

## CDE POLICY BRIEF



Women sorting cherries at a coffee washing station in Western Rwanda. Photo: P. Illien

## Bittersweet fruits of 'miracle growth': Identifying poverty and labour dynamics in coffee heartlands

When it comes to fighting poverty, the prescription of most economists is growth. This means growth of agriculture in many low-income countries where production of food and various commodity crops remains the biggest employer. There are risks, however – especially for local populations marginalized by rising commercial activity or incorporated into it on adverse terms. Based on evidence from the coffee heartlands of Rwanda and Laos, this policy brief highlights tools for measuring the impacts of agricultural growth on poverty in rural areas. And it emphasizes the oft-overlooked importance of labour dynamics in such settings.

### Promise and pitfalls of growth

Agricultural growth is said to reduce poverty in developing economies more than growth in any other sector.<sup>1</sup> So, achieving the fastest possible growth of export-led agriculture – driven by cash crops like cotton or coffee, for example – might appear particularly desirable in poor countries. It can quickly provide them with much-needed foreign exchange earnings – dollars and euros – to purchase vital goods and services from wealthier

countries. It can stimulate production upgrades and labour markets at the local level, and integrate them into global value chains. And all this new economic activity can trigger beneficial knock-on effects such as growth of linked commercial sectors (e.g. processing) and tax revenues to provide more public services.<sup>2</sup> Such are the many potential upsides.

However, observers also highlight the risks of serious downsides. These include agricultural growth

### KEY MESSAGES

- The Multidimensional Poverty Index and the Extreme Deprivation Index are effective non-monetary poverty measurement tools that can be used by NGOs and development projects to evaluate the impacts of agricultural growth in low-income countries.
- The Extreme Deprivation Index is useful in rural settings characterized by deep, widespread poverty, especially when programme resources are scarce and household data are lacking.
- Agricultural growth in such rural areas can both alleviate and worsen poverty. Much depends on *how* local people are integrated into production and labour markets.
- Improving working conditions and increasing the number of paid working days can go a long way to reducing poverty in the coffee heartlands of Laos and Rwanda.
- Safeguarding the assets of poor households – especially land – remains crucial to strengthen their resilience.



The research featured here is focused on Rwanda and Laos.

### Box 1. Measuring non-monetary poverty in the coffee heartlands of Laos and Rwanda

CDE research featured here was conducted in the coffee heartlands of Laos (the Bolaven Plateau) and Rwanda (Nyamasheke district), two countries that have experienced “miracle” growth rates over the last 20 years. In order to trace the impacts of this growth on the ground and test the effectiveness of non-monetary poverty measurement tools, researchers applied and compared the Multidimensional Poverty Index and the Extreme Deprivation Index, surveying hundreds of households (714 in Laos; 233 in Rwanda). They also conducted over 100 in-depth qualitative interviews and focus group discussions. The results show that the benefits of growth have been distributed unevenly and vulnerability is rising in both settings. Increasing pressure on land is one reason. But another crucial reason are complex labour relations in the agricultural sector. These labour relations – including low wage levels, seasonal precarity, and disguised wage employment (e.g. sharecropping) – are often missed by conventional development interventions focused solely on land issues or crop-related extension services.

that degrades the environment and dispossesses many local people of land<sup>3</sup>, rising inequality due to unevenly distributed gains, and persistent – or even worsening – poverty among bypassed or negatively impacted population segments. For policymakers and development practitioners in lower-income countries, it is crucial to identify and respond to such harmful developments as early and efficiently as possible.

#### Case studies in ‘miracle growth’

Laos and Rwanda are two examples of poor countries – or “least developed countries” in UN parlance<sup>4</sup> – that have experienced rapid and sustained growth in recent decades. Indeed, each has consistently posted annual GDP growth of around 5%<sup>5</sup> – coveted “miracle” growth rates, in other words. Meanwhile, agriculture continues to provide almost two-thirds of total employment in both countries.<sup>6</sup>

Along with many other commodities, coffee has been an important part of these distinct economic “miracles” in Laos and Rwanda. Both countries export most of their coffee.<sup>7</sup> In Laos, coffee accounts for about 8% of agricultural export value.<sup>8</sup> The respective share in Rwanda is 12%, and coffee is the country’s second-most important agricultural export product after tea.<sup>9</sup>

A labour-intensive, high-value export crop, coffee shows the major potential of agricultural growth for poverty reduction. It can create many jobs, for example, depending on how production and, ideally, local processing are structured. But it is also associated with increasing social differentiation – and, thus, inequality – in poor rural areas, as well as established risks of monocropping and reliance on sales of raw commodities. Indeed, most of the coffee crops are still exported as unroasted “green beans” from Rwanda (Arabica) and Laos (a mix of Robusta, Arabica and Liberica). These and similar commodities are subject to significant market fluctuations globally, and the lion’s share of the value from processing, packaging, and retail still typically lands in the coffers of rich countries in the global North.

