Examining tri hita karana as the critic to the triple bottom line of sustainable development

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Abstract. The concept of sustainable development was introduced in 1972. In contrast, its recent development since 2015 has a global agenda towards 2030, namely Sustainable Development Goals, where nearly all the countries in the world aim to improve the planet and the lives of humankind. However, after five years of the launch of SDGs, it seems the world is failing to achieve the goals. The concept of SDGs with its triple bottom line might look too surreal on the fact that environmentalists will stay environmentalist and capitalist stay being a capitalist. This paper is qualitative research using secondary data, analyzing the concept of Tri Hita Karana (THK) as local wisdom towards SDGs. The paper criticizes the TBL and compares it to THK, whether it could fit more to sustaining the development rather the existing triple bottom line. The methodology used is literature mapping using multidisciplinary grey literature and articles on sustainable development to explain THK's role and sustainable development. As a result, in three sectors, agriculture, forestry, and fisheries, THK was best implemented in the forestry sector and positively impacted. In the agriculture sector, it is not easy to see THK's implementation. In fisheries, the player is mostly big companies who are not the Balinese, so it is also hard to see THK's implementation in this sector. THK also cover more dimension than TBL, and this is the opportunity to promote local wisdom for achieving SDG despite the challenges it has.

1. Introduction
In 1972, in Stockholm (Sweden), the UN Conference on the Human Environment was held. The conference's theme was that science and technology could solve environmental problems, juxtaposed with the contribution of Indira Gandhi that "poverty is the greatest environmental polluter." In 1982, the UN held another conference in Nairobi, Kenya, known as the Stockholm + 10 Conference [1]. The social and economic drivers of environmental issues leading up to the World Commission on Environment and Development (WCED) were addressed and discussed at this meeting. The 1987 WCED Report, chaired by Gro Harlem Bruntland, further examines the relationship between the environment and the economy. It not only helps to familiarize the idea of sustainable development; it has also shown most convincingly that anthropogenic environmental issues are essentially interdisciplinary and should be treated as such [1]. The book "Our Common Future" by the Brundtland Committee, also known as the Brundtland Report. The report describes sustainable development as "development that meets the present's needs without compromise the present's need for future generations to meet their own needs." The publication of Our Common Future and the making of the World Commission on Environment and Development
laid the groundwork for historical meetings such as the 1992 Earth Summit, the Rio Declaration, and the establishment of the Commission on Sustainable Development. Later, in Johannesburg, on 26 August and 4 September 2002, the World Summit on Sustainable Development (WSSD) set foot in history through the "Johannesburg Declaration on Sustainable Development," a political declaration representing the will of the international community to move towards sustainable development. In development, since 2015, the world has Sustainable Development Goals, as the global agenda towards 2030 where nearly all the countries in the world aim to improve the planet and the lives of mankind.

Freer Spreckley first formulated the Triple Bottom Line (TBL) in a publication called Social Audit - A Management Tool for Co-operative Working in 1981 [2], one year before the Nairobi Conference. The triple bottom line consists of variables that are social equity, economic, and environmental. The term "people, planet, and profit" was then coined by John Elkington in 1994 while at SustainAbility [3, 4] to explain the triple bottom line and the purpose of sustainability. However, the origins of these ideas may date back about 130 years, which is known as the Planet of a Spacecraft (George, 1879/2009) [5]. Kearney’s (2009) study of 99 sustainability-focused organizations found that during the current economic downturn, 18 companies have shown that organizations with policies aimed at protecting the environment and enhancing the social well-being of customers while delivering value to shareholders have financially outperformed their industry peers [38].

However, the world leaders are meeting in September 2019 to discuss the SDGs’ progress and challenges at the UN headquarters. That happened during the 74th UN General Assembly, as the first meeting to evaluate the SDGs after a four-year cycle of implementation and annual review at the High-Level Political Forum on Sustainable Development. It forecasts that the world will not meet the SDGs 2030 targets at current trends until 2073, more than four decades past their target date. [6]. Looking at the world seems fail to make progress towards SGDs, it is urgent to identify what is the best way to ensure the achievement of SDGs. Otherwise, the poverty is not solved, natural resourced will be depleted, and it threat the life of people on earth. In the report, indigenous people are emphasized. The report said that engaging with indigenous people, who have a diversity of know-how and cultures, is therefore needed to implement the 2030 Agenda. [7].

