

Indonesia's Agriculture Competitiveness

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INTRODUCTION

Recent dynamics of global economic development revealed the importance of agricultural competitiveness improvement. The need for improving agricultural competitiveness will be even more imperative for Indonesia because of its large and growing population, which was estimated at more than 258 million persons in 2016, hence making it a large market for agricultural products.

There are various definitions and indicators of competitiveness. In this study, in the regional context, the agricultural competitiveness is defined as the ability of a region to develop agribusiness by providing facility, protection, empowerment and regulations, which create an enabling environment for optimizing local resources utilization for the highest farmers' welfare in a sustainable manner.

In face of the trade liberalization, Indonesia must speed up efforts for enhancing the agricultural competitiveness from both the demand and supply sides. From the demand side, it should be noted that the consumers' preference for a product is increasingly complex, a ramification of some high value attributes as determined by the consumers' value perception. Whereas from the supply side, producers' competitiveness is determined by their abilities to reveal the consumers' preference.

Agricultural competitiveness and related policies have not been at full strength in entering the global markets. Regional agricultural competitiveness is among the important issues to be addressed. Specific determinants of regional competitiveness should be identified, analyzed, and discussed in detail so that a structured and comprehensive policy for strengthening agricultural competitiveness can be developed. This study is focused on computation and mapping of each regional (regencies) agricultural competitiveness nationwide.

The main objective of this study is to design a policy framework for enhancing agricultural competitiveness in each region. More specifically, the objectives of the study are: (a) to identify factors determining agricultural competitiveness; (b) to do the mapping of agricultural competitiveness at national and regional level; and (c) to identify leverage factors of agricultural sectors.

Analytical framework

Several approaches are applied, namely Analysis of Hierarchy Process (AHP), Multidimensional Scaling (MDS), and Participatory Prospective Analysis (PPA). These three analytical tools are applied for both province and regency analysis using both primary and secondary data. Secondary data were collected at the provincial and regency levels to produce agricultural competitiveness maps. Meanwhile, primary data used AHP, MDS, and PPA analyses. These data were collected using focused group discussion based on a set of criteria.

There are four sets of criteria (4 pillars) as follows. Pilar 1, Region Characteristics Carrying Capacity: (a) the gifted territorial uniqueness dimension, (b) economic dimension,

and (c) infrastructure dimension. Pilar 2, Farming (agribusiness) Capacity: (a) capacity of resources, infrastructure, and facilities dimension, (b) institutional and innovation capacity dimension, (c) demand capacity dimension, (d) structure and competition capacity dimension, (e) supporting and related industries capacity dimension. Pilar 3, Governance: (a) fiscal dimension, (b) institutional and security dimension. Pilar 4, Regional Agricultural Performance: (a) output dimension, and (b) quality of life dimension.

Factors determining the rank of agricultural competitiveness

Results of stakeholder analysis show that the pillar of regional characteristics and carrying capacity contribute most along with the pillar of the farming (agribusiness) capacity with the weight of 26.7% and 26.6% respectively. The next pillars are governance (25.3%) and regional agriculture performance (21.4%).

Referring to the first pillar (region characteristics and carrying capacity), it appears that the primary dimension is the gifted territorial uniqueness dimension. The main aspects for each dimension are those of demography, financial and monetary, and social infrastructure. In addition to the main indicators are population, elevation areas, airport capacity, inflation, tertiary sector's share to GDP, potential of society saving value, import share to GDP, mailing and delivery service capacity, service of middle and high education capacity, telephone service capacity, modern market services capacity, cooperative organization service capacity.

In addition, details of the second pillar (Farming/Agribusiness Capacity) show that the primary dimension is Structure and Competition Capacity. The main aspects of each dimension are land resources aspect capacity, input capacity, demand aspect for industry and exports, aspects of exertion structure and industry of fertilizers, pesticides, feeds, and agricultural equipment capacity. The main indicators are non-plantation dryland share size, agricultural labor force availability, slaughter house capacity, agricultural technician capacity, availability of land plowing equipment, capacity use of pesticides, share of processed foods in the total food consumption, share of hotel and restaurants in GDP, average livestock ownership, foreign dispute private business, conflicts of agricultural land tenure, ruminant breed production capacity, region pesticide industry capacity, livestock processing industry capacity, foreign and domestic agricultural investment value.

