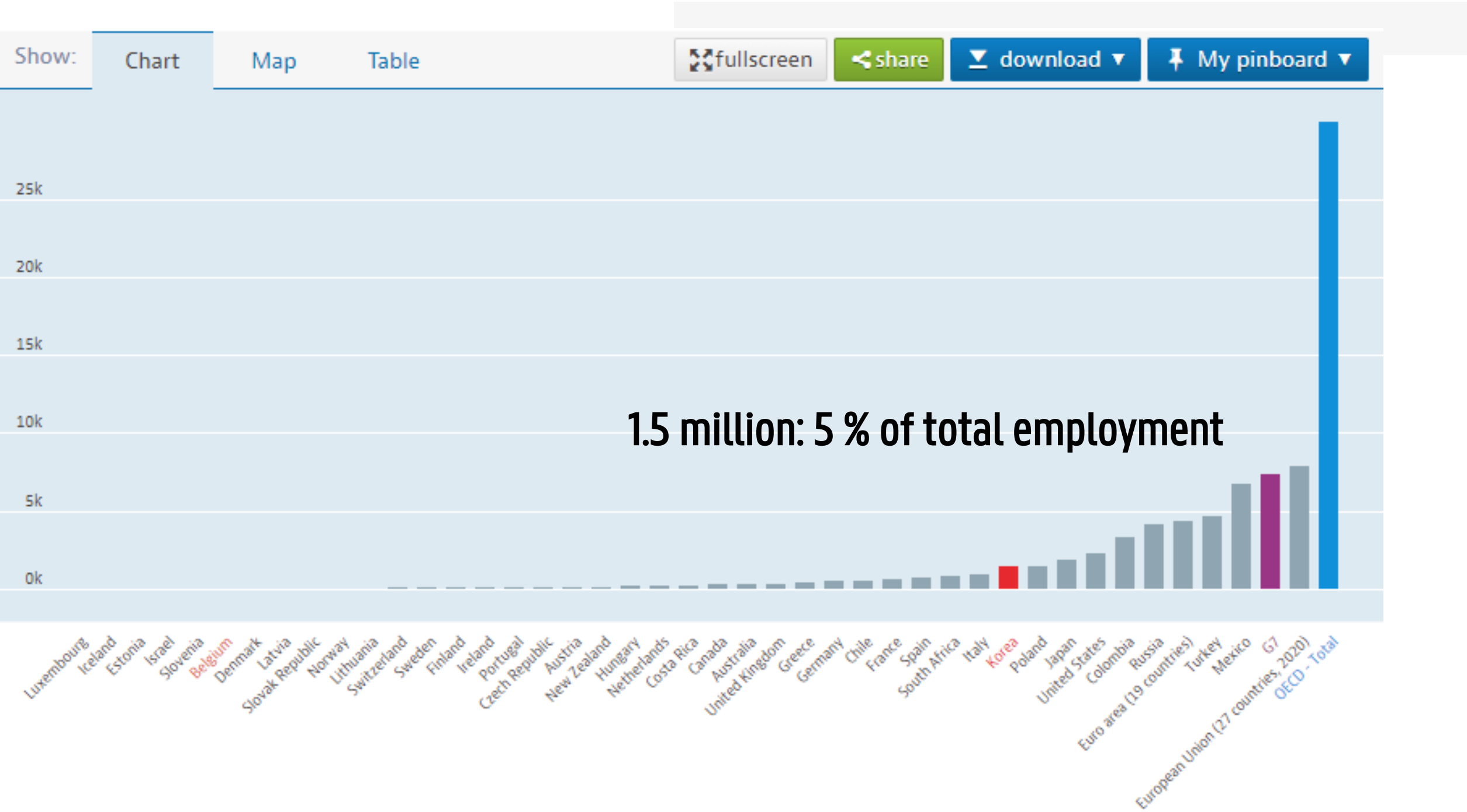
# OUTLOOK OF KOREA: AGRICULTURAL SUPPORT



