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What makes Tanzanian smallholder farmers satisfied with their life? It's not farming!

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Abstract

It is widely assumed that farmers want to farm and that successful farming is positively associated with a farmer's life satisfaction. Accordingly, especially development interventions in the Global South are focussed on upgrading and transforming rural farming landscapes under the general premise of raising productivity. However, growing evidence suggests that the assumed centrality of farming for life satisfaction is in question. The rise of trans-local and diversified livelihoods is permeating rural landscapes and new rural hopes, aspirations and livelihoods include more than "just farming". This study responds to a simple question: What makes smallholder farmers satisfied with their life? In doing so, it uses the case study of two agricultural clusters in Tanzania which have recently received massive financial and donor support to upgrade and transform smallholder agriculture. Based on survey data with 865 farming households, we use a multivariate logistic regression model to test for the effects of different agricultural and non-agricultural livelihood assets on the life satisfaction of smallholders. Our results suggest that just improving productivity-enhancing agricultural assets (agricultural capital, output, knowledge) is not significantly raising smallholders' life satisfaction. Rather, more fundamental livelihood assets such as positionality (gender and age), savings and housing conditions have the strongest effect.

Zusammenfassung

Es wird allgemein davon ausgegangen, dass Kleinbäuer*innen gerne Landwirtschaft betreiben und dass eine erfolgreiche Landwirtschaft positiv mit der Lebenszufriedenheit der Kleinbäuer*innen verbunden ist. Dementsprechend konzentrieren sich besonders Entwicklungsmaßnahmen im globalen Süden auf die Aufwertung und Umgestaltung landwirtschaftlich geprägter Räume unter der allgemeinen Prämisse der Produktivitätssteigerung. Es gibt jedoch zunehmend Hinweise darauf, dass die angenommene zentrale Bedeutung der Landwirtschaft für die Lebenszufriedenheit an Bedeutung verliert. Das Aufkommen translokaler und diversifizierter Lebensgrundlagen durchdringt die landwirtschaftlich geprägten Räume und die neuen Hoffnungen, Bestrebungen und Lebensgrundlagen in ländlichen Räumen umfassen mehr als „nur" die Landwirtschaft. Diese Studie geht daher auf eine einfache Frage ein: Was macht Kleinbäuer*innen mit ihrem Leben zufrieden? Dabei stützt sie sich auf eine Fallstudie von zwei landwirtschaftlichen Clustern in Tansania, die in jüngster Zeit massive finanzielle Unterstützung erhalten haben, um die kleinbäuerliche Landwirtschaft zu verbessern und umzugestalten. Auf

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der Grundlage der Umfragedaten von 865 bäuerlichen Haushalten verwenden wir ein multivariates logistisches Regressionsmodell, um die Auswirkungen verschiedener landwirtschaftlicher und nicht-landwirtschaftlicher Existenzgrundlagen auf die Lebenszufriedenheit zu untersuchen. Unsere Ergebnisse deuten darauf hin, dass allein die Verbesserung produktivitätssteigernder landwirtschaftlicher Vermögenswerte (landwirtschaftliches Kapital, Produktion, Wissen) die Lebenszufriedenheit nicht signifikant erhöht. Die stärkste Wirkung haben grundlegendere Aspekte wie Geschlecht, Alter, Ersparnisse und Wohnverhältnisse.

Keywords Tanzania, smallholders, livelihoods, well-being, agriculture

1. Introduction and framework

The Southern Agricultural Growth Corridor of Tanzania (SAGCOT) is currently one of the best-known and most controversial agricultural development projects on the African continent (*Sulle* 2020). Within the growth corridor, grants and investments have been directed towards tripling agricultural productivity among smallholder agriculture (*SAGCOT* 2011). This focus on raising productivity is seen as necessary condition for integrating smallholders into commercial value chains and eventually for driving growth to the benefit of rural residents (*Hartmann* et al. 2021; *Sulle* 2020). As such, "increasing productivity" emerges as a narrow method and goal sui generis for purportedly enhancing human well-being (*Collier* and *Dercon* 2014). By following the general question what makes smallholder farmers satisfied with their life this study asks in detail: Are productivity-increasing agricultural factors translating into a higher life satisfaction among smallholders?

In doing so, the study moves beyond narrow productivity indicators by finding inspiration in the literature on life satisfaction, well-being, and sustainable livelihoods. Life satisfaction is a widely used concept in research on well-being (*Diener* et al. 2013; *Kahneman* and *Deaton* 2010). It represents a constant and more cognitive assessment of well-being than "happiness", which is more situational and emotionally driven (*Gundelach* and *Kreiner* 2004). The sustainable livelihoods approach provides a theoretical framework that has already been established in the context of smallholder livelihoods and the question what factors affect well-being (*Scoones* 1998). The framework assumes that different types of livelihood assets constitute sustainable livelihoods and that these also contribute to human well-being. Namely, these types are financial capital, physical capital, human capital, social capital, natural capital.

