

# The Sustainability of Coffee-based Livelihoods: A Study of Social and Economic Change in Rural Indonesia

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## SUMMARY

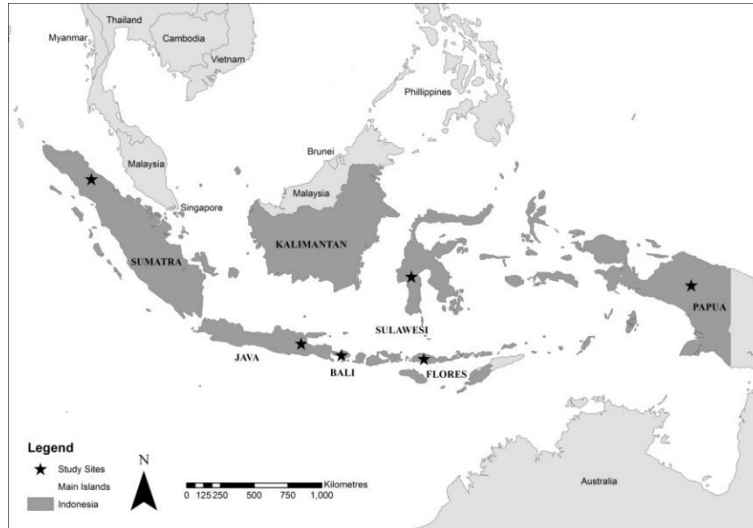
Recent high coffee prices, due to a combination of rising demand in emerging markets and declining production outside of Brazil and Vietnam, have sparked concerns over the long-term supply of coffee beans. This paper evaluates the potential for expanding production from Indonesia – currently the world's third largest producer - to play a significant role in meeting predicted global demand. This research examines this possibility through a socio-economic assessment of coffee-based livelihoods in Indonesia. The research finds that coffee production retains an important function as a *de facto* social safety net for many impoverished rural households. However, coffee production is rarely considered a vehicle for genuine poverty alleviation. As a result, broader processes of industrialisation and economic development in Indonesia appear to be working against the possibility of Indonesia significantly increasing coffee production in the foreseeable future.

## BACKGROUND: THE INDONESIAN COFFEE INDUSTRY

Indonesia has been a leading global coffee producer for centuries, and has been the world's third largest since 2008 due to declining production in Columbia. Export volumes, however, have not increased significantly in recent decades, and have tended to oscillate between 300,000 and 500,000 tonnes each year since 1990. An estimated 95 percent of total land planted with coffee is managed by smallholders in the outer islands (major Arabica producing regions are shown in Figure 1). These smallholders teeter either side of the poverty line depending on international commodity prices, and are provided with few institutional or government supports.

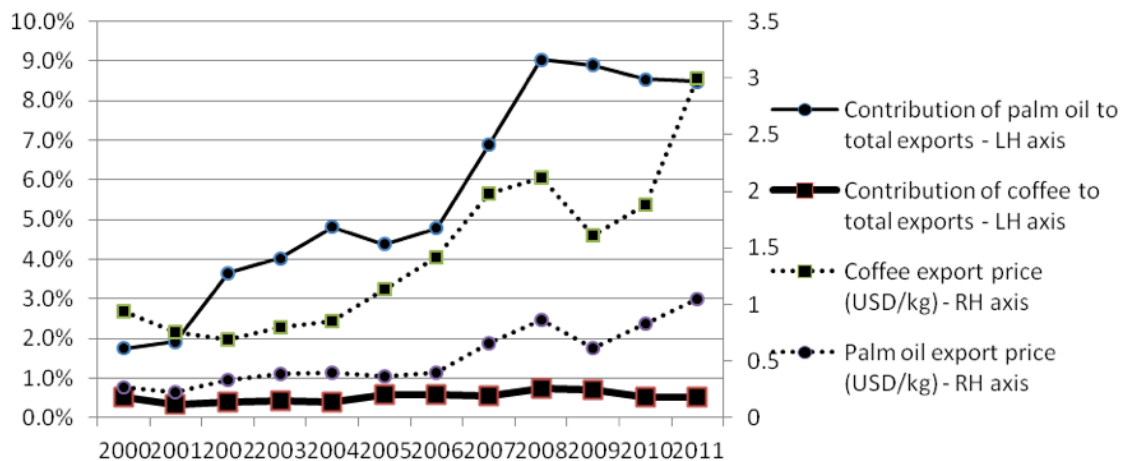
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**Figure 1. Research Sites - Major Arabica-producing regions in Indonesia (Map prepared by Karen Sowden, University of Sydney).**