The third pillar (Governance) has a perception toward the main dimension of Fiscal capacity with major aspects are fiscal policy and institutional capacity. The main indicators are fund transfer, agricultural input subsidy (fertilizers and seeds), number of regional service units, crimes and criminality level.

The fourth pillar (Regional Agricultural Performance) has the lowest score with perception toward the primary dimension, i.e. output. The main aspects from the pillars dimensions are growth and income aspects. The main indicators of the pillars are share of the poor farmers, agricultural labor force growth, agricultural work force education, and poverty severity rate index.

Agricultural competitiveness map

The provinces dominated with regencies with high competitiveness are East Java, South Sulawesi, North Sulawesi, Riau, East Kalimantan, Bangka-Belitung, and West Sulawesi. Furthermore, the provinces dominated with moderate competitiveness regencies are: Central Java, West Java, East Nusa Tenggara, North Sumatera, Lampung, Central Kalimantan, Central Sulawesi, South Kalimantan, Southeast Sulawesi, West Kalimantan, West Sumatera, South Sumatera, West Nusa Tenggara, Jambi, Bali, Maluku, Banten, Kepulauan Riau,

Gorontalo, and D.I.Yogyakarta. The provinces dominated by low competitiveness regencies are: Papua, Aceh, West Papua, Bengkulu, North Maluku, and DKI Jakarta.

Agricultural competitiveness leverage

National competitiveness shows that in general it belongs to the category of sustainable competitiveness, those with the value of MDS above 50%, amounting to 54.3%. Pillar 3 (Governance) is still below 50%, i.e. 47.1%. The number shows that the overall governance is still an important concern of the agricultural competitiveness. More specifically, there are two provinces having MDS value below 50%, namely West Papua and Papua provinces. Other provinces show a relatively sustained competitiveness although in almost all provinces there are some regencies with low or moderate competitiveness index.

MDS analysis generates a list of aggregate levers. Those levers are as follows: (1) share of processed food in total food consumption; (2) the level of land productivity; (3) food consumption per capita; (4) agriculture intensification level; (5) agriculture development institution capacity; (6) average land tenure; (7) share of hotels, restaurants, and trade to GDP; (8) service of middle and high education capacity; (9) agricultural land conversion rate; (10) health services capacity; (11) bank credit value; (12) crop manufacturing capacity; (13) the level of fiscal independence; (14) agricultural input subsidy (fertilizer and seeds); (15) potential society saving value; (16) share of tertiary sector to GDP; (17) change of agricultural land ownership rate; (18) decreasing rate of poor farmers; (19) private investment value (foreign and domestic); (20) inflation rate.

Results of PPA analysis indicate that the focus of national competitiveness lever indicators is: (1) rate of agricultural land conversion; (2) agricultural development institution capacity; (3) food consumption per capita; and (4) the level of land productivity. The fourth lever is expected to increase demand, competition and innovation capacity, and agricultural institution.

CONCLUSION

Results of this analysis imply some important policy implications. *First*, we need a policy mix that is able to increase agricultural commodity demand from the consumers' side. The policy mix should also be directed to increase the availability, affordability, quality, and sustainability of agricultural products. *Second*, a conducive and fair business competition at the regency level is important in increasing regional agricultural competitiveness. It requires a policy mix that on one hand can effectively protect agriculture from unfair competition, while on the other hand, we also have to promote the fact that agriculture is able to compete in exploiting growing market opportunities. *Third*, it is necessary to promote a sustainable innovation to increase productivity and competitiveness of agriculture. Agricultural mechanization policy should be pursued in response to increasing production cost, particularly labor.

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