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The carbon footprint of traditional woodfuels

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Over half of all wood harvested worldwide is used as fuel, supplying ~9% of global primary energy. By depleting stocks of woody biomass, unsustainable harvesting can contribute to forest degradation, deforestation and climate change. However, past efforts to quantify woodfuel sustainability failed to provide credible results. We present a spatially explicit assessment of pan-tropical woodfuel supply and demand, calculate the degree to which woodfuel demand exceeds regrowth, and estimate woodfuel-related greenhouse-gas emissions for the year 2009. We estimate 27–34% of woodfuel harvested was unsustainable, with large geographic variations. Our estimates are lower than estimates from carbon offset projects, which are probably overstating the climate benefits of improved stoves. Approximately 275 million people live in woodfuel depletion 'hotspots'—concentrated in South Asia and East Africa—where most demand is unsustainable. Emissions from woodfuels are 1.0–1.2 Gt CO_2e yr^{-1} (1.9–2.3% of global emissions). Successful deployment and utilization of 100 million improved stoves could reduce this by 11–17%. At US$11 per t$CO_2$e, these reductions would be worth over US$1 billion yr^{-1} in avoided greenhouse-gas emissions if black carbon were integrated into carbon markets. By identifying potential areas of woodfuel-driven degradation or deforestation, we inform the ongoing discussion about REDD-based approaches to climate change mitigation.

Traditional woodfuels, which include both firewood and charcoal used for cooking and heating, represent approximately 55% of global wood harvest and 9% of primary energy supply[1,2]. The current extent and future evolution of traditional woodfuel consumption is closely related to several key challenges to sustainable development. Roughly 2.8 billion people worldwide[3], including the world's poorest and most marginalized, burn wood to satisfy their basic energy needs. Woodfuels can impact public health[4], cause deforestation or forest degradation[5], and contribute to climate change[6–8]. Climate impacts arise from two pollutant flows: CO_2 is emitted because a fraction of woodfuel is harvested unsustainably; methane (CH_4), black carbon and other short-lived climate forcers (SLCFs) are emitted because of incomplete combustion, which also emits health-damaging pollutants. Thus, woodfuels present society with two important links between local and global impacts; incomplete combustion releases pollutants that damage health and warm the atmosphere, and unsustainable harvesting drives both forest degradation and climate change.

Risks to public health are increasingly well characterized[4], whereas impacts on deforestation, degradation and global climate remain highly uncertain. Historically, woodfuel demand was considered a major driver of land cover change[9,10] (LCC). However, early research failed to account for regrowth, consumers' response to scarcity, and use of trees outside forests[11,12]. More recent local or regional assessments find conflicting results[13–17], suggesting that geography is an important determinant of woodfuel sustainability. However, few systematic studies of woodfuel sustainability and greenhouse gas (GHG) emissions have been conducted[18]. The Intergovernmental Panel on Climate Change's Fourth Assessment claimed that 10% of global woodfuel is harvested unsustainably[19,20], and the Fifth Assessment stresses that net emissions from woodfuels are unknown[17]. Better understanding of the contribution of woodfuels to deforestation, forest degradation and climate change is needed to evaluate the impact of the growing wave of household energy interventions and inform emerging REDD (Reducing Emissions from Deforestation and Forest Degradation) methodologies[21,22].

Here we present a spatially explicit snapshot of woodfuel supply and demand (Supplementary Section 1) throughout tropical regions where traditional woodfuel consumption is concentrated. Using 2009 as a base year, we quantify the extent to which woodfuel demand exceeds supply, identify specific 'hotspots' where harvesting rates are likely to cause degradation or deforestation, quantify the carbon emissions that result from current woodfuel exploitation, and estimate the emission reductions that could be achieved from large-scale interventions[23].

Nearly all landscapes produce a measurable increment of woody biomass either as new growth or as regrowth from previous disturbances. This assessment considers supply/demand balance over one year. If an area is harvested for woodfuel below the annual growth rate, then woody biomass stocks are not depleted and harvesting is sustainable. However, if annual harvesting exceeds incremental growth, it is unsustainable, leading to a decline of woody biomass, forest degradation and net carbon emissions. In this assessment, we define the wood harvested in excess of the incremental growth rate as non-renewable biomass[24] (NRB).

Pan-tropical woodfuel supply and demand

We treat woodfuel demand as an exogenous factor derived from a mix of national and sub-national studies supplemented by data from the Food and Agriculture Organization (FAO), International Energy Agency (IEA), and United Nations[1,25,26] (UN). Woodfuel demand has subsistence and commercial components. Subsistence demand occurs primarily in rural areas, where people collect their own fuel using simple non-motorized forms of transportation from within a few hours of their homes. Commercial demand originates in urban and some densely populated rural locations and is typically supplied by motorized transport over much longer distances.

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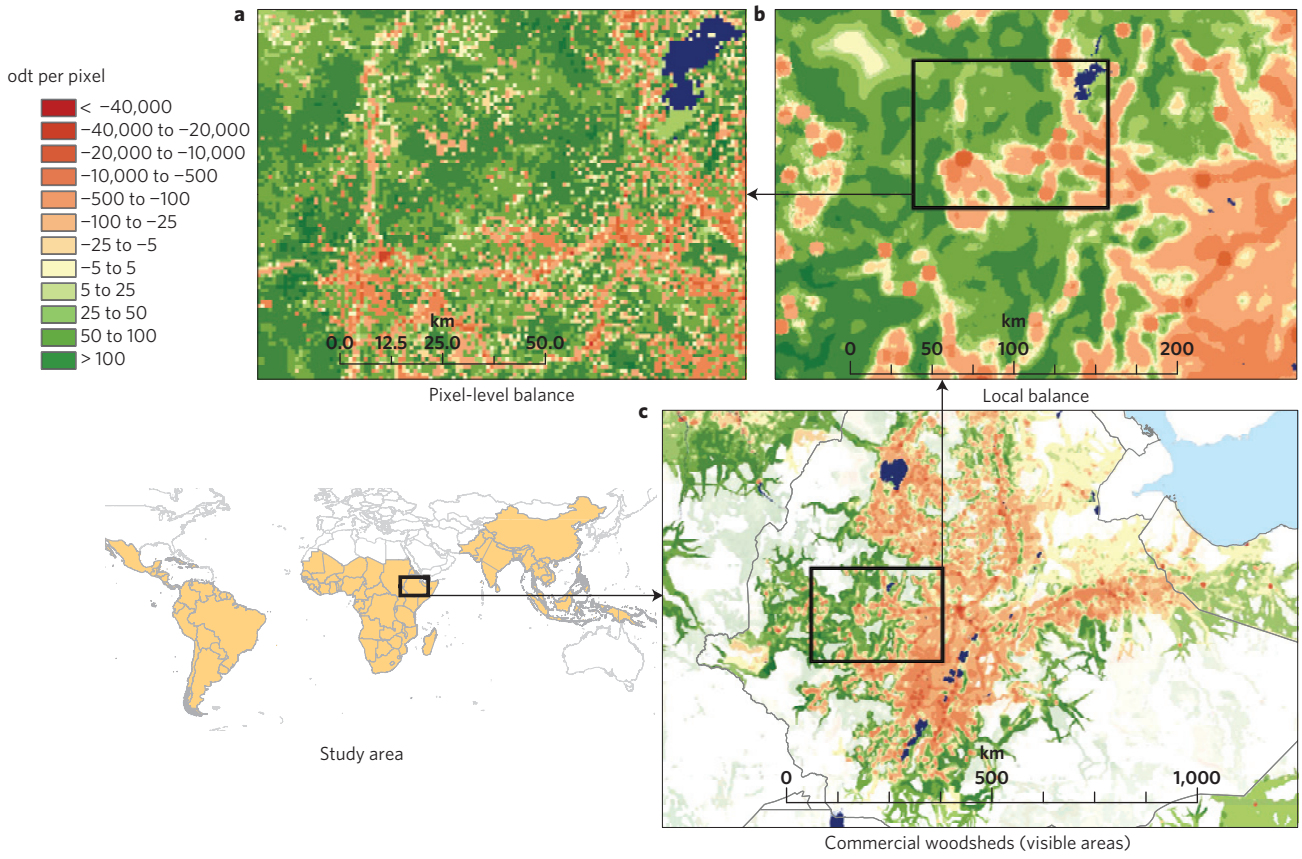

Figure 1 | Mapping of a high-deficit zone in East Africa. a, Pixel-level supply-demand balance. **b**, Local-level balance. **c**, Commercial balance. odt; oven-dry tonnes of woody biomass.

We develop a map of supply–demand balance by estimating harvesting pressure, first from subsistence and then commercial harvesters (Fig. 1a,b). Areas exploited to satisfy commercial demand form a 'woodshed', which represents the region that would satisfy demand if the full mean annual increment (MAI) is used[27] (Fig. 1c shows commercial woodsheds for a high-demand area of East Africa; Supplementary Fig. 5 shows the entire pan-tropics).

Woodfuels and LCC

Many woodfuel-dependent regions are characterized by high rates of deforestation. Others, particularly parts of China and India, have experienced recent afforestation. Although not directly linked to woodfuel demand, these processes, which we define collectively as LCC, impact woodfuel supplies. Deforestation creates large volumes of non-renewable woodfuel[28,29], and afforestation augments renewable woodfuel supplies by adding to the growing stock of 'dendro-energy biomass' (DEB). Neither process has been explicitly accounted for in previous woodfuel assessments. When deforestation occurs in regions accessible to woodfuel users, the cleared woody biomass may be used as timber and woodfuel. Similarly, afforestation adds DEB equivalent to the MAI of the surrounding land class. However, the degree to which LCC by-products are actually used as woodfuel is unknown. To accommodate this uncertainty, we explore two scenarios, described in Table 1. In Scenario A, we assume LCC by-products are not used. In Scenario B, we assume they are used, yielding two NRB components (NRB_{B1} and NRB_{B2}): NRB_{B1} indicates the use of LCC by-products; NRB_{B2} indicates the wood harvested in excess of MAI to satisfy the demand that remains after accounting for the use of those by-products. In populated regions experiencing high rates of deforestation, large volumes of DEB are accessible, and NRB_{B2} may be zero (Supplementary Section 5).

By combining woodshed mapping of commercial demand with localized supply–demand balances, we define the minimum quantity of NRB that would be required to meet existing demand (Supplementary Section 5). In this approach, we assume that woodfuel consumers manage their resources sustainably to the greatest extent possible so that unsustainable harvesting occurs only after the sustainable supply in a given location has been fully exploited. Thus, minimum NRB indicates the degree to which a given region can sustainably meet woodfuel demand under ideal management. However, ideal management is unlikely. To simulate suboptimal harvesting, we assume that harvesting sometimes exceeds sustainable levels in some areas even if the sustainable supply in an adjacent accessible area has not been fully exploited. To estimate the extent of this deviation, we use a proxy defined by the fraction of each country's forested area under formal management plans (Methods). From this we derive an 'expected' quantity of NRB, which we also express as a fraction of the total harvest (fNRB). Both minimum and expected NRB are expressed in absolute terms and as a fraction of the total harvest for a given region. We report expected NRB below; minimum NRB is given in Supplementary Information.

Woodfuel sustainability

Woodfuel demand in 2009 was ~1.36 Gt. If by-products of LCC were not used (Scenario A), pan-tropical expected $fNRB_A$ was 27–30% (367–413 Mt). If by-products of LCC were used (Scenario B), we estimate they contributed 8.3% (113 Mt) of pan-tropical woodfuel supply ($fNRB_{B1}$). We also find that 22–25% (296–340 Mt) of the remaining demand was harvested

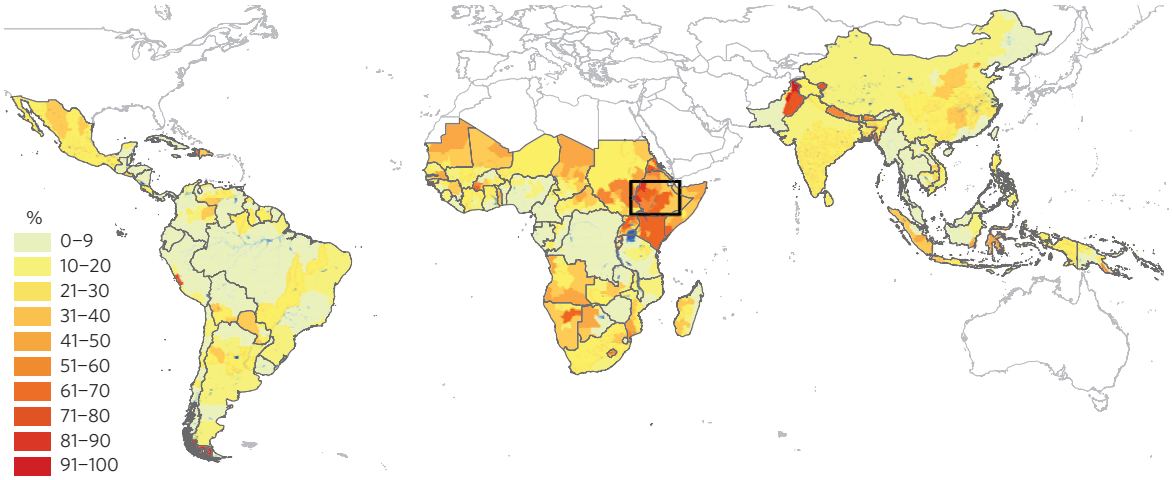

Figure 2 | Pan-tropical expected $fNRB_{B2}$. Shading indicates the percentage fNRB estimated in sub-national units resulting from direct woodfuel harvesting (Scenario B2). The rectangle shows the region illustrated in Fig. 1.

Table 1 | Different assumptions considering the use of LCC by-products.

	Assumption	Comment
A	LCC by-products generated in accessible regions are not used for woodfuel. Woodfuels are harvested entirely from other sources. NRB_A is calculated as the quantity of non-renewable biomass from sources unrelated to LCC.	NRB_A is applicable where LCC by-products are inaccessible to smallholders despite being physically proximate. This might be the case if large-scale farming or timber extraction drives LCC on private land that smallholders cannot enter.
B	LCC by-products generated in accessible regions are used as woodfuel. Two quantities are calculated: NRB_{B1} refers to the amount of LCC by-products used to meet woodfuel demand in a given region. By-products of deforestation are always considered non-renewable and by-products of afforestation are considered renewable. NRB_{B2} refers to the amount of woodfuel from other sources required to meet demand after LCC by-products are exhausted. LCC by-products may meet 100% of demand so that $NRB_{B2} = 0$.	The sum of NRB_{B1} and NRB_{B2} indicates the total quantity of unsustainable woodfuel consumption that occurs when woodfuel users have access to LCC by-products. These values are applicable in regions where LCC is driven by smallholder agriculture or regions hosting intense commercial woodfuel extraction. Household energy interventions can mitigate NRB_{B2}, but it is unclear how they would affect NRB_{B1}.

unsustainably ($fNRB_{B2}$). Adding $fNRB_{B1}$ and $fNRB_{B2}$, the total fraction of NRB using LCC by-products is 30–34%. The uncertainty results from uncertain productivity and contribution of plantations (Supplementary Section 6). This is largest in Asia, where forest plantations may be a substantial source of supply, and smallest in sub-Saharan Africa, which has few plantations[30]. Figure 2 shows a global map of $fNRB_{B2}$ (maps of $fNRB_A$ and $fNRB_{B1+B2}$ are shown in Supplementary Fig. 7).

We define woodfuel 'hotspots' as regions in which expected fNRB exceeds 50%, that is, regions in which most harvested woodfuel is unsustainable. Hotspots encompass ~4% of pan-tropical areas and are inhabited by 6% of the pan-tropical population. The largest hotspot incorporates a swath of East Africa extending from Eritrea through western Ethiopia, Kenya, Uganda, Rwanda and Burundi. Expected $fNRB_{B2}$ exceeds 50% in 43 sub-national units throughout this region, encompassing 26% of the region's population. Additional hotspots also occur in western and southern Africa, but these do not cover large contiguous areas (Fig. 2). Notably, much of sub-Saharan Africa is characterized by $fNRB_{B2}$ below 20% including provinces of Angola, Cameroon, Central African Republic, Congo, DR Congo, Mali, Mozambique, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe: home to 55% of sub-Saharan Africa's population.

In Asia, hotspots occur in parts of Pakistan, Nepal, Bhutan, Indonesia and Bangladesh. Expected $fNRB_{B2}$ in Pakistan is 79%, the highest national value in the entire sample. In two Pakistani divisions, $fNRB_{B2}$ exceeds 90%. Notably, Asia's woodfuel hotspots are distinct from areas of high deforestation. For example, deforestation rates in Indonesia, Malaysia, Cambodia and Laos are among the world's highest[31], largely as a result of agricultural expansion[16]. In contrast, China and India, the largest woodfuel-consuming nations, both experienced net afforestation in recent years[30]. At a national level $fNRB_{B2}$ is 10–22% in China and 23–24% in India. The wide range observed in China is a result of uncertainty in the productivity of plantation forestry, a potentially large source of China's woodfuel supply (Supplementary Fig. 6).

Latin America hosts the lowest traditional woodfuel consumption; Haiti is the only nation in which expected $fNRB_{B2}$ exceeds 50%. Still, $fNRB_{B2}$ exceeds 30% in many sub-national units including most of Dominican Republic and parts of Bolivia, Colombia, Ecuador, El Salvador, Mexico, Paraguay, Peru and Venezuela. As in Asia, high rates of deforestation are due primarily to agricultural expansion[16]. By-products of LCC in many parts of Belize, Brazil, Ecuador, Honduras, Mexico, Nicaragua, Panama, Peru and Venezuela are sufficient to meet most or all woodfuel demand (Supplementary Fig. 6).

Worldwide, over 275 million people live in woodfuel hotspots: nearly 60% in Asia, 34% in Africa, and the remaining 6% in Latin America. Figure 3 shows the regional distribution of population by $fNRB_{B2}$ decile.

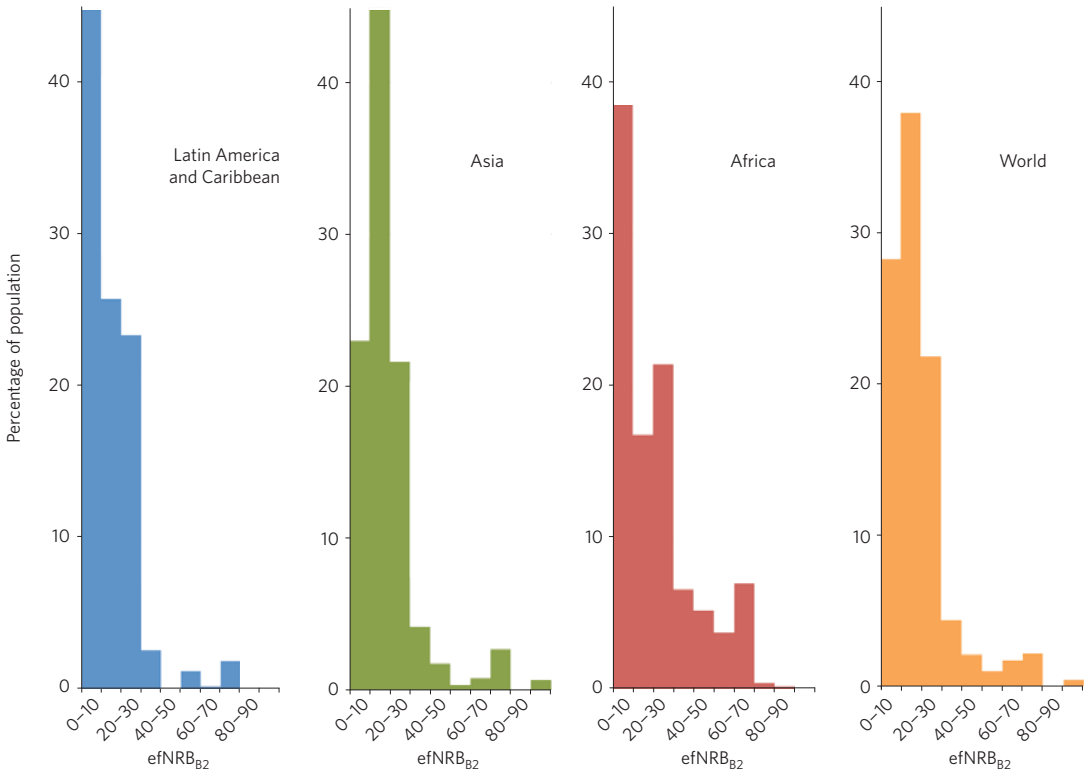

Figure 3 | Distribution of regional population by expected fNRB$_{B2}$ decile.

GHG emissions

Climate impacts arise from emissions of well-mixed GHGs, which include CO_2 and CH_4, and SLCFs, which include black and organic carbon aerosols, CO and volatile organic compounds (VOCs). Emissions of well-mixed GHGs and SLCFs as a result of unsustainable harvesting and incomplete combustion from traditional woodfuels (Methods) were 1.0–1.2 Gt of CO_2 equivalent (CO_2e) in 2009: 1.9–2.3% of global emissions and 3.5–4.3% of emissions in the pan-tropical region[32]. National emissions vary widely (Supplementary Table 2). India and China have the largest populations of traditional woodfuel users and highest overall emissions, but relatively low per capita emissions. In contrast, Kenya, Ethiopia and Uganda, which constitute part of the East African hotspot, rank among the highest emitters in absolute and per capita terms.

There is geographic variation in the mix of pollutants emitted by traditional woodfuels because of variations in fNRB and in the extent of charcoal use, which has different emission characteristics from fuelwood (Methods). Globally, after accounting for uptake by the fraction of woody biomass that is sustainably harvested, CO_2 contributes 34–45% of total climate forcing. Black carbon has a similar impact, contributing 35–42%, and CH_4, CO and VOCs account for the remaining 31–37%. This variation has policy implications; at present, carbon markets value reductions of CO_2, CH_4 and N_2O, but do not value black carbon abatement, which favours interventions in regions with high fNRB.

Mitigation potential of efficient cookstoves

Interventions in household energy have been implemented for decades with multiple objectives[33]: including forest conservation; health improvements; and climate change mitigation, as well as poverty alleviation and economic development. The Global Alliance for Clean Cookstoves (GACC), the largest stove programme so far, proposes to deploy 100 million improved stoves by 2020 (ref. 23). With large spatial variation in fNRB, impacts of interventions vary with geographic patterns of stove uptake. We examine this variation with four intervention scenarios (Methods and Supplementary Section 7).

