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Agricultural commercialisation and the 'good life'

Investigating the relationship between wellbeing and cash crop production in low-income countries with qualitative and quantitative methods

Inaugural dissertation

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The faculty accepted this work as a dissertation on 15 December 2022 at the request of Prof. Dr. Michèle Amacker (University of Bern), Prof. Dr. Ben Jann (University of Bern) and Prof. Dr. Oliver Mußhoff (University of Göttingen) without wishing to take a position on the view presented therein.

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Abstract

Numerous low-income countries promote commercial smallholder agriculture to achieve the Sustainable Development Goals and improve the lives of the rural population. While the macroeconomic effects of commercialisation are well established, evidence on household-level impacts is scarce and the little evidence that exists is inconsistent. Particularly, there is a research gap on the influence of commercialisation on the wellbeing of farmers and labourers. This is noteworthy given the growing importance of wellbeing concepts in development research and practice.

This dissertation contributes to linking two important fields of development research by providing a comprehensive analysis of the wellbeing effects of agricultural commercialisation. The analysis combines three different approaches commonly used in wellbeing research: local perspectives, subjective wellbeing, and the capabilities approach. The research focuses on the effects of cardamom production in Nepal; the capability analysis additionally considers impacts of coffee production on capabilitites in Laos and Rwanda to enable comparison.

Overall, the three analyses established a positive relationship between commercialisation and wellbeing. First, an innovative combination of qualitative methods elicited a local concept of the good life in Nepal, in which the dimension "having no hardship" was most salient across different social groups. The shift to cardamom production reduced physical hardship associated with agricultural labour and mental hardship associated with poverty (section 2). Second, cardamom production and life satisfaction were positively associated, a finding which was robust when disaggregating by gender (section 3). Third, several capability expansions were detected, albeit in different forms for women and men, and to different extents in the three study sites (section 4). Despite the various improvements, however, the situation of most households was characterised by marked precariousness: farmers and labourers remained at constant risk of falling back into a state of reduced wellbeing due to reliance on a single crop and the associated dependence on fluctuating world market prices. Further research should focus on mechanisms to guard against these risks.

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1 Wellbeing in agricultural development: establishing a missing link

1.1 Background and conceptual framework

1.1.1 Agricultural commercialisation: an effective development strategy?

Agriculture is still the main economic sector in numerous low-income countries, employing about two thirds of the economically active population (FAO, 2021). There is widespread agreement that agricultural productivity increases are still necessary to combat poverty and feed a growing population (Barrett et al., 2018; Glover & Jones, 2019; Gomez y Paloma et al., 2020). To achieve the Sustainable Development Goals (SDGs), the commercialisation of agriculture is seen as a promising development pathway: "The process of agricultural commercialisation in developing countries is essential to meeting the poverty, nutritional, social and environmental SDGs" (Abraham & Pingali, 2020, p. 195). International organisations have hence been supporting the commercialisation of agriculture for several decades, particularly in so-called "Least Developed Countries" (LDCs) (FAO, 2002; UNCTAD, 2021). Many of those countries, Nepal included, enshrined commercialisation in their agricultural policies, aiming to generate jobs and to increase incomes (Bieri, 2014; K. C., 2019). In countries where the agricultural sector plays a pivotal economic role, both the state and its rural citizens depend on agricultural income. If the agricultural sector in low-income countries is to create greater economic value and employ more people, substantial agricultural transformation processes seem necessary.

The term commercialisation is defined as the "organization of something in a way intended to make a profit" – used either positively as "the process of making a product or service available for sale to the public" or connoted disapprovingly in the sense of "developing or organizing something in order to make as much money as possible" (Cambridge Dictionary, 2018). Likewise, the term agricultural commercialisation can be understood in positive or negative terms. On the one hand, it can imply a "production [shift] from current subsistence towards market orientation" (Zhou et al., 2013, p. 2599). Commercialisation in this vein would make agricultural products available for sale while maintaining a small-scale farming system that "remains a vital source of resilience and livelihoods, particularly in the Global South" (Bieri, 2014, p. 283). As demonstrated by a recent comparative study in five African countries,

smallholder-based commercial production can be an economically viable enterprise (Wiggins et al., 2022). On the other hand, agricultural commercialisation can also denote a transition to large-scale farming dominated by multinational companies and leading to the commodification of land, dispossession and displacement of smallholder farmers (Makki, 2012; Prügl et al., 2021).

Levels of market orientation – definition of terms

Whether small-scale or large-scale, it is important to note that agricultural commercialisation is not necessarily tied to production increases. For instance, a smallholder farmer might commercialise by choosing to produce spices for export instead of farming for subsistence purposes. Thereby, s/he does not necessarily produce a higher crop output measured in tons or calories, but s/he sells a greater share of produce as compared to subsistence farming. Commercialisation, in the strict sense of the term, is not about total production or productivity, but about the *level of market orientation* of the enterprise in question (Carletto et al., 2017). Increased productivity often accompanies the process of market orientation, but it is not constitutive of commercialisation: reorganising agriculture "in a way intended to make a profit" has many facets. In the context of this research, when using the term agricultural commercialisation, unless stated otherwise I do not refer to large-scale land acquisitions but to an increased level of market orientation in the context of smallholder farming.

Pingali and Rosegrant (1995) provide a schematic overview of agricultural systems with different levels of market orientation from subsistence to commercial systems (see Table 1). The authors depict a process of commercialising agriculture that entails changes in farm inputs and outputs. Whereas subsistence-based systems mainly rely on local inputs like farm manure to produce a wide variety of crops, commercial farming systems predominantly use traded inputs for specialised production. The farming systems analysed in this research usually combine cash crop production with some share of subsistence farming, are thus moderately specialised and best characterised as semi-commercial.

Table 1: Subsistence, semi-commercial, and commercial systems (Pingali and Rosegrant, 1995)

Level of market orientation	Farmer's objective	Sources of inputs	Product mix	Household income sources
Subsistence systems	Food self-sufficiency	Household generated (non-traded)	Wide range	Predominantly agricultural
Semi-commercial systems	Surplus generation	Mix of traded and non-traded inputs	Moderately specialized	Agricultural and non-agricultural
Commercial systems	Profit maximization	Predominantly traded inputs	Highly specialized	Predominantly non-agricultural

The increasing demand for farm inputs in the wake of commercialisation can, depending on the local context, strengthen the role of transnational corporations (TNCs) that supply inputs like hybrid seeds and agricultural chemicals. While some international stakeholders subsume the advancement of TNCs under "foreign direct investment" in agriculture and evaluate this process as beneficial for "boosting productivity and supporting economic development and modernization" (United Nations, 2009, p. 2), others highlight the side-effects of TNC-led commercialisation which have led to irreversible environmental damage, a surge of conflicts over land, and increased dependency of the rural population on commercial firms (Binswanger & Braun, 1991; Kansanga et al., 2018; Shiva, 2000).

Commercialisation, global food production and local food and nutrition security

Justified criticism notwithstanding, it is important to note that the process of commercialisation has led to a global uptick in food production in the last century, which is why the agricultural economist Giovanni Federico (2009) calls the commercialisation of agriculture a "success story". And indeed, the increase in food production is impressive: since 1960, the global food production index has nearly quadrupled (World Bank, 2015), partly due to the Green Revolution that provoked far-reaching changes in the second half of the 20th century (Binswanger & Braun, 1991). In the 1980s, development planners hoped that Structural Adjustment Programs (SAPs) would again catalyse a drastic increase in the production of agricultural goods. However, comparative international data show unclear and partially contradictory effects of SAPs on agricultural productivity (Mkandawire & Soludo, 1988). Today, global food production is still rising, even more rapidly than in the 1960s (World Bank, 2015). While there is currently no general food supply shortage (IPES-Food, 2022), food is unequally distributed: according to recent estimates, between 702 and 828 million people

faced hunger in 2021, and this number is likely to increase in coming years due to armed conflicts and economic shocks, growing economic inequality, and extreme events linked to climate change like droughts and floods (FAO, 2022).

While the connection between agricultural commercialisation, economic growth and food production is well established, the effects of commercial agriculture at the local level are contested. There is some evidence that the commercialisation of small-scale agriculture is positively associated with the food security of commercialised farming households. For instance, a recent study from Zimbabwe suggests a positive relationship between the commercialisation of food crops (maize, cotton, groundnuts, sorghum, groundnuts and cowpeas) and the food security of commercialised households (Madududu et al., 2021). In Tanzania, rice commercialisation was associated with a reduction in the Multidimensional Poverty Index (which includes food insecurity), though a third of the most commercialised farmers were still multidimensionally poor (Isinika et al., 2020). In Kenya, commercialisation improved nutrition security (measured in calories, zinc and iron intake): the income from commercial agriculture increased the consumption of purchased foods but did not reduce the consumption of own farm products (Ogutu et al., 2020). Income increases through agricultural commercialisation were also identified, for instance in Zimbabwe (Mahofa et al., 2022) where a different analysis by the same team of authors found that tobacco and food commercialisation significantly reduced lean season hunger (Sukume et al., 2022). The researchers thus conclude: “National development strategies that aim to improve food security and reduce hunger at the household level should focus on improving the efficiency of staple food markets to incentivise cash crop commercialisation of smallholder agriculture” (ibid., p. 25).

However, the link between commercialisation and food security is far from being evident, with other studies finding no effect or yielding contradictory results (Braun 1995; Carletto et al. 2017). An analysis of a five-wave representative household survey dataset from Vietnam concluded that while smallholder commercialisation was positively associated with asset accumulation, the relationship with per capita food consumption was negative (Cazzuffi et al., 2020). A recent mixed-methods study comparing smallholder commercialisation in Northern and Southern Ghana found that there was no overall positive association between commercialisation rates and food security: moreover, cases of so-called “distress push

commercialisation" among female farmers, i.e., commercialisation driven by necessity, had negative food security implications in Ghana (Dzanku et al., 2021). In Tanzania, farmers with the highest commercialisation index also scored highest on the Multidimensional Poverty Index (Aida et al., 2022). Prügl et al. emphasised that the findings from their case studies in Cambodia and Ghana "caution us against expecting an unproblematic association of commercialization with food security. Volatility of prices and income insecurities, over-commercialization and distress sales are realities for people living contemporary transitions in rural areas" (Prügl et al., 2021, p. 1432).

Other than nutrition, in Uganda, a large rice commercialisation program had the unintended side effect of reducing women's empowerment as men took over control over agricultural income (Ntakyo & van den Berg, 2022). Similar results were found in a large panel study on Ghana, where cocoa and oil palm commercialisation led to a concentration of income and decision-making power in the hands of men, while almost half of the farm households still experienced seasonal food insecurity despite high commercialisation levels (Dzanku, 2022). A study on smallholder commercialisation in Guatemala showed that higher commercialisation was associated with lower female management of plots (van Asselt & Useche, 2022). The same study found negative impacts on nutrition security and concluded: "if the priority of the government is addressing farm household nutrition, a policy promoting commercialization may not be the most effective."

Employment in commercial agriculture

Through altering the modes of crop production and marketing, commercialisation provokes not only changes in agricultural production itself, but also in the agricultural workforce. While, in global terms, agricultural commercialisation has brought about a withdrawal of labour from the agricultural sector because of specialisation and mechanisation (Pingali & Rosegrant, 1995), the commercialisation of agriculture in the majority world[1] is associated with an

[1] I prefer the term "majority world" over expressions like "developing countries" or "Third World", because the expression does not invoke a linear development model, and it reminds readers that people living in industrialised nations are a global minority. The expression was coined by a photography project led by Shahidul Alam and Colin Hastings, see http://majorityworld.com/ and Alam (2008). Even though I would prefer to speak of the majority world throughout, I also use different expressions which are more widely used in the literature, such as the abbreviations LICs and LDCs, to accurately paraphrase and to refer to ongoing academic debates in which these concepts are common.

increase of income-generating opportunities in rural areas – this concerns farmers, on-farm laborers, and employees in different stages of the agricultural value chains such as the processing industry (Allen et al., 2018; Christiaensen & Martin, 2018; Hakizimana et al., 2017). While the agricultural sector already is by far the major employer in low-income countries (LICs), the absolute number of jobs is still rather low and unemployment rates in most LICs are high, especially in rural areas. Hence, the World Bank considers job creation in agriculture as a promising pathway out of poverty (World Bank, 2008).

Especially for the female labour force, commercialisation in general and high-value export agriculture in particular have created numerous employment opportunities. Paid labour is considered a contributing factor to various dimensions of women's empowerment (Kabeer, 2012) which again can result in benefits for other family members, for instance regarding overall household poverty reduction or improved children's education and health (Musonera & Heshmati, 2017). However, it must be noted that working conditions in these employment contexts are often criticised (Hale & Opondo, 2005; see also section 4 below). This observation relates to debates on the *feminisation of agriculture*, a term that was coined by Sylvia Chant (2007).[2] It denotes the growing inclusion of women in the agricultural workforce and a simultaneous deterioration of working conditions as has been common in sectors with a high share of women, including low pay, long and/or irregular working hours, and limited benefits.

In summary, the term "agricultural commercialisation" refers to the process of increasing the level of market orientation of agricultural production. This process can either occur within the context of small-scale farming systems, for instance through a shift to export crop production, or it can imply a transition from small-scale farming to large-scale mechanised production. The benefits of commercialisation include a drastic increase in global food production in the last century and an expansion of income-generating opportunities in rural areas of the majority world, particularly for women. Downsides concern the need for farm inputs and the associated dependency on transnational corporations, land dispossession and displacement,

[2] The term "feminisation of agriculture" is linked to the concept "feminisation of poverty", which traces back to a study by Pearce (1978) who had identified that women in the United States were disproportionally affected by poverty. Today, the term feminisation in general can have three distinct meanings (Bieri 2014): first, a higher incidence of women as compared to men (for instance in agricultural employment), second, an increase in the share of women, or third, gendered experiences for which women's experience is more pronounced than men's. In the literature, these different connotations of the term feminisation are not always clear.

low salaries and poor working conditions, as well as environmental damage. To the present day, agricultural commercialisation remains a major development strategy of governmental and non-governmental institutions alike, especially for countries with a high share of agricultural GDP.

1.1.2 Wellbeing concepts and the normative foundation of development research

While income had been a primary concern of development research in the mid-20th century (Stewart, 2016), the idea that GDP growth is not everything has entered today's mainstream development approaches (e.g., UNDP, 2020). Rather than being about income only, "international development is fundamentally about competing visions of what wellbeing is or should be" (Gough & McGregor, 2007, p. 51). According to Alkire, even poverty measurement implicitly is about wellbeing: "If poverty is understood to be a shortfall from well-being, then it cannot be conceptualized or measured in isolation from some concept of well-being" (Alkire et al., 2014). In a similar vein, Kingdon and Knight (2006) argue that "any attempt to define and describe poverty involves a value judgement as to what constitutes a good quality of life or a bad one". More broadly, any given development approach – be it based on income alone or on selected dimension(s) of wellbeing – involves an underlying value judgement. As such, in choosing an analytical approach and associated measures, development researchers take normative decisions, implicitly taking a stance on what matters in the process of development.

Wellbeing in development research has grown into a vast academic field, subsuming different and partly conflicting analytical approaches. First, there is a general distinction between **subjective measures** (such as life satisfaction or positive and negative affect, see for instance Easterlin's (1974) seminal article on the relationship between economic growth and happiness) and objective measures, whereby the term "objective" does not denote the absence of bias but the measurability though external observation, in contrast to subjective measures. Objective measures in this sense include indicators like housing, nutritional status, education, and the like. Different objective measure are often combined into composite indices such as the Human Development Index (UNDP, 2020) which is based on the capabilities approach. The **capabilities approach** is mostly measured using objective indicators, while its key variables of interest – substantive freedoms of human beings to

choose what they have reason to value (Sen, 1999) – are barely measurable at all, neither with subjective nor objective indicators. A third important category is **local wellbeing concepts**: proponents argue that it is not academic theory that should inform development and its measurement, but the priorities of those who are affected by the respective development processes in question. Such concepts include *buen vivir*, southern African *ubuntu* ethics, and Bhutan's happiness index (see for instance van Norren, 2017).

The concepts "wellbeing" and "development" are both highly contested for a variety of reasons, and I reflect on some of the critical aspects below (see sections 1.3 and 1.4). In addition, an extensive literature review on wellbeing approaches in general and local concepts in particular is available in section 2. A critical appraisal of subjective wellbeing measures can be found in section 3, and for more information on the capabilities approach, please refer to section 4.

1.1.3 Analytical framework: establishing a missing link

What became apparent when reviewing the literature on agricultural commercialisation and on wellbeing in development is that both research fields are vast, but there is surprisingly little overlap between the two. Most agricultural studies analysing the effects of agricultural commercialisation on the local population do so in terms of income, few include food security, and multidimensional studies are very rare. Apparently, the turn to wellbeing in development studies has not yet reached the field of agricultural development. This applies to subjective measures, the capabilities approach and local wellbeing concepts alike. However, if human wellbeing is the primary end of development, and if agriculture is a key strategy to achieve development outcomes, it is important to assess agricultural development strategies in terms of their wellbeing effects.

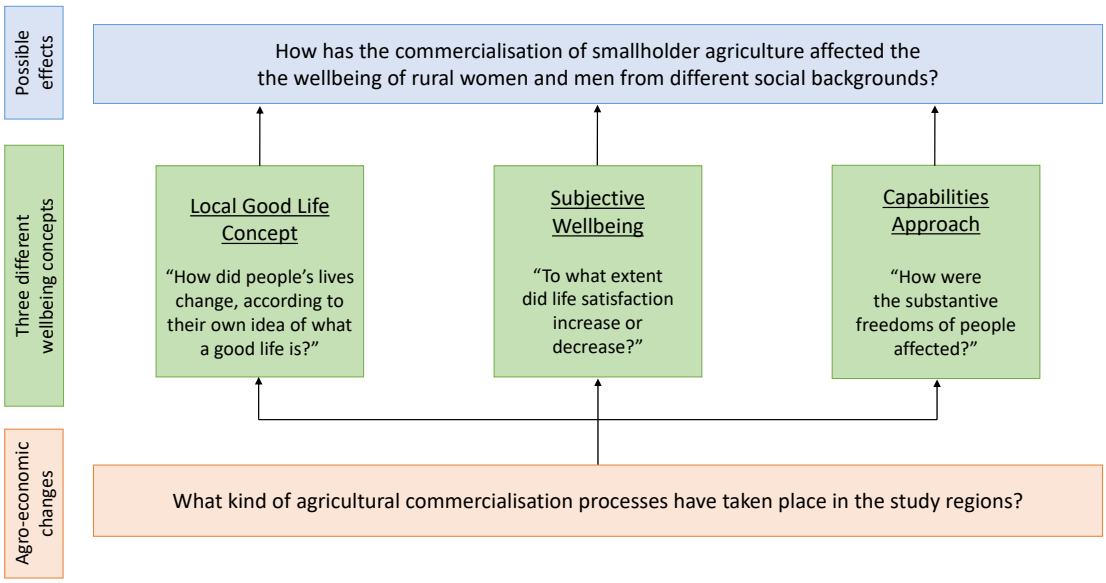

Figure 1: Sketch of analytical framework

My contribution to the existing academic literature thus links two important fields of development research by providing a comprehensive analysis of the wellbeing effects of agricultural commercialisation in eastern Nepal, using three different approaches that are common in wellbeing research (see Figure 1). Not least, the research contributed a new concept to wellbeing literature: the hardship perspective (see section 1.2 and section 2).

1.2 Key findings

1.2.1 The hardship dimension: a local concept new to wellbeing research

The **first paper** explores the **effects of agricultural change from the perspective of people living in the cardamom-producing region in eastern Nepal**. Through participatory photography and qualitative interviewing, I elicited what it means to live well from the perspective of women and men, farmers and labourers, as well as Dalits and non-Dalits. The research yielded a multidimensional concept of the good life that was consistent across social groups. The eleven dimensions were partly relational (e.g., spending time with family and friends), partly individual (e.g., self-determination); some of the dimensions were objectively measurable (e.g., income) and others pertained to the subjective domain (e.g., happiness). Across all social groups, "having no hardship" was mentioned most frequently. The hardship dimension – termed "dukha" in Nepali – included mental tension associated with financial insecurity, grief upon the loss of loved ones, and first and foremost the physical hardship entailed by crop production. This most salient dimension appeared to be new to the wellbeing in development discourse: none of the approaches and indices reviewed in a comprehensive literature analysis took on a hardship perspective. Some recent articles have addressed hardship after my research was published in 2021 – including an insightful study on Māori flourishing which showed that the ability to overcome hardship, termed "whakapawera"[3] was an important component in the local concept of flourishing (Rolleston et al., 2021). Overall, however, despite the existence of numerous local wellbeing studies, the concept of hardship has not gained much attention in the present wellbeing in development discourse. This may have to do with the finding of a forthcoming systematic review[4] of participatory wellbeing studies: 75% of those studies focused on high-income countries, while and less than 10% addressed low-income countries. Apparently, majority world perspectives are underrepresented in research on participatory wellbeing concepts. In low-income countries, the physical hardship associated with agricultural labour and mental stress associated with

[3] "For whānau in this study, 'Whakapawera' (overcoming hardship) was a critical element of flourishing whānau whereby flourishing and wellbeing did not equate to an absence of hardship and suffering, but an ability to manage and overcome hardship through whānau resilience and fortitude." (Rolleston et al. 2021, p. 15)

[4] Conceptualisations of wellbeing and quality of life: A systematic review of participatory studies. Kate Sollis, Mandy Yap, Paul Campbell & Nicholas Biddle. Forthcoming in World Development.

severe poverty are likely more widespread than in high-income countries. The hardship example illustrates how important it is to include local perspectives in wellbeing in development approaches. To avoid Western ideas dominating in wellbeing concepts, more research on local wellbeing perspectives in the majority world is needed.

Having elicited the local concept of the good life in the study region in eastern Nepal, I analysed agricultural change through the hardship perspective. Results indicate that the shift to cardamom production reduced both physical and mental hardship considerably. Male and female farmers and labourers preferred the production of cardamom over the production of subsistence crops because it involved less "dukha": unlike maize and paddy, cardamom is a perennial plant which does not require manual ploughing and replanting in-between seasons. In addition, the higher income relieved mental tensions, especially for those families who did not have enough income to feed the family throughout the year and thus had to take loans to be paid back after the next harvest – a vicious cycle. Thanks to cardamom, numerous respondents explained, it was not necessary to take loans anymore, and it became possible to set some money aside for lean periods and emergencies. In addition to the reduction in physical and mental hardship, the respondents mentioned improvements in many other dimensions of the "good life" thanks to cardamom, such as greater coverage of basic needs like food and clothes, better education for the children, and more "suhka", the Nepali counterpart of "dukha" which can be translated as happiness, ease, or joy.

