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The Impact of Geographical Indications on Sustainable Rural Development: A Case Study of the Vietnamese Cao Phong Orange

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Abstract: This study investigates the relationship between geographical indications (GIs) and sustainable rural development in Vietnam, and analyzes the case study of the Cao Phong orange. Qualitative data were collected from interviews with Vietnamese policy-makers and orange growers to investigate the role of the government of Vietnam in designing and implementing GIs, as well as the involvement of local producers taking advantage of GIs, in order to identify how and to what extent GI protection affects sustainable rural development. The results show that GIs have positively contributed to sustainable rural development in Vietnam; however, some problems remain. This study concludes with policy implications for promoting GIs and sustainable rural development in Vietnam.

Keywords: geographical indications; sustainable rural development; agricultural policy; Vietnam

1. Introduction

Agriculture plays an important role in the economy in terms of creating jobs and reducing poverty. In a developing economy, like that of Vietnam, agriculture remains the main source of income for people living in rural areas, and it makes a significant contribution to the sustainable development of rural areas [1]. Therefore, government policies for rural development should be based on the sustainable growth of agricultural production. Since Doimoi (Renovation) in 1986, the Vietnamese government have used a number of policy tools, including geographical indications (GIs), which are considered to be a cost effective and proficient way to promote agriculture and rural development [2–4]. GI-protected products interact culturally and physically with a community in a specific geographic region, which is a mandatory condition for registration. GI products are linked to socio-cultural systems and landscapes that are closely dependent on the socio-institutional and regional GI context of the specific rural locality [5,6].

GIs are frequently regarded as legal instruments to protect, or at least foster, traditional methods and commensurate lifestyles. Within the context of developing countries, local captures of economic value have the capacity to stimulate broader rural development and poverty alleviation [7–9]. Therefore, GIs are considered to be effective policy tools to promote rural development. Sustainable rural development refers to the stable advancement of rural areas by taking advantage of global prospects, while securing future resource sustainability [1,10]. Prior research indicated that GIs may have positive impacts on three main factors of sustainable rural development, including economic development [9,11], environmental sustainability [12,13] and local cultural heritage [14,15]. Yet while the benefits of GIs

on agriculture and rural development have been outlined in numerous studies, the literature on how GIs contribute to sustainable rural development remains limited, particularly in the context of Vietnam [2,16,17]. This paper aims to bridge this gap by providing an assessment of the impacts of the GI policy on sustainable rural development in Vietnam, with a focus on the case of Cao Phong oranges, where place-based marketing was a widespread and acknowledged strategy for adding value at the point of consumption. Some considerations regarding the implications of our work and recommendations for further research are presented in the final section.

This article is structured as follows. First, we review the existing literature to identify the links between GI protection and sustainable rural development. Next, the research context and methodology are presented. We then examine the effects of GI protection on sustainable rural development, with a focus on the case of Cao Phong oranges. The final section discusses the theoretical contributions and implications for policy-makers in Vietnam to take advantage of GIs in promoting sustainable rural development.

2. Literature Review

2.1. Geographical Indications Protection in Vietnam

This article adapts the definition of GI used by the World Trade Organization, presented in Article 22 of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. This article defines GIs as "indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin." [18]. According to this definition, there are three determining conditions for a product to qualify for GI protection. First, the product must be categorized as having either an agricultural or non-agricultural classification; however, there are exceptions to the services that are included in several countries. Second, the geographical origin of the product must be determined. Third, the defined geographical origin can be attributed to the qualities, reputation, and/or other characteristics of the product [18].

Since 2006, Vietnam has indicated an interest in implementing GI protection, which would build on the initial establishment of a corresponding legal framework in 1995 that could pave the way for a comprehensive and complete GI protection system [17,19]. Vietnam has set up its own internal regulation framework for its GI system, providing that there is no specification in the TRIPS Agreement of the legal means that should be employed with regard to implementation. The publishing of many decrees, draft laws, and circulars around GI regulation has progressively contributed to the completion of the legal framework (i.e., Governmental Decree No. 63/CP of 24 October 1996, IP Law 2005, Decree No. 103/2006/ND-CP, Decree No. 122/2010/ND-CP). Ensuring the harmony between the initial drafted laws of the GIs with Vietnamese and international legal backgrounds was essentially the responsibility of national experts and universities. In addition, other related authorities were involved in the establishment of the framework. The "Appellation of Origin" (AO) is listed in the Civil Code of 1995, Article No. 796 from 1995 to 2005. The Decree 63/CP, issued by The Ministry of Science and Technology, appointed the National Office for Industrial Property (NOIP) as the authority to accept AO registrations and administer their accreditation. There were only two AOs during that period, namely Phu Quoc fish sauce and Shan Tuyet Moc Chau tea.

