

Never become dead mice in the rice barn: the quest for turning nutritious local food into fuel for Indonesia's HR development

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ABSTRACT

This paper attempts to discuss valuable momentum on how local foods could fuel Indonesia's quest for developing quality human resources (HR). By law, Indonesia is expected to be an advanced economy by 2045. However, the current trajectory, especially regarding Indonesia's current incompetent HR, does not support this policy target, which is recently exacerbated by the Covid-19 pandemic. This exploratory paper draws primarily on Fahmida et al.'s study (2020) on Indonesia's local foods. It argues that, currently under-preferred, Indonesia's local foods are expected to be a viable solution to this concerning circumstance. Indonesia has a plethora of locally affordable and accessible nutritious local foods that could significantly help the nation develop competitive HR. Cross-sector convergence and coordination, including civil society, religious communities, and academics, need to be strengthened to promote healthy food intake based on locally available nutritious foods.

INTRODUCTION

Local foods play a pivotal role in people's efforts to fight undernourishment (Fahmida, Pramesthi, & Kusuma, 2020). Experts believe local foods are generally nutritious and safe for the environment, considering their less-processed-ness (Fahmida, Santika, Kolopaking, & Ferguson, 2014; Hobbs, 2020; Khomsan, 2021). Besides being nutritious, locally affordable foods are critical in a crisis, like the current Covid-19 pandemic (Hobbs, 2020). Unfortunately, local foods are in most cases, especially in a developing country setting, underutilized and underestimated.

For instance, one can easily find that in a developed country, say, New Zealand, *tempeh* (fermented soybean cake) and *kumaras* (sweet potatoes in *Te Reo Maori* – the Maori Language) are relatively pricey¹. Considered local foods in Indonesia, both are valued and sought after in NZ, considering their high nutritional content. The kumara is even believed to be soulful and divinely protected and blessed by a god (Addis, 2008). Conversely, in Indonesia, *tempeh* and *kumaras* or *ubi jalar* (sweet potatoes) are generally not at people's top preference, even though they are inexpensive, locally accessible, and rich in nutrition.

This situation is concerning regarding Indonesia's current noncompetitive human resources (HR). Because, studies (Dewey & Begum, 2011; Khomsan, 2015) have identified that food and nutrition intake play a pivotal role in establishing quality HR. The stark disconnection between the locally available nutritious foods with people's preferences is conspicuously unfortunate (Khomsan, 2021).

Furthermore, the current Covid-19 pandemic has posed at least two relevant corollaries. Firstly, people generally lost jobs mainly due to restrictions and decreasing demands. However, the creative ones are proved to survive and strive during this pandemic. It shows that quality HR could be the nation's economy's savior. Secondly, as it gravely impacted the global supply chain, food production and availability in the market are decreasing. Meanwhile, many nutritious local foods, especially regarding their production and distribution in Indonesia, are relatively unaffected (Hobbs, 2020; Khomsan, 2021).

Drawing primarily on the results of a study on local foods by Fahmida, Pramesthi, & Kusuma (2020), this paper seeks to explore if local foods could fuel Indonesia's quest for quality HR development as mandated by law. This paper was prepared by analyzing

¹ In 2017, for instance, the price per kg of *tempeh* in NZ was around 15 GBP and gold *kumara* about 3.5 GBP. At the same time, both products in Indonesia were similarly around 0.50 GBP per kg.

secondary evidence sources, i.e., journal articles, commentaries, and news from credible sources. Relevant policy recommendations are proposed.

A DREAM TO BE A DEVELOPED NATION

In *Visi Indonesia 2045* or Indonesia's Vision 2045, President Joko Widodo emphasizes that the nation's economic progress and prosperity can be achieved if primarily driven by superior human resources (HR). The president's directive is also stipulated in Indonesia's 2020-2024 Medium-Term Development Plan (RPJMN) and the Government's Work Plan (RKP) for 2020 and 2021 (Bappenas, 2020). Indonesia's several policy targets related to HR development include reducing maternal mortality and stunting, providing nutritious foods, improving the quality of children, and improving the quality of HR that are ready to work or *siap kerja*. Such endeavors are also part of Indonesia's commitment to the global sustainable development goals (SDGs).