Recent scholars try to review the concept of sustainable development [8] and its triple bottom line [5]. Another scholar critically evaluates the definition of sustainable development on the basis of four themes: population growth and distribution; the capitalist system; ecological systems; and the nature of development. According to the author, they were looking at capitalism, which is linked to materialistic values and consumption growth and is, therefore, a major social mechanism and structure. A paper seeks to examine economic theory contributions to social values literature in sustainability science [10]. They reveal the complexity of the economic and social aspect of sustainability through illustrating that identical topics reoccur, leading to the identification of recurrent characteristics correlated with social values: (1) dynamic human behavior and various desires; (2) the role of human integration in nature, social relations and culture; (3) pluralism and hierarchy of values; (4) public engagement and social learning; (5) accumulation of preferences; (6) interdependence between preferences and utility; (7) distribution, power and justice issues [10].

Meanwhile, as a concept for achieving sustainability, some scholars often explore the significance of local wisdom. Local wisdom can be described as the cultural knowledge owned by a given community, which includes various cultural knowledge relating to models of sustainable use and management of natural resources [11]. Local wisdom is something that has been done in a particular region from generation to generation. It was deemed successful and has stood the test of time, contributing to sustainability.

Meanwhile, ethics is a provision regarding what a person can and cannot do in a certain area, thus enabling sustainability to occur [35]. Thus, there is a relationship between environmental ethics and local wisdom in a given environmental area [35]. Moreover, when the experience is passed down from generation to generation as part of their adaptation to the environment [12], local expertise grows and evolves in society. Tri Hita Karana [13] is one of the local wisdom with a notion of achieving sustainability. Tri Hita Karana’s idea animates the life of the (Hindu) Balinese. Bali Harmonious makes
both the macro and micro cosmos harmonious [14] with the dimension of Parahyangan (harmony between humans and God), Pawongan (harmony among humans), and Palemahan (human harmony with the universe or the surrounding environment [13]. However, the previous researches did not examine the implementation of THK out of the tourism sector. The previous studies only concluded that Indonesian local concepts had been tested. So that it can also be applied in the business world [13], this paper tries to examine the THK as the local wisdom extended to the business sector, as the critic to the triple bottom line.

2. Method
This research uses the descriptive qualitative method using secondary data. The secondary data is acquired through a literature review where the cases are selected based on purposive sampling technique taken in the period between 2010 to 2020 to get more accurate result of possible implementation of THK in the modern world. The selected case is the cases occurs in Indonesia using grey literatures with systematic mapping study (scoping study) and various articles on Tri Hita Karana. The selected case is that the cases occur in Indonesia. The data is analysed with the qualitative descriptive method.

First, the selected sector cases are presented and examined with the THK as the local wisdom, and then they are analysed whether it is replicable and can bring positive impact to the sector nationwide, and whether it fits better to achieve sustainable development compared to the triple bottom line.

The selected cases in this paper are on sectors that use natural resources, which are forestry, agriculture, and marine, based on their contribution to the GDP and their impact on the environment, which later to be analysed with the concept of sustainable development and literature review from 43 references included journals.

3. Results and Discussion
Culture contains values held by society, the norms they follow, and the objects they create. Value is something abstract. Norms are principles or rules that are expected to be obeyed by members of society. Norms represent what can and should not be done in social life [40].

Tri Hita Karana (THK) concept in Bali is the three leads of complete happiness in human life [15]. If every business entity's goal is economic prosperity, in contrast to THK, the goal is to achieve complete happiness as a human being. Meanwhile, recently there has been an encounter between THK and the business world to develop ideas to achieve sustainability (sustainability, natural sustainability). The idea by Elkington (1997) is called the Triple Bottom Line (TBL) with dimensions consisting of profit (profit), people (people), and planet respectively (care of nature) [13].