#### Tools to uncover rural poverty

Given the potential benefits and risks of agricultural export-led development in such settings, properly identifying trends is vital to steer transformations in a positive direction. *Poverty reduction* is a key objective of many agricultural development interventions. But informal markets, irregular employment, and limited monetization in rural areas of lower-income countries

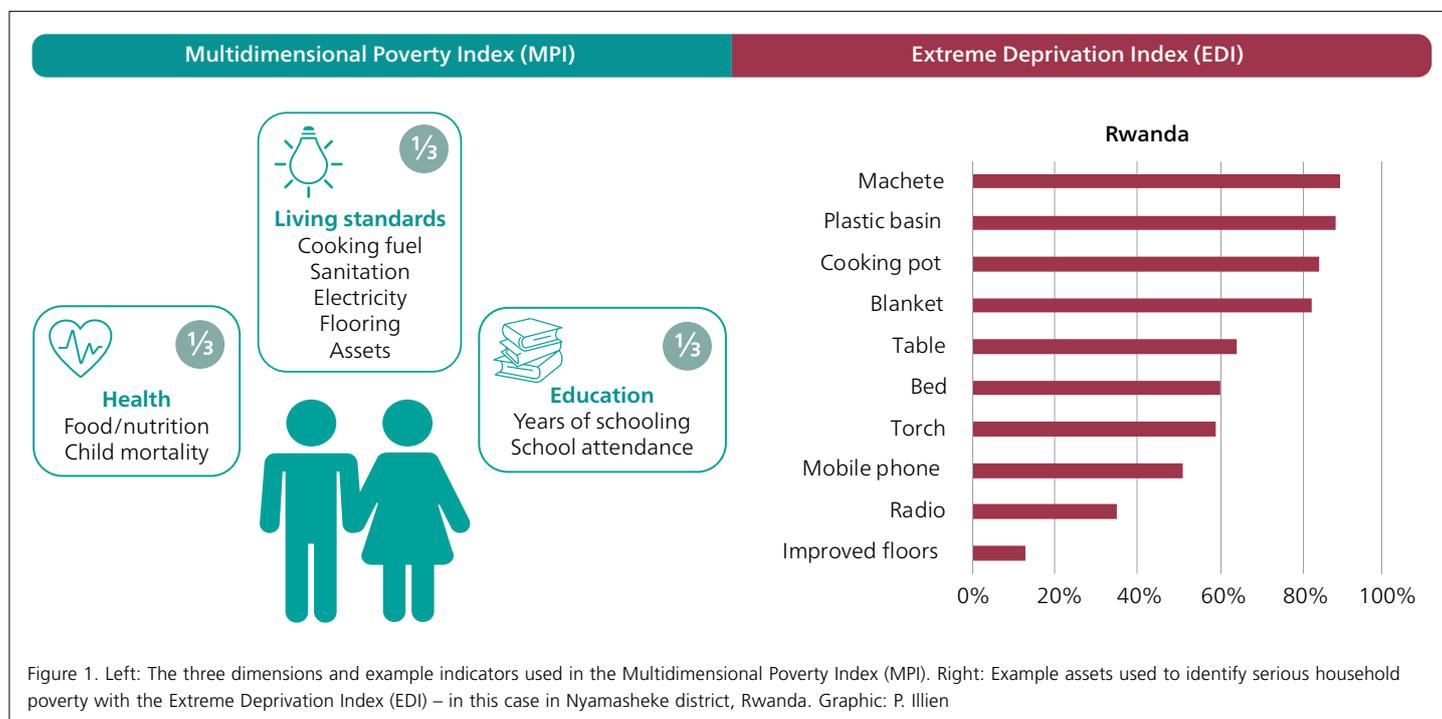
make conventional forms of poverty measurement (e.g. money-based household income) very challenging. Indeed, monetary measures are not only very costly to implement in such settings, but may also be inadequate to capture local realities.

Recent CDE research (see Box 1) in the coffee heartlands of Laos and Rwanda compared the effectiveness of two tools for measuring *non-monetary* poverty: The Multidimensional Poverty Index and the Extreme Deprivation Index.<sup>10</sup> These tools can help decision-makers and development practitioners identify households left behind, marginalized, or losing out in settings of rising commercial agriculture. And they can help enable targeted policy responses.

