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Policy adoption barriers in organic cocoa production: a case study of Ghana and Ivory Coast

Godfred Adduow Obeng*

Department of Social Sciences and Philosophy, University of Jyväskylä, Jyväskylä, Finland

ABSTRACT In cash crop producing countries, policy changes towards organic agriculture are critical for sustainable agriculture. This study explores the perceptions and reasons behind the lack of deliberate policies promoting organic cocoa production in Ghana and Ivory Coast, despite its potential benefits. In this qualitative study, 16 policymakers and experts were interviewed, and these data were thematically analysed using planned behaviour theory as the theoretical framework. The study reveals that policymakers perceive organic cocoa production favourably. The slow pace of research, innovation and development (RDI) remains one major barrier to the adoption of organic cocoa policy in Ghana and Ivory Coast. This implicitly leads to organic cocoa production being perceived and promoted as a 'niche'. The study findings indicate that in emerging economies that solely depend on raw material production output to generate revenue for development, governments may not push through policies that encourage cocoa farmers to convert from conventional to organic cocoa production due to economic considerations. This study recommends the abandonment of the notion of organic cocoa production as a niche to enable Ghana and Ivory Coast to adopt organic cocoa policy.

KEYWORDS: Organic cocoa; Ghana; Ivory Coast; sustainable agriculture; agricultural policy

Introduction

Recently, the relevance of organic agriculture in the whole agricultural production architecture has awakened Africa to demand an open declaration in support of the organic agriculture framework through public and private institutions under the Lusaka Declaration (Auerbach et al., 2013). Organic agriculture may play a vital role in providing additional income to farmers, protecting the ecology, maintaining soil quality and a healthy life for farmers and consumers and, most importantly, maintaining biodiversity. While the United Nations' Sustainable Development Goal 15 (SDG15), for example, includes sustainable agriculture under land use, organic agriculture is viewed as a viable alternative to conventional agriculture that would

CONTACT Godfred Adduow Obeng godfred.a.obeng@jyu.fi

substantially contribute to achieving SDG 3, SDG 12 and SDG 13 (de Schaetzen, 2019). In recent years, conventional agriculture practices have been identified as a source of environmental degradation (Reganold and Wachter, 2016).

Through their sectoral institutions, states play a pivotal role in both conventional and sustainable agricultural practices, including organic agriculture (Obeng, 2022; Musiime et al., 2005). State interventions that promote organic farming through policy are prevalent in the Global North. For example, the Austrian government has made a deliberate effort to offer support to farmers to convert and maintain their organic farms (Schneeberger et al., 2002). Greece is another example of a country where organic farming is experiencing a positive growth rate, with support from the European Union (Michelsen et al., 2001). Such intervention policies can motivate farmers in the face of tougher regulation concerning the production and sale of organic agriculture products in the European and other markets (see Obeng, 2022).

Most studies conducted on organic agriculture production in developing countries have centred on the smallholder farmer level. Perceptions of and barriers to the adoption of organic agriculture (Łuczka and Kalinowski, 2020; Priya and Singh, 2022; Fuady and Sutarjo, 2021; Alotaibi et al., 2021; Uhunamure et al., 2021; Rezvanfar et al., 2011) also tend to focus on smallholder farmers. Even though most studies (Alotaibi et al., 2021) have shown that smallholder farmers perceive organic agriculture to contribute to biodiversity and healthy life, governments' failed interventions through their sectoral institutions are seen as a barrier to organic agriculture promotion and development (Łuczka and Kalinowski, 2020; Musiime et al., 2005).

A study by Prazeres et al. (2022), which investigated how sustainable organic cocoa production could be advanced in São Tomé and Príncipe by involving stakeholders in the value chain, found that governance was not structurally organized to embrace new ideas and practices that would allow for sustainable production to be effectively improved. Antwi-Agyei et al. (2021) identified a lack of government support through appropriate institutional and policy interventions as a key barrier to the adoption of climate-smart agricultural practices such as organic agriculture. A study (Avane et al., 2022) on organic fertilizer adoption by cocoa farmers in Ghana could not discern how the government is helping farmers despite having a programme in place to support cocoa farmers with subsidized fertilizers. Unfortunately, these studies fail to address what accounts for the lack of institutional (governmental-level) support and interventions within organic agricultural practice. This study aims to address this research gap and respond to the crucial call by El Bilali (2020) and the observation by Rodriguez et al. (2009) concerning the important role of change agents (policymakers) in policy adoption. Understanding the perceptions of and barriers to the adoption of organic agriculture policy at the national (governmental) level could open up space for policymakers, researchers, public and private players, and relevant international bodies to find solutions to the barriers identified at the national level. The purpose of this study is therefore to explore policymakers' perceptions of organic cocoa production, and what constitutes barriers to the adoption

of organic cocoa policy to advance sustainable agriculture in Ghana and Ivory Coast. This study also adds to the body of research promoting organic agriculture in the face of societal challenges to sustainable development related to agriculture and planetary well-being (e.g. Kortetmäki et al., 2021).

