

Grand Strategy of Agricultural Development 2015-2045: Sustainable Agricultural-Bioindustry as Solution to Future Development in Indonesia

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INTRODUCTION

Grand Strategy of Agricultural Development (GSAD) 2015-2045 is formulated as part of the constitutional mandate to achieve a *dignified, independent, developed, fair, and prosperous* Indonesia, no later than 2045 which coincides with the 100 years celebration of Indonesia. This is a momentous occasion to put spirit, and mobilize national resources to achieve the greatest vision as mandated by the constitution. The GSAD is a continuation of the Longterm National Development Plan 2005-2025 and the Master Plan of the Acceleration and Expansion of Indonesian Economic Development 2011-2025. Up until now, Indonesia never formulated any long-term agricultural development plan.

GSAD is formulated as a guidance and a reference for all stakeholders to create synergy, coordination, and complementarity and consensus to achieve a vision, mission and direction of development, agricultural development in particular.

Challenges and opportunities

1. Global climate change reduces the capacity to produce agricultural commodities at the national and global levels, and become a threat to food, energy and water security.
2. Scarcity on the availability and competition of land and water use creates difficulty on land and water extensification for agriculture which ultimately leads to global land and water grabbing.
3. Population growth and urbanization increase demand for food, energy and water, so challenges to achieve food, water and energy security become more difficult.
4. Science and technology innovation becomes more complex and exclusive, so independence on science and technology is a prerequisite to achieve food sovereignty.
5. Industry and trade of agricultural supplies and agricultural products are increasingly occupied by limited number of multinational corporations, so they threaten the existence of predominantly small-scale agricultural businesses in Indonesia.
6. Increasing demand for assurance and complexity of quality attributes create a transparent and traceable global value chain as prerequisite for market access for smallholder farmers.
7. Pressure on a decentralized governance, people's participation, and governance reform, if it is not managed properly, can be a bottleneck for agricultural development.

Opportunities

1. Utilization of large and growing human resource, in particular *demographic dividend*, as a competitive base for Indonesia, include actors for both production (human resource) and development of value chain (unique social capital of Indonesia).
2. Utilization of Indonesia's comparative advantage as tropical and maritime country, as natural as the region with the highest productivity and effectivity in the harvest and transformation of solar energy into biomass feedstock of bioindustry, becomes competitive advantage based on bioeconomy.
3. Utilization of increasing demand for food, feeds, and environmentally-friendly bioenergy, by developing bioindustry which produce those products in a complementary manner.
4. Utilization of new trends on appreciation of environmental and amenity services as an opportunity to develop ecologically balanced agriculture.
5. Utilization of advancement on global science and technology to develop location specific innovation on agriculture and bioindustry through development of innovation system with strong asset of research agencies and universities located around the country.
6. Utilization of land and water resources wisely which is still available in Indonesia, in particular in and out of Java.
7. Utilization of momentum on decentralized government, people's participation and governance reform to develop agricultural politic driven by and targeted toward smallholders.

Direction and conceptual foundation

As an integral part of national development, agricultural development is directed to achieve the objective of national development as mandated by the constitution, namely an independent, developed, dignified, fair, and prosperous Indonesia. In accordance to that paradigm then the GSAD is formulated with the perspective of Indonesia's agriculture which is independent, dignified, developed, fair, and prosperous.

The suitable conceptual framework to pursue that direction are:

1. At the national level, economic development is based on the paradigm of "*agriculture for national development*" cum "*development for agriculture*".
2. At the sectoral level, "*development of a sustainable agricultural-bioindustry system based on bioculture*".

The paradigm of "*agriculture for development*" mentions that national economic development is designed and implemented based on stages of agricultural development and agriculture is positioned as driving force for national development. This paradigm at the same time should be balanced by the paradigm of "*development for agriculture*". This paradigm is necessary because agriculture should be supported by other sectors.

The paradigm of "*agriculture for development*" emphasizes that agricultural development encompasses 10 functions, namely:

1. Development of human resources;
2. Food security;
3. Stengthening household livelihood security;
4. Potential bases of energy security (development of bioenergy);
5. Poverty alleviation and development of equality;
6. Natural environment services;
7. Potential bases for bioindustry development;
8. Creating conducive environment for development;
9. Strengthen economic resiliency;
10. Source of quality growth.