1.2.2 Cardamom and life satisfaction of women and men

In an ideal research setting, the quantitative data collection would have taken place only after the initial qualitative data collection, analysis, and verification, to enable the inclusion of indicators that capture aspects that are relevant from the participants' point of view (see section 1.3). In the context I was working in, however, the quantitative dataset was given, and it did not include many of the elements pertaining to the local concept of the good life. However, the available subjective wellbeing indicator seemed a workable proxy for "sukha", which was the third most frequently mentioned aspect in the local good life concept. Hence, in my **second paper**, I constructed a quantitative model to assess the **relationship between cardamom production and subjective wellbeing**, surveyed with the question "Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole?"

and measured on a scale from 1 to 7. Other than cardamom production, I included land size, health, asset ownership, living standard deprivation, as well as demographic factors such as gender, age, caste, and marital status in the model. Results suggest that, holding all other variables constant, cardamom producers were significantly more satisfied with their lives than non-producers. Land size and health likewise showed strong and significant correlations, marriage and assets were significant at the 5%-level, and the remaining variables were statistically insignificant.

In line with numerous other life satisfaction studies in the development context, the model did not show a correlation between life satisfaction and gender, i.e., the group of women and the group of men did not differ significantly in terms of life satisfaction levels. However, I conjectured that the *composition* of life satisfaction might differ, so I calculated separate models for women and men. From the perspective of agricultural change analysis, the key finding is that life satisfaction was significantly and positively associated with cardamom production for both women and men. The same applied to land size and health. Hence, disaggregating by gender confirmed the findings of the pooled model. In addition, some gendered differences could be detected. In the women-only model, decision-making and marriage were positively correlated with life satisfaction while financial independence was negatively correlated with life satisfaction. The latter may be explained by male out-migration which on the one hand increases financial independence for the women left behind, but on the other hand comes with loneliness and the burden of having to take care of the family and the farm without the support of the spouse.

It is important to note that due to the lack of panel data, the quantitative paper is based on cross-sectional data only, i.e., data that was collected at one point in time, and thus it is not possible to establish causal connections. Hence, even though the study showed a robust correlation between cardamom production and life satisfaction, we cannot conclude from the analysis whether it was cardamom that caused the increased life satisfaction in the producer group. However, the available qualitative data hints at link between cardamom production and subjective wellbeing via income, illustrated by the quote: “From this cardamom we have *sukha*. […] Cardamom came, then the income increased, and then good progress occurred” (see section 2). However, due to the lack of panel data, and, notably, a lack of quantitative information on net income, it was not possible to conduct further

statistical analyses in this regard. Further, it is important to bear in mind that life satisfaction equality between different men and women or between Dalits and non-Dalits does not imply overall equality between these groups. The drawing of such conclusions would be one of the major fallacies associated with subjective wellbeing measures that critics have warned against (see section 3).

1.2.3 Capability expansions and precarious prosperity

In the **third paper**, I employed a capability perspective to go beyond observable development outcomes (so-called *functionings* in terms of the capability approach) and assess the **extent to which the substantive freedoms that underly human choices (*capabilities*) have expanded because of the commercialisation of agriculture**, and whether these expansions, if any, are durable in the face of the risk associated with cash crop production. Thanks to cooperation with fellow researchers of the FATE project, the study not only analyses capability effects of cardamom production in Nepal but also includes findings from coffee-producing regions in Laos and Rwanda. Results suggest that cash crop production increased opportunities for paid work in all three study sites. However, working conditions were often not decent, and prosperity, if achieved at all, was of mostly precarious in nature: fluctuating world market prices and, for cardamom, plant diseases, posed a constant risk to farmers and labourers of falling back into poverty. Similarly, while mobility choices increased greatly in Laos and in Nepal (in Nepal the use of motorbikes was restricted to men), this new freedom depended directly on fluctuating agricultural incomes. The only durable shift we found was on the social level, where women claimed new social spaces through the advance of agricultural cooperatives and savings groups. Yet, female agricultural labourers who typically do not form part of these associations seem not to have benefitted much in this regard.

1.3 Who benefits from development research? And other reflections on ethical issues

> *Whose research is it? Who owns it?*
> *Whose interest does it serve? Who will benefit from it?*
> *Who has designed its questions and framed its scope?*
> (Smith, 2021, p. 10)

Within the first week of my fieldwork in eastern Nepal, my translator and I approached an elderly Dalit man to request an interview appointment. Dispiritingly, he replied: "Ah, yet another interview? So many people have come and asked me questions. And what has changed for me? Nothing." He wanted to know whether there would be any payment, and when we said no, he agreed nevertheless for us to visit him the following day. I feel uncomfortable about the fact that I, a privileged white European student, came to extract knowledge without giving anything back to many of my informants who took the time to sit and talk with me and who gave me valuable information without which I would not have been able to write this thesis. One of my major motivations for joining a research project funded under the Swiss "research for development" scheme was the prospect of carrying out relevant research that would eventually lead to a concrete development initiative. However, for our PhD cohort there was no remaining funding for implementation projects, and the funding framework did not allow developing research questions together with research participants. Admittedly, carrying out a truly transdisciplinary research project at PhD level may be setting expectations pretty high. However, the justified frustration of the elderly Dalit man reinforced my belief that it is ethically questionable to carry out development research in which the only tangible benefit goes to the already privileged researchers who further their careers with the extracted data – myself included. Many development researchers I know, myself included again, have found their individual way to give something back after the end of their fieldwork. However, I think it is of utmost importance to grapple with the problem of unilateral knowledge extraction on a more structural level in the research design, so as to not reinforce practices reminiscent of colonial relationships. The respondents' time is as precious as that of the researcher, and it should not be taken for granted that they devote their time to a project from which they have no benefit and in which they have no say.

As much as giving back is important, ethical issues permeate the entire research process in which the situatedness of the researcher and the power dynamics in play exert influence on

what counts as knowledge and how knowledge is produced (Smith, 2021; Sullivan & Tuana, 2007). To illustrate this, let me cite a male middle-aged non-Dalit research participant who gave me positive feedback after the end of a participatory photography interview. Despite the overall affirmative nature of the statement, it reveals some of the power imbalances that shaped the interaction:

> *I am happy that you came from a foreign country and gave us the opportunity to take pictures. […] We also were lucky because only four of us got this opportunity. You have come from a distant place and wanted to know about our dukha [hardship], sukha [happiness], everything, and our environment, lifestyle, and agricultural products. So, from my side many, many thanks.*

As a comparatively wealthy researcher form Europe, I was the one in the economic power position to "give [the participants] the opportunity" to take pictures with the digital camera I had bought and that were later printed to be used during the interview and remained with the participants when I left. I was also the one to select the four families from that village who were "lucky" to participate in the research (I used stratified random sampling, but still I was the one to decide on the selection method). During my research I made use of a variety of privileges, not only the privilege to choose research subjects, but also the teleological privilege to decide what the research should be about in the first place, the privilege to subtract information and use it for my own research interest, and the privilege to tell relevant from irrelevant information (see Decoloniality Europe, 2013). If, without the pandemic, I had had the opportunity to return to Nepal after the data analysis and discuss my findings with my informants – an attempt to relinquish at least some of my epistemic privilege – I would still have enjoyed the privilege of the last word (ibid.). In addition, white privilege (Le Bourdon, 2022; McIntosh, 1989; Ogette, 2020) certainly shaped the interactions in the field.

In addition to revealing aspects of privilege and power, the above statement also shows that the interaction was an enjoyable experience from the perspective of the interviewee. I think this not only had to do with the perceived honour of having a minority world researcher as a guest, but also with the fact that I showed genuine interest in and respect for their way of life and was eager to learn about their experiences and perspectives. In addition, while the interactions were undoubtedly shaped by privilege and power, I also do not want to deny the interviewees their agency in the given research setting. Having consented to the interview,

some respondents invited me into the privacy of their homes while others preferred the interview to take place outdoors – the degree of intimacy in the interview setting varied according to the individual respondent's preference. In addition, and perhaps even more importantly, it was them who decided what they would share with me and what they would keep to themselves (cf. Fujii, 2010).

Comparing the research setting of the semi-structured interviews with participatory photography, I strongly preferred the latter: by the time the pictures were discussed, we had met the participants for at least the third time so there was greater familiarity, and the participants visibly enjoyed the experience. Through encouraging the participants to also take pictures of family and friends for their own use and by leaving the pictures with them, I felt that I could compensate at least a bit for the time and all the information given. There were many moments of shared understanding, mutual liking, and personal connection, expressed in statements like: "We are like family members now, we know each other. You know us and we know you. If you come another time, then you also visit us here."

Still, even with innovative participatory methods aiming at relinquishing as much privilege as possible, it is extremely difficult to disrupt power relations that shape the interactions between researchers and respondents (see Richardson-Ngwenya et al., 2019). In addition, the relationships between academic colleagues from different parts of the world are also often characterised by marked power imbalances and structural racism (see Macharia, 2015; Tilley & Kalina, 2021). While the necessity of decolonisation processes in academia is of course not limited to development studies (see for instance Mignolo & Escobar, 2010), the latter are concerned in a particular way: "'[d]evelopment' as a concept, a practice, and a field of study is far from having shed its hierarchical, patriarchal, and colonial underpinnings" (Bilgen et al., 2021, p. 520). Historically, the development paradigm emerged in the context of colonialism and was, earnest benevolent intentions of numerous actors notwithstanding, also used to legitimise colonial expansion (Büschel & Speich, 2009; Escobar, 1995; Reid, 2012). In today's global economy, imperialistic practices continue to exist alongside development efforts, which is reflected in the incoherence of aid and economic policies in many Western countries including Switzerland (see for instance Lein et al., 2014). In addition, development practice continues to be characterised by "a specific melange of paternalism, exercise of power, and philanthropy" (Büschel & Speich, 2009, p. 9, my translation) dividing the world in those who

develop and those who are to be developed, in knowers and those who do not know (see Lepenies in the same volume). Even if attempts have been made to make development practice more inclusive – buzzwords like “participation”, “ownership”, “empowerment”, etc. may well indicate the beginning of a conceptual shift – power inequalities between donors and “development partners” continue to exist and are not counteracted by mere rhetoric of partnership (Baaz, 2008). Development studies are situated in the historical context and current political landscape of development politics and practice, as well as in the larger structures of global inequality, privilege, and power. Development researchers, regardless of any good intentions or critical attitudes that motivate their endeavours, cannot work in isolation from that context. Thus, minority world development researchers risk becoming complicit with, benefitting from and thus reinforcing existing power structures that shape interactions with colleagues and research participants in the majority world.

While acknowledging all of the above, development research can also drive a transformation towards more equitable global relationships through addressing important issues that would otherwise receive little attention. In addition, research across cultures can create spaces for mutual learning, and I wish that other PhD students – from *both* the majority and the minority world (see Tilley & Kalina, 2021) – get the opportunity to learn and grow in settings and with conditions that are different from that of their home. Yet, I think it would be beneficial to make some structural adjustments. First, research ethics as well as reflections on power and privilege in the research context (Broesch et al., 2020; Decoloniality Europe, 2013; SAIH, 2020; Tilley & Kalina, 2021) should be a central element of PhD programmes in development studies (for inspiring examples of reflections on one’s own PhD research see Le Bourdon (2022) and Millora et al. (2020)). Second, it is necessary to take non-Eurocentric epistemologies and ontologies seriously (Grosfoguel, 2007; Tlostanova & Mignolo, 2012), not only, but particularly in cross-cultural research. This entails creating greater participatory spaces in the research design from the problem definition to the application of results, using appropriate methodologies and thus allowing for “knowing with” rather than “knowing about” (Santos, 2018, see also Bilgen et al., 2021; Restrepo et al., 2014; Smith, 2021). Third, I consider it very important to take Smith’s question “Who will benefit from it?” seriously and think about how to generate benefit for the participants and/or the wider local community in some tangible way (Smith, 2021, see also Stöckli et al., 2018).

1.4 Synthesis, methodological reflection and a plea for complementary approaches

1.4.1 "Good life" approaches and methods addressing structural discrimination

When comparing the findings of the three studies, three observations cut across. First, with the chosen methods, it was surprisingly difficult to detect differences between social groups (in this case gender, caste, and occupation) throughout the research. When designing the analytical framework, I had for instance expected to find that experience of discrimination in everyday life[5] would inform particular understandings of what a good life should look like – for instance, including local good life dimensions that hint at freedom from discrimination. I suspect that this lacuna is due to three reasons: adaptive preferences, potential bias through the context in which the research took place, and a general methodological constraint. First, adaptive preferences (Khader, 2011; Sen, 1999) are formed when people grow up in disadvantaging structures and learn from an early age to adjust their expectations to the possibilities available to them. In the case of this research, a Dalit woman may consider it normal not to be allowed to enter the kitchen of her non-Dalit neighbours, or she might emphasise the improvement compared to the situation a few decades ago, when Dalits were not even allowed to work on the fields of non-Dalits because of "impurity" considerations. Hence, because of adaptive preferences, she might not consider herself as being discriminated against. Alternatively, the research setting with a non-Dalit translator and a general social taboo of addressing such issues might have problematised making discrimination explicit. Second, even though the translator and I asked about the "good life" in a neutral way and strictly refrained from prompting during the interview, the context in which my research was situated was agricultural. The respondents knew that I was associated to the team of Nepali researchers who had previously investigated cardamom production in the region. The data collection for the quantitative project survey that involved a large agricultural component partly overlapped with my stay, and I, too, asked agricultural questions during the interview. Would the hardship dimension still have emerged if I had been part of a research project on religion and had my research interest been the effect of prayer on the "good life"? The point I want to raise here is that despite utmost care in phrasing the open-ended questions and despite using participatory methods, it is extremely difficult

[5] Gender- and caste-based inequality and discrimination are widespread in Nepal, see Devkota et al. (2020); Pyakurel (2021); Wagle (2017); Dahal et al. (2019); Gupta et al. (2021).

to rule out bias resulting from the context in which the interview is situated – the context might function as an implicit way of prompting. Conversely, as the research context did not implicitly prompt issues around discrimination, this dimension might have simply not emerged despite being salient. Third, the so-called "anthropologies of the good" which include research on wellbeing, happiness and the good life generally tend to risk "ignor[ing] the larger contexts of power and inequality in play" (Ortner, 2016, p. 65), an idea that resonates with Sara Ahmed's (2010) criticism of depoliticising happiness normativism. I agree with Ortner that it would be ideal to enrich anthropologies of the good with elements of the so-called "dark anthropology" (ibid.) to directly address issues of power, inequality, and oppression and thus complement the analysis.

For example, the issue of economic inequality emerged when observing the variations in living conditions in the area during the qualitative data collection. An assertion like "thanks to cardamom, were able to improve our house" (cf. section 2) meant quite different things in practice – see Figure 2 for some pictures from the study region; the houses are only a few hundred meters apart from each other. I had the impression that while everyone's income may have increased, there magnitude of those increases is likely to have varied considerably, and thus I suspect that economic inequality has grown. Even though at some point I started including a question on economic inequality in the semi-structured questionnaire, I did not have sufficient qualitative data to systematically assess the level of and changes in inequality, and the quantitative data set did also not allow analysis in this regard. Wealthier and poorer respondents alike consistently argued that everyone benefitted from the introduction of cardamom and that there were no losers from agricultural commercialisation. In addition, some respondents argued that the question of inequality was irrelevant: in their view, when living in poverty, any tangible income increase mattered a great deal, and they did not perceive it as problematic if their neighbours earned even more. This line of argument by the Nepali farmers and labourers is strikingly similar to the argument of Tabe Ojong et al. (2022) who investigated the effects of smallholder chickpea commercialisation in rural Ethiopia. The panel data analysis revealed a positive impact of commercialisation on asset holdings, livestock ownership, and income, and this effect was more pronounced for farmers who had already been comparatively wealthy at the beginning of the data collection. Hence, commercialisation led to increased inequality among the farmers. However, Tabe Ojong et al.

concluded that commercialisation should be promoted, with appropriate policy measures in place to prevent the poorer households from falling behind. With my data set and chosen research approaches, I was not able to analyse the issue of inequality systematically, and I do think that further investigation would be worthwhile – both regarding measurable changes in inequality and their relationship with cardamom production, and the perspectives of inequality and its implications held by different members of the local population.

Figure 2: Houses in the cardamom producing region in eastern Nepal

Despite the focus on positive aspects of development through using the wellbeing framework, this research clearly demonstrated the precarity that characterised the situation of many families in the study region. Income stemming from export agriculture is subject to constant and considerable fluctuation due to the changing world market prices, and only a small fraction of the respondents earned enough to diversify into non-agricultural income sources, for instance through buying rental houses in town. Most respondents, however, earned too little to invest, and while the everyday life improvements were significant, the households remained at constant risk of falling back into poverty as soon as cash crop prices declined. During data collection, the cardamom revenue of several small producers had already decreased to a point where it was no longer possible for everyone to continue paying university fees for children who had started tertiary education when cardamom prices were high. Some of those families decided to sell a share of their already small land holding to sustain their children's education. Disposing of a scarce productive asset implies taking considerable risk, especially when considering the limited job market for young professionals in Nepal in which adequate financial returns to educational investment are not a given. Still, given the widespread attitude that the already spreading plant diseases will soon render cardamom production impossible, it may be a wise decision to diversify family incomes to non-agricultural sources (cf. Chinsinga et al., 2021).

1.4.2 Wellbeing and income

The second observation is the association of different forms of wellbeing with income. The study based on participatory photography revealed that cardamom production not only reduced the physical hardship of carrying out manual labour, but it also relieved the mental load of poverty, such as the stress of not knowing how to pay for food the following day. In the life satisfaction study, it was not possible to assess the role of income quantitatively, but the contextual qualitative data suggest that income is likely to act as a mediator variable between cardamom production and life satisfaction. In addition, the resilience perspective taken in the capabilities study revealed that some of the capability expansions directly depended on income. While I strongly agree with scholars emphasising that income is not everything and that it is important to measure development in non-monetary terms, this research shows that income is still an important factor, despite the turn to wellbeing in development studies. In the words of the most recent Human Development Report: "More material resources matter, when fairly distributed within planetary boundaries, because they expand people's opportunities" (UNDP, 2020). Hence, in further analyses of agricultural commercialisation effects, it would be appropriate to measure both wellbeing and income.

1.4.3 Quantitative and qualitative methods

Third, when comparing findings of the three studies, it became apparent that the quantitative analysis yielded the least critical conclusion on the relationship between commercialisation and wellbeing. As I had qualitative data at hand, I could contextualise the quantitative results with findings from the preceding qualitative data collection, thereby highlighting the considerable risk involved in depending on a single crop. Yet, without the qualitative addition, the quantitative analysis alone would only have shown the positive relationship between commercialisation and wellbeing. Similarly, when reviewing the available literature on the effects of smallholder commercialisation, it seemed like studies finding purely positive effects of commercialisation tended to use quantitative methods alone (e.g., Briones, 2015; Muriithi & Matz, 2015; Ogutu et al., 2020). Among those arriving at more critical conclusions, there were quantitative studies also (e.g., Carletto et al., 2017), but the majority appeared to use mixed-methods approaches, some with a feminist angle (e.g., Bigler et al., 2019; Dawson et al., 2016; Prügl et al., 2021). In combination with the observations from comparing my three

studies, this raises the question to what extent the methodological approach shapes the range of possible findings when investigating commercialisation effects. It would be very interesting to conduct a systematic literature review that disaggregates the findings of commercialisation impact studies – and the associated policy recommendations – by the methodology employed. Should a systematic relationship between the findings and the chosen approaches be observable, it would be important to likewise investigate what kind of studies feed into policy making for agricultural development.

1.4.4 Recommendations for further research

Research has shown that the effects of smallholder commercialisation on farmers' and labourers' wellbeing are highly contextual. Thus, it is not possible to arrive at a generalised recommendation for or against agricultural commercialisation as an overarching strategy to reach the Sustainable Development Goals. My three analyses established positive relationships between cardamom production and the respective type of wellbeing under investigation. The two qualitative studies, however, allowed additional insights. Despite higher incomes, fewer hardships and more substantive freedoms, the situation of most households was characterised by marked precariousness: farmers and labourers remained at constant risk due to their reliance on a single crop and the associated dependence on fluctuating world market prices. As soon as cash crop prices fall, farmers and labourers risk losing their newly acquired wellbeing gains – facing again greater hardships and fewer capabilities, with possible negative effects on overall life satisfaction.

My recommendations for further research are threefold. Thematically, if agricultural commercialisation continues to be advocated as a major strategy for reaching the SDGs, developing mechanisms to guard against risks should be a research priority. Methodologically, further research on local impacts of smallholder agricultural commercialisation should use complementary approaches, for instance through combining quantitative and qualitative methods and involving approaches that explicitly address structural discrimination and inequality. Structurally, creating greater participatory spaces for the target population, at the stage of problem definition and throughout the research process, would help to increase the relevance and applicability of the findings of agricultural development research.

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2 “Before cardamom, we used to face hardship”: Analyzing agricultural commercialization effects in Nepal through a local concept of the Good Life

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"Before cardamom, we used to face hardship": Analyzing agricultural commercialization effects in Nepal through a local concept of the Good Life

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ABSTRACT

Numerous low-income countries foster the commercialization of smallholder agriculture to achieve development outcomes and improve the lives of the rural population. The effects of commercialization policies, however, are measured using a limited set of indicators. This paper exemplifies a new approach to the study of agricultural change: analyzing commercialization effects through a local concept of the Good Life. In our case study of East Nepal, we first elicited a local concept of the Good Life through qualitative interviews and participatory photography. In the analysis, we disaggregated the data between men and women, elderly and young, farmers and laborers as well as members of different castes. Second, we applied the resulting Good Life concept to the evaluation of agricultural commercialization. Our results show that the local concept of the Good Life is multidimensional and includes both subjectively and objectively measurable dimensions. Respondents across all socio-economic groups consistently emphasized the notion of hardship (*dukha*) in both their Good Life concepts and their perspectives on agricultural change. Commercialization was evaluated positively predominantly because it reduced physical and financial hardship, in addition to tangible improvements in other domains. However, respondents also pointed to the limitations of commercialization in contributing to the Good Life: the ultimate reduction of hardship was associated with the prospect of non-agricultural employment. The notion of hardship elicited through the perspectives of the Good Life offers a nuanced perspective on commercialization. Including local views in analyses of agricultural change enables researchers and policy makers alike to direct their efforts to those aspects of agricultural change that are most meaningful to the local population.

