Introduction to National Research and Innovation Agency and the Future of R&D in Indonesia

L.T. Handoko
Chairman of National Research and Innovation Agency

Institute of South East Asian Studies

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BRIN is a special governmental body direct under President (not a ministry, nor non-ministerial governmental institution)

- Not under coordination of any ministries / coordinating ministries.
- Integrating all (human, infrastructure, budget) resources of 48 governmental research institutions across ministries and institutes.
- Implementation period: August 2021, and the full transformation into single entity of BRIN starting from 1 January 2022.
- Covering all research fields.
- BRIN is responsible for national STI policy and executing agency of research, while Kemdikbudristek is responsible only science activities within universities.

BRIN is mandated to overcome drastically low critical mass of research resources in Indonesia to:

- Improve research capacity and competences, in particular in term of research infrastructures.
- Attract the young talents on research to join and to contribute in any research activities in Indonesia.
- Support global engagement and collaboration to speed up knowledge and skill transfer through research collaborations.
- Enable government as a facilitator / enabler for local business players to conduct R&D based product development with very low investment.

Source: Presidential Decree 78/2021
Constitution 11/2019 about National System for S&T
Constitution 21/2013 about Space
Constitution 25/2004 about National Development Planning System
Constitution 10/1997 about Nuclear
National Research Roadmap (Rencana Induk Riset Nasional – RIRN) in term of macroeconomic indicators related to the *input, output, and outcome* of research.

<table>
<thead>
<tr>
<th>TARGET</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of researcher/1M population</td>
<td>1.071</td>
<td>1.600</td>
<td>3.200</td>
<td>4.800</td>
<td>6.400</td>
<td>8.000</td>
<td>8.600</td>
</tr>
<tr>
<td>GBOARD/GDP (%)</td>
<td>0.15</td>
<td>0.21</td>
<td>0.42</td>
<td>0.63</td>
<td>0.84</td>
<td>1.05</td>
<td>1.26</td>
</tr>
<tr>
<td>GERD/GDP (%)</td>
<td>0.20</td>
<td>0.84</td>
<td>1.68</td>
<td>2.52</td>
<td>3.36</td>
<td>4.20</td>
<td>5.04</td>
</tr>
<tr>
<td>Number of graduate/under graduate students (%)</td>
<td>5.6</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Research Productivity</td>
<td>0.02</td>
<td>0.04</td>
<td>0.08</td>
<td>0.10</td>
<td>0.14</td>
<td>0.18</td>
<td>0.22</td>
</tr>
<tr>
<td>Multifactor Productivity (%)</td>
<td>16.7</td>
<td>20.0</td>
<td>30.0</td>
<td>40.0</td>
<td>50.0</td>
<td>60.0</td>
<td>70.0</td>
</tr>
</tbody>
</table>

Researchers with PhD holders ~ 15% (2017)

Korea Selatan in 2015

Source: Presidential Decree 38/2018 about RIRN 2017-2045
Creating the foundation of a strong and sustained research and innovation based economy

Creating an open (inclusive) and collaborative "global standard" research ecosystem

Integrating major governmental research institutions by January 1st, 2022.

Transforming business process and research management to increase the critical mass of research and innovation (human, infrastructure, budget) resources.

Refocusing the research program to increase the value added of local natural resources and (bio, geo, art and culture) diversity.

Making Indonesia as a global platform for natural resources and diversities based research.

Facilitating and being the enabler for national industries and business players to conduct R&D based product development.

Providing a platform for talented human resources in any research fields, and research and innovation based entrepreneurs.

Increasing direct economical impact from any research activities, and turning the research and innovation sector into a long term investment destination.

3 Directions and 7 Targets

3 Directions
1. Integrating research and innovation (human, infrastructure, budget) resources
   - To improve critical mass, the capacity and competence of Indonesian research in producing inventions and innovations as the foundations of Indonesia Maju 2045.

2. Creating an open (inclusive) and collaborative "global standard" research ecosystem
   - For all parties (academia, industry, community, government).