The two countries, located in Western Africa, were chosen because they have a huge difference in the production volumes of conventional and organic cocoa beans. Together, Ghana and Ivory Coast produce around 64% of the world's conventional cocoa (Black et al., 2021) and less than 2% of the world's organic cocoa (Market Reports World, 2017). In terms of gross domestic product (GDP), the contribution of cocoa to the two countries' economies is estimated to be 7% in Ivory Coast and 3% in Ghana (Bunn et al., 2018). This difference in the production output (organic and conventional) of these two leading cocoa-producing countries raises a question about the perceptions of policymakers and barriers to adopting organic cocoa production. The next section of this study focuses on the theoretical framework and existing studies conducted by researchers in academia and institutions outside it.

Theoretical framework

The adoption of planned behaviour theory (PBT) as the theoretical framework for this article enables this study to investigate what influences policymakers' decision not to adopt an organic cocoa policy that would enhance its production. Over the years, PBT has played a critical role in researchers' endeavours to understand the behaviours and practices of individuals and institutions. Some studies have been conducted on the adoption of organic agriculture practices using PBT at the level of smallholder farmers and specific individuals (Despotović et al., 2019; Djokoto et al., 2016; Yadav and Pathak, 2016; Bechini et al., 2015; Borges et al., 2014).

Proposed by Icek Ajzen in 1985, PBT represents a significant advancement in the understanding of human behaviour (Ajzen, 1991). Building upon the earlier theory of reasoned action (Ajzen and Fishbein 1980), PBT (Ajzen, 1991) posits that individuals are rational decision makers who consider attitudes, subjective norms and perceived behavioural control when deciding to engage in a specific behaviour. According to Ajzen (1991), attitudes represent an individual's positive or negative evaluations of a behaviour. Attitudes are shaped by beliefs about the outcomes of the behaviour and the values attached to those outcomes. Subjective norms, another key element in PBT, involve perceptions of social pressure or expectations from significant others regarding a behaviour (Ajzen, 1985, 1991). This includes considerations of whether individuals important to the person would approve or disapprove of the behaviour. The inclusion of perceived behavioural control is a distinguishing feature of PBT, recognizing the influence of factors beyond attitudes and subjective norms (Ajzen, 1991). Perceived behavioural control reflects an individual's perception of the ease or difficulty of performing a behaviour, considering personal abilities, resources and external constraints.

Review of previous studies

The promotion (e.g. perceptions, barriers, policies) of organic agriculture has been studied increasingly by academics and major national and international bodies over the past two decades (e.g. Łuczka and Kalinowski, 2020; Auerbach et al., 2013; Musiime et al., 2005; Pinthukas, 2015; Obeng, 2022). Among other alternatives, organic agriculture is perceived as transitional agriculture, known for utilizing renewable resources for sustainable agriculture (Poincelot, 2012). Organic cocoa production falls under cash crop commodities and requires arable forest lands in the high-temperate zone of our world to thrive (Ameyaw et al., 2018). As posited above, many scholarly studies have been conducted on the promotion of organic agriculture, including organic cocoa, and many focus on smallholder farmers' perceptions of, motivations for and barriers to the adoption of organic farming (Łuczka and Kalinowski, 2020; Priya and Singh, 2022; Fuady and Sutarjo, 2021).

The reduction of input costs is one of the many perceptions attributed to organic agriculture even among conventional farmers (Panneerselvam et al., 2012), which is a positive attitude. In South Africa, organic farmers perceive organic farming as a practice that has the potential to provide them with sustainable income (Uhunamure et al., 2021). It is thought that organic agriculture ensures reliance on ecological processes, thereby reducing production costs through avoiding the use of non-renewable resources (Borron, 2006). The study by Avane et al. (2022) on the adoption of organic cocoa fertilizer among Ghanaian cocoa farmers revealed a positive perception. However, issues such as the stench of the fertilizer and slow nutrient absorption act as barriers, indicating a complex attitude influenced by perceived benefits and challenges.