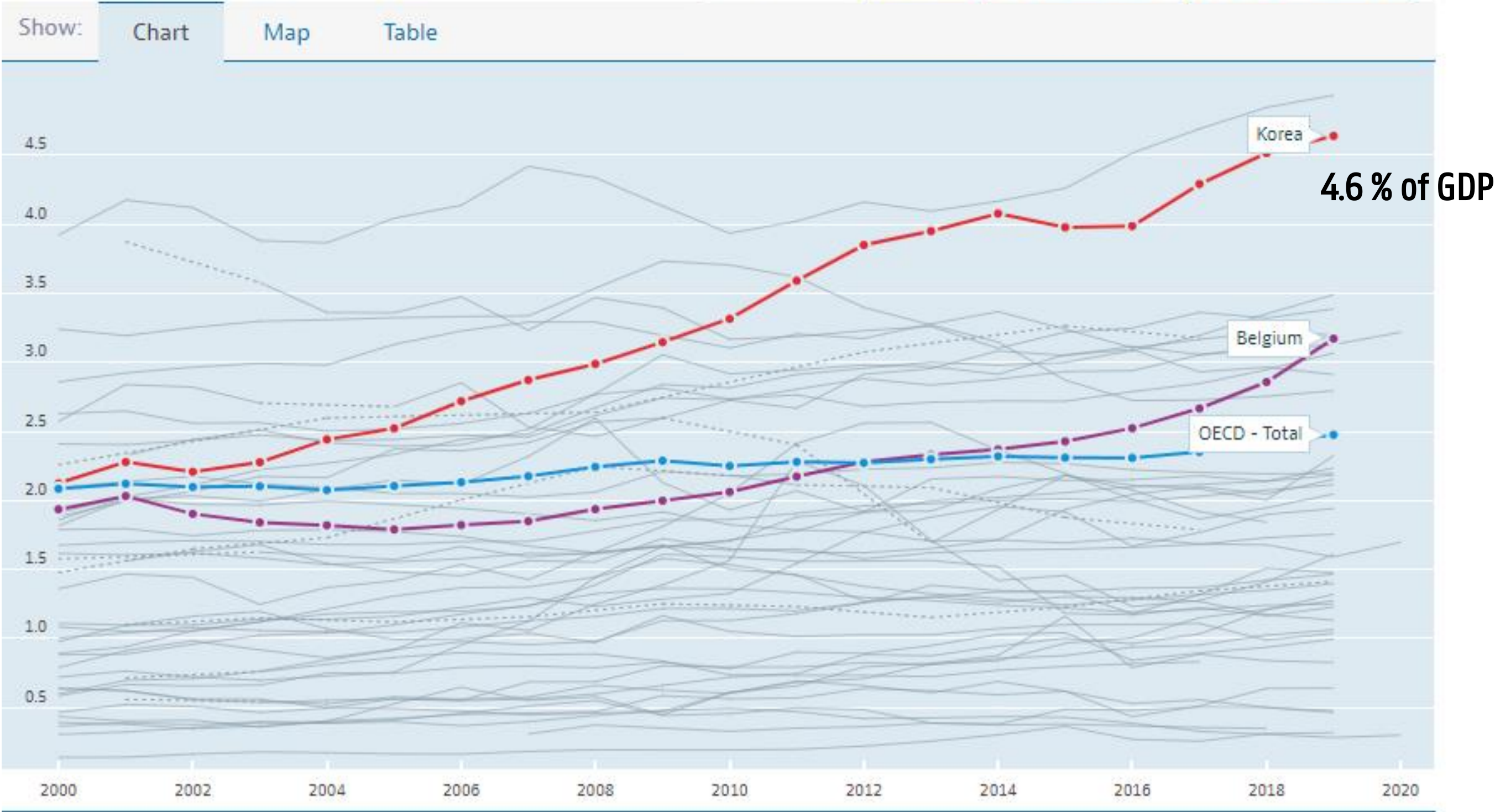
# OUTLOOK OF KOREA: CROP PRODUCTION



# OUTLOOK OF KOREA: EMPLOYMENT IN AGRICULTURE

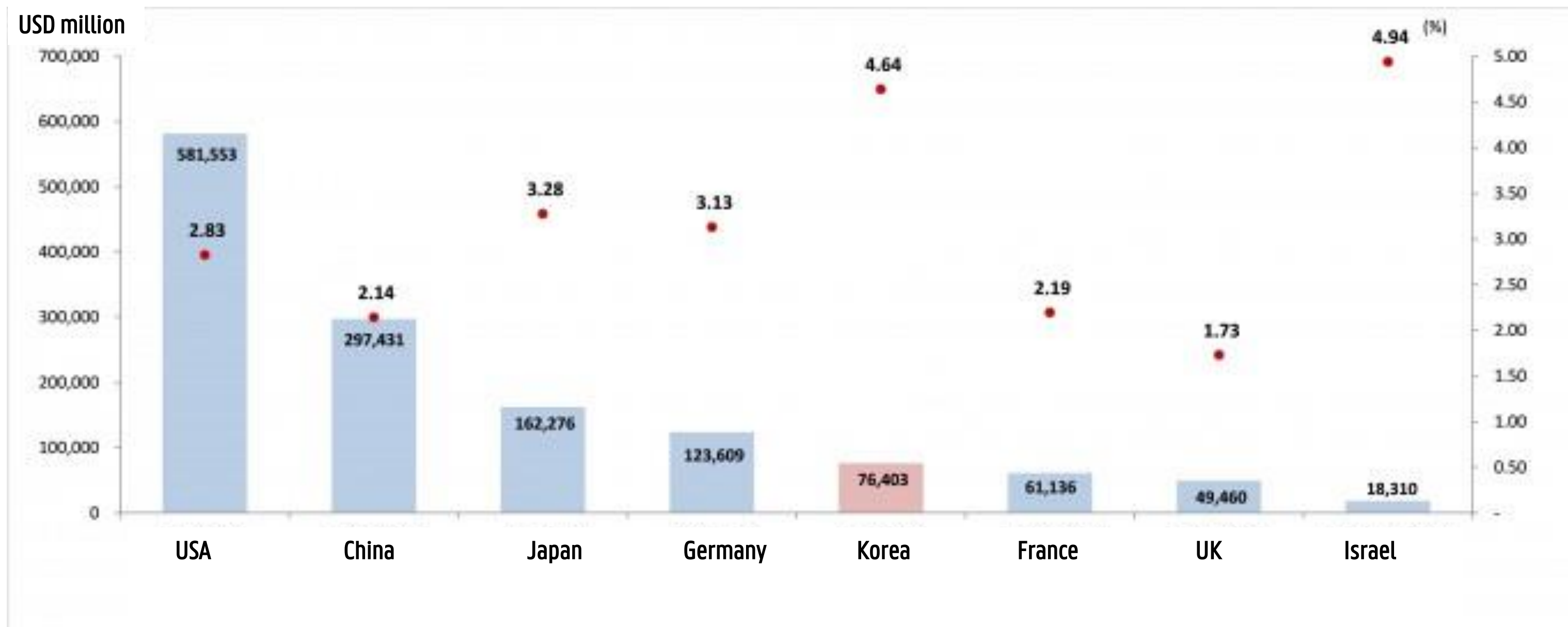


# OUTLOOK OF KOREA: GROSS DOMESTIC SPENDING ON R&D

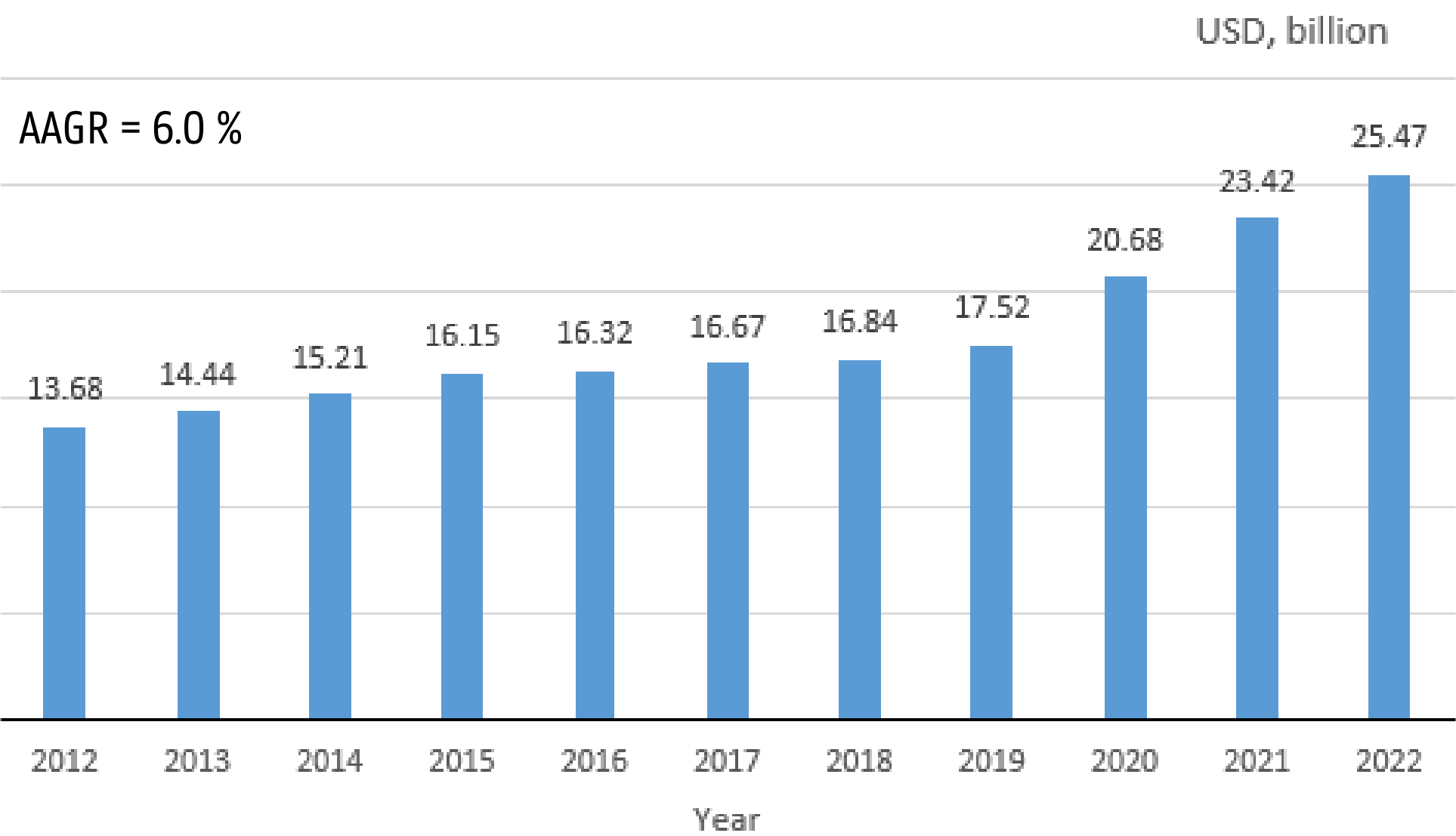




# OUTLOOK OF KOREA: GROSS DOMESTIC SPENDING ON R&D



# R&D SPENDING OF KOREA



# FUNDING FOR PROJECTS (2020)

Number of R&D Projects

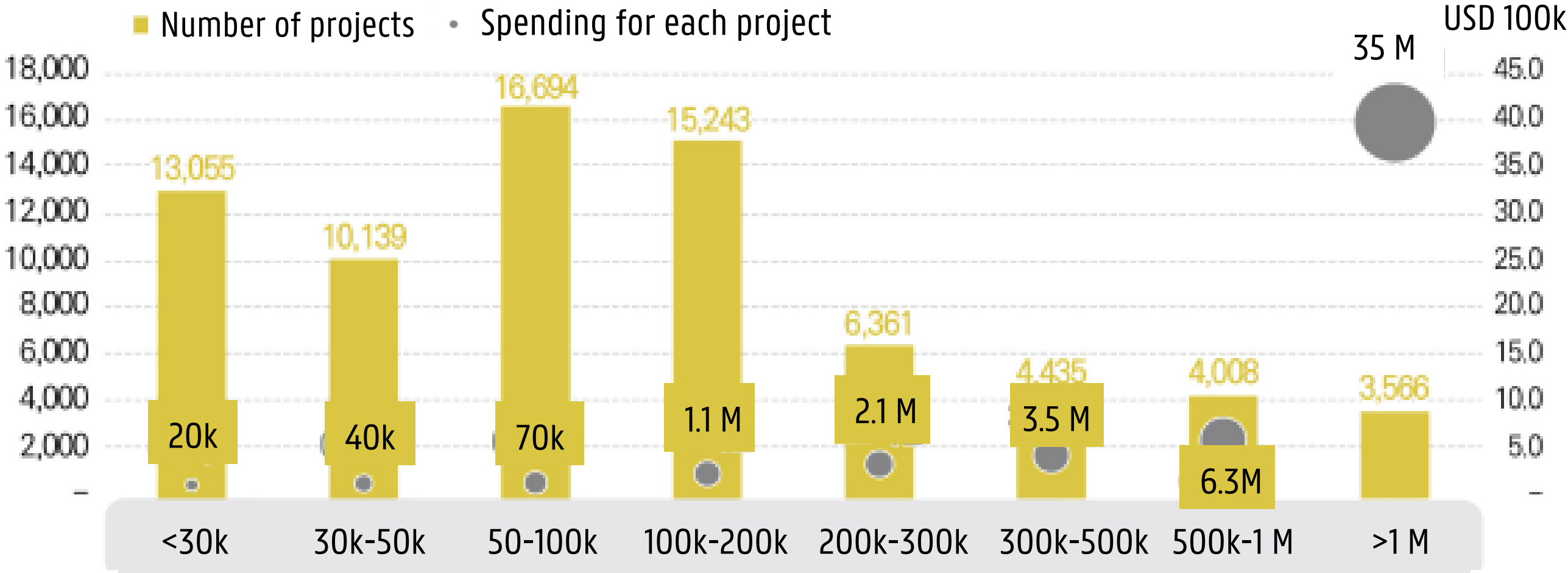
73,501

Total R&D spending

USD 20.68 billion

Average fund size per project

USD 28.1 thousand



# INSTITUTE FOR BASIC SCIENCE (IBS): SINCE 2012



## Chemistry

Center for Nanomaterials and Chemical Reactions  