2. Methods

To analyse the effect of livelihood assets on smallholders' life satisfaction, household survey data from rural households in Tanzania was analysed. Data was collected within the framework of the "Collaborative Research Center 228: Future Rural Africa" (*Gebrekidan* et al. 2021). The dataset includes household data from the two SAGCOT clusters Ihemi and Kilombero. The sampling was collected in June/July 2019. In total, 4,001 people from 871 households were interviewed. Prior to analysis, statistical outliers were excluded so that 865 households were considered in the model.

Our study uses a multivariate logistic regression model to examine the effects of different agricultural and non-agricultural livelihood assets on the life satisfaction of smallholder farmers. In order to measure life satisfaction, the dependent variable "life satisfaction" was derived through a Likert scale self-assessment ("Generally speaking, on a scale from 1 to 5, how satisfied are you with life?"). Likert-scale assessments were recoded into the following binary format to increase the model's robustness:

0 = not satisfied (very dissatisfied, dissatisfied, neither)
1 = satisfied (satisfied, very satisfied)

Based on this classification, 41% of the respondents reported to be satisfied with their lives.

For the independent variables, we used the five livelihood assets (financial capital, physical capital, human capital, social capital, natural capital) as suggested by the sustainable livelihood framework to deductively derive one variable with immediate connection to agricultural capital (e.g. farm inputs, land ownership) and two variables with no immediate connection to agricultural capital (e.g. housing conditions, social status) respectively. The 15 derived variables were either metric or binary and, in the case of categorical variables, dummy-coded (*Table 1*).

Table 1 Model results. Data and analysis: own elaboration

Capital	Variable	Values	Absolute frequency	(% / n) (M s.|M not s.)	(B)	Sig.	Exp(B)
Financial	Income	USD	-	$4,40|$4,30	-.002	.855	.998
	Savings	no yes	636 229	38%/240 49%/113	.483	.005**	1.621
	Agricultural investments	USD	-	$164,89|$177,92	.000	.256	1.000
Physical	Housing	simple complex	570 295	37%/209 49%/144	.419	.014*	1.520
	Energy	no yes	434 423	36%/155 45%/192	.340	.034*	1.406
	Agricultural technologies	traditional modern	646 219	39%/255 45%/98	.153	.380	1.165
Human	Age	metric	-	46|44	.012	.027*	1.012
	Education	lower higher	243 612	42%/103 40%/247	-.059	.773	.943
	Agricultural training	no yes	712 153	40%/284 45%/69	.140	.507	1.150
Social	Gender	female male	452 413	46%/207 35%/146	-.492	.002**	.611
	Social status	lower higher	467 398	39%/181 43%/172	.085	.582	1.089
	Farmer group	no yes	795 70	40%/321 46%/32	-.009	.975	.991
Natural	Land owned	acres	-	5,68|5,87	-.006	.461	.994
	Worry of depletion of natural resources	yes no	493 337	38%/187 47%/160	.409	.009**	1.505
	Farmland owned	acres	-	3,7|3,42[1]	.038	.147	1.039

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001, M = mean, B = regression coefficient, Exp(B) = Odds Ratio, Sig. = p-value

3. Results

Our multivariate logistic regression analysis shows that both the model ($x^2(15) = 51,49$, $p < .001$, $n = 865$) and the coefficients of individual variables are statistically significant. Goodness-of-fit was assessed using the Hosmer-Lemeshow-Test, indicating a good model fit ($x^2(8) = 10.387$, $p > .05$).

The model's results indicate that productivity increasing agricultural assets have no significant direct effect on smallholders' life satisfaction. The selected variables agricultural investment, agricultural technologies, farmer trainings, farmer group and owned farmland are all above the significance level (*Table 1*). However, more fundamental and foremost non-agricultural assets do have significant and strong effects on smallholders' life satisfaction. Smallholders who are able to save part of their income, who live in a higher quality house, who have access to electricity, who are older, and who do not worry about the depletion of natural resources have significantly higher odds to being satisfied with their own lives. Moreover, being a man lowers the odds to being satisfied with one's own life significantly compared to being a woman. For other non-agricultural variables such as income, education, social status and total owned land no significant effect on smallholders' life satisfaction was found (*Figure 1*).