We optimistically assume that 100 million state-of-the-art improved cookstoves are successfully disseminated according to different scenarios. Resulting emission reductions range from 98–161 $MtCO_2e\,yr^{-1}$. The largest reductions result from targeting the highest per capita woodfuel consumers. This is followed by reductions achieved by targeting consumers in regions with the highest rates of NRB, although uncertainties in emission reductions from individual stoves make the difference insignificant. The smallest reductions result from dissemination in the most business-friendly countries. The emission reductions achieved by prioritizing health improvements fall between these extremes (Fig. 4).

Discussion and implications

One limitation of the study is a lack of reliable woodfuel consumption data. When possible, we used national and sub-national data sets. However, for most countries, we relied on data compiled by international organizations containing unknown uncertainties that make it difficult to communicate the uncertainty in these results. A second limitation is that the analysis considers a single year and does not account for potential behavioural changes among woodfuel users in response to scarcity. Potential responses include decreasing consumption, switching to non-woody fuels, or taking measures to increase woody biomass supply. Such responses are site-specific and difficult to model globally, but they could be incorporated in national and sub-national dynamic models.

Using the best available data, we estimate that unsustainable harvesting and incomplete combustion contributed 1.9–2.3% of global emissions of well-mixed GHGs and SLCFs in 2009. Globally, emissions were split evenly between CO_2, black carbon and other SLCFs. In 12 nations, emissions from woodfuels were 50% or

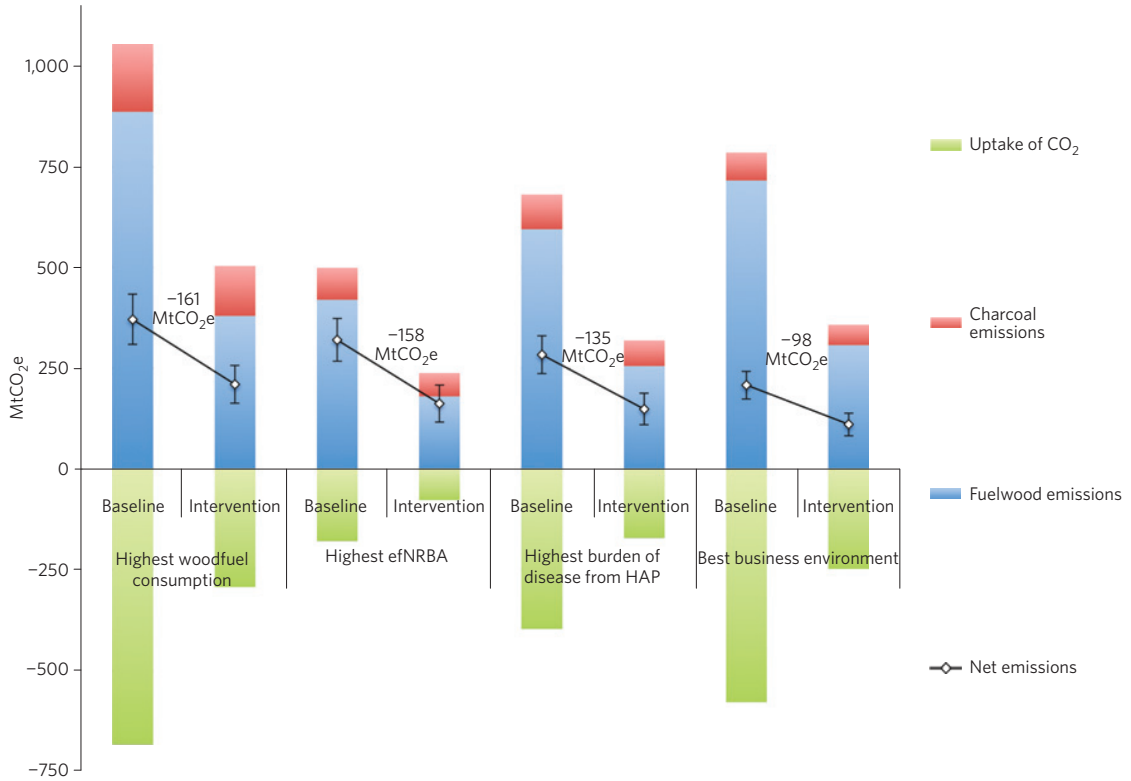

Figure 4 | Annual emissions and emission reductions resulting from fulfilling GACC's objective of 100 million stoves disseminated through interventions with different priorities. Bars indicate GHG emissions/uptake, data points show net emissions, error bars indicate standard deviations, and numbers indicate annual reductions achieved by shifting from baseline to intervention.

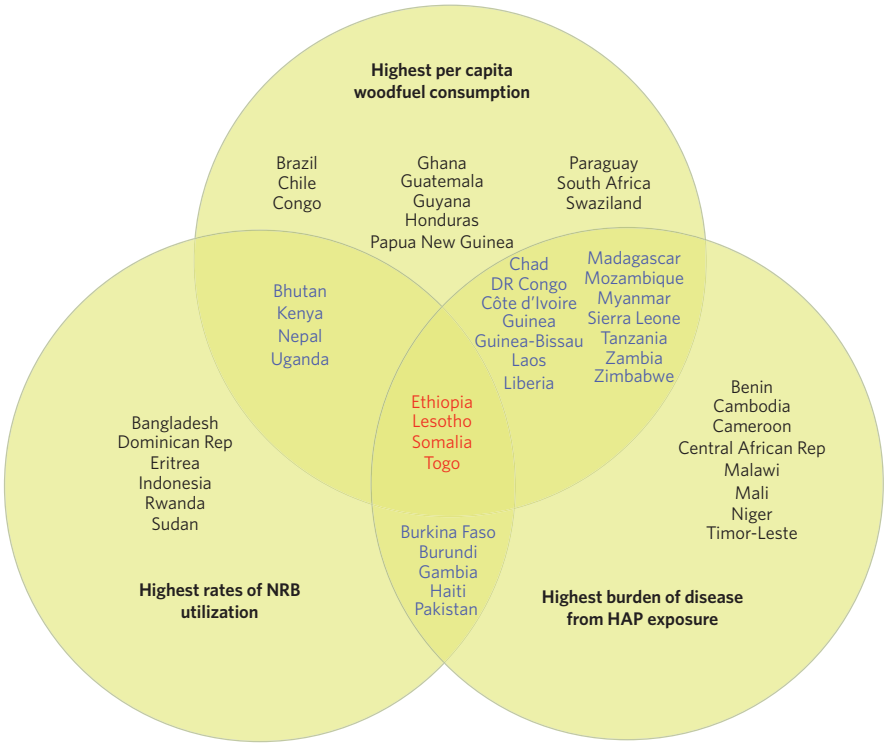

Figure 5 | Countries with highest per capita woodfuel demand, highest expected $fNRB_{B2}$, and highest burden of disease from HAP exposure.

more of the country's total emissions, demonstrating the dominant role that traditional woodfuels have in places with few industrial emissions (Supplementary Table 2).

Our estimates of fNRB are considerably lower than estimates used by woodfuel projects in the carbon market. Project revenues depend directly on fNRB. A review of 305 carbon projects in 45

countries reveals a median fNRB of 90% with minimal regional variation (Supplementary Section 6). We identified only four countries in which sub-national fNRB exceeds 80% as a result of woodfuel demand. Just 8% of existing projects fall within these areas. Thus, project developers are very likely overstating the emission reduction potential of improved stoves.

Household energy forms a major component of the United Nations' promotion of 'Sustainable Energy for All'[34]. However, high upfront costs are a barrier to implementing sustainable solutions. Despite finding lower fRNB values than market actors assume, successfully disseminating 100 million state-of-the-art cookstoves would reduce traditional woodfuel emissions by 98–161 $MtCO_2e\,yr^{-1}$. At US$11 per tCO_2e, the average price of offsets from stove projects in 2012 (ref. 35), these reductions would be valued at US$1.1–1.8 billion if black carbon can be integrated into carbon markets. This far exceeds current investments in household energy in the Global South, which do not garner the same level of finance as other major health impacts such as malaria, tuberculosis and HIV. In addition, we find that policy objectives are important determinants of emission reductions, introducing variation of 60%. Countries with high per capita woodfuel use or high NRB rates yield the largest emissions reductions. However, neither group overlaps completely with countries experiencing the highest disease burden from woodsmoke exposure (Fig. 5). Thus, improved stove dissemination among populations suffering from the largest disease burden results in fewer emission reductions than dissemination in regions with high rates of woodfuel consumption or unsustainable harvesting. However, we identified a small group of countries that rank poorly in all categories (red text in Fig. 5). Others rank poorly in two out of three categories (blue text in Fig. 5). These countries deserve clear prioritization. The sub-national data set generated by this research can be used to more accurately identify high-priority areas and pinpoint locations where interventions would have the greatest impact. Moreover, by identifying areas where woodfuel-driven degradation or deforestation is likely to occur, our assessment fills a critical gap in knowledge about the extent to which woodfuel demand may contribute deforestation or forest degradation and informs emerging REDD-based approaches to climate change mitigation.

Methods

We use the WISDOM model[36] (Supplementary Section 1) to characterize sustainability and net carbon emissions of traditional woodfuels in 90 developing countries located primarily in tropical regions, using 2009 as a base year. Woodfuel demand was derived from national and sub-national studies (Supplementary Section 1) supplemented by data from the FAO, IEA and UN (refs 1,25,26). From these data, we mapped subsistence and commercial components of traditional woodfuel demand. Subsistence demand occurs in rural areas, where people use woodfuels they collect themselves or purchase locally. This wood is harvested within a few hours' walking distance. Commercial demand originates in urban and some densely populated rural locations and is carried using motorized transport over longer distances (Supplementary Section 1).

Woodfuel supply is defined by the productivity of woody biomass, which we model as a function of above-ground biomass (AGB) stock. We use recent maps of land cover and ecological zones[37,38] to define a broad system of land units, including cropland and crop mosaic (often neglected in assessments of woodfuel supply). Each land unit is assigned an AGB stock using three types of source: AGB distribution maps; geo-referenced field plots; and forest inventories from known locations for specific forest types (Supplementary Section 1). AGB distribution was derived from two recent data sets[39,40]. To accommodate disagreements in the two data sets, we gathered data from hundreds of geo-referenced field plots and forest inventories. We subtract woody components not typically used for woodfuels (twigs, leaves and stumps), to build a map of DEB stock (Supplementary Fig. 2). We then estimate woodfuel supply as the MAI of DEB, which we model as a functional relationship between ~2,800 spatially explicit field observations of MAI and corresponding AGB (Supplementary Section 2).

We then make adjustments for potential supply from plantations[41,42] (Supplementary Section 3) and accessibility. Accessibility has legal and physical determinants. Legal accessibility is based on IUCN (International Union for Conservation of Nature) categorization of 'Protected Areas' (Supplementary Section 3). Physical accessibility is a function of the effort required to access woody biomass from a consumption site. We use an inverse function of friction in geographic space for subsistence and commercial demand (Supplementary Section 3) and map the distribution of accessible DEB (Supplementary Fig. 3 and Table 1).

LCC is accommodated by estimating the amount of DEB produced by deforestation and afforestation processes based on data from FAO (ref. 1) distributed spatially using data from Forest Monitoring for Action[43]. Biomass from large-scale deforestation in remote areas of the Amazon or Indonesian rainforests is often burned on site[44,45]. Only LCC occurring in areas that are accessible (as defined above) contributes to NRB. The actual quantity of LCC by-products used as fuel is unknown. Even in accessible areas, some materials may be burned *in situ* or left to decay. To accommodate this uncertainty, we explore two variants of LCC by-product utilization (Table 1 and Supplementary Fig. 5).

We combine the commercial and subsistence supply–demand maps to define the minimum quantity of NRB that would be required to meet existing demand (Supplementary Section 4). This assumes that unsustainable harvesting occurs only after the sustainable supply in a given location has been fully exploited. However, ideal management is unlikely. To simulate more realistic harvesting, we assume that harvesting exceeds sustainable levels in some areas even if the sustainable supply in an adjacent area has not been fully exploited. To estimate the extent of this deviation, we use a proxy defined by the fraction of each country's forested area under formal management plans[30] (Supplementary Section 5).

We then define local balance assuming subsistence users do not travel more than a few kilometres to access woodfuels[46,47] (Supplementary Section 4, Fig. 1a and Supplementary Fig. 4). Then we assess the commercial supply–demand balance in urban centres and rural regions with large deficits by defining a 'woodshed', which represents the region that a commercial demand centre needs to exploit to satisfy demand assuming that the full MAI is used[27]. We assume a threshold of 12-hour one-way travel. When several consumption sites are considered simultaneously, the woodshed is determined by the aggregate demand from all sites (Supplementary Section 4, Fig. 1b and Supplementary Fig. 5).

Annual GHG emissions from traditional woodfuels are estimated by accounting for two flows of GHGs. The first flow consists of combustion emissions including well-mixed GHGs (CO_2, CH_4 and N_2O) and SLCFs (black carbon, organic carbon, CO and VOCs). The second flow consists of CO_2 sequestered by the renewable fraction of harvested woodfuel. We use 100-yr global warming potentials to estimate climate impacts and we derive emissions from published analyses of woodfuel combustion and charcoal pyrolysis[48]. Sequestered CO_2 comes from results of this study (Supplementary Section 4).

To investigate the implications of GACC's 100 million-stove objective, we define scenarios representing broad goals of cookstove dissemination: climate change mitigation; decreasing dependence on NRB; reducing exposure to household air pollution (HAP); and economic development. Although these are stylized options, we chose these four scenarios to demonstrate that there are trade-offs between health and environmental policy objectives. We examine the outcome of focusing specifically on these objectives by targeting stove dissemination at the locations that rank among the highest in one of four categories described in Supplementary Section 6.

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Author contributions

R.D., R.B., A.G. and O.M. designed the study; R.D. conducted the pan-tropical WISDOM analysis and constructed the NRB model; R.B. calculated GHG emissions and emission reductions; R.D., R.B., A.G. and O.M. wrote the paper.

Additional information

Supplementary information is available in the online version of the paper. Reprints and permissions information is available online at www.nature.com/reprints. Correspondence and requests for materials should be addressed to R.B.

Competing financial interests

The authors declare no competing financial interests.

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SUPPLEMENTARY INFORMATION

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The carbon footprint of traditional woodfuels

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1. The WISDOM method

This study is based on "Woodfuels Integrated Supply/Demand Overview Mapping" (WISDOM), a spatially explicit analytic method developed to identify priority areas of intervention and supporting biomass energy planning and policy formulation. WISDOM is the fruit of a collaborative effort between the Wood Energy Program of FAO and the *Centro de Investigaciones en Ecosistemas* (CIECO) of the National Autonomous University of Mexico (UNAM)[1-4] and has been implemented in over 25 countries[5].

WISDOM presents a flexible approach that is adaptable to local conditions and available information, which allows it to cope with heterogeneity. The approach utilizes seven steps (Figure 1). The first five steps form the WISDOM "base" and include:

1) The selection of the minimum administrative unit of analysis (i.e, villages, counties, states)
2) Mapping of woodfuel supply
3) Mapping of demand patterns
4) Integration of information
5) Identification of priority areas or "hotspots" (step5)

Two additional steps constitute a "woodshed analysis", which is required to identify sustainable supply zones for specific consumption sites (e.g. the territory required to supply an urban area or biomass energy plant)[6].

6) Mapping of potential "commercial" woodfuel supplies suitable for urban, peri-urban and rural markets
7) Identify potential sustainable woodfuel supply zones, based on woodfuel production potentials and physical accessibility parameters. In this case, in order to define the probable harvesting zone, the woodshed analysis includes travel time constraints.

Flowcharts describing the main features of the pan-tropical WISDOM analysis and fNRB estimation are shown in Figure 2 a-e.

Figure 1: WISDOM analytical steps: WISDOM Base (steps 1-5) and Woodshed analysis (steps 6, 7)

