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DETERMINANTS OF THE LACK OF INTEREST IN CULTIVATING MEDICINAL PLANTS IN WONOGIRI, CENTRAL JAVA

Faktor-Faktor Penentu Rendahnya Minat Membudidayakan Tanaman Obat di Wonogiri, Jawa Tengah

M. Bakti Samsu Adi[1*)], Devi Safrina[1)], Slamet Wahyono[1)]
[1]Research Center for Pharmaceutical Ingredient and Traditional Medicine, National Agency of Research and Innovation, Cibinong, Bogor Regency, West of Java 16915, Indonesia
*e-mail: m.bakti.samsu.adi@brin.go.id

ABSTRACT

Indonesia is among the countries producing medicinal plants for domestic and foreign demand. Nevertheless, Indonesia keeps importing a variety of medicinal plant kinds. One reason for this is farmer's lack of interest in cultivating medicinal plants, which is interesting to observe considering that, in terms of market share, ecology, and geography, all of them support the development of medicinal plant cultivation. This cross-sectional study with observations and interviews aims to get primary data to identify the factors causing the lacking interest of farmers in cultivating medicinal plants. In October 2018, we conducted our data collection. Statistics Indonesia (BPS) provided secondary data on the production and trade of medicinal plants from 2009 to 2020. We did descriptive data analysis. The results showed several factors caused farmers to be less interested in cultivating medicinal plants. Expense fluctuations, the length of the planting period, technology, and access to marketing, until the government's attention has not been optimized are the contributing factors. It should make efforts to increase the interest of farmers in cultivating medicinal plants. There are ways to encourage people to grow medicinal plants as their primary source of income, including stable prices, market accessibility, efficient cultivation, and post-harvest technology.

Keywords**:** medicinal plants market, medicinal plants commodities, raw materials, market demand, national resiliency

ABSTRAK

Indonesia merupakan salah satu negara penghasil tanaman obat (TO) baik untuk memenuhi kebutuhan domestik maupun ekspor. Akan tetapi, Indonesia juga masih menjadi importir beberapa jenis TO. Salah satu penyebab hal tersebut adalah masih rendahnya minat petani untuk membudidayakan TO, yang menarik untuk dicermati, mengingat dari segi pangsa pasar, secara ekologis dan geografis, semuanya mendukung pengembangan budidaya tanaman obat. Studi potong lintang dengan observasi dan wawancara ini bertujuan untuk mengidentifikasi faktor-faktor penyebab rendahnya minat petani dalam membudidayakan TO. Pengumpulan data primer dilakukan pada bulan Oktober 2018. Data sekunder tentang produksi dan perdagangan tanaman obat dari tahun 2009 hingga 2020 didapatkan dari Badan Pusat Statistik (BPS). Analisis data dilakukan secara deskriptif. Hasil penelitian menunjukkan beberapa faktor yang menyebabkan petani kurang berminat membudidayakan tanaman obat yaitu fluktuasi biaya, lamanya masa tanam, teknologi, dan akses pemasaran, hingga perhatian pemerintah yang belum optimal. Oleh karena itu perlu dilakukan upaya untuk meningkatkan minat petani dalam membudidayakan TO. Ada beberapa cara untuk mendorong masyarakat memilih menanam tanaman obat sebagai sumber pendapatan utama mereka, antara lain harga yang stabil, aksesibilitas pasar, budidaya yang efisien, dan teknologi pascapanen.

Kata kunci: pasar tanaman obat, komoditas tanaman obat, bahan baku, permintaan pasar, ketahanan nasional

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INTRODUCTION

Currently, the growth of medicinal plants as a commodity is not as good as that of food crops. The government has set many policies to support the use of natural materials in self-reliance in the health sector. But in practice, its application still has some flaws (Siahaan & Aryastami, 2018). The experience of the Covid-19 pandemic is quite a precious lesson on the importance of independence in the health sector. The utilization of natural biodiversity as a health resource will be the foundation for the formation of national resilience (Ruskar et al., 2021).

From 2012 to 2020, Statistics Indonesia data on exporting medicinal plants, aromatics, and spices to various countries. The annual volume ranged from 250,348.8 tons to 386,943.8 tons (excluding the domestic market), demonstrating that medicinal, aromatic, and herbs have a market share. Because of its high biodiversity and agrarian society, Indonesia has the potential to become a significant producer of medicinal raw materials on a global scale (Suliasih & Mun'im, 2022). It also presents enormous potential for reducing poverty from an economic and health standpoint (Astutik et al., 2019; Siregar et al., 2020).

