



# National Science Techno Park / Techno Park Development INDONESIAN INSTITUTE OF SCIENCE

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# National References

## **VISION , MISION of PRESIDENT → 6th NAWA CITA :**

Build a number of Science and Techno Park in regions, polytechnics and vocational schools with the means and tools of using the latest technology.

- 1. Presidential Regulation No. 32 of year 2011** on Master Plan for the Acceleration and Expansion of Indonesian Economic Development 2011-2025
- 2. Presidential Regulation No. 27 of year 2013** on Entrepreneurial Incubator Development
- 3. Joint Regulation of the State Minister of Research and Technology and Minister of Home Affairs No. 3 and 36 of year 2012** on Strengthening Regional Innovation System
- 4. Presidential Regulation No. 2 of year 2015 on National Term Development Plan for the Year 2015-2019.** This is the direction of the vision, mission and agenda (Nawa Cita) of President Joko Widodo and Vice President Jusuf Kalla

# POLICY DIRECTION

Development of National Science and Technology Park (N-STP) is directed to function as:

- ❑ Science and Advanced Technology Development Center;
- ❑ A New Entrepreneurship Growth Center in Advanced Technology;
- ❑ Center for advanced technology services to businesses and industries.

# DEFINITION

The Official definition by International Association of Science Park (IASP)

- An **organisation** managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and **knowledge-based institutions**.

What to do?

- A Science Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities.

# Distribution of STP/TP/Center for Technology Dissemination Managed by LIPI

Samosir (North Sumatera)  
Dissemination Center for Aquatic  
Management and Fisheries Resources