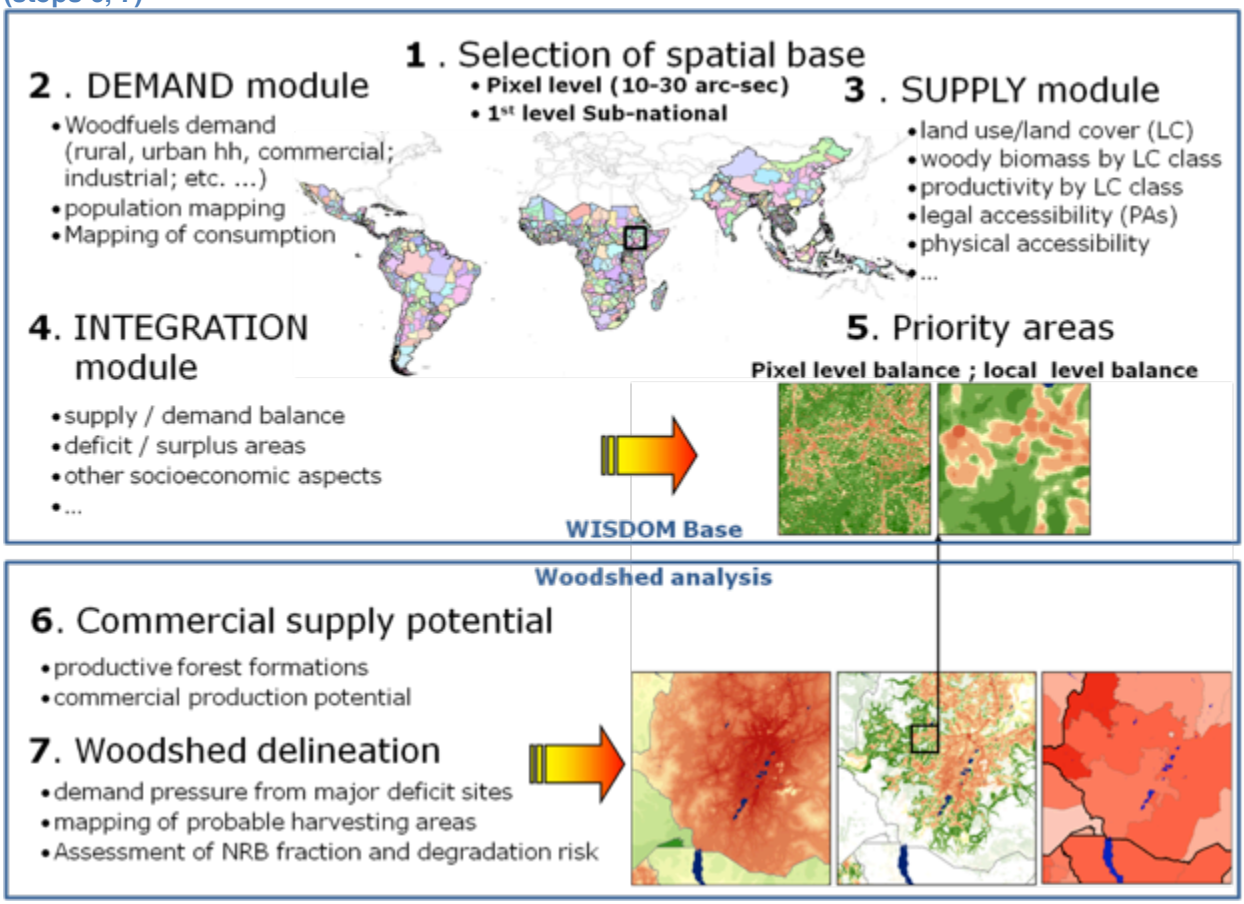


Figure 2a: Flowchart of the Pan-tropical Supply Module

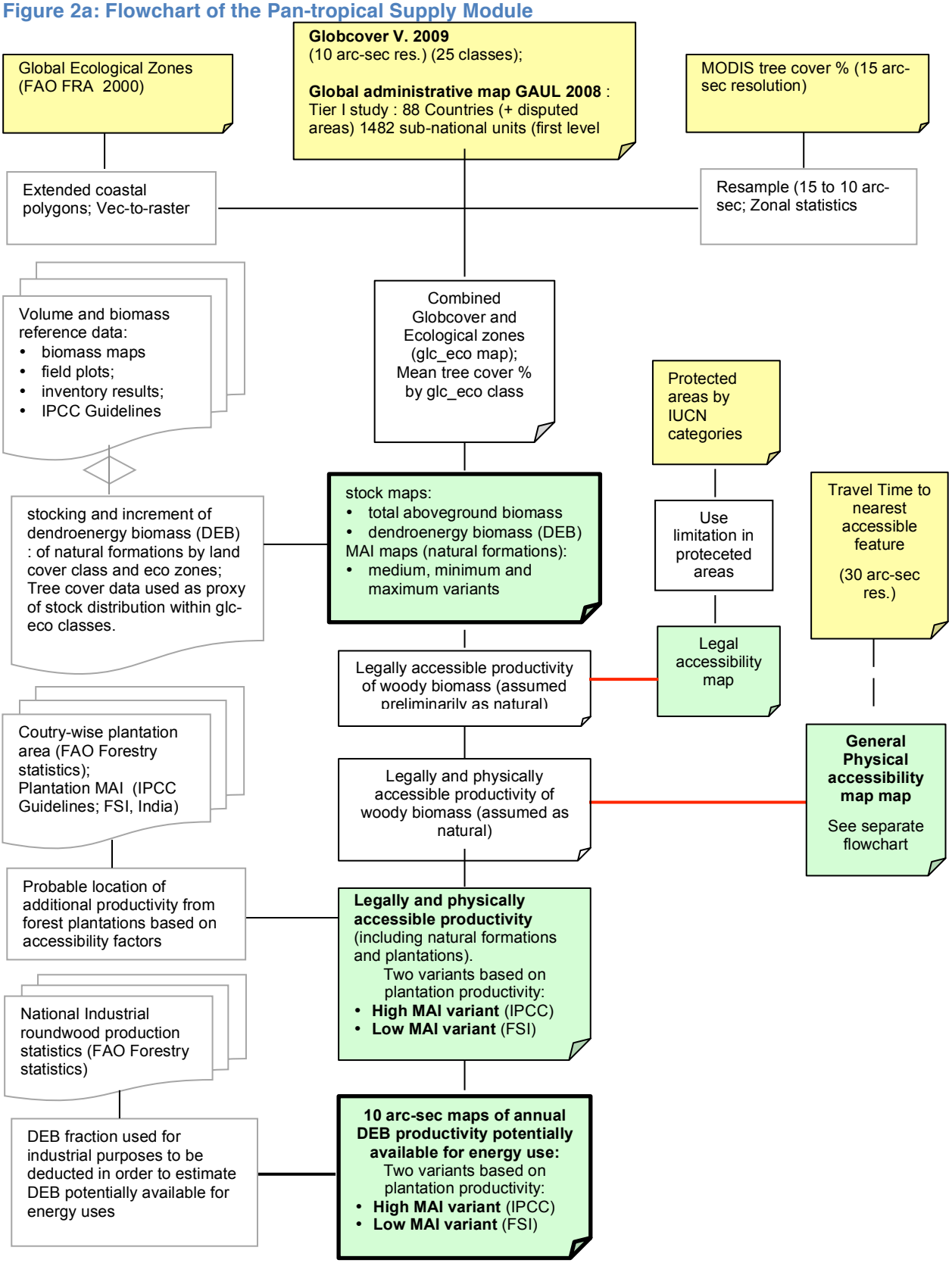


Figure 2b: Flowchart of the Pan-tropical Demand and Integration Modules

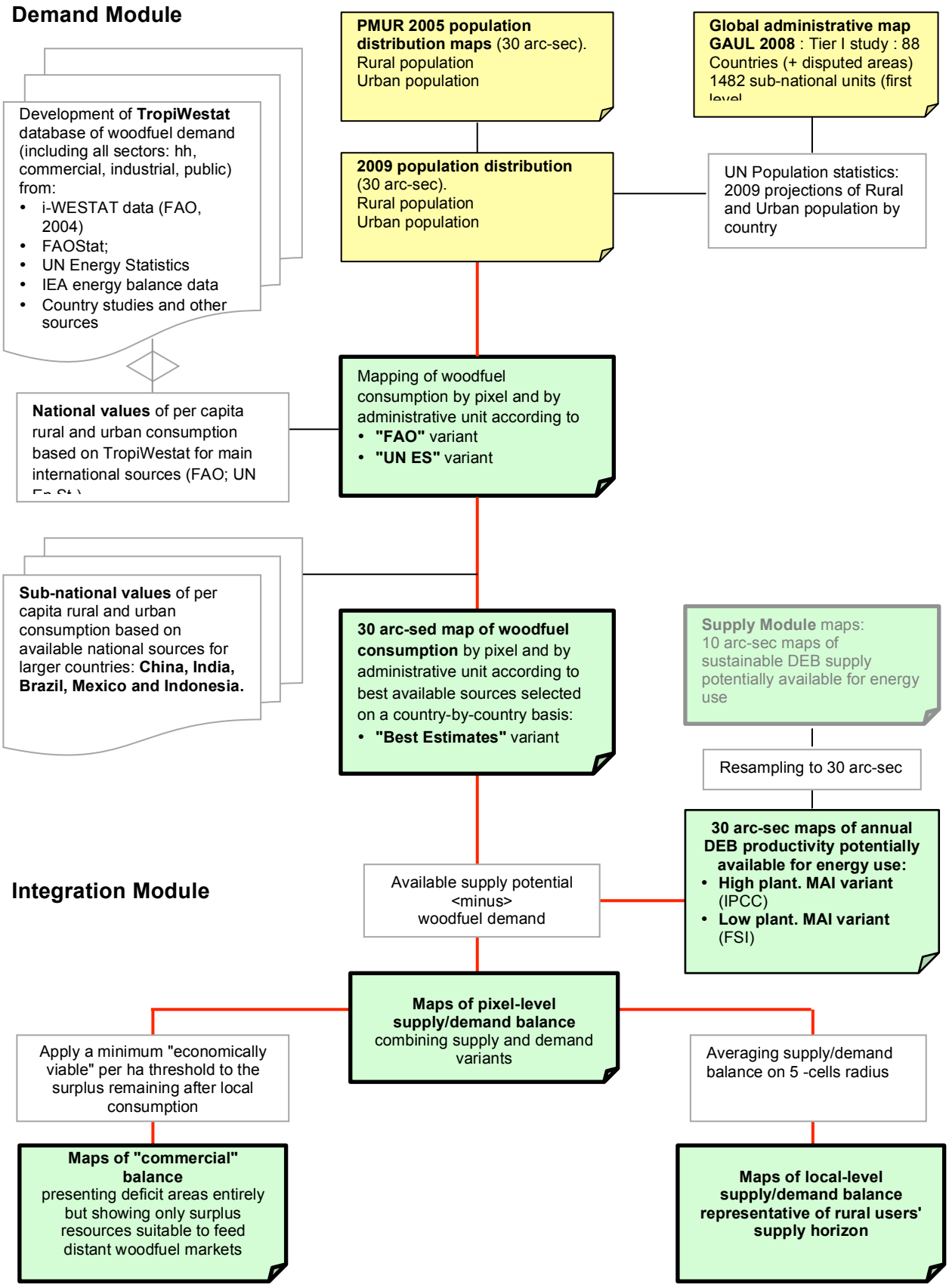


Figure 2c: Flowchart of physical accessibility analysis. Two maps are produced: the General Physical accessibility map, qualifying each map cell according to the nearest accessible feature, and the Friction map, to be used for the analysis of accessibility of selected locations.

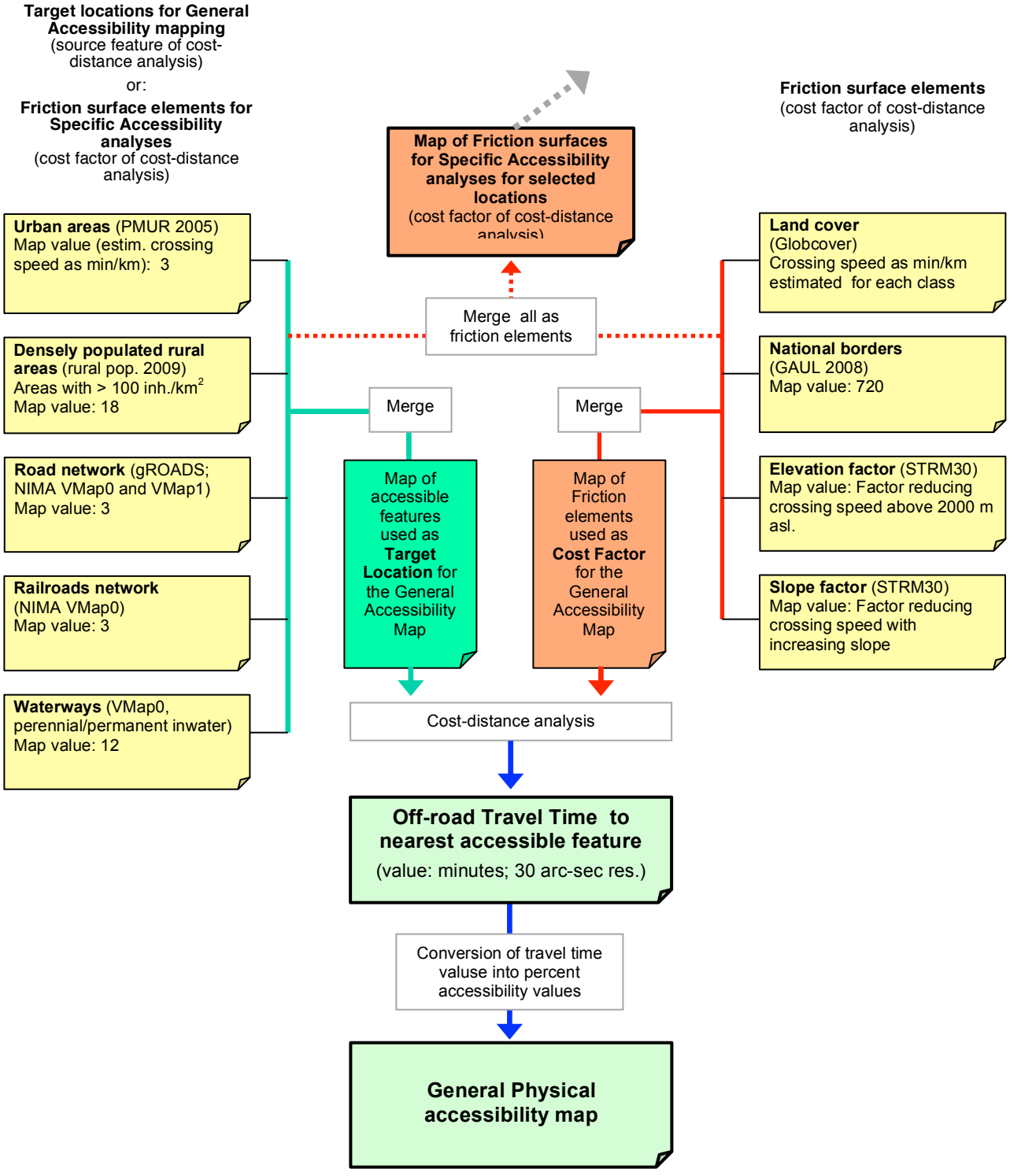


Figure 2d: Flowchart of Woodshed analysis

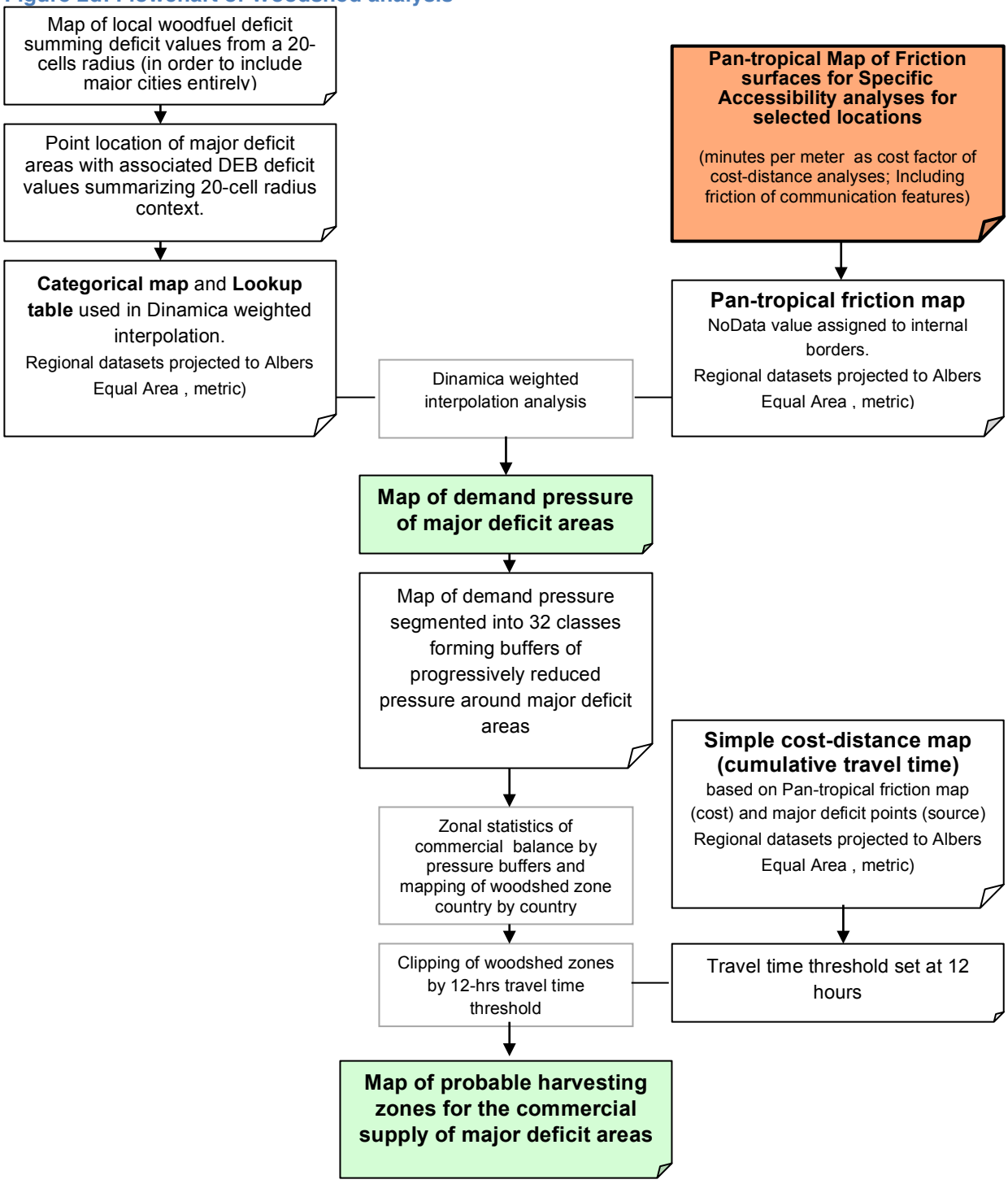
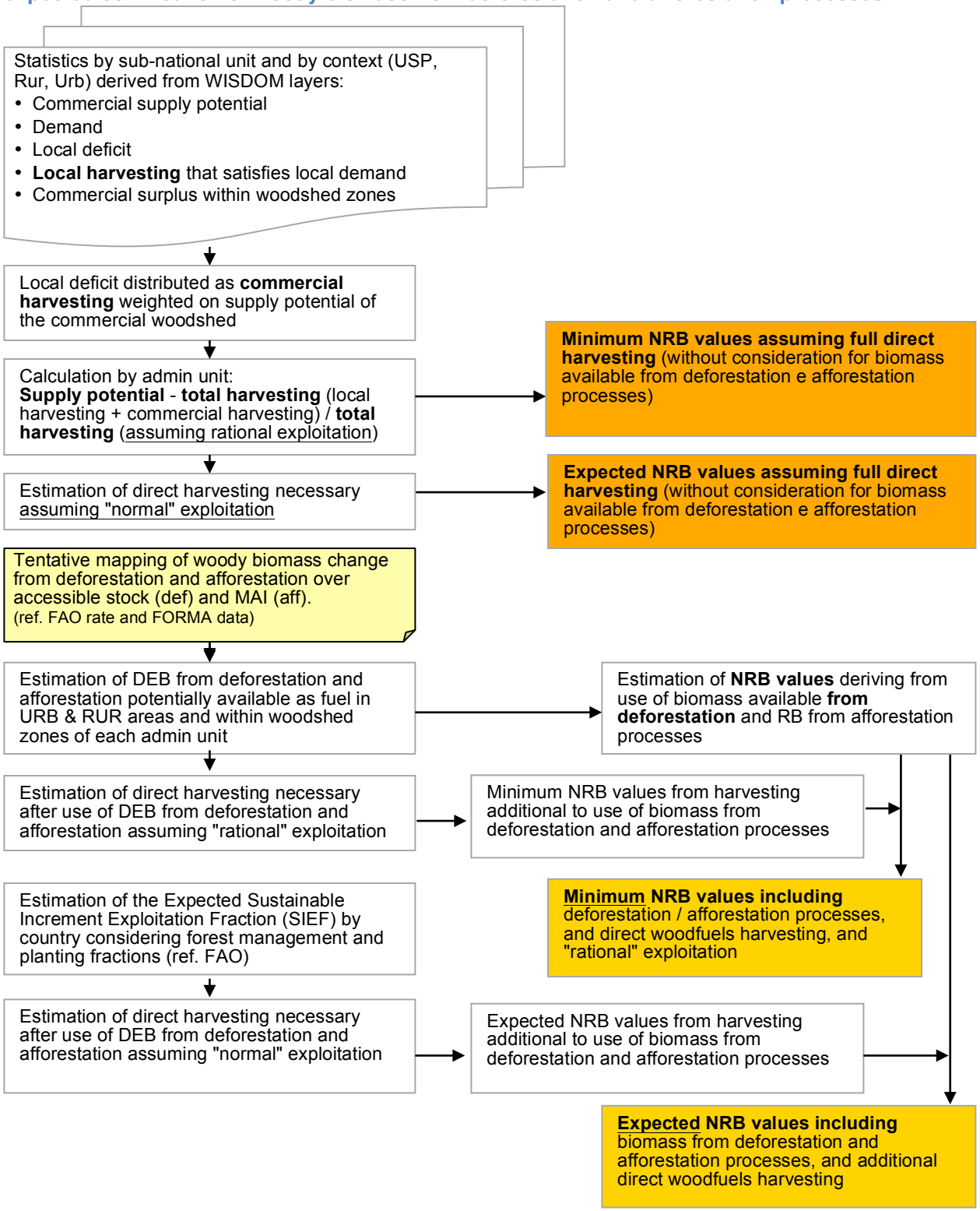


Figure 2e: Flowchart of NRB estimation procedure. Two estimates are produced: (i) assuming woodfuel production entirely through direct harvesting and (ii) including the expected contribution of woody biomass from deforestation and afforestation processes.



Sources of Data and Analysis of Woodfuel Demand[1]

The Demand Module creates a geospatial database of Dendro Energy Biomass DEB demand with 30 arc-second resolution (0.86 km^2 at 0 Lat; 0.74 km^2 at ±30 Lat). The analysis and mapping are first based on human population distribution data, follow by estimates of DEB consumption.

Population distribution data sources:

- **GLOBAL Gridded Population Maps and Data**. Gridded Population of the World, version 3 (GPWv3) and the Global Rural-Urban Mapping Project (GRUMP) are the latest developments in the rendering of human populations in a common geo-referenced framework, produced by the Center for International Earth Science Information Network (CIESIN) of the Earth Institute at Columbia University. The GPWv3 edition includes a gridded population projection to 2015 produced by CIESIN and CIAT in collaboration with the Food and Agriculture Organization of the United Nations (FAO). These maps are produced with a resolution of 30 arc-seconds.

- **Global Administrative Unit Layers (GAUL)**[2]. Edition 2009 reporting 2008 sub-national subdivisions of 1st level. The Global Administrative Unit Layers (GAUL) is an initiative implemented by FAO within the EC-FAO Food Security Program funded by the European Commission (http://www.foodsecinfoaction.org/News/news_06_06.htm). GAUL compiles and disseminates the most reliable spatial information on administrative units for all the countries in the world, providing a contribution to the standardization of the spatial dataset representing administrative units.

- **Population data** is based on demographic statistics from the United Nations, Department of Economic and Social Affairs (UNDESA) Population Division. World Urbanization Prospects: The 2011 Revision.[3] National statistics of urban and rural population are used to project GRUMP data to 2009.

Woodfuel use data sources:

Woodfuel consumption is based on international, regional and, when available, national sources of data. The resulting data is compiled in an MS-Access database of woodfuels production, consumption and trade called **Trop-i-Westat** (Tropical Interactive Wood Energy Statistics), which uses the structure and functionalities of the database i-WESTAT[7]. Trop-i-Westat integrates input from the following:

- **International databases of forestry and energy statistics**:
    - FAO country data on wood fuel production, import and export[8]
    - International Energy Agency (IEA) Renewable Energy statistics[9]
    - Historical references (specified in Table 1)
    - UN Energy statistics[10]

For each country, data from the international databases compared to any available national source (e.g. censuses, nationally representative surveys, etc) to identify the most reliable

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[1] The terms **demand**, **use** and **consumption** are used interchangeably throughout this Supplementary Information.

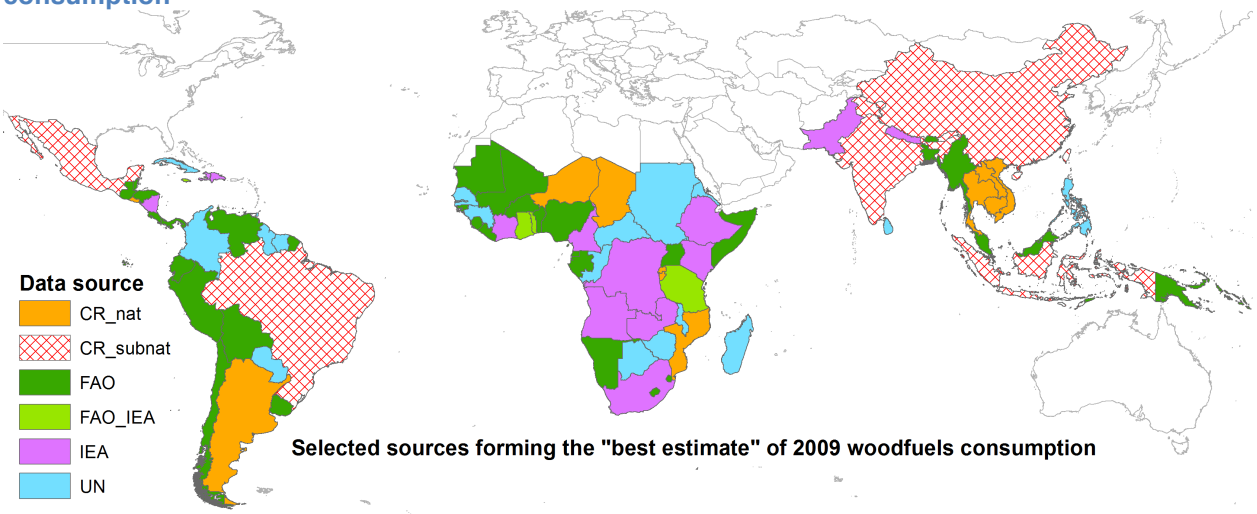
[2] http://www.fao.org/geonetwork/srv/en/metadata.show?id=12691

[3] http://esa.un.org/unpd/wup/CD-ROM/Urban-Rural-Population.htm

reference for each country. These data vary in quality and, in some cases, the global datasets disagree. In addition, the datasets do not offer a uniform level of detail: most datasets disaggregate between fuelwood and charcoal and some disaggregate rural and urban consumption, but few disaggregate among subnational administrative units. If large discrepancies existed between global datasets (FAO, UN, IEA) and national sources of data, we favor national sources because they are derived from actual surveys rather than projections or estimates. In addition, for several larger countries in the sample (China, India, Indonesia, Mexico and Brazil), sub-national data is available, which we used estimate sub-national demand maps[11-18]. We combined these data into a "Best Estimate" of woodfuel demand (Figure 3 and Table 1).

Some regions supplement woodfuels with crop residues or dung. However, we focus exclusively on woody materials and do not consider crop residues. The demand data that we use in our model is based solely on woody biomass rather than aggregate data that may include non-woody materials. IEA data aggregates wood and other biomass like crop residues into a single category of “primary solid biomass” (PSB). When using IEA data, we applied a nationally specific adjustment factor to isolate the woody fractionexplained in [7].

Figure 3: Sources used to create the "Best Estimate" version of 2009 woodfuels consumption[4]



Note: CR_nat and CR_subnat correspond to national sources, with national and sub-national level data, respectively (sources of data are provided in Table 1).

