

# Scenario planning dan strategi kebijakan anggaran penelitian dan pengembangan Indonesia tahun 2035 = Indonesias research and development programs scenario planning and budget policy strategy in 2035

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## Abstrak

Penyelenggaraan penelitian dan pengembangan iptek nasional di Indonesia mengalami banyak permasalahan selama beberapa tahun terakhir. Salah satu faktor yang melatarbelakangi permasalahan tersebut adalah litbang iptek yang belum menjadi prioritas penganggaran oleh para pembuat kebijakan, karena masih dikalahkan oleh sektor lainnya. Sementara dihadapan kita persaingan global sudah tidak terelakan.

Penelitian ini bertujuan untuk mengetahui alasan mengapa alokasi anggaran penelitian dan pengembangan iptek di Indonesia sangat rendah serta menganalisis strategi kebijakan anggaran penelitian dan pengembangan iptek Indonesia jangka panjang dengan menggunakan scenario planning.

Penelitian ini menggunakan paradigma post-positivist dengan metode mixed method (metode campuran) yaitu gabungan antara metode kuantitatif dan kualitatif. Ada 3 tahapan dalam penelitian ini: tahap pertama untuk memotret anggaran litbang nasional, tahap kedua dalam rangka membangun skenario dan tahap ketiga untuk membangun grand strategy dan roadmap peningkatan anggaran litbang iptek nasional.

Identifikasi trends, constraints dan issues terkait politik, ekonomi, sosial dan teknologi (PEST), yang menggambarkan bahwa pada tahun 2035 mendatang Indonesia mengalami situasi kondusif dan mampu menciptakan kesejahteraan, baru sebatas harapan untuk menciptakan kesejahteraan, adanya pertumbuhan ekonomi belum menjadi buah manis pembangunan dan kita masuk pada situasi krisis, terpuruk karena faktor politik, sosial, ekonomi dan teknologi yang terus menurun. Driving forces yang paling berpengaruh didapati faktor politik dan ekonomilah yang paling berpengaruh. Kondisi dukungan dari politik berupa regulasi untuk memprioritaskan belanja litbang iptek yang kuat serta dukungan ekonomi yang juga kuat diberi nama skenario Garuda Bertelur Menetas. Garuda adalah negara, Bertelur menghasilkan inovasi dan Menetas adalah terjadinya pertumbuhan ekonomi yang terus meningkat.

Hasil penelitian menunjukkan bahwa politik anggaran nasional, dana penelitian dan pengembangan walaupun sudah masuk program prioritas menjadi pilihan kebijakan oleh pemerintah, namun terkait dengan alokasi anggaran inovasi teknologi masih dikalahkan peruntukan anggarannya oleh program skala prioritas pembangunan utama lainnya. Masih terjadi perbedaan besarnya anggaran pada sebelas program prioritas dalam RPJMN 2010-2014 dengan alokasi anggarannya dikarenakan fiscal space anggaran nasional yang terbatas, namun harus dibagi dengan banyak kementerian/lembaga, pemerintah provinsi, bayar hutang luar negeri dan untuk membiayai program-program subsidi.

Perguruan Tinggi, Badan Penelitian Provinsi, Industri, Swasta dan Badan Usaha Milik Negara masih belum maksimal dalam membelanjakan anggarannya untuk membiayai kegiatan penelitian dan pengembangan dalam mendukung pertumbuhan industri yang dapat menciptakan lapangan pekerjaan dan memberikan kontribusi dalam pertumbuhan ekonomi Selain itu, belum adanya grand strategy dan roadmap yang dibuat oleh pemerintah, perguruan tinggi, badan penelitian provinsi, industri/swasta dan masyarakat terkait

anggaran penelitian dan pengembangan iptek di Indonesia. Keadaan di Indonesia ini bertolak belakang dengan dinamika globalisasi yang terus menuntut perkembangan terhadap penelitian dan pengembangan iptek. Implikasi teoritis dari penelitian ini berhubungan dengan kontribusinya bagi perkembangan teori-teori kebijakan anggaran iptek Indonesia dan grand strategy dalam rangka meningkatkan anggaran litbang iptek nasional.

.....In Indonesia, the implementation of research and development for the country's science and technology sector has been experiencing many problems in recent years. One of the main factors that influence this situation is the fact that science and technology's research and development is not yet a top priority of our policymakers in terms of spending, which saw this sector fall short behind other sectors while the increasing global competition is inevitable.

The purpose of this research paper was to explore the reason behind the low budget allocation for the science and technology's research and development in Indonesia. In addition, this paper would analyze the policy strategy of the science and technology's research and development program in Indonesia in the long term by exercising scenario planning scheme.

The post-positivist research paradigm was used in this paper as well as mixed research method, in which both quantitative and qualitative research methods were combined. This paper is divided into three parts. The first part illustrates the national research and development spending, the second part develops the scenario, and the third part constructs both grand strategy and road map in the enhancement of the national research and development budget. The identification of the trends, constraints, and issues related with politics, economy, social, and technology these days confirms that the goal to bring both conducive atmosphere and welfare to this country by 2035 is still a wishful thinking. While Indonesia, the Southeast Asia's biggest economy, has experienced economic growth in the past few years, it is yet to achieve satisfactory results in terms of development. Instead, Indonesia is currently facing imminent crisis with its political, economic, social and technological factors continue to decline. Out of these four elements, the most influential driving forces in Indonesia are political and economic factors.

In terms of political factor, the support may be in the form of regulations that prioritize substantial research and development in science and technology. While in terms of economic factor, the firm support was named Garuda Bertelur Menetas or literally means Garuda Spawns and Hatch. Garuda, the golden mythical bird that is also the main part of Indonesia's coat of arms, represents the nation, while 'spawns' means 'generate innovation' and 'hatch' means 'the increasing economic growth.'

The results of this paper shows that, in terms of the politics of budget, the research and development fund is already included in the government's top priority. However, the budget allocation for technological innovation in this country is still lower than other main development programs. In fact, there is still a huge gap between the budget for the government's eleven priority programs in the Indonesia's National Mid-Term Development Plan (RPJMN) 2010-2014 and its allocation. This is due to the fact that while the fiscal space of the national budget is limited, is still have to be divided to other Ministries/Institutions, Provincial Administrations, foreign debts, and subsidies. Public universities, provincial research agencies, industries, private parties, and State-Owned Enterprises (SOEs) have yet to maximize their budget expenditure to finance research and development activities in order to support industrial growth that is an engine for job creation and economic growth.

Furthermore, the government, public universities, provincial research agencies, industries/private firms, and society have yet to create both grand strategy and road map in relation to research and development in

science and technology spending in Indonesia. This domestic situation is the complete opposite with the dynamics of globalization, which demands growth to the research and development in science and technology. The theoretical implications of this research are related to its contribution to the development of the science and technology's budget policy in Indonesia as well as the grand strategy to increase the national budget for the research and development in science and technology.