Noticeably, the reforming of intellectual property rights regulations regarding product types was enacted, under which Vietnam added agro-food and handicraft products offered by a certain geographical area to be protected under the GI scheme, according to IP Law 2005, Article 79. By law, organizations, individuals, and administrative authorities can submit applications to the NOIP for GI registration. However, due to the fact that the application procedure for organizations and individuals is very complicated, all the GI applications have been created by administrative authorities [2]. As detailed in the established intellectual property law, its efficient application in practice has progressively fostered

GI registrations in the country. Notwithstanding, it was clearly demonstrated that GIs, with the advantage of being protected as certification trademarks, gained more endorsement than AOs.

In a recent study, Durand and Fournier [2] examined the way GIs are implemented by governments in Vietnam, focusing on the cases of Buon Ma Thuot coffee and Meo Vac mint honey. The authors concluded that the Vietnamese government has played an active role in maintaining and developing the GI system through different initiatives, such as: providing incentives to foster GI projects and GI applications, training national GI experts, raising awareness at both a national and local level, and providing financial means for GI implementation. While the post-registration procedures of GIs have been made significantly clearer for implementation in various levels of involvement, there are insufficient internal resources for local authorities to implement them [2]. The findings of other studies also support the conclusions of Durand and Fournier [2]; for example, Pick, Marie-Vivien and Bui Kim [16] suggest that Vietnam can use GIs as a promising tool for socio-economic development. Using the cases of three Vietnamese GIs—Phu Quoc fish sauce, Luc Ngan lychee and Moc Chau Shan Tuyet tea—in their recent study Hoang and Nguyen [17] found that GIs contribute substantially to the promotion of agricultural product quality in Vietnam. These authors also identified that although the impacts of GIs on sustainable development has been well established, the literature on the contributions of GIs to sustainable rural development is limited, particularly in the context of Vietnam.

In summary, Vietnam has successfully set up a relatively comprehensive and stable legal framework for GIs, in addition to a significantly increasing number of operational GI enterprises and GI applications. The GI scheme has also gained positive awareness from the public and well-recognized support from the central government. However, the local parties' awareness of GIs is still deficient and is certainly not as impressive as the governmental support.

2.2. Sustainable Rural Development

The fast-paced economy of Vietnam has created a number of jobs and increased the living standard to the people [20]. According to the International Labour Organization, the rate of poor households in Vietnam decreased from 11 percent in 2012 to 5.8 percent in 2016 [21]. However, it also resulted in positive and negative social and environmental impacts. Recently, "sustainability" has become a keyword in a majority of fields, and rural development is not an exception. Sustainable rural development implies the steady advancement of rural areas by taking advantage of global prospects, while securing future resource sustainability. It is urgent to fulfill the required schemes that are capable of dealing with the key attributes of sustainability, including the social, economic, and physical aspects of the environment [22]. Within this context, the most efficient method is considered to be the intensive involvement of practices in agriculture-based activities, as well as raising awareness of rural development, even though there are constantly a set of threats to watch out for and eliminate.

There are several determining factors that contribute to the justification of the complex relationship between sustainability and rural development [10]. The comprehensive understanding of natural processes and resources, as well as the connectivity between ecological and social aspects, will determine the possibility of obtaining sustainable rural development [12]. Furthermore, the concern for sustainable rural development has been endorsed by the United Nations in 2015 in the 2030 Sustainable Development Agenda [23]. Notably, sustainable rural development has been reflected across different agendas, most recently in goal 2 of the 17 goals: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture." In order to make this desired scenario happen, considerable investment into improved rural infrastructure is required, and agricultural research and extensive services must be conducted purposefully [24].