Meanwhile, in Indonesia, the agriculture, forestry, and fisheries sectors in 2016-2020 contributed an average of 13.04% in GDP [16]. This paper will examine the possible implementation of THK to these sectors as they use natural resources, looking at the portion of the GDP and their impact on the environment.

The effect of agricultural activities can lead to soil, water, and air contamination and degradation. Agriculture may also positively affect the environment by, for example, the trapping of greenhouse gases in crops and soils or the reduction of flood risks by following such agricultural practices [17].

The consequence of forestry is the destruction of the species' habitat and the remarkable diversity of plants. The disruption of the water cycle and floods or drought are significant consequences of deforestation. Although the timber industry is important for many reasons, such as the cultivation of crops, the development of pulp and paper, or the creation of jobs in or around the pulp and paper mills or timber companies [18] Nutrient leaching, erosion, hydrology or watersheds, biodiversity [19].

In fisheries, fishing can have dramatic indirect effects on community structure [20]. Physically (e.g., through the addition of artificial structures such as artificial islands, oil platforms, aquaculture facilities), mechanically (e.g., through the 'ploughing' impact of dredges and trawls), or chemically (e.g., through the injection of nutrients, pesticides, heavy metals, narcotics, hormones) can be the effect of ecosystem modification through different human activities. Changes in the productivity of resources with both
positive and negative impacts and impacts on associated species may result from fishing activities [21]. In Bali, management that is not integrated and seems to be running independently is prone to triggering conflicts regarding strategic area utilization.

![Sectoral Contribution to National GDP 2016-2019](image1)

**Figure 1.** Sectoral Contribution to GDP. Source: BPS, 2020.

![Agriculture, Forestry, and Fisheries Sector with top 5 Sectors that contribute to GDP in Bali 2017-2019](image2)

**Figure 2.** Agriculture, Forestry, and Fisheries Sectors with top 5 Sectors contribute to GDP in Bali 2017-2019. Source: Statistics Indonesia, 2017-2019.

Figure 2 shows that the agriculture, forestry, and fisheries sector are not in the top 5 contributors to GDP in Bali. Agriculture is not a prima donna job because it collides with the tourism industry.
Therefore, it is challenging to find the THK implementation in this business sector, although it is Balinese's local wisdom. As explained earlier, the existing literature mostly reviews the THK in the tourism sector include agro-tourism, which is more relevant to the business sector on Accommodation and Food and Beverage and Construction instead of the Agriculture per se.

In the agricultural sector, Bali has potential with mainstay commodities such as rice, corn, cassava, sweet potatoes, and fruits with great potential to be further developed for mangoes, rambutan, oranges, durian, salak, papaya, banana, grapes, melon. Bali's plantations are mostly smallholder plantations that produce, among others. Such as coconut, arabica coffee, arabica coffee, cashew nuts, tobacco, and cocoa. Plantation crops such as coconut, cloves, cashew nuts, and cocoa are the most potential and are mostly cultivated by Balinese farmers [22]. Subak, for agricultural irrigation in Bali, is an real implementation of the Tri Hita Karana concept, the harmony between man and God, man and nature, and man and man. The essence of local wisdom is a high commitment to nature preservation, a sense of religiosity, human subjectivity, and reasoning construction that empathizes with offering, harmony, togetherness, and balance for a sustainable 'jagadhita' (universe) [23]. Regional Regulation Number 02/PD/DPRD/1972 concerning irrigation states that Subak is a customary law community in Bali, which is a socio-religious pattern of farmer irrigation institutions. The implementation of THK in the Parahyangan element can be seen in the making of auran (awig-awig), preceded by a religious ceremony, planning for the determination of early planting, which also uses the calculation of good days to get the blessing of Shang Hyang Widi Wasa. The land cultivation period begins with a ceremony held. In a temple near a water source, they hope that Shang Hyang Widhi Wasa will bless farmers with a way that the available irrigation water can meet the water needs for their crops. The practice of the Pawongan element in Subak applies the principles of fairness, equality, and openness in planning the outpouring of energy according to the amount of water it will receive, justice in obtaining water distribution, and equality in obtaining water distribution [24]. Subak has some weaknesses due to its challenges, which if not resolved, then the survival of Subak can be threatened. Free competition, conversion of agricultural land, pollution of water resources, assigning responsibility to farmers financially, and the reduced interest of youth as farmers are threats to the agricultural sector, which also threatens the survival of Subak [25]. Bali's chairman of HKTI stated that agriculture in Bali had experienced degradation (decline) from year to year. However, the demand for agricultural products in the tourism industry is quite large. [26] Seeing things that are contrary to the spirit of this Subak raises the question of where THK's position as local wisdom in the formulation of policies that produce the impacts mentioned above. Some scholars argue that this ideological concept is not merely 'local wisdom', 'tradition' or 'culture' but requires critical scientific scrutiny as part of wider socio-political change processes. [27]. Because according to Purana (2016), THK can also be applied in work life. For example, in rice fields and fields, there are places of worship to pray for them to work for the waru nugraha Ida Sang Hyang Widi Wasa. In the upstream part of the rice fields, there is the Bedugul Temple. The field has the Alas Rasmini Temple. By always remembering to worship God, they have the awareness to pay attention to their workspace and tools in a balanced way [14].