Organic agriculture is associated with profitability, the safeguarding of health, the preservation of biodiversity and a sustainable environment (Alotaibi et al., 2021; Fuady and Sutarjo, 2021; RFI, 2016; Van der Vossen, 2005). On the economic side, the premium received by farmers for selling their products as certified organic cocoa and coffee after adhering to strict rules concerning organic farming is a motivating factor for farmers (RFI, 2016; Van der Vossen, 2005). This reflects the complexity of attitudes towards the effectiveness of organic agriculture in achieving multiple goals. Yet economic motivation contributes to a positive attitude towards organic cocoa and coffee farming. This economic incentive serves as a positive attitude factor, influencing farmers' perception of the benefits associated with organic farming. In PBT terms (1991), these attitudes influence their willingness to engage in organic cocoa production.

According to the key findings of Djokoto et al. (2016), farmers who have small farmlands are more likely to adopt organic agriculture. This owes to the fact that organic cocoa farming usually requires labour-intensive activities on the field compared to conventional cocoa farming (Bandanaa et al., 2021). According to Djokoto et al. (2016), farmers who have less experience are more likely to adopt organic

cocoa production. Bandanaa et al. (2021) observed long hours spent on organic cocoa farmland even when the cultivated area was small but attributed it to the prohibition to use synthetic weedicides. This reflects a subjective norm whereby adherence to organic farming practices influences farmers' behaviour. However, Pinthukas (2015) posits that farmers' perception of organic agriculture may be related to their years of practice and labour availability. As in other agricultural practices, organic farmers gain more knowledge about how to carry out their farming activities based on their previous experience.

As for barriers, a significant barrier to the adoption of organic agriculture is the difference in yield outcomes between organic and conventional agriculture, with the former providing low yields (Knapp and van der Heijden, 2018; Neuhoff et al., 2014). The findings from Ayenor et al. (2004) reveal low yields, pest management and a low technology adoption rate as constraints to organic cocoa production. Reganold and Wachter (2016) also identify low yields as a barrier to sustainable organic cocoa production. These barriers contribute to farmers' perceived difficulty and lack of control.

Van der Vossen (2005) observed that policy approaches to organic agriculture in countries in the Global South have mainly relied on the economic benefits arising from organic certification, but the related strict regulations are inimical to sustainable production. The certification processes, a crucial aspect of perceived behavioural control, emerge as a significant challenge in organic agriculture promotion (Obeng, 2022; Van der Vossen, 2005; Łuczka and Kalinowski, 2020). The strict regulations and lengthy certification procedures act as barriers, hindering the widespread adoption of organic practices. The challenges in policy implementation and the regulatory environment impact farmers' ability to exert control over their adoption decisions.

In Poland, for example, the instability of laws regulating the organic agriculture sector has been identified as a barrier to the adoption of organic farming (Łuczka and Kalinowski, 2020). In their study conducted in the Southern United States, Rodriguez et al. (2009) posited that change agents' attitudes presented a significant barrier to the adoption of sustainable agriculture. Studying organic agriculture policy in Uganda, Musiime et al. (2005) identified two main factors, which were reduced public investments in agriculture and over-reliance on biotechnology and genetically modified organisms (GMOs), leading to a seeming shift from organic agriculture in Sub-Saharan Africa. In Western Africa in particular, organic agriculture development is being hindered by a lack of agricultural policy, agronomics research, extension management and institutional commitment, which calls for empirical research to fill the gap (El Bilali, 2020). Priya and Singh's (2022) review article on factors influencing the adoption of sustainable agricultural practices such as organic agriculture provides an insightful finding. According to these researchers, the adoption of sustainable agricultural practices is based on socioeconomic, biophysical, institutional, financial, technical and psychological factors. They identified the lack of institutional and technical support as a significant barrier, reflecting a lack of perceived control over adopting organic agriculture.

Borron (2006) identifies organic marketing as a threefold challenge in developing countries, which requires interventions from their governments. This challenge involves certifying farmers, connecting them to the export markets and creating markets within the producing countries. In Austria, technical challenges in cropping and the additional requirement of labour were found to be the most important barriers to the adoption of organic farming among cash-crop producers (Schneeberger et al., 2002). Schneeberger et al. (2002) also discovered that marketing and income decrease were other, albeit less significant, barriers to the adoption of organic farming among Austrian cash-crop producers. Panneerselvam et al. (2012) has reaffirmed the lack of markets and institutional support as the main barriers of Indian conventional farmers to adopting organic agriculture. Pinthukas (2015) reveals debt, low income and lack of knowledge as significant barriers to the adoption of organic agriculture. Issues such as the market and the economic challenges identified in the above studies contribute to the perceived difficulty and lack of control in adopting organic agriculture.