2.3. Linking Geographical Indications and Rural Development

GIs play an important role in fighting counterfeiting and fostering the reputation of local products and share the benefits among product growers, the market, and the local economy [25,26], Vietnam has taken GIs into account in the creation of its agricultural policy [17]. Under these circumstances, GIs can

be credited for economic developments as well as the establishment of new markets, especially in terms of creating competitive advantages for communities in areas that are unable to farm intensively. Interestingly, sustainable diversification is a noteworthy factor that underlies the benefits brought about by the GI scheme. Durand and Fournier [2] argue that GI protection helps to minimize environmental impacts and increase product quality in Vietnam and Indonesia and that GIs can be used as a policy tool to modernize these countries' agriculture. In a recent study, Tashiro, Uchiyama and Kohsaka [5] also found that GIs not only contribute to the economic development of the region, but also influence the agricultural landscapes and traditional ecological knowledge.

The question whether GIs have brought positive effects and have contributed to sustainable rural development in Vietnam since they became a policy tool remains unresolved. Given that the positive results exist, the strategies to capitalize on GIs in practice should be carefully investigated by local economic actors, because of the subjective nature lies in the GI's scheme and its application. Close monitoring and supervision of the GI regulatory system implementation is of utmost importance, in order to ensure effective results. Full participation from producers is required for the value of GIs to be earned, and a fair share of benefits and responsibilities between all involved parties is crucial.

The protection of distinctive signs of localized products, in which GIs are involved, is based on economic theories of information and reputation [8]. These theories highlight the importance of: (1) the prevention of market distortion that stems from information asymmetry between producers and consumers; (2) minimizing the consequences of such asymmetry through strict regulations on output quality [27]. The GI is also considered as the result of a process in which the institutionalization of reputation takes place, which aims to solve certain problems arising from information asymmetry and free-rider on GI products' reputations [9]. In addition to economic benefits, GIs can also be viewed as a vital contributor to socio-cultural development in rural areas [28]. The profound effects that GIs have on cultural heritage, particularly the protection and differentiation of localized products, have been evidenced in worldwide research [29].

In terms of the natural environment, GIs are seen as critical contributors to the maintenance of biodiversity and genetic resources [30]. The protection of GI, in many cases, may include the protection of traditional production practices and knowledge related to certain types of plant species that develop in given regions. As these practices and knowledge should be carried out in certain geographical areas to which the indication refers, the protection of GIs is expected to contribute to the conservation of biodiversity, which in turn becomes a local intangible asset that is critical for rural development.

Based on existing theories and empirical evidence in the literature, we believe that GI protection will contribute to sustainable rural development in Vietnam, including economic, social, and environmental development. In the next section, we present the methodology and research findings from our case study on Cao Phong oranges.

2.4. The Case of the Cao Phong Orange

Cao Phong is a rural district of the Hoa Binh province in the Northwest region of Vietnam. The district has a mountainous and hilly topography and is rich in Feralit soil, yielded on either yellowish-brown magma acid or limestone. The area has appropriate humidity and nutrient abundance, along with a balance of various chemical compositions, which contribute to the distinctive taste of Cao Phong oranges (see Table 1). Cao Phong oranges have been growing since the early 1960s, and they have shifted from a state-owned farm to many private farms. The considerable growth of Cao Phong orange production during the 1970s and 1980s is attributable to a good selection of valuable orange breeds and genes, as well as a blend with foreign cultivars from other areas in the country. Cao Phong oranges were first exported to the Soviet Union and several Eastern European countries in the 1970s. Their production output then surged exponentially during the 1990s, as a result of certain overhauls and supporting policies from the central government. This product is now among the most popular oranges in production in Vietnam.

Table 1. Information about the Cao Phong orange.

	Information
Main characteristics	Cao Phong oranges include four varietes: CS 1, Xã Đoài Lùn (dwarf), Xã Đoài Cao (tall), and Canh. - The CS1 orange has a spherical shape, a smooth, grainy and dark yellow rind containing visible oil bags, and juicy dark yellow vesicles. The fruit has a deep sweetness and a specific aroma. - The Xã Đoài Lùn orange has a spherical shape, a smooth grainy rind in a yellow-orange color containing visible oil bags, juicy yellow vesicles, a sweet taste, and a particular fragrance. - The Xã Đoài Cao orange has a spherical shape that is slightly convex towards the tip and a smooth and grainy rind containing oil bags. The fruit has an orange-yellow color when ripe, juicy light-yellow vesicles, a sweet taste, and a specific fragrance. - The shape of the Canh orange resembles a large sphere. The rind of the fruit is thin and smooth. The fruit is red as spiny biter gourd when ripe. The fruit segments, which are delimited by tough membranes, have juice-filled vesicles, are low in fiber, contain a few seeds, and have a fresh, sweet taste.
Competent authority	National Office of Intellectual Property (Vietnam)
Date of registration	05/11/2014
Geographical area	The geographical area corresponding to the GI of the Cao Phong orange includes Cao Phong district (six communes/towns), Hoa Binh province.
Specific rules for the use of GI signs	Oranges bearing the Cao Phong GI benefits from consistent GI labelling and packaging, which includes: (i) the logo of the Cao Phong orange; (ii) a mark including the following specification: "Geographical Indication-Cao Phong orange." These distinguishing signs must be a prominent component of the product label and they must be clearly displayed in a larger size than the other components.
GI rights holder	People's Committee of Hoa Binh Province