The RPJMN stipulates that Indonesia's economic resilience is currently still hindered by matters like limited food availability, the low purchasing power of the community, insufficient food consumption, and inadequate food quality (Bappenas, 2020). The national plan infers an urgency that the existing national food planning system has yet to be optimally orientated towards improving the nutritional status of society. Meanwhile, having an adequate community nutritional status determines whether the quality and competitive HR development would be successful. Various research results (Martorell, 2017; Prendergast & Humphrey, 2014) state that, besides quality education and parenting systems, human capital's quality is determined from the early age development of humans, especially regarding how they fulfill their food and nutrition intake.

Based on the national vision and the plan above, the ideal is that Indonesia would have superior human resources by 2045. Unfortunately, such an ideal has not matched the current development trajectory, mainly due to the food intake problem. The people have yet to focus on nutritional adequacy and food diversification (Jazuli, 2021; Khomsan, 2015). People excessively concentrate their consumption on rice, which goes alongside this adage: *kalau belum makan nasi, belum makan*, or if you have not eaten rice, you have not eaten. The country's rice consumption per capita reaches around 135 kg per year, constituting about 60 percent of the total food intake (Rachman & Ariani, 2008). It markedly exceeds that consumed in Thailand (99 kg) and Malaysia (81 kg) (Patunru & Ilman, 2020). This figure shows how people may still undermine food and nutrient sources other than rice.

Unfortunately, this situation could significantly hamper Indonesian HR development, mainly because it would notoriously cause this daunting health problem: stunting (Fahmida et al., 2020; Khomsan, 2015). Indonesia's stunting rate among children under five is the third highest in Southeast Asia. Its prevalence has remained high for the past ten years. The results of the National Basic Health Research (*Riset Kesehatan Dasar - Riskedas*) in 2018 show that more than 30.8 percent of Indonesia's toddlers are stunted (Fahmida et al., 2020).

Experts have agreed that any nation should never underplay early age health problems, especially stunting (Dewey & Begum, 2011; Lim et al., 2018), which could 'extraordinarily' harms the quality of a country's HR. One of the direct causes of stunting is the insufficient intake of nutrients caused by a lack of access to healthy foods. It is also caused by the people's lack of knowledge and parenting patterns to provide and select healthful and nutritious food for toddlers.

Table 1. Human Capital Index (HCI) of ASEAN countries

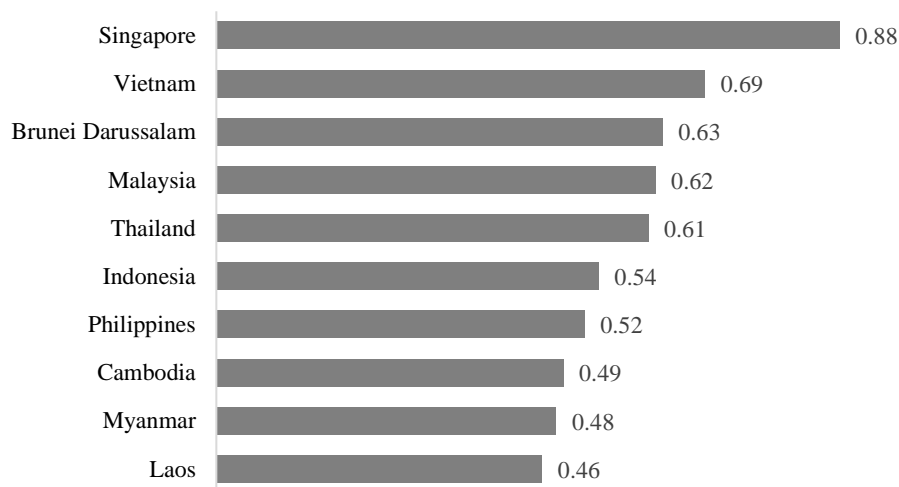
No	Country	HCI rank
1	Singapore	1
2	Vietnam	38
3	Brunei Darussalam	56
4	Malaysia	62
5	Thailand	63
6	Indonesia	96
7	Philippines	103
8	Cambodia	118
9	Myanmar	120
10	Laos	126