Enrekang (South Sulawesi)  
Dissemination Center for Bioresource  
Technology

**INDONESIA**  
LOWLANDS HILLS/MOUNTAINS

350 mi  
350 km

Tual (Maluku Tenggara)  
Training Center and  
Dissemination of  
Marine Agro

Cibinong (West Java)  
Cibinong Science  
and Tech Park

Tasikmalaya (West Java)  
Dissemination Center for  
Bioresource Technology

Mataram (NTB)  
Dissemination Center for Marine  
Aqualculture

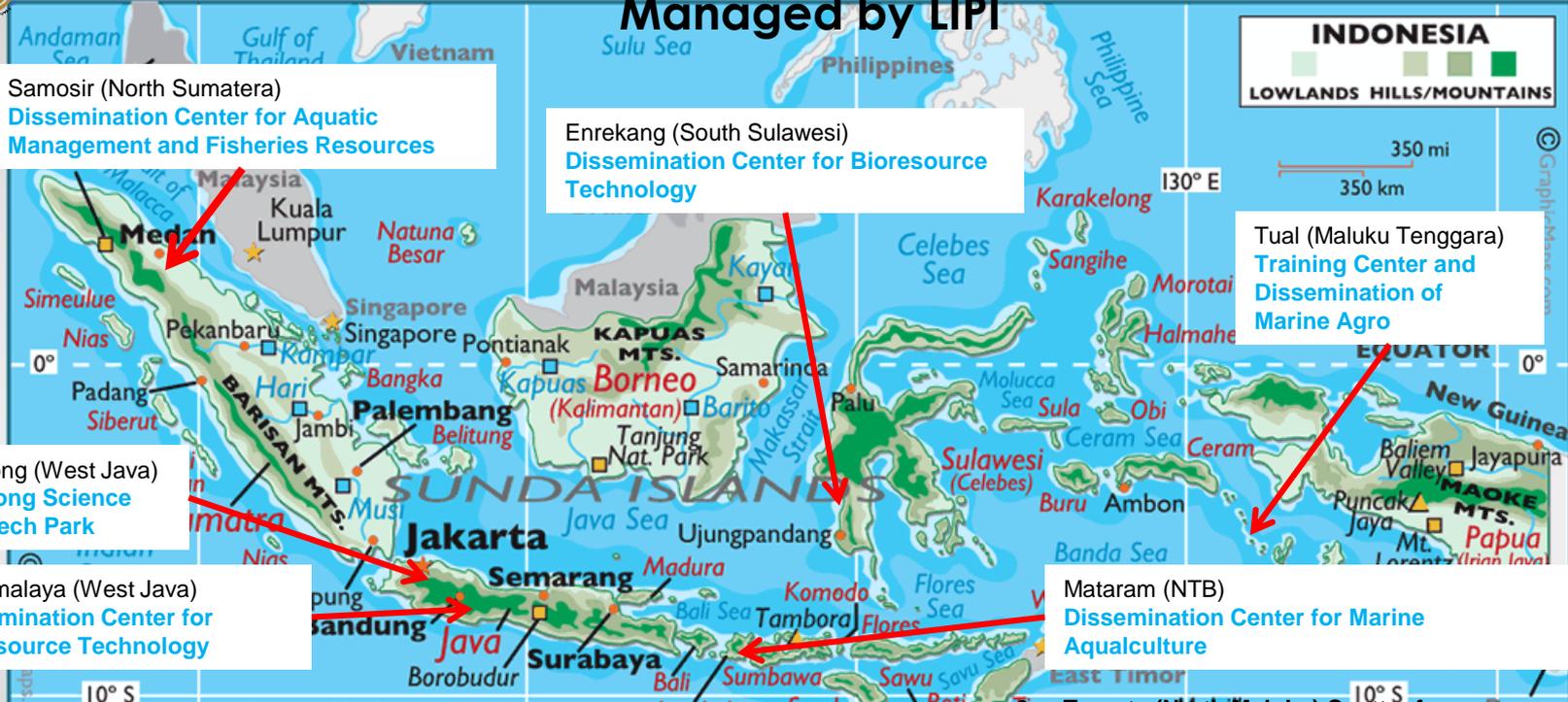
## 2STP/TP

1. Cibinong Science and Technology Park (C-STP)
2. Technopark Banyumulek

## 6 Center for Dissemination (Strengthening Regional Innovation)

1. Samosir (North Sumatera) Dissemination Center for Aquatic Management and Fisheries Resources
2. Mataram (NTB) Dissemination Center for Marine Aqualculture

3. Ternate (North Maluku) Center for Disemination Science and Tech,
4. Tual (Maluku Tenggara) Training Center and Dissemination of Marine Agro