**The Multidimensional Poverty Index (MPI)** is an aggregate measure of poverty consisting of three dimensions – health, education, and standard of living – each weighted one third, and comprising various indicators based on household achievements that are weighted equally within each dimension (see Figure 1, left).<sup>11</sup> It uses data on individual members of a household to characterize everyone in it.<sup>12</sup> Surveyed households must be deprived according to at least 33% of the indicators to be considered poor. Its focus on measurement of actual outcomes in key life domains makes it especially useful for policy, but also costly and resource-intensive to implement.

**The Extreme Deprivation Index (EDI)** was more recently created to simplify and speed up measurement of poverty in rural settings and its interpretation for policy and programme evaluation.<sup>13</sup> It focuses on the household level and assesses ownership of a handful of durable consumer goods that can make a huge difference in local people’s lives (see Figure 1, right). Goods selected for inclusion in the survey – such as cooking pots or mobile phones – must reflect local consumption patterns and enable meaningful differentiation. The index is thus always context-specific. Households owning just a few or none of the items on the list are then categorized as “deprived”.

Testing of the two non-monetary measurement tools in Laos and Rwanda highlighted their distinct advantages. The Multidimensional Poverty Index was useful in Laos’s Bolaven Plateau coffee-growing region, where most households own basic necessities. By contrast, the Extreme Deprivation Index was more appropriate in Rwanda’s coffee-growing heartland of Nyamasheke, where serious material deprivation is relatively widespread.



Strikingly, the two distinct tools yielded similar, statistically significant results on key markers of poverty in both settings (though they do not necessarily identify the same households as poor). Our data showed that poor households in both coffee-growing regions are strongly characterized by:

- (1) *low levels of secondary education and literacy* (especially among women);
- (2) *rudimentary sanitation conditions*;
- (3) *lack of access to land*;
- (4) *high dependence on casual agricultural wage employment*;
- (5) *group-based marginalization* (particular ethnic groups in the case of Laos; women and girls in Rwanda); and
- (6) *high food and nutrition insecurity*, especially in Nyamasheke, Rwanda.

Both locally adapted non-monetary measurement tools are thus capable of describing the main deprivations experienced by the poorest households in such settings.

### Understanding labour relations

Importantly, poverty in these coffee-growing regions is not necessarily the result of people not engaging with the economic growth process, but rather the result of their being integrated into markets in an unfavourable or unjust way.<sup>14</sup> Indeed, what matters most are the *terms of inclusion* in the economic growth process and, by extension, the role of production and labour markets in particular.<sup>15</sup> Deeper analysis by CDE researchers – including extended qualitative interviews with the local population – revealed the significance of often complex labour relations on the ground.

**Precarious wage employment.** Agricultural wage employment is key in Laos and Rwanda, especially for the poorest households. In Rwanda, at least half the households in the CDE study sample had members working for wages. In Laos, about 41% did. In both settings, rural labour markets are characterized by strong seasonality related to the coffee harvest, and by precarious working conditions including very meagre pay in many cases (as low as USD 0.70 per day in Nyamasheke's lean season). On the Bolaven Plateau, Laos, labour markets are tied to local and international migration dynamics and shaped by large-scale plantation companies. In Nyamasheke, Rwanda, labour markets are more localized and characterized by a gender wage gap and by diverse forms of payment (in cash or in kind, often because employers themselves lack cash).

**Disguised labour relations.** Particularly in rural areas, it is crucial to pay attention to local mechanisms of labour mobilization that belie simple dichotomies of self-employment versus wage employment. Examples in Nyamasheke include sharecropping (*nyiragabana*) and cattle-sharing (*kuragiza*), whereby landlords or cattle owners outsource the production risks and labour needs to (often poorer) sharecroppers or cattle receivers – yet the outputs get split fifty-fifty. Finally, contract farming is also present in Laos and Rwanda to differing degrees and features its own hidden power relations, for example between farmers and processors or exporters.

**Land pressures and patchwork livelihoods.** In rural areas, labour and land issues remain inseparable. On the Bolaven Plateau, average landholdings are relatively generous at 3.06 hectares per household. This means that fewer households must resort to wage labour. In Nyamasheke, by contrast, households only have 0.36 hectares on average – hardly enough to make a living. In fact, many of the poorest farmers do not grow coffee as they cannot afford the necessary investments or time needed to wait for the plants to mature. Overall, land pressures are increasing in both settings, driven by high population density in Rwanda and by large-scale land concessions (or “land grabs”<sup>16</sup>) in Laos.