3. Creating the foundation of a strong and sustained research and innovation based economy
   - With focus on digital - green - blue economy.

7 Targets
1. Integrating major governmental research institutions by January 1st, 2022.
2. Transforming business process and research management to increase the critical mass of research and innovation (human, infrastructure, budget) resources.
3. Refocusing the research program to increase the value added of local natural resources and (bio, geo, art and culture) diversity.
4. Making Indonesia as a global platform for natural resources and diversities based research.
5. Facilitating and being the enabler for national industries and business players to conduct R&D based product development.
6. Providing a platform for talented human resources in any research fields, and research and innovation based entrepreneurs.
7. Increasing direct economical impact from any research activities, and turning the research and innovation sector into a long term investment destination.

Driving Regulations

National Policy
UU No. 11/2019 Pasal 34, 35, 36, 37

National Potential
(research, resources, HR, etc)

National economic strength
(competitiveness)

Research and innovation Grants
- Research Endowment Fund
- Education Endowment Fund
- Dana Perkebunan Kelapa Sawit

Local content
- Inpres TKDN
- Inpres Pemanfaatan PDN

Research is a part of local content

Research & Innovation

Academics + Community
- Universitas
- LPNK
- Lembaga riset
- LSM

Government
- Financial institutions
- Bappenas
- Other ministries

Industry
- Private companies
- State owned companies
- Investor

Procurement
- Perpres 16/2018, 12/2021
- Per LKPP 9/2021
- e-Catalogue for innovation

Incentive for inventors
- PMK 72/2019
- PMK 6/2016
- Royalty for inventors

Incentive for business players
- PP 45/2019
- PMK 153/2020
- Super Tax Deduction 300%

Endowment Fund
- Constitution II/2019 Pasal 62
- R-Perpres Pengelolaan Dana Abadi
- BRIN → pengelola imbal hasil dana abadi terkait

National Talent Management
- Presidential Decree on National Talent Management
- BRIN is responsible for talents on research and innovation.
- BRIN provides platforms for young talents in research to groom themself to be future mature researchers in their fields.

Open Research Infrastructure
BRIN plays as the main provider for research infrastructure for all parties.

Primary Scientific Data Repository
- Constitution II/2019 Pasal 40
- Protection to local wisdom

Procurement
- Perpres 16/2018, 12/2021
- Per LKPP 9/2021
- e-Catalogue for innovation
Struktur Organisasi

DEWAN PENGARAH
Ketua: unsur Dewan Pengarah BPIP
Wakil Ketua: Menkeu, MenPPN
Anggota: 6 unsur profesional dan / atau akademisi di bidang riset

KEPALA BRIN

WAKIL KEPALA BRIN

INSEKTOORAT UTAMA
3 INSEKTOORAT

SEKRETARIAT UTAMA
5 BIRO

DEPUTI
Bidang
Kebijakan
Pembangunan
1 SekDep
4 Direktorat

DEPUTI
Bidang
Kebijakan
Riset
dan Inovasi
1 SekDep
3 Direktorat

DEPUTI
Bidang
Sumber
Daya Manusia
Iptek
1 SekDep
3 Direktorat

DEPUTI
Bidang
Riset
dan Inovasi
Daerah
1 SekDep
3 Direktorat

DEPUTI
Bidang
Infrastruktur
Riset dan
Inovasi
1 SekDep
5 Direktorat

DEPUTI
Bidang
Fasilitasi
Riset dan
Inovasi
1 SekDep
3 Direktorat

DEPUTI
Bidang
Pemanfaatan
Riset dan
Inovasi
1 SekDep
3 Direktorat

Organisasi Riset
OR. Tenaga Nuklir
OR. Penerbangan & Antariksa
OR. Pengkajian & Penerapan Teknologi
OR. Ilmu Pengetahuan Hayati
OR. Ilmu Pengetahuan Kebumian
OR. Ilmu Pengetahuan Teknik
OR. Ilmu Pengetahuan Sosial Humaniora
OR. Kelautan & Perikanan
OR. Arkeologi
OR. Metrologi
OR. Agama & Keagamaan
OR. Bahasa & Sastra
OR. Lingkungan Hijau & Kehutanan
OR. Tata Kelola Pemerintahan & Kesejahteraan Masyarakat
OR. Pertanian & Peternakan
OR. Kesehatan