5. Tasikmalaya (West Java) Dissemination Center for Bioresource Technology
6. Enrekang (South Sulawesi) Dissemination Center for Bioresource Technology



# CIBINONG SCIENCE CENTER-BOTANICAL GARDEN (CSC-BG) LIPI as National –Science Techno Park



## Reason CSC-BG as N-STP :

- The area and infrastructure of CSC-BG already have some initial requirements to be developed into STP:
- The existence of research centers : LIPI, BIG, DKP.
- The existence of Center for Innovation which has the task of managing Intellectual Property and transfer Technology from LIPI.
- The existence of Technology Incubator at Center for Innovation as a place of managing startup company result of technology transfer process LIPI.
- Adjacent to IPB, UI, UNPAK, Mall, Horizon Hotel, etc. as an N-STP reinforcement.

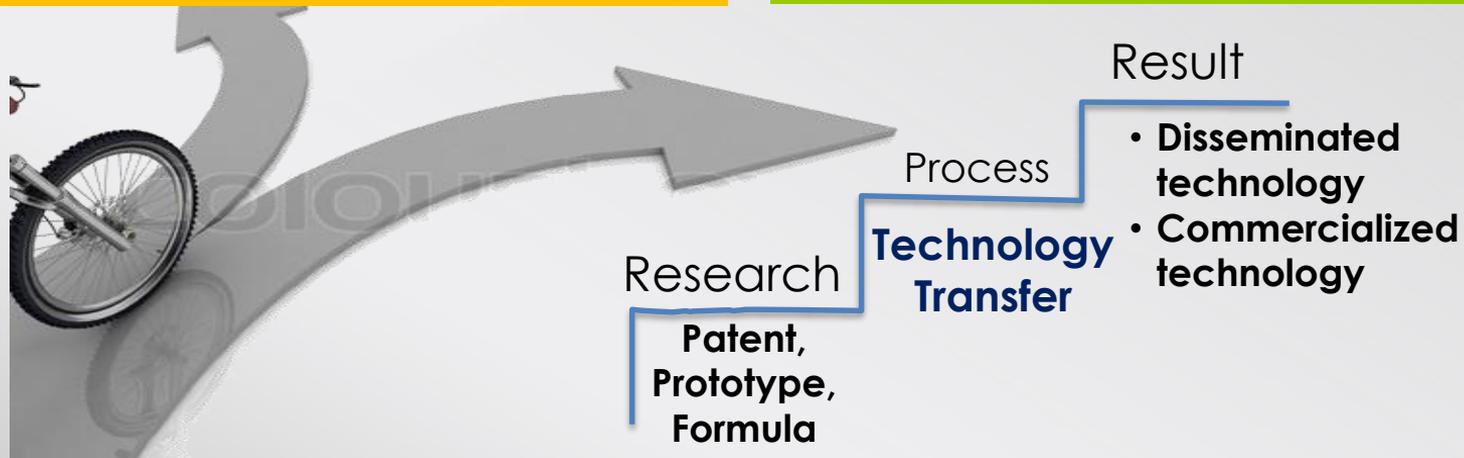
CSC-BG LIPI is expected to become one of the N-STP model in Indonesia