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## Policy implications

### Non-monetary poverty measurement tools are effective in rural areas

Export-led agricultural growth can lift rural populations out of poverty. But this does not happen automatically. In fact, growth can actually worsen poverty among by-passed or negatively impacted groups. Proper assessment of local impacts is thus critical. The Multidimensional Poverty Index is useful for this purpose when sufficient data are available. It enables direct measurement of key livelihood outcomes. In settings characterized by deep, widespread poverty and lack of data, the newer Extreme Deprivation Index offers an efficient, context-relevant way of identifying households suffering from serious material deprivation. The required data on consumer goods are easy to collect, verify, and analyse, making the index useful for development projects with limited resources.

### Productive employment and strong labour protections are needed

Despite the dependence of poor households on casual wage employment in rural (e.g. coffee-growing) areas, labour relations continue to be neglected in development research and policy. Decision-makers, funding partners, and researchers often lump rural populations together into an undifferentiated mass of smallholder family farmers. This overlooks the landless poor, those with too little land to make a living, those who sell their labour, and many others. The reality is that some households profit more than others as land becomes scarcer and local value chains are increasingly dominated by large-scale plantation companies, processors, and exporters. Notably, group-based discriminations (e.g. ethnicity or gender) often determine whether certain agricultural workers are compensated fairly or not. In such settings, strong labour protections are needed (e.g. union rights, liveable wages, decent working conditions). In addition, economic policies should focus on increasing productive employment, real wages, and paid working days, for example by promoting forward and backward linkages with other sectors (e.g. processing).<sup>17</sup> Still, the assets of the poor – especially land ownership and access – must be safeguarded in such settings, so as to ensure them a minimum of security (e.g. food) and strengthen their resilience when market activities and economic policies fail them.

### Provision of public goods and services remains crucial

Meanwhile, widespread provision of basic services and infrastructure must remain a priority in poor rural settings. It can directly reduce poverty and strengthen the resilience of rural inhabitants. Health concerns, education expenses, and transportation practicalities shape people's everyday life experiences. In addition, social service provision and rural infrastructure are important drivers of structural change and can promote productive employment, particularly if they extend beyond means-tested social protection and complement demand-side policies to tighten rural labour markets.

### Suggested further reading

Ansoms A, Cioffo G, Dawson N, Desiere S, Huggins C, Leegwater M, Murison J, Bisoka AN, Treidl J, Van Damme J. 2018. The Rwandan agrarian and land sector modernisation: Confronting macro performance with lived experiences on the ground. *Review of African Political Economy* 45(157):408–431. <https://doi.org/10.1080/03056244.2018.1497590>

Illien P, Pérez Niño H, Bieri S. 2022. Agrarian class relations in Rwanda: A labour-centred perspective. *The Journal of Peasant Studies* 49(6):1181–1206. <https://doi.org/10.1080/03066150.2021.1923008>

Illien P, Birachi E, Douangphachanh M, Phommavong S, Bader C, Bieri S. 2022. Measuring non-monetary poverty in the coffee heartlands of Laos and Rwanda: Comparing MPI and EDI frameworks. *Journal of Development Effectiveness* 14(4):416–447. <https://doi.org/10.1080/19439342.2022.2047765>

Oya C. 2019. Labour and rural poverty. *Policy in Focus* 16(1):11–13. [https://ipcig.org/pub/eng/PIF44\\_Rural\\_poverty\\_reduction\\_in\\_the\\_21st\\_century.pdf](https://ipcig.org/pub/eng/PIF44_Rural_poverty_reduction_in_the_21st_century.pdf)