The need for the traditional medicine industry for spices, for example, ginger, aromatic ginger, turmeric, and galangal, is very high. One of Indonesia's largest spices producer regions is Wonogiri Regency (Listyana, 2017; Susanto et al., 2018). In contrast to the high demand for and purchase of the price of medicinal plants, few people are still prosperous through medicinal plants. There is a gap between the market potential and the level of community welfare. There are still few people who focus on the field of medicinal plants, especially in the upstream area, starting from cultivation to the post-harvest process. Most medicinal plants are cultivated part-time because they are not farmer's main businesses (Mirza et al., 2017). Statistics Indonesia data shows that in 2021, in all regions of Indonesia, there will be only 40 companies that focus on bio-pharmaceuticals, most of which are on the island of Java (Irjayanti, 2021). We conducted a study to determine the factors causing the lack of interest of the community or farmers to cultivate medicinal plants intensively. We expect the results will design policies to encourage farmers to pursue medicinal plant cultivation as food crops that have developed well.

METHODS

The research was carried out on Wonogiri Regency with farmers and collectors of medicinal plants as respondents. The data used in this study includes primary and secondary data. Primary data comes from interviews with respondents, while secondary data comes from Statistics Indonesia. This study used a cross-sectional method to get data from 80 respondents of medicinal plant farmers through interviews and observations. On Wonogiri, Central Java, we collected data in October 2018. The sample population comprised farmers who cultivate medicinal plants. They interviewed farmers and collectors to get data on education levels, types of cultivated medicinal plants, places of sale, and selling prices. We conducted in-depth interviews with several farmers to find out their interest in farming medicinal plants, including obstacles in cultivating medicinal plants. The interview process used a questionnaire which was then analyzed descriptively. Secondary data comes from information on medicinal plant production and trade from 2009 to 2020, which is available on the website https://www.bps.go.id/. We analyzed all data descriptively using LibreOffice Calc to process the graphs presented.

RESULT AND DISCUSSION

The market demand for medicinal plant raw materials fluctuates from year to year. Figure 1 is Statistics Indonesia data from the customs data of the Directorate General of Customs and Excise. It illustrates the cumulative tonnage of trade in medicinal plants and spices exported to several countries from 2012 to 2020 (BPS, 2021). Even though it fluctuates, the evidence proves that the demand is not less than 250,000 tons per year. This figure does not include the number of needs for small to large domestic industries whose value becomes greater when combined. It must balance this high demand with an increase in the upstream business, namely the intensive cultivation of medicinal plants.

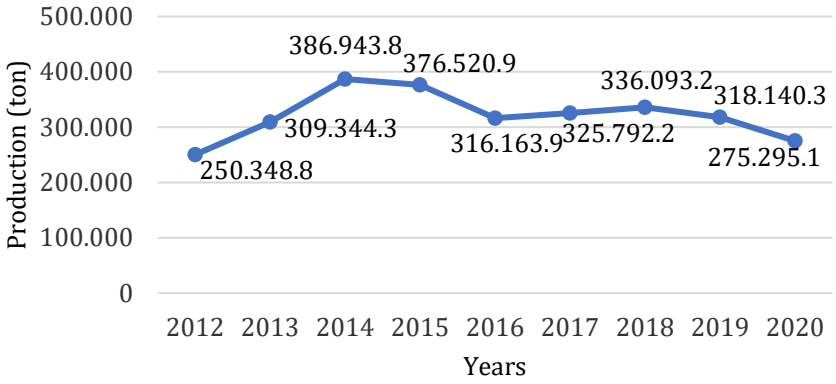

Figure 1. Export volume of medicinal plants, spices, and aromatics (source: Statistics Indonesia)

The export value of Indonesian herbal medicines in 2013 reached US$ 23.44 million. The growth of Indonesian herbal medicine exports during the 2009-2013 period experienced an increase of 6.49% per year. This is not comparable to the import value of Indonesian herbal medicines from the world in 2013, which reached US$ 7.26 million, while imports in the January-June 2014 amounted to US$ 1.54 million. The main imported products for Indonesian herbal medicines from the world in the January-June 2014 period were ginger, with an import value of US$ 929 thousand. Other spices, with an import value of US$ 444 thousand, and curcuma, with an import value of US$ 145 thousand (Kemendag-RI, 2014).