While we expect a delay between elevated prices and an output response from a tree crop such as coffee, Indonesian production is not responding to the relatively high prices seen since 2006 (Figure 2). Moreover, despite export prices more than tripling since the ‘coffee crisis’ days of 2001, the contribution of coffee exports to total export earnings in Indonesia has remained at the same low level of 0.5%. With production stagnant, this situation is due to the rising importance of other exports (manufacturing and resource commodities feeding the China boom). The disinterest in coffee can be contrasted with the increasing significance of palm oil exports over the same period. Under Indonesian conditions, coffee is a labour-intensive crop, and oil palm is capital-intensive, suggesting the nature of economic change now shaping rural Indonesia.



**Figure 2. Contribution of coffee and palm oil to total Indonesian Export Earnings (Data Source: <http://comtrade.un.org>).**

## METHODS

An initial survey of household livelihood strategies was conducted across the islands of Sulawesi and Flores (n = 803) in 2008 (Figure 1). Survey respondents were located within sub-districts where coffee production was expected to be a relatively important source of locally-produced income, based on official production data obtained from the District-level Estate Crop Agencies. This household livelihood database was then supplemented with field visits to other major Arabica producing regions in Indonesia (Aceh, North Sumatra, Bali, Java and Papua), as shown in Figure 1, where a series of stakeholder interviews were performed with farmers, traders, NGOs and government officials. This field research was used to establish the role of coffee production within broader livelihood strategies and its relationship with perceived poverty alleviation pathways. This household level of analysis was then combined with a national-scale analysis of changing export patterns, industrial policy, and poverty reduction.

### COFFEE LIVELIHOODS: A POVERTY ALLEVIATION PATHWAY?

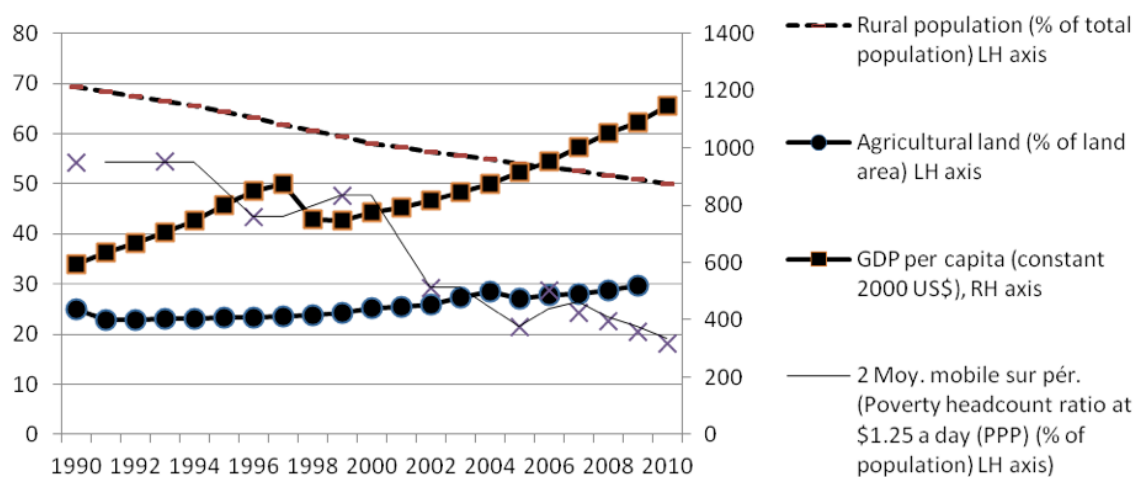
The typical Indonesian coffee farmer maintains a small mixed plot of about a hectare, where coffee sales are just one component of a mixed livelihood portfolio. Coffee income is an important source of cash, with which farmers can purchase daily necessities. Farmers, however, are generally unwilling to invest scarce household resources to increase coffee productivity, but would rather invest in education and rural-urban migration (Table 1). Coffee cultivation is a fall-back strategy when other options have been unsuccessful, and few parents want their children to continue coffee farming. This follows broader trends in Southeast Asia, where rural livelihoods are increasingly divorced from land, and where poverty alleviation is de-linked from agriculture. Even at current high prices, Indonesian smallholders relying solely on coffee-derived income are subsisting barely above a \$1.25 / day poverty line.