Methodology of data collection and analysis

Due to the exploratory nature of this study, a qualitative research methodology was applied. This methodological approach is relevant especially as this study aims to explain phenomena. This qualitative study is based on 16 in-depth interviews conducted face to face and on Zoom with policymakers and relevant stakeholders in the Ghanaian and Ivorian organic cocoa industry. The respondents were selected through purposive sampling. This was important as the study seeks to understand the perceptions of and barriers to the adoption of policies that promote organic cocoa production on a larger scale as against conventional cocoa production among policymakers.

The interviews were conducted between April and July 2021 using semi-structured questions. The purpose of using them was to allow other equally relevant issues to emerge in the interviews and provide the interviewer with the opportunity to probe further. It is worth mentioning that all the interviews were conducted in English even though Ivory Coast is officially a French-speaking country. No translation or translator was therefore needed. All the Ivorian respondents understood and spoke fluent English, and their level of English never compromised the data collected. At the time of the interviews, all the interviewees resided in the respective capital cities of the two countries. Ten (10) of the respondents worked in official institutions responsible for the general cocoa production in Ghana and Ivory Coast, the leaders in cocoa production in the world. The policymakers interviewed were from the Ghana Cocoa Marketing Board (COCOBOD) and Le Conseil Café-Cacao (CCC) in Ivory Coast, which are institutions that oversee cocoa production. Five (5) experts from various departments of COCOBOD, and five (5) policymakers from different departments of CCC were interviewed. The remaining six (6) interviewees worked for

private certification agencies in the cocoa sector in the two countries. In Ivory Coast, three (3) people from Ecookim, a leading private cocoa trading body, were selected for interview. The remaining three (3) expert respondents were selected from Ecocert Ghana.

Both the institutions and their representatives selected for the interviews were informed about the purpose of the study, and their approval to participate was secured. This was done by providing them with a consent form, which all the participants perused and signed. In order not to compromise their anonymity (Gall et al., 2003), letters and numbers (e.g. A1) were assigned to each interviewee to identify them based on the country and body they worked for. The selection of experts from the above institutions was justified since they play a crucial role in formulating and implementing policies concerning organic cocoa production in Ghana and Ivory Coast.

The analytical approach was a data-driven thematic analysis approach. The raw data collected and transcribed were coded to check for similarities and categorize the data (Saldaña, 2013). Through a thematic analysis, it is possible to observe respondents' different perspectives and summarize the main features emerging from the dataset (Nowell et al., 2017). Both the perceptions of and barriers to the adoption of organic cocoa policy were thematically coded deductively and inductively (a hybrid process). To achieve this objective, the study adopted line-by-line coding to dive deeper into the dataset for details and specificity. The codes were categorized in line with the key concepts of Ajzen's (1991) PBT: attitudes, subjective norms and perceived behavioural control. The transcribed data were perused several times to match existing themes and those emerging from the data with the study questions: (1) what are the institutional perceptions of organic cocoa production? (2) what factors inhibit the institutional adoption of organic cocoa production policy? The following section presents the results of the study.

Study results

In this section, the results are presented in line with Ajzen's (1991) planned behaviour theory (PBT) adopted as the theoretical framework for this study. The results are divided into two parts. The first deals with how organic cocoa farming is perceived by policymakers, and the second presents the results on the barriers to the adoption of organic cocoa policy in Ghana and Ivory Coast.

Policymakers' perceptions of organic cocoa farming

All the respondents view organic cocoa production as very important in ensuring environmental protection, sustainable development and health promotion. The results show policymakers' generally positive attitude towards organic cocoa production. The positive attitude towards organic cocoa production, driven by its perceived health benefits, may serve as a key factor influencing the intentions of

policymakers. As Ajzen (1991) argues, attitudes are shaped by individual and organizational views and assessments of behaviour outcomes. Concerns about the negative effects of synthetic agrochemicals on the environment and health contribute to the positive perception that going organic is the best approach. The following quotes demonstrate the positive perceptions concerning organic cocoa production:

> Okay, on our part, we see that organic cocoa production as a trend or the way to go, in view of the proliferation of these synthetic agrochemicals, synthetic fertilizers infusion and their negative effect on the environment and on our health, we feel going organic is the best (A1).

> You are aware of the prohibition to use of synthetic fertilizers and other agrochemicals for reasons such as pest control. Consumers of chocolates made from organic beans are assuredly free of high-risk chemical residues which are sometimes found in conventional cocoa beans (B3).