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1. Introduction

Agricultural systems worldwide have undergone drastic changes in recent decades. Commercial agriculture has enabled states to feed their growing populations, and average per capita food amounts have risen (Federico, 2009). Today, sustained productivity increases are still necessary for feeding the growing world population, for contributing to the elimination of poverty, and for meeting the Sustainable Development Goals (Barrett et al., 2018; Collier & Dercon, 2014). In the global South, the first Green Revolution policies were implemented in the 1960s (Birner & Resnick, 2010). To date, numerous low-income countries are pursuing commercialization strategies to increase production, raise farm incomes, create rural employment, and eventually transform their economies (see Dawson et al., 2016; Emran & Shilpi, 2018; Ivanic & Martin, 2018). In these countries, the agricultural sector accounts for nearly 60% of total employment (World Bank, 2019). Therefore, changes in agricultural policies affect millions of people in different parts of the world.

In this paper, following Carletto et al (2017) and Pingali & Rosegrant (1995), we define agricultural commercialization as a rise in the level of market-orientation of small-scale producers. The potential benefits of agricultural commercialization include poverty reduction, enhanced food security, employment creation (FAO, 2002), and, to some extent, an increase in women's economic empowerment (Kabeer, 2005). However, while it is established that commercialization raises average agricultural income (see Section 2.1.), the extent to which rural people believe this makes their lives better is not well understood. While the economic

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dimension forms an integral part of numerous well-being concepts, information on average income alone is insufficient for analyzing the well-being effects of agricultural commercialization. First, the economic benefits associated with agricultural commercialization may be distributed unequally across different social groups, potentially leaving the most disadvantaged behind (Bieri, 2014). Second, it is not a given that an increase in income will result in improvements in other domains of life. Consequently, in recent decades a growing body of literature has engaged in discussions on the concept of well-being and the construction of meaningful indices applicable to the development context (Gough & McGregor, 2007). Yet, these debates apparently have not had a major influence on agricultural development research; the bulk of studies investigating the effects of commercialization continue to rely on a limited set of quantitative indicators (see Section 2.1).

This article strengthens the link between research on agricultural commercialization and debates on well-being in development through a two-stage analysis of agricultural transformation in a rapidly changing region in East Nepal. First, we established a local concept of the Good Life, elicited through an innovative methodological combination of participatory photography and in-depth interviewing. In doing so, we deliberately did not draw from theory-based concepts such as the Good Life Elements (Skidelsky & Skidelsky, 2013; Delhey & Steckermeier, 2016). Instead we pursued a participatory approach, leaving the definition of the Good Life entirely to the respondents (see Calestani, 2009; Fischer, 2014; Lim, 2008). In our analysis of local Good Life perspectives, we carefully distinguished between members of different social groups: men and women, elderly and young, farmers and laborers, as well as members of different castes. In stage two, we applied the local concept of the Good Life to our analysis of agricultural commercialization in that region. Not only did the respondents produce a nuanced multidimensional concept of the Good Life that was consistent across social groups, they also evaluated commercialization through a lens that appears to be new to development research: the hardship perspective. By advancing these insights, we contribute to the field of agricultural development research and to debates on well-being in development.

2. Perspectives on well-being in development

2.1. Contrasting conclusions on the effects of commercialization

Researchers, governments, and international organizations alike consider agricultural commercialization a promising strategy for achieving development outcomes on a *macro-economic level* (Binswanger and von Braun, 1991; von Braun, 1995; Christiaensen et al., 2011; Diao et al., 2010; FAO, 2002; Ivanic & Martin, 2018; Maxwell & Fernando, 1989; Pingali, 2010; Pingali & Rosegrant, 1995; Strasberg et al., 1999; United Nations, 2009; Zhou et al., 2013). This particularly applies to the commercialization of smallholder agriculture. While some scholars argue that investments in both large-scale and small-scale farms would be the most promising strategy for rural development (Collier & Dercon, 2014; Glover & Jones, 2019; van den Broeck & Maertens, 2017), many are convinced that smallholder-based agricultural commercialization is the most effective poverty reduction strategy. For instance, Dorosh and Thurlow (2018) compare the effects of agricultural growth achieved by small and large farms and find that smallholder-led agricultural growth has greater poverty reduction effects. Hazell et al. (2010) demonstrate that small farms have a higher productivity rate per hectare and hire more labor per unit area, thus improving local employment opportunities and generating greater spillover effects on the rural non-farm economy. Similarly, Bieri (2014) highlights the employment potential of smallholder-based commercial export production, particularly for women. Wiggins et al. (2010) conclusively state that "small farm development is not just desirable for poverty reduction, but also feasible, even in changing circumstances" (p. 1341).

While the macro-economic effects of commercialization are generally evaluated positively, impacts on a *micro-economic level* vary widely, depending on the respective investment schemes and agricultural policies in place (Bachewe et al., 2018; Beck et al., 2016; Birner & Resnick, 2010; von Braun, 1995; Glover & Jones, 2019; Pingali, 2010; Pingali & Rosegrant, 1995; Rahut et al., 2010). Studies measuring the effects of specific agricultural interventions show mixed results. Positive outcomes were found in the Philippines, for instance, where tobacco contract farming increased farm profitability while reducing inequality between households (Briones, 2015). In Bangladesh, increased rice productivity and agricultural wages significantly contributed to poverty reduction (Emran & Shilpi, 2018). Agricultural commercialization processes also decreased poverty rates in Senegal (van den Broeck & Maertens, 2017). In Kenya, commercial smallholder legume and banana production were associated with greater household welfare (Ochieng et al., 2015), and small-scale vegetable commercialization increased food security and dietary diversity (Muriithi & Matz, 2015). These positive impacts notwithstanding, other studies demonstrate that commercialization processes had either no effects or even adverse impacts on the rural population. In Liberia, a value chain intervention successfully increased yields and incomes, but this change did not translate into higher household welfare or improved child nutrition (Rutherford et al., 2016). Comparing data from Malawi, Tanzania, and Uganda, Carletto et al. (2017) found no substantial relationship between commercialization and nutritional status. An analysis of rural data from eight sub-Saharan countries showed that commercialization led to inclusive agricultural growth in some villages, but not in others (Andersson Djurfeldt, 2013). Finally, a recent study in Rwanda demonstrated that the policies in place benefitted mostly the comparatively wealthy households, leaving poorer families behind (Clay & King, 2019). In sum, while there is substantial evidence of positive commercialization effects on a macro-economic level, the specific local outcomes "are not uniform and cannot be generalized" (Strasberg et al., 1999, p. 2).

What is striking in most of the research cited above is that the effects of agricultural commercialization are mainly measured in terms of income poverty and food security: broader indicators of well-being or the views of the rural populations affected by these commercialization processes are usually not considered. This is noteworthy given that for at least four decades there have been vigorous academic debates on measuring development outcomes in more holistic ways. Research that aims to measure the effects of agricultural change appears to seldom draw on these debates.

2.2. Multidimensional measures of well-being in development

Income only measures have been criticized for their inability to accurately measure the impacts of development policies at an empirical level. Alkire et al. (2014) explore the relationship between income measures and other *objective indicators* and do not find a consistent link between income poverty and other dimensions of deprivation such as malnutrition. The inadequacy of using income only measures to draw conclusions about other objective indicators is further explored by Carletto et al. (2017) who found that commercialization had no effect on nutritional outcomes in three African countries. Consequently, a measure used in the development context should not only capture income poverty but also encompass deprivations in other areas of life, such as a lack of adequate nutrition or education. The most prominent example of combining an income measure with other objective

indicators is the Human Development Index (Anand & Sen, 1994), but there are also other approaches comprising a broader range of objective indicators (e.g., Alkire et al., 2015; Berenger & Verdier-Chouchane, 2007).

The second area in which income only measures fall short is in their ability to generate empirical findings on the relationship between income levels and *subjective indicators*. Since Easterlin found that increases in income did not make Americans happier (Easterlin, 1974), the validity of the so-called Easterlin paradox has been a matter of discussion, both in relation to the global North and the global South. A recent comparative study found no significant association between incomes and happiness in developing countries (Mikucka et al., 2017). Pure income measures, it seems, fail to capture the lived realities of people not only regarding broader objective indicators like nutrition, but also when considering the subjective dimension. Consequently, a growing body of development research focuses on subjective well-being, or happiness (Camfield & Esposito, 2014; Fernandez et al., 2015; Fontaine & Yamada, 2014; Graham, 2005; Helliwell et al., 2018; Kingdon & Knight, 2006; Kroll, 2015; Rojas, 2008; Rojas & Guardiola, 2017). The use of subjective well-being measures in the development context has been criticized on both methodological and conceptual grounds, inter alia for being inaccurate or biased, for neglecting physical deprivation, for disregarding the social dimension and other important elements of human life, and for having depoliticizing effects, potentially undermining the case for development assistance (Graham, 2005; Sen, 1999; Schokkaert, 2007; Stewart, 2014; White, 2010; for a broader feminist critique see Ahmed, 2010). Such criticism notwithstanding, research on subjective well-being has become an important field in the development research arena.

As debates have continued around the ability of various measures to provide insights into the lived existences of the poor, academic perspectives on development have been changing; in recent decades, there has been a fundamental shift from income and consumption-based approaches to multidimensional concepts (Hojman & Miranda, 2018). Development is increasingly seen as the "organised pursuit of human wellbeing" (Gough & McGregor, 2007, p. 4) which is best measured through a *combination of both objective and subjective indicators*. This holistic perspective is reflected in a variety of academic approaches (Costanza et al., 2007; Diener & Tay, 2015; Gasper, 2005; McGregor et al., 2009; White, 2010; to name a few) as well as in implementation-oriented indices, produced for instance by the WHO (1997) and the International Wellbeing Group (IWG, 2013). According to the latter, there are over 1,200 idiosyncratic instruments to measure quality of life. While combinations of subjective and objective dimensions have become increasingly common, there is by no means a consensus on which dimensions a comprehensive well-being measure should include. To summarize in the words of Dodge et al. (2012) "wellbeing is a growing area of research, yet the question of how it should be defined remains unanswered" (p. 224).

2.3. The need to include local perspectives

The choice of a development measure – be it income, food security, subjective well-being or a multidimensional measure – always involves a normative decision on what is worth measuring. Based on this consideration, a growing body of literature suggests that researchers should not take this decision from a theoretical stance alone. Instead, the meaning of concepts like "development" or "well-being" should be established in conjunction with the people whose very lives are under investigation (Beauchamp et al., 2018; Chaves et al., 2018; Kant et al., 2014; Lim, 2008; van Norren, 2017; Zorondo-Rodríguez et al., 2014). Poor people in different parts of the world have their own, culturally diverse understanding of the Good Life and yet, they are mostly deprived of opportunities to contribute their views to global and local development discourses (Gough, 2004). This is problematic, as exemplified by a recent mixed-methods study of agricultural transformations in Rwanda by Dawson et al. (2016). Even though commercialization successfully increased yields and reduced poverty rates, the analysis of local perspectives revealed that commercialization increased inequality, disrupted social practices, and undermined the farmers' autonomy. According to Dawson et al., a study based on a limited set of quantitative indicators would have led to the erroneous evaluation of agricultural commercialization as unequivocally benefitting the poor. To avoid such shortcomings, "we must seek to understand local conceptions of the good life through which a particular community pursues developmental goals" (Lim, 2008, p. 208). The paper at hand takes up this call.

3. Methods

3.1. Agricultural change in the study area

For our case study, we selected a region characterized by rapid agricultural transformation: the mountainous Rong Rural Municipality in Ilam District, East Nepal, elevated between 275 and 1,836 m above sea level (see Fig. 1). Owing to its medium elevation, ward Rong 6 is suitable for the production of black cardamom (*Amomum subulatum* Roxb., henceforth referred to as cardamom). From 2003 onwards, numerous farmers chose to produce cardamom as its economic value exceeded the revenue of other cash crops (Sony et al., 2016), particularly the high quality variety Jirmale/Salakpurey which grows best between 700 and 1000 m above sea level (Adhikari & Khanal, 2016; Timsina & Paudel, 2016). In areas unsuitable for cardamom production, farmers produce tea (high elevations), broom grass (steep slopes) and other cash crops such as betel nut (low elevations). According to the Office of the Rong Rural Municipality, the three main cash crops in terms of volume are broom grass (227 metric tons), tea (78 t), and cardamom (72 t); main subsistence crops include maize (180 t) and rice (80 t) (ORRM, 2018).

For most of the 20th century, farmers of Rong 6 pursued subsistence agriculture (Sony, 2019). In the 1940s, the first households started cultivating ginger and tangerines for domestic use. Gradually, farmers replaced their subsistence crops with ginger, and by the early 1980s, ginger had gained major economic importance. In the 1990s, tangerine farming became economically viable, but ginger remained the predominant income source until the year 2000. In 1993, broom grass was introduced as an additional cash crop. In 1995, farmers for the first time took small quantities of cardamom to the market – the crop had already been introduced in 1984 by a local farmer who had brought saplings from India, but initially it was used for domestic purposes only. Around the year 2000, diseases affecting ginger became a major issue in in the area. Very quickly, farmers replaced their ginger fields with cardamom plantations: by 2003, 95% of ginger farmers had switched to cardamom production (ibid.).

The cardamom price in Nepal has been characterized by significant fluctuation: after a relatively stable period from 1970 to 2009 the price rose sevenfold to a peak in 2015 and fell sharply afterwards (FAO 2018). At its peak, the average price for high quality cardamom was USD 28 per kg at the market in Ilam (ITC, 2017). In our fieldwork, farmers in Rong 6 reported local prices ranging from NPR 3,000 per kg in 2015 (USD 25) to NPR 600 per kg in February 2019 (USD 5). However, this still exceeds the tea price which was fixed by the local government in 2019 at NPR 40 per kg (USD 0.3). In this context, cardamom remains an attractive

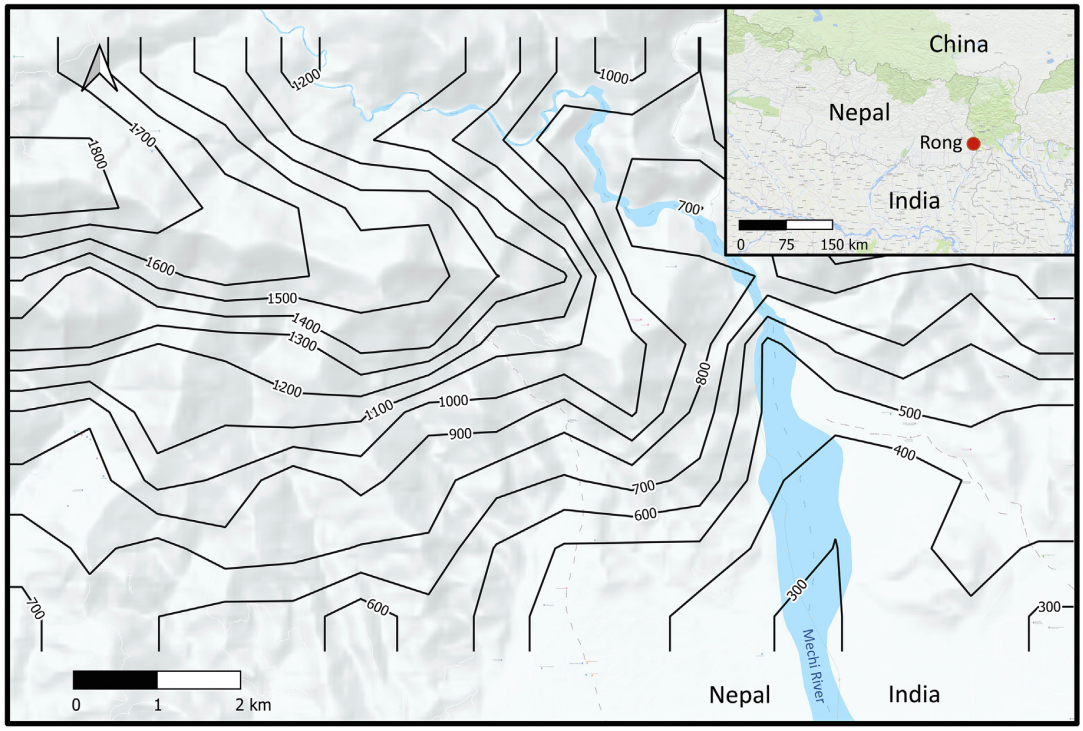

Fig. 1. Elevation profile of Rong, compiled by Lucas Sempé, edited by authors. *Source data: ASTER Global Digital Elevation Model (GDEM), using QGIS 3.10.*

income source: for 69% of 514 households surveyed in 2018, cardamom was the most important crop (Subedi & Upreti, 2019).

Rong 6 has 5300 inhabitants (ORRM, 2018); ethnic groups include Rai (41%), Tamang (28%), Brahmin/Chhetri (8%), Dalit (8%), Newar (5%), Lepcha (4%) and others (6%) (Subedi & Upreti, 2019). Main occupations are farming (76%), followed by agricultural wage labor (10%) and migrant labor (7%) (ORRM, 2018).

3.2. Data collection and analysis

We carried out the fieldwork between September and December 2018, in a period of low agricultural activity after the cardamom harvest and returned to the study area in February 2019 to collect additional information. After an exploratory field trip, we selected the economically most and least developed village out of three villages within Rong 6, based on our observations and discussions with local key informants.

To maximize diversity among the respondents, we combined quota sampling with sampling for variation (Morse and Niehaus 2009). Our sampling frame provided information on gender and caste. We intersected the binary caste variable "Dalit/non-Dalit" with the binary gender variable "man/woman", thus creating four strata per village. We then randomly selected five respondents per village and stratum, resulting in a sample of 40 respondents. Initially, we had not intended to focus on caste because we wanted to avoid reifying caste discrimination which is banned by the constitution (Government of Nepal, 2015), but we realized in the field that caste still mattered. By oversampling Dalit women and men, we ensured appropriate representation of the Dalit minority.

In the randomized quota sample of 40 respondents, laborers (i.e., persons whose main income is agricultural labor, even though they might have a small cardamom field) and young adults were not well represented, so we purposively selected 18 additional respondents whom we approached through snowball sampling (Bryman, 2012) or during their work on the cardamom fields. The sample incorporates men and women, Dalits and non-Dalits, farmers and laborers, elderly people and young people, and thus grants insight into all social milieus in the study area.

With 53 of 58 respondents we had extensive conversations on what it means to lead a Good Life. Importantly, in these in-depth interviews (Ritchie & Lewis, 2003) we did not prompt a given list of Good Life dimensions. While prompting is a useful technique in many respects (Yeo et al., 2014), it might have led to bias in our case: we intended to understand the very concept of the Good Life *from the perspective of the respondents*, and through prompting potential Good Life dimensions we would have implicitly introduced academic concepts. Instead, we relied on open questions, inspired by Greco et al. (2015), such as "What does it mean to you, personally, to lead a good life?". When necessary, we stimulated additional narration through questions about good and bad phases of life in the past. In rare instances, this led to ethical challenges, for instance when a widow burst in tears upon speaking about her husband's death. In this case, we did not pressure the respondent to answer all questions (Rubin and Rubin 2012); rather, we moved to less sensitive topics and concluded the interview on a lighter note. In addition to Good Life perspectives, interview topics included agricultural change, agricultural labor, and the life changes that followed the shift to cardamom. In all interviews, closed questions were only asked when necessary to obtain specific information such as the respondents' ages. After completing about half of the interviews, no new Good Life dimensions or other central themes emerged and data saturation (Saunders et al., 2018) was achieved.

In addition to the in-depth interviews, we carried out a photography project with eight middle-aged male and female participants, of whom six were non-Dalits and two were Dalits. Inspired by Yefimova et al. (2015), we requested the respondents to take about 20 pictures of their everyday life with a digital cam-

era, including pictures of work, free time, things they liked and disliked, and something that was important to them. Based on the printed pictures, we had extended conversations with the participants in an informal atmosphere, allowing for elaborate narrations. Compared with in-depth interviews, photography-based interviewing had three advantages. First, the participants were actively involved as data collectors. Second, at the time of the interview we had met the participant at least three times which increased familiarization. Third, the photography interviews took considerably longer (twice as long on average; some lasted over two hours), and the depth of the narrations was very high. As such, our main goal in using participatory photography was not to produce pictures for analysis but to use the photographs as an effective stimulus for narration. Challenges associated with participatory photography include the question as to what can be disclosed through pictures and what is intentionally or unintentionally left out (Wang & Burris, 1997), a potential bias towards the positive aspects of life (Byrne et al., 2016), the risk of social control and surveillance (Prins, 2010), and different ethical issues related to privacy and consent (Yefimova et al., 2015). In the context of our study, it is important to be aware of the potential positive bias as people may wish to present their life in a favorable light, and photography may not adequately represent non-visible aspects of life, such as self-determination or peace. To overcome these challenges, it is useful to combine participatory photography with other qualitative research methods.

We conducted the interviews in Nepali with the help of a translator and recorded the interviews with the consent of the participants. During the exploratory phase we worked with a female translator but later changed to a male translator who was gifted in establishing good rapport with both male and female respondents. Upon analysis we could not detect whether the gender of the translator was significant; the interviews conducted with the male translator resulted in a comparable range of topics but produced richer descriptions from both genders. We prepared full verbatim translated transcriptions of all interviews which were then imported into MaxQDA. Drawing from Grounded Theory (Strauss & Corbin, 1997), we assigned codes to the entire transcript without any pre-defined categories. In the process of coding, a flexible category system emerged and was constantly adapted and expanded as we added new codes. We then analyzed the data, summarizing shared views and highlighting contrasting perspectives wherever applicable. To account for intersectionality (Crenshaw, 1989, 1991) we created separate code matrices for four groups (gender/-caste). However, across these groups, the exact same Good Life dimensions emerged, and we could not detect any qualitative differences when comparing the detailed descriptions of the dimensions between groups. Likewise, challenges associated with agricultural change were described consistently across groups. For the sake of completeness, we still indicate caste and gender of the respondents when presenting the results.

