NEW FOUR PARADIGMS
RESEARCH AND DEVELOPMENT ON FORESTRY AND ENVIRONMENT

Indonesia as a third largest home of tropical forest spread from west to east within a biggest rich biodiversity and culture becomes a major playground for inspiring research and development on tropical forest.
Challenges

- Over the past five decades, global population has doubled. The extraction and processing of natural resources has accelerated over the last two decades, and accounts for more than 90 percent of global biodiversity loss and water stress and approximately half of global climate change impacts.
- Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current business.
- Indonesia is vulnerable to natural disaster that will be exacerbated by climate change, particularly in low lying areas throughout the archipelago. Blessed as biggest rich of natural resources and cultures, thus also facing complex challenges in term of various interests, such as deforestation, forest degradation, forest fire, conflict of land tenure, and natural disaster; facing a choice, environment and/or economic.
- Facing complexity of natural resources, particularly forestland, the management of forest conducted in insufficient knowledge. Research and Development comes to be expected for better environment and live.

Opportunities

- Blessed with a tropical climate and rings of volcanoes, Indonesia with more than 17,000 islands are located between two continents, Asia and Australia, and between two oceans, the Pacific Ocean and the Indian Ocean, brings to the extremely high level of biodiversity, and endemicity, and has a highest level of biodiversity. Covers only 1.3% of the earth's land surface, it harbours over 10% of the world's flowering plant, mammal, reptile, amphibian, bird and fish species. Indonesia with more than also the rich culture, more than 300 ethnic communities with 742 languages and cultures constructs traditional knowledge to manage their forest and living. The big rich resources would have opportunity to reveal what are inside.
- International goals – such as UNFCCC, the Paris Agreement, the Aichi targets of the Convention on Biological Diversity, Land Degradation Neutrality of the Convention to Combat Desertification and the Sustainable Development Goals-SDGs – calling all countries to tackle deforestation and forest degradation, also anthropogenic activities for reducing emission as well; transformation of how use and manage forest land and other natural resources use, particularly in Indonesia.
- FOERDIA was established with a mission to bring scientific knowledge to bear on major decisions affecting the tropical forests and the people who depend on them and become a center of excellence in forestry research.

Research and Development in the Past

As government of Indonesia's research institution; Research, Development, and Innovation Agency-FOERDIA plays the roles on R&D activities; production of knowledge; produces the knowledge on Forest Management, improving forest products value, environmental quality, and managing environment laboratory, and also social economic, policies, and climate change; terminated on thousands of publications, journals, also recommendation for policy makers and practitioners; such linier approach as discrete. The most is constructed as technical issues. While, the social change flooded faster than technical matter. Finally, the research and development was isolated from real facts, raise a symbolic facts
New Research and Development

The Conventional Research and Development came to a close. Actually, every aspect of forestry is political, prompted by social activity. The type of forestry which dominates supposed a political direction to development, thereby, research and development of the role needs a non-linear approach. Indeed, the role of research and development is insufficient for production and coproduction knowledge, but also how to ensure the production should be adopted and adapted as integral part. Decisions are not discrete and technical, facts and values are intertwined. Value judgments play a major role contesting a science to steer forest management in place. Research and Development, nowadays, enhancing to conduct and serve with 3 principles; active, proactive, and progressive.

Paradigm 1: Production, co-production and reproduction of knowledge

Knowledge contributes to the framing of policy issues by defining what evidence can be produced and its policy significance. And those working in policy also frame scientific enquiry by defining areas of relevance and pertinent areas for investigation, jointly negotiating what questions need to be answered and what knowledge can be provided to answer. Not merely to produce or reproduce, this is sometimes referred to as co-production of science and policy.

Paradigm 2: Contestation of Science urges a Campaign and Advocating

The most aim of campaign or advocating is to try influencing a change, promoting research and development results as knowledge; and make a difference on the issues, and for the forester, that would care about. Campaign is a powerful way for brands. It can also be an effective conduit for change. With societies and people across the world facing many challenges to getting better environment, campaigns that heighten awareness can help to change lives for the better making a decision of forest management. Bringing the research results due to its interactive and real-time nature. Campaign of knowledge contesting vary of view of sciences; creates the opportunity for foresters to be more open and connected to each other; flooding much science to enrich views. Building social change at the end.

Paradigm 3: Enhancing Networking

Ensure the network established to enhance Research and development’s social capital, to facilitate the flow of information, to exert influence on the powerful entities/agents, to build research credentials, and also to reinforce identity and recognition. Within each competency of entities, those having limited resources; a collaboration and synergy put a crucial things for bigger and far targets.

Paradigm 4: Virtual 4.0 and Society Era 5.0, Building a Branding

Nowadays, at this Virtual 4.0 and Society 5.0 era in which computers and automation will come together in an entirely new way within human’s thinking; such as information transparency, simple decision making, technical assistance, communication has been reached by research business process at the next years. Research and development comes a way to strengthen their promotions, building “institution branding” as well. The new way of research process will be rewarded for their courage jumping into this new technology within intellectualty of human.
Calling Partners

FOERDIA is calling countries, international organizations, intergovernmental organization, private sectors, and other stakeholders to develop close cooperation in concern with bilateral, multilateral, and technical assistances platform; bringing research and development on tropical forest to drive a decision making based knowledge. Also, engaging multi-partner initiative for.

This document briefly outlines a new paradigm on research and development for Environment and Forestry.

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Country Partners

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