One important positive perception about organic cocoa production shared by the policymakers interviewed is related to the huge savings on the part of both the governments of the two countries and their farmers. The perception that organic cocoa farming could reduce the governments' expenditure on agrochemicals reflects policymakers' positive attitudes towards organic cocoa production (Ajzen, 1991). The policymakers' assertion that the government could channel the saved financial resources to support farmers through policy interventions represents a positive evaluation of the practice of organic cocoa farming:

> It cuts down on government expenditure tremendously because at the moment, fertilizers and those agricultural inputs are subsidized. The government pays the chunk of it, and the farmer tops up a bit, and the farmer will go and apply, so if we are going organic, it means that all that expenditure would be channelled to other areas that could benefit the farmer more (A2).

> The farmers are able to spend their money on labour alone compared with conventional cocoa farmers, who have to spend much money to buy agrochemicals for their cocoa farms (B2).

The results also show the complex phenomenon of certification in organic cocoa production. Policymakers perceive certification as best practices to protect the integrity of the organic cocoa trade, yet they also see it as posing some form of challenge to organic cocoa farmers. The perception that organic cocoa production certification processes are cumbersome reflects policymakers' subjective norm. Policymakers' acknowledgment of the strict rules and third-party audits that organic cocoa farmers must undergo for certification indicates that organic cocoa farmers must cooperate with the relevant institutions. The characterization of the certification processes as cumbersome could be viewed as societal pressure to ensure that things are done correctly to meet consumers' expectations (Ajzen, 1991). The pressure and expectations

are also accompanied by the costs related to certification, further burdening organic cocoa farmers financially. The belief that organic cocoa certification burdens farmers could shape the attitudes of policymakers negatively (Ajzen, 1991). The below responses acknowledge challenges and complexities in the organic cocoa production process that could prove to be inimical to organic cocoa production:

> As policymakers, we are in the know of strict rules that our organic cocoa farmers must go through to get cocoa beans certified as organic. They bear all the costs involved in engaging the certifiers (A5).

> Farmers in the organic sector are not allowed to burn weeds in their farms and avoid the use agrochemicals on their farms too, so almost everything is done manually by these farmers, which tends to be difficult. More time must be spent on their farms, especially clearing bad weeds and checking and tackling cocoa diseases such as swollen shot and black pods, which are typical of cocoa diseases (B2).

As a final point about perceptions, the policymakers and experts interviewed perceive organic cocoa as a 'niche'. Almost all the respondents find organic agriculture and organic cocoa production in particular to be a new trend in the cocoa production industry for which there is a growing demand. The policymakers' perception of organic cocoa as a niche and emphasis on the need for careful guidance and sustainability in its production could be seen as a subjective norm in line with the theoretical approach applied in the study. The perception advocated by policymakers that organic cocoa is unique and should be regulated reveals the social pressure and the societal (consumer) expectations and acceptance concerning organic agricultural practices in general.

> In the organic market, you know, work is growing, so there is a need for us to also increase production, but, you know, if you increase production beyond the market demands, it means that the farmers are going to run at a loss because what it means is that the beans will be sold as conventional because we have produced more than we need, so it has to be regulated so very well. I think this case is one of the things I will rather capture under the effect of the non-existence of regulations. We should be able to have regulations, the policy, to control how much is produced in the country so that we don't go beyond what is actually needed. Otherwise, the farmers will run at a loss. It means that once the needed quantities are exported, all the others will have to be sold as conventional (C1).

Policy adoption barriers

As mentioned above, Ghana and Ivory Coast are the world's two leading producers of cocoa, the main ingredient for chocolate making, but in terms of organic cocoa production, their contribution is only 2% of the global organic cocoa production output (Market Reports World, 2017). The results of this study regarding the barriers to the adoption of organic cocoa production among policymakers in Ghana and Ivory

Coast are critical in terms of organic agriculture in the Global South and sustainable agriculture practice in general.

The results show that one major factor affecting the adoption of organic cocoa policy in Ghana and Ivory Coast is the availability of the market. This result reveals a salient issue that policymakers are confronted with. Respondents highlighted the concern that the current market share of organic cocoa is insignificant compared to conventional production and expressed uncertainty about the effect of pushing through a policy forcing cocoa farmers to switch to organic production. These views reflect uncertainty and a perceived lack of control over the market dynamics of organic cocoa. The market-related barriers outlined, including the lack of demand and marketing challenges compared to conventional cocoa, contribute negatively to policymakers' perceived behavioural control (Ajzen, 1991). The unfavourable evaluations of the market conditions make policymakers less inclined to support the adoption of organic cocoa policies, as indicated by these excerpts:

> In the organic cocoa market, even though it is growing, the market demand compared to our traditional one, I mean conventional production, is very insignificant. This is as low as 2% of the total combined output of the two. If we insist on adopting organic cocoa farming at this material moment, we may not get buyers, which will affect the farmers and our government in revenue generation through cocoa export (A6).