Source: National Office of Industrial Property [31].

Cao Phong oranges are recognized at both the local and national level and are well-known for their authentic origin. Moreover, the governance of the value chain of the Cao Phong orange is typical and can be generalized and applied to other GIs in Vietnam. In recent years, the government of Hoa Binh province recognized that GI protection of the Cao Phong orange might contribute to the conservation of biodiversity and traditional culture of the local areas. There is also initial evidence on the positive contribution of GIs on the competitiveness of the product and potential development of the local production system [32]. Therefore, we decided to choose the Cao Phong orange for this study because it is a typical example of the state's role in implementing a GI strategy that contributes to sustainable rural development.

3. Methodology

3.1. Research Design

According to Barjolle et al. [33], context-specific data were crucial to understand the implementation of GIs and its influences on other factors. Therefore, in this study, we chose case studies in order to accumulate case-specific insights [34]. A case study approach aims at developing theory in an inductive manner, based on empirical data that are collected and analyzed systematically [35,36].

The case of Cao Phong oranges is explored below using secondary data, as well as the results of primary data collection.

In terms of secondary data, most material is available in the form of reports provided by Hoa Binh Provincial Government and NOIP [31,37]. Specifically, the secondary data used for this study included NOIP's report on geographical origins and history of the typical GIs, and the institutional report on the registration progress and management of Cao Phong oranges provided by the Department of Science and Technology, Hoa Binh province. In addition, the secondary data were collected from both scientific and gray literature, as well as government reports, in order to identify the volumes and prices of Cao Phong oranges and discuss the effects of GI implementation on sustainable rural development.

The primary data collection involved 19 qualitative interviews and observations to understand the GI management process, e.g., setting up, adoption, use, and conformity assessment, as well as insights from policy-makers and producers on how GI protection can contribute to rural development. In the section below, we discuss the primary data collection and data analysis.

3.2. Data Collection

Participants in the interviews included NOIP staff, Hoa Binh Provincial Government staff, and orange growers in the regions of the Cao Phong district. Research activities were conducted over a period of one year from 2017 to 2018. The participants were selected based on convenience sampling to guarantee the study's feasibility. First, we contacted five staff who were in charge of GI administration at NOIP and five staff who were in charge of GI registration and management at Department of Science and Technology, Hoa Binh province. We explained the importance of our study and its potential contributions to the GIs and sustainable rural development. All of these staff, therefore, agreed to participate in our study. The interviews were conducted in their offices in Hanoi and Hoa Binh province. Each interview lasted on average of 45 and 60 min. The interview questions were formulated in a semi-structured, open-ended manner. The questions started generally and became more specific, and they also moved from being simple to being more complex.

When 10 interviews with NOIP and local government staff were completed, we conducted the field study to Cao Phong district. We contacted 10 orange growers and invited them to participate in our study. Nine people agreed to participate in the research and allowed us to visit their orange farms. The interviews were conducted on the farm, with each interview lasted on average of one hour. The interview questions were also formulated in a semi-structured, open-ended manner. After each interview, the researchers spent time observing the farming process and made notes on the important points.

We emphasized to all 19 participants that the information they provided would be kept completely confidential and anonymous.

3.3. Data Analysis

All interviews were recorded or note-taken depending on the participants' consent. The recorded interviews were transcribed verbatim for analysis [36]. We gave additional consideration to the language barriers in the data collection. Interviews were carried out in Vietnamese and translated into English. The results were triangulated from the literature review, the analysis of the context-specific characteristics of the orange-producing sector according to the interview findings, observations, and revisions of the documents and literature [33].