Table 1: Sources of information for "best estimates” of woodfuel consumption

Country	Type of source	Level	Comments and sources
Angola	IEA	National	FAO is based on Global Forest Product Outlook Study (GFPOS) model. IEA Ch and Fw PSB woody fraction is preferred[9].
Argentina	CR_nat	National	[19]
Bangladesh	FAO	National	[8]
Belize	FAO	National	[8]
Benin	FAO	National	FAO considered more accurate; a national report[20] shows agreement with past years of FAO data[8].
Bhutan	FAO	National	[8]

[4] CR_nat = Country report with national-level data; CR_subnat = Country report with sub-national-level data

Bolivia	FAO	National	[8]
Botswana	UN	National	[10]
Brazil	CR_subnat	Sub-national	[17,18]
Brunei Darussalam	FAO	National	[8]
Burkina Faso	FAO	National	[8]
Burundi	CR_nat	National	Extrapolated values from Rwanda[21]
Cambodia	CR_nat	National	[22]
Cameroon	IEA	National	FAO values are all based on GFPOS model. [8] For Ch IEA and UN are preferred[9,10]. For Fw IEA PSB woody fraction is preferred[9].
Central African Rep.	UN	National	Both FAO and UN give unrealistic charcoal values, since consumption in CAR is negligible. A national study found 1.4% of HHs used charcoal and confirms UN Fw values[23].
Chad	CR_nat	National	National report[24]
Chile	FAO	National	[8]
China	CR_subnat	Sub-national	Sub-national estimates[13]
Colombia	UN	National	[10]
Congo, Dem. Rep.	IEA	National	FAO values are both based on GFPOS model[8]. IEA Ch and extrapolated Fw PSB woody fraction is preferred[9].
Congo, Rep.	UN	National	[10]
Costa Rica	FAO	National	[8]
Côte D'Ivoire	IEA	National	For Ch IEA is preferred[9]. For Fw IEA PSB woody fraction is preferred[9].
Cuba	UN	National	[10]
Dominican Republic	IEA	National	For Ch IEA is preferred[9]. For Fw IEA PSB woody fraction is preferred[9].
Ecuador	FAO	National	[8]
El Salvador	CR_nat	National	Country report[25]
Eq Guinea	FAO	National	[8]
Eritrea	UN	National	FAO and IEA give very low Fw values[8,9] while UN is in line with a previous country study [10 26].
Ethiopia	IEA	National	FAO and UN are both based on GFPOS model. IEA Ch and Fw PSB woody fraction is preferred[9].
French Guiana	FAO	National	[8]
Gabon	FAO	National	[8]
Gambia	UN	National	[10]
Ghana	FAO&IEA	National	FAO for Ch and IEA for Fw [8,9]. A country report[27] supports FAO Ch values and IEA PSB value, while FAO and UN based on GFPOS appear too high
Guatemala	FAO	National	[8]
Guinea	UN	National	[10]
Guinea-Bissau	FAO	National	[8]
Guyana	UN	National	[10]
Haiti	IEA	National	FAO and UN are both based on GFPOS model[8,10]. IEA Ch and extrapolated Fw IEA PSB woody fraction is preferred[9].
Honduras	FAO	National	[8]
India	CR_subnat	Sub-national	Sub-national estimates[12]
Indonesia	CR_subnat	Sub-national	Province-wise consumption estimated using saturation data. Total quantities based on IEA for Ch[9]. For Fw IEA PSB woody fraction is preferred[9], which is similar to Nat. Biomass Energy data[11]
Jamaica	FAO&IEA	National	IEA for Ch and FAO for Fw[8]
Kenya	IEA	National	FAO[8] is very low. IEA[9] is adjusted to an earlier national study[28]

Laos	CR_nat	National	GCP/RAS/173/EC Laos report by Mr Oukham Phiathep, Planning Dep. Min. Agr. and Forestry. (Main ref: 1997 STENO - Paper - Laos Internship for National Training on Wood Energy Planning). 2000 proj to 2009
Lesotho	FAO	National	UN Fw values are based on FAO GFPOS model,[10] but FAO uses other values[8]
Liberia	FAO	National	[8]
Madagascar	UN	National	FAO Fw values are based on GFPOS model[8]
Malawi	UN	National	FAO Ch and Fw values are based on GFPOS model[8]
Malaysia	FAO	National	There is agreement on Fw btwn IEA[9] and FAO[8] but large difference on Ch.
Mali	FAO	National	[8]
Mauritania	FAO	National	[8]
Mexico	CR_subnat	Sub-national	WISDOM Mexico study[3] and census data[14-16]
Mozambique	CR_nat	National	[29]
Myanmar	FAO	National	[8]
Namibia	FAO	National	[8]
Nepal	IEA	National	FAO and UN are both based on GFPOS model. IEA Ch and extrapolated Fw seem more realistic[9].
Nicaragua	IEA	National	FAO and UN are both based on GFPOS model. IEA Ch and extrapolated Fw seem more realistic[9].
Niger	CR_nat	National	Systeme Informatif Energetique, Niger with 2004 estimates but percapita values based on CTFED 89
Nigeria	FAO	National	FAO Ch and Fw values are based on GFPOS model (matching well consumption values applied in Nigeria[8]. National sources 1.1.kg per person, thus totalling 401.5 kg/person/year air-dry (Marzoli 2013, personal communication) which is reasonably close to FAO and much less than estimated by IEA and UN.
Pakistan	IEA	National	FAO Ch is based on GFPOS and is unrealistically low[8]. For Ch IEA is preferred[9]. For Fw IEA PSB woody fraction is preferred[9].
Panama	FAO	National	[8]
Papua New Guinea	FAO	National	[8]
Paraguay	UN	National	[10]
Peru	FAO	National	[8]
Philippines	UN	National	[10]
Rwanda	CR_nat	National	[21]
Senegal	UN	National	FAO Ch value appears low[8]; UN is preferred[10].
Sierra Leone	FAO	National	[8]
Singapore	UN	National	[10]
Solomon Islands	FAO	National	[8]
Somalia	FAO	National	[8]
South Africa	IEA	National	For Ch IEA is preferred. For Fw IEA PSB reduced to woody fraction is preferred[9].
Sri Lanka	UN	National	[10]
Sudan (former)	UN	National	[10]
Suriname	UN	National	[10]
Swaziland	FAO	National	[8]
Tanzania	FAO&IEA	National	FAO Ch[8] and extrapolated IEA Fw value are preferred[9].
Thailand	CR_nat	National	GCP/RAS/173/EC Thailand report by Sriluck Tatayanon, Royal Forestry Department. Main ref.:surveys by Department of Energy Devel. RWEDP country study (2000) confirms FAO for Fw and confirms IEA for Ch
Timor-Leste	FAO	National	[8]
Togo	FAO&IEA	National	FAO for Fw[8] and IEA for Ch[9].
Trinidad/Tobago	UN	National	[10]
Uganda	FAO	National	FAOSTAT Fw consumption very high[8], but no other source available.

Uruguay	FAO	National	[8]
Venezuela	FAO	National	Low Ch value in FAO[8] compared to IEA[9]
Viet Nam	CR_nat	National	Country report[30]
Zambia	IEA	National	For Ch IEA is preferred. For Fw IEA PSB reduced to woody fraction is preferred[9]
Zimbabwe	UN	National	UN value for Fw[10] better reflects the value of 10 Mt (airdry) indicated by[31].

Table 2 summarizes regional demand for fuelwood and charcoal (in wood equivalent units) according to FAO and UN Energy Statistics, along with our "Best Estimate", which falls between the total FAO and UN. Charcoal is converted to wood-equivalent units using a conversion factor of 165 kg of charcoal produced from one cubic meter of wood. Assuming the density of dry wood is 0.7 t/m^3, ~4.24 tons of wood is required to produce per ton charcoal[32]. Total woodfuel demand at is mapped in Extended Data Fig. 1.

Table 2: Fuelwood (Fw) and Charcoal (Ch) consumption according to FAO, UN Energy Statistics and to "Best Estimate" variant (Million tons of oven-dry wood-equivalent)

Regions	Best Estimate			FAO			UN EnSt		
	Fw	Ch	Tot	Fw	Ch	Tot	Fw	Ch	Tot
Africa	340	98	**438**	259	86	**346**	550	79	**629**
Latin America	149	39	**187**	144	28	**172**	156	30	**186**
Asia	683	24	**707**	428	28	**456**	635	40	**675**
Total	1,172	160	**1,332**	831	143	**974**	1,341	149	**1,490**

Accounting for non-energy uses of harvested wood

Construction material for rural houses, fences, stables, poles, are not accounted for in industrial wood demand statistics. This demand is mainly rural close to centers of local woodfuel demand. In order to account for this sector of DEB consumption, we add demand for construction material to the rural demand for woodfuels by assigning an estimated per capita consumption. The consumption of construction material for fences, stables, rural houses construction and maintenance ranges between 5 and 20 kg per capita and per year[21,29,33]. In this study, a mid-range value of 11 kg per capita-year is applied to the rural population.

Sources of Data and Analysis of Woodfuel Supply

Pan-tropical Supply Module

The stock of AGB depends on the type of vegetation and climatic or ecological zone. Stock parameters are assigned to categories derived from two global datasets:

- A land cover map based on GlobCover with 10 arc-second resolution (300 m at 0 Lat.) produced by ESA[34-36]; land cover classes used in this assessment are shown in Table 3.
- Ecological data derived from Global Ecological Zone Map[37]; 20 broad ecological zones are shown in Table 4.

Combining GlobCover classes and ecological zones results in 355 unique land classification units. From these units we define a smaller number of "master-classes" composed of pure land cover classes (grouping GlobCover classes defined by variations of crown cover and excluding class mixtures) and eco zones, which we link to available data on biomass stock from these sources:

- Empirically-derived maps of biomass distribution based on field measurements and remote sensing[38-41]
- Geo-referenced plot data from forest inventories and field surveys[42-52] and,
- Forest inventory results with adequate location details (i.e. maps of inventory strata) and description of forest/vegetation type[53,54] (Table 6).

This allowed us to clearly define forest categories associated with existing forest inventories. Table 3 shows the relation between original GlobCover classes and chosen master-classes and Table 5 shows the distribution of GlobCover and master-classes by ecological zones in each region.

Two maps of biomass distribution, covering nearly all of the study area, are particulary relevant for this study: a carbon-density map with 500m resolution from the Woods Hole Research Center (WHRC)[38] and a map of tropical forest carbon stocks at 1000m resolution from NASA's Jet Propulsion Lab (JPL)[41]. Both studies show substantial agreement in wet tropical zones but disagreement in drier zones. This may be explained by the fact that both studies focused their field work primarily in humid tropical areas; and because drier zones are characterized by large intra-annual variations in leaf area index (LAI) and greenness, which make remotely sensed AGB estimations more sensitive to seasonality and subject to greater uncertainty. In areas characterized by lower biomass stocks such as dry forests, mixed land uses and farming areas, average AGB stocks for each master-class, ecological zone, and region are estimated by utilizing available plot and inventory data described above. In areas of moist forest, the mean of WHRC and JPL values are used to represent the AGB stock of each master-class.

Stock values associated with master-classes are then estimated for all GlobCover classes on the basis of crown cover densities and class combinations.

In order to distribute AGB stocks within each regional Globcover class, we utilized the tree cover percent (TC%) from Hansen and colleagues' Vegetation Continuous Field (VCF) dataset[55]. For this, we calculate the mean tree cover percent of each regional Globcover master-class. The average AGB stock is then allocated to the average tree cover percent and the final pixel-level AGB stock value is calculated as in equation 1:

$$AGB_{i,j} = \overline{AGB}_j \frac{TC\%_i}{TC\%_j} \quad (1)$$

Where $AGB_{i,j}$ is the stock of AGB in pixel *i* in GlobCover master-class *j*, $\overline{AGB}_j$ is the average stock of AGB in GlobCover master-class *j*, $TC\%_i$ is the percentage of tree cover in pixel *i*, and $TC\%_j$ is the average percentage of tree cover in GlobCover master-class *j*.

Table 3: GlobCover 2009 Legend and master-classes

Code	GlobCover Class legend	Master-class
11	Post-flooding or irrigated croplands (or aquatic)	
14	Rainfed croplands	C
20	Mosaic cropland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%)	
30	Mosaic vegetation (grassland/shrubland/forest) (50-70%) / cropland (20-50%)	
40	Closed to open (>15%) broadleaved evergreen or semi-deciduous forest (>5m)	B1
41	Closed (>40%) broadleaved evergreen and/or semi-deciduous forest	B1
42	Open (15-40%) broadleaved evergreen and/or semi-deciduous forest with emergents	B1
50	Closed (>40%) broadleaved deciduous forest (>5m)	B2
60	Open (15-40%) broadleaved deciduous forest/woodland (>5m)	B2
70	Closed (>40%) needle-eaved evergreen forest (>5m)	N1
90	Open (15-40%) needle-eaved deciduous or evergreen forest (>5m)	N2
100	Closed to open (>15%) mixed broadleaved and needleleaved forest (>5m)	B-N
110	Mosaic forest or shrubland (50-70%) / grassland (20-50%)	
120	Mosaic grassland (50-70%) / forest or shrubland (20-50%)	
130	Closed to open (>15%) (broadleaved or needleleaved, evergreen or deciduous) shrubland (<5m)	S
140	Closed to open (>15%) herbaceous vegetation (grassland, savannas or lichens/mosses)	G
150	Sparse (<15%) vegetation	
160	Closed to open (>15%) broadleaved forest regularly flooded (semi-permanently or temporarily)-Fresh or brackish water	
170	Closed (>40%) broadleaved forest or shrubland permanently flooded-Saline or brackish water	B5
180	Closed to open (>15%) grassland or woody vegetation on regularly flooded or waterlogged soil-Fresh, brackish or saline water	
190	Artificial surfaces and associated areas (Urban areas >50%)	U
200	Bare areas	
210	Water bodies	
220	Permanent snow and ice	
230	No data (burnt areas, clouds,…)	

Table 4: Global Ecological Zones

GEZ code	GEZ_CLASS	GEZ_TERM
11	TAr	Tropical rainforest
12	TAwa	Tropical moist deciduous forest
13	TAwb	Tropical dry forest
14	TBSh	Tropical shrubland
15	TBWh	Tropical desert
16	TM	Tropical mountain system
21	SCf	Subtropical humid forest
22	SCs	Subtropical dry forest
23	SBSh	Subtropical steppe
24	SBWh	Subtropical desert
25	SM	Subtropical mountain system
31	TeDo	Temperate oceanic forest
32	TeDc	Temperate continental forest
33	TeBSk	Temperate steppe
34	TeBWk	Temperate desert
35	TeM	Temperate mountain system
41	Ba	Boreal coniferous forest
42	Bb	Boreal tundra woodland
43	BM	Boreal mountain system
50	P	Polar

Table 5: Area of Globcover classes and Master-classes by region and Global Ecological Zones ('000 ha – same coding as in Table 4

		Global Ecological Zones																
Reg (Master-class)	**Glc09**	**11**	**12**	**13**	**14**	**15**	**16**	**21**	**22**	**23**	**24**	**25**	**31&32**	**33**	**34**	**35**	**41&43**	**Total**
Africa	11	0	1		1,718	16	0											1,735
(C)	14	928	6,121	18,622	14,643	869	3,292	244	371			42						45,132
	20	4,588	30,507	38,985	24,503	817	19,437	33	132			14						119,014
	30	92,007	32,810	57,593	69,614	2,113	23,485	2,145	869			13,669						294,307
(B1)	40	40,624	8,924	2,184	400	2	4,638	84	12			50						56,916
(B1)	41	130,838	375				5,730											136,943
(B1)	42	0	1				1											2
(B2)	50	18,534	69,133	30,537	2,320	121	5,763	1,220	976			747						129,351
(B2)	60	37,547	146,593	55,012	5,920	1,979	9,657	1,991	2,559			2,126						263,384
(N1)	70	5	16	0	1		2											24
(N2)	90	162	909	2,191	154	0	252	79	24			28						3,798
(B-N)	100	3	19	6	38	0	2	0	0									68
	110	4,219	22,630	34,881	66,196	5,448	13,492	419	508			1,763						149,555
	120	3,774	18,844	1,871	10,617	1,297	4,936	81	51			76						41,547
(S)	130	24,831	102,865	72,603	13,978	285	17,043	841	447			1,177						234,070
(G)	140	2,641	15,785	41,478	202,352	51,396	8,705	1,135	1,820			10,455						335,767
	150	13	100	762	38,296	20,360	1,543	66	171			31						61,342
	160	33,925	1,436	572	225	0	180											36,339
(B5)	170	994	859	40	17	0	2											1,912
	180	86	2,464	4,847	1,349	43	7											8,796
	190	310	184	415	348	21	126	57	84			398						1,944
	200	77	225	522	142,569	308,179	8,718	13	7			5						460,315
	210	8,846	10,242	4,720	2,770	483	815	107	46			146						28,176
	220					0	0		0									0
Africa Tot		**404,953**	**471,043**	**367,839**	**598,029**	**393,431**	**127,824**	**8,515**	**8,077**			**30,725**						**2,410,436**

		Global Ecological Zones																
Reg (Master-class)	**Glc09**	**11**	**12**	**13**	**14**	**15**	**16**	**21**	**22**	**23**	**24**	**25**	**31&32**	**33**	**34**	**35**	**41&43**	**Total**
America																		
(C)	14	11,375	43,162	15,872	160	71	4,180	27,550	427	942	1,181	225	773	332		155		106,406
	20	31,396	75,803	25,860	266	36	13,225	23,470	1,360	1,230	370	399	627	343		88		174,473
	30	24,379	86,840	31,482	708	57	9,735	33,448	2,371	7,048	3,742	2,291	495	657		81		203,331
(B1)	40	81,113	89,466	18,383	591	1	23,560	13,459	2,446	128	2	724	9,599	1,093		1,516		242,083
(B1)	41	487,664	27,737				38,331											553,732
(B1)	42	1,253	3,888				927											6,068
(B2)	50	2,582	34,967	35,039	14	5	6,188	2,882	489	1,014	96	1,746	536	436		144		86,135
(B2)	60	89	1,965	2,182	0	0	290	1	3	1		1	312	6		47		4,896
(N1)	70	149	3,070	3,458			7,143		2	3,726	3,746	8,921						30,213
(N2)	90		0															0
(B-N)	100	51	593	199			1,211	0	24	161	123	853	278	2		24		3,518
	110	2,253	7,743	6,528	554	782	10,611	1,128	166	13,962	6,159	4,253	61	9,574		131		63,905
	120	929	4,278	1,641	428	647	7,599	238	121	11,813	3,841	3,426	76	5,900		145		41,082
(S)	130	11,746	59,859	38,646	1,398	1,143	34,269	12,817	2,020	30,166	39,871	6,360	5,374	11,105		1,870		256,642
(G)	140	4,608	29,806	6,990	708	1	11,987	2	2	6,983	3,582	2,796	1,851	49		256		69,622
	150	132	227	369	1,158	715	13,381	147	130	7,534		3,418	302	13,856		468		41,838
	160	22,711	4,971	28	17	1	252			0	0							27,981
(B5)	170	408	859	190	27		8	5		0	26							1,523
	180	8,868	11,754	30	3	1	1,487	1,794	2	3		0	120	24		22		24,109
	190	267	261	108	18	70	182	121	26	100	19	3		9				1,183
	200	459	242	658	4,056	9,844	27,078	160	285	7,818	33	7,728	142	5,236		228		63,965
	210	11,388	6,921	2,535	163	168	1,226	2,148	89	707	386	60	3,241	866		243		30,143
	220	3	0	0	0	0	826	0	2	12	1	152	1,585	24		2,190		4,798
America Tot		**703,826**	**494,410**	**190,197**	**10,268**	**13,543**	**213,697**	**119,370**	**9,966**	**93,348**	**63,179**	**43,356**	**25,373**	**49,511**		**7,607**		**2,037,649**

		Global Ecological Zones																
Reg (Master-class)	**Glc09**	**11**	**12**	**13**	**14**	**15**	**16**	**21**	**22**	**23**	**24**	**25**	**31&32**	**33**	**34**	**35**	**41&43**	**Total**
Asia	11	9,889	27,328	51,118	49,302	17,401	319	16,741		1,735	0	4,920	10,976	1,160	8,627	7,487		207,002
(C)	14	47,306	24,202	38,235	29,791	253	3,854	41,749		1,758		23,119	24,549	8,406	236	44,847	13	288,316
	20	72,595	16,641	24,389	25,507	2,288	6,204	9,701		1,536	0	10,945	5,603	7,638	996	16,528	35	200,607
	30	13,077	7,750	4,688	5,260	5,564	2,068	19,074		1,732	42	14,599	5,178	12,190	2,900	29,642	270	124,033
(B1)	40	62,893	22,371	6,584	614	0	33,638	18,335		11		4,826	46	0	2	19		149,340
(B1)	41	79,492																79,492
(B2)	50	463	2,847	3,237	455	0	911	736		21		854	6,044	24	0	160	27	15,779
(B2)	60	432	3,715	1,166	7		1,419	5				816						7,560
(N1)	70	1,625	824	186	17	0	6,065	28,135		109		24,464	302	36	37	7,293		69,091
(N2)	90												11,198	1,880	5	764	12,340	26,187
(B-N)	100	2,073	1,498	572	138	0	730	15,708		52		5,611	2,741	540	74	4,324	546	34,607
	110	401	46	14	4		81	445		17		2,570	8,772	617	32	2,863	1,419	17,280
	120	28	15	6	98	6,851	205	1,260		307	14	2,934	3,118	251	726	4,020	550	20,382
(S)	130	25,186	27,802	8,836	867	4	15,865	20,902		72		8,641	104	1	1	731		109,013
(G)	140	608	834	925	1,713	2,711	76	1,117		945	471	33,963	1,976	6,083	3,011	60,293	363	115,088
	150	1	1	11	30	682	0	3		295	6	589	8,343	17,130	1,837	4,200	86	33,216
	160	12,749	246	230	1		37	18										13,281
(B5)	170	3,015	750	83	3	45		2				0	0		0	0		3,900
	180		2	2	5	711		18				0	4	3	2	19		766
	190	630	623	693	902	176	55	2,172		63		144	2,674	332	259	747	30	9,503
	200	40	162	187	645	22,450	7	81		14,891	5,310	23,232	1,034	6,595	132,691	97,165	3	304,493
	210	6,170	2,098	2,137	852	403	211	3,323		58		1,567	1,689	1,013	476	3,131	27	23,156
	220	0	1	1	2	2	44	4		1		10,872	23	6	21	7,290		18,267
Asia Tot		**338,672**	**139,755**	**143,300**	**116,213**	**59,541**	**71,790**	**179,529**		**23,603**	**5,844**	**174,666**	**94,373**	**63,905**	**151,935**	**291,523**	**15,710**	**1,870,358**
Tier I Tot		**1,447,451**	**1,105,208**	**701,336**	**724,509**	**466,514**	**413,311**	**307,414**	**18,043**	**116,950**	**69,023**	**248,747**	**119,746**	**113,416**	**151,935**	**299,130**	**15,710**	**6,318,443**

Table 6: Distribution of available field observations by region, broad vegetation category (Globcover master-classes) and GEZ. (see Table 4 for coding)

	Global Ecological Zones														
Master-class	**11**	**12**	**13**	**14**	**15**	**16**	**21**	**22**	**23**	**24**	**25**	**31**	**32&33**	**35**	**Tot**
Africa															
B1	2521	51	33			11	1	1	1	2					2621
B2	51	428	397	18	1	24	1								920
N1		26	30												56
N2															
B-N		9	8			1									18
B5		24	8	2											34
S	13	51	236	27		3	2			6					338
Tot Africa	**2585**	**589**	**712**	**47**	**1**	**39**	**4**	**1**	**1**	**8**					**3987**
Latin America															
B1															
B2											14	1	5		20
N1							10			1	47		20	4	82
N2															
B-N															
B5															
S															
Tot America							**10**			**1**	**61**	**1**	**25**	**4**	**102**
Tropical Asia and China															
B1							1				2				3
B2			10				24			1	678	168	106	284	1271
N1							64	11	6	84	1231	279	220	729	2624
N2							2				74	3	51	220	350
B-N															
B5															
S															
Tot Asia			**10**				**91**	**11**	**6**	**85**	**1985**	**450**	**377**	**1233**	**4248**

Dendroenergy Biomass (DEB) Stock Estimates

AGB stock data does not represent biomass available for energy use. Adjustments are needed to estimate the quantity of DEB, which represents the fraction of AGB typically used for fuel, which excludes twigs (fine branches less than 2 cm in diameter), leaves and stumps. AGB is converted to DEB using expansion factors described in equation 2[56]:

$$DEB = \begin{cases} 0.80 \times AGB \; if \; AGB < 46 \; dry \; tons \; per \; hectare \\ 0.85 \times AGB \; if \; AGB \geq 46 \; dry \; tons \; per \; hectare \end{cases} \quad (2)$$

Adjusting for potential bias in geo-referenced field plots

This dataset includes a mix of global biomass data sets as well as a number of geo-referenced field observations of biomass stock and/or productivity linked to specific forest/vegetation types or Globcover and ecological zone classes

In order to reduce the potential bias from the tendency for surveyed resources to over-represent dense and productive stands, while neglecting lower density stands[56], a "normalization" factor is applied on the (limited) number of field points reporting both stand values (trees / ha) and stock values (300 points in tropical America and Asia, none in Africa) based on the relation between the original stand density and the normal density. Thus, stands >1500 trees/ha are considered "closed" (canopy >40%; midpoint 70%); stands with < 300 trees are classified as "open" (canopy cover 15-40%; midpoint 27.5%), unless over 80 years of age. Intermediate values are considered "close to open" (canopy cover >15%; midpoint 57.5%). In practice, when used to estimate the stock of a GlobCover class "closed to open" (midpoint 57.5%), the original stock values of "closed" field plots are decreased (57.5/70) and that of the "open" field plots are increased (57.5/27.5).