> The existing market share of organic cocoa is not encouraging enough to put in place a well-thought-through policy to regulate organic cocoa in this country. We are unsure about the effect of pushing through a policy that will in a way force cocoa farmers to change from conventional cocoa production to organic. This is not to imply things will remain the same forever – maybe in the near future, a policy will be implemented (B7).

Another significant barrier to the adoption of organic cocoa policy are the low yields associated with it, which are not compensated by the premium price difference, and this was a common view shared by the experts interviewed in this study. All farmers, organic food producers included, expect to get reasonable yields from their farms. At the same time, these two countries depend on the annual yields and the revenue from the exportation of cocoa, and thus the low yields of organically produced cocoa do not encourage them to adopt a policy to promote organic production. In policymakers' view, the prohibition to apply fertilizers and pesticides to control cocoa plant diseases results in low yields in organic production compared to conventional cocoa production. Based on PBT, this point represents a perceived lack of control over organic cocoa production outcomes. In other words, as farmers are not allowed to apply inorganic fertilizers and pesticides, policymakers see it as a barrier to achieving high yields in organic cocoa farming. According to PBT, individuals, and in this case organizations, are more likely to engage in a behaviour if they believe they have control over it. The results of this study suggest that the perceived difficulty of

achieving high yields in organic cocoa production contributes to a diminished sense of control:

> Yes, so the perception is that, like I said, we know the benefits but in terms of the yields, the outcome is that organic will not give you as high yields as the conventional because of many factors. So, if your soil nutrient levels are depleted, if you have a lot of pest problems, those thresholds, we know that the organic may not be able to meet the revenue level or the profit level that the farmers might wish to have (B6).

One more significant result worth noting is the lack of technological advancement by way of research, development and innovation (RDI) and the capacity building of farmers in the organic agriculture sector in Ghana and Ivory Coast. RDI plays a key role in the development of all facets of human activities, including agriculture. One respondent emphasized the importance of research and development for sustainable organic cocoa production. This response highlights the role of RDI in providing policymakers with tools to exert control over the challenges associated with organic cocoa production. Developing disease – and pest-resistant planting materials is seen as a form of control over the potential obstacles in organic farming:

> So, for sustainable production, the key is the development of resistant planting materials, planting materials that are resistant to the cocoa diseases and pests, that is number one. So if the material is a high-yielding one, but it's not resistant to diseases and pests, then the farmer will be forced to apply agrochemicals. To me, sustainability is the first thing that we have to look at (B1).

> Okay, like you rightly said, you know we have not really done research into organic cocoa. Currently, we are now trying to do some trials, experiments to compare the benefits, economically and in other things, between the two types of system of farming – organic cocoa and the conventional. […] So all these while our research has been based on supporting conventional cocoa farming (A3).

Discussion of results

Intervention through policy adoption at the governmental level could play a pivotal role in sustainable organic cocoa production. For this reason, the aim of this qualitative study was to understand how organic cocoa production is perceived by policymakers and other experts, and what they think are the barriers to the adoption of organic cocoa policy in Ghana and Ivory Coast.

The results concerning the attitudes of policymakers and experts show a mixed reaction of both positive and negative perceptions about organic cocoa production. Policymakers' perception that organic cocoa production may reduce operational costs and enable organic cocoa farmers to earn additional income supports the earlier studies (Panneerselvam et al., 2012; Hossain et al., 2007; Borron, 2006) discussed under the literature review section of this study. This perception of income support runs contrary to

studies associating engagement in organic farming with low income and debt (Pinthukas, 2015; Schneeberger et al., 2002). The positive perceptions held by policymakers towards the contribution of organic agriculture to biodiversity, a sustainable environment and economy, and the health of farmers and consumers also lend credence to studies by Uhunamure et al. (2021), Alotaibi et al. (2021), Rezvanfar et al. (2011) and Musiime at al. (2005). Policymakers' belief in the ecological, economic and human health benefits of organic agriculture reflects a favourable attitude, which is a key component in Ajzen's (1991) planned behaviour theory. What this means is that the positive perception exhibited by policymakers may influence their intention to support the adoption of organic cocoa policy in Ghana and Ivory Coast.