## Commercialization IP & R&D Result.

- Has commercial value.
- Processed material, final product, probe, device, services, etc.
- Benefiting for national industry competitive improvement.
- Case : machineries, therapeutic drugs, paint pigment, food supplements, radar, etc.

## Dissemination of IP & R&D Result

- Low on commercial value.
- Related to society needs.
- Has strategic value for LIPI
- Case : Water treatment, Fertilizer, Hybrid renewable energy generator, disaster prevention devices, new rice paddy plant variety etc.



**Many technologies (patents) and research results from LIPI/R&D institutions/Universities have not been adopted optimally by industries:**

- Low in technology readiness level (TRL) – high risk for industry.
- Good result in laboratory scale, but not yet validated at pilot scale.
- Network with industries has not properly established.
- Different mind set between industry entity and researcher :

## Researchers

- Not profit oriented
- Novel invention, scientific journal, patent.
- The Prototype doesn't meet the needs

## Entrepreneurs

- Profit oriented
- Not accepting high risk of failures
- Only accept Proven technology

The analogy : researcher and entrepreneur are similar to water and oil. This requires mediation and meeting spots

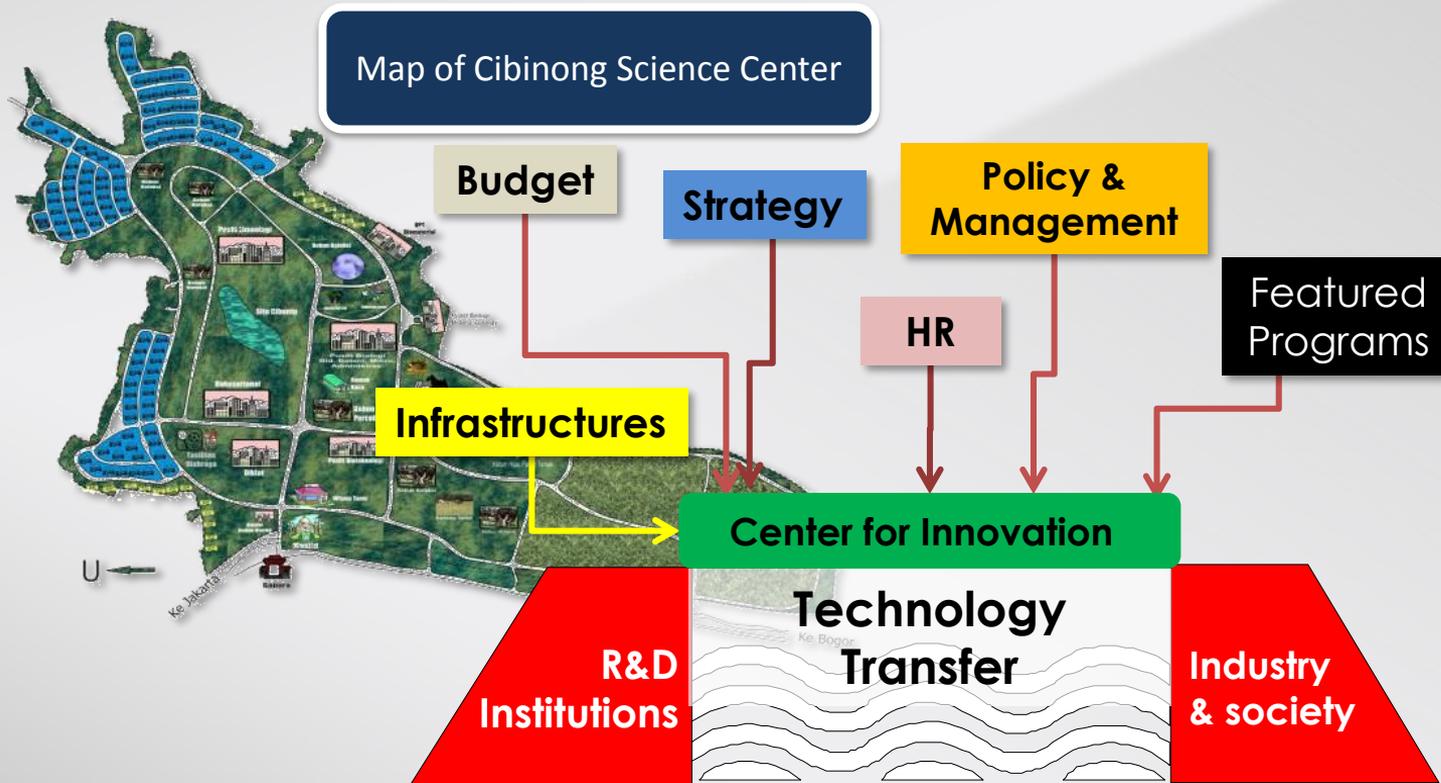
**Commercialisation  
Acceleration**

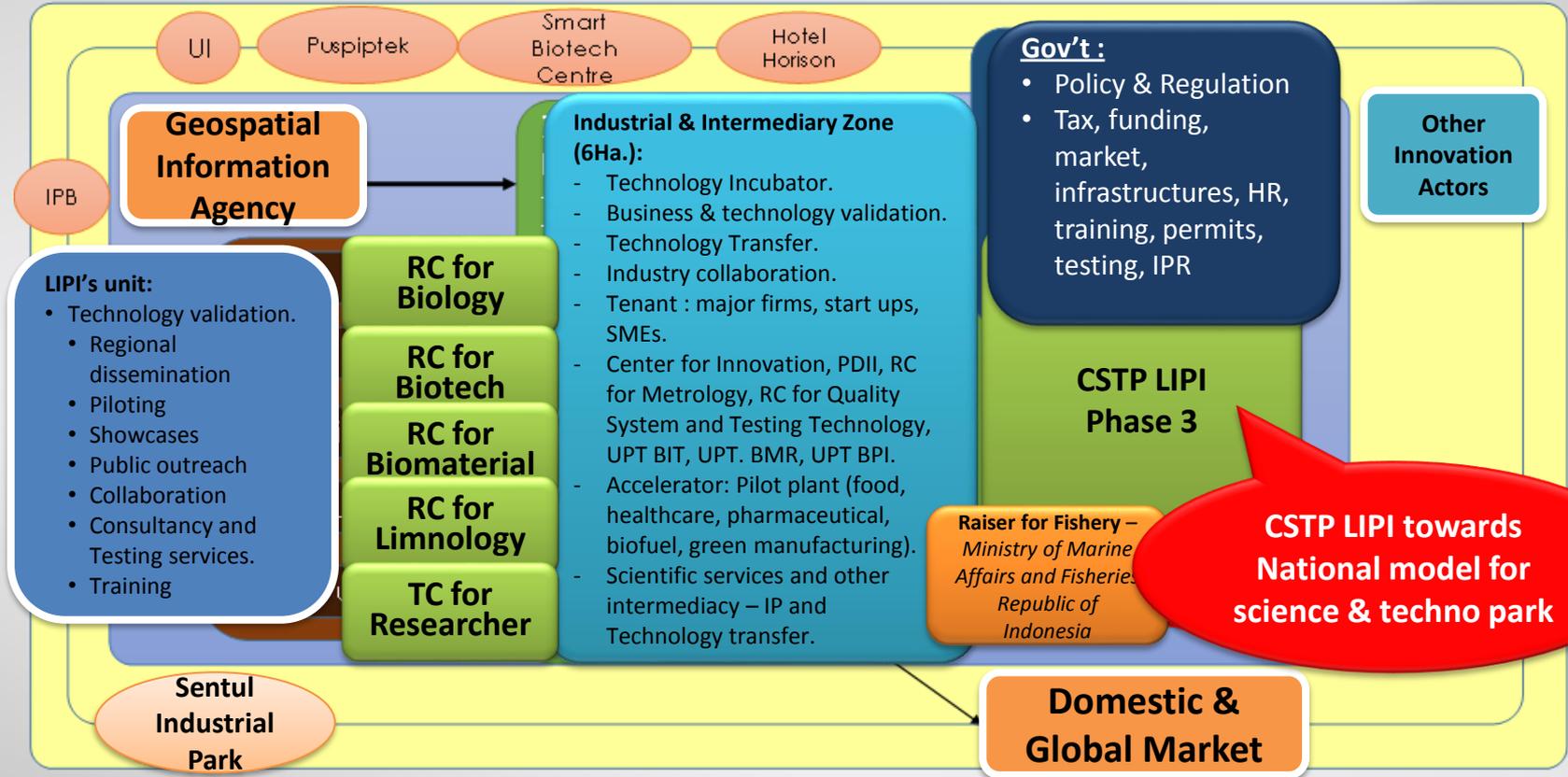
**Incubator & CSTP Development**

# CSTP LIPI GOALS

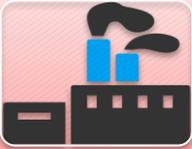
1. Endorsing the growth of research and technology based industries as an economic pillar of the nation.
  - Support innovation ecosystem :
    - a. Infrastructure : R&D, office spaces, & pilot plant
    - b. Regulation and policy instruments: fiscal and non fiscal.
    - c. Access to research centers/ lab., training center, technology intermediation/incubator, technology transfer, funding agencies
2. Accelerating and optimizing technology transfer performance (technology dissemination & commercialization) for industries and society.
3. Establishing Education and Development Center for STI, towards national model for STP.