Biomass Productivity

In this assessment, we model DEB productivity with “mean annual increment” (MAI), which indicates the average rate of biomass growth for a given land cover class and ecological zone. MAI values are derived from field observations, which typically provide the age of the stand and standing biomass (or volume). For this analysis, we used over 2800 field observations of MAI along with corresponding stock values in od t ha^{-1}. We fit this relationship to an exponential curve to allow us to estimate growth rates as a percentage of standing stock. These curves are shown in Figure 4.

The data points, shown in grey, highlight the wide variability of MAI values. Additional curves are fit to subsets of data, including data derived solely from forest inventories (inv:data), data from only tropical zones (ecozones 11-25), and IPCC values. From the curve-fits shown in Figure 4, we see the productivity derived from inventory data and tropical data yield higher MAIs than those derived from all points and IPCC values, which include some temperate and boreal regions. The MAI values used in this assessment are based on the curves fit to all data points, which may be somewhat conservative, leading to lower MAIs and higher NRB values. Figure 5 shows the predicted MAI as a function of DEB stock, based on the full data set, as well as the three subsets of data.

Figure 4: Stock and MAI values derived from all point data and its trendline (Allpnts z11-34). Trendlines derived from inventory data (inv:data), points from zones 11 to 25 (Tro_subTro) and IPCC values are also shown for comparison.

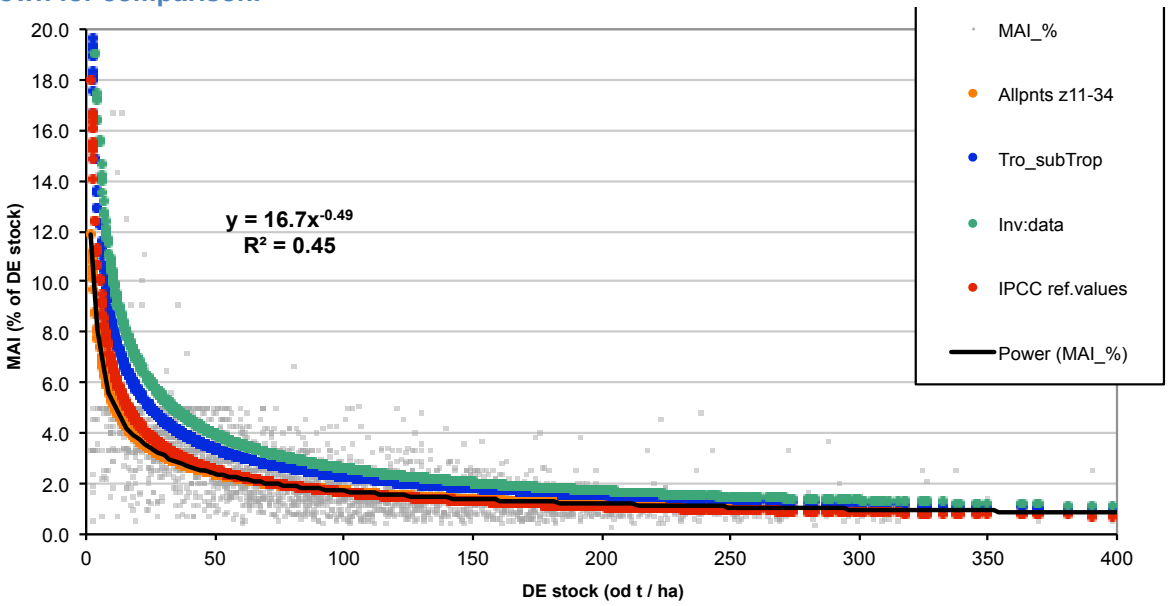
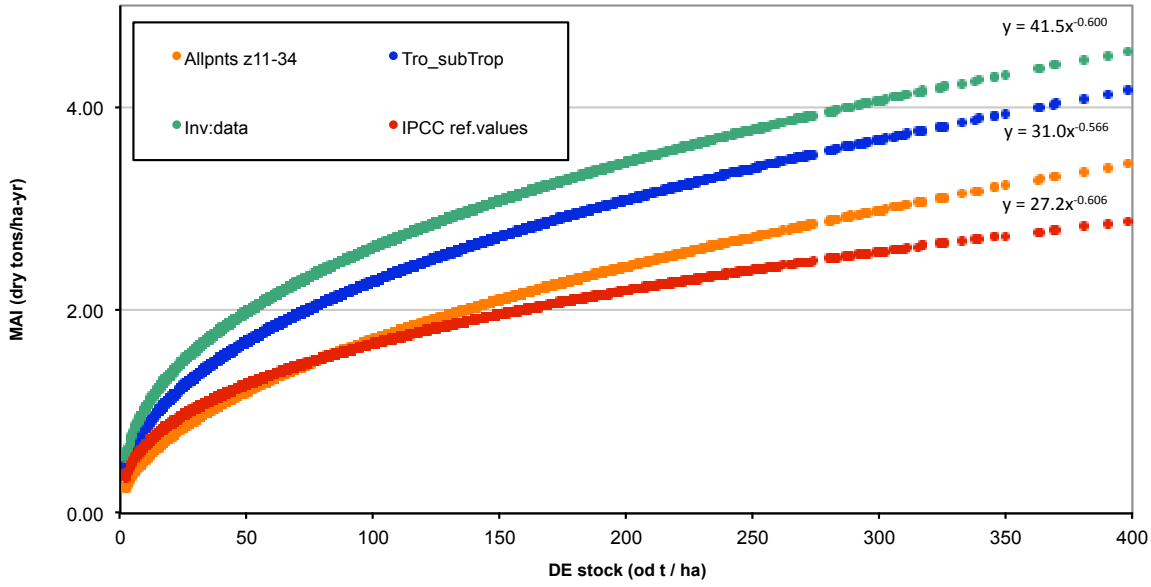


Figure 5: Predicted MAI based on DEB estimates derived from curve fits of MAI_% in Figure 4



Contributions from Plantations

To account for the contribution of forest plantations, we consider two ranges of plantation productivity estimations. The first is an upper range based on IPCC default values. Figure 6 shows MAI as percent of stock in tropical and sub-tropical plantations [57]. These estimates are several times larger than the IPCC's MAI values for natural forests (shown in gray points). The lower range is based on estimates of plantation productivity from the Forest Service of India (FSI) in [58]. In each case, plantation areas in each country are based on FAO data[59].

Unfortunately, forest plantations are not explicitly shown in GlobCover. Therefore, plantations are accounted for by considering the plantation area of each country based on [59] and plantation productivity of plantations using two variants: IPCC and FSI. Lacking knowledge of the actual location of plantations, we distributed the additional production among accessible areas of GlobCover classes that already possessed a forest component.

In most woodfuel dependent countries, plantations represent a small fraction of the total forest resource and the variation introduced by uncertainty in productivity and the degree to which plantations contribute to woodfuel supply has little impact on the results of this analysis. However, in some countries, planted forests represent a large fraction of total forest area and may make a substantial contribution to woodfuel supply. For example, in China, which consumes the largest volume woodfuel worldwide, plantations constitute 37% of the country's forest area. Changing our assumption of plantation productivity from the FSI's lower variant to IPCC's higher variant cuts the expected rate of NRB (efNRB) in half.

Figure 6: MAI as percentage of stock in tropical and subtropical plantations[59]

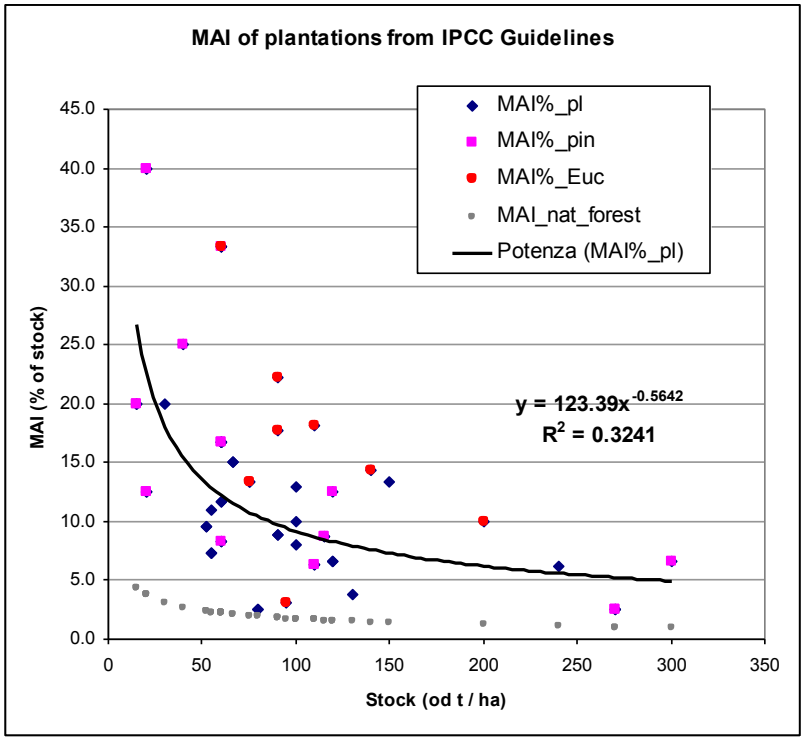
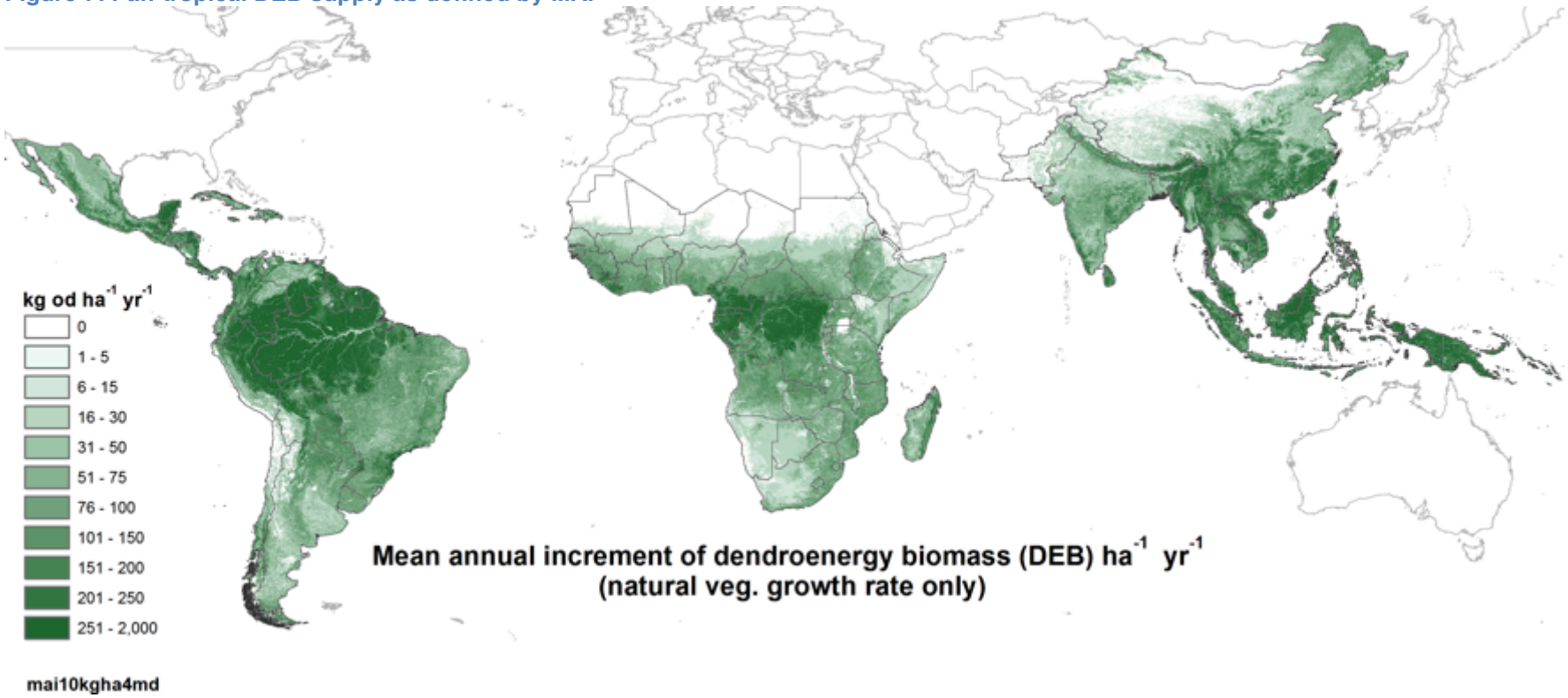


Figure 7: Pan-tropical DEB supply as defined by MAI



Accessibility

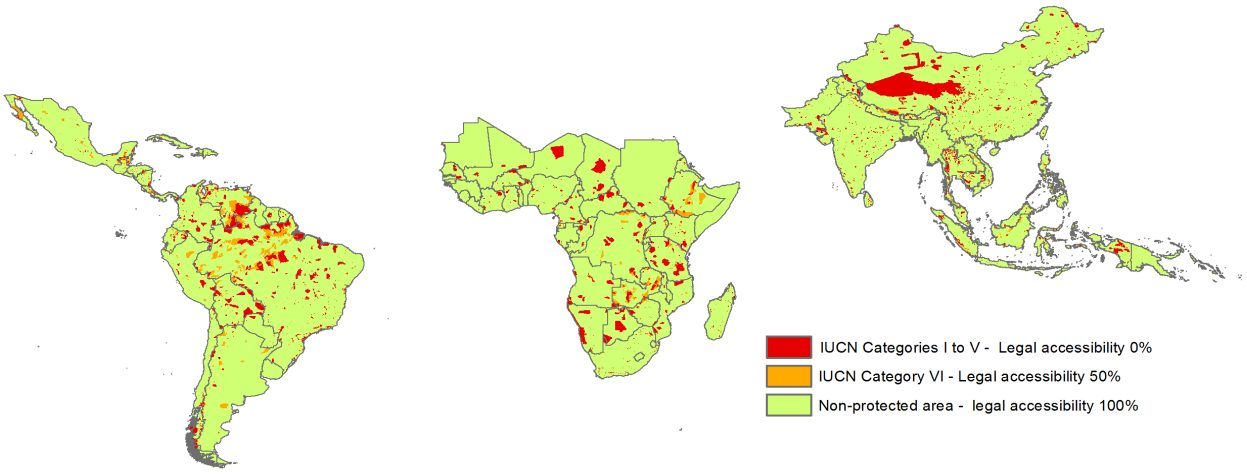
Accessibility in this assessment has two components. One component is legal accessibility, which is based on the legal rights of wood harvesters to extract wood from a particular area. The second component is physical accessibility, which is based on the ability of wood harvesters to reach a given location. This may be determined by the distance between human settlements and woodfuel resources, but is mediated by characteristics such as the existence of footpaths, roads, and waterways as well as topographical gradients and other obstacles. Both components are incorporated into this analysis.

Legal accessibility

At a small spatial scale, there are many social and political factors affect access to resources [60]. However, these factors are highly dependent on local circumstances and cannot be included in a pan-tropical assessment of this magnitude. Thus, for a global assessment, we assume all woody biomass is legally accessible with the exception of resources found within protected areas, which face some restrictions.

Conservation areas present various restrictions on the exploitation of forest resources. To account for these constraints, an accessibility factor is allocated to the protected areas on the basis of IUCN definitions of Protected Area Management Categories [61]. These definitions do not explicitly determine the access woodfuel extraction, which probably varies depending on the strength of environmental governance in each country. Nevertheless, access is likely to vary from relatively low in Category I to relatively high in Category VI. Note, only Category VI explicitly includes provisions for sustainable use to meet (local) communities' needs. Based on this, we assume only the wood resources of Category VI are available to satisfy the demand of local communities. Other categories are considered inaccessible to local communities and ALL categories are excluded from commercial extraction. Therefore, in the calculation of the local balance, Category VI is considered moderately accessible (50% of MAI), while in the calculation of the commercial balance (considering surplus resources available for commercial woodfuel production), all IUCN categories are excluded. Figure 8 shows a 10 arc-sec raster map defining the exploitable fraction of DEB based on these assumptions.

Figure 8: Legal accessibility based on IUCN Protection Categories



Physical accessibility

We assume physical accessibility of a target location (in this case, DEB stock) is inversely proportional to the travel time required to reach it from the nearest "feature", which includes either transport routes (roads, navigable rivers, railways) or settlements (urban centres, villages, and densely populated rural areas).

Sources of data to identify “features” include the following:

1. **Populated places**, based on PMUR population distribution maps [62] (30 arc-second resolution) updated to 2009 according to UN Population Division statistics of rural and urban populations [63]:

    a. Urban areas. Areas of urban population according to PMUR data (reporting census' populations defined as urban). We assume these areas can be traversed at 3 min/km given the availability of urban transport.

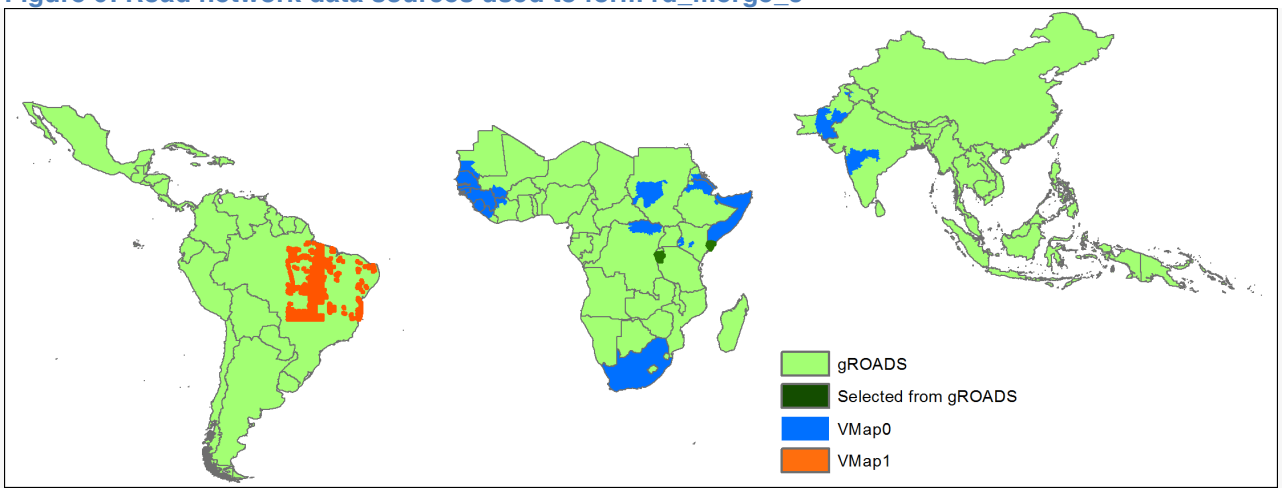
    b. **Densely populated rural areas**. Defined as rural areas with population density above 100 people per km^2 (averaged over the surrounding 3 cells or ~2.7 km radius). With this population density, existing biomass resources are assumed to be totally accessible unless protected by law, independent of road networks. We assume these areas can be traversed at 18 min/km given the high density of footpaths and roads.

2. **Roads, railways and navigable waterways**: we compared several datasets including gROADS, NIMA VMap0, VMap1, and Nelson's [64-67]. We considered gROADS roads the main reference and used sections from NIMA (VMap1 and VMap0) to fill in gaps as well as "overmapped" sectors. Figure 9 shows the map sources merged to form the selected road network. Taking into consideration poor road conditions and the use of old trucks to transport woodfuel, we assume low transport speed along roads of 20 km/hr (3 min/km).

    Global railway data is obtained through VMap0. Relevant sections taken from VMap0 are merged into rail_vmap0_s02.shp and rasterized**.** As with roads, a low speed is assumed for railroads of 3 min/km considering that woodfuel transport would have a low priority.

    For waterways, we used perennial/permanent inland water features from VMap0. Waterborne transport of woody biomass is assumed to be slow as well: 12 min/km for river barges.

Figure 9: Road network data sources used to form rd_merge_3



Travel time and Friction of surface Components

Travel time is determined by friction induced by land cover characteristics as defined by Globcover 2009 resampled to 30 arc-sec. The crossing time relative to each land cover class, in terms of minutes needed to travel one km, are based on[65] with minor changes to accommodate new land cover classes (Table 7).