Regarding negative attitudes, the perception that organic cocoa production leads to low yields is highlighted in the results of this study. This result supports the study of Avane et al. (2022) which showed that organic fertilizers did not properly absorb into the soil to help provide additional but essential nutrients to cocoa plants. The challenge identified by Avane et al. (2022) accounts for why 50% of cocoa farmers use the 'Asaasenufosuo' organic fertilizer. In addition, the perceived labour intensiveness and the cumbersome certification processes associated with organic cocoa production lead policymakers to have negative attitudes towards organic cocoa policy adoption. Labour intensity and the difficulty of getting agricultural products certified as organic have been identified in many studies (Bandanaa et al., 2021; Fuady and Sutarjo, 2021; Djokoto et al., 2016) and are echoed by the policymakers interviewed for this study. All these factors contribute to policymakers' unfavourable attitudes towards organic cocoa policy adoption since their sense of control is essentially diminished, to put it in terms of PBT.

According to the results, the certification of organic cocoa production is identified as one complex issue concerning policymakers' perceptions. Their attitudes towards certification are mixed. Following PBT, policymakers' complex attitudes reflect their perceived behavioural control. Policymakers agree with the fact that aside from preventing the falsification of organic cocoa products, which is the reason for instituting certification schemes (Obeng, 2022), farmers gain the opportunity to earn more income by way of a premium (Panneerselvam et al., 2012; Hossain et al., 2007; Borron, 2006). Yet policymakers' concern about organic cocoa production costs and the strict nature of certification, also revealed in previous studies (Uhunamure et al., 2021; Van der Vossen, 2005), is a testament to the two different dimensions that certification presents. This conflicting perception complicates policymakers' perceived behavioural control.

The perception of organic cocoa production as a niche presents a unique finding in relation to the previous studies reviewed in this study. The policymakers' perception of organic cocoa as a niche indicates a recognition of the specialty of organic cocoa in the cocoa production industry (Ajzen, 1991). While this new finding reflects policymakers' general attitudes, it is much related to their subjective norm (Ajzen, 1991). Their advocacy to guide against overproduction implies that they see it as a specialized and marginal sector within the broader agricultural industry. This result supports the perception that marketing remains a significant challenge to organic agricultural

production (Panneerselvam et al., 2012; Borron, 2006). Yet it runs contrary to the study by Hossain et al. (2007) on the production of organic rice in Iran, where farmers could not meet even the local market demand and were thus unable to export to the international market. Subjective norms, emphasizing the influence of perceived social pressure on behaviour, are evident in the policymakers' acknowledgment of the challenges related to overproduction. The perceived impact on the lives of cocoa farmers and the economies of the countries, as noted by those interviewed, forms a normative influence (Ajzen, 1991). This shared perception creates a subjective norm that discourages the active promotion and maintenance of organic cocoa policies, which reaffirms Scialabba's (2000) assertion that developing countries' policy approaches to organic agriculture are primarily based on economic considerations.

Perceived behavioural control, the third component of PBT, comes to the fore in the caution exercised by policymakers regarding potential negative impacts. The fear of adverse consequences on farmers' lives and national export earnings implies a perceived lack of control over the potential outcomes of a widespread adoption of organic cocoa policies (Ajzen, 1991). The view that overproduction might destabilize prices underscores a sense of limited control over the economic implications, and in this sense, the absence of policy in the two countries to intentionally promote and sustain organic cocoa production. Consequently, this could impact negatively the perceived positive attitudes towards organic cocoa production observed in this study.

Moving on to what policymakers deemed as existing barriers to the adoption of organic cocoa policy in Ghana and Ivory Coast, the results of the study pointed out three main reasons. The lack of markets, low yields and the absence of RDI initiatives account for the non-existence of organic cocoa policy although organic agriculture has witnessed exponential growth over the years (Obeng, 2022).

The study results show that policymakers are influenced by the existing market dynamics and the seeming preference for conventional cocoa over organic cocoa production by key industry players such as confectionaries and consumers. This means that societal influence on organic cocoa production is still in its growing stages: the current market share of about 2% of the total global production output of cocoa (Obeng, 2022) is a significant factor influencing the subjective norms (Ajzen, 1991) of policymakers. Moreover, the existing market dynamics and their attendant uncertainty reflect the perceived pressure policymakers are confronted with when pushing through a policy that might force cocoa farmers to shift from conventional to organic production. This finding supports earlier studies conducted by Panneerselvam (2011), Stolze and Lampkin (2009) and Barron (2006) in which the non-availability of a large market was identified as one of the barriers to organic agricultural practices. This means that the slow growth of the organic cocoa market and the uncertainty concerning the industry 1980players' preferences render policymakers powerless to control organic cocoa production by way of policy adoption. This can also be the reason why change agents (policymakers) have been identified as a barrier to the adoption of sustainable agriculture, including organic agriculture practices (Rodriguez

et al., 2009). This is important as in this study, policymakers (change agents in the terms of Rodriguez et al. 2009) perceived organic cocoa production as a niche, which implicitly prevents a large-scale production for economic reasons.

