

# A proposed sustainable welfare measurement for Indonesia



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**Abstract** Welfare is said to be the main goal of economic development in every country, and it is almost believed that the development goal of all existing development concepts is toward prosperity. The concept and measurement of the level of community welfare have very various complex problems. Various researchers have made attempts to measure the welfare of society. The measurement method has also undergone an evolutionary process, from simple to very complex. Measuring sustainable welfare has recently become an alternative measure of welfare, considering the target of achieving the Sustainable Development Goals. This study will review thirteen articles related to measuring sustainable welfare and propose how to measure sustainable welfare in Indonesia. The results of this study found that researchers in various countries have made various modifications to Index of Sustainable Economic Welfare (ISEW) to suit the conditions in their respective countries. However, apart from Putra & Arini (2018), no one has included a digital dimension as a response to current technological developments. Therefore, this study proposes measuring sustainable welfare by adding aspects that can increase or decrease sustainable welfare, namely, the dimensions of digitalization and religiosity.

**Keywords:** socioeconomic development, sustainable development goals, religiosity

## 1. Introduction

Welfare is said to be the main goal of economic development in every country, and it is generally believed that the development goal of all existing development concepts is toward prosperity (Kumlin & Rothstein, 2005; Dreher, 2006). Therefore, many countries and researchers have analyzed current welfare through various methods, such as the Human Development Index (UNDP) (Mangaraj & Aparajita, 2020), Gross National Happiness (GNH) (Tofallis, 2020), Quality of Life Index, Prosperity Index (Wong, 2015), Better Life Index (OECD Country) (Koronakos et al., 2020), Economic Well-being Index (Thiry, 2015), Human Wellbeing Index (HWI) (Summers et al., 2014), Social Progress Index (SPI) (Jitmaneroj, 2017), Index of Sustainable Economic Welfare (ISEW) (A. Menegaki, 2018), and Genuine Progress Indicator (GPI) (Fox & Erickson, 2020).

In fact, Indonesia has set its own measurement of economic welfare known as the people's welfare index (IKraR) by adjusting the cultural, social, and economic conditions in Indonesia. This method was developed in 2012 by the Indonesian Ministry of Social Welfare in collaboration with Statistics Indonesia and is measured by three dimensions, namely, social, economic, democratic and governance, which consist of 22 indicators. During IKraR development, eight indicators were adopted according to the real conditions of the people in Indonesia and modified according to the availability of BPS data.

IKraR, as an indicator of Indonesia's welfare, accommodated the indicators and targets included in the achievement of the Millennium Development Goals (MDGs). However, the target for achieving MDGs, which do not include environmental aspects as its main priority, ended in 2015 and was then transferred to the Sustainable Development Goals (SDGs) (World Health Organization, 2015). Based on the Sustainable Development Goals (SDGs), the government must be able to provide welfare for its citizens without expending natural resources and/or destroying the environment. However, the impacts caused by environmental damage can be problematic. Thus, the welfare index needs to consider environmental aspects as well.

Sustainable development is development that is oriented toward fulfilling human needs through the wise, efficient use of natural resources and considering its sustainable use for present and future generations (Fauzi & Oxtavianus, 2014). The objective of sustainable development is essentially for equitable development from various aspects that have effects on present and future generations. Community welfare emphasizes the minimum use of nonrenewable natural resources to ensure a good quality of life for upcoming generations.

Additionally, Salim (2014) emphasized that the need for a synergy of economic growth with social justice and environmental sustainability requires a shift from development based solely on the economic pillar to development based on three pillars, namely, economic, social and ecological. Furthermore, the latest technology plays a vital role in achieving a



long-term balance between human development and the natural environment, which is essential for sustainable development (Souter et al., 2010; Dyatlov & Lobanov, 2018; Aleksandrov & Fedorova, 2019; CIOCOIU, 2019).

Current technological developments, especially those related to the digital economy, can play an important role in the economy. A study from McKinsey in 2011 showed that the internet helps the economy in developed countries grow by 3.4% because people buy things online (Suliswanto & Rofik, 2019). This study also shows that the internet provides greater entrepreneurial opportunities. In line with this, Brynjolfsson et al., (2018) reported that the development of social media could add almost 0.5 percentage points to GDP growth per year. Several studies have also revealed that the digital economy has a positive impact on the economy (Freund & Weinhold, 2004; Jahangard & Pourahmadi, 2013; Liu, 2013; Qu & Chen, 2014; Elseoud, 2014).