Center for Self-assembly and Complexity  
Center for Nanoparticle Research  
Center for Catalytic Hydrocarbon Functionalizations  
Center for Multidimensional Carbon Materials  
Center for Molecular Spectroscopy and Dynamics

## Mathematics

Center for Geometry and Physics  
Pioneer Research Center for Mathematical and Computational Sciences  
Center for Complex Geometry

## Life Sciences

Korea Virus Research Institute  
Center for Synaptic Brain Dysfunctions  
Center for RNA Research  
Center for Cognition and Sociality  
Center for Genomic Integrity  
Center for Vascular Research

## Physics

Center for Correlated Electron Systems  
Center for Integrated Nanostructure Physics  
Center for Artificial Low Dimensional Electronic Systems  
Center for Underground Physics  
Center for Relativistic Laser Science  
Center for Axion and Precision Physics Research  
Center for Theoretical Physics of the Universe  
Center for Theoretical Physics of Complex Systems  
Center for Quantum Nanoscience  
Center for Exotic Nuclear Studies

## Earth Science

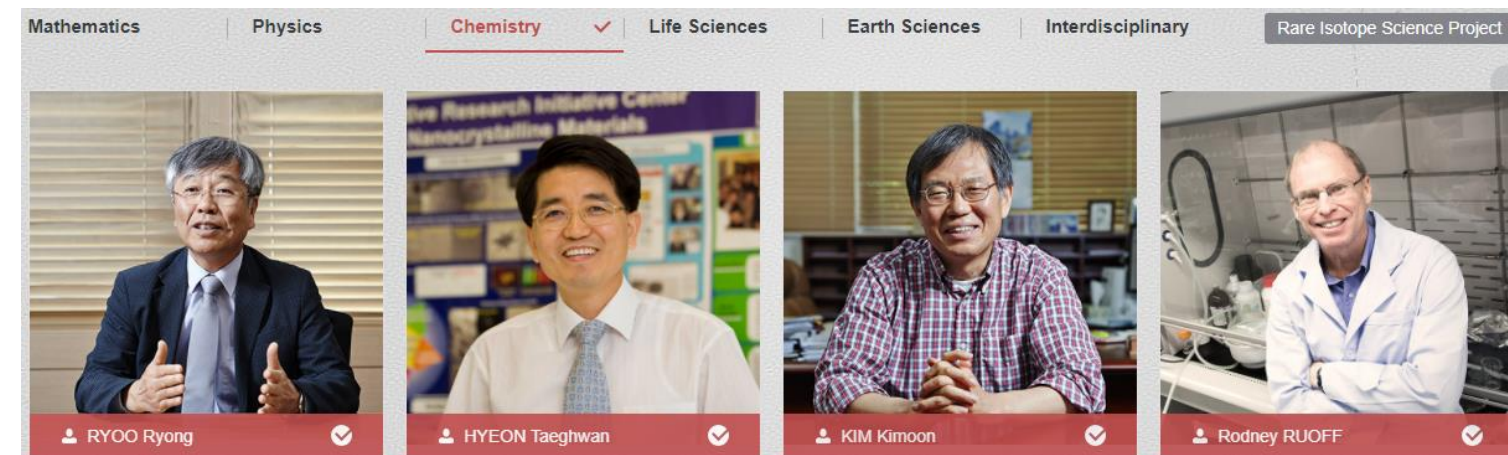
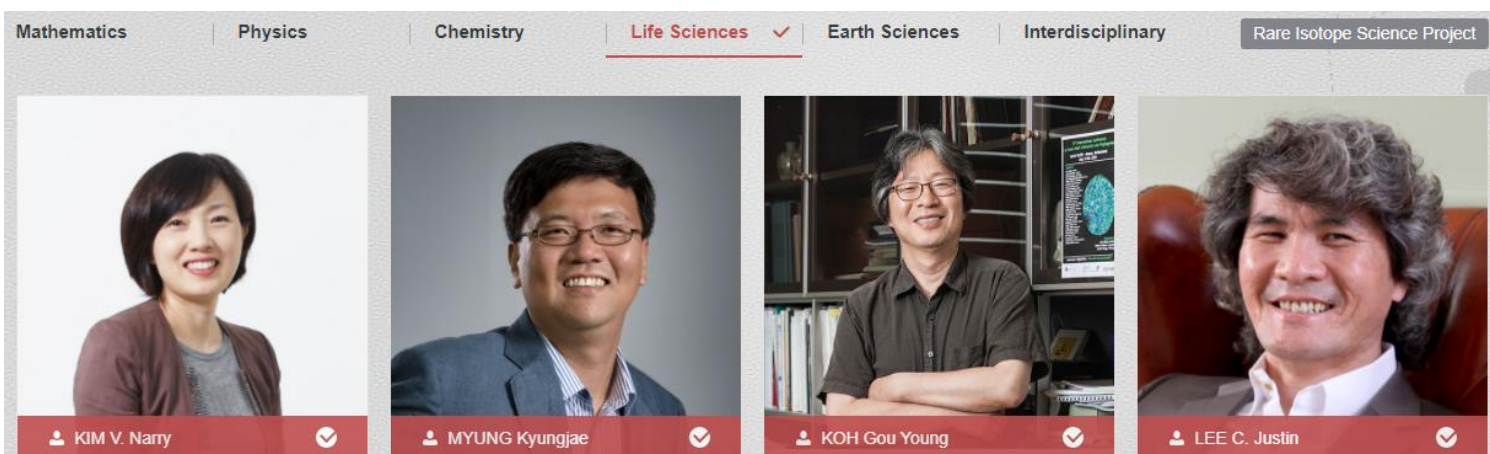
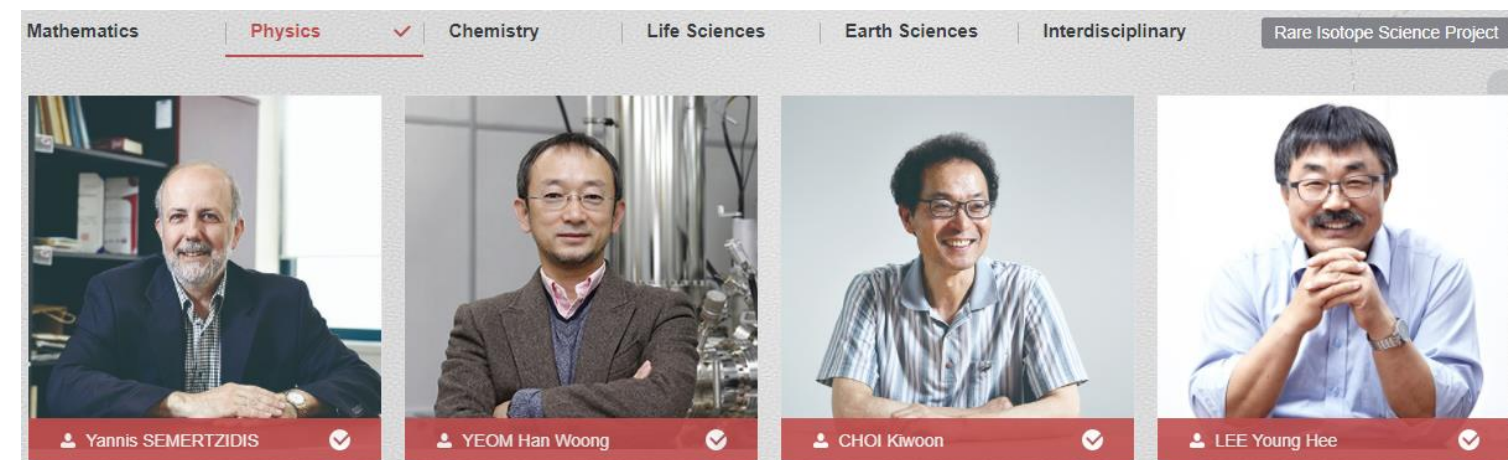
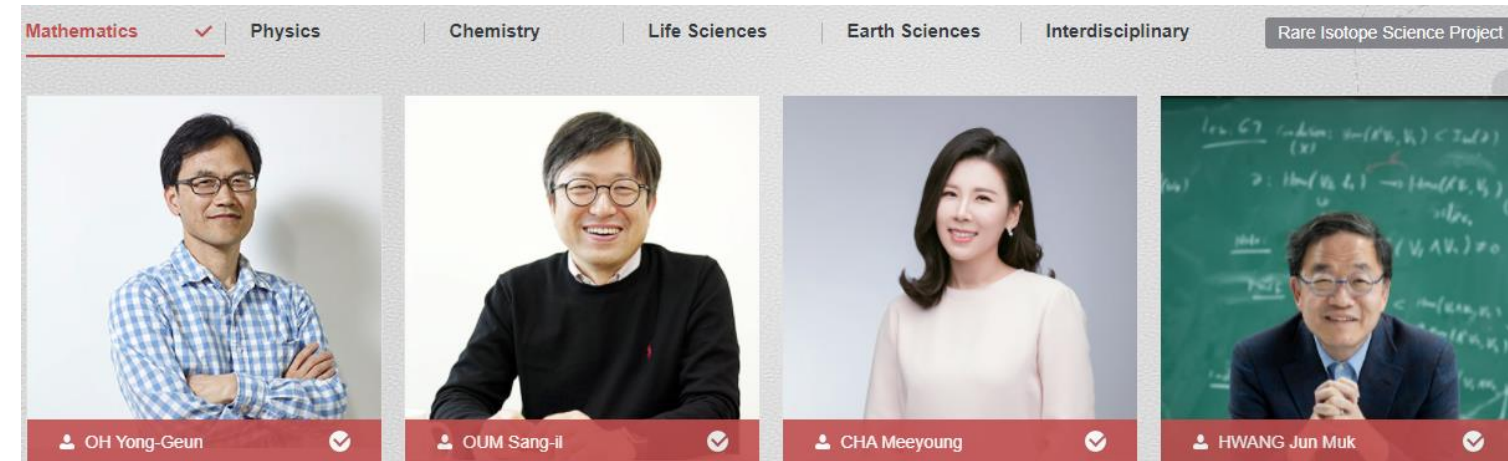
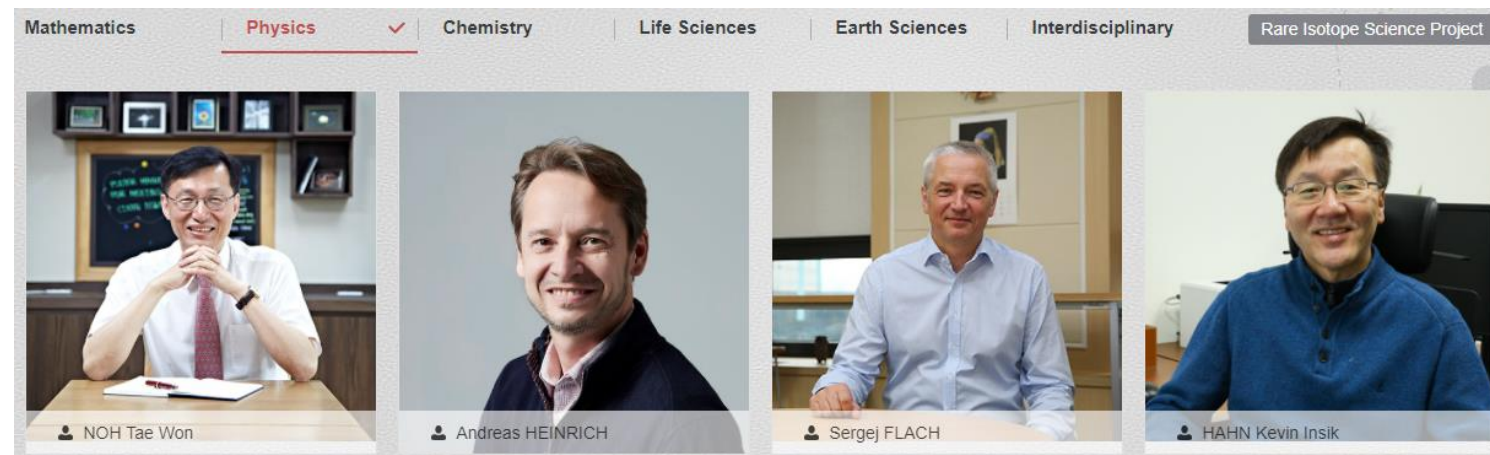
Center for Climate Physics