The qualitative data were analyzed using NVivo 12, following a content analysis approach [38]. First, we transcribed the interviews and reviewed the content. After that, we organized the secondary data in categories and then coded them at the same time with the primary data. All relevant information was coded against the GI registration process, GI administration, and the effects of GIs on the local environment, economic development and socio-cultural factors. Then we gathered the codes based on their similarities and put them into three predetermined categories, namely economic impacts, environmental impacts and socio-cultural impacts.

4. Results

In this section, we present the specific effects of the protection of GIs, based on the results of the primary and secondary data analysis of the Cao Phong orange case study, and their contribution to economics, socio-cultural factors, and the natural environment.

4.1. Economic Impacts

The analysis of qualitative data revealed that the foreseeable impacts underlying the registration of the GI are positive, both in terms of the income level of producers, by means of raising the price of products and pushing up competitive advantages, e.g., differentiation strategies, and other trade advantages, including the exclusive right to use the AOs. In the case of Cao Phong oranges, five policy makers and six farmers in our sample confirmed that as of 2014, these economic benefits have been clearly demonstrated through a surge in total consumption quantity, product price, and local producers' household income. According to a local producer, the average consumption quantity was approximately 50 kg/day (Participant 004). As of 2014, when the recognition of GIs for Cao Phong oranges became official, the average daily consumption quantity increased tenfold, i.e., 500–600 kg/day, in tandem with the expansion of customer segments in other neighbor provinces, such as Hai Phong and Ha Nam, securing higher and sustainable demand volume (Participant 002). Simultaneously, the price of the Cao Phong orange underwent a great improvement. As reported from the aforementioned local producer, the product price previously ranged from 5000 VND/kg to 7000 VND/kg, which was far lower compared to the price of the GI-protected products, which ranged from 30,000 VND/kg to 35,000 VND/kg (Participant 006); however, this price was much less appealing to consumers. At any point in time, the price could significantly surge to 60,000 VND/kg [39]. With a crop yield of 50 tons per hectare, each household could achieve a total revenue of one billion VND per hectare, which would generate a total profit of 700 million VND per hectare (Participant 006). According to the report of Department of Science and Technology, Hoa Binh Province, the average income of the orange growers has increased from 300 million VND per hectare in 2012 to 600 million VND per hectare in 2019 [37].

The role of GI on local economic development is fairly well recognized among local producers of Cao Phong oranges, as shown in our qualitative interviews. Participant 009 reveals that there are several factors that can be attributed to the increase in the product's value:

> "First and foremost, the GI has brought this product to many customers nationally, raising their awareness about our Cao Phong orange. Secondly, as we continuously hone our production skills and techniques, the product quality is raised to a higher level. All these factors, stemmed from geographical indications, are combined to create the current Cao Phong's product. However, it is up to us (Cao Phong farmers) to take advantage of the GI in the long run."

Participant 013 also confirmed that:

> "The product was not well-known previously. Also, without advanced production procedures, the price cannot be raised to this level. Thanks to GI, the growers are trained to advance their production procedures, which leads to a higher quality of Cao Phong orange, and eventually results in a higher consumption volume and price."

Therefore, it can be seen through the common acknowledgment among Cao Phong orange growers that the role of GI on income levels and compliance with certain production procedures are equally important.

An analysis of the secondary data revealed that the positive effect of GI on product price, in addition to household income, can be explained using the case of Cao Phong oranges through the effect on the product's quality, which can occur either directly or indirectly. According to the local government report, this specific effect allows consumers to identify the actual benefits obtained from buying products with GI references [37]. More specifically, the level of quality increases consumers' awareness and acknowledgment about the origin and value of the GI product, avoiding cases of

misunderstanding, according to the NOIP report [31]. Notably, from the consumer's perspective, the quality of the orange will have a positive influence on their willingness to pay. This might justify the positive impact of GI on the price of Cao Phong oranges. However, certain codes of practice must be strictly followed by local producers in order to take advantage of this effect.