Such conditions encourage Putra and Arini (2018) to modify IkraR to become the Indonesia Sustainable Welfare Index (ISWI), which is based on indicators that are adjusted to real conditions in the digital era and aim to achieve the goals of the SDGs. The variables used also adjust to developments, which include the digital era and technological growth. Both elements are believed to influence human behavior and ultimately can affect the level of welfare. By incorporating social, economic, government, environmental, digital and expectation dimensions, the ISWI becomes more suitable for accommodating environmental quality, consumer expectations, and digital effects. The results showed that the level of digitalization and the expectations of society to consume have a positive effect on well-being. However, modifications to the ISWI need to be made to develop measurements that may not have been included. This article, through a review of several articles, proposes improving the measurement of sustainable welfare in Indonesia.

## 2. Methodology

In this study, the qualitative approach used was a literature review to propose sustainable welfare measurements in Indonesia. A literature review is a method for synthesizing various research findings to build a level of understanding of certain concepts based on evidence and reveal related research areas so that a theoretical framework and conceptual model can be formulated (Snyder, 2019). An integrative literature review was selected as the style. Integrative reviews often aim to evaluate, criticize, and synthesize the literature on a study issue in a way that encourages the emergence of fresh theoretical frameworks and viewpoints. Integrated reviews can also be performed to discuss advanced or brand-new subjects (Torraco, 2016).

By establishing a research question, the planning stage begins (RQ). RQ serves as the primary source for searching the literature. The keywords sustainable economic welfare and sustainable welfare were used. The database used by Google Scholar is selected based on accessibility. The following phase involves quality evaluation, analysis, and synthesis of the data, and it concludes with a discussion of the IR findings. Thirteen articles met the criteria for the analysis and synthesis stages.

**Table 1** Thirteen articles were selected.

No.	Title	Authors
1.	Measuring sustainable welfare: A new approach to the ISEW	Beca & Santos (2010)
2.	The Regional Index of Sustainable Economic Welfare for Flanders, Belgium	Bleys (2013)
3.	Going regional: An index of sustainable economic welfare for Italy	Gigliarano, et al (2014)
4.	More indebted than we know? Informing fiscal policy with an index of sustainable welfare for Greece	Menegaki & Tsagarakis (2015)
5.	Rethinking the energy-growth nexus: Proposing an index of sustainable economic welfare for Sub-Saharan Africa	Menegaki & Tugcu (2016)
6.	Sustainable welfare in the EU: Promoting synergies between climate and social policies	Koch et al. (2016)
7.	The Sustainable Welfare Index: Toward a Threshold Effect for Italy	Armiento (2018)
8.	The National and Regional Welfare Index (NWI/RWI): Redefining Progress in Germany	Held, et al (2018)
9.	The Basic, the Solid, the Site-Specific and the Full or Total Index of Sustainable Economic Welfare (ISEW) for Turkey	Menegaki (2018)
10.	Indonesia Sustainable Welfare Index (ISWI): Measuring Sustainable Economic Welfare at Digital Era	Putra & Arini (2018)
11.	An index of sustainable economic welfare for Romania	Butnariu & Luca (2018)
12.	Hidden linkages between resources and economy: A "Beyond-GDP" approach using alternative welfare indicators	Kalimeris et al. (2019)
13.	The relevance of Index of Sustainable Economic Wellbeing. Case study of Ecuador	Sanchez et al. (2020)

### 3. Results and Discussion

#### 3.1. Sustainable welfare measurement

In recent decades, gross domestic product (GDP) has become widely recognized as an inadequate measure of social welfare and progress, especially since GDP does not allow for any of several relevant socioeconomic problems or environmental degradation. There is a large amount of missing information that is not reflected in the GDP figures. For example, how much environmental damage has occurred because of economic activity (production) has been missed in the GDP calculation, even though this could threaten the sustainability of development.

Additionally, one of the unnoticed social problems was related to income distribution. As a result, the GDP per capita figure does not provide a detailed picture of the conditions of a country's prosperity. Indonesia is a good example of this. Indonesia's GDP continues to grow impressively, but at the same time, the decline in the number of poor people has been slow, and the country continues to struggle with the problem of unemployment.

This has motivated Daly and Cobb to create a sustainable economic welfare index (ISEW) in 1989 that was methodologically improved by Cobb and Cobb in 1994, which intends to measure welfare by adding or subtracting the parts that come from social or environmental considerations (Butnariu & Luca, 2019).