Basic principles, vision, mission, and goal

Basic principles:

1. Good governance;
2. Good policy making process;
3. Sustainable inclusive development;
4. Paradigm "*agriculture for development*";
5. Sustainable agricultural development based on *community, natural environment, and agribusiness actor*;
6. Agricultural development focuses on smallholder farming;
7. Based on local resources;
8. Biobusiness enabling environments as public infrastructure.
9. Healthy competitive and fair market system.

Vision: "Achieve a sustainable agricultural bioindustry system to produce diversified healthy foods and high value added products from tropical agriculture and maritime resources".

Mission:

1. Develop spatial planning and agrarian reform;
2. Develop farming system of integrated tropical agriculture agroecology bioindustry;
3. Develop economic activities on production inputs, information, and technology;
4. Expand and deepen post harvest, agro-energy, and rural bioindustry;
5. Develop marketing system and value chain management of agricultural products;
6. Develop agricultural financing system;
7. Develop research system for agriculture-bioindustry development oriented toward location specific innovation, quality human resources, enhancement of agricultural entrepreneurship, and strengthen social capital;
8. Develop and maintain agricultural and rural infrastructures to facilitate the process of agricultural and economic transformation;
9. Implement legislative program, regulation, and imperative management.

Goals:

1. Industrial farmer with average income of US\$ 1,845/capita /year in 2020 and industrial farmer and agro-services with an average income of US\$ 7,500/capita/year;
2. Increased income and standard of living of rural population to eliminate poverty in rural areas by 2030;
3. Increased economic welfare of Indonesia to become upper middle income country with GDP of US\$ 5,740/capita/year in 2020 and high income country with GDP of US\$ 12,000/capita/year in 2040;
4. Achieved food independence in 2020, national food sovereignty in 2020, and community food sovereignty in 2045;
5. Achieved independence on energy based on bioenergy in at least 25% of villages in Java by 2020 and in all over the country in 2035;
6. Integrated agriculture-bioindustry in rural areas to substitute imported carbohydrate at least 50% in 2025 and 100% in 2030 and substitute fossil-based products at least 25% in 2025 and 75% in 2030;
7. Developed bioservices/agro-services of at least 25% of villages in 2030 and in all villages in 2040;
8. Developed a sustainable integrated bioeconomy of at least 25% of villages in Java by 2035 and in whole Indonesia in 2045;
9. A sustainable decrease of labor absorption in primary agriculture (on-farm) from 39% in 2010 to 20% in 2025, and 7% in 2045, along with a decrease on the share of agriculture's GDP from 15.3% in 2010 to 6% in 2025 and 3% in 2045.
10. Increased on labor absorption in bioindustry from an estimate of 6% in 2010 to at least 18% in 2025 and 12% in 2045, along with an increase in the share of its GDP from 13% in 2010 to at least 24% in 2025 and 14% in 2045.

Strategic policy:

1. Policy on science and innovation;
2. Policy on production supplies;
3. Policy on farm practices;
4. Policy on agricultural processing industry;
5. Policy on market and trade;
6. Policy on agricultural infrastructures;
7. Policy on human resources;
8. Policy on development of farmers's institution;

In addition, some policies are also needed in the areas of: macro economic, agrarian and spatial management, and food, water, and energy security.

Stages of implementation

1. 2013-2015: Create foundation for a sustainable agricultural bioindustry;
2. 2015-2019: Strengthen the foundation for a sustainable agricultural bioindustry;

3. 2020-2024: Build a system of agricultural bioindustry;
4. 2025-2029: Create an independent and efficient food and agriculture;
5. 2030-2034: Create an independent and efficient agriculture and food security;
6. 2035-2039: Promote a quality and fair livelihood;
7. 2040-2044: Achieve a dignified, independent, developed, fair, and prosperous of Indonesia.

CONCLUSION

Grand Strategy of Agricultural Development 2015-2045 which emphasizes on the development of agricultural-bioindustry offers a new concept and approach on future agriculture development in Indonesia. This approach is in accordance to the emerging challenges related to resource constraint, climate change, science and innovation, as well as governance issues. However, to what extent the vision is achieved depends on the extent by which the concept is reflected in the short-term and mid-term development planning exercise.

References

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