4. Results

4.1. The local concept of the Good Life

4.1.1. Eleven dimensions and an emphasis on hardship

The Good Life, according to the participants in our study, consists of eleven dimensions (see Fig. 2). Not suffering hardship was the most salient element: three quarters of the respondents considered the absence of hardship an integral part of the Good Life. Good relationships with family members and friends as well as happiness were the second and third most frequently mentioned aspects. About 40% of the respondents listed health, income, education, self-determination and a good life for their children. Less frequently mentioned aspects included the ability to work, peacefulness in the home and in the heart, as well as food and clothes which were always mentioned together. The local concept of the Good Life hence is multidimensional and includes dimensions that can be measured with objective indicators (e.g., education) and dimensions that can be assessed subjectively (e.g., happiness).

To account for potential group differences, we analyzed the frequency data separately for men and women, farmers and laborers, Dalits and non-Dalits, as well as the elder 50% and the younger 50% of respondents. In doing so, we noted striking similarities: in all groups, the exact same eleven dimensions emerged, and the hardship dimension always ranked first (see Table 1). The biggest differences were found along the lines of caste and occupation: more non-Dalits than Dalits valued happiness (difference of 40 percentage points), and the elder 50% of respondents listed health and the ability to work more often than the younger 50% (differences of 36 and 34 percentage points). Differences by gender and occupation were less pronounced: the frequencies by which the respective Good Life domains were mentioned all differed by less than 25 percentage points. These variations in frequency notwithstanding, the overarching concept of the Good Life is comparable across social groups: regardless of social background, the respondents listed the same eleven dimensions as demonstrated in Fig. 2, and the absence of hardship was the most salient factor.

Not only did the respondents consider hardship important in terms of the Good Life. Even more so, they repeatedly invoked the notion of hardship when explaining their perspective on agricultural change. While the other ten dimensions of the local Good Life concept are common in agricultural studies (income, nutrition) and/or well-being concepts (health, happiness, social relationships, self-determination etc.), we have not come across any research that uses hardship as an analytical category in connection with well-being in development. Because of the respondents' strong emphasis on this dimension and the contrasting gap in research, we focus the following analysis of agricultural commercialization on the notion of hardship. Hereafter, we first explore the meaning of hardship in depth and then evaluate the effects of commercialization using hardship as a central criterion.

4.1.2. Three kinds of hardship: labor-related dukha, financial dukha, and emotional dukha

The Nepali term for hardship is *dukha*. This expression is associated with a variety of English terms, including not only hardship but also trouble, problem, distress, shortage, need, sorrow, and grief (Schmidt, 2005). The corresponding expression *dukha garnu* (i.e., "doing *dukha*") implies suffering, persevering, doing hard work or having a hard time (ibid.). The wide range of possible meanings is reflected in the respondents' use of the term which we classified in labor-related, financial, and emotional aspects of *dukha*.

First, the respondents used the term *dukha* to refer to physical hardship associated with agricultural labor, as explained by a 29-year-old Dalit woman:

> "We have to do *dukha*. For example, going for the agricultural labor, sometimes carrying loads and sometimes digging, sometimes walking to a distant place. For example, [...when] we need to carry the *doko* (basket carried with a strap around the head) and loads the entire day we will have *dukha*."

Work termed *dukha* may result in "blisters and pain in the hands and back pain [...] I might not be willing to do it, but I have to do it". Hence, when used in its labor-related sense, *dukha* describes physically challenging tasks.

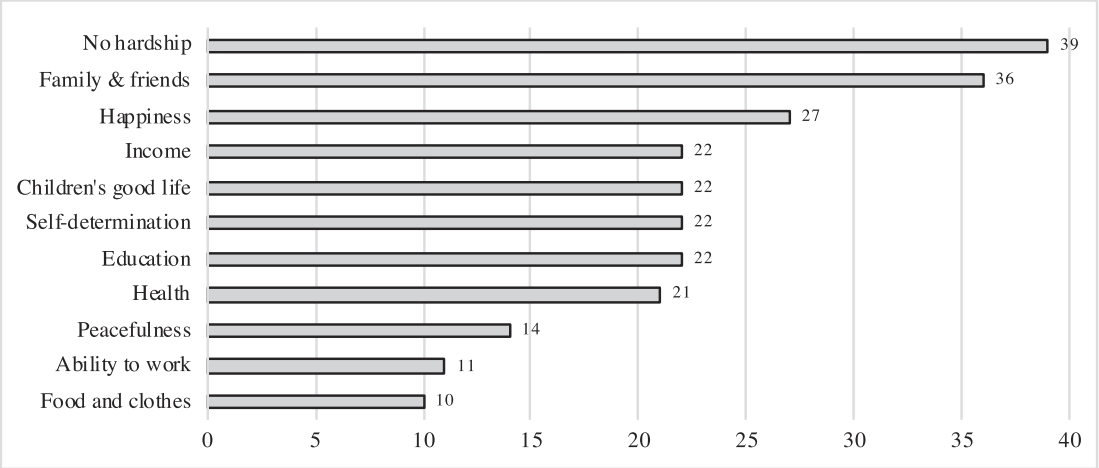

Fig. 2. Dimensions of the Good Life (total numbers, N = 53).

Table 1
Dimensions of the Good Life (shares broken down by groups, N = 53).

		Gender		Occupation		Age		Caste	
	Total	Men	Women	Farmers	Laborers	Elder	Younger	Non-Dalit	Dalit
No hardship	**74%**	**78%**	**69%**	**74%**	**73%**	**81%**	**67%**	**75%**	**71%**
Social relationships	68%	67%	69%	67%	73%	69%	67%	69%	65%
Happiness	51%	48%	54%	48%	64%	50%	52%	64%	24%
Income	42%	41%	42%	40%	45%	46%	37%	44%	35%
Education	42%	37%	46%	38%	55%	35%	48%	36%	53%
Self-determination	42%	37%	46%	40%	45%	35%	48%	39%	47%
Children's good life	42%	33%	50%	43%	36%	54%	30%	39%	47%
Health	40%	48%	31%	40%	36%	58%	22%	33%	53%
Peacefulness	26%	22%	31%	31%	9%	19%	33%	31%	18%
Ability to work	21%	26%	15%	17%	36%	38%	4%	14%	35%
Food and clothes	19%	15%	23%	19%	18%	15%	22%	14%	29%
No. of respondents	53	27	26	42	11	26	27	36	17

Second, the respondents used the term *dukha* when illustrating a tangible scarcity of funds, whereby the source of such *dukha* predominantly was the cost of sending children to school. For instance, a 45-year-old Tamang woman explained:

> "When the children were small, we had *dukha* to educate them. [...] We sent our children to an expensive school in the city, to a private school. We had to invest a lot of money, so at that time we used to struggle for the money."

Likewise, a 53-year-old Dalit man stated that some years ago his life had not been as good as it could have been "because my children were small at that time. We used to depend on paid labor, and we needed to educate the children and run the household, so there was *dukha* at that time". Consequently, in its second sense, *dukha* stands for hardship due to financial insecurity.

Third, *dukha* is used to denote sorrow. Evaluating his life course, an elderly Dalit man disclosed: "I haven't had *dukha* for affording food or clothes. But regarding another type of *dukha*, my elder son died when he was twelve years old studying in class seven, and my first wife also died. So, this type of *dukha* I have faced." The term *dukha* was, however, only rarely associated with emotional burdens. In most cases, the respondents used the expression when referring to hardship due to physical labor and financial challenges.

4.1.3. Dukha and sukha as complementary aspects of a fulfilled human life

Even though *dukha* is generally used to describe undesirable states, a young Dalit woman explained during a participatory photography interview that *dukha* in her view was an integral part of a fulfilled human life. She first clarified how *dukha* relates to its counterpart *sukha*:

> "*Sukha* means, for example, not doing very hard work. Like, if we have money, then we can go to the market and buy things, whatever you can afford, you purchase it and sit with the family. This is what we call *sukha.* For being able to afford that *sukha* we must do *dukha,* like doing the labor and other things."

She elaborated that before they had children, she and her husband used to have an easy life without major responsibilities. However, in that time, something was missing:

> "We didn't know what life is like. [...] If we do the work and earn some money and we are able to buy food and feed the family, then that is a different kind of happiness and satisfaction. We feel: 'I am able to do this much for my family; though I have done *dukha* but also I can feed my family.' [...] Before, we didn't have satisfaction. We only enjoyed, but now we are satisfied. Now we identify both *dukha* and *sukha.*"

Hence, in her opinion, a life without *dukha* might be enjoyable, but only through doing *dukha* is one able to achieve a "different kind of happiness and satisfaction".

The young woman was the only respondent who explicitly stated that dukha was necessary for living well. Yet, a few other male and female respondents of different castes mentioned *dukha* and *sukha* as two sides of the same coin. For instance, in another participatory photography interview, a 33-year-old Tamang woman explained that "good life means having *sukha*, [...] like, not doing the work, having the delicious food, visiting different places, that would be *sukha*: happiness". Her own life, overall, "is running in *dukha* and *sukha* – we are living in this way", she said and laughed.

4.2. Analyzing agricultural change through a hardship perspective

As much as certain hardships inevitably form part of every human life, most respondents agreed that a good life is a life with little *dukha*. An analysis of agricultural commercialization from the perspective of the respondents hence needs to investigate whether and how the prevalence of *dukha* has been affected by agricultural change. The following sections provide an insight into the respondents' views on labor-related and financial *dukha* in the wake of cardamom production. The analysis again carefully differentiates between the perspectives of different social groups and highlights contrasting perspectives wherever applicable.

4.2.1. Commercialization and physical hardship

According to the respondents, cardamom production requires less effort than most other cash crops: because cardamom is a perennial plant, the field does not have to be ploughed between seasons. Comparing cardamom with ginger production, a 38-year-old male Tamang farmer stated: "I prefer the work required for cardamom production. It is easier; in ginger production there is more *dukha*." A 23-year-old male Rai farmer confirmed: "Cardamom production is better; the work is a bit lighter". A 50-year-old female Tamang farmer explained that for ginger production, "we have to plough and prepare the soil two to three times before planting and while planting." After planting cardamom, however, "we just weed, maintain the plant and weed. We will get income after two years. It is not as much *dukha* as in ginger." Agricultural laborers likewise confirmed this view. For instance, a 52-year-old male Dalit laborer preferred cardamom over ginger production because "the work is a bit lighter; it does not require hard work like digging and ploughing. Only during the time of the first planting do we have to plough and dig the field, otherwise there is no need".

When comparing cardamom with other perennial cash crops, the opinions diverged. Harvesting broom grass, for instance, was considered an easy task by a 41-year-old male Dalit laborer, "because we can just do the work standing [...]. For the cardamom work, mostly, we have to sit and do the work, and so I feel some pain in the hands and legs". In contrast, an 41-year-old Newar woman argued that harvesting broom grass involved more *dukha* because the sharp edges of the broom grass leaves can cause injuries. If arms and hands are not covered, "they will be cut by the leaves. Moreover, the broom grass grows in the steep forest area, so we have to go there to collect it. In contrast, the cardamom work is much easier."

Comparing cardamom production with subsistence farming, the latter was unequivocally viewed as involving more *dukha*. A 40-year-old female Rai farmer confirmed: "Before, when we used to have maize, millet and paddy, we used to spend most of our time in the field. [...] We had to work year-round. But for cardamom, we work during the season only." A 23-year-old male Rai farmer agreed that "compared to cereal crops, cardamom production is a bit easier, it takes less effort".

While most farmers and laborers preferred cardamom work over the labor required for other crops, it should be noted that cardamom production still is a physically challenging task. A 39-year-old female Tamang farmer explained: "We have to do *dukha* in cardamom also. We have to do the work in the cold area, like harvesting in the monsoon season. While working [in the rain] we might suffer from the cold." Consequently, cardamom production is still a challenging occupation, but it involves less labor-related *dukha* than subsistence farming and the production of most other cash crops.

4.2.2. Commercialization and financial hardship

As compared to all other crops in the study region, cardamom production yields substantially higher incomes – this was confirmed by respondents from all socio-economic backgrounds. For instance, a 34-year-old Tamang woman summarized: "From this cardamom we have *sukha.* [...] Cardamom came, then the income increased, and then good progress occurred." With the term "progress" she refers to a variety of changes in her family: they bought a motorbike, constructed a new cow shed, and procured several new household items such as a gas stove, various kitchen utensils, and a wide range of tableware. Similarly, a 47-year-old male farmer explained: "Before, we had some *dukha*, we used to have tension from where to collect the money." Today, he is a successful cash crop farmer, having acquired additional plots and pursuing a sophisticated agricultural strategy based on a diverse portfolio of high-value crops.

While not all respondents reported such wide-ranging transformations of their lives, almost everyone stated that their incomes rose thanks to cardamom production. With the increased means, the respondents realized different changes in their everyday life, as exemplified in Fig. 3. For poor families, a significant improvement was year-round coverage of basic needs, as described by a 37-year old male Tamang farmer: "Before, when we planted rice, there was less production and less income, and we had a shortage of some things, like food and clothes. But now, because of cardamom, it is good." Similarly, a 63-year-old male Dalit farmer stated: "After selling cardamom we got to eat [laughs], and now we have money." Concordantly, a 40-year-old female Rai farmer disclosed:

> "Before, when we used to plant maize, millet, and paddy we didn't have much income. We used to have difficulties to get enough food for the whole year, so we used to take loans. But now, with cardamom, we have income. We do not have to take loans anymore, and we can save some money."

In the same vein, numerous respondents explained that they could overcome financial instability thanks to cardamom production. A 23-year-old female Tamang farmer summarized: "We can run our household easily from the income, and during the time of emergency or sickness we can use that money."

For agricultural laborers, incomes also rose because of both higher wages and extended employment opportunities. A female employer explained that cardamom production increased the labor demand on her farm in different seasons, and a 36-year-old female Dalit laborer confirmed: "We can get more work when compared to the past." A 46-year-old male Rai worker added that salaries had been rising considerably: "When we used to do work for maize and millet production, we used to get 150 rupees per day. But now, in cardamom, we get 300 rupees per day." A 29-year-old female Dalit laborer said that thanks to cardamom, her life was better "because before we had a lower wage, but now we have a higher wage from cardamom. [...] I am spending that money for educating my son and for running the household."

Fig. 3. Pictures taken by respondents exemplifying the effects of agricultural commercialization on their everyday lives.

While a wide range of respondents reported that their financial *dukha* decreased thanks to cardamom production, several successful farmers pointed to a potential downside for those who recently crossed the poverty line. A 33-year-old male Rai farmer explained:

> "The ones who previously used to be poor, they suddenly got more money and they uplifted their standard. [...] They started the habit of spending money beyond the necessary things [...] But nowadays, gradually, the cardamom price is declining and so the economic benefits are decreasing. [...] If they cannot maintain their standard, then in coming days they might have mental tensions."

Several farmers observed that some households took loans for motorbikes or small luxuries, but had trouble repaying the credit once the cardamom prices fell, which then led to increased financial hardship. A 28-year-old male Rai farmer summarized:

> "The ones who don't use the money properly, they are not doing well. But the ones who have saved the money in the bank, they have done well. [...] It depends upon the talent of the individual, on how they use the money."

4.3. Beyond hardship: Economic benefits and future prospects

4.3.1. Who reaps the economic benefits of cardamom production?

Despite the new financial challenges mentioned above, almost all respondents evaluated the impact of cardamom production on their lives positively. However, it seems that particular members of society benefitted disproportionally. A wealthy Rai farmer explained:

> "In general, we cannot say that all of the people in the village benefitted equally. It depends upon different factors: education is one, income is another one, and work effort is another. Besides that, the land size is an important factor, [...] and irrigation is another crucial point. For the irrigation, the farmers need water and the sources are in very distant places, so they have to make huge investments in irrigation. Because of these reasons we cannot generalize that all people got economic benefits in an equal way."

Establishing an irrigation system is a major investment: a young male Rai farmer indicated that he had invested about 350,000 NPR (3,000 USD) for the pipeline connection. Such a major investment is beyond the financial possibilities of most respondents. A 41-year-old Dalit farmer explained why this is problematic:

> "The ones who have good irrigation, they will have good production in their field. During the time of the flowering [...] it is a bit dry and we need to irrigate the cardamom. So, the ones like us who don't have irrigation, in those people's cardamom fields the fruits will not be of good quality because of dryness. If the rainfall comes during that time, we will have good production but if there is no rainfall, we don't have that much hope for good production."

Hence, a lack of agricultural investment capacity seems to entail lower agricultural productivity for poorer segments of society, potentially aggravating existing inequality. Spending priorities grant additional insight. About one third of the respondents mentioned that they had improved their house – this figure was stable when disaggregating the data by gender, caste, occupation, and age. However, marked caste and occupational differences became apparent regarding mobility and education. All respondents who reported to have bought a motorbike were non-Dalit farmers; neither Dalits nor agricultural laborers (the groups partly overlap)

were among those who made such a major investment. Regarding education, 61% of the non-Dalit respondents mentioned that they had invested in the education of their children, while for the Dalit group, the share was 12% only. For farmers, this figure amounted to 50% and for laborers to 27%. These differences appear even more striking when compared with the Good Life concepts of these groups: Dalits and laborers placed *greater* emphasis on education than non-Dalits and farmers (see Table 1). Potentially, the income increases for Dalits and laborers were not substantial enough to cover both household needs and school fees. Possibly, these groups are economically disadvantaged, lacking the means to pursue the goals they have reason to value (cf. Sen, 1999).

Given the above differences, we hypothesized that the gap between rich and poor might have increased. However, the leader of a women's cooperative argued that the opposite was true. She reasoned that the gap between rich and poor has declined:

> "When there was no cardamom, the ones who had less land, they only had income from their own land for one or two months. For the rest of the year, they had to do paid labor [...]. But now, with cardamom, though their land is small they will get more income."

When we asked a 46-year-old male Rai agricultural laborer whether or not people have benefitted equally from cardamom production, he said:

> "All of the people have benefitted. For example, there are the ones who didn't have income before, but by selling cardamom they could earn some money. Likewise, some of the people have bought land in the neighboring district, and land for the house, like that. But in our case, we have not been able to add land. However, we now have some money to afford the education of our children."

A 52-year-old male Dalit laborer explained that "everybody benefitted. [...] It depends upon the land: those who have more land, they might have more income, the ones having less land, they have less income."

To summarize, there are evident variations in the extent to which different people benefitted from commercialization, and these are at least partly determined by land size and the capacity to invest in irrigation. However, it seems like there were no real losers from agricultural change, as all population groups were able to reduce both financial and physical hardship to some degree.

4.3.2. Is a life without hardship life without farming?

Not only did the respondents use the notion of *dukha* to reason about their own labor and life; even more so, they invoked the notion of hardship when explaining their aspirations for their children's future. Across all ages, castes, genders, and economic situations, respondents consistently argued that their own life had been affected by hardship, and that the life of their children should be easier. For instance, a 33-year-old wealthy Rai farmer and businessman explained: "Whatever *dukha* and *sukha* I have faced up to now, I do not want my son to get that much *dukha*. Therefore, he should go to a better school and get a better job." Concordantly, a 46-year-old Rai laborer said that if his children studied well, "then they will not get as much *dukha* as I faced. If they do well in education, then they won't need to struggle as much as we did." As a result, village life is generally seen as involving hardship at different levels, as opposed to a life in the city. Speaking about the future of his grandchildren, a 63-year-old male Dalit farmer explained:

> "I don't want them to stay in the village and do *dukha*. I would like them to go and live in town and study, not carry grass like we did. [...] If they stay in the village, they have to cut grass and carry loads. If they go to town, they can open a shop and that can be their job. No stress in that."

Some parents emphasized that their children should be able to make their own choices. For instance, a 23-year-old Rai farmer said that his daughter should "not get as much *dukha* as I faced. I have not had the opportunity to study well, so I wish to give higher education to her. But later, when she has grown up, she will decide what she wants to do."

From the perspective of parents, a good life for their children is a life with little hardship, involving opportunities other than cardamom production. As much as the respondents are convinced that agricultural change contributed to reducing *dukha*, their ultimate vision of a Good Life involves a non-agricultural occupation because it is perceived to involve less hardship as compared to cardamom production.

5. Discussion

5.1. Multidimensionality of local well-being concepts

The respondents' perspective on the Good Life is essentially multidimensional. Many of the eleven dimensions they cited overlap with findings from similar research in different regions of the world. For instance, respondents from African, Asian and Latin American countries alike emphasized social relationships as central to well-being of individuals, households, and communities (Beauchamp et al., 2018; Calestani, 2009; Greco et al., 2015; Hanrahan, 2015; Hoffmann & Metz, 2017; de L'Estoile, 2014; Lu & Gilmour, 2004; McGregor et al., 2009; Narayan et al., 2000). Likewise, education and the well-being of one's children are common themes (Beauchamp et al., 2018; Calestani, 2009; Greco et al., 2015; Kant et al., 2014; McGregor et al., 2009; Narayan et al., 2000). On the individual level, health is of central importance (Beauchamp et al., 2018; Bigler et al., 2019; Kant et al., 2014; McGregor et al., 2009; Narayan et al., 2000) as is having sufficient income and assets for covering one's basic needs (Beauchamp et al., 2018; Bigler et al., 2019; Caria & Domínguez, 2016; Greco et al., 2015; Kant et al., 2014; McGregor et al., 2009; Narayan et al., 2000). Accordingly, making money is usually not considered an end in itself; the income dimension was mostly framed as "having enough" (Fischer, 2014; Narayan et al., 2000). In our case, some respondents explicitly emphasized this aspect as well; the majority, however, simply mentioned income as one Good Life aspect out of many. Further thematic overlaps between the Nepali concepts and other local definitions of the Good Life include peace in terms of both inner well-being and political security (Bigler et al., 2019; Greco et al., 2015; Narayan et al., 2000), happiness (Greco et al., 2015), as well as self-determination and freedom of choice (Narayan et al., 2000).

While in other regions men and women often emphasized different aspects in their concepts of the Good Life (Narayan et al., 2000), we could not determine any striking gender difference in our data. Moreover, in contrast to findings from other regions, the participants in our study did not mention the relationship with nature and land (Beauchamp et al., 2018; Caria & Domínguez, 2016; Kant et al., 2014; McGregor et al., 2009; Scott et al., 2018), nor culture (Kant et al., 2014; Scott et al., 2018) or spirituality (Calestani, 2009). Likewise, dignity, aspiration, and commitment to a higher purpose were valued elsewhere (Fischer 2014), but these aspects did not emerge from our data.