Source: (World Bank, 2020)

Indonesia's latest Human Capital Index (HCI) - an index that measures the productivity of the next generation of workers based on complete education and health benchmarks - to some extent, reflects this HR problem. It ranked 96th out of 174 countries and 6th among Southeast Asian countries (World Bank, 2020) (see Table 1). Indonesia's 2020 HCI score is 0.54, which is still below the Asian (0.59) and the world average (0.57). It is far behind its neighbors (see Figure 1), such as Malaysia (62nd), Vietnam (38th), and Singapore (1st) (World Bank, 2020).

Moreover, the current Covid-19 pandemic intensifies Indonesia's hardship to develop competent HR as mandated by law. It is reported that the pandemic's grave impacts are continuously unfolding, including in the fields of food security and intake. Dynamic restrictions, such as abrupt tightening, loosening, and re-tightening, have exacerbated unequal access to food worldwide, including in Indonesia (World Bank, 2021). This situation puts significant pressure on the most impoverished even to meet their essential needs such as basic foods, let alone nutritious ones.

Figure 1. ASEAN's 2020 Human Capital Index



Source: (World Bank, 2020)

During this pandemic, more than 30 percent of Indonesia's households, in general, have experienced food shortages, as they were reported eating less than their regular food intake. These families, mainly coming from the bottom 40 percent, primarily reside outside urban areas like Jakarta. Apart from such a food crisis, they have also been experiencing income drops, finding themselves out of work due to essentially their low capacity and skills (Bodamaev, Tuwo, Tandipanga, Fatmaningrum, & Valero, 2020). To this end, this pandemic has indeed hit hard these poor and near-poor families. Such a circumstance could arguably lead to their food security status deterioration.

LOCAL FOODS IN INDONESIA: THEIR POTENTIALS AND MOMENTUM

Indonesia has developed regulations implying the urgency to optimize locally available food for the nation's sustainable growth. These policies include Government

Regulation No. 17/2015 on Food and Nutrition Security, and Presidential Regulation No. 83/2017 on Strategic Policy for Food and Nutrition. They primarily emphasize the need to develop a food and nutrition plan, based on the principles of cross-sector coordination, to ensure food availability and affordability and improve people's nutritional status.

The food policy infers that ensuring the availability of food that is locally accessible has been a concern of the government. It is in line with various studies that locally available nutritious food plays a significant role in the community's sustainable health and prosperity, especially during a pandemic (Hobbs, 2020; Lal, 2020).

In good times, such a local-food-centered policy may not be as interesting for the public. However, in times of difficulties, such as the current Covid-19 pandemic, there could be a window of opportunity (Kingdon, 2014) to reinvigorate this policy's spirit. This pandemic, in other words, is a vital momentum to reconsider and take stock of our development trajectories towards, as mentioned in the 2045 vision, Indonesia as an advanced economy powered by qualified and competitive human capital.

However, one could worry about whether such vision is feasible by looking at the current HR condition, especially regarding its insufficient nutrition intake. In this sense, this Covid-19 should prompt the public's attention that Indonesians' inadequate nutrition intake and poor food diversification would be nothing but intensifying such HR problems.

Meanwhile, Indonesia has long been rich in locally affordable plant and animal-based food, such as root tubers (i.e., *kimpul*, *gembili*, *garut*, sweet potatoes and cassavas), vegetables, nuts, legumes, eggs, and fish. Other nutritious foods like *tahu* (tofu) and *tempeh* are super-affordable in Indonesia. They are, however, underestimated even though studies and experts believe they are vital for quality HR development. Thus, as empirically confirmed by Fahmida et al.'s research (2020), it is paramount for the government and society to pay more considerable attention to the production and consumption of such food sources.