Table 7: Crossing time assumed for Globcover classes

Glc Code	Globcover classes (V2.3, 2009)	Crossing time minutes/km
11	Post-flooding or irrigated croplands (or aquatic)	36
14	Rainfed croplands	36

20	Mosaic cropland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%)	36
30	Mosaic vegetation (grassland/shrubland/forest) (50-70%) / cropland (20-50%)	36
40	Closed to open (>15%) broadleaved evergreen or semi-deciduous forest (>5m)	60
50	Closed (>40%) broadleaved deciduous forest (>5m)	60
60	Open (15-40%) broadleaved deciduous forest/woodland (>5m)	48
70	Closed (>40%) needleleaved evergreen forest (>5m)	48
90	Open (15-40%) needleleaved deciduous or evergreen forest (>5m)	36
100	Closed to open (>15%) mixed broadleaved and needleleaved forest (>5m)	42
110	Mosaic forest or shrubland (50-70%) / grassland (20-50%)	48
120	Mosaic grassland (50-70%) / forest or shrubland (20-50%)	48
130	Closed to open (>15%) (broadleaved or needleleaved, evergreen or deciduous) shrubland (<5m)	36
140	Closed to open (>15%) herbaceous vegetation (grassland, savannas or lichens/mosses)	36
150	Sparse (<15%) vegetation	24
160	Closed to open (>15%) broadleaved forest regularly flooded (semi-permanently or temporarily)-Fresh or brackish water	60
170	Closed (>40%) broadleaved forest or shrubland permanently flooded-Saline or brackish water	66
180	Closed to open (>15%) grassland or woody vegetation on regularly flooded or waterlogged soil-Fresh, brackish or saline water	60
190	Artificial surfaces and associated areas (Urban areas >50%)	2
200	Bare areas	24
210	Water bodies (limited to those not considered as communication means and not included in Dist_0 layer)	30
220	Permanent snow and ice	48

Considering National Borders

National borders pose strong limitation to the flow of goods among countries. In order to emulate the strong friction effect of national borders in the accessibility model, a high crossing time is assigned to the boundaries. We added an additional crossing time of 12 hours to national borders.

Elevation factor

A speed reduction factor is applied to elevations greater than 2000 masl. However, the factor reported in[65] is very, so we defined a speed reduction factor (*f*) according to equation 3.

$$SEIF_i = \begin{cases} 10 \times 0.14^{0.006 \times Elevation} \; if \; Elevation > 2000 \; masl \\ 1 \; if \; Elevation \leq 2000 \; masl \end{cases} \quad (3)$$

Table 8: Speed reduction and crossing time factors based on altitude

Altitude	speed factor	crossing time factor (1/speed factor)
below 2000	1.000	1.0
2000	0.945	1.1
2100	0.840	1.2
2200	0.746	1.3
2500	0.524	1.9
3000	0.290	3.4
3500	0.161	6.2
4000	0.089	11.2
4500	0.049	20.2
5000	0.027	36.4
6000	0.008	119
7000	0.003	386
8000	0.001	1250

Slope factor

The slope map is based on SRTM data at 30 arc-second resolution[68]. Slope is assumed to slow travel speed according to equation 4[69]:

$$v = v_0 e^{-ks} \; if \; elevaiton > 2000 \; m \; asl \tag{4}$$

Where:

v = walking velocity over sloping terrain,

v_0 = walking velocity on flat terrain (assumed 5km/hr)

s = gradient (meter/meter)

k = attenuation factor

We assume k = 3.0 for both uphill and downhill travel. The velocities are computed and converted into a friction factor defined as the ratio of base speed and slope speed, which is used as a multiplier of foot-based travel times. The effect of slope on off-road speed and crossing time is shown in Table 9.

Table 9: Effect of slope on off-road speed and on crossing time

slope %	gradient meter per meter	crossing time factor	speed decrease factor
0	0	1.0	1.00
1	0.01	1.1	0.95
2	0.02	1.1	0.91
5	0.05	1.2	0.79
10	0.1	1.6	0.62
15	0.15	2.1	0.48
20	0.2	2.6	0.38
25	0.25	3.3	0.30
30	0.3	4.3	0.23
35	0.35	5.4	0.18
40	0.4	6.9	0.14
45	0.45	8.8	0.11
50	0.5	11.2	0.09
60	0.6	18.1	0.06
70	0.7	29.4	0.03
80	0.8	47.6	0.02
90	0.9	77.1	0.01
100	1	125	0.01
200	2	15625	0.00

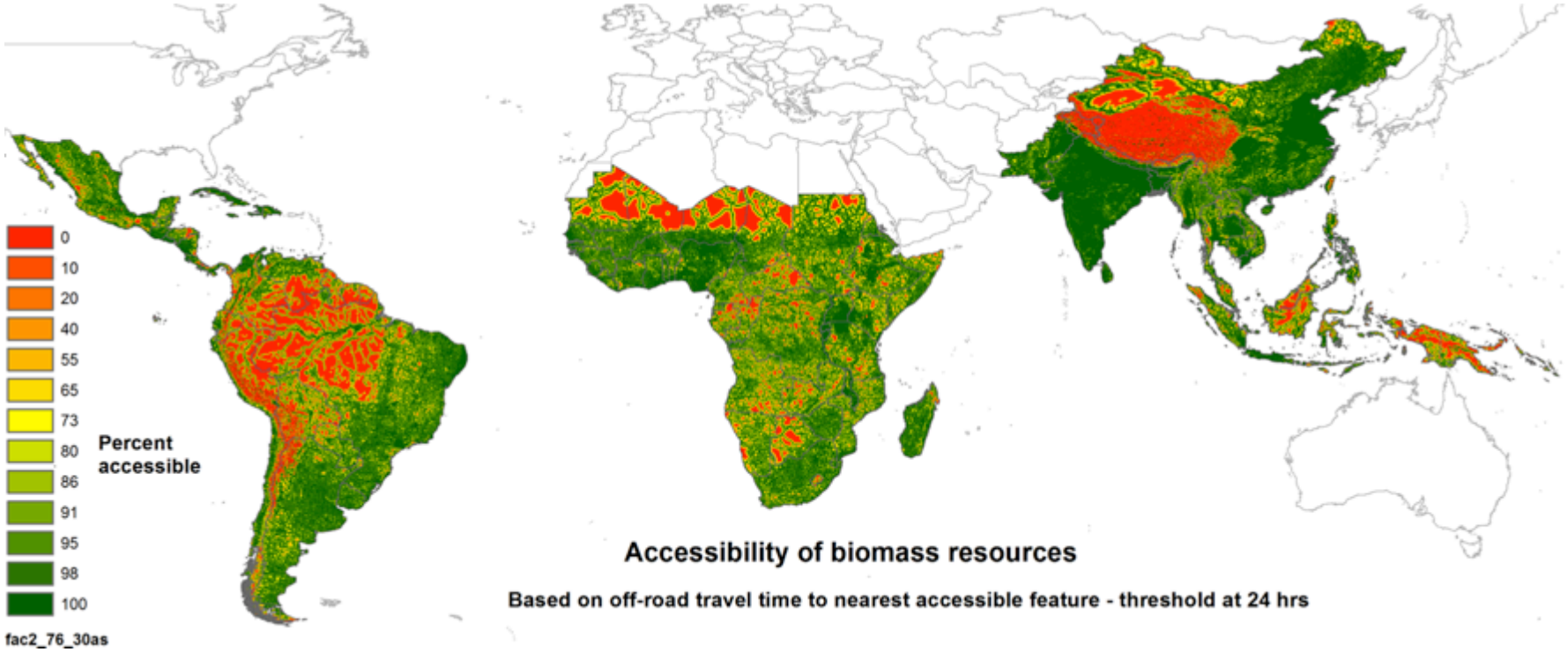
Cost-distance analysis

The cost feature is represented by friction measured in minutes per km resulting from the combination of surface components. Then we assume a cutoff beyond which DEB is considered inaccessible. Table 10 presents examples of cutoffs and implications for accessibility. Figure 10 shows travel time to the nearest accessible feature (defined above) assuming a 24-hr cutoff, which leaves 76.2% of MAI accessible.

Table 10: Accessibility factors to adjust DEB resources based on travel time

Class	time from nearest access			time group	lac_MAI_Mt nat veg.)	Plantation MAI (high yield)	Total leg.acc MAI	Hypotheses of conversion of travel time into percent of accessibility								
								access loss	accessi-ble	89.3 accessi-ble MAI	access loss	% accessi-ble	84.6 accessi-ble MAI	access loss	% accessi-ble	76.2 accessi-ble MAI
#	minutes	hours	days		Mt od	Mt od	Mt od	%	%	Mt od	%	%	Mt od	%	%	Mt od
1	60	1	0.0	< 1 hr	1348	363	1711		100	1711		100	1711		100	1711
2	180	3	0.1	1-3 hr	1105	363	1468	2	98	1439	2	98	1439	2	98	1439
3	240	4	0.2	3-4 hr	382		382	2	96	367	3	95	363	3	95	363
4	300	5	0.2	4-7 hr	307		307	2	94	288	3	92	282	4	91	279
5	420	7	0.3	4-7 hr	463		463	2	92	426	3	89	412	5	86	399
6	540	9	0.4	7-12 hr	325		325	2	90	293	3	86	280	6	80	260
7	600	10	0.4	7-12 hr	129		129	2	88	114	3	83	107	7	73	95
8	720	12	0.5	7-12 hr	212		212	2	86	183	3	80	170	8	65	138
9	900	15	0.6	12-24 hr	241		241	3	83	200	4	76	183	10	55	132
10	1,080	18	0.8	12-24 hr	181		181	3	80	145	4	72	130	15	40	72
11	1,260	21	0.9	12-24 hr	142		142	3	77	109	5	67	95	20	20	28
12	1,440	24	1.0	12-24 hr	116		116	3	74	86	5	62	72	10	10	12
13	1,680	28	1.2	24-52 hr	126		126	4	70	88	6	56	71	10	0	0
14	1,920	32	1.3	24-52 hr	103		103	4	66	68	6	50	51	0	0	0
15	2,160	36	1.5	24-52 hr	85		85	4	62	52	6	44	37	0	0	0
16	2,400	40	1.7	24-52 hr	71		71	4	58	41	8	36	25	0	0	0
17	2,640	44	1.8	24-52 hr	59		59	4	54	32	8	28	17	0	0	0
18	3,120	52	2.2	24-52 hr	94		94	4	50	47	8	20	19	0	0	0
19	3,600	60	2.5	52-100 hr	70		70	4	46	32	10	10	7	0	0	0
20	4,080	68	2.8	52-100 hr	50		50	4	42	21	10	0	0	0	0	0
21	4,560	76	3.2	52-100 hr	35		35	4	38	13	0	0	0	0	0	0
22	5,040	84	3.5	52-100 hr	23		23	4	34	8	0	0	0	0	0	0
23	6,000	100	4.2	52-100 hr	27		27	5	29	8	0	0	0	0	0	0
24	6,960	116	4.8	100-196 hr	14		14	5	24	3	0	0	0	0	0	0
25	7,920	132	5.5	100-196 hr	9		9	5	19	2	0	0	0	0	0	0
26	9,840	164	6.8	100-196 hr	10		10	5	14	1	0	0	0	0	0	0
27	11,760	196	8.2	100-196 hr	4		4	5	9	0	0	0	0	0	0	0
28	13,680	228	9.5	> 196 hr	3		3	5	4	0	0	0	0	0	0	0
29	17,520	292	12.2	> 196 hr	3		3	4	0	0	0	0	0	0	0	0
30	> 17,520	>292	> 12.2	> 196 hr	6		6	0	0	0	0	0	0	0	0	0
					5743	726	**6469**			**5777**			**5471**			**4928**

Figure 10: Accessibility based on off-road travel time to nearest accessible feature - 0% threshold at 24-hour travel distance.



Note: The conversion of travel time to percent of accessibility is based on the hypothesis that resources further than 24 hours off-road travel to the nearest accessible feature are non accessible.

Accounting for industrial roundwood

Some accessible DEB is used as industrial roundwood[8]. We deduct the woody biomass used as roundwood from accessible resources defined above. Lacking information about specific location of industrial roundwood harvesting, we distributed the supply in proportion to accessible DEB.

However, a fraction of industrial roundwood is utilized in energy applications. Processing industrial roundwood produces by-products (slabwood, shavings, saw dust, etc.), typically 40-50% of roundwood volume, a fraction of which may be used as woodfuel by the timber industries themselves or by other consumers. In this study, we estimate that 45% of industrial roundwood becomes by-products of timber processing, and 85% of this is suitable as fuel without additional processing (excluding 15% that becomes sawdust), 50% of this is actually used as fuel (to accommodate competing uses like fencing and roofing). In the absence of information on specific geographic distributions of wood processing industries, the industrial roundwood residues are spatially distributed among proportionally to centers of commercial woodfuel supply, based on the assumption that wood processing is more likely to be located in regions with commercial rather than subsistence woodfuel markets.

2. Integrating Supply and Demand Modules

Integrating woodfuel supply and demand allows us to quantify sites of probable harvesting in excess of the sustainable supply potential, which is represented by the accessible and potentially available MAI. This analysis is carried out in three stages

(i) Pixel level - combining supply and demand within single pixels
(ii) Local level - simulating subsistence demand of rural/peri-urban households over distances typically covered by self-collectors
(iii) Non-local level - simulating pressure from distant centers of commercial demand

Pixel-level balance

At the pixel-level, supply/demand balance is calculated by subtracting demand from MAI. The result is not a useful assessment of NRB, since individual pixels are not realistic units of supply or demand, but it plays an important accounting function in subsequent phases of analysis.

Local Balance

Local balance is calculated by assuming a small horizon of fuelwood collection on foot or by simple means of transportation typical for rural areas like bicycles or oxcarts. This horizon may vary with environmental and socio-economic conditions. Travel distance for subsistence woodfuel collection is typically below 3 km in biomass rich areas[70,71], but may be farther in biomass-poor areas[33]. Our own empirical measurements show round-trip distances are typically less than 4-5 km as indicated by the upper bound of 95% confidence intervals from two sets of GPS measurements shown in Table 11. In this study we use a single supply horizon radius of 5 pixels (approximately 4.5 km) to define likely area of subsistence harvesting. Results (Extended Data Fig. 4) show areas of local surplus, where woodfuel harvesting is less than supply (defined by DEB MAI), and local deficit, where MAI of accessible DEB within a 5 pixel radius is insufficient to meet demand.[5]

[5] Note both pixel- and local-balances assume optimal harvesting. The non-optimal exploitation is introduced in a subsequent phase of analysis, to *expected* fNRB rates.

Table 11: Fuelwood collection distance measured by GPS tracking in Honduras and South India

Communities	No. of trips	Mean ± 95% CI	Comments
San Vicente Centenario, Honduras	124	4.90 ± 0.44	GPS tracking of fuelwood collectors in one village in western Honduras, between May-June 2012 and January-February 2013.
Chikka Wadderkal, Neerloti and Uplapur, Karnataka State, India	68	3.11 ± 0.54	GPS tracking of fuelwood collectors in three villages in Koppal District, Karnataka state, southern India between December 2013 and April 2014.

Note: Values are round-trip mean distances travelled by rural fuelwood collectors as an exclusive activity or mixed with other tasks such as working in agricultural fields.

Non-local or "Commercial" balance

Our assessment of commercial balance is based on the assumption that woodfuel provision for urban and high-deficit rural areas is accomplished through a woodfuel market. Market actors exploit *legally and physically accessible* rural areas (defined above). They utilize the surplus DEB that remains after local demand is satisfied. However, they limit exploitation to accessible resources that are economically viable given their transport and management costs. To simulate these operating principles, we define two quantitative thresholds:

- **Minimum stock required for profitable exploitation**: This assumes that DEB stock below a certain threshold would not be economically viable to exploit given transportation costs. We set this value at 15 t/ha of air-dry DEB (12.3 t/ha oven-dry DEB/ha). Below this, research has shown that charcoal production is unlikely to be profitable[72].
- **Minimum MAI**: This assumes that only the areas with sufficient productivity to permit rotation lengths less than 30 years will be commercially exploited. This implies MAI ≥ 0.41 odt/ha-yr.

These thresholds are theoretical because they imply that resources are exploited rationally, without leading to long-term depletion of forest stocks. Thus, these thresholds are useful for defining theoretical limits of sustainable forest management, but do not represent existing processes. Current exploitation is often unregulated, leading to exploitation that exceeds sustainable limits in some areas and exploitation below sustainable limits in others. We address this below.

Woodshed analysis

To develop a spatial projection of commercial demand, we define zones of potential sustainable DEB supply for major centers of demand (urban and high-deficit rural areas) accounting for consumption of other surrounding consumers. We define these zones as "woodsheds" in analogy with the geographic concept of watersheds [6]. For a given center of demand, the woodshed is the minimum area in which the woodfuel balance is nearly zero. When a single consumption site is considered, the woodshed is determined by the physical accessibility of the available surplus resources. However, when multiple sites are considered simultaneously, the woodshed is determined by the combined effect of physical accessibility of available resources and the aggregated demand of all sites. In order to combine these components, the analysis is carried out using an inverse distance weighted (IDW) interpolation in the Dinamica EGO processing environment [73], where the variable is woodfuel demand and distance is replaced by the cumulative time to reach any given pixel using a friction map (expressing the travel time needed to cross each cell in minutes per meter). The woodfuel demand is represented by a map of deficit peaks, defined in a lookup table. For this, we defined local deficits within a 20-cell radius. This radius is

chosen to represent the cumulative demand of even the largest urban and peri-urban areas in a single point. We defined 719 such points in Africa, 182 in Latin America, and 776 in Asia.

The resulting map is a cumulative "pressure" determined by the intensity and location of major deficit areas. The analysis assumes no woodfuel flows across national boundaries. Figure 11 shows the main steps of this analysis for Tanzania.

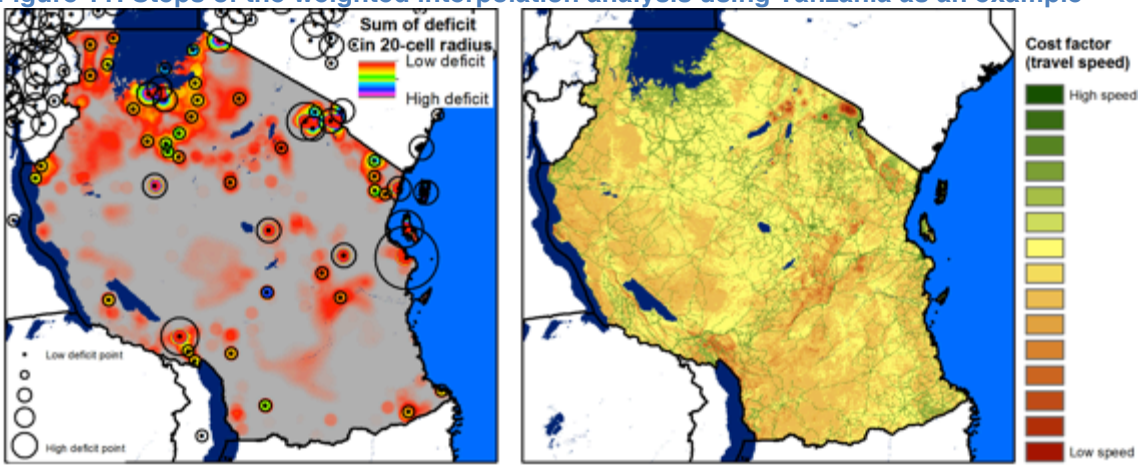
For analytical purposes, the continuous map resulting from the weighted interpolation analysis is segmented into buffers; cities with high demand produce wide woodshed buffers and cities with low demand produce narrow buffers, which simulates the territory under pressure from urban and high-deficit rural areas. Woodsheds within each national boundary are defined by using zonal statistics to calculate the supply/demand balance of each buffer, progressively expanding the area until the commercial balance, initially negative, achieves a positive value, which indicates that supply potential has met demand.

Note this approach assumes optimal harvesting of DEB. It does not reveal actual harvesting patterns. Nevertheless, it provides a sense of the area that is likely to come under urban influence. In addition, it defines the areas in which overlap of local, rural demand and non-local, commercial demand are likely to occur and could be useful for developing policy interventions.

Transport time threshold

The woodshed zone is determined by the availability of local surplus resources and commercial demand, which may include resources that are distant from the market. We conduct a cost-distance analysis on the same major deficit points used for woodshed analysis, which allows us apply a threshold value similar to the threshold defined above for general physical accessibility. For commercial supply, we adopted a threshold of 12-hour one-way travel time from the point of harvest to market. This implies approximately two days of transport, including time required for loading and unloading. Figure 12 shows as example the delineation of the woodshed of Tanzania's major woodfuels deficit areas, combined with the transport time threshold of 12 hours. The common area, shown in the map at bottom-right represents the zones that are likely to undergo the greatest harvesting pressure. Extended Data Fig. 5 shows the result of the woodshed analysis across the entire study area.