Notably, all the studies on local perceptions on well-being or the Good Life known to us portray multidimensional concepts. Many of these combine objectively measurable dimensions such as living standard, health or education with subjectively measurable dimensions such as happiness. Hence, local concepts of the

Good Life – as elicited through our study and through similar research as discussed above – resonate best with academic well-being approaches that comprise both subjective and objective dimensions (e.g., Costanza et al., 2007; Diener & Tay, 2015; Gough & McGregor, 2007; White, 2010).

5.2. New perspectives on agricultural change using the local Good Life concept

In emphasizing the absence of hardship as the most salient dimension, the Nepali concept of the Good Life adds a new aspect to the well-being approaches we reviewed. This hardship perspective is rooted in the respondents' everyday life experiences shaped by their agricultural livelihoods and the burdens involved. Hence, an analysis of well-being in that region must incorporate the notion of hardship in addition to the other dimensions that form part of both existing academic well-being approaches and the Nepali concept of the Good Life.

It is important to note that the demarcation between physical, financial and emotional hardship as described in Section 4.1 is a distinction made by the authors to better understand the meaning of the term as used by the respondents. Financial, labor-related and emotional *dukha* did emerge from the data as conceptually delimitable types of hardship. However, this distinction was not emphasized by the respondents themselves. The male and female farmers and agricultural laborers consistently referred to the Good Life as a life without *dukha*, regardless of whether this *dukha* involved hard physical labor or worries about getting enough money for food on the following day. While it may be useful to separate different types of hardship when considering constructing a quantitative index, a qualitative approach that takes the respondents' understanding of the Good Life seriously must embrace an overarching hardship perspective.

This is even more important in an analysis of agricultural change, as agricultural practices are both a cause of considerable hardship and a starting point for its relief. Farmers and laborers consistently used the notion of hardship to frame their perspectives on agricultural commercialization, and respondents across all socio-economic milieus evaluated the shift to cardamom positively on the grounds that it helped reduce *dukha*. This result is particularly important in the context of out-migration in Nepal and South Asia in general which increases labor constraints on those who are left behind, especially women (Aryal & Kattel, 2019; Devkota et al., 2020; Lahiri-Dutt & Adhikari, 2016). While agricultural commercialization has exacerbated existing labor constraints elsewhere (Brown & Waldron, 2013), this did not seem to be the case in our study area.

Could the hardship perspective be operationalized in quantitative terms? An attempt to do so would not only need to differentiate between physical and financial hardship: it would also need to acknowledge overlaps with other dimensions. For instance, financial hardship and income are closely related, but they are not congruent. We might expect a subjective financial hardship variable to be inversely correlated with an income variable up to a certain threshold after which further increases in income would not be associated with further reductions in hardship levels (similar to the relationship between income and subjective well-being, see Easterlin, 1974). Hence, an income measure based on a cut-off point rather than an open-ended continuous variable (as operationalized in multidimensional poverty indices, see Alkire et al., 2014) would reflect the respondents' perspectives on financial hardship.

Physical hardship, however, seems to be more difficult to measure. While time-use measurements are increasing in popularity as a proxy for workloads, especially with regard to gender in agriculture (for an example see IFPRI, 2012), this does not capture *dukha* which rather relates to the intensity of agricultural work. Attempts to measure the latter are scarce – possibly not least due to measurement difficulties (for an approach using accelerometry devices see Srinivasan et al., 2020). To capture physical *dukha*, a subjective indicator for physical hardship could potentially function analogously to the measures of subjective well-being, with similar advantages and drawbacks. In addition to facing the challenge of determining a meaningful measure for physical hardship, a quantitative operationalization of the hardship perspective would need to address the problem of overlap with other dimensions. Defining mutually exclusive dimensions might not always be possible, as Greco and co-authors pointed out in their case study of Good Life perceptions in rural Malawi (Greco et al., 2015). Alternatively, hardship could also be understood as a latent concept influencing other Good Life dimensions, without being directly measurable itself.

5.3. Limitations

5.3.1. Limitations of agricultural commercialization in contributing to the Good Life

The analysis using the Good Life concept showed that agricultural commercialization had increased well-being in various ways at that point in time. However, one should be careful not to infer potential future effects due to ecological, economic, and social limitations. First, ecological sustainability is not granted as cardamom diseases have started to spread in the region (Sony & Upreti, 2017). Second, economic sustainability is threatened due to price fluctuation (ITC, 2017; Upreti et al., 2016) and inequality issues. While some respondents argued that even the poorer sections of society benefitted from commercialization in some way, from our observations of the different living conditions in the study area we suspect that previous inequalities have likely been reinforced through cardamom. Such a trend would be in line with commercialization processes in other regions where the comparatively wealthy benefitted more than the poor (Beck et al., 2016; Bigler et al., 2019; Brown & Kennedy, 2005; Dawson et al., 2016). Finally, parents strive to provide a good education to their children so they can avoid the financial and physical hardship engendered by farming. In the view of the respondents, it seems, agricultural commercialization is but one step on a path that eventually leads away from agriculture. In Nepal, like in other countries with a high share of agricultural GDP, working in agriculture often counts as an undesirable occupation (Agarwal & Agrawal, 2017) only pursued by those who did not succeed in make their living otherwise (Jones et al., 2017; Rigg, 2006). Such attitudes of course depend on the context – for instance, a recent study in Cambodia showed that the local concept of the Good Life was inextricably linked to agricultural land (Beauchamp et al., 2018), and research in Ethiopia demonstrated that the respondents' favorite activities in livestock keeping were precisely those that entailed the most physical hardship (Hertkorn et al., 2015). In contrast, the participants in our study aspire a life with little hardship for themselves and their children, even if this means that their children do not continue working on the family farm. This insight underscores the importance of incorporating local perspectives in analyses of agricultural change: a conventional study may have led us to the conclusion that commercialization had positive effects on income and food security, hence encouraging policy makers to further invest in the commercialization of agriculture. With the Good Life approach to agricultural change, however, we understand that income and food are only two out of several important dimensions. In emphasizing the notion of hardship, the respondents do acknowledge the improvements achieved through commercialization. Nevertheless, their aspirations of the Good Life may eventually lie outside the

agricultural sector, because many of the non-agricultural professions are perceived to entail less physical and financial hardship.

5.3.2. Methodological limitations

Our study elicited a local concept of the Good Life which makes a meaningful addition to well-being concepts and analyses of agricultural change. Yet, it is insightful to critically reflect on the limitations of the method. For instance, while food, clothes, and health were mentioned by a substantial number of respondents, housing did not emerge as an important category. However, adequate shelter is an indispensable basic need (Streeten, 1981), and about one third of respondents indicated that they invested their increased income in improving their houses. This suggests that housing probably is a tacit dimension of the local Good Life concept. This noteworthy gap can be explained by the fact that in the study area almost everyone lives in private dwellings (Subedi & Upreti, 2019), so the respondents might take adequate housing for granted and thus might not think of mentioning this dimension when elaborating their perspective of the Good Life. In addition, topics like religion or domestic violence did not emerge from the interviews, but we assume that these topics are important: we observed the vital role of religion in everyday life in the study area, and we are aware that 15% of East Nepali women experience intimate partner violence (Dhakal et al., 2014). Potentially, dimensions like "family" and "peace" bear implicit reference to freedom from domestic violence, but the issue was never openly discussed. Arguably, themes like religion and domestic violence might not be the dimensions of life that are most affected by agricultural change. However, researchers investigating local well-being concepts with qualitative and particularly visual methods must recognize the absence of particular topics due to taboos, shame, or the respondents' desire to portray themselves in a good light (Pauwels and Mannay, 2020). These considerations demonstrate that while local perspectives can point researchers to important dimensions they might otherwise overlook, it is most useful to ground a well-being framework in both local perspectives and a set of indicators derived from theory and the results of previous research.

6. Conclusion

Agricultural commercialization policies in low-income countries affect millions of farmers and casual laborers in different parts of the world. Hence, it is important to investigate the effects of agricultural change on the lives of the local population. While well-being has been established as an important field in development studies, this trend apparently has not had a major impact on agricultural research: only rarely do studies of commercialization effects include local perspectives and multidimensional measures. Linking research on agricultural change with debates on well-being in development opens up nuanced perspectives on the effects of agricultural commercialization on different dimensions of rural life in low-income countries.

In this paper, we propose a new approach for investigating development outcomes through a concept of the Good Life as defined by local stakeholders. This approach could enable development researchers and practitioners alike to better understand the priorities of the people they work with. This is important because these priorities may differ from the priorities set by other development stakeholders. For the respondents in this case study, hardship is the most salient dimension, both in their definitions of the Good Life and in their perspectives on agricultural change. In contrast to the ten other Good Life dimensions that emerged through our analysis, the notion of hardship is not reflected in any of the well-being approaches we reviewed.

The shift to commercial cardamom production contributed to the Good Life through reducing financial and physical hardship. However, the positive effect of agricultural commercialization on the Good Life may be compromised by increases in inequality, a lack of economic and ecological sustainability, and the fact that most respondents conceptualized a life free from hardship outside agricultural livelihoods. Hence, while agricultural commercialization undoubtedly has contributed to the respondents' Good Life in the recent past, it is not possible to infer that fostering commercialization will have further hardship-reducing effects in future.

Our research is an example of how an assessment of commercialization effects can change when using locally defined categories of analysis: an investigation of income and nutrition indicators alone would have led us to a more positive outlook. Including holistic concepts of well-being is important because such an approach sheds a different light on the effects of agricultural commercialization. We therefore advocate increased collaboration between well-being scholars and researchers interested in the effects of agricultural change, especially in contexts where the commercialization of agriculture is an explicit policy goal. Using comprehensive concepts of well-being that combine local perspectives with academic indicators would allow for more rigorous and holistic analyses of the effects of commercialization on the rural population.

CRediT authorship contribution statement

Marie-Luise Matthys: Conceptualization, Methodology, Investigation, Formal analysis, Writing - original draft, Visualization. **Sushant Acharya:** Resources, Writing - review & editing. **Sanjaya Khatri:** Resources, Investigation, Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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3 “Thanks to cardamom production, we are happier”: Gendered dimensions of commercial agriculture and subjective wellbeing in rural Nepal

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Abstract

The turn to wellbeing in development has led to a surge in wellbeing-related articles in development studies journals. However, this trend has not yet reached development research into agriculture; particularly the question of whether agricultural intensification brings wellbeing as well as economic benefits. Our article contributes to linking wellbeing research with agricultural development by analysing the relationship of subjective wellbeing to cash crop production in Nepal. While the shift to high-value agriculture has significantly increased rural incomes, the impact on local people's wellbeing is less evident. Results demonstrate a significant positive relationship between commercial agriculture and life satisfaction in the study area. However, the study also shows the limitations of life satisfaction data in capturing inequality regarding gender and caste. For an holistic assessment of agricultural development effects, subjective wellbeing measures should be combined with disaggregated data from other relevant indicators of sustainable development in social, ecological and economic domains.

Keywords: life satisfaction, wellbeing, agricultural transformation, cash crops, gender, South Asia

1 Introduction

Wellbeing in development is a growing and important research field. Its growth is reflected in the recent surge of scholarly articles addressing wellbeing in the development context (Awaworyi Churchill, Appau, Farrell, 2019; Alem, Köhlin, 2014; Hojman, Miranda, 2018; Kroll, 2015). Its increasing prominence stems from growing acknowledgement that economic development indicators provide only a limited account of the quality of life in low-income countries (Diener, Tay, 2015; McGregor, Coulthard, Camfield, 2015). Hence, rather than narrowly understanding development as an increase in income, more and more scholars conceptualise development as an "organised pursuit of human wellbeing" (Gough, McGregor, 2007, p. 4).

A major challenge with wellbeing research, however, is the multitude of meanings that the term "wellbeing" can encompass (Dodge et al., 2012). Numerous scholars agree that wellbeing is essentially multidimensional and hence should be assessed using multidimensional approaches (see for instance Berenger, Verdier-Chouchane, 2007; McGregor, Coulthard, Camfield, 2015; Dasgupta, 1990; Coulthard, Johnson, McGregor, 2011; White, 2010; Ahmed, Dompreh, Gasparatos, 2019). Others propose using participatory research methods to establish relevant wellbeing dimensions together with local population groups (e.g., Masterson, Mahajan, Tengö, 2018; Matthys, Acharya, Khatri, 2021; Kant et al., 2014; Beauchamp et al., 2018; Scott, Hinrichs, Jensen, 2018) or suggest a combination of statistical and qualitative methods (White, Fernandez, Jha, 2016). The value of such approaches notwithstanding, wellbeing is commonly proxied by quantitative measures of subjective wellbeing (SWB) which can be implemented more easily and cost-effectively than multidimensional and participatory concepts. Quantitative approaches to SWB started to gain popularity in the 1970s when Easterlin found that higher average incomes did not necessarily translate into the higher average happiness of citizens (Easterlin, 1974). Since then, the relationship of income to SWB has been a matter of academic debate (see for instance Mikucka, Sarracino, Dubrow, 2017; Stevenson, Wolfers, 2008; Diener, Oishi, Tay, 2018). There is, however, no universal approach to SWB: while some scholars use terms like "happiness", "life satisfaction" and "wellbeing" interchangeably (e.g., Easterlin, 2003), others carefully differentiate between different concepts (e.g., Raibley, 2012). In development research, both measures of life satisfaction (evaluative method) and measures of happiness (affective

method) have been used. The umbrella term “subjective wellbeing” encompasses both concepts (Diener, 2000).

The value of subjective wellbeing approaches in the development context has been a matter of debate. Proponents argue that SWB is a comprehensive concept encompassing subjective evaluations of deprivation in income, capabilities, security and other dimensions (Kingdon, Knight, 2006). In this way, SWB offers a “composite reflection of how people appraise the many facets of their lives” (Diener, Oishi, Tay, 2018, p. 258). Hence, SWB is considered a useful approach to measure development and an effective means to prioritise development goals (Diener, Tay, 2015; Kroll, 2015). In contrast, critics argue that SWB measures may be “influenced by social conditioning and a resigned acceptance of misfortune” (Sen, 1987, p. 20) to the extent that even undernourished persons rate their wellbeing as high, through adapting their preferences to the unfavourable circumstances they are in. According to this perspective, SWB measures do not adequately reflect income poverty or deprivation in other dimensions of life (Coulthard, Johnson, McGregor, 2011; McGregor, Camfield, Coulthard, 2015; Sen, 1981). Moreover, SWB measures are criticised for disregarding agency, justice and sustainability (Stewart, 2014) and for undervaluing engagement through overrating pleasure (Vittersø, Oelmann, Wang, 2009). Another consideration is the danger of depoliticisation: normative happiness might imply that disadvantaged people should change the way they feel about their situation rather than standing up for change. More generally, discriminatory structures and power relations are rarely considered in SWB research (Ahmed, 2010; White, 2010).

Despite this critique, SWB measures are widely used in contemporary development studies. For instance, recent research has analysed the relationship of SWB to the fulfilment of basic needs (Rojas, Guardiola, 2017; Diener, Oishi, Tay, 2018; Guillen-Royo, Velazco, Camfield, 2013), health status (Diener, Tay, 2015; Addai, Opoku-Agyeman, Amanfu, 2013; Ngamaba, Panagioti, Armitage, 2017), social relationships (Christian et al., 2020; Mikucka, Sarracino, Dubrow, 2017; Addai, Opoku-Agyeman, Amanfu, 2013; Awaworyi Churchill, Mishra, 2017; Camfield, Choudhury, Devine, 2009), and demographic factors such as age, caste, gender, religion or marital status (Fontaine, Yamada, 2014; Beja, 2013; Addai, Opoku-Agyeman, Amanfu, 2013; Park et al., 2018). The major focus of SWB in development research, however, seems to be on the often counterintuitive relationship of SWB with income (Fanning, O'Neill,

2019; Reyes-García et al., 2019; Reyes-García et al., 2016; Awaworyi Churchill, Appau, Farrell, 2019; Mikucka, Sarracino, Dubrow, 2017; Diener, Oishi, Tay, 2018; Diener, Tay, 2015).

Against this background, it is surprising that agriculture has received very little attention in SWB research in the development context. In numerous low-income countries, agriculture is a major sector of the economy and agricultural growth is promoted as a promising development strategy (Christiaensen, Martin, 2018). Strikingly, however, very few studies have used quantitative SWB measures in relation to agricultural development. Notable exceptions include the works of Ahmed et al. (2019), Bigler et al. (2019) and Väth et al. (2019), but their research is exclusively focused on the African continent. For Nepal, we are not aware of any study linking SWB with agriculture, even though agriculture is "key for the development of the national economy", according to the government (GoN, 2021). Previous SWB studies that focus on Nepal have focused on other, undoubtedly important aspects such as poverty (Mitra, 2016), health (Eller, Mahat, 2007; Poudel, 2020; Sagtani, Thapa, Sagtani, 2020), water supply (Chindarkar, Chen, Gurung, 2019), social support (Chalise, 2010) and community satisfaction (Park et al., 2018). However, research on the potential SWB effects of agricultural development in Nepal appears to be absent.

Given the economic importance of agriculture in low-income countries and given that increased wellbeing is a relevant (if not the ultimate) development goal, it is important to better understand the link between wellbeing and agricultural development. With this paper, we would like to contribute to such an improved understanding by exploring the relationship of commercial smallholder agriculture to the subjective wellbeing of the rural population. As a case study, we selected a region in east Nepal that has undergone a fundamental agricultural transition in the last two decades: the majority of farmers in the area have adopted commercial cardamom production, and this development significantly influenced rural life (K. C., 2019). In the following, we analyse the relationship of commercial cardamom production to life satisfaction in that region, taking into account variations by gender, as this is both an important axis of difference and the only characteristic that showed significant variations within our sample.

2 Methods

2.1 Study area

Our study area, the ward Rong 6 of Rong Rural Municipality, is located in the far east of Nepal, on the border with India. The landscape is characterised by wooded hills with steep slopes and significant variations in elevation, ranging from 275 to 1,836 meters above sea level (Matthys et al. 2021). Rong 6 is particularly interesting for a case study on commercial agriculture because of its history of rapid agricultural transformation. In the 20th century, farming in Rong 6 had been dominated by subsistence agriculture in conjunction with some commercial production, mainly ginger. In the early 2000s, however, plant diseases suddenly made ginger production nearly impossible. The farmers in the region adapted very quickly and switched to producing black cardamom (*Amomum subulatum* Roxb.), a spice that had previously been planted for household consumption and that became marketable during that time. By 2003, 95 per cent of ginger farmers had become commercial cardamom producers, and the economic prospects of this crop even prompted some of the economic migrants from the study area to leave their well-paid jobs in Gulf countries and take up cardamom production instead (K.C., 2019). To date, 86 per cent of the economically active population derives their income from farming, and cardamom has remained the major cash crop in the region (ibid). However, not all arable land is suitable for cardamom production due to issues of elevation and slope inclination. Other cash crops produced in Rong 6 include tea (high elevations), betel nuts[6] (low elevations) and broom grass[7] (steep slopes). Despite considerable price fluctuations, the cardamom price continues to far exceed the price of all other cash crops. The switch to this high-value crop has entailed comprehensive changes in the study area: a recent study concluded that cardamom production "has raised the living standard of the whole region" (Subedi, Upreti, 2019, p. 1). Furthermore, a participatory research project conducted in the study area demonstrated that cardamom production contributed to the locally defined "good life" of which happiness forms an integral part (Matthys, Acharya, Khatri, 2021). With these results in mind, we would expect to find a

[6] Psychoactive seed of *Areca catechu*, used for chewing; similar to chewing tobacco.
[7] *Thysanolaena latifolia*, tall grass used for manufacturing brooms; leaves serve as livestock feed.

quantitative connection between cardamom production and subjective wellbeing in the study area.

2.2 Data collection

Our analysis relies on quantitative data collected by the FATE project[8] in November and December 2018. The researchers divided the 1080 households of Rong 6 into clusters of cardamom producers and non-producers and then conducted a census survey within three purposively selected clusters – emphasis was placed on cardamom producers since they were the main group of interest for the FATE study. A detailed description of the sampling strategy is given in Subedi and Upreti (2019).

Table 1: Sample characteristics

	Sample		Population
	N	*%*	
Total	791	100%	5,256
> Cardamom producers	640	81%	60%
> Non-producers	151	19%	40%
> Dalits	65	8%	8%
> Non-Dalits	726	92%	92%
> Men	342	45%	52%
> Women	422	55%	48%

Source of population data: Office of the Rong Rural Municipality (2018): Rural Municipal Level Profile, Rong Rural Municipality, Ilam, Nepal.

In total, 791 people from 514 households were interviewed. The interviews were conducted by FATE researchers and trained enumerators using a tablet-based survey that consisted of two parts. In the first part, the team collected information on the demographic and economic situation of the household as well as on agricultural production and sales in different seasons. The second part consisted of questions pertaining to the individual, such as life satisfaction. Whenever possible, the individual part of the interview was conducted with both husband and wife. In our sample, the share of the Dalit[9] minority is 8 per cent which equals the share

[8] Feminization, agricultural transition and rural employment, https://fateproject.wordpress.com/.

[9] The main caste groups in the study area include Brahmin/Chhetri, Dalit, Lepcha, Newar, Rai and Tamang, whereby the latter two form the majority (see Subedi and Upreti, 2019). We used a binary caste variable "Dalit/non-Dalit" because we realised during fieldwork that discrimination against Dalits was still prevalent in the study area despite the explicit ban against caste-based discrimination in the constitution (Government of Nepal , 2015).

of Dalits in the population of Rong 6 (see Table 1), and the share of women in the sample is slightly higher than in the population (55 per cent vs. 48 per cent). In line with the purposive oversampling of cardamom producers intended by the FATE project, the share of cardamom producers is 81 per cent in the sample, compared with 60 per cent in the population.

In addition to the quantitative data collection, we conducted 58 qualitative interviews in the study region. The bulk of these qualitative data were analysed for a different publication (see Matthys et al. (2021) for sampling description and main results). However, in the discussion section of this paper, we use some of the hitherto unpublished qualitative data to contextualise our quantitative findings.