Fahmida et al.'s study investigated Indonesian food and nutrition intake, as it is confirmed to play a crucial role in helping the nation develop superior human capital. The analysis centered on what countless studies have demonstrated as a critical problem in HR development: stunting. During 2017-2020, local food optimization analyses using Linear Programming were conducted initially in 37, then extended to 50 (SEAMEO-RECFON, 2020) stunting priority districts in Indonesia. The study found that some vital nutrients such as iron, calcium, and folate, which come from animal protein and green vegetables, were severely inadequate in the diet of Indonesian toddlers.

As for the details, inadequate nutrients in each age group of the toddlers include iron, folate, vitamin B12 (6-11 months); folate, calcium, zinc (12-23 months); folate, calcium, vitamin C (24-35 months); and calcium, folate, vitamin C (36-59 months). Furthermore, the study concludes that in Indonesia, local foods have a significant potential to answer people's need for nutritious foods. Local foods are simply a variety of locally available food sources, not local specialties (Fahmida et al., 2020).

Looking at this nutrition intake problem, the researchers developed a guideline for balanced nutrition based on local foods or *panduan gizi seimbang berbasis pangan lokal* (PGSPL)². The guideline generally shows the nutritional situation for each region and offers locally affordable foods and local recipes to boost locals' nutrition intake. These recipes are rich in nutrient-dense ingredients, considered able to tackle the above nutrient inadequacy. They are primarily composite foods with three or more food groups, such as staple foods, animal protein, and vegetables (Fahmida et al., 2020).

For example, there are *bubur hati ayam*, *bubur lambuk*, *dayok nabinatur*, *otak-otak ikan bangka*, *sayur lempah darat*, and *tempe orek* from the western part of Indonesia, and *petatas*, *binte bilahuta*, *kapurung*, *uta kelo* and *ilabulo* from the eastern part. The PGSPL also promotes the consumption of various tropical fruit that generally grows well across Indonesia, such as papaya and bananas (Fahmida et al., 2020).

The guideline was empirically tested in two areas, namely Malang and Sambas. The result showed significant positive outcomes in increasing the local community's food diversity and nutrient intake. A positive effect of decreasing anemia among pregnant women and increasing height among children was seen in the Sambas District (SEAMEO-RECFON, 2020). Overall, locals' consumption of animal- and vegetable-sourced protein also increased (Fahmida et al., 2020). This research shows hope that local foods could help realize the government plan to reduce stunting's prevalence rate to 14 percent by 2024 (Bappenas, 2020).

It is unfortunate that due to globalization, people's perceptions of local foods have considerably changed. They are commonly considered lower class than imported and western-sounded foods that are often expensive. As a result, people tend to think that healthy foods are pricey. In response to such a situation, Fahmida et al.'s study shows that locally available foods in Indonesia are nutrient-rich and affordable. Increasing public knowledge of these affordably nutritious local foods is crucial (Fahmida et al., 2020). Also,

² For more details about the PGSPL, check out Fahmida et al.'s (2020) study at <https://drive.google.com/file/d/18Cm-poyCWljUmhcbpgN1bwEAdMw9z4HE/view>

interestingly these foods mostly come with valuable philosophical stories, even making them rich in value-added.

For instance, the Simalungun people³ believe that *dayok nabinatur* is a means of conveying blessings (Indonesia.go.id, 2019). Philosophically, people consuming this village-rooster-based food (*ayam kampung jantan*) are expected to receive blessings and find peace in life. Parents would hand *dayok nabinatur* over their youths before leaving the town for working or studying. The handover is accompanied by prayers and advice for the chap to live happily in their new place. Such a food divinity strongly resonates with that of the NZ kumara (Adds, 2008).