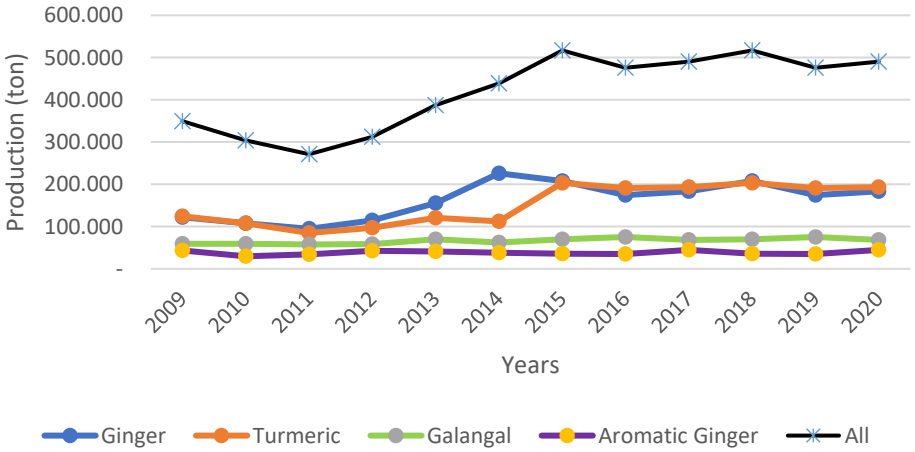

Figure 2. Production volume of four medicinal plant commodities (source: Statistics Indonesia)

Figure 2 shows Statistics Indonesia data on the four most widely used medicinal plants from 2009 to 2020. The production volume for galangal and aromatic ginger commodities is relatively stable, while ginger and turmeric experienced a surge in production in 2016 and 2017 until above 200,000 tons.

The total volume of medicinal plant production from the four commodities in Figure 2 was higher than the volume in Figure 1 compared to the same year. The domestic market demand is still large. It reinforced this because Indonesia still imports medicinal plant raw materials from abroad. They recorded the volume of fresh imports for ginger commodities at 3,846 tons (2018), 21,749 tons (2019), and 19,204 tons (2020), while turmeric was 1,586 tons (2018), 1,434 tons (2019) and 1,943 tons (2020)(Sumartini et al., 2021). The data shows an enormous market potential for medicinal plant raw materials in Indonesia.

Ginger and turmeric are plants that thrive in Indonesia. The high demand for medicinal plant raw materials shows that existing cultivation has not met domestic needs. Farmers' challenges in developing spices include a lack of knowledge of cultivation techniques, a lack of creativity in increasing production, and a lack of facilities and infrastructure (Wardana et al., 2020).

Good cultivation management must meet the needs of medicinal plant raw materials. The goal is to have the domestic industry not depend on imported materials. Medicinal plant cultivation currently lags behind food crop cultivation, which is a challenge for stakeholders. Fulfilling the needs of the herbal medicine industry only 30% from cultivation, the rest from direct harvesting to nature (Hidayat & Supartoko, 2017). Farmers cultivated unused lands, such as paddy embankments and slender unoccupied lots. This scenario illustrates the limited interest of farmers in cultivating medicinal plants as their primary source of income. Government, business, and academics must provide exceptional support and cooperation concerning capital, facilities, structures, development strategies, and the competitive environment (Diniarti & Iljanto, 2017).

Economic interests are the root cause of the lack of interest of farmers. It relates to the speed of getting fresh funds for daily living expenses. Farmers in interviews stated that the lengthy period from planting to harvesting, especially spices, made them unable to rely on medicinal plant cultivation as their main livelihood. The stakeholders must make improvements in several sectors if we want to draw the attention of farmers. Improvement steps can be through policies on transferring technology, developing farmer-industry partnerships, expanding production facilities, and improving distribution systems (Nauly, 2016), including capital incentives.