2.3 Data analysis

To assess subjective wellbeing in the context of agricultural commercialisation we use overall life satisfaction, surveyed with the question "Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole?". The survey collected responses on a Likert scale ranging from 1 (not satisfied at all) to 7 (extremely satisfied). Throughout the article, we analyse the data using linear regression: research has shown that assuming cardinality or ordinality makes little difference when analysing subjective wellbeing data (Ferrer-i-Carbonell and Frijters 2004), and parametric analytical techniques can be acceptable for analysing rating scale data if certain conditions are met (Harpe 2015). As a robustness check, we estimated ordered logit models, indicating that our main results do not depend on the statistical model used (see Table 5.1 in the appendix).

An overview of the variables used for the analysis is given in Table 2. To determine the relationship between subjective wellbeing and cardamom production, we included a dummy variable for cardamom producers that assumed the value 1 if the household grew cardamom. For cardamom production, land is a key resource, so we also included a crop land variable which was recorded on a categorical scale from 0 (no land) to 6 (> 2 ha) in steps of 0.5 ha. As cardamom is associated with an elevated living standard (Subedi and Upreti, 2019), we controlled for household assets. From the 16 household assets[10] surveyed in the FATE questionnaire, we constructed a simple asset index that summarised the number of assets

[10]Basic mobile phone, smartphone, tablet, computer, television set, radio, speaker, CD player, fridge, washing machine, bicycle, car, motorcycle, tractor, truck, pick-up.

owned by the household. To better capture non-monetary poverty dimensions, we additionally measured deprivation in living standard, following the approach used by Alkire and Foster (2015) for the construction of the Multidimensional Poverty Index. Our deprivation variable included the dimensions of housing (wall/floor/roof material), electricity, cooking fuel, water access and sanitation. It assumed the value 1 if the household was deprived in more than one of these dimensions – in the study area, many of the wealthier families' houses had an earth floor, and it seemed inappropriate to consider them deprived, so we chose more than one dimension as the deprivation cut-off. Health was assessed subjectively, surveyed with the question "How satisfied are you with your health?" and measured on a Likert scale from 1 to 7. Three additional dummy variables were included that captured information on whether the respondent was male or female, married or unmarried, or belonged to the Dalit caste, and age was likewise taken into account.

In addition to the basic model composed of the above variables, we ran separate regressions for women and men to determine possible gender differences. As increased economic opportunities and greater household decision-making power for women were considered key empowerment outcomes of the shift to cardamom production in the study area (K. C., Upreti, Subedi, 2016; Upreti, Ghale, KC, 2016), we included these variables in the gendered regressions. Financial independence was recorded with a dummy variable based on the question: "Do you alone have any money you can decide what to spend on?". Household decision-making was surveyed with the question: "Did you have any input in decisions on the education of your children (if any)?", measured on a scale from 1 (no input) to 5 (input in all decisions). For this variable, the number of observations is considerably lower compared with the other variables given that not all respondents had children (see Table 2).

Table 2: Summary statistics

Variable	*n*	*Min/Max*	*Mean*	*SD*
Life Satisfaction	764	1/7	5.175	1.189
Cardamom production	791	0/1	0.809	0.393
Crop land	771	0/5	1.328	0.850
Assets	771	0/9	2.591	1.548
Health	764	1/7	4.940	1.207
Married	791	0/1	0.893	0.310
Gender (female)	764	0/1	0.552	0.498
Dalit	791	0/1	0.082	0.275
Age	781	16/86	44.795	14.392
Deprived	773	0/1	0.361	0.481
Decision-making	657	1/5	3.775	1.044
Financial independence	763	0/1	0.841	0.366

3 Results

3.1 Descriptive statistics: cardamom producers indicated higher life satisfaction levels than non-producers

For cardamom producers, the modus of life satisfaction was at level 6, reported by roughly 50 per cent of respondents from a producer household (Figure 1). The modus for non-producers was considerably lower at satisfaction level 4, reported by 41 per cent of respondents from households that did not produce cardamom.

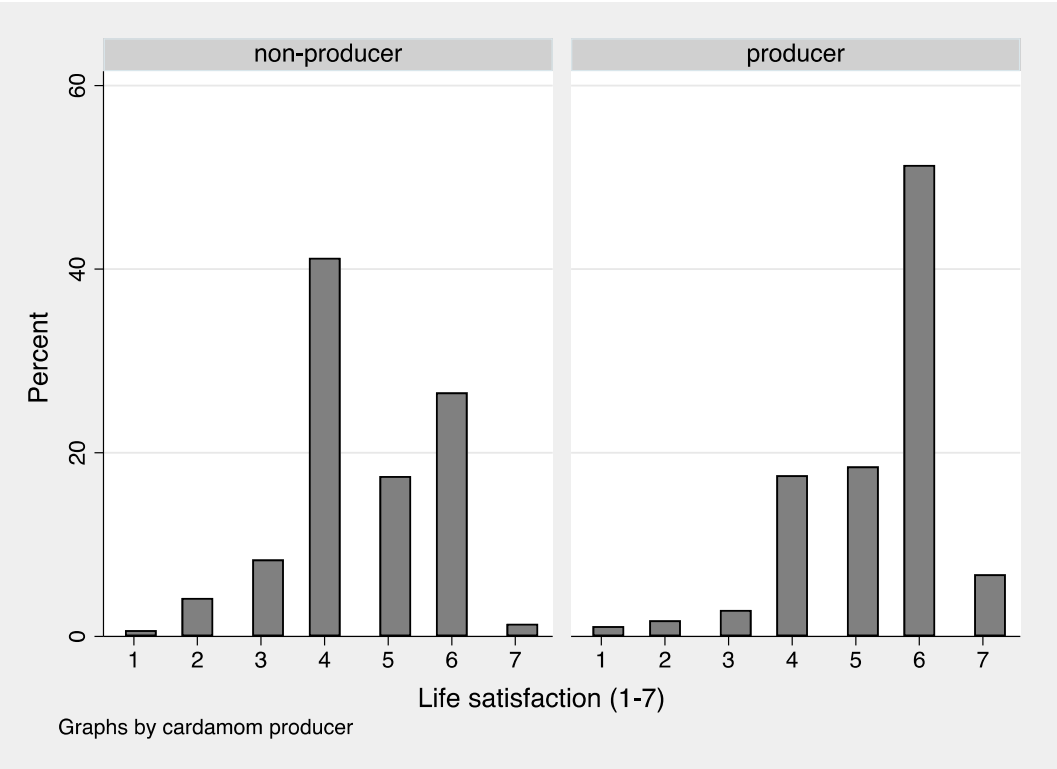

Figure 1: Histogram of life satisfaction for cardamom producers and non-producers

The mean life satisfaction for the entire sample was 5.175, measured on a seven-point scale. For cardamom producers, the mean life satisfaction level was significantly higher than for non-producers: while producers indicated a mean value of 5.4, this value was 4.6 for non-producers (see Table 3). Therefore, the descriptive analysis provides initial indications that life satisfaction was higher among cardamom producers than among non-producers. As can be seen in Table 3, producers and non-producers also significantly differ with regard to crop land, assets, subjective health, deprivation status and caste. We will control for these and other variables when presenting our multiple regression models in the next section.

Table 3: Descriptive statistics of dependent variable and independent variables, by cardamom producers

	N	Mean (SD)		Diff. in means
		Cardamom producers	*Non-producers*	(t-test)
Life satisfaction	764	5.317 (1.148)	4.559 (1.173)	-0.758***
Crop land	771	1.387 (0.873)	1.045 (0.661)	-0.342***
Assets	771	2.815 (1.539)	1.565 (1.120)	-1.250***
Health	764	5.014 (1.180)	4.615(1.272)	-0.399***
Married	791	0.901 (0.298)	0.854 (0.354)	-0.047
Gender (female)	764	0.548 (0.498)	0.573 (0.496)	0.026
Dalit	791	0.091 (0.287)	0.046 (0.211)	-0.443*
Deprived	773	0.319 (0.466)	0.564 (0.498)	0.245***
Decision-making	657	3.753 (1.040)	3.877 (1.571)	0.124
Financial independence	763	1.165 (0.371)	1.133 (0.341)	-.0316

Significance levels: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; two-tailed tests.

3.2 Regression analysis: cardamom production and health were most significant

To explore the link between commercial agriculture and life satisfaction, we estimated a multiple linear regression model with life satisfaction as the dependent variable (basic model, see Table 4). Out of the nine variables included in this model, five were positively and significantly associated with life satisfaction. The variables significant at the 1 per cent level were cardamom producer, crop land size and health. Marriage and assets were significant at the 5 per cent level. In terms of effect size measured by the t-value (coeff./standard error), health was the largest, followed by crop land size and cardamom production. A unit-increase of subjective health results in a 0.48 higher life satisfaction score. Moving from the lowest to the highest value of subjective health (i.e., from 1 to 7) increases life satisfaction by 3.36 units. Also, comparing the lowest (0ha) and the highest values of value of crop land size (2ha+) results in a difference of life satisfaction of 0.94 units on the life satisfaction scale.

Table 4: Estimated effects on life satisfaction (basic model, linear regression)

Variable	*Coefficient*	*Standard Error*
Cardamom producer	0.370**	(0.118)
Crop land size	0.157***	(0.041)
Health	0.484***	(0.045)
Marriage	0.353*	(0.170)
Dalit	-0.008	(0.174)
Age	-0.003	(0.003)
Assets	0.065*	(0.027)
Deprivation in living standard	0.119	(0.095)
Gender (female)	0.001	(0.064)
Constant	1.867***	(0.327)
R-squared	0.327	
Observations	715	

Robust standard errors accounting for the fact that some women and men share the same household are presented in parentheses.
Significance levels: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

We could not determine any significant correlations between life satisfaction and the demographic variables of age, caste, and gender. Likewise, there was no significant correlation between life satisfaction and deprivation in living standard.

3.3 Gendered models: decision-making made a difference

The basic model suggests that there was no gender difference regarding life satisfaction, given that the gender coefficient was close to zero (see Table 4). However, we supposed that even if women and men indicated the same mean satisfaction level, the composition of life satisfaction might have differed. Hence, we estimated the model separately for women and men, thereby including two additional gender relevant variables: household decision-making and financial independence.

Results indicate that in all three models – women's, men's and pooled – three variables were significantly and positively correlated with life satisfaction: cardamom production, land size and health (Figure 2). Gender differences were observable regarding decision-making, financial independence and marriage. In the women's model, decision-making and marriage were positively and significantly correlated with life satisfaction, and financial independence

was negatively correlated with women's life satisfaction. In the men's model, only decision-making was significant in addition to commercial agriculture and health, and the correlation of decision-making with life satisfaction was negative, unlike that of women. Among the variables with gender differences, only the interaction effect of gender with decision-making was significant (see Table 5.4 in the appendix).

In contrast to the basic regression, the correlation with assets was insignificant, albeit positive, when disaggregating by gender. The correlations of all other variables were insignificant, as well, in line with the results of the basic regression.

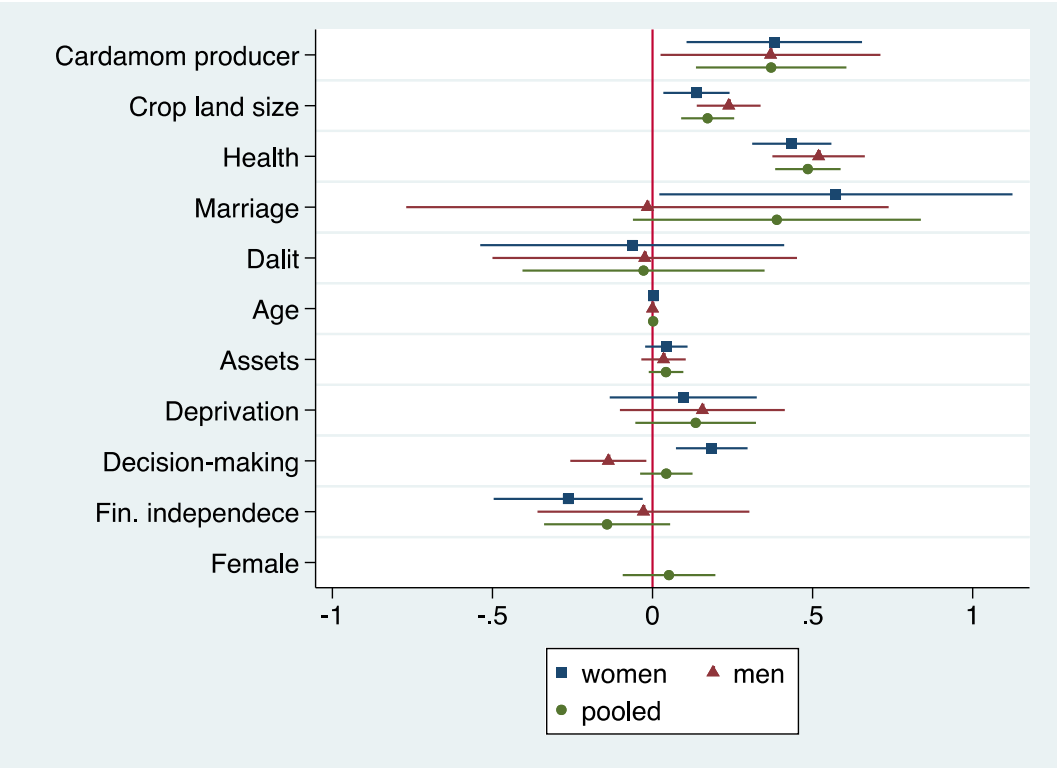

Figure 2: Estimated effects on life satisfaction, by gender, incl. 95 per cent-CI (extended model, linear regression). See Table 5.3 in the appendix for regression tables.

Overall, our results indicate that there is indeed an association between life satisfaction and commercial agriculture: for both women and men, cardamom production and crop land size showed strong positive correlations with life satisfaction. Health was the third variable that was positively associated with life satisfaction in all models. Gender differences were marginal and only significant regarding decision-making, although differing trends were observed for financial independence and marriage, as well. The remaining variables – age,

caste, asset ownership and deprivation in living standard – were not significantly correlated with life satisfaction for either women or men in the gendered model.

4 Discussion and conclusion

The results of our analyses provide evidence for a positive association of life satisfaction and commercial agriculture (i.e., cardamom production), which increases the more that farmers are able to participate in it (i.e. if their land size and type allows this). This is in line with qualitative perspectives from the study region. For instance, a middle-aged female cardamom farmer linked production with income and happiness: "If I am able to have good production from my farm, then I have good income, then I am happy – that is a good life". A male farmer likewise expounded: "Thanks to cardamom production, we can have different kinds of facilities compared to the past, for example cash, income. Compared to before, we are happier". According to these perspectives, the link between cardamom production and life satisfaction appeared to manifest itself through farm income. Similarly, a study on commercial oil palm production in Ghana found a positive and significant effect of contract farming on life satisfaction (Väth, Gobien, Kirk, 2019). The study concluded that the positive outcome was not only based on income but was also related to a sense of security, given that contracts mitigated financial risks and reduced vulnerability. In contrast, cardamom farmers in Nepal faced considerable financial insecurity due to price fluctuations, poor market infrastructure and dependence on India for exports (Acharya et al., 2021). Nevertheless, cardamom helped to overcome financial hardship compared with subsistence production and the production of other cash crops (Matthys, Acharya, Khatri, 2021) – hence, the farmers' financial situation is arguably better than before cardamom, even if prices fluctuate to a comparatively high degree. A different study in Ghana found that engagement in industrial crop cultivation had a positive effect on farmers' objectively measurable wellbeing dimensions; however, there were no subjective wellbeing effects (Ahmed, Dompreh, Gasparatos, 2019). In Rwanda, while land size and life satisfaction were positively correlated, a broader analysis demonstrated that the benefits of agricultural commercialisation were reaped largely by wealthy land owners and cooperative members, leaving landless labourers and especially women behind (Bigler et al., 2019). These very different examples show that while high-value agriculture may be positively associated with life satisfaction in some cases,

the effects of agricultural commercialisation are not unequivocally positive (see also Dawson et al., 2019; Rasmussen et al., 2018). Moreover, even if involvement in commercial agriculture does have positive impacts on life satisfaction for some parts of the population, there might be a correspondingly negative impact on the satisfaction of those not participating in commercial farming. In the case of cardamom production in Nepal, it is important to note that plant diseases have started to threaten yields in recent years - ecological sustainability may be questioned in addition to the economic challenge of price volatility which has become a challenge to the farmers reliant on cardamom as their main income source (K. C., Upreti, 2017). Hence, while the snapshot at one point in time showed a clear positive association between cardamom production and life satisfaction, it is not a given that increasing cardamom production will have positive effects in future.

In addition to the correlation between life satisfaction and commercial agriculture, we found a close association between subjective health and life satisfaction. This likewise corresponds with local perspectives, as exemplified by the statement of a 27-year-old female farmer: “for leading a good life, the most important thing is to be healthy, so if all my family members are healthy then we will have a happy life”. She further explained how cardamom helped him pay for the treatment of family members.

Globally, the positive association of SWB with health is well established (Helliwell et al., 2020; Ngamaba, Panagioti, Armitage, 2017), and wellbeing studies in Nepal likewise found significant associations between SWB and health (Gautam, Saito, Kai, 2008; Park et al., 2018). Hence, as expected, our findings corroborate previous results on the positive relationship of wellbeing and health.

The major limitation of our study is that we could not observe households over time and thus could not study causal effects. A further drawback of our analysis is, despite widespread concerns about its reliability, the lack of income data. In the development context, numerous studies have found positive associations between subjective wellbeing and national income (Diener, Tay, 2015; Diener, Oishi, Tay, 2018; Helliwell et al., 2020) and household income in different study sites including Nepal (He et al., 2018; Howell, Howell, Schwabe, 2006; Mahmud, Sawada, 2018; Addai, Opoku-Agyeman, Amanfu, 2013; Awaworyi Churchill, Appau, Farrell, 2019; Pontarollo, Orellana, Segovia, 2020). Our data, however, allow only for the inclusion of asset ownership and living standard deprivation as income proxies. In the basic

regression, assets were positively correlated with life satisfaction at the 5 per cent-level. This association remained positive but lost significance when including other variables in the gendered regression. Living standard deprivation, however, was not correlated with life satisfaction in any of the regressions. One possible explanation for this is Sen's physical-condition neglect argument:

> "A person who is ill-fed, undernourished, unsheltered and ill can still be high up in the scale of happiness or desire-fulfilment if he or she has learned to have 'realistic' desires and to take pleasure in small mercies. The physical conditions of a person do not enter the view of well-being seen entirely in terms of happiness or desire-fulfilment, except insofar as they are *indirectly* covered by the mental attitudes of happiness or desire." (Sen, 1999, p. 14)

According to this argument, correlations between living standard deprivation and life satisfaction would not be expected in the first place due to adaptive preferences of the deprived respondents. As such, the lack of a deprivation effect would illustrate the limitation of life satisfaction data in capturing the lived realities of people at the bottom of the pyramid. However, when comparing the contemporary living standard in the study region with the situation two decades ago as recalled by the respondents (Matthys, Acharya, Khatri, 2021) it becomes clear that living conditions have significantly improved. Hence, an alternative explanation could be that because of these major improvements in the recent past, living standards were no longer salient at the time of investigation.

Contrary to our expectations, we did not find significant effects for age, gender and caste. Previous research has shown that both age and gender can influence subjective wellbeing (e.g., Camfield, Choudhury, Devine, 2009; Camfield, Guillen-Royo, Velazco, 2010), and the U-shaped relationship of wellbeing and age over the life course has been a matter of recent academic debate (Bittmann, 2020; Blanchflower, 2020; Diener, Oishi, Tay, 2018). Our analysis failed to establish a U-shaped relationship of SWB and age; this could possibly be due to different life expectancies which "might mask the relation between changes in the life cycle of a person and their subjective wellbeing" (Reyes-García et al., 2016, p. 787). As we did not have longitudinal data, we could not separate age, period and cohort effects. Regarding caste, a study from India found that higher castes were happier than lower castes, but the direct effect of caste was limited: instead, caste affected wellbeing mainly through socio-economic

differences and comparisons between castes (Fontaine, Yamada, 2014). As in our sample Dalits did not have significantly fewer assets than non-Dalits, it is perhaps no surprise that we did not find a caste effect on life satisfaction. However, the lack of an SWB difference does not imply that there is no caste-based discrimination in Nepal (see Pyakurel, 2021; Devkota, Eklund, Wagle, 2020). Rather, it seems like quantitative life satisfaction analysis might not be the most appropriate tool for assessing structural discrimination.

Similarly, the analysis did not reveal significant gender differences in satisfaction levels. This is in line with findings from numerous other low-income countries where gender differences were not significant when other variables such as socio-economic factors were held constant (Beja, 2013; Kieny, Flores, Maurer, 2020; Reyes-García et al., 2016). However, as for the caste issue outlined above, this finding should be interpreted with caution: satisfaction level equality between men and women does not indicate gender equality in the society. On the contrary, recent studies from east Nepal illustrated the prevalence of gender-based violence (Dahal, Joshi, Swahnberg, 2019) and deplored the persisting patriarchal culture in the region that deprived women of access to resources and property (K. C., 2019). Apparently, the agricultural transformation did have a positive influence on women's empowerment through the formation of cooperatives and through creating economic opportunities in high-value agriculture for women which lead to increased decision-making power (K. C., Upreti, Subedi, 2016; Upreti, Ghale, KC, 2016). However, women's involvement in the agricultural value chain was found to be limited to production and basic processing, whereas the more profitable activities such as trading continued to be dominated by men (Upreti et al., 2018). Hence, while the shift to cardamom production seems to have exerted some positive impact, gender equality still seems a long way off. Life satisfaction data cannot not capture such gendered dynamics, and it is important to bear in mind this limitation when working with SWB data. In general, as gender and caste issues are highly complex and sensitive topics, quantitative data cannot replace a careful qualitative analysis, and a combination of the two would be ideal.