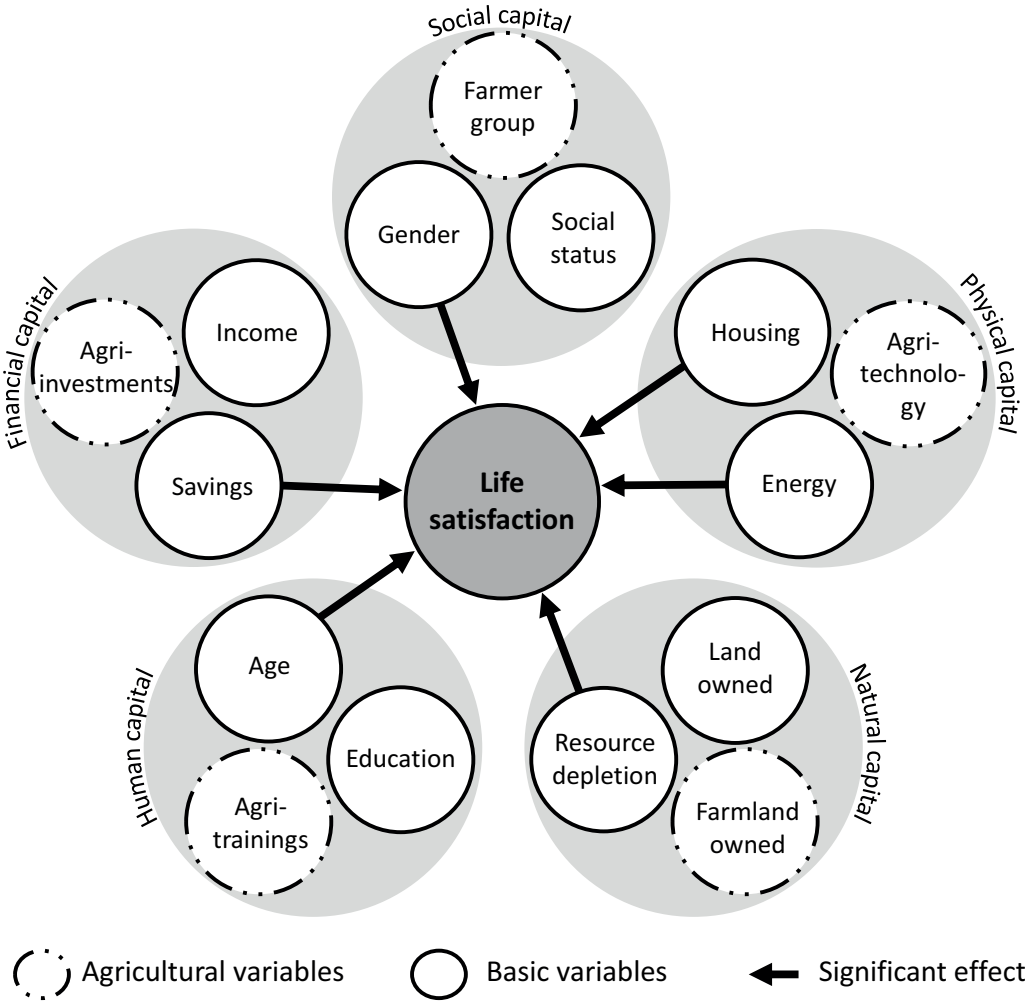

Fig.1 Effects of agricultural and non-agricultural livelihoods assets on smallholders' life satisfaction. Source: own elaboration

4. Discussion and conclusion

Our model's results are as clear as they are surprising. It is remarkable that straightforward productivity-enhancing agricultural assets have no significant effect on the life satisfaction of smallholders if all other variables are kept stable. In other words, just being successful – or productive – in farming does not automatically make farmers more satisfied. Rather, more fundamental assets relating to social status, housing conditions, and general wealth accumulation matter the most for having a high life satisfaction (*Figure 1*). These results stand in stark contrast with narrow productivity-increasing measures as they are prominent in various agricultural development agendas. Our results suggest that policy foci that overtly prioritize agricultural productivity (e.g. by subsidizing agricultural inputs) are likely to underestimate the heterogeneity of rural aspirations as well as the more basal constituents of human well-being. Importantly, these findings are not suggesting that agricultural productivity cannot translate into higher life satisfaction. Rather, our findings suggest that productivity increases alone do not suffice. Moreover, improvements of the more fundamental variables along all livelihood assets must not necessarily be achieved through agricultural productivity increases, but they may just as well relate to more diversified agricultural and non-agricultural livelihood activities. Considering that vast amounts of public subsidies are mobilized directly (input subsidies, e.g. World Bank-funded FISP program) and indirectly (agricultural development projects) under narrow productivity paradigms (*Tups* and *Dannenberg* 2021), our results suggest that aims as well as methods for raising the well-being of rural people should be more carefully scrutinized and gen-

erally attentive to more than agricultural productivity (cf. *Ouma* et al. 2022; *Plumecocq* et al. 2018).

Our results coincide thereby especially with literature on the complex patterns of rural aspirations and well-being in the Global South (*Aring* et al. 2021; *Nandi* and *Nedumaran* 2021; *Tabe-Ojong* et al. 2021). Recent studies highlight that even if agriculture is an important and at first sight central livelihood, especially the aspirations of young people in rural landscapes tend to go beyond just being successful in agriculture (*Mausch* et al. 2021). Mixed and trans-local livelihood strategies derive from more than achieving high agricultural productivity and income as well as they derive from more than rural peripheries (e.g. urban-rural linkages) (*LaRue* et al. 2021; *Kristensen* and *Birch-Thomsen* 2013).

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