## Interdisciplinary

Center for Neuroscience Imaging Research  
Center for Soft and Living Matter  
Center for Genome Engineering  
Center for Nanomedicine  
Pioneer Research Center for Biomolecular and Cellular Structure

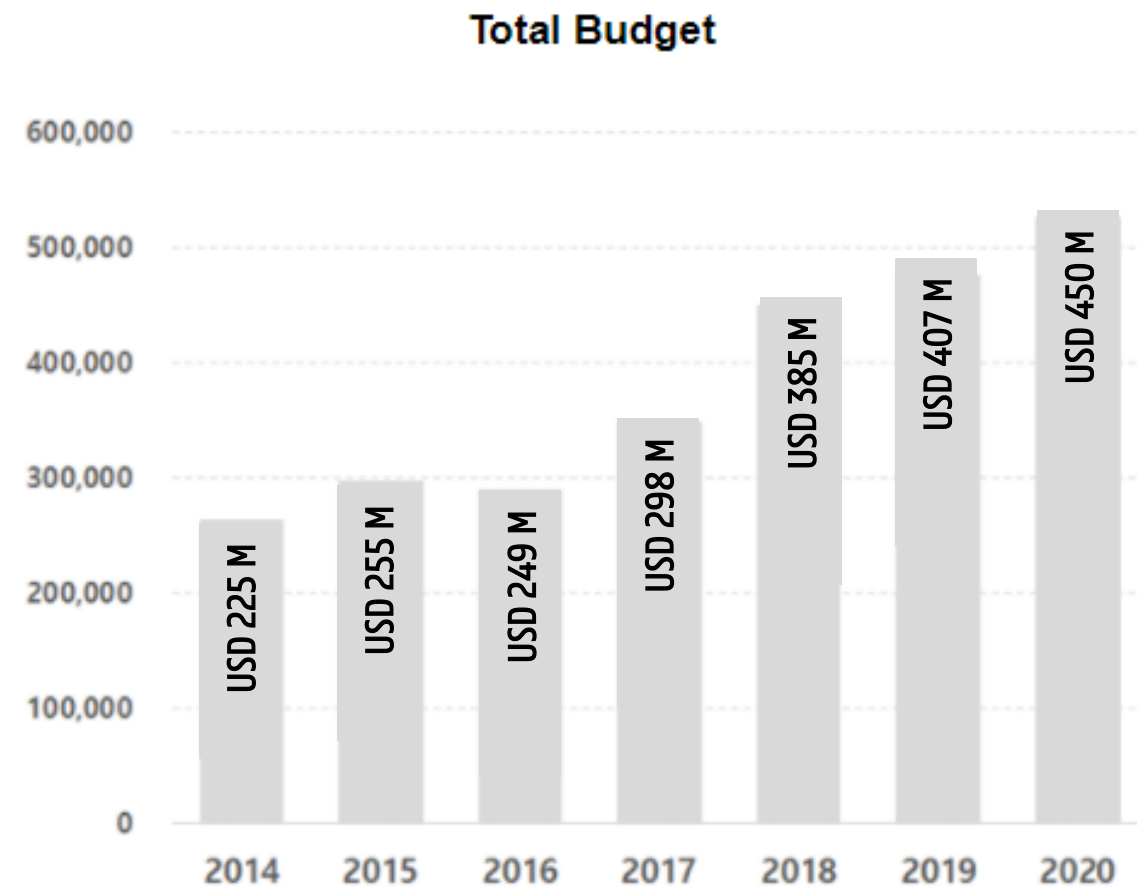












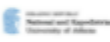








# INSTITUTE FOR BASIC SCIENCE (IBS): HEAD OF IBS



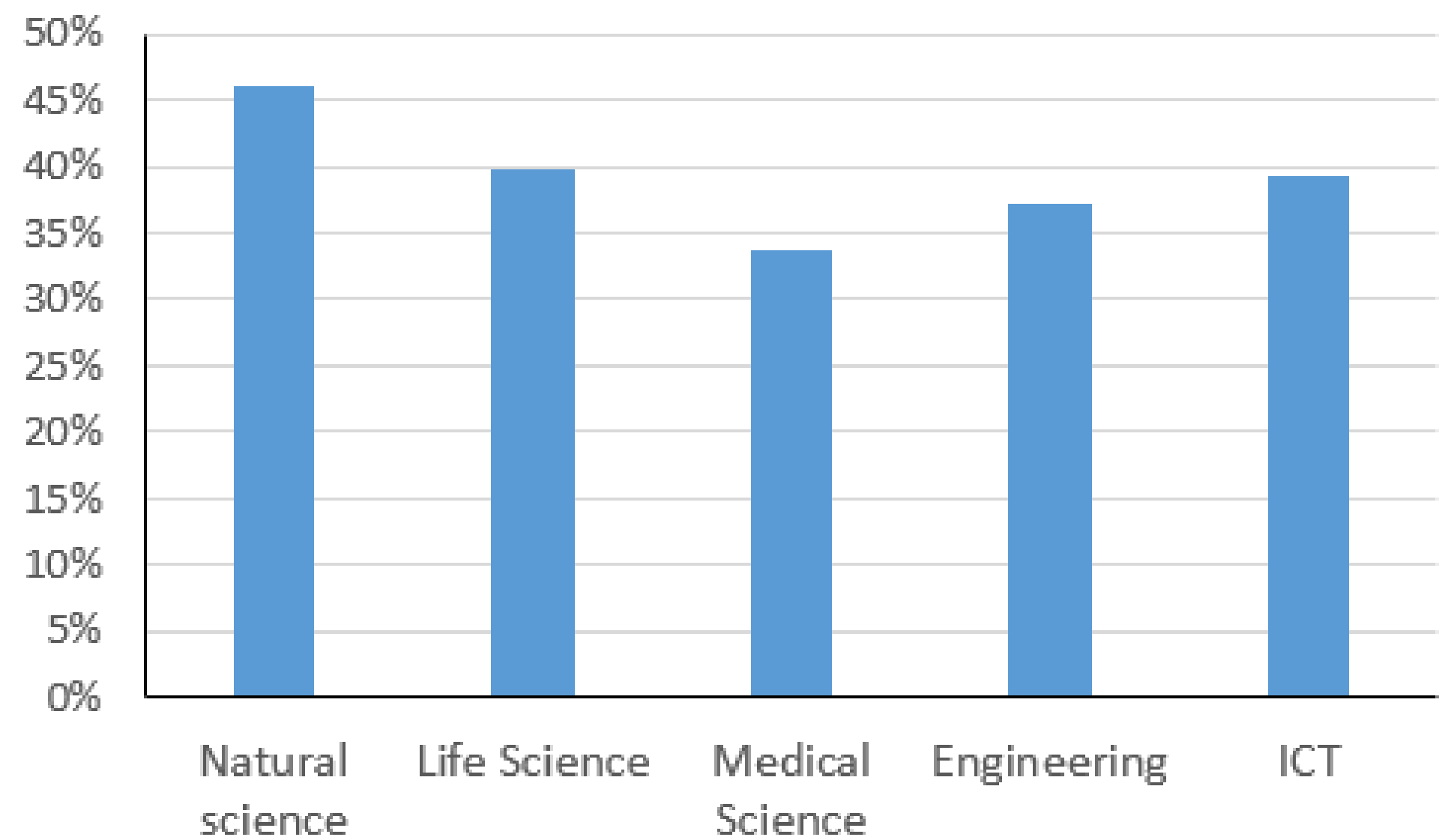


# INSTITUTE FOR BASIC SCIENCE: INTERNATIONAL COOPERATION

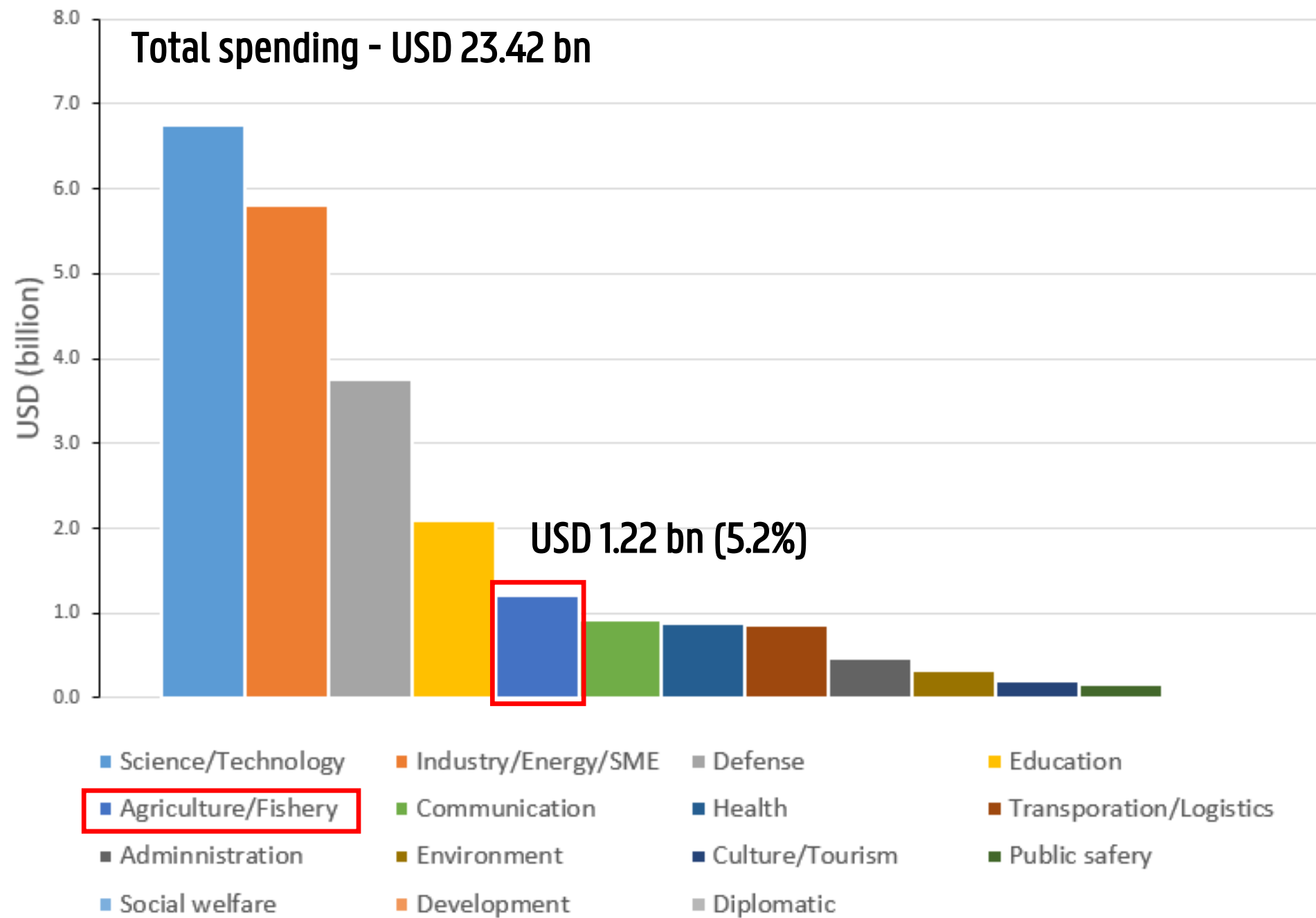


 Grand Accélérateur National d'Ions Lourds	France	 University of Bergen	Norway
 Centre National de la Recherche Scientifique	France	 Bjerknes Centre for Climate Research	Norway
 Max Planck Gesellschaft	Germany	 Group for Lasers and Plasmas of Institute of Plasmas and Nuclear Fusion Research	Portugal
 Forschungszentrum Jülich	Germany	 Horia Hulubei National Institute of Physics and Nuclear Engineering	Romania
 GSI	Germany	 Instituto de Física Teórica	Spain
 National and Kapodistrian University of Athens	Greece	 Donostia International Physics Center	Spain
 ATOMKI	Hungary	 The European Organization for Nuclear Research	Switzerland
 ELI-HU	Hungary	 Queen's University of Belfast	UK
 Abdus Salam International Centre for Theoretical Physics	Italy	 Royal Society	UK
 Istituto Nazionale di Fisica Nucleare	Italy		