The ISEW was developed to include several aspects of welfare in three component groups: social, environmental, and economic. The ISEW is currently the most relevant measure of economic welfare to use. The ISEW formulation can determine the overall impact of economic activities on human well-being because the formulation distinguishes between the benefits and costs of economic activity. Social problems, such as income inequality, costs associated with pollution and other unsustainable costs, are also a concern. Over the years, the ISEW methodology has been revised several times by researchers from various countries. A number of corrections were made to include aspects of economic activity that could increase or decrease welfare (Bleys & Whitby, 2015).

Beça and Santos (2010) modified the ISEW, which is considered to have weaknesses, among others, in terms of measuring social components and environmental externalities. This is then altered by expanding the adjustment of private consumption and public expenditure in health and education, developing an index to include other aspects of well-being, considering stronger health calculations that decrease welfare in a new component called hazardous lifestyles, and incorporating the calculation of losing more extensive biodiversity. The results of this modification can be compared directly with GDP, which has been used as a measure of welfare. Therefore, one of the main results obtained by this study is that the high GDP growth rate in the US has not been matched by a sustainable increase in national welfare. Likewise, this means that sustainable welfare growth is slower than GDP growth (Butnariu & Luca, 2019).

The ISEW can also be used to measure the impact of economic growth on (sustainable) welfare because economic growth is often accompanied by an increase in environmental costs (Bleys, 2013). In addition, the main factors that cause low ISEW yields are income inequality, environmental degradation, and the depletion of natural resources (Gigliarano et al., 2014; Armiento, 2018). The greatest contributors to the formation of an ISEW are personal consumption, environmental degradation, and noise pollution, and the average cost of environmental damage appears to be greater than the social cost (Menegaki & Tsagarakis, 2015; Sánchez et al., 2020).

To achieve sustainable prosperity, a shift is required from maximizing consumption and production (GDP) toward a sustainable increase in welfare. These changes require greater attention to environmental protection, full employment, social equality, better product quality and durability, and greater efficiency in the use of resources (Kubiszewski, 2018). However, several obstacles emerged, including economic and financial crises; public opinions; barriers related to the indicators themselves, such as the quality and availability of data; and barriers related to potential users, including distrust of (monetary) aggregation. The existence of monetary limitations in quantifying environmental damage means that we are not fully able to construct a monetary value for environmental goods. Thus, if alternative measures of economic welfare are to be used more widely, some of these obstacles must be resolved (Bleys & Whitby, 2015).

#### 3.2. Sustainable welfare measures in various countries

The ISEW has been widely applied at the national level, starting in the United States by Daly & Cobb in 1989 and then being considered by other researchers in various countries, including Germany, England, the Netherlands, Sweden, Austria, Italy, Chile, Finland, the Czech Republic, Poland, Thailand, Belgium, and Australia. A common finding among this series of international studies is the growing difference between GDP per capita and ISEW per capita, particularly over the last two decades. In many countries, these variations can be described by increasing income inequality, increasing costs of resource depletion, and increasing long-term environmental costs. During the 1980s and 1990s, economic welfare levels (as measured by the ISEW) fell or began to decline in most of the countries where the index was calculated (Bleys, 2013; Gigliarano et al., 2014).

Efforts to achieve sustainable welfare can be made by reducing energy consumption, which is difficult to renew; however, this will be difficult, especially for countries that can be categorized as developing (Katuva et al., 2020; A. N.

Menegaki & Tugcu, 2016). In contrast to developed countries, such as Japan, whose sustainable welfare index continues to increase (Kubiszewski, 2018); Turkey (Menegaki, 2018); and Germany (Held et al., 2018), Romania is starting to show growth (Butnariu & Luca, 2019). However, globally, there are worrying signals of the strong dependence of welfare on resource use, such as in India and China (Kalimeris et al., 2020), Belgium (Bleys, 2013), Greece (Menegaki & Tsagarakis, 2015), and Italy (Armiento, 2018).

### *3.3. Measurement of Sustainable Welfare in Indonesia*

Since 2012, Indonesia has officially used the Indonesian Welfare Index (IKRaR) as an index for measuring the level of welfare in Indonesia. According to the Indonesian Government, the Pledge has measured holistic welfare by covering welfare from an economic or social point of view and involving economic, social, and political well-being.