While the results of the gendered regression confirmed the key findings of the basic regression – for both women and men, cardamom production, land size and health were positively correlated with life satisfaction – we found gender differences regarding decision-making and financial independence. As anticipated, women's household decision-making and women's life satisfaction were positively correlated. Contrary to our expectations, however, women's

financial independence was negatively associated with their life satisfaction. This could be a consequence of male out-migration which is widespread in Nepal: when men migrate to other countries for employment, they often are away for several years. If the women left behind do not live with their in-laws, they become de-facto household heads with considerable financial independence (Gartaula, Visser, Niehof, 2012). While the remittances contribute to objective wellbeing through reducing poverty and improving food security (Wagle, Devkota, 2018; Gartaula et al., 2017), the absence of the husband can increase the burden of work and responsibility on the women left behind, which influences their wellbeing negatively (Gartaula, Visser, Niehof, 2012; Lahiri-Dutt, Adhikari, 2016). For men, household decision-making was negatively correlated with their life satisfaction. We do not have a cogent explanation for this finding, but we suspect that the domestic sphere might still be considered the women's realm, and men might perceive the need to take such decisions as a burden. It is important to note, though, that the decision-making variable we used only captured decision-making with regard to children's education, whereas other relevant decision dimensions such as the acquisition of household items or agricultural production were not included. Marriage was positively correlated with women's life satisfaction but not with men's which is notable in light of the "universally tested positive effect of marriage" demonstrated in other contexts (Reyes-García et al., 2016, p. 786). However, when calculating the gendered interaction effects, only decision-making was significant, so the gendered differences regarding the other variables should be interpreted with caution.

In summary, there is a clear and positive association between commercial agriculture and life satisfaction which is stable when disaggregating the data by gender. Regarding agricultural development, our results thus suggest that improvements in the agricultural domain could potentially lead to increased life satisfaction for both women and men. However, agriculture is certainly not the only relevant variable, as the strong positive correlation between life satisfaction and health demonstrates. In addition, it is important to bear in mind that our analyses provide merely a snapshot of the situation at one point in time and do not capture the farmers' vulnerability vis-à-vis fluctuating prices and plant diseases – sustainability is not guaranteed, neither economically nor ecologically. The absent effects for gender, caste and deprivation in the basic regression point to a potential drawback of SWB measures in development: if life satisfaction is the only measure used, researchers and decision-makers

may risk overlooking other important dimensions such as inequality based on gender or caste. Hence, if SWB data is to inform policy making as some researchers have suggested (Kingdon, Knight, 2006; Kroll, 2015; Diener, Oishi, Tay, 2018) it would be advisable to combine such measures with substantive data on gender equality and on the socio-economic situation of different social groups.

5 Appendix

5.1 Robustness checks comparing linear regression and ordered logit models

	Pooled		Women		Men	
	OLS	Ordered Logit	OLS	Ordered Logit	OLS	Ordered Logit
Cardamom producer	0.371**	0.749**	0.381**	0.874**	0.369*	0.640+
	(0.120)	(0.241)	(0.139)	(0.288)	(0.175)	(0.361)
Crop land size	0.172***	0.443***	0.137**	0.381**	0.238***	0.571***
	(0.0422)	(0.0995)	(0.0527)	(0.123)	(0.0507)	(0.117)
Health	0.485***	1.125***	0.435***	1.053***	0.519***	1.190***
	(0.0520)	(0.119)	(0.0630)	(0.150)	(0.0734)	(0.170)
Marriage	0.388+	0.658+	0.573*	0.983*	-0.0158	0.0646
	(0.229)	(0.371)	(0.281)	(0.432)	(0.383)	(0.721)
Dalit	-0.0281	-0.0347	-0.0633	-0.121	-0.0242	0.0196
	(0.192)	(0.378)	(0.241)	(0.476)	(0.242)	(0.506)
Age	0.00186	0.00438	0.00253	0.00357	0.0000682	0.00260
	(0.00325)	(0.00683)	(0.00396)	(0.00843)	(0.00412)	(0.00881)
Assets	0.0421	0.136*	0.0434	0.127	0.0344	0.125
	(0.0275)	(0.0641)	(0.0337)	(0.0814)	(0.0352)	(0.0785)
Deprivation	0.135	0.247	0.0960	0.188	0.156	0.278
	(0.0958)	(0.197)	(0.117)	(0.247)	(0.131)	(0.270)
Gender (female)	0.0513	0.112				
	(0.0736)	(0.162)				
Decision-Making	0.0430	0.128	0.185**	0.449***	-0.138*	-0.246+
	(0.0416)	(0.0935)	(0.0569)	(0.129)	(0.0604)	(0.134)
Fin. independence	-0.142	-0.224	-0.264*	-0.446	-0.0283+	-0.149
	(0.100)	(0.210)	(0.118)	(0.254)	(0.168)	(0.426)
Constant	1.650***		1.380**		2.498***	
	(0.450)		(0.513)		(0.740)	
Cut point 1		2.472*		3.207*		0.447
		(0.997)		(1.277)		(1.544)
Cut point 2		3.783***		4.295***		2.086
		(0.961)		(1.131)		(1.559)
Cut point 3		4.668***		5.120***		3.113*
		(0.958)		(1.098)		(1.557)
Cut point 4		7.007***		7.740***		5.319**
		(1.006)		(1.187)		(1.630)
Cut point 5		8.173***		8.907***		6.538***
		(1.037)		(1.239)		(1.662)
Cut point 6		11.95***		13.00***		10.11***
		(1.141)		(1.425)		(1.745)
N	620	620	336	336	284	284
Adj. R^2	0.313		0.325		0.324	
McFadden R^2		0.160		0.173		0.170

Robust standard errors accounting for the fact that some women and men share the same household are presented in parentheses. Significance levels: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

5.2 Correlation table

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Life satisfaction	1											
2. Cardamom producer	0.25	1										
3. Crop land size	0.2	0.15	1									
4. Health	0.52	0.13	0.12	1								
5. Marriage	0.12	0.06	0.04	0.03	1							
6. Dalit	-0.06	0.06	-0.1	-0.08	-0.02	1						
7. Age	-0.16	-0.04	-0.01	-0.25	-0.13	0.13	1					
8. Assets	0.20	0.31	0.31	0.07	0.13	-0.02	-0.06	1				
9. Deprivation	-0.08	-0.19	-0.15	-0.08	-0.07	0.04	0.1	-0.38	1			
10. Decision-Making	0.06	-0.05	0.06	0.13	-0.06	-0.04	-0.09	-0.13	-0.03	1		
11. Fin. independence	-0.08	-0.03	0.06	-0.08	0.03	-0.04	0.03	-0.08	-0.05	0.34	1	
12. Gender (female)	-0.03	-0.02	-0.03	-0.05	-0.07	0.00	-0.18	-0.05	0.00	-0.20	-0.19	1

5.3 Gendered models: linear regression tables

	Pooled		Women only		Men only	
Variable	*Coefficient*	*Std. Err.*	*Coefficient*	*Std. Err.*	*Coefficient*	*Std. Err.*
Cardamom producer	0.371**	(0.120)	0.381**	(0.139)	0.369*	(0.175)
Crop land size	0.172***	(0.042)	0.137*	(0.053)	0.238***	(0.051)
Health	0.485***	(0.052)	0.435***	(0.063)	0.519***	(0.073)
Marriage	0.388+	(0.229)	0.573*	(0.281)	-0.016	(0.383)
Dalit	-0.028	(0.192)	-0.063	(0.241)	-0.024	(0.242)
Age	0.002	(0.003)	0.003	(0.004)	0.000	(0.004)
Assets	0.042	(0.027)	0.043	(0.034)	0.034	(0.035)
Deprivation	0.135	(0.096)	0.096	(0.117)	0.156	(0.131)
Decision-Making	0.043	(0.042)	0.185**	(0.057)	-0.138*	(0.060)
Fin. independence	-0.142	(0.100)	-0.264*	(0.118)	-0.028	(0.168)
Gender (female)	0.051	(0.074)	-		-	
Constant	1.650***	(0.450)	1.380**	(0.513)	2.498**	(0.740)
R-squared	0.325		0.345		0.348	
Observations	620		336		284	

Robust standard errors accounting for the fact that some women and men share the same household are presented in parentheses. Significance levels: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

5.4 Gendered interaction effects, linear regression models

Variable	*Coefficient*	*Standard Error*
Cardamom producer	0.372***	(0.116)
Crop land size	0.186***	(0.042)
Health	0.523***	(0.072)
Interaction: female#health	-0.094	(0.084)
Decision-making	-0.132*	(0.058)
Interaction: female#decision-m.	0.317***	(0.080)
Financial independence	-0.015	(0.165)
Interaction: female#fin. indep.	-0.254	(0.196)
Marriage	-0.018	(0.376)
Interaction: female#marriage	0.594	(0.457)
Dalit	-0.048	(0.191)
Age	0.001	(0.003)
Assets	0.040	(0.027)
Deprivation	0.125	(0.094)
Gender (female)	-1.046	(0.678)
Constant	2.449***	(0.650)
R-squared	0.346	
Observations	620	

Robust standard errors accounting for the fact that some women and men share the same household are presented in parentheses. Significance levels: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

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4 The role of high-value agriculture in capability expansion: Qualitative insights into smallholder cash crop production in Nepal, Laos and Rwanda

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Abstract

High-value agriculture contributes to rural incomes, but does it also contribute to expanding "human capabilities" (Sen, 1999) in a durable way? Through long-term qualitative fieldwork in three landlocked LDCs – Nepal, Rwanda, and Laos – resulting in over 150 interviews, we found expansions of the three analysed capabilities: paid work, mobility, and social relations. Yet, those improvements were characterised by precariousness: they were mostly not resilient in the face of the economic and environmental risks that high-value agriculture entails. The only example of a durable capability expansion was found in Nepal, where women claimed social spaces through collective organisation. All three study sites showed remarkable consistency in that the considerable risk involved in cash crop production was mainly borne by farmers and rural labourers. Research on mechanisms to guard against these risks at household or individual level is warranted.

Keywords: capabilities approach, cardamom, coffee, commercialisation, gender, employment, labour, risk

1 Introduction

Agriculture is an important sector in most low-income countries, accounting for almost 60% of employment (FAO, 2021). High-value agriculture (HVA) in particular has shown great promise for development interventions, offering a pathway out of poverty in agriculture-based economies (Ogutu, Qaim, 2019; Kafle et al., 2022). Yet, HVA is likely to increase not only profits but also financial and environmental risk (Riwthong et al., 2017; Walsh-Dilley, 2020). Hence, for sustainable agricultural development, rural people's resilience – i.e., their capacity to absorb disturbance and to reorganise while maintaining essential functions (Walker et al., 2004) – is most important.

Economic prosperity is an important driver of development in low-income countries, but it is not only increasing incomes that drive positive change. Originating in the seminal works of Amartya Sen (1999) and Martha C. Nussbaum (2011) the Capabilities Approach (CA) has gained popularity in development studies (Lopez-Fogues, Cin, 2018). The CA distinguishes between *functionings* — "the various things a person may value doing or being" — and *capabilities* — "the substantive freedom to achieve alternative functioning combinations" (Sen, 1999, p. 75). To cite Sen's most prominent example, it is important to differentiate between a person who is starving, i.e., without the capability to eat enough food, and a person who is fasting. The fasting person chooses to eat very little for personal reasons – s/he does have the capability but chooses not to transform it into a functioning. Even if the fasting person has a poor nutritional status, only the starving person can be considered deprived. Development, according to Sen, should not focus on maximising people's functionings. Rather, development should aim to expand people's capabilities, thus enabling people to make their own choices so that they can lead the lives they value or have reason to value.

Sen's framework has been widely accepted on a theoretical level but its application in empirical studies remains problematic. Numerous approaches to operationalising the CA – such as the Human Development Index (HDI) and the Multidimensional Poverty Index (MPI) – measure functionings as proxies for capabilities, thereby conflating the person who is fasting with the person who is starving. While the HDI, the MPI and other CA-based measurements undoubtedly are valuable in capturing non-monetary dimensions of development (Alkire, 2008) they cannot offer a capability analysis *per se*. To assess whether

people can lead the lives they value and have reason to value, we need to look beyond functionings. In addition, while the CA has been used abundantly to research various development-related topics such as health (White et al., 2016) and digitalisation (Kleine, 2010), few scholars have applied the CA to agricultural development. This is noteworthy given the importance of agriculture to low-income countries' economies.

In this paper, we analyse whether high-value agriculture has contributed to expanding rural people's capabilities, using qualitative data from Nepal, Laos and Rwanda. We tease out changes in capabilities through a four-stage qualitative procedure, assessing both changes in functionings and capabilities. We evaluate the relationship of these changes to developments in HVA and assess which of the detected capability expansions are resilient in the face of risks associated with cash crop production. Using gender and class as variables we offer a rich qualitative account of capability changes in different Global South countries.

2 Research design

2.1 Operationalising capabilities in the context of high-value agriculture

Capabilities are extremely hard to measure because they "represent a set of *potential* outcomes and as such are difficult to identify empirically" (Ruggeri Laderchi et al., 2003:255). To refer to Sen's example, the main function of the capabilities approach is not to determine what someone is eating and how much, but to assess the level of freedom to make nutritional choices. While quantitative methods can capture directly observable socio-economic achievements (functionings), qualitative methods are better suited to grasping the context and meaning of people's actions. As such, they can help us to understand the degree of choice exercised by individuals or groups and enable us to appreciate human potential (capabilities).

In this paper, our objective was to go beyond functionings and reveal the extent to which HVA has contributed to increasing the "substantive freedom […] of people to lead the lives they value and have reason to value and to enhance the *real choices* they have" (Sen, 1999:293, italics added). With this in mind, we revisited Ingrid Robeyns' (2003) capability list and expanded her capability definitions to match the agricultural contexts we were working in. The remainder of this section outlines how we operationalised three capabilities that are intricately linked with HVA: paid work, mobility, and social relations.

2.1 1 Paid work

Robeyns defines paid work as "being able to work in the labor market" (Robeyns, 2003:72). In the context of HVA, we contend that this must include all forms of remunerated work, whether self-employed or employed by others, paid in cash or in kind, including disguised employment forms such as sharecropping. Most importantly, for a life people have reason to value, this economic activity must meet minimum decent working conditions such as offering a living wage and not being health-threatening (see ILO, 2019). To accommodate these considerations, we defined the paid work capability as the *ability to gain sufficient income in a decent way*.

2.1.2 Mobility

Robeyns' definition of the mobility capability is straightforward: "being able to be mobile" (2003:72). Like Robeyns, we limited our analysis to the *ability to move between geographic locations* (as opposed to social mobility), and we did not investigate migration in detail. Instead, we analysed the everyday spatial mobility of people involved in HVA production. This capability requires material access (a road and a means of transport), financial access (money to buy fuel or a bus ticket), a social setting that allows the use of the means of transport, and the necessary knowledge and skills, such as knowing how to drive. Once these conditions are met, people have the capability to be mobile – regardless of the degree to which they choose to transform this capability into a functioning, i.e., into observed mobility.

2.1.3 Capability for social relations

Robeyns defines the social relations capability as "being able to be part of social networks and to give and receive social support" (Robeyns, 2003:72). We retained Robeyns' definition but limited our investigation to social relations that were directly related to HVA. We included agricultural cooperatives, savings groups that enabled members to make agricultural investments, as well as informal support networks that provided emergency support, for instance when a household ran out of food.

2.2 Study areas and empirical strategy

This article is based on rich original qualitative data from Nepal, Laos and Rwanda. The three mountainous landlocked "Least Developed Countries" (LDCs, see UNCTAD, 2021) with a high

share of agricultural GDP (see Table 1) have a particular policy focus on HVA, fostering the production of cash crops such as cardamom and coffee (Bieri, 2014). Data were collected by researchers affiliated with the FATE Project (Feminization, Agricultural Transition and Rural Employment, see https://www.fate.unibe.ch/) using focus group discussions, semi-structured interviews and key informant interviews, among others. In addition to the overview presented here, detailed accounts of study sites, sampling and data collection are in FATE researchers' previous publications (Bieri, 2014; Matthys et al., 2021; Acharya et al., 2020; Illien et al., 2022; Illien et al., 2021; Seneduangdeth et al., 2018; Subedi, Upreti, 2019).

Table 1: Overview of key national statistics in the study countries

	Nepal	**Lao PDR**	**Rwanda**
GDP share of agriculture[11]	21.58%	15.17%	23.54%
Share of agricultural employment[12]	64%	61%	62%
Share of MPI poor[13]	18%	23%	54%
Global Gender Gap Rank[14]	106	36	7
People per km[15]	205	32	516

The steep forested hills of the Rong 6 village area in Ilam, **eastern Nepal**, are a site of significant recent agricultural change. Three decades ago, the first large cardamom (*Amomum subulatum* Roxb.) saplings were brought across the border from India, and the cultivation of this high-value crop spread rapidly to the three villages Salakpur, Jirmale and Rambeng of Rong 6 (K. C., 2019). Today, cardamom production is the major source of the region's income (Subedi, Upreti, 2019). Thanks to the high market value of cardamom, rural incomes have increased considerably compared to pre-cardamom times. However, since 2015 world market price shocks have posed new challenges as farm-gate prices significantly dropped. In Nyamasheke, **western Rwanda**, and the Bolaven Plateau, **southern Laos**, the major cash crop

[11] https://www.theglobaleconomy.com/rankings/Share_of_agriculture/, accessed 05/21/2022.
[12] https://ilostat.ilo.org/, data retrieved 01/19/2022.
[13] https://www.weforum.org/reports/global-gender-gap-report-2021/, accessed 05/21/2022.
[14] https://ophi.org.uk/global-mpi-report-2021/, accessed 05/21/2022.
[15] https://worldpopulationreview.com/country-rankings/countries-by-density, accessed 05/21/2022.

is coffee. While the crop itself is not new to farmers – in Rwanda, coffee has been produced since 1904 (Guariso et al., 2012) and in Laos since around 1920 (Galindo, Sallée, 2007) – rural lives have changed as a result of agricultural modernisation programmes, including green revolution-style policies in Rwanda (Ansoms et al., 2018) and the promotion of large-scale land concessions in Laos (Kenney-Lazar et al., 2018). In all three sites, HVA production is strongly influenced by fluctuating world market prices.

This study is based on long-term fieldwork in the three study areas, resulting in 101 interviews, 10 short case stories and 4 focus group discussions from Nepal; 23 interviews, 13 focus group discussions and 2 life histories from Laos; and 30 interviews as well as 3 life histories from Rwanda. For this paper, the interviews from Nepal constituted the core data while data from the other two countries were used to contextualise and compare the findings.

Initially, the data were collected and analysed to gain an in-depth understanding of the effects of agricultural transformation processes within each country. In this paper, our intention was to move beyond the single-country case study and compare findings across countries (see Hantrais, 2009). Using CA as an analytical tool, we re-analysed the existing data using four systematic questions. First, we summarised *changes in functionings*, thus demonstrating observable changes in the respondents' lives which have occurred in the study regions. Second, we traced *changes in capabilities*. Teasing out whether the substantive freedoms underlying respondents' actions have changed is not straightforward, especially as direct questions about capabilities mostly do not yield the desired results because the concepts are too abstract (Lienert, Burger, 2015). Therefore, we carefully checked coded interview transcripts for signs of respondents' increased freedoms – regardless of changes in functionings. We thereby identified patterns which we have illustrated with respondents' original quotes in the Results section, reducing these to a minimum due to space constraints. Third, we assessed the *link to high-value agriculture*, investigating how cash crop production affected capabilities. Fourth, we investigated *capability resilience*, defining a capability expansion as *resilient* when it is durable despite changing economic, social, and environmental farming conditions. Inspired by Robeyns (2003), we differentiated our data by gender on both the functioning and the capability level. In addition, wherever possible we differentiated between upper and the lower socio-economic strata, bearing in mind potential intersections with gender.

We aimed to analyse existing data using the capabilities approach as a conceptual framework. We intended to understand whether CA could be used to synthesise research results across national contexts and justify a certain degree of generalisability. Importantly, our aim was not to provide an exhaustive analysis of a full capabilities list but rather to exemplify the approach using in-depth descriptions of selected capabilities. What we offer is, first, an example of how the capabilities approach can be used for cross-country synthesis of qualitative data and, second, analytical insights into the gendered capability outcomes of agricultural development.

3 Results

3.1 Paid work: being able to gain sufficient income in a decent way

The shift to cardamom production in the Nepali study region fundamentally altered agricultural labour market opportunities. Cultivating cardamom involves various manual agricultural tasks (e.g., weeding, harvesting, etc.) for which larger farms need additional labour. Agricultural labourers mostly farm on a small piece of land, but their revenue is insufficient to meet household needs, so they depend on paid agricultural labour in addition to own-account farming. Compared with pre-cardamom times, today it is easier to find employment and the pay is better, as a middle-aged female labourer explained: “Before, we used to get 150 to 200 rupees per day, but now, in cardamom, the daily wage is 300 to 350 rupees. The value of cardamom is higher, and the wage rate has likewise increased”. While women and men reported the same daily wages for specific tasks, the heavier and riskier activities such as drying and transporting cardamom were carried out almost exclusively by men and were rewarded with a higher wage (400-500 NPR for drying, 1000 NPR for transporting). On average, female labourers earned less than male labourers because of their disproportionate involvement in lower-paid work.

Working in cardamom may have adverse health effects on both farmers and labourers. First, harvesting takes place in the rainy season, and both farmers and labourers reported flu-like symptoms, back pain and joint pain linked to the weather conditions. A middle-aged female farmer explained: “I like the work in the cardamom because the income is higher [laughs]. But we also face hardship in this cardamom. […] Harvesting takes place in the monsoon

season and while working we suffer from the cold". A second challenge is the work at the local small-scale drying plants, which is considered too risky for women because of the need to spend the night outdoors and because of previous fire incidents. This activity is exclusively done by men, as a widowed middle-aged woman with a medium-sized farm explained: "I always hire men for […] drying cardamom. I and other women in the village prefer not to do this work for safety reasons. The process of cardamom drying takes 24 hours or more, the drying plant is separate from home and the work requires us to stay outside during the night." A third challenge is cardamom processing, which can have adverse health effects, as described by a middle-aged female labourer: "We suffer from severe sneezing, the common cold, fevers and headaches while working in head-and-tail cutting. […] I am doing this job to make a living rather than out of choice." On the other hand, the increased income from cardamom production helps both farmers and labourers to cover hospital bills. Wealthy farmers even take their family members to expensive private hospitals in town rather than using the local public hospital.

For self-employed farmers, household incomes significantly increased after the introduction of cardamom. Until 2015, prices rose steadily, but a sharp price drop in the following years posed a challenge to many. Consequently, numerous households maximised family labour to reduce production cost. Another coping strategy pursued by farming families was out-migration of male family members to cities or abroad to offset the decreased farm revenue with non-farm income. These families required more help on their farms so the demand for casual labour remained high. Overall, despite the lower market price and high production costs, it is still valuable to produce cardamom, as explained by a middle-aged female farmer with a large farm: "Even though the cardamom price is lower now […] it is still a high amount compared with other cash crops, even after paying the labourers".