4.2. Environmental Impacts

The analysis of qualitative data revealed that the natural environmental conditions improved since the GI registration. In the interviews with Cao Phong orange growers, all of the nine orange growers indicated that they strictly follow the code of practice provided, including regulations on the preservation and improvement of the natural environment. Our observation also confirmed that the farming process followed the code of practice. Previously, according to a local farmer, the product packaging, which is usually littered around, has now been collected and decomposed (Participant 005). In addition, organic compost is widely put to use to ensure product safety, as well as to supplement the nutrients in the soil (Participant 010). According to participant 009, the Cao Phong Orange Growers' Association has been conducting annual land reclamation and promoting the use of organic products for increased soil fertility. After harvesting, the orange trees are watered to maintain the appropriate water level in the trees and the required water retention levels in the soil. This is followed by a half-month-long hoeing, before the field is fertilized with cow or chicken manure. Several local producers, dedicatedly invested in building, designated areas to compost manure for at least three to six months before fertilizing, or to soak soya beans in big tanks that are later used for increasing soil porosity. According to the representative of an agriculture cooperation, plant protection products are used instead of pesticides (Participant 010). Furthermore, the use of plant protection products is strictly controlled; categories of products that are not subjected to prescription cannot be used (Participant 017). This practice would not only ensure food safety, but also minimize the negative impact of chemicals on the natural environment. Additionally, agricultural cooperatives apply nanotechnology to cultivation methods, in order to ensure a balance of nutrients and prevent environmental compromise in rural areas (Participant 018).

The findings from secondary data, including the local government reports and the NOIP report, revealed a positive increasing awareness among Cao Phong orange growers about sustainable development that does not compromise environmental preservation. According to the NOIP report [31], Cao Phong oranges have enjoyed an increasing production output and improved quality, because the farmers are aware that conserving and enriching natural resources, such as water sources, the climate, or soil rejuvenation leads to the maintenance of product characteristics. The local government report confirmed that the lobbying activities of local authorities have resulted to the shift in perception among the Cao Phong orange growers [37]. Accordingly, the Department of Agriculture and Rural Development in the Cao Phong district, along with the authorities and product associations, conduct annual lobbying seminars between one and a half months to two months before the harvest season, in order to discourage the abuse of chemicals when planting (Participant 015).

4.3. Socio-Cultural Impacts

Agricultural development and the improvement of socio-cultural factors is seen as a crucial role of GI [15]. The analysis of qualitative data revealed that, GIs have impacts on different social aspects in the Cao Phong area, particularly in terms of infrastructure, production, and business conditions. Eight policy makers and six orange producers confirmed that GIs have contributed to the improvement of the infrastructure of the area. Participant 012 confirmed that the local government is planning to develop a tourism system dedicated to product marketing. According to a local government official, local companies, along with communities, have been commanded to preserve funds dedicated to building routes for better transportation. In addition, a three-phase electric power supply and high-capacity pumps have been set up for irrigation purposes (Participant 016).

In addition, all orange producers noted that the living conditions underwent significant improvements since the GI protection of the Cao Phong oranges, following a series of economic developments. The increased income helped local farmers to improve their shelters (Participant 006 and Participant 007). Higher and sustainable incomes also make the application of technology in farming more appealing and affordable, either to increase productivity or decrease manual labor. Examples of this development can be seen in the shift from hoes to lawn mowers for weeding, and from manual sprayers to spraying machines (Participant 006). In addition, a local producer revealed that:

> "*Automatic watering irrigations have been put in use, replacing manual irrigation systems, which were set up with underground pumps [. . .]*". (Participant 009)

Our secondary data analysis also showed that GI protection has brought vivid depictions of the positive externalities to the Cao Phong district in particular, and the Hoa Binh Province in general. According to the local government report, Cao Phong oranges are seen as a vitally important tool for the branding of local culture [37]. Recognizing the aforementioned practical and valuable impacts of GI on the local economy and socio-cultural developments, authorities and local residents conducted promotions in several forms, among which is the annual Cao Phong orange festival, which has been running since 2014, and is the most outstanding example [37]. In 2016, the Cao Phong orange was certified as one of the top ten most famous brands by the International Intellectual Property Institute, contributing to the value and reputation of the brand name "Cao Phong orange".

5. Discussion

5.1. Theoretical Contributions

This study supports and builds upon previous research related to sustainable agricultural development and GIs. It suggests that GI protection contributes to sustainable agricultural development across several dimensions, namely social, economic, and environmental factors.