**Table 1. Indicators of smallholder livelihood strategies in Indonesia (Source: field surveys).**

Indicator	Results	Comments
Average (gross) annual coffee sales	\$642/year	This is gross coffee income for the year. Costs are more difficult to estimate, and are strongly influenced by unpaid family labour input. This needs to be calculated based on opportunity costs. A conservative estimate would be that average net coffee income might be \$350 / year, well below a \$1.25/day poverty line.
Average contribution of coffee to gross household income	65%	This is gross coffee income and gross household income, and probably overestimates the importance of coffee to net household income.
Households that apply urea fertiliser to their coffee trees	22%	Urea fertiliser is subsidised by the government in Indonesia and costed (on average in 2008) \$8 per 50kg bag. This is used here as an indicator of the households willingness to invest in their coffee farm.
Households that apply compost fertiliser to their coffee trees	12%	Compost is an indicator of the willingness of households to invest their own labour to increase farm productivity.
Households that receive remittances from family members living in urban areas (in Indonesia and abroad)	23%	Remittance income varied considerably between districts. The importance of rural-urban migration to achieving poverty alleviation was significant in the coffee communities.

## PATTERNS OF ECONOMIC DEVELOPMENT IN INDONESIA

Indonesia has recovered well following the 1998 Asian Financial Crisis, with an average annual GDP growth rate of 5.5% between 2001 and 2011 (over a period that spanned the Global Financial Crisis of 2008). Rising per capita incomes in Indonesia have occurred alongside declining poverty levels (Figure 3). While some expansion of agricultural land has occurred in Indonesia (primarily for oil palm), the total area available for coffee is ultimately finite and there is increasing pressure from alternative land use functions, including estate-scale plantations, domestic food production, and ecological services. Sustained coffee production also requires the allocation of adequate rural labour. Importantly, for the first time in 2010, more Indonesians were living in cities than in rural areas. Moreover, this inexorable trend towards an urbanised Indonesia is further encouraged through supportive industrial policies. Since 2009, Indonesian cocoa farmers have been subsidising the downstream processing industry by way of an export tax on raw cocoa beans, and the government has announced similar ambitions towards protecting an industrialised coffee sector. Both from the perspective of both rural producers and the state, there is little space for expanding coffee production in the modern Indonesia.



**Figure 3. Indicators of Economic and Social change within Indonesia (Data: <http://data.worldbank.org>).**

## CONCLUSIONS

Coffee is a crop of last resort for smallholder Indonesian farmers, and fewer poor households are choosing coffee production as a viable pathway out of poverty. It seems that one of three conditions would need to be satisfied to significantly increase coffee production in Indonesia: i) a reversal of current trends towards industrialisation and economic opportunity; ii) prices increase sufficiently to stimulate renewed investment in coffee production (although this seems unlikely in Indonesia due to the presence of other constraining factors); or iii) downstream users begin investing in social facilities in coffee communities to change current attitudes towards the crop, possibly through enhanced value chain mechanisms that deliver real services to farmers. The sustainability of future global coffee supplies requires downstream actors within the global value chain to demonstrate a substantially heightened interest in facilitating socially attractive coffee-based livelihoods in origin countries.

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