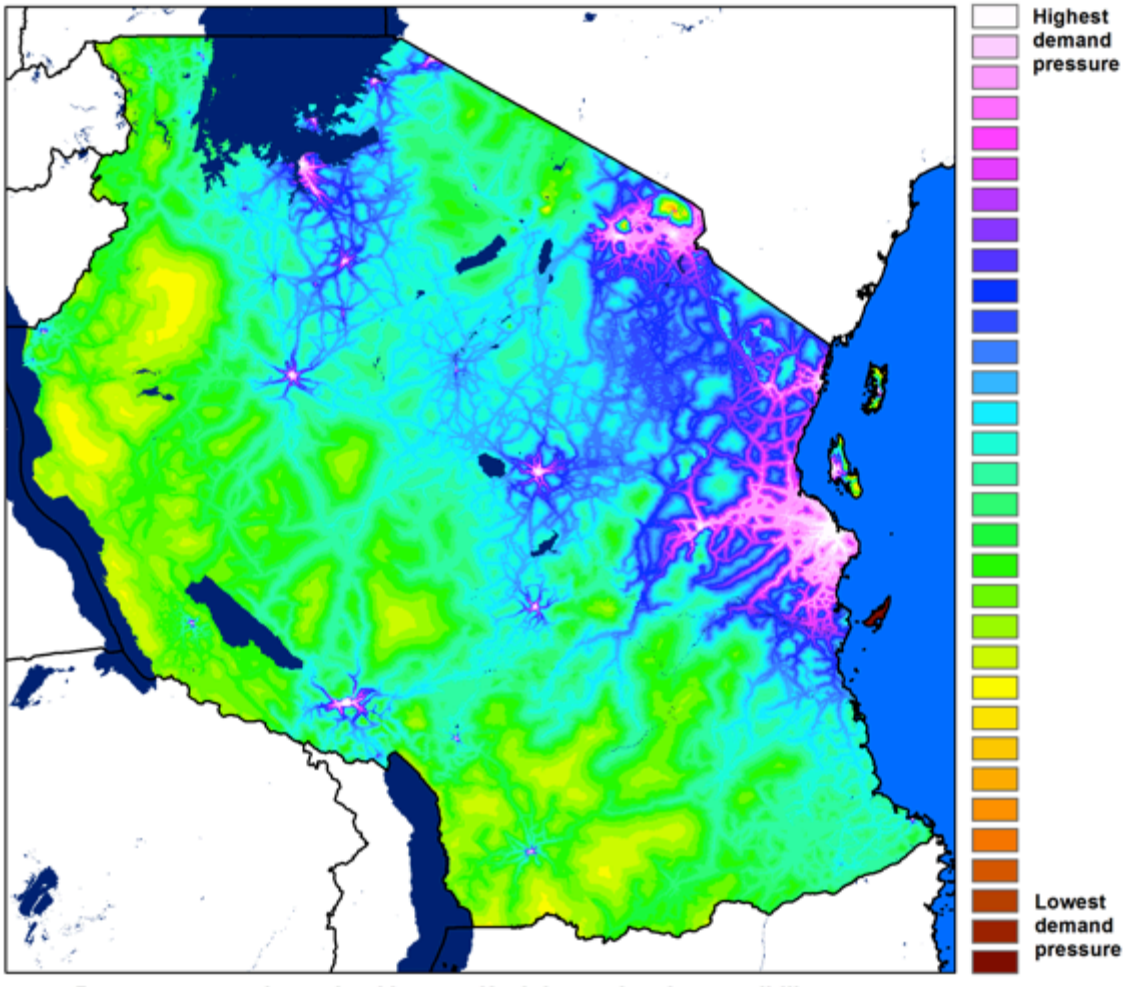
Figure 11: Steps of the weighted interpolation analysis using Tanzania as an example



Points at peak deficit locations

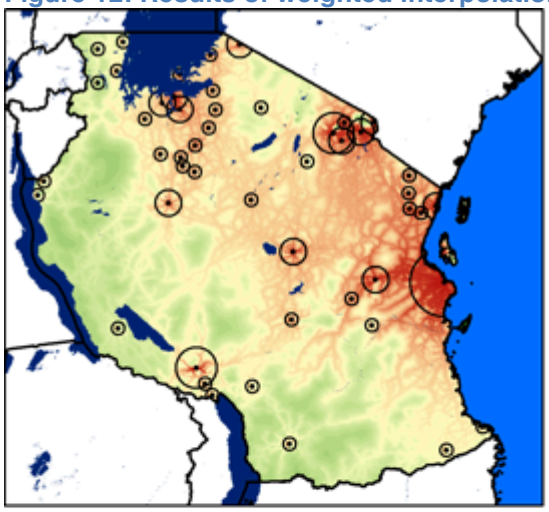
Travel time (friction) used as weighting factor of interpolation

Aggregation of single-point interpolation values (49 points within Tanzania)

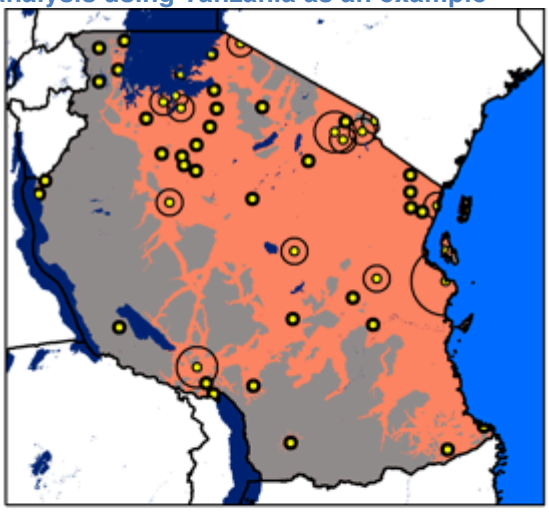


Pressure zones determined by woodfuel demand and accessibility

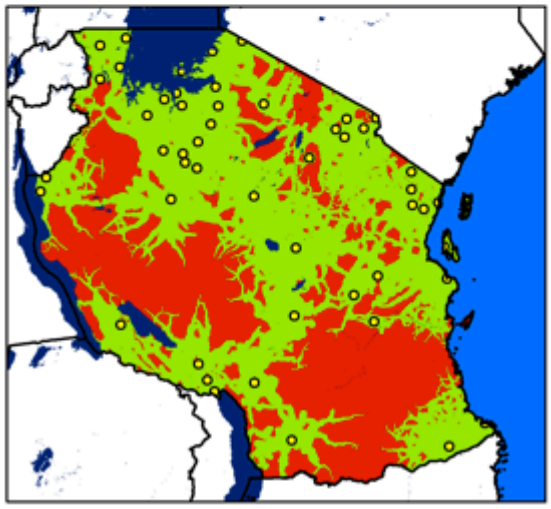
Figure 12: Results of weighted interpolation analysis using Tanzania as an example



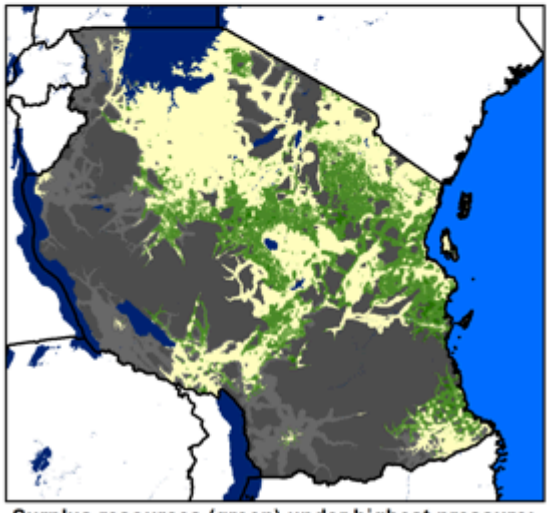
Pressure zones determined by major deficit areas



Woodshed of commercial supply of major deficit areas



Areas within 12 hours travel time
from major deficit areas (green)



Surplus resources (green) under highest pressure:
within woodshed and within 12 hours

3. Estimating the expected range of subnational and national NRB

Estimation of the expected range of NRB values is done through a step-wise process. The result is presented as probable range of minimum mfNRB and expected efNRB values at subnational and national levels. Thus far, we have identified *probable* harvesting areas by considering both local and non-local demand based on travel times and available DEB resources. Assuming that the entire supply of woodfuels is based on direct harvesting, a lower bound of NRB can be defined by assuming that the probable harvesting areas are exploited *optimally*. That is, wood resources are exploited to their maximum renewable potential, which results in the "minimum fraction of Non-Renewable Biomass" (mfNRB) for each sub-national unit. This indicates the lowest value of NRB for current demand and supply. This phase includes two steps:

1. Estimation of the "potential Renewable Biomass fraction" (pRBf)
2. Estimation of the "minimum fraction of Non-Renewable Biomass" (mfNRB).

Potential Renewable Biomass fraction (pRBf)

The "*potential* Renewable Biomass fraction" (pRBf) is estimated as the highest possible degree of renewability of a given biomass harvesting within a particular territory. We assume DEB is rationally exploited (the sustainable increment is the first to be exploited and, in case that the demand is higher than the sustainable supply, the sustainable increment of the area is exploited entirely). The pRBf within a given territory can be formulated as in equation 5.

$$pRBf_i = \left(\frac{S_i - H_i}{H_i}\right) \quad (5)$$

where,

S_i = sustainable DEB supply in the i^{th} subnational unit. This is the DEB used to satisfy local demand of the sub-national unit, plus the commercial surplus within the probable commercial harvesting area in the i^{th} subnational unit (i.e. the DEB supply within the woodshed of any major deficit centers defined above, including those outside the i^{th} subnational unit);

H_i = DEB harvest in the i^{th} subnational unit. This is demand that is both locally satisfied, plus the quantity that is commercially harvested within the i^{th} subnational unit. The distribution of each country's commercial harvest among sub-national units is done proportionally to the surplus available in the woodshed of each sub-national unit.

Positive pRBf indicates that the harvested biomass is less than the total supply potential and biomass extraction is potentially "renewable". The value shows the margin of surplus as the ratio between the supply potential and current harvesting level in the area under consideration. Negative pRBf indicates that harvesting exceeds the sustainable supply potential. It shows the fraction of consumption that can't be met by sustainable supply in the area under consideration.

Minimum fraction of Non-Renewable Biomass (mfNRB)

The "*minimum* fraction of Non-Renewable Biomass" (mfNRB) indicates the best possible situation, given the estimated level of harvesting and the sustainable supply potential of the area under consideration, and assuming the rational management of biomass resources. It is assumed that the harvesting is as sustainable as possible, which means using only the sustainable increment or, in case that the estimated

harvesting is greater than the supply potential, using the sustainable increment entirely. mfNRB is defined in equation 6:

$$mfNRB_i = \begin{cases} 0 \; if \; pRBf_i > 0 \\ -1 \; if \; pRBf_i \leq 0 \end{cases} \quad (6)$$

Next, we simulate sub-optimal management by assuming harvesters do not exploit the full renewable potential of a given site. Lacking specific information about actual harvesting behavior, we use each country's commitment to forest management as reported by the FAO as a proxy[8]. The result is the "expected fraction of Non-Renewable Biomass" (efNRB), which includes 3 steps:

1. Estimation of the Sustainable Increment Exploitation Fraction (SIEF).
2. Estimation of the "expected Renewable Biomass fraction" (eRBf)
3. Estimation of the "expected fraction of Non-Renewable Biomass" (efNRB).

Sustainable Increment Exploitation Fraction (SIEF)

For a given area, we define SIEF as a factor ranging from zero to one, indicating the extent to which optimal harvesting occurs. Thus, in a given area, SIEF ≈ 1 indicates that harvesting is spread evenly across the area's full MAI before other stocks are depleted. SIEF ≈ 0 indicates that harvesting is concentrated on a limited part of the area's resources, leaving some potential areas untapped while overexploiting and depleting stocks in others.

We assume SIEF is driven both by demographic and institutional factors:

- In densely populated urban areas with few accessible resources, we assume SIEF is close to 1 – we use a range of 0.7 - 0.95
- In rural areas characterized by subsistence wood collection, we also assume SIEF is close to 1 – we use a range of 0.7 - 0.95
- In sparsely populated forest regions, SIEF values are probably lower than populated rural areas, although vary widely depending on the type and degree of exploitation – we use a range of 0.5 - 0.9

Using these ranges as a starting point, we estimate specific values based on each country's fraction of forest resources under management plans or a high fraction of managed plantations relative to overall forest area[8]. Countries with high proportion of managed and/or planted forest have high SIEF and countries lacking management plans or plantations have lower SIEF values (Equation 7).

$$SEIF_i = \begin{cases} 0.7 + 0.25\phi_i \text{ for urban and densely populated rural areas} \\ 0.5 + 0.25\phi_i \text{ for parsely populated rural areas} \end{cases} \quad (7)$$

Where, ϕ_i is the fraction of country *i*'s total forest area that is either under management or consisting of plantation forests

Expected Renewable Biomass fraction (eRBf)

The *expected* Renewable Biomass fraction for an area *i* (*eRBf*$_i$) is the degree to which biomass will be harvested sustainably in a given area, calculated by the product of *SIEF*$_i$ and *pRBf*$_i$ (Equation 8):

$$eRBf_i = \frac{\left(\sum_j SEIF_{i,j} \times S_{i,j}\right) - H_i}{H_i} \quad (8)$$

where:

j = index for urban, densely populated and sparsely populated rural areas in region i

$SIEF_i$, S_i and H_i are defined above

Expected Fraction of Non-Renewable Biomass (efNRB)

efNRB indicates the likely level of harvesting and the supply potential under current management practices (Equation 9):

$$efNRB_i = \begin{cases} 0 \; if \; eRBf_i > 0 \\ -1 \; if \; eRBf_i \leq 0 \end{cases} \quad (9)$$

Accounting for woody biomass from deforestation and afforestation

Land cover change (LCC) generates woody by-products that may be used as fuel or industrial roundwood. This applies to decreases in forest resources caused by deforestation or degradation as well as increases through afforestation. LCC complicates attempts to quantify DEB supply and NRB consumption. We account for the impact of LCC on DEB supplies by estimating the amount of DEB produced by deforestation and afforestation processes based on data from FAO[8]. However, FAO LCC data are not spatially explicit. We assign a spatial distribution based on data from Forest Monitoring for Action (FORMA), which reports observed forest clearings at sub-national levels between 2006 and 2011[74]. These data covered sub-national units in 27 of the countries included in this assessment including the countries most heavily impacted by deforestation.

We assume DEB generated from annual deforestation is equal to the stock of the forest being cleared. This biomass is considered NRB. In contrast, we assume the additional DEB created by afforestation is equal to the MAI of the forest type where afforestation occurs. This biomass is considered renewable, and effectively reduces any NRB consumption in that geographic region. Of course, the non-renewable stocks created by deforestation are much larger than the renewable MAI created by afforestation.

Only a fraction of the biomass supplied via LCC is actually utilized. Indeed, woody biomass generated from large-scale deforestation in remote areas of the Amazon or Indonesian rain forests is often burned on site[75,76]. To account for this, we assume that only LCC occurring in areas that are accessible (as defined above) contribute to NRB. LCC occurring in inaccessible areas does not contribute to woodfuel supplies and is omitted from the analysis. Of course, the actual quantity of LCC by-products used as woodfuel is unknown. Part of the additional woody biomass may be used as industrial roundwood. We assume 30% goes to non-energy uses, leaving 70% available for woodfuel. In addition, even in accessible areas, some materials may be burned *in situ* or left to decay. To accommodate this uncertainty, we explore two variants of LCC by-product utilization, as described in the main text.

For our estimations, we assume accessible DEB from LCC is used first, and additional DEB is harvested to accommodate the remaining unmet demand. To assess the scenarios, we follow the following steps:

(i) Quantify the accessible LCC by-products (deforested and/or afforested)
(ii) Quantify the additional DEB needed to meet the remaining demand by following the steps described above.

Extended Data Figure 6 shows the estimated contribution of LCC by-products to pan-tropical woodfuel supply.

4. Determining GHG emissions from traditional woodfuels

Many research efforts have measured emission factors of GHGs from fuelwood combustion[7,37,48-56]. To estimate emissions from fuelwood and charcoal end-use we use data from Jetter et al.[37], one of the most recent assessments and the only one that includes the newest "state-of-the-art" woodstoves measured under similar conditions as open fires and older types of improved stoves. However, Jetter and colleagues[37] did not measure black or organic carbon (BC or OC) aerosols, which are major climate forcers associated with residential biomass burning[7,57]. We utilize emission factors for BC and OC from MacCarty et al.[55], who measured similar types of stoves as Jetter and colleagues.

Few studies have measured emissions from charcoal production and end-use[48,50,58]. We utilize data from Pennise et al., who measured traditional kilns and improved kilns in Thailand, Kenya and Brazil, providing good geographical and technological coverage. Fuelwood and charcoal emission factors are given in Table 12. These values are multiplied by each pollutants global warming potential (GWP) in order to aggregate them into a common metric[59]. With this data, we estimate GHG flux from country *i* via Equation 10:

$$GHG_i = \sum_{j.k} C_{i,j} \times EF_{j.k} GWP_k - \frac{44}{12} f (1 - fNRB_i) \sum_j C_{i,j} \times \varepsilon_j \quad (10)$$

Where *j* is an index for the combination of woodfuel and stove used in a given country, which may include a mix of traditional and improved wood and charcoal-burning devices, *k* is an index for pollutants (well-mixed GHGs and SLCFs): CO_2, CH_4, N_2O, CO, non-methane hydrocarbons (NMHCs), NO_x, BC and OC. $C_{i,j}$ is country *i*'s consumption of fuel *j*, $EF_{j,k}$ is the emission factor of pollutant *k* for each fuel-stove combination *j*, GWP_k is the global warming potential (GWP) of pollutant *k*,[59] $efNRB_i$ is the expected fraction of non-renewable biomass, 44/12 converts mass of carbon in dry woody biomass to CO_2, *f* is the carbon content of dry woody biomass,[60] and e_j accounts for the conversion of wood to charcoal. *f* is 48% - a midrange value for hardwoods found by Lamlom et al.[60] ε_j is defined as 1 for wood and 3.6 for charcoal, which is the dry wood required to make a unit of charcoal[61].

Table 12: Emission factors of GHGs and SLCFs from woodfuel combustion and charcoal pyrolysis

g-pollutant per kg dry fuel [a]		CO_2 [b]	CO [b]	CH_4 [b]	NMHC [b]	NO_x [c]	N_2O [c]	BC [d]	OC [d]
Fuelwood combustion	3 Stone wood fire - minimally tended	1584	57.4	2.0	7.8			0.9	1.5
	Natural draft insulated "rocket" stove – 1	1748	41.3	1.3	8.0			0.6	1.2
	Natural draft insulated "rocket" stove – 2	1866	38.9	2.2	10.5			0.6	1.2
	Forced draft fan stove	1902	10.6	0.3	1.9			0.1	0.2
Charcoal pyrolysis	Kenyan earth-mound kiln	1802	223.0	44.6	93.0	0.1	0.2		
	Brazilian rectangular metal kiln	543	162.0	36.5	27.3	0.0	0.01		
	Brazilian "hot-tail" kiln	1382	324.0	47.6	109.6	0.0	0.05		
Charcoal end-use	Metal "jiko"	2857	195.9	8.9	20.3			0.2	1.5
	Ceramic "jiko"	2724	192.0	8.2	12.6			0.2	1.5
	StoveTec Charcoal stove	3580	176.8	4.6	18.7			0.2	1.5

Notes:

[a] Each study conducted multiple measurements. We present average values for each technology and pollutant.

[b] CO_2, CO, CH_4, and NMHC from fuelwood combustion and charcoal end-use are based on Jetter et al.[37]

[c] Jetter et al.[37] did not measure emissions of N_2O or NO_x. N_2O was measured, but not detected from a similar variety of stoves by MacCarty et al.[55]. Both N_2O and NO_x were measured for charcoal pyrolysis by Pennise and colleagues[58].

[d] BC and OC from fuelwood combustion and charcoal end-use were not measured by Jetter et al.[37]. We use values for similar stoves measured by MacCarty et al.[55]. BC/OC from charcoal pyrolysis were not measured by Pennise et al. We are unaware of published measurements. Given the nature of charcoal pyrolysis, BC should be low, but OC may be considerable.

The majority of traditional woodfuel consumers use some variation of the 3-stone fire. In addition, there are many types of alternative stoves in already use throughout our study region[62]. However, these stoves do not count toward the GACC's goal of 100 million stoves and their emissions profiles have not been well characterized. Therefore, we assume that no improved stoves were in use in 2009, our base year.

Mitigating climate change by reducing the consumption of NRB requires the *successful* adoption of 100 million state-of-the-art stoves like the models listed in Table 12. There have been many studies questioning the effectiveness of improved stove dissemination efforts and research has shown that potential benefits of adoption may be diminished by stove rejection, breakage, and continued use of old technology [77]. We assume that the GACC's objective of full adoption of 100 million stoves is achieved, in order to show the upper bound of emission reductions.

5. Results

The main text gives results of our assessment assuming woodfuel harvesters did not harvest precisely according to sustainable yields, which we defined as the "expected" or efNRB. We also carried out an

assessment assuming harvesters acted such that sustainable yields are fully exploited before any unsustainable harvest occurred. This provides estimates of minimum or mfNRB. In addition, in the main text, we focus primarily on national-level results and only refer to a handful of subnational outcomes. Extended Data - Table 5 shows all subnational, national, and regional results.

Defining GACC scenarios

To investigate the implications of meeting GACC's objectives, we define several scenarios that are indicative of various broad goals of cookstove dissemination: climate change mitigation, decreasing dependence on NRB; reducing exposure to HAP and poverty alleviation and economic development more broadly. We examine the outcome of focusing specifically on these objectives by targeting stove dissemination at the locations that rank among the highest in one of four categories described in Table 13:

Table 13: Intervention scenarios for the dissemination of 100 million improved stoves

Scenario	Intervention priority	Countries targeted	Source
1	Deforestation and degradation	Highest level of efNRB	This study – based on results of supply/demand balances and woodshed analyses
2	Climate change mitigation	Highest per capita woodfuel consumption	This study – based on results of woodfuel demand "best estimate"
3	Public health	Highest burden of disease attributable to HAP	Global Burden of Disease data[78]
4	Market-based solutions	Ranked as most "business friendly"	World Bank "ease of doing business" rankings[79]

Other Estimates of fNRB

Improved stoves have been popular among carbon-offset projects since the early days of carbon markets[80]. Projects generate offsets based largely, if not exclusively, on the fNRB value characterizing woodfuel consumption in the region. The methodologies estimate NRB by identifying land with "demonstrably renewable biomass" and defining any resource that is not demonstrably renewable as non-renewable. There are several ways that this approach can lead to overestimations of NRB, which we explore in a separate manuscript that is currently in preparation. We reviewed project documentation from 305 projects in 45 countries to document the values of NRB that are being used to calculate carbon offsets in stove projects. A summary of NRB estimates used in current projects is shown in Table 14.

Table 14: fNRB used in current carbon offset projects[81,82]

	Voluntary markets		CDM		All markets	
	n	mean	n	mean	n	mean
Africa	32	87%	140	86%	176	87%
Asia & Pacific	19	85%	92	87%	111	86%
Latin America	10	74%	8	85%	18	79%
All regions	61	84%	240	86%	305	86%

6. Uncertainty and Sensitivities

Dealing with uncertainty

Most of the inputs we utilize were published without explicit uncertainties. This includes demand inputs like woodfuel consumption datasets from FAO, IEA and UNDP and supply inputs like pixel-level AGB stocks from WHRC and GlobCover classifications, as well as productivity in natural and planted forests. We also lack information about the degree to which deforestation by-products are utilized. Lacking explicit detail about uncertainties in nearly all input parameters, we carry out sensitivity analyses in which we vary several key parameters, which allow us to present upper and lower bounds of NRB. This process is described below.

Minimum vs. Expected values of NRB

In the main text, we report results of "expected" NRB, based on the assumption that woodfuels are not typically harvested according to the sustainable yield in a given location. Lacking specific data, we used a proxy derived from FAO data on national-level forest management[83], which we convert to a multiplier between 0 and 1 (SIEF – described above) that approximates the degree to which harvesting deviates from optimal levels. In this section, we review the impact that this assumption has on results at the regional level and global level.