# CHANCE FOR R&D FUNDING (2018)



# R&D SPENDING OF KOREA: FY2021 (BY TOPIC)





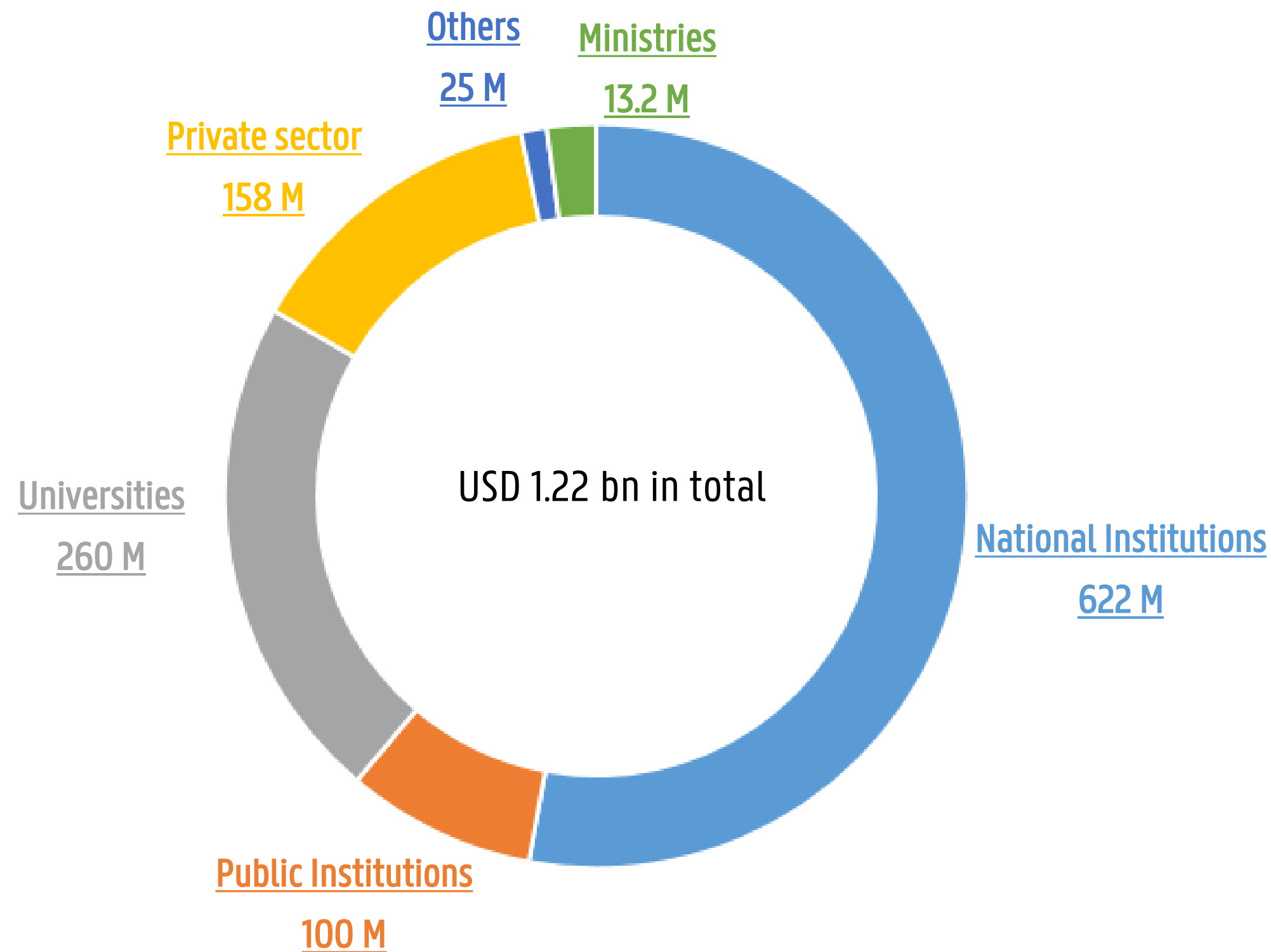
# R&D PROJECTS IN AGRICULTURE & FISHERY (2020)

USD 0.1 M

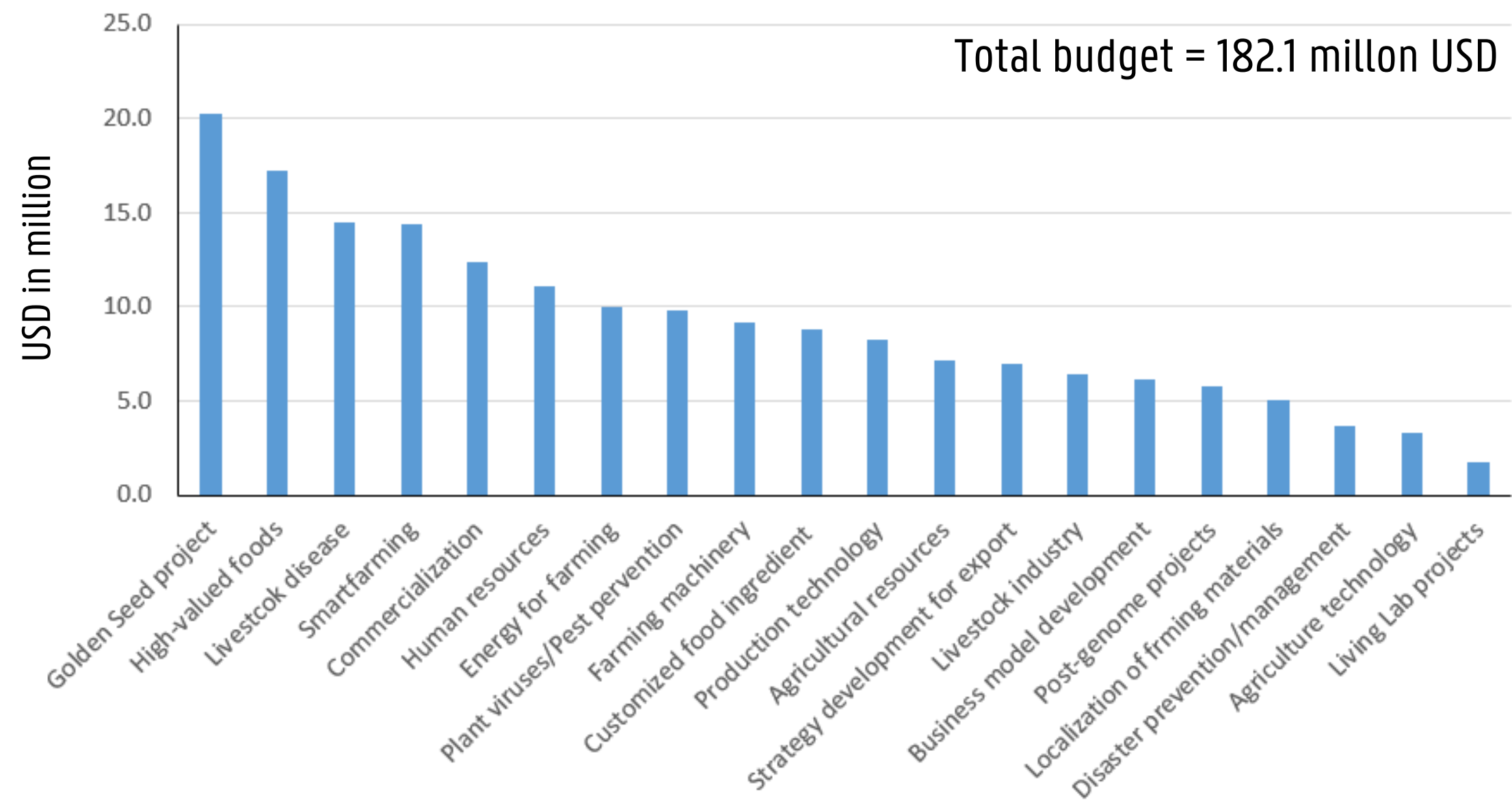
Category	Basic	Application	Developing	Others	Total
Forestry	303	207	78	238	826
Landscape architecture	17	14	11	0	42
Wood engineering	67	61	47	3	178
Aquafarming	164	92	140	16	412
Marine resources	158	4	37	11	210
Seafood processing	13	24	168	6	211
Product safety	91	144	86	23	344
Food science	260	137	348	107	853
Nutrition	176	109	199	48	532
Culinary	4	11	18	25	57
Information technology	12	82	47	44	185
Others	46	101	99	1,937	2,183
Total	2,395	3,285	2,773	5,290	13,743