Ultimately, these local foods play a pivotal role in establishing a solid foundation of competitive HR development in Indonesia, free from any malnutritional risk. These findings support various studies' findings that consumption of animal-source foods was positively associated with success stories in fighting the prevalence of stunting (Fahmida et al., 2014; Prendergast & Humphrey, 2014). Also, the above locally available nutrient-dense local foods need to be promoted to prevent and reduce problems related to malnutrition, especially stunting, which notoriously hinders the development of competent HR.

For example, a study in Guatemala (Martorell, 2017) indicates significant improvements in adult human capital and economic productivity resulted from early age nutrition interventions. Studies from other countries such as Malawi (Fahmida et al., 2014), Brazil, Philippines, India, and South Africa, as well as many other developing economies (Prendergast & Humphrey, 2014), support this powerful stance that promoting nutrition intake improvements in young children in low-income countries is crucial for developing superior human capital.

Further, it should be a concern that the vulnerability of people's access to food is an essential part of the impact of the Covid-19 pandemic. To this end, focusing on the exploration and consumption of locally available foods is expected to help optimize the distribution of nutritious food ingredients. The decreasing food access due to the pandemic should be considerably mitigated by local food cultivation in the community, enhancing the potential of local food self-sufficiency (Hobbs, 2020; Khomsan, 2021; Lal, 2020). The pandemic shows that policy recourse to focus on local foods, including their production, distribution, and consumption, is possible and essential. It is also a golden

³ Simalungun is a regency in the North Sumatra Province, Indonesia.

opportunity to help meet the food and nutrition intake of the community, regardless of the dire impact of the pandemic.

CONCLUSION AND RECOMMENDATIONS

A famous Indonesian idiom goes ‘like dead mice in the rice barn’ or *seperti tikus mati di lumbung padi*. It generally refers to how a rich country in terms of its nature and natural resources could not become prosperous mainly due to its inability or ineptitude to utilize these resources. Indonesia, as discussed above, is endowed with abundant nutrient-rich food sources. These locally affordable and accessible foods, if well-produced, distributed, and consumed, would significantly contribute to the development of qualified and competitive human resources (HR) as mandated by law in Indonesia.

People, especially the poor in Indonesia in this case, cannot be those mice dying in the sea of abundantly available nutritious food sources. For such an endeavor, these recommendations could be considered. Firstly, local food-based guidelines, such as the PG SPL above, can be used as an alternative reference in Indonesia’s food systems, helping the Ministry of Agriculture encourage nutritious local foods’ production and distribution, focusing more on animal protein and vegetables.

Secondly, Indonesia already has a policy framework emphasizing that fulfilling public nutrition cannot be done alone by the government. Thus, cross-sector convergence and coordination, including civil society, religious communities, and academics, need to be synergized to promote healthy food intake based on locally available nutritious foods. The involvement of *Nahdlatul Ulama* and *Muhammadiyah* to promote local food consumption, for example, should be exercised, considering their exceptionally significant influence in Indonesia’s policymaking environment and within society at various levels.

Finally, the involvement of schools and madrasas as the center of education for Indonesian school-aged children cannot be ignored (Jazuli, 2021). Most of the Indonesian children’s time is spent in school before entering their productive age. The urgency of nutrition promotion for school children certainly requires various agencies’ active involvement, such as the Ministry of Education and Culture, the Ministry of Religion, and the Ministry of Home Affairs. Their primary role would be to formulate and coordinate relevant policies in the regions and manage to promote appropriate food and nutrition intake interventions in their schools, madrasas, and local government networks up to the local level.

However, this paper could be deemed too general as it has yet to accommodate the vast food and culture diversity across Indonesia. In that sense, it is hoped to encourage

more research to be undertaken at more local and technical levels. Also, this paper would promote more public awareness of local foods' potentials in leading to more food diversification and lowering the risk of malnutrition-related problems. In the end, this piece would like to become a gentle reminder that healthy and locally sourced foods play a vital role in superior HR making in Indonesia.

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