In agro-tourism, as a form of THK implementation, in the Buyan and Tamblingan agro-tourism areas in Pancasari Village, Sukasada District, Buleleng Regency, farmers maintain the sanctity of the fields, so the workplace, both workspace or office, must be maintained and used for moral purposes [28]. In other respects, this agrarian culture teaches that cooperation must be maintained with all society components to obtain maximum productivity [28]. Work must be done by making wise use of the elements, namely earth, water, air, sunshine, and microorganisms (emphasizing the balance of nature. All work must be done with consideration of balance). Farmers work with the principle of symbiosis with microorganisms, namely small creatures who are helpless in the fields, precisely with the biological balance in the fields, the production will be higher [28]. As a result, in agro-tourism, Pawongan positively influences the development of the Buyan and Tamblingan agro-tourism areas. This is evidenced by the community's willingness in the agro-tourism area to carry out mutual cooperation every
three months around the area. Good social relations, so there is never a complication that cannot be resolved [28].

3.1. Forestry Sector
The forest profile in Bali is shown by Table 1.

Table 1. Profile of Forest in Bali. Source: Forest Data and Information, Bali Province (2002).

| Function of Area                  | Percentage of Space (%) |
|-----------------------------------|-------------------------|
| Conservation forest area          | 20.11%                  |
| Protected forest area             | 73.28%                  |
| Limited production forest         | 5.14%                   |
| Permanent production forest       | 1.46%                   |
|Convertible production forest      | 0                       |
| **TOTAL**                         | **100**                 |

Forest product production is wood production (sawn wood and plywood, where log production contributes 16.8% to national log production) and non-timber production, where honey is prominent [29]. Data from the Bali Provincial Forestry Service in 2002 shows that of the total land area of 127,271.5 ha of existing forest areas, 56.06% of the forest is still in good condition, vegetation with shrubs or shrubs of the forest is 25.55%, and the rest is in the form of critical forest or very vulnerable to empty equal to 18.39%. Three factors cause forest destruction in Bali: fire, illegal logging, and breeding (Adnyana and Suwarna, 2007) [30][42].

An example is forest management in Tigawasa Village, where forest management refers to (1) Dresta or the traditions in the village, (2) Religious Ceremonies, (3) Awig-awig / Regulations, (4) Myths [30]. The existence of local wisdom as an element of living culture at the conceptual level can be seen from the Tri Hita Karana concept is still life, where the village community recognizes that the environment (forest) is a duwe and is obliged to be preserved [30]. Communities near the forest, especially farmers whose land borders forest areas, do not dare to enter the forest carelessly. They also do not dare to expand their plantation areas by changing the boundaries of plantations with forest areas, do not dare to look for something in the middle of the forest without permission from the village ulu, and always make ceremonies around the related forest on certain days [30]. Apart from the forest area that is not too large, the forest product business managed by the community themselves, and the people's obedience to local wisdom may have caused most of the forests in Bali to be preserved. Many THK applications can also be seen easily in forest conservation efforts.