18.7 % of total projects in numbers

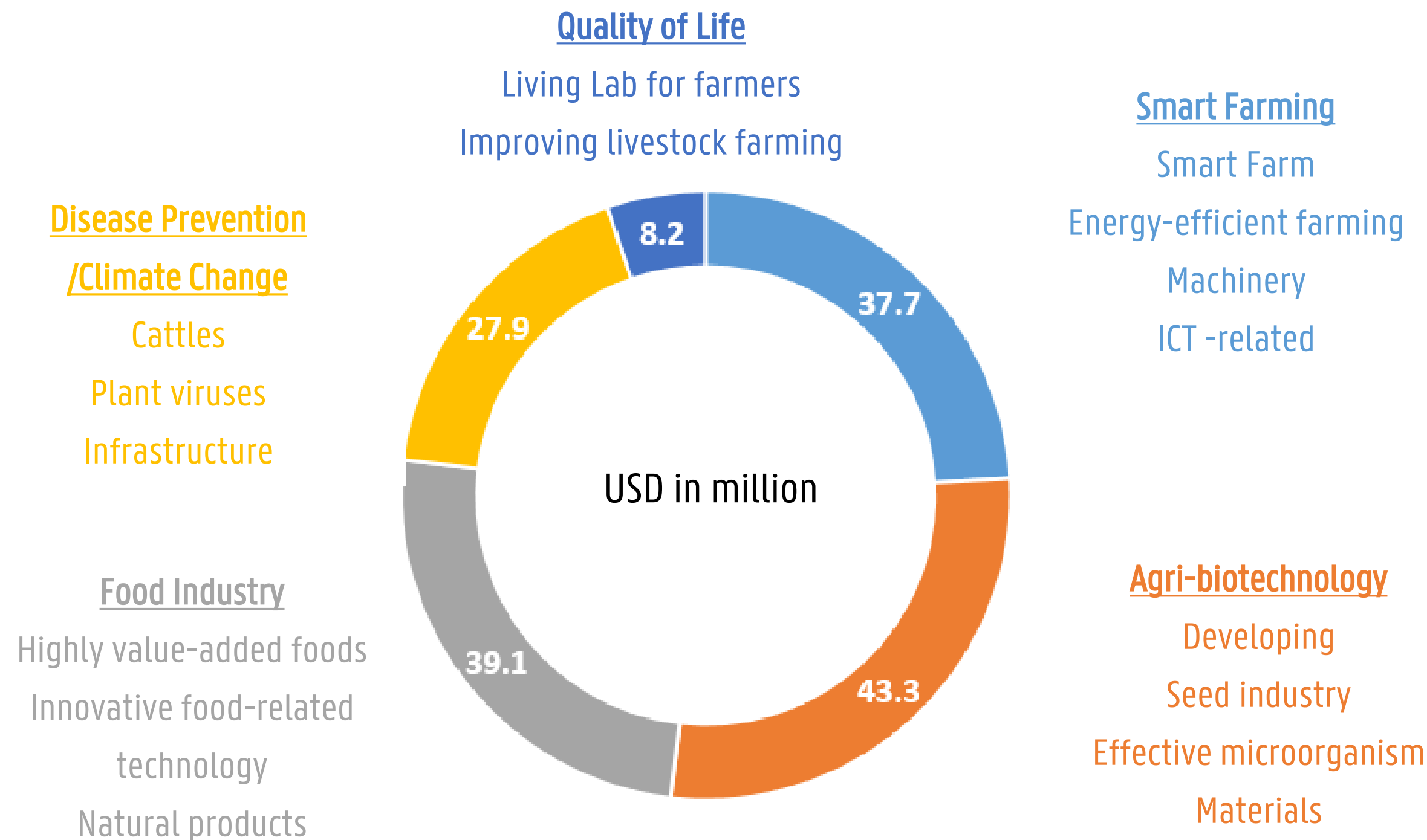
# R&D PROJECTS BY INSTITUTION IN AGRICULTURE AND FISHERY (2020)



# NATIONAL R&D PROJECTS IN AGRICULTURE



# GOVERNMENT-DRIVEN R&D PROJECTS (SINCE 2021)



# NATIONAL R&D PROJECTS IN AGRICULTURE

## Golden Seed

Seeds of vegetables  
and horticultural  
crops

## High-value Foods

Food safety  
Food precessing  
Smart factory  
Future foods

## Livestock Disease

Diagnosis  
Quarantine  
Prevention  
Animal medicines  
Pest Prevention

## Smartfarming

Smartfarming  
technology  
ICT integration

## Commercialization

Technology transfer  
Commercialization  
of agiculture  
technology

## Human Resources

Education  
R&D  
Incubating start-  
ups

## Energy for Farming

Renewable energy  
Biomass

## Virus/Pest Prevent.

Prevention  
technology  
Diagnostics  
Bio-pesticides

## Faming Machinery

Machinery  
development

## Food Ingredients

Nutritions in aging  
society  
Natural ingredient

# NATIONAL R&D PROJECTS IN AGRICULTURE

## Agri-Resources

Functional materials  
Insect foods

## Livestock Farming

Feeds  
Sanitation  
Eco-friendly farming

## Biz Model Develop.

Value-added products  
Smartfarm plants

## Post-Genome

Functional materials  
Host-microbe interaction

## Agri-Materials

Localization of agricultural materials

## Disaster Prevention

Disaster prevention  
Climate change  
Water resource

## Agri-Biotechnology

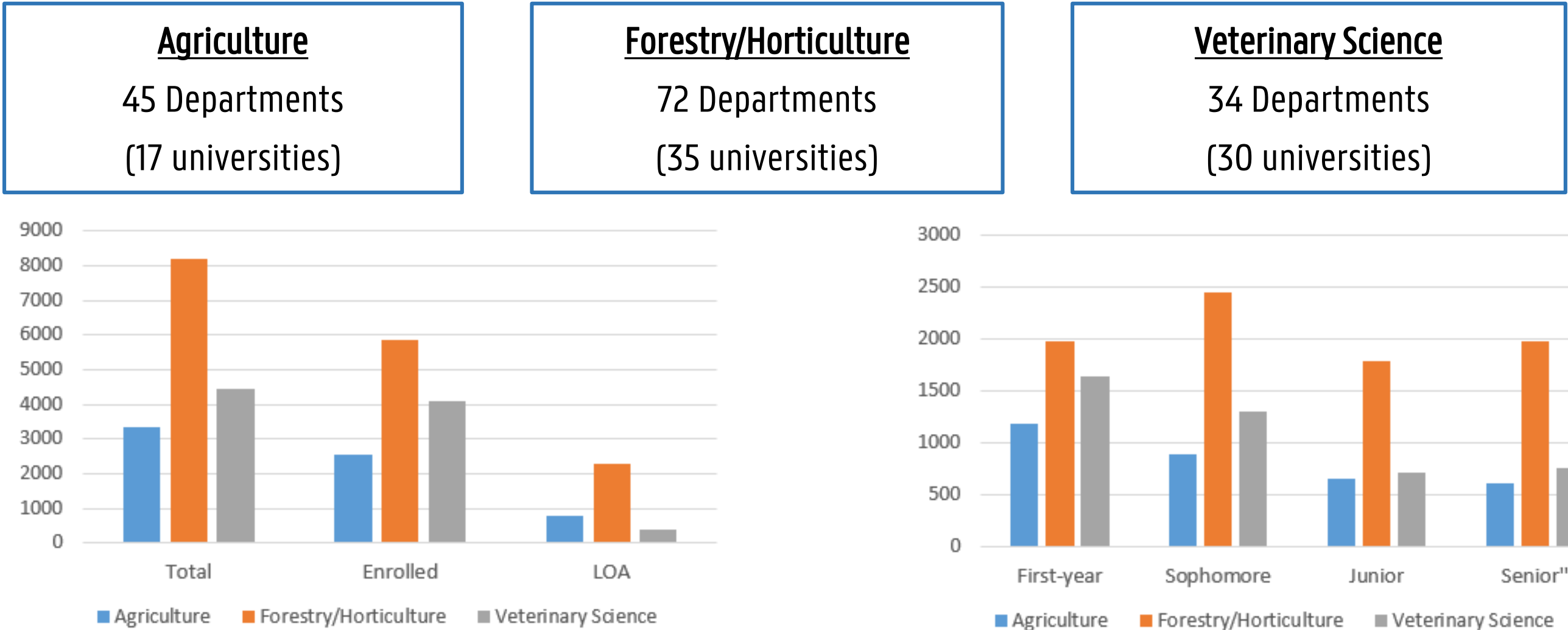
Nature-origined medicines/  
Ingredients  
Disease-resistance