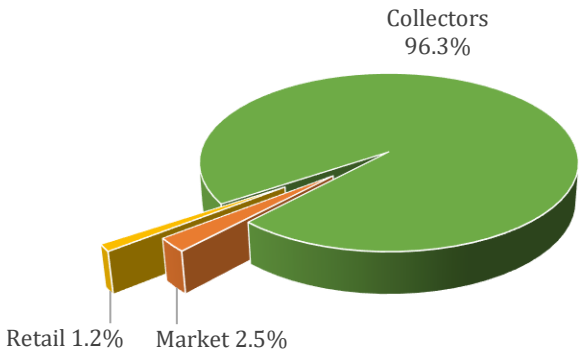

Figure 3. The place to sell medicinal plants

Farmer's limited access to market their products is another reason for their reluctance. Figure 3 describes most of the farmers selling their crops to collectors. This condition makes the selling price vulnerable to being manipulated by collectors because there is no other choice of place to sell. Weak bargaining power due to low quality, quantity, and capital make farmers unable to reach better markets (Rasmikayati et al., 2021). The strategy for increasing medicinal plants is focused on increasing domestic production oriented towards national medicinal plant productivity. The preparation of clusters of medicinal plants specifically for the development of medicinal plants from upstream to downstream is intended to facilitate the application of quality standards so that they can be accepted in the global market. The development of technology, such as superior seeds with higher productivity and resistance to certain pests and diseases, is a strategy to increase the competitiveness of medicinal plants that the government should carry out. Technology dissemination oriented toward increasing the efficiency and sustainability of Indonesian medicinal plants also needs to be socialized among farmers (Nurjati, 2022). Another factor that makes it less appealing for farmers to cultivate medicinal plants intensively is the fluctuating and varying selling prices.

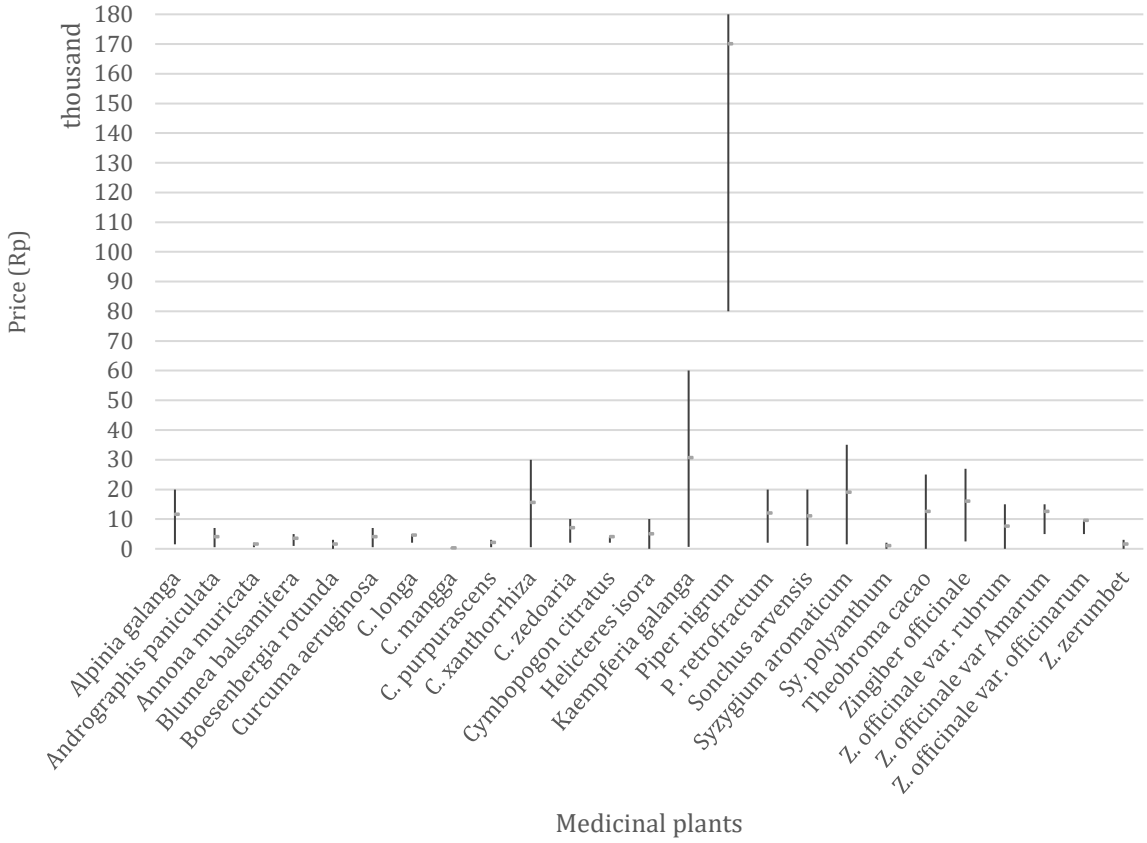

Figure 4. The disparity in selling prices between farmers and collectors

Figure 4 illustrates the price variations in the medicinal plants produced by farmers. There is a striking difference in the level between farmers and collectors. The improvement in the quality of medicinal plants and 'collectors' marketing abilities causes these differences. Meanwhile, farmers only harvest and sell it directly without treatment. This disparity, during the COVID-19 pandemic, of course, became more volatile given the higher market demand (Sadiyah, 2021). The

market for medicinal plants is still limited and exclusive, although demand is quite high both locally and for export (Alqamari et al., 2017). Low production and supply factors cause the difference (Ayu et al., 2022), so collectors pay extra for a sufficient supply. To overcome these issues, we can learn from the case of plant disparities and apply supply management principles to production time and distribution efficiency (Firdaus, 2021).