# COMPONENTS & MECHANISM FOR DEVELOPING CSTP LIPI





# OUTPUT OF CSTP LIPI



**Facilitate the creation and management of technology based start-up companies**

- Target : 7 companies



**Facilitation of Technology License to National Industry**

- Target : 5 Technology License



**Improving Society Skills In Adopting Technology**

- Target : 200 Trained People



**Technology / Products Transferred to the Society / Industry**

- Target : 17 Products



# DOCUMENTATION OF C-STP LIPI



**Assistance of Technology Transfer from Researcher to SMEs**



**Training of West Java Traditional Processed Food Production**



**Training of wood curvature technology for SMEs in Sumedang-Bogor**



**Organic Fertilizer Training for SMEs**



**Granul Fertilizer Training for SMEs in Bogor**



**Training of Cultivation and Processing of Catfish For SMEs in Bogor**



**Technopreneurship Training About Intellectual Property and Design for SMEs in Solo**



**Installation of Clean Water Treatment Located at LIPI Limnology Research Center**

# STUDY OF BENCHMARK, GOVERNANCE, AND INCENTIVE POLICY OF STP



## Places Visited in China :

- Beijing Great Wall Enterprise Institute.
- Beijing National Tech Transfer of CAS
- Nano lab of CAS.
- Tsinghua Univ. Science Park (TusPark).
- Univ. of Science & Tech Beijing
- Zhonggunchun Science Park
- Administrative committee of Z-Park



## Places Visited in Korea:

- Startup Business Support Platform, Incheon National University



**STP Technology / Product  
Promotion at Technology  
Innovation Week in Solo, Bogor**



Training of Dairy Feed Technology (Probiotics and Silage) for 40 farmers in Cijeruk Bogor, May 22, 2017 in collaboration with the Department of Fisheries and Animal Husbandry Bogor, and Cooperative Cattle Breeders.

CV. Bhumi Rasa, a startup that was formed in February 2017, by adopting rice vinegar technology



Training on Capacity Building of TP Samosir in order to Improve Community Productivity and Regional Economy for 20 people, 8-11 May 2017, in Samosir District, in collaboration with District Government of Samosir.