Pusdatin
Pusyantek
Poltek TN

Sekretariat Non struktural

layanan internal + infrastruktur perkantoran

layanan eksternal + infrastruktur riset

pelaksana teknis riset → OR / Organisasi Riset (Es I/a) + Pusat-Pusat (Es II/a) non–Eselon

Sumber: Perpres 78/2021 tentang BRIN, Peraturan BRIN xx/2021 tentang OTK BRIN
Providing the science-based policy recommendations at national and sectoral level with:

- better helicopter view.
- evidence and data based analysis.
- well proven scientific method.
Improving Research and Innovation Ecosystem

1. Low critical mass, scattered resources.
2. Dominated by governmental bodies.
3. Low collaboration.

BRIN

Talents ~ 70%

Public

Infrastructure ~ 20%

Budget ~ 10%

Global Network

Academics

Business players

STARTUP
BRIN is the ultimate solution for low critical mass, creating the collaboration hub + enabler for multi local and global stakeholders, in particular local industries to enter R&D based product developments.

Business Players
- Free of charge for partners
- Facilitating R&D industry
- Collaboration on industrial problem
- Reducing investment risk on R&D

Academics
- Free of charge for collaborators
- RA (Research Assistantship) students
- Facilitating Startup (Tenant, HKI..)

Open Platform (HR, infrastructure, network)

# Scientifically well-proven
# Comply with regulations / standards

Global Collaboration

Facilitation to stimulate inno-preneurship through direct involvement in any research activities.

BRIN’s KPI:
Increase the private contribution on research

1) Capacity building:
- Recruitment of PhD
- PhD by-research
- Postdoctoral
2) Mobility program:
- MBKM
- Visiting professorship
- Visiting fellow
- Research assistantship

Creative Economy

Improving Research and Innovation Ecosystem

No direct financial support for partners!
1) Developing new business model.
2) Increasing the economic scale.
3) Transforming research activities into new business.
Manajemen Talenta Nasional (MTN) bidang Riset dan Inovasi
Platform dasar untuk peningkatan mobilitas periset

- MBKM
  - S1: Tugas Akhir
  - Infrastruktur riset
  - Biaya riset
  - Co-pembimbing
  - ~ 19-21 tahun

- Riset
  - S2: by-research
  - Biaya riset
  - Infrastruktur riset
  - Co-pembimbing
  - ~ 20-22 tahun

- Tesis
  - S3: by-research
  - Biaya riset
  - Infrastruktur riset
  - Co-pembimbing
  - ~ 21-24 tahun

- Disertasi
  - Pasca-doktoral
  - Biaya riset
  - Infrastruktur riset
  - Insentif
  - ~ 28-32 tahun

- Periset
  - ASN BRIN
    - PNS / PPPK
    - Pegawai Tetap
    - Profesor Tamu
    - Peneliti Tamu
    - Biaya riset
    - Infrastruktur riset
    - ~ 30-50 tahun

- Hibah Riset
  - Infrastruktur riset
  - NIDK / NIDN
  - ~ 40-50 tahun

- Industri / Entrepreneur
  - SKEMA DUKUNGAN BRIN
    - Fasilitasi KL, tenant, pilot plant
    - Lisensi teknologi kunci
    - Periset + infrastruktur riset
  - ~ 19-21 tahun

- Dosen

- RA: research assistantship

+ Kolaborasi Global
TERIMA KASIH

Badan Riset dan Inovasi Nasional
National Research and Innovation Agency

Gedung B.J. Habibie
Jl. M.H. Thamrin 8, Jakarta 10340, Indonesia