Another barrier to the adoption of organic cocoa production policy by the two countries was the common view shared by policymakers that the production of organic cocoa means low yields. This issue, also corroborated by some studies (Knapp and van der Heijden, 2018; Reganold and Wachter, 2016), has been attributed to soil fertility by Neuhoff et al. (2014). Policymakers argued that one factor leading to low yields is the prohibition to use inorganic fertilizers and pesticides. One of the central principles of PBT is perceived behavioural control, which refers to the perceived ease or difficulty of performing a behaviour. In the context of organic cocoa production, low yields act as a perceived obstacle, influencing policymakers' decision to adopt policies supporting organic agriculture. Policymakers might be hesitant to promote organic cocoa policies due to the perceived challenge of addressing low yields.

The last major barrier to the adoption of organic cocoa production policy in Ghana and Ivory Coast was the lack of comprehensive RDI in the organic agriculture sector, including organic cocoa production. Policymakers' identification of the absence of RDI as a barrier to the adoption of organic cocoa policy supports studies that have revealed limited or virtually non-existent RDI in the organic agriculture sector (Prazeres et al. 2021; Antwi-Agyei et al. 2022; Avene et al. 2022; Priya and Singh, 2022; Łuczka and Kalinowski 2020; El Bilali, 2020; Musiime et al., 2005). The observed poor performance in agronomics research and extension management in West Africa, as indicated by El Bilali (2020), contributes to a negative subjective norm, discouraging the adoption of RDI initiatives. Priya and Singh (2022) underscore the importance of institutions in driving sustainable agriculture practices, including RDI in organic agriculture. Musiime et al. (2005) point to the conscious dependence on biotechnology and GMOs. Therefore, the explanation about the observed poor performance mentioned above might not be the entire reality. As a result, limited RDI about subjective norms indicates minimal social pressure on the behaviour of policymakers concerning organic agriculture practices.

Conclusion

Organic agriculture is touted as one of the best agricultural practices by sustainable development advocates since it has been found to promote biodiversity, respect the ecological environment and soil quality, and protect freshwater bodies and the health of consumers. By applying planned behaviour theory (PBT) (Ajzen, 1991), the study has revealed the complex interplay of attitudes, subjective norms and perceived behavioural control in shaping the adoption of organic cocoa production policy and bringing to bear the critical role of policymakers and experts' opinions in influencing the behaviour of governments and their sectoral institutions. Policymakers' perceptions of organic cocoa production show that positive attitudes exist, yet negative perceptions of labour intensity and lack of knowledge among smallholder

farmers contribute to negative attitudes. Barriers to the adoption of organic cocoa policy, including the non-availability of larger markets, low yields and the lack of research, development and innovations, reflect the perceived difficulties and challenges. Contrary to the conclusion by Despotović et al. (2019) that positive attitudes play a critical role in decisions to adopt pest management in Serbia and reflect perceived behavioural control, this study rather found that the subjective norm shapes behavioural control. In this study, positive attitudes about organic cocoa production could not influence policy adoption due to the subjective norms concerning low yields, the lack of markets and the cumbersome processes of certification.

The absence of RDI is identified as a significant constraint, indicating a lack of perceived control over the adoption of organic cocoa production. What the non-existence of organic cocoa policy in the two countries and many other cocoa-producing countries means is that RDI may be curtailed in the organic sector, resulting in the continuous underdevelopment and lack of promotion of organic cocoa production. The perception of organic cocoa as a niche adds a layer of complexity to the PBT framework. It suggests that policymakers recognize the unique market position of organic cocoa but may also be influenced by economic factors that could impact their decisions. This interplay of positive attitudes and perceived control with economic considerations reveals the complex nature of policymaking in the context of organic cocoa production. The perception of organic cocoa as a niche can have both positive and negative implications for policy adoption. There is much that the governments of the two countries could do through adopting an explicit policy on organic cocoa production if they first abandoned the perception that organic cocoa production is a niche.

A further study is encouraged to understand whether the perception of organic cocoa as a niche also cuts across all organic agricultural production. Another question is how the idea of being a niche influences sustainable agriculture policies such as organic agriculture.

Disclosure statement

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Notes on contributor

Godfred Adduow Obeng is a doctoral researcher in Development Studies at the Department of Social Sciences and Philosophy, University of Jyväskylä. His research interests in Development Studies encompass social and public policies, with a focus on discourses that shape biodiversity, sustainable agriculture, climate change, and political economy. His current research investigates the governance of organic cocoa and its implications for sustainable production in Ghana and Ivory Coast, examined through the lens of multilevel governance.

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