CV. Ar Rohmah, a startup that was formed April 2017, by adopting the technology of Angkak



Local Fruit Seed Propagation Training, for 45 people of farmer group in Bogor area, May 17, 2017, at LIPI Biotechnology Research Center, in collaboration with BappedaLitbang Bogor Regency.

Adoption of wooden curvature technology by the furniture industry in Sumedang Regency, West Java, which will soon be licensed.



## COMMERCIALIZATION OF LIPI PATENTS IN STP CIBINONG 2015-2017

The total number of patents in LIPI  
= 521 patents

521

The number of LIPI  
patents funded for  
commercialization  
= 30 patents

30

9

The number of patents LIPI  
that has been commercialized  
= 9 patents (30%)



**LICENSE of YEAST TECHNOLOGY** LIPI Research Center for Chemistry, by PT Aneka Fermantasi Indonesia. PT Aneka Farmasi Indonesia: the largest tempe yeast factory in the world. Production: 1000 tons / year and meet 60% needs in Southeast Asia.



**LICENSE OF SOIL ENHANCERS TECHNOLOGY** LIPI Research Center for Biology, by PT Anugerah Mustika Ostindo. PT Anugerah Mustika Ostindo: Production and Marketing of Soil Fertilizer by selecting soil fertility microbes.

1) Payment of License and Royalties

2) Turnover

3) Potential State Income via Tax Income & VAT

4) Providing employment



Meet to the regional development planning

Fit with potential natural resources in region

Appropriate technology transfer to people

Introducing and establishment of economic activities partnership



**Center for Freshwater management and Fisheries Dissemination (Samosir – North Sumatra):**  
 Training for entrepreneur candidate (25 participant from Samosir and 20 participant from others); Post-harvesting Management (traditional food canning); Conservation and fish breeding from Lake Toba ; supply of seed (250.000 seeds)



**Center for Marine Biota Management (North Lombok – NTB):**  
 Hatchery pearl oyster, abalone, Sand Fish Sea Cucumber, swimming crabs; Development of plasma IMTA cultivation and Cultivation Training on pearl oyster, abalone and Sand Fish Sea Cucumber to the society and entrepreneur candidate in North and East Lombok



**Center for Science and technology Dissemination (ternate – North Maluku):**  
 Habitat monitoring and Marine Biota Inventory in Ternate and Tidore Island, Maitara and Sofifi Coastal; Cultivation of pearl oyster, fish and tissue culture (multiplication of 1000 planlet banana), and Cultivation Facility Improvement



**Center for Training and Agro Marine Dissemination (Tual – South East Maluku):**  
 Training on sea product management (50 participant); Cooperation on Biological Organic Fertilizer supply for demonstration garden KODIM; Coordination with the Government of South East Maluku; SMEs Assistance



**Center for Science and Technology Dissemination based on Bioresources (Tasikmalaya – West Java):**

Expansion of agroforestry area become 13ha, training on integrated organic farming (125 participant), post-harvesting training, partnership with the society and farmer community, by involving milk processing group, and the bachelor.



**Center for Science and Technology Dissemination based on Bioresources (Enrekang – South Sulawesi):**

Maintanance of Center for bioresources education and training, Biological Organic Fertilizer (POH) liquid and compose, training of POH production, Cultivation of Jati Platinum, Taro, Durian, Langsat, freshwater fish, and post-harvesting product management



**Development of Appropriate Technology (Subang – West Java):**

Post-harvesting , plantation and fisheries technology process and equipment; Dissemination and Application of appropriate technology; production system on engineering process and agro industry; Coffee processing in Sumba Barat Daya, West Lombok, Belu and Rejang Lebong; Cassava Processing in Subang;;Fruit processing in Rejang Lebong, Ternate, Tual, Ngawi, Sumenep; Fisheries Processing in Subang, Bial, Tual, Bangka Belitung, Corn Processing in Sumenep, East Lombok; Livestock product in Subang, Ngawi and East Lombok

1. Collaboration between Government, R&D Institution, Academic, Society
2. Technology meet to demand and natural resources
3. Transfer technology process : dissemination and commercialization
4. Sustainable development linked to regional economic growth



# THANK YOU

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