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## References and notes

- <sup>1</sup>de Janvry A, Sadoulet E. 2010. Agricultural growth and poverty reduction: Additional evidence. *The World Bank Research Observer* 25(1):1–20. <https://doi.org/10.1093/wbro/lkp015>; Christiaensen L, Martin W. 2018. Agriculture, structural transformation and poverty reduction: Eight new insights. *World Development* 109:413–416. <https://doi.org/10.1016/j.worlddev.2018.05.027>
- <sup>2</sup>Cramer C, Sender J, Oqubay A. 2020. *African Economic Development: Evidence, Theory, Policy*. Oxford, UK: Oxford University Press. <https://academic.oup.com/book/36714?login=false>
- <sup>3</sup>Hall D, Hirsch P, Li TM. 2011. *Powers of Exclusion: Land Dilemmas in Southeast Asia*. Queenstown, Singapore: NUS Press.
- <sup>4</sup>UNCTAD [United Nations Conference on Trade and Development]. 2021. *The Least Developed Countries Report 2021*. New York, USA: United Nations Publications. [https://unctad.org/system/files/official-document/ldc2021\\_en.pdf](https://unctad.org/system/files/official-document/ldc2021_en.pdf)
- <sup>5</sup>World Bank. 2023. *World Development Indicators* [Dataset]. Washington, DC, USA: World Bank. <https://datacatalog.worldbank.org/search/dataset/0037712>
- <sup>6</sup>World Bank. 2023. *Op. cit.*
- <sup>7</sup>Epprecht M, Weber AK, Bernhard K, Keoka K, Saphangthong T, Manivong V, Ingxay P. 2018. *Atlas of Agriculture in the Lao PDR: Patterns and Trends between 1999 & 2011*. Bern, Switzerland and Vientiane, Lao PDR: Centre for Development and Environment (CDE), University of Bern, and Ministry of Agriculture, Lao PDR, with Bern Open Publishing. <https://boris.unibe.ch/116598/>; MINAGRI [Ministry of Agriculture and Animal Resources]. 2022. Annual Report 2021-2022. Republic of Rwanda: MINAGRI. <https://www.minagri.gov.rw/index.php?elD=dumpFile&t=f&f=56427&token=53172b32acc651a19a341690971cb577612cbf8f>
- <sup>8</sup>World Bank. 2021. *Lao PDR Economic Monitor: A Path to Recovery—Thematic section: Impacts of COVID-19 on Businesses and Households*. Washington DC, USA: World Bank. <https://pubdocs.worldbank.org/en/147871629861334356/Lao-PDR-Economic-Monitor-August-2021.pdf>
- <sup>9</sup>MINAGRI [Ministry of Agriculture and Animal Resources]. *Op. cit.*
- <sup>10</sup>Illien P, Birachi E, Douangphachanh M, Phommavong S, Bader C, Bieri S. 2022. Measuring non-monetary poverty in the coffee heartlands of Laos and Rwanda: Comparing MPI and EDI frameworks. *Journal of Development Effectiveness* 14(4):416–447. <https://doi.org/10.1080/19439342.2022.2047765>
- <sup>11</sup>Alkire S, Kanagaratnam U, Suppa N. 2020. *The Global Multidimensional Poverty Index (MPI) 2020* (OPHI MPI Methodological Note No. 49; Oxford Poverty and Human Development Initiative). Oxford, UK: University of Oxford. <https://ophi.org.uk/ophi-mpi-methodological-note-49/>
- <sup>12</sup>Alkire S, Conconi A, Seth S. 2014. Measuring destitution in developing countries: An ordinal approach for identifying linked subset of multidimensionally poor. *OPHI Research in Progress* 42a. Oxford, UK: University of Oxford. <https://ophi.org.uk/ophi-research-in-progress-42a-2/>
- <sup>13</sup>Sender J, Cramer C, Oya C. 2018. Identifying the most deprived in rural Ethiopia and Uganda: A simple measure of socio-economic deprivation. *Journal of Eastern African Studies* 12(3):594–612.
- <sup>14</sup>Hickey S, du Toit A. 2013. Adverse incorporation, social exclusion, and chronic poverty. In: Shepherd A, Brunt J (eds.), *Chronic Poverty: Concepts, Causes and Policy*. London, UK: Palgrave Macmillan UK. [https://doi.org/10.1057/9781137316707\\_7](https://doi.org/10.1057/9781137316707_7)
- <sup>15</sup>Oya C, McKinley T, Bargawi H. 2013. *Growth Dynamics, Structural Change and Productive Employment to Reduce Poverty and Income Inequality: Analysis and Policy Recommendations*.
- <sup>16</sup>Delang CO, Toro M, Charlet-Phommachanh M. 2013. Coffee, mines and dams: Conflicts over land in the Bolaven Plateau, southern Lao PDR. *The Geographical Journal* 179(2):150–164. <https://doi.org/10.1111/j.1475-4959.2012.00481.x>
- <sup>17</sup>Oya C, Pontara N. 2015. Improving the functioning of rural labour markets and working conditions: Towards a policy agenda. In: Oya C, Pontara N (eds.), *Rural Wage Employment in Developing Countries. Theory, Evidence and Policy*:329–350. New York, USA: Routledge. <https://www.routledge.com/Rural-Wage-Employment-in-Developing-Countries-Theory-Evidence-and-Policy/Oya-Pontara/p/book/9781138394247>