Putra & Arini (2018) has completed the latest research on the measurement of sustainable welfare in detail by modifying variables according to Indonesian conditions and adding digital components (dimensions). The variables used also adjust to developments, which include the digital era and technological growth. Both elements are believed to influence human behavior and ultimately can affect the level of welfare. By incorporating social, economic, government, environmental, digital and expectation dimensions, the ISWI becomes more suitable for accommodating environmental quality, consumer expectations, and digital effects. The results showed that the level of digitalization and the expectations of society to consume have a positive effect on well-being. The results of this study indicate that welfare growth is not accompanied by an increase in environmental quality. In addition, changes due to digitalization might have a positive impact on welfare in Indonesia.

### *3.4. Morals and ethics as additional dimensions of sustainable welfare measures*

The concept and measurement of the level of community welfare that has been developed and applied by several countries has indeed used a multidimensional measure. This can be understood because the issue of public welfare has a variety of complex problems that cannot be solved through a single-dimensional approach; therefore, welfare must be measured in a multidimensional way by considering academic research and a number of concrete initiatives developed around the world (Stiglitz et al., 2009). However, the indexes previously mentioned still do not include the dimensions of religiosity, including the ISWI. Max Weber said that people whose lives are prosperous are people who always increase their motivation diligently, working hard as an outward sign of God's grace. That is, knowing that life is a gift from God, a person will live diligently as a form of gratitude. Therefore, feelings of gratitude for this grace can improve their welfare (Suhendar, 2014). In line with this, French & Joseph (1999) confirmed a positive correlation between religiosity and all welfare measures. Likewise, other studies have shown that religious behavior (religiosity) can drive economic progress or welfare (McCleary & Barro, 2006; Nath, 2007; Eum, 2011; Tu et al., 2011; Suliswanto et al., 2020).

Koch et al. (2016) conveyed that, closer to the concept of sustainable welfare, it is the idea of a 'sustainable society', that is, a society that is economically viable, environmentally sound, and socially responsible. If this is achieved, then sustainable prosperity will automatically manifest itself. This finding indicates that sustainable welfare is also related to human capital and natural capital. The sustainability of this nature truly depends on the role of man himself, as stated in the Alquran Surah Al-Baqarah: 30. Humans, as caliphs on Earth, are responsible for carrying out economic activities while maintaining natural ecosystems and must think that the current perceived prosperity can be passed down for future generations. Concern for environmental sustainability is in fact not only oriented to the environmental aspect itself but also as a guarantee for human survival.

Commonly, the economic orientation of everyone merely generates maximum benefits. He will always try to increase his pleasure without moral considerations. He will avoid altruism because his focus is how to please himself. He will leave the guard of nature because it is considered to hinder or reduce his good fortune. This type of human will pay no attention to others and nature and become selfish creatures who aim to please themselves without moral or religious considerations (Furqani, 2015). As a result, the economic activities carried out will meet inconveniency to achieve an economy that will truly prosper society.

To date, welfare frequently simply calculates output that is considered to meet physical/material needs, which can be measured in terms of monetary value. Moreover, the unmeasurable output with money, for example, the inner peace obtained by relying on religious/spiritual norms, is not considered. However, welfare is determined not only by the level of material prosperity but also by inner peace. This concept will certainly provide broader meaning because welfare is assessed by various circumstances, including the individual's physical, psychological, or level of independence and the individual's social relationship with his or her environment.

In this way, measuring welfare requires the inclusion of moral and ethical dimensions (Sayer, 2018; Rukiah, Nuruddin & Siregar, 2019). These morals and ethics can influence human behavior, including in terms of welfare; a person cannot be superior to prosperity if he or she does not have spirituality or morality (Aydin, 2016; Rama & Yusuf, 2019). If humans uphold morals and ethics, they will certainly care about environmental sustainability and be socially responsible, such as by paying

zakat (Kusuma & Ryandono, 2016). Thus, alternative welfare measures need to integrate material and spiritual welfare or objective and subjective well-being.

#### 4. Final considerations

To this point, the ISEW is the only attempt that has been able to overcome most of the weaknesses of GDP as a measure of welfare regarding the welfare impacts of both macroeconomic activities and social inequality and the impact of economic growth on the environment (Gigliarano et al., 2014). Researchers in different countries have made various modifications to the ISEW by adjusting the conditions in their respective countries. However, apart from Putra & Arini (2018), no one has included the digital dimension as a response to current technological developments. Therefore, this study tries to modify the measurement of sustainable welfare by adding aspects that can increase or decrease welfare, namely, the dimensions of digitization and religiosity (morals and ethics).

#### Ethical considerations

Not applicable.

#### Conflict of interest

The authors declare that they have no conflicts of interest.

#### Funding

No financial support was provided for this research.

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