## Living Lab

Wild animal control  
Flood/Drought management  
Reducing wastes

# HIGHER EDUCATION OF AGRICULTURE IN KOREA

191 Universities (4 year colleges and universities)  
11707 Departments  
830,456 Students



Total number of students in majors of Agriculture, Forestry/Horticulture, and veterinery science.

# RESEARCH INSTITUTIONS IN AGRICULTURE (GOVERNMENT)



INSTITUTE OF PLANNING AND  
EVALUATION FOR  
TECHNOLOGY IN FOOD,





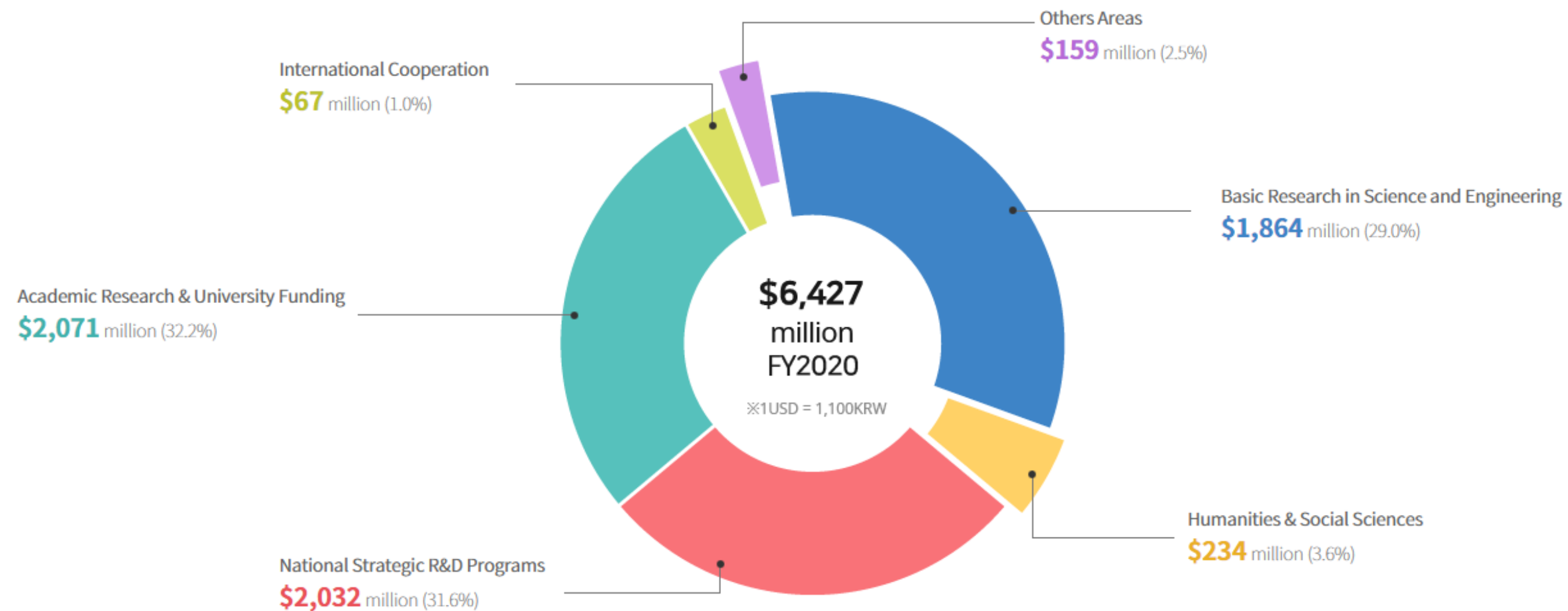
# EU-KOREA COOPERATION IN R&D: NRF



National Research  
Foundation of Korea

## Budget

### Composition of NRF Budget (Unit: USD)



# EUROPEAN PARTNERS OF



# INTERNATIONAL COOPERATION OF WITH EU COUNTRIES

National Research  
Foundation of Korea

## Researcher Exchange

↳ <a href="#">Korea-Germany DAAD GEnKO Partnership Cooperation</a>	↳ <a href="#">Korea-France Cooperative Development Program (STAR)</a>
↳ <a href="#">Korea-Germany Summer DAAD Graduate Student Cooperation Program</a>	↳ <a href="#">Korea-Spain Cooperative Development Program</a>
↳ <a href="#">Korea-Germany DAAD Researcher Exchange Cooperation Program</a>	↳ <a href="#">Korean-Swiss Young Researchers' Programme</a>
↳ <a href="#">Korea-Germany AvH Researcher Exchange Cooperation Program</a>	↳ <a href="#">Korea-EU Joint Research</a>
↳ <a href="#">Korea-Sweden Cooperation Program (STINT)</a>	↳ <a href="#">Outstanding Graduate Student Research Visits (GROW)</a>

## Joint Research

↳ <a href="#">Korea-France Joint S&amp;T Research Program</a>	↳ <a href="#">Korea-Germany Cooperative Development Program—DFG International Research Training Group (IRTG)</a>
↳ <a href="#">Korea-Italy Cooperative Development Program</a>	↳ <a href="#">NRF Joint Research Program (Joint Research)</a>
↳ <a href="#">Korea-Sweden Joint S&amp;T Research Program</a>	↳ <a href="#">Korea-UK Focal Point Program</a>
↳ <a href="#">Korea-Germany Cooperative Development Program (2+2 industry-university-research institute joint)</a>	↳ <a href="#">Korea-Austria Mobility Program</a>
↳ <a href="#">Korea-Switzerland Innovation Program</a>	↳ <a href="#">Korea-EU Joint Research Support Program</a>
↳ <a href="#">Korea-Turkey Cooperative Development Program</a>	↳ <a href="#">Korea-EU Education Cooperation Program (EMJM)</a>
↳ <a href="#">Korea-Hungary Cooperative Development Program</a>	↳ <a href="#">Korea-EU Educational Cooperation Promotion</a>
↳ <a href="#">Korea-Croatia Cooperative Development Program</a>	

## Cooperation Center Support Programs

↳ <a href="#">Korea-EU Research Cooperation Center</a>
↳ <a href="#">International S&amp;T Cooperative Network</a>
↳ <a href="#">Overseas S&amp;T Information Collection</a>

# INTERNATIONAL COOPERATION

Year	Country	Inviting foreign researchers	Sending Koreans abroad	Literature /Market research	Technology Transfer	Bilateral Agreement Treaty	Contracted Research	Total	
								Number	%
2020	USA	19	-	4	1	120	119	263	49.3
	China	2	-	-	-	11	20	33	6.2
	Canada	1	-	2	-	22	7	32	6.0
	UAE	-	-	-	-	-	2	2	0.4
	Germany	1	-	3	-	15	9	28	5.2
	UK	3	-	-	-	9	5	17	3.2
	Australia	3	-	-	-	-	12	15	2.8
	Israel	-	1	-	-	5	-	6	1.1
	Japan	3	-	4	-	10	2	19	3.6
	Vietnam	5	-	2	-	10	4	21	3.9
	Others	10	-	4	-	48	36	98	18.4
	Total	47	1	19	1	250	216	534	100.0