In the fisheries sector, around 85 percent of the fishing sector workers are still traditional fishermen and are very far behind fishermen in other countries [41]. Bali’s fisheries also had the problem of the poverty of the fishermen and unintegrated management. One of the strategic points of the main causes of poverty and helplessness of fishers is the weakness of business management capabilities [31]. THK can improve entrepreneurial orientation perceived by innovation, the attitude of fishers who are proactive, and the courage to take risks to increase fishers' overall income [31]. Still, in the fisheries sector, in Tanjung Benoa, the Balinese people refuse the reclamation that will be carried out because the sea that has been buried is contrary to their conscience. Direct community empowerment positively and significantly affected entrepreneurial orientation on fishers on Serangan Island, Bali Province [31]. The welfare of fishers will be able to foster creativity, non-discrimination and prioritize togetherness, and concern for the environment as a form of social responsibility of the fisherman [31]. In 2005 the local government issued the Bali Governor Regulation No. 23 of 2005, which emphasized that the Zoning for the use of
the Southeast Bali Coastal and Sea Areas was compiled based on Tri Hita Karana, the principles of benefit and harmony, as well as openness, togetherness, and justice.

The industrial-scale has overtaken the potential of fisheries in Bali in the processing process for export commodities. It is no longer able to expand businesses in the small and medium scale processing sector. In this case, THK seems difficult to implement, considering that the players on a large scale are not from the local community [32]. Large-scale companies have their ships and factories where the involvement of the Balinese population is minimal. If this is not resolved immediately, it will cause problems of unemployment and poverty.

It is still unclear whether THK's value, as local wisdom, can also apply in other business sectors than the tourism sector, which is done by the Balinese themselves. Based on the finding, the open sector for an outside player or not worked on by the Balinese can threaten THK's implementation, as we can see in the fisheries sector where the players are the big player. They are not embracing the value of THK in the business operation. As explained, THK local wisdom is passed down from generation to generation [12]. Modernity can also be a challenge for THK in the agricultural sector when considering that farmers' participation in preserving agricultural, cultural values is directly influenced by individual modernity and indirectly influenced by individual modernity through lifestyle [23].

Back to the triple bottom line, what differentiates THK from the TBL is the religious and ethical value embedded in the local culture.

Table 2. Cross-Cutting between Tri Hita Karana & Tripple Botton Line. Source: processed by the author.

|                | Economic       | Environmental   | Social                  |
|----------------|----------------|-----------------|-------------------------|
| **Parahyangan** | N/A            | N/A             | N/A                     |
| (human harmony | N/A            | N/A             | The sanctity of the     |
| with God)      | N/A            | N/A             | place/field of work is | [28]. |
|                | N/A            | N/A             | maintained and used     |
|                | N/A            | N/A             | with moral interests    |
|                | N/A            | N/A             | Do not dare to enter the|
|                | N/A            | N/A             | forest carelessly, do    |
|                | N/A            | N/A             | not dare to expand the   |
|                | N/A            | N/A             | plantation area.        |
|                | N/A            | N/A             | Fair operating business |
|                | N/A            | N/A             | practices toward labour  |
|                | N/A            | N/A             | or employee and community|
|                | N/A            | N/A             | in the region in which   |
|                | N/A            | N/A             | a corporation conducts  |
|                | N/A            | N/A             | its business.           |
| **Pawongan**   | N/A            | N/A             | Cooperation must be     |
| (human harmony | N/A            | N/A             | maintained with all      |
|                | N/A            | N/A             | components of society in |
|                | N/A            | N/A             | order to obtain maximum  |
|                | N/A            | N/A             | productivity. (Sutjipta,  |
|                | N/A            | N/A             | 2016)                   |
| **Palemahan**  | N/A            | No harm and     | N/A                     |
| (human harmony | N/A            | minimize        |                         |
| with the universe | N/A            | environmental    |                         |
| or the         | N/A            | impact.         |                         |
| environment)   | N/A            | Work must be     |                         |
|                | N/A            | done by making   |                         |
|                | N/A            | wise use of the  |                         |
|                | N/A            | elements of nature [28]. |                 |
Despite the challenges faced by the THK, it is also interesting to compare the scope between THK and the TBL. Looking at Tabel 2, we can see that the TBL does not have the religious, ethical, and moral dimension, while the THK embedded all the Tripple Bottom Line.