Although the contributions of GIs to sustainable development have been well established, the literature on the impacts of GIs to sustainable rural development is limited, particularly in the context of Vietnam. Our study is the first to explore the influences of GIs on sustainable rural development in the case of the Cao Phong orange, using secondary data and primary data from interviews with nine orange producers and ten policy makers. The findings from the secondary data and qualitative data obtained from interviews with local farmers and authorities in the Cao Phong district revealed a panoramic view of the profound economic, environmental, and socio-cultural effects of GI. It can be claimed that all benefits brought to the Cao Phong district, as well as the comprehensive acknowledgment of these impacts by local farmers and traders of the Cao Phong orange, contribute vitally to a sustainable, high-quality, reputable, and well-known Cao Phong orange product. Our results are in line with the findings of Durand and Fournier [2] who indicated that GIs can be used as a policy tool to enhance the modernization of Vietnamese culture. We suggest that the government can use GIs as a tool to frame strategies for rural development. In addition, our findings are consistent with the research results of Cei et al. [40] who found an overall positive effect of GI protection on agricultural value added in an Italian context. Our study provides empirical evidence of a positive impact of the Vietnamese government's policy on GI protection and rural development. However, our study found a contradiction with Bowen and Zapata [13], who found negative impacts of the agave–tequila industry on the local economy and environment, due to the failure of the GI for tequila. We therefore suggest future studies not only focus on the positive side of GIs, but also investigate its potential negative effects.

5.2. Policy Implications

In this section, we provide implications for the Vietnamese government to improve the GI system and use it as a policy tool to enhance sustainable rural development.

GIs in Vietnam have developed considerably during recent years. Nonetheless, producers generally still face obstacles in registering and protecting GIs, mainly due to an unclear legal framework. Therefore, it is important that the central government makes the necessary amendments to the legislative framework to assist producers. To be more specific, laws, decrees, circulars, and other regulations should provide a detailed process for every necessary step in GI registration. International regulations on protecting intellectual property in general, and GIs in particular, should be strictly applied. In addition, legal documents should include the updated criteria for the subsequent management, monitoring, and control of GIs. More importantly, the central government should formulate a complete code of practice for GIs. Associated content such as entrepreneurship, business establishment, and quality standards should be clarified in relevant policies and regulations. Furthermore, the NOIP should offer further support to local areas that have eligible products for registration as GIs and international brands.

To continue developing GIs and using them as a tool for sustainability in Vietnam's rural areas, support from a sound policy system is crucial. In particular, such policies should cover the three main aspects of sustainable rural development. First, local authorities should continue to raise awareness of local farmers, consumers, and other relevant stakeholders about the real value of these community assets. It is important to: (a) continue raising awareness among the public of GI products, the process, and the difference between GI and non-GI products, and (b) increase access for a wider range of consumers or any stakeholders having interests. Ultimately, people are the most crucial factor; therefore, the concept of protecting GIs should be expanded from an individual basis to a local and national level.

Second, the influential role of associations in the agricultural sector should be further enhanced. Instead of limiting membership to producers, the government of Vietnam could request mandatory representation from members of the local authority. This would increase the opportunity for discussions between the different stakeholders, paving the way for greater collaboration and networking between the parties [41,42].

Moreover, the role of the NOIP should be more prominent, as it plays an important part in protecting GIs, both at the domestic and international level. The NOIP should also increase its collaboration with other government departments, particularly the Ministry of Agriculture and Rural Development. As the agency directly responsible for managing GIs in Vietnam, the NOIP can provide strong support in terms of completing and enhancing relevant regulations. Furthermore, its ability to control and monitor agricultural projects, especially those associated with developing and protecting GIs, should be further strengthened by the central government, particularly the Ministry of Science and Technology. At the same time, the NOIP could support the exploration and application of sustainable production practices relevant to the GI system, thus enabling GIs to contribute to rural development.

6. Conclusions

Sustainable rural development has been viewed as a strategic issue by the Vietnamese government. In view of the country's national development policies, GIs are usually considered as policy tools to promote sustainable rural development. Despite the increasing importance of GIs in the agriculture sector and rural development, a gap still exists in the literature on the contribution of GIs to rural development. This study bridged this gap by exploring the relationship between GI protection and sustainable rural development in Vietnam, with a focus on the Cao Phong orange. The findings from qualitative data and secondary data revealed that GI protection contributes to sustainable agricultural development across several dimensions, namely social, economic, and environmental factors in the case of the Cao Phong orange.

This study, like many others, has its limitation. Qualitative studies present subjective and individual perspectives. A conscious effort was, therefore, made to minimize the potential bias by diversifying the sample and data sources and taking various measures to ensure maximum objectivity when identifying themes and categories. Furthermore, as this study was limited to the case study of Cao Phong oranges in Vietnam, wider generalizations beyond the context of Vietnam are not possible.

We suggest that future studies use a large data sample and different research methods to quantitatively examine the impacts of GIs on sustainable rural development.

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