In addition to price fluctuations, plant diseases have caused a decline in cardamom production. Several farmers with small plots have already returned to subsistence farming to mitigate risk and ensure household food supply. While diseases are yet to spread across the entire region, rumours have spread everywhere, as a female farmer explained: "Everyone from the lower part of the village says the diseases are spreading there. […] I don't think there is a future for cardamom." However, to date, cardamom remains the primary income source.

In the study sites in Laos and Rwanda, HVA likewise is the main income source for the rural population. In the context of land scarcity in Rwanda, agricultural wage labour is particularly important: over 80% of the households in the study region own less than 0.25 ha of operational landholdings (Illien et al., 2021), meaning that own-account farming is insufficient to meet household needs. Seasonal jobs in coffee processing stations or casual labour on larger farms are therefore welcome opportunities, even though the working conditions pose challenges in their own right: the daily pay rate of about 0.7 USD is insufficient to cover a family's basic needs.

Food insecurity is widespread and working on an empty stomach is common. In a context of persistent food insecurity, even the sick and the elderly try to find casual labour opportunities in coffee farms. Elderly people are paid less than the young, if they are hired at all: "go home, you're old, you can't do anything" are words that often meet an elderly male respondent's enquiries about job opportunities. An elderly widow explained her difficult situation: "I didn't manage to look for a job so that I can provide food for my family, because I am sick, and nobody is willing to hire me when I am not in good health." A healthy body is apparently a precondition to access paid work even though it is difficult to recover from illness and regain strength when there is not enough food.

Even if they are healthy, women are discriminated against in the labour market – they are excluded from the higher-paid male-dominated construction and transportation sectors altogether, and in agriculture they receive a lower daily wage than men (700 RWF for women compared to 750 RWF for men - about 0.68 and 0.73 USD). Hence, women face the triple burden of labour market discrimination, own farm production, and care work.

Larger landowners in Rwanda usually employ others on their farm and can also access more stable jobs in the non-agricultural sector. Many of them lease out parts of their land in unequal sharecropping arrangements in which half of the harvest is owed to the landowner. Still, only a fraction of the larger farmers earn enough from coffee production to re-invest and grow their businesses. The majority of the population remains dependent on a precarious combination of marginal farming and informal wage employment, which does not enable year-round food security, let alone investment.

This difficult situation is further aggravated by fluctuating world market prices. The world market price for coffee had dropped from about 300 USD/lb in 2011 to less than 100 USD/lb in 2018[16], with implications at farmgate level. A wealthy farmer involved in coffee trading recalled: “The farmgate price has been decreasing [...]. Farmers are not happy with that, and they are not motivated at all.” He emphasised that farmers need stability and forecasted that if the price keeps falling, “some will start to cut down their coffee trees and plant cassava instead from which they can benefit more.”

In Laos, alternative cash crops (cassava, durian, avocado) have become increasingly attractive to farmers after the coffee price fell. Farmgate prices fluctuate daily with the world market price, making for a very unstable situation. During an interview in 2018, an elderly male farmer explained: “coffee and cassava […] yield almost the same price per hectare. However, producing coffee is more labour-intensive and requires more farm workers.” Because the net income per hectare was higher for cassava, he converted his 5 ha coffee plantation into a cassava field. Unexpectedly, since 2018 the coffee price has been increasing again, peaking at over 200 USD/lb at the end of 2021. His case exemplifies the difficulty of taking long-term decisions in the face of ever-fluctuating cash crop prices. Unlike in Rwanda, however, land scarcity is less pronounced in Laos, so food security was not immediately threatened when prices fell. The mean operational landholding is about 2.84 ha, whereas it is only 0.29 ha in Rwanda (Illien et al., 2022). While most women make their living from family-owned coffee farms, men can find additional labour opportunities either outside the agricultural sector or in HVA, for instance in company-owned coffee or rubber farms.

Workers on company-owned coffee plantations do not get health insurance coverage, but they at least receive first-aid treatment in case of an accident at work. In contrast, on private coffee farms, no treatment is paid for by the landowner. At the same time, landowners usually delegate the more dangerous tasks to labourers, such as weeding using a cutting machine. In that way, larger landowners benefit twofold: through outsourcing work-related risk to labourers and through reaping the economic benefits of HVA, which allows them to afford proper healthcare for themselves and their families.

[16] https://tradingeconomics.com/commodity/coffee, accessed 05/21/2022.

In all three study regions, HVA provides a major source of employment for the rural population. The Nepali case illustrates an early stage after the introduction of a new and lucrative cash crop, followed by job creation and a steep increase in rural wages. The examples of Laos and Rwanda showcase long-term developments, several decades after a cash crop was introduced. While the overall wealth level differed considerably between the case studies, all three cases are characterised by precariousness – on the side of labourers who are scraping by at or beneath the poverty line and work under difficult conditions, as well as on the side of small to medium sized farmers who struggle with fluctuating prices. Additionally, female labourers on average earn less than male labourers because of their disproportionate involvement in lower-paid activities and/or because of the gender pay gap in casual agricultural labour. Notably, in all three case studies, only the larger landowners seem to earn a living wage they can rely on. In contrast, the livelihoods of both labourers and smaller farmers depend on fluctuating world market prices. Even in the case of the cardamom success story in Nepal, where comparatively well-paid rural job opportunities increased in the short term, our findings demonstrate how quickly these opportunities can vanish when prices fall, or plant diseases spread. In our study sites, many farmers and labourers were not able to earn enough to live in a decent way, as incomes were insufficient and/or the work had adverse health effects. For the few who had expanded their capability for paid work thanks to HVA, the expansion was not resilient in the face of the financial and environmental risks associated with cash crop production.

3.2 Mobility – being able to move between geographical locations

Under the Nepali policy to connect rural areas with market centres, Salakpur village was connected to the road network in 2015. This improvement in infrastructure entailed a range of changes. Before the road was built, women and men of all social strata had to walk for about 1.5 hours to reach the road, and transporting goods was cumbersome. Today, an affordable bus service (120 NPR, equivalent to 1 USD) runs twice daily between Salakpur and the nearest town 25 km away. Consequently, both women and men go to the market more often to sell crops and to buy household items, the sick can be taken to hospital more easily, and some of the children are schooling in town. Compared with the times before the road was built, mobility choices have increased.

While the road was built independently of HVA, cash-crop production did have significant influence on the use of the road. As the construction of the road coincided with a peak in cardamom prices, many families were financially comfortable by the time the road was completed. Many middle-class families bought a motorbike, and a few wealthy families even could afford a car. A middle-aged female respondent explained that before they produced cardamom, “we didn't have money for a motorbike, […] the income was only sufficient for running the household. From selling cardamom we could afford to buy the bike.” Another respondent of a similar age stated that she was happy that her family owns a bike because “whatever time we prefer we can travel, we don't need to wait for the bus”. Hence, those who could afford a private means of transport have even greater mobility choices compared to those who depend on public transport.

However, when asked why the family chose to buy a motorbike, the first respondent explained: “That was due to the interest of my husband. He wanted to buy the bike and learn how to ride it.” In fact, even though women are in favour of buying a vehicle for various reasons, their direct benefit from this asset is limited, as it is very uncommon for women to ride motorbikes or drive cars. This limited freedom to use vehicles on their own has consequences for other freedoms, as illustrated by the case of a middle-aged woman from a middle-class family. She was invited to a women’s entrepreneur event at Rong Rural Municipality, which is only about 10 km away as the crow flies. However, the dirt road leading to Rong is very rough and leads through steep hills, and there is no public transport available on that road. To reach Rong, those who cannot go by motorbike have to accept a detour of 60 km, and it is not possible to return on the same day, as the journey by bus takes over 5 hours one-way. Hence, even though the respondent wanted to, she could not attend the women’s entrepreneur event. In the end, she requested her husband to go on her behalf and pass the information on to her after his return, as he could use the shortcut on his motorbike. They could not go together because one of them had to stay at home to take care of the farm and the family business. She felt unhappy about not being able to participate, and she encouraged her 20-year-old daughter to learn how to ride a motorbike so that she could be independently mobile in future and benefit from such opportunities.

Despite these inequalities in transportation, it is important to note that HVA did also increase mobility opportunities specifically for women. First, women who previously did not have

much reason to leave the village on their own now can go to the town market regularly by bus to sell cash crops such as vegetables and buy food and household items. Second, the Jirmale Women's Agriculture Cooperative brings together women from the three villages in Rong 6 and offers participation in district-level events. Third, governmental and non-governmental institutions offer trainings related to HVA that increase women's opportunities and confidence, as illustrated by this statement from a middle-aged female small-scale farmer:

> "If my movement were restricted, I would not be in the place I am now. 10 years ago, I went to Fikkal for a residential training and stayed there for a week. After the training, I established a cardamom nursery. I became the top woman nursery farmer in the village and the District Agriculture Development Office provided me with an opportunity for an exposure visit to different parts of the country. When I am away from home, my husband takes care of everything. I have been to Jhapa, Ilam and other parts independently, without needing the support of anyone. Here, women do not face constraints on their mobility."

Finally, it is important to mention that male and female agricultural labourers also expanded their range of movement after cardamom was introduced because they could find more labour opportunities in neighbouring villages. While this undoubtedly increased their mobility on the functioning level compared with pre-cardamom times, we do not count this movement as a capability expansion: casual labourers have to be mobile, they cannot choose to stay at home and live off subsistence farming because their farm is too small. It is important to keep in mind that higher mobility *per se* does not necessarily imply greater freedom to be mobile. This is another example of the importance of differentiating between functioning and capability.

In Rwanda, the government likewise has invested heavily in infrastructure, including roads: since 2016, a high-quality tarmac road has connected Nyamasheke with other towns and Kigali. However, villages along unpaved roads are not connected to the public transportation network. Thus, in everyday life, rural people usually walk; services of motorbike and bicycle cooperatives are available but comparatively costly, so even the coffee harvest is carried on foot unless the processing station representatives pick it up. For the majority of the population, the tarmacced road did not bring much benefit, except for a few entry points into

economic activity (petty trade or wage labour) in the villages adjacent to the road. On the functioning level, men and women are equally mobility deprived, as most households cannot even afford a bicycle; motorbike ownership exceptional and associated with high status. On the capability level, however, we identified a gender difference: whereas both women and men lack access to a means of transport for financial reasons, the social setting would not typically allow a woman to ride a motorbike or bicycle, even if she was wealthy.

In the Lao study region, the road was completed in 2020, connecting the Bolaven plateau with the regional capital Pakse and the Thai border. Today, the motorbike is the basic means of transport; even labourers and small landowners have at least a second-hand motorbike. The boom started about ten years ago, when cheap motorbikes from China became available. Before the tarmac road to Pakse was completed, people used motorbikes mainly to commute between the field and the home, or between villages. Going to town was less common given that the journey was lengthy. After completion of the road, many families bought additional motorbikes, for instance to enable their older children to go to school in Pakse. Now that the road is completed, people visit town more frequently to trade agricultural goods. This applies especially to women who are considered to be better negotiators than men. Unlike in Nepal and Rwanda, it is very common for women to ride motorbikes in Laos, for instance to go home at lunchtime to cook and later return to the field with the food, or to run errands. Public transport is also available, but it is not very convenient: there is no fixed schedule and it costs equivalent to USD 2.60 for a one-way bus trip to Pakse, compared to USD 1.30 for motorbike fuel. Hence, the bus is mainly used by people who do not have a motorbike at hand, for instance when returning to the village after a longer-distance bus trip.

In all three regions, infrastructural improvements functioned as a partial expansion of the mobility capability by granting material access. The extent to which the range of choice increased was determined by the economic gains from HVA (determining the ability to purchase a vehicle, fuel or bus ticket) and gender (determining the ability to use the vehicle). Functionings varied by country: in the study sites in Rwanda and Nepal, the motorbike is a precious asset owned by few households and used almost exclusively by men, while in Laos motorbikes are ubiquitous and used by everyone. Whereas in Laos mobility choices have increased for farmers and labourers alike and regardless of gender, in Nepal and Rwanda male members of wealthy families had the greatest increase in freedom to be mobile. Regardless,

in Nepal women expanded their capability to be mobile thanks to economic, cooperative and training opportunities directly linked with HVA.

Is the expansion of the mobility capability resilient in the face of agricultural risk? We argue it is not: while the roads themselves are permanent, people can only use them if they can afford public or private transport. If the main income stems from cash-crop production, the capability expansion depends on a stable income from HVA which is not a given.

3.3 Social relations: Forming, nurturing, and enjoying social relations

In 2008 and 2011, the Women's Development Office of Rong Rural Municipality in Nepal founded two cooperatives in Rong 6: Jirmale Women's Agriculture Cooperative (JWAC) and SUMADUA Cooperative. The former aims to strengthen women's role in the HVA sector through different trainings (e.g. business skills) while the latter is a mixed-gender group aiming to improve the overall conditions for HVA production (e.g. buying inputs). Generally, these groups provide their members with increased social support and act as savings groups and credit institutions. This is important because profitable cash-crop production requires higher investment compared to subsistence agriculture, for instance for irrigation and processing facilities, so the need for financial services has increased. In addition, farmers need money at harvest time to pay labourers, and the cooperatives offer loans that can be paid back after the yield is sold.

In addition to these practical benefits, the cooperatives have played a significant role in altering gender relations. JWAC has functioned as an arena for women to gain confidence, for instance when speaking in front of a group, and women have become used to assuming leadership roles within their organisations. This newly-built confidence exceeds the realm of women-only spaces and spills over to mixed-gender settings, as described by the cooperative leader: "Women who could not even introduce themselves in public 10 years ago now take part in discussions, explain their perspectives openly and stand up for their views. This is a big change". Today, if the president of any mixed group or association is a man, women usually claim the vice president role. However, no mixed group is currently led by a woman. Upper class women assume additional leadership roles in non-agricultural women's associations, such as savings groups, to gain status and political influence. Regular members usually belong

to the local middle class: poor people cannot afford to save regularly, and for wealthy people, the services of such groups are unnecessary, except when assuming a leadership position.

Agricultural groups have provided rural women with new choices: unlike 15 years ago, today they can become members, reap training opportunities, gain confidence, and expand their networks. Upper class women can also vie for one of the coveted leadership positions. Poor casual labourers, however, who have too little and irregular income to participate in a savings group and who do not produce enough to become part of a producer association, do not benefit from these new opportunities. Those women who gained confidence, however, are likely to remain confident even if cardamom prices fall. This capability expansion seems to be resilient in the face of agricultural market downturns.

In the Rwandan research site there was only one coffee producer cooperative. Small producers were mostly not members because they perceived the cooperative to be an association for larger producers with little benefit to regular farmers. However, other community organisations such as savings groups or church-based congregations were widespread. In addition, numerous official meetings were held with the village leaders or for the monthly community work in Rwanda, and the government sometimes promoted producer groups, e.g. on terraces or rice marshlands. Further, there were frequent instances of community help and gift giving among people, for instance by allowing friends to harvest food from one's farm. However, these social structures were not linked to coffee production per se. Wage employment continues to be marked by power imbalances, and while workers expressed their dissatisfaction with working conditions, we did not observe much collective organisation to address this issue.

In the Bolaven plateau in Laos, coffee cooperatives, women's unions and youth organisations are widespread, and each village has its own branch that holds regular meetings, mostly monthly. While the coffee cooperatives are usually led by men, the groups negotiate better prices for everyone and provide both women and men with a social network. Through the women's union, there are additional opportunities for women only, such as training on women's rights or management skills. In addition, the membership fee from the women's union is pooled and used to support life events such as childbirth, sickness, funerals, etc. The coffee cooperative has a wide and diverse member base including small farmers. While the social groups have certainly increased opportunities for farmers to create networks and

access support, the case of Nepal seems to be rather unique in catalysing women's empowerment on a broad scale. In both Nepal and Laos, however, the greater range of social opportunities for the rural population thanks to HVA seems to be resilient to price shocks or adverse environmental effects.

4 Discussion

Has HVA contributed to resilient capability expansion, i.e., to capability expansions that persist in light of changing economic and environmental conditions of HVA? While we did find capability expansions in all three study sites, there was considerable variation between locations and population groups, and most benefits remain fragile.

4.1 Paid work and precarious prosperity

Regarding paid work, HVA is the main income source for farmers and labourers alike in the Nepal, Laos, and Rwanda sites. In Nepal, where we could study the effects of the recent introduction of the new cash crop cardamom, we observed a steep increase in labour opportunities and wages. While the rise of labourers' incomes above the national average in Nepal is noteworthy (see also Upreti et al., 2016), we found that in Nepal, Rwanda and Laos, many farmers and labourers had to compromise on health in order to make a living, and they lacked more decent income-generation opportunities. In addition, agricultural tasks where women are heavily involved were paid less than activities typically carried out by men, resulting in a gender pay gap. These results resonate with previous findings from other contexts showing gender inequity in informal agricultural markets (Bigler et al., 2017) and poor overall working conditions, especially for casual labourers and even under fair trade conditions (Meemken et al., 2019).

Moreover, farmers and agricultural labourers in all three study sites faced considerable planning insecurity due to fluctuating world market prices and/or environmental issues. Apart from a few exceptions, even the economically successful farmers continued to live in a situation of *precarious prosperity* – a situation in which a certain financial leeway coexists with constant material insecurity and the associated threat of future downward mobility (Budowski et al., 2010). A national analysis from Laos showed that precarious prosperity was widespread throughout the country: between 2003 and 2013, 50% of the population moved

in and out of poverty (Bader et al., 2016). Transitioning into and out of poverty was common in Nepal and Rwanda, as well (Diwakar, Shepherd, 2022). In all three study sites, only a fraction of the wealthiest households was able to move out of poverty permanently, developing resilience to the changing conditions of HVA, e.g. through buying rental houses in town. For a sustained escape from poverty, income diversification is key (ibid). The precarious nature of prosperity based solely on cash crops is probably one of the reasons why farming is not an attractive profession for those who have other options (Matthys et al., 2021; Jones et al., 2017).

Our findings highlight the diversity and vibrancy of rural labour markets in the Global South, particularly in export agriculture (Oya, Pontara, 2018). Moreover, in all three research sites it is typically the poorer segments of the population that must complement their own-account farming activities with casual agricultural wage employment in plantation companies or on the farms of better-off neighbours. On the one hand, HVA offers employment opportunities that provide income to meet household needs. On the other hand, there is not much choice of work, incomes are low and working conditions are usually poor. Having paid work per se does not equal having the capability to gain sufficient income in a decent way - and even less so for women.

4.2 Mobility and the hidden cost of capability expansion

Regarding mobility, options to move between geographic locations increased in all three study sites thanks to government investment in infrastructure, but the extent of the capability expansion depended on economic gains from HVA and gender. Access to material infrastructure (roads, means of transport) was given in all three countries, but financial access (money for fuel) remained an obstacle and so did gender norms in Nepal and Rwanda that prevented women from using motorbikes on their own. Hence, not everyone benefited from full capability expansion, and even in those cases the expansion is not resilient in the face of agricultural risk, because mobility options depend directly on fluctuating agricultural incomes used to cover fuel costs and bus fares. In Rwanda, agricultural incomes were so low that the new mobility options could not be used regularly, neither by farmers nor by labourers. The example of mobility demonstrates the instrumental value of income for capability expansion. As much as the capability approach rightfully emphasises the necessity to look beyond income

for development policymaking, sustained income increases, or schemes that respond to declining incomes or income gaps, remain important policy goals.

In addition, the mobility example illustrates the importance of differentiating between capabilities and functionings. In Nepal, an agricultural worker in search of employment in neighbouring villages is likely to cover more kilometres per month than a well-off farmer working on the family farm. Yet, the labourer's mobility does not represent their freedom to make mobility choices but rather their lack of choice as they must be mobile to gain an income. Crucially, the mobility capability is not about *being mobile*, it is about *being able to be mobile* (see Robeyns, 2003).

So far, in line with Sen's Development as Freedom (1999), we have argued that capability expansion is a valuable development goal, if not the most important one. However, capability expansion may come at a cost which is not always apparent at first sight. For instance, recent research has shown that while road development in rural Nepal provided new opportunities, the road also increased stress, competition and relative deprivation in the villages connected to the road (Grocke et al., 2019). Overall, road development had a negative effect on the villagers' well-being, and this effect was most pronounced for the poor. This example illustrates the importance of paying attention to the potential hidden costs of capability expansion. If a price is to be paid for additional choices, and if one takes the capability approach seriously, rural people should ideally be involved at the stage of decision making, before measures to expand capabilities are taken.

4.3 Social relations and the question of women's empowerment

Cooperatives, which were prominent in Nepal and Laos, provided new opportunities for social relations and the construction of common problem framings in the context of high-value agriculture. This was the only capability we considered resilient against the risk associated with HVA, because the change in social relations is unlikely to fluctuate with income. For instance, even if prices dropped severely and agricultural cooperatives closed, the women who gained confidence to speak in public through the cooperatives (see also K. C. et al., 2016; Upreti et al., 2018) were likely to continue voicing their opinion. However, our research also shows that women continued to face other constraints, for instance regarding mobility or in the agricultural labour market. In Laos, while it was common for women to use motorbikes

unlike in Nepal, gender inequality persisted in other areas of life, and agricultural changes had a limited impact. For instance, recent research from Laos has shown that the introduction of a new coffee variety did increase women's participation in the agricultural labour market and opened up new household decision-making spaces for women, but it did not lead to women's empowerment overall (Douangphachanh et al., 2021) and a gender pay gap in agricultural wage labour persisted (Seneduangdeth et al., 2018). In Rwanda, gender inequalities including a significant gender pay gap were found to persist despite differing public opinion and government efforts (Ingabire et al., 2019; Bigler et al., 2019). While cash-crop production may open up significant new socio-economic spaces for women, the commercialisation of agriculture is by no means a silver bullet or a direct pathway to overall gender equality.

5 Conclusion

Using the capabilities approach as a synthesis tool enabled us to scrutinise functionings and capabilities. Thus, the approach allowed us to assess changes in both development outcomes and personal freedoms as necessary parts of the development process. The focus on capabilities brings a perspective that goes beyond a single time measurement and offers a focus on resilience which is crucial for sustainability. All three study sites showed remarkable consistency in that the considerable risk entailed by cash crop production was mainly borne by farmers and rural labourers. Research on mechanisms to guard against these risks at household or individual level is warranted.

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Uster, 2. September 2022

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