In economics, THK in the Parahyangan dimension, where humans realize themselves as servants and develop feelings within themselves that are fully aware that they are only a small element that is carried by the circulation of the universe [24]. in the implementation, the THK considers the field of work that people need, requests the utilization of the fieldwork (paddy field, etc.) based on moral importance. Besides, morality refers to a social phenomenon, a positive morality, a system of rules, and a perfect adherence to which a distinctive type of social constraint or punishment is imposed [33], where religion is often closely related. Williamson (2000) provides a structure that integrates indirect ways in which religious values can affect economic development [39] (values that influence environments that are favorable or detrimental to economic performance). Furthermore, Jong (2008) [37] shows that the relationship between economic growth and belief is very indirect; intermediate variables are likely to serve as institutions and governance. His study showed that these studies do not draw an unequivocal conclusion. As the Balinese reverence the trees, the Parahyangan dimension honors nature. However, a research finding (Biel & Nilsson, 2005) [36] supports the idea that the judgment of environmental risks on the first, but not the second, question would be influenced by religious values. The results indicate that situational indicators partially decide which values expressed in religion affect environmental attitudes.

On the social aspect, Pawongan contains recommendations and the basis of morality so that humans always develop the qualities of wisdom, virtue, nobility in the intercourse of life between fellow creatures [24], emphasize human harmony. While the TBL stresses equal and advantageous corporate practices towards the labor force and the environment and area in which a company conducts its business. "TBL’s social line is said to refer to the performance of beneficial and fair business practices for labor, human capital, and the community (Elkington, 1999) with the idea that these practices provide value to society and give the community back.

On the environment, Palemahan dimension, where humans must realize that humans must unite with nature in a harmonious, harmonious, and balanced manner, clearly define the harmony of humans with the universe or the surrounding environment), and so the TBL that respect the environment by not harm and minimize environmental impact. On environment, TBL applies to actions that do not risk natural wealth for decades to come [5].

From the terminology, it is also clear that SD is emphasizing the economy. While there is no single concept of SD decided upon, almost all definitions conceive of the theory in terms of a conflict between the objectives of economic development and environmental conservation, preferring the objectives of economic growth (Geisinger, 1999) [34, 43]. In contrast, THK tries to balance all three dimensions.

The comprehensiveness of THK seems it will effectively accelerate the achievement of sustainable development in the business sector. However, based on this paper's finding, the players of the business sector, politics, policy, and some other possible factors have the risk of hindering the application of THK and even threaten the sustainability of the THK itself.

4. Conclusion
As a contribution from this study, we can see that THK's implementation still faces many challenges in the agricultural, forestry, and fisheries sectors. Unfortunately, the literature that discusses the implementation of THK in agriculture per se has not been sufficiently compared to conservation and tourism efforts, so it is difficult to conclude how important ENT's role is in the agricultural sector in ensuring sustainable agricultural management. However, it is clear here that THK, which is Balinese local wisdom, has not been practiced in the business world outside of eco or agro-tourism. Meanwhile, the implementation of THK in Bali's forestry sector, which is still managed by the Balinese, has had a positive impact. It is interesting to examine further the extent to which THK has begun to experience
irregularities in its application [14] or eroded by modern life where individual preferences dominate [23]. Compared to local wisdom that has long grown in society or business actors in Bali. They do not come from local communities who do not have the value of THK. THK is widely used in the preparation of corporate CSR programs, not in the business model, making it difficult to test THK’s effectiveness in the business sector in achieving sustainable development. THK, which is local wisdom, has a wider dimension than the triple bottom line because it includes the relationship between humans and their God. This is a gap to encourage local wisdom as a complementary component that needs to be encouraged in achieving sustainable development, despite all the challenges they may have. The limitation of the research is the limited understanding of Balinese culture to interpret THK’s three dimensions.

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