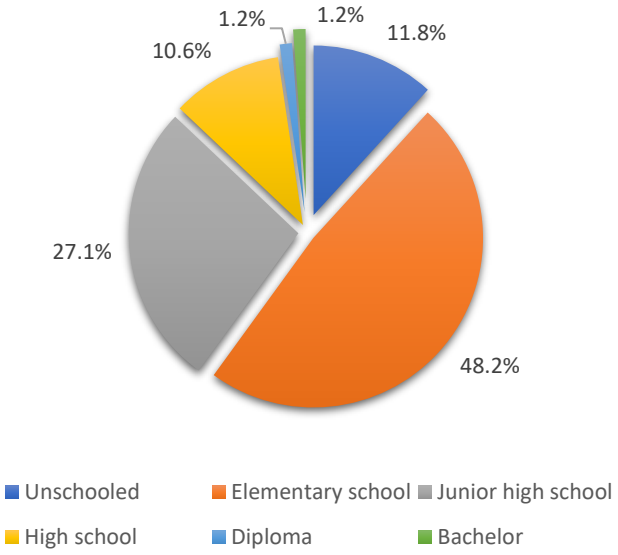

Figure 5. Education level of respondents

Poor knowledge of cultivation and post-harvest technology for medicinal plants has made farmers unable to produce quality products at competitive prices. The cultivation of medicinal plants is still traditional and without intensive care. At harvest, post-harvest care is only washing or cleaning. Technological factors, climate, rainfall, and pests affect the quality (Panjaitan et al., 2020). The WHO requires several quality parameters for medicinal plants related to the content of their secondary metabolites. To meet the requirements of the WHO, we must focus on good cultivation and post-harvest processes (WHO, 2007). The implementation of counselling for the development of medicinal plant cultivation can be carried out by fostering farmer groups, especially to help farmers to be willing and able to apply medicinal plant cultivation technology properly according to the principles of Good Agricultural Practices (GAP). It is hoped that applying GAP will increase the productivity and quality of medicinal plant production (Mulyono et al., 2021).

Figure 5 revers that most 'farmers' education is as elementary school graduates (48.2%). The low level of education is a factor in the lower ability to absorb knowledge and technology of medicinal plant cultivation. They need graduates as drivers and mentors to transfer the latest cultivation and post-harvest technologies so that farmers can increase the value and quality of medicinal plants. The quality of human resources is still minimal, so they require guidance and training to improve their ability to maintain the quality of cultivated plants (Nugroho & Ningsih, 2017).

Government attention to medicinal plant farmers is very much needed, especially in increasing the knowledge of medicinal plant farmers from cultivation to post-harvest. A partnership pattern that benefits medicinal plant farmers needs to be formed: accelerating downstream medicinal plant commodities. The development of technology, such as superior

seeds that have higher productivity and are resistant to certain pests and diseases, is a quality improvement strategy that the government should implement. A partnership pattern that benefits medicinal plant farmers needs to be formed to accelerate the downstream of medicinal plant commodities. The government must provide more incentives so the farmers can become the backbone of independence in the health sector. Abundant natural resources in Indonesia are a big part of achieving the independence of medicinal raw materials. The success of increasing the productivity of medicinal plants can be realized through the cooperation of all stakeholders, such as farmers as production agents, partners, academics, researchers, and related governments.

CONCLUSION

Based on the results and discussion, we conclude that price fluctuations, growing season, production continuity, market access, and quality requirements make farmers reluctant to cultivate medicinal plants intensively on Wonogiri. This condition makes farmers not want to rely on medicinal plant cultivation as their main livelihood. Business certainty requires government support and intervention, both from price stability, market access, and mastery of technology so that the cultivation of medicinal plants can make farmers prosperous. The government needs to facilitate the knowledge of technology for farmers through coaching programs and policies that favor them.

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