Table 15: Comparison of regional and pan-tropical minimum and expected fNRB

	Low plantation yields						High plantation yields					
	Scenario A			Scenario B[6]			Scenario A			Scenario B[6]		
Region	mfNRB	efNRB	Δ	mfNRB	efNRB	Δ	mfNRB	efNRB	Δ	mfNRB	efNRB	Δ
Africa	19.5	35.4	15.9	30.8	41.4	10.6	18.5	34.5	16.0	30.1	40.6	10.5
LAC	4.7	23.7	19.0	19.4	30.9	11.5	3.0	20.8	17.8	17.9	28.1	10.1
Asia & Oceania	17.8	29.2	11.3	19.1	29.6	10.5	12.8	24.1	11.3	14.2	24.6	10.5
Total	16.6	30.4	13.9	22.9	33.6	10.7	13.3	27.0	13.8	19.9	30.3	10.4

At a global level, applying the correction factor to the minimum NRB estimations to account for suboptimal forest management raises fNRB by 10-14% depending on the use of LCC by-products and plantation productivity. The SIEF factor has a larger effect on the results of Scenario A, in which LCC by-products are not used. This is a logical result, because when LCC by-products are not exploited, DEB must be harvested from additional land, not impacted by observed deforestation. The factor applies to any additional land exploited for woodfuel; therefore, there is a larger difference between efNRB and mfNRB under Scenario A. Regionally, the correction has the largest effect in Latin America, reflecting the low fraction of forest under management plans reported by FAO[83]. There are similar effects in Asia and Africa.

[6] Scenario B shows the sum of B1 and B2. B1, which is only due to the use of LCC by-products, is unaffected by SIEF.

Stove type

For the analysis presented in the main text, we assumed that 100 million improved stoves disseminated consisted of the "Forced draft fan" and "Insulated "rocket" charcoal" stoves mentioned in the previous two tables. In reality, the stoves disseminated through the GACC's programs will consist of a wide variety of models. However, we tested the sensitivity of our results to different stove models, utilizing the stove-specific emission factors[84]. We find that the choice of stove model has relatively negligible impact on the overall results, as indicated in Table 16.

Table 16: Sensitivity of results to stove type used in interventions

Stove model used to achieve 100 million target	Emission reductions from base year			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Forced draft fan stove	43%	49%	48%	47%
Natural draft insulated "rocket" stove – 1	43%	49%	47%	47%
Natural draft insulated "rocket" stove – 2	43%	49%	48%	47%

Fuel savings

We also tested the sensitivity of GHG emission reductions to assumptions about fuel savings. We find a near-linear relationship between emission reductions and the reduction in woodfuel consumption. A 10% change in fuel savings leads to an 8-9% change in emission reductions. This sensitivity is not surprising; holding NRB constant, emissions are directly proportional to fuel consumption.

Table 17: Sensitivity of results to stove type used in interventions

Woodfuel savings achieved through the adoption of 100 million stoves	Emission reductions from base year			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
60%	46%	52%	50%	49%
57% *	43%	49%	48%	47%
50%	38%	43%	42%	41%
40%	30%	35%	33%	33%
30%	23%	26%	25%	25%

* Assumption used in main text - based on average of fuel savings reported in[84]

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Extended data: The Carbon Footprint of Traditional Woodfuels

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Fig. 1: Distribution of woodfuels consumption in 2009 based on "Best Estimates"

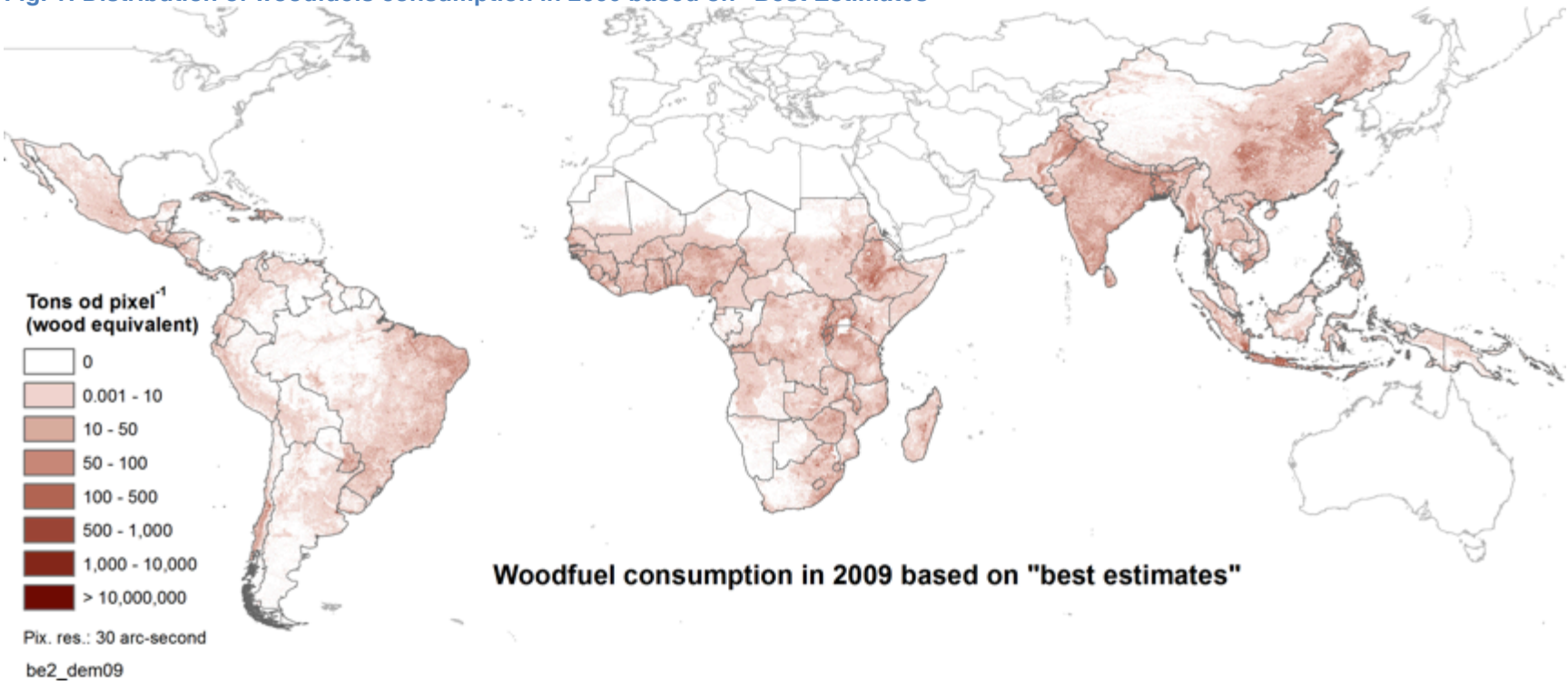


Fig. 2: Pan-tropical DEB stock corresponding to the fraction of AGB (omitting leaves, twigs and stumps)

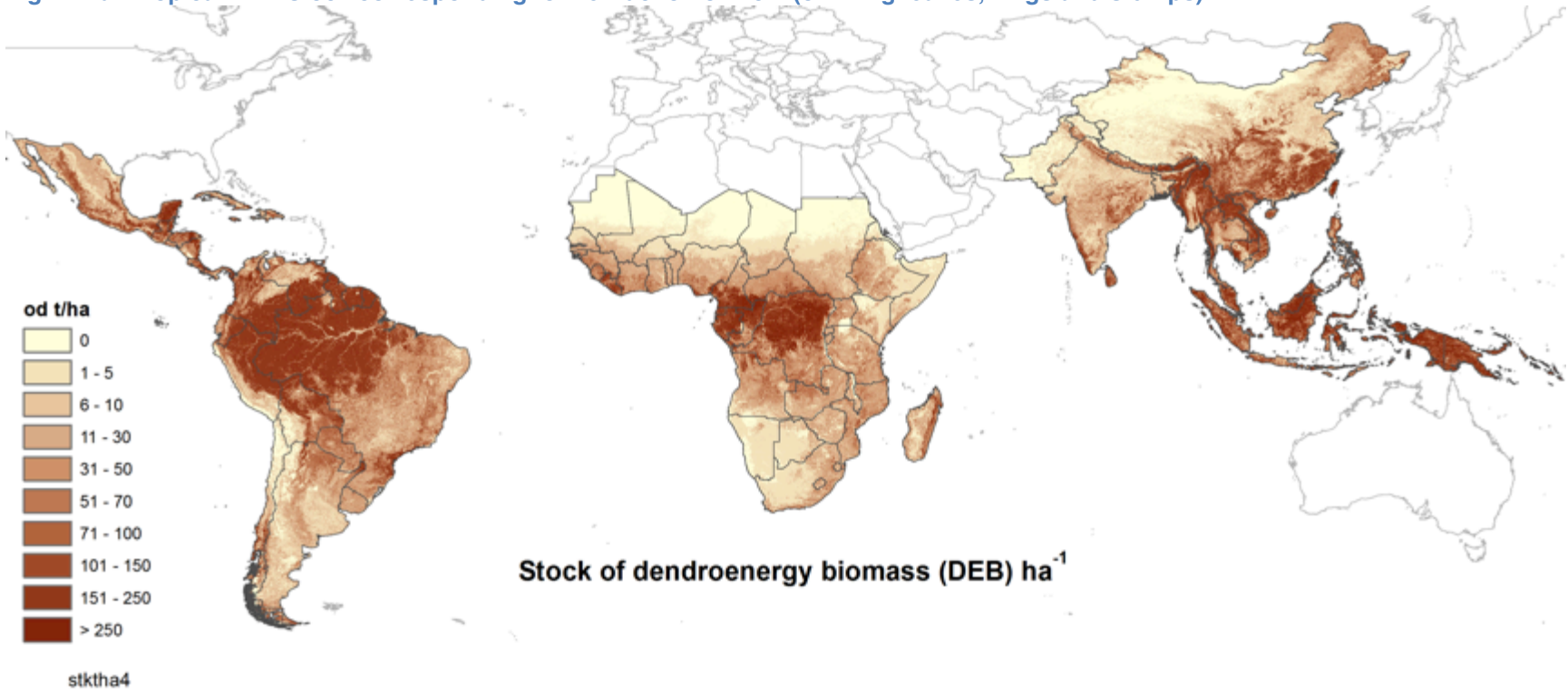


Fig. 3: Legally and physically accessible DEB supply including natural vegetation and plantations

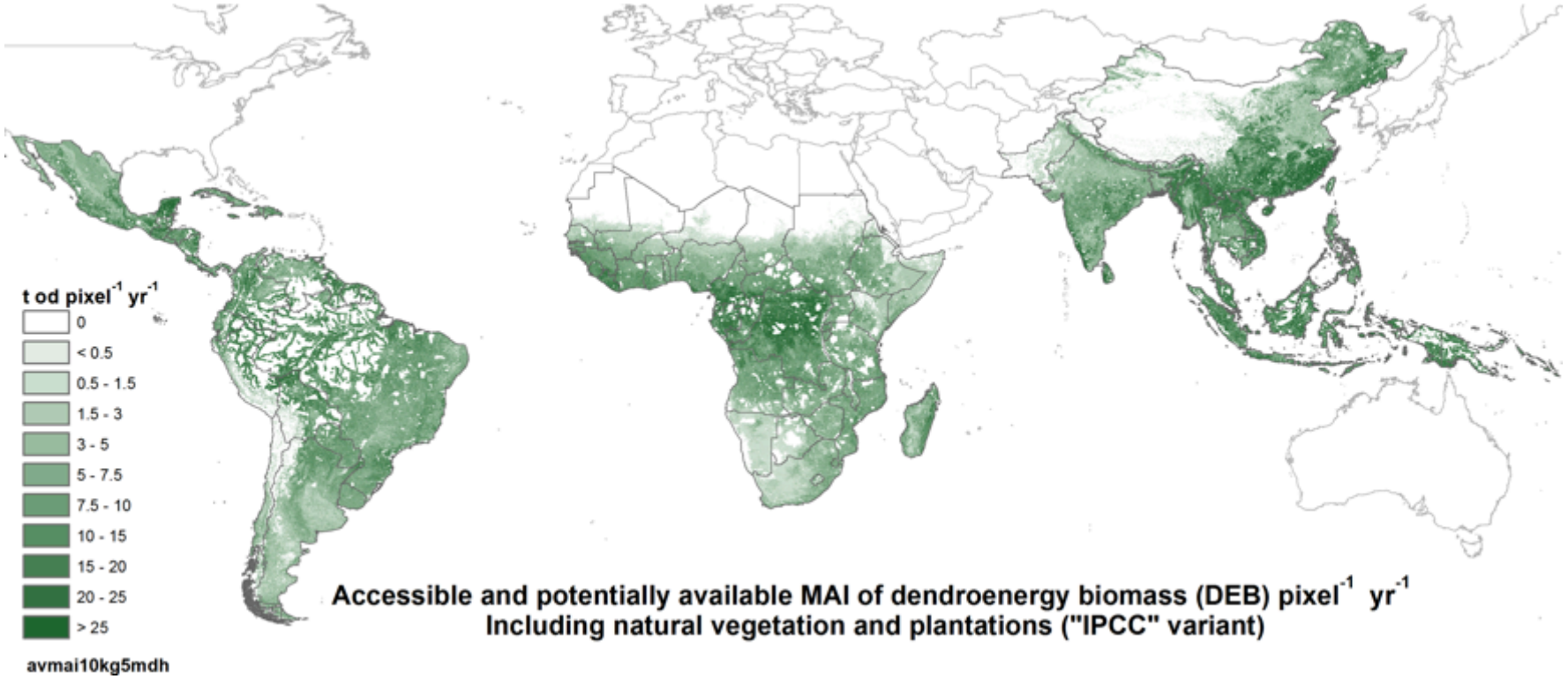


Table 1: National-level DEB stock and productivity (MAI)

		AGB stock	DEB	Total MAI	Legal accessible MAI	Legal and physically accessible MAI	Accessible MAI inc. plantations	Accessible MAI exc. industrial roundwood
Region[a]	**Country**	10^6 tons		10^3 dry tons per year				
Af	**Angola**	5,218	4,491	111,147	107,994	68,337	68,725	68,055
S_Am	**Argentina**	8,014	6,917	182,272	178,616	144,194	149,222	143,340
As	**Bangladesh**	592	514	11,137	11,041	10,015	11,439	11,271
C_Am	**Belize**	453	399	4,744	3,568	2,803	2,817	2,792
Af	**Benin**	243	203	7,881	7,248	5,991	6,062	5,809
As	**Bhutan**	799	703	8,064	6,281	4,185	4,203	4,093
S_Am	**Bolivia**	12,703	11,152	158,344	132,187	88,354	88,432	87,865
Af	**Botswana**	367	311	17,377	15,749	10,945	10,945	10,885
S_Am	**Brazil**	114,026	99,961	1,383,730	1,223,610	801,955	840,308	767,477
As	**Brunei Darussalam**	142	125	1,410	1,076	811	831	768
Af	**Burkina Faso**	247	205	11,026	10,324	8,358	8,679	7,987
Af	**Burundi**	76	64	2,017	1,957	1,751	2,042	1,519
As	**Cambodia**	2,371	2,082	29,193	23,682	17,783	18,202	18,135
Af	**Cameroon**	6,478	5,676	76,957	71,498	54,677	55,238	53,948
Af	**Central African Republic**	4,322	3,723	74,696	69,563	46,254	46,254	45,866
Af	**Chad**	718	600	26,473	25,018	18,425	18,465	18,009
S_Am	**Chile**	3,164	2,766	50,684	43,783	32,763	42,573	20,969
As	**China**	40,293	35,211	625,072	596,352	460,947	871,174	811,665
S_Am	**Colombia**	18,721	16,446	210,126	186,686	109,830	111,910	110,532
Af	**Congo**	6,254	5,497	68,873	62,731	37,590	38,009	36,832
C_Am	**Costa Rica**	697	611	8,613	6,959	5,528	7,106	6,340
Af	**Côte d'Ivoire**	839	733	12,229	10,850	10,059	10,948	10,822
C_Am	**Cuba**	1,651	1,418	33,121	30,826	25,781	31,828	29,276
Af	**Dem. Rep. of the Congo**	37,092	32,557	431,221	404,204	287,337	287,622	284,842
C_Am	**Dominican Republic**	418	365	6,100	5,595	5,072	5,072	5,067
S_Am	**Ecuador**	3,704	3,253	43,862	38,442	26,837	27,836	26,694
C_Am	**El Salvador**	148	129	2,444	2,426	2,322	2,449	2,045
Af	**Equatorial Guinea**	615	541	6,372	5,393	4,424	4,424	4,114
Af	**Eritrea**	38	31	1,969	1,941	1,541	1,599	1,599
Af	**Ethiopia**	2,622	2,232	69,259	64,999	44,738	46,291	44,556
S_Am	**French Guiana**	2,046	1,801	20,733	19,641	9,552	9,561	9,505

		AGB stock	DEB	Total MAI	Legal accessible MAI	Legal and physically accessible MAI	Accessible MAI inc. plantations	Accessible MAI exc. industrial roundwood
Region[a]	**Country**	10^6 tons		10^3 dry tons per year				
Af	**Gabon**	5,831	5,130	60,429	59,725	35,649	35,856	33,844
Af	**Gambia**	25	21	732	730	597	602	535
Af	**Ghana**	879	752	19,947	19,009	16,160	17,417	16,644
C_Am	**Guatemala**	1,621	1,424	19,227	16,236	12,993	14,059	13,796
Af	**Guinea**	1,212	1,037	25,234	25,186	21,224	21,678	21,291
Af	**Guinea-Bissau**	184	158	3,612	3,612	2,816	2,820	2,742
S_Am	**Guyana**	4,400	3,871	47,014	45,519	24,619	24,619	24,356
C_Am	**Haiti**	86	74	2,072	2,069	1,847	2,021	1,880
C_Am	**Honduras**	1,560	1,368	19,158	17,296	13,498	13,498	13,184
As	**India**	15,067	13,070	267,725	259,303	225,181	304,236	290,565
As	**Indonesia**	33,654	29,581	373,614	343,274	208,946	232,956	204,540
C_Am	**Jamaica**	144	126	1,803	1,713	1,622	1,689	1,524
Af	**Kenya**	837	708	26,496	24,672	18,296	18,829	18,091
As	**Lao People's Dem. Rep.**	4,926	4,334	52,256	49,990	37,121	38,860	38,736
Af	**Lesotho**	83	71	2,126	2,122	1,429	1,466	1,466
Af	**Liberia**	1,607	1,412	18,832	18,599	13,895	13,965	13,714
Af	**Madagascar**	2,692	2,332	50,695	48,448	38,348	40,683	40,534
Af	**Malawi**	254	215	7,060	6,256	5,168	6,293	5,461
As	**Malaysia**	6,640	5,839	70,629	66,176	41,470	54,372	42,404
Af	**Mali**	490	408	20,796	20,324	16,040	17,340	17,095
Af	**Mauritania**	41	35	4,060	4,060	2,899	2,926	2,926
C_Am	**Mexico**	12,975	11,331	203,422	196,618	162,807	181,185	178,191
Af	**Mozambique**	3,140	2,679	73,191	69,972	53,922	54,109	53,311
As	**Myanmar**	10,894	9,574	123,028	116,379	89,040	96,122	93,603
Af	**Namibia**	192	170	15,233	14,216	9,470	9,470	9,470
As	**Nepal**	1,333	1,169	18,038	16,755	13,149	13,464	12,718
C_Am	**Nicaragua**	1,506	1,319	18,846	16,568	12,434	12,912	12,876
Af	**Niger**	54	48	6,053	5,856	4,572	4,744	4,328
Af	**Nigeria**	2,644	2,266	61,934	59,251	50,239	51,900	46,316
As	**Pakistan**	336	289	13,043	12,786	10,801	12,089	10,314
C_Am	**Panama**	1,147	1,007	13,175	10,683	7,966	8,429	8,329
3	**Papua New Guinea**	9,359	8,234	100,731	100,731	50,803	51,362	49,618
S_Am	**Paraguay**	2,887	2,519	49,996	48,345	33,026	33,230	30,822

		AGB stock	DEB	Total MAI	Legal accessible MAI	Legal and physically accessible MAI	Accessible MAI inc. plantations	Accessible MAI exc. industrial roundwood
Region[a]	**Country**	10^6 tons		10^3 dry tons per year				
S_Am	**Peru**	19,632	17,252	216,544	206,658	111,051	115,784	114,975
As	**Philippines**	3,343	2,928	44,506	41,160	32,879	35,880	33,634
Af	**Rwanda**	73	62	1,860	1,657	1,422	2,772	2,054
Af	**Senegal**	272	228	9,501	8,550	7,053	8,519	8,046
Af	**Sierra Leone**	609	531	9,930	9,718	8,445	8,548	8,476
As	**Singapore**	2	1	30	25	25	25	25
3	**Solomon Islands**	485	427	5,448	5,448	3,348	3,564	2,926
Af	**Somalia**	414	348	19,137	19,137	13,531	13,536	13,473
Af	**South Africa**	2,049	1,750	59,728	58,125	48,480	54,811	43,608
As	**Sri Lanka**	826	725	10,942	9,614	8,493	9,695	9,332
Af	**Sudan (former)**	2,465	2,079	76,444	74,346	56,929	74,923	73,615
S_Am	**Suriname**	3,134	2,758	33,350	30,154	14,398	14,454	14,328
Af	**Swaziland**	59	51	1,447	1,427	1,217	1,820	1,625
As	**Thailand**	4,467	3,896	66,034	47,800	39,214	58,559	53,392
As	**Timor-Leste**	115	100	1,860	1,860	1,151	1,500	1,500
Af	**Togo**	144	122	4,126	3,853	3,331	3,484	3,386
C_Am	**Trinidad and Tobago**	85	75	958	958	881	1,042	1,014
Af	**Uganda**	913	782	19,589	17,120	14,635	14,887	12,525
Af	**United Republic of Tanzania**	2,976	2,532	73,693	65,224	51,917	52,725	51,366
S_Am	**Uruguay**	652	550	15,965	15,965	13,238	18,632	14,968
S_Am	**Venezuela**	12,881	11,308	149,179	103,098	62,426	62,426	61,060
As	**Viet Nam**	4,287	3,762	53,616	51,051	42,240	67,990	64,537
Af	**Zambia**	2,594	2,206	63,500	55,908	39,123	39,303	38,522
Af	**Zimbabwe**	798	667	24,876	22,605	18,994	19,334	18,949
	Total	**467,045**	**408,428**	**6,449,618**	**5,924,184**	**4,181,626**	**4,909,677**	**4,615,231**

[a] Region codes: Af = Africa; C_Am = Central America; S_Am = South America; As = Asia; 3 = Oceania

Fig. 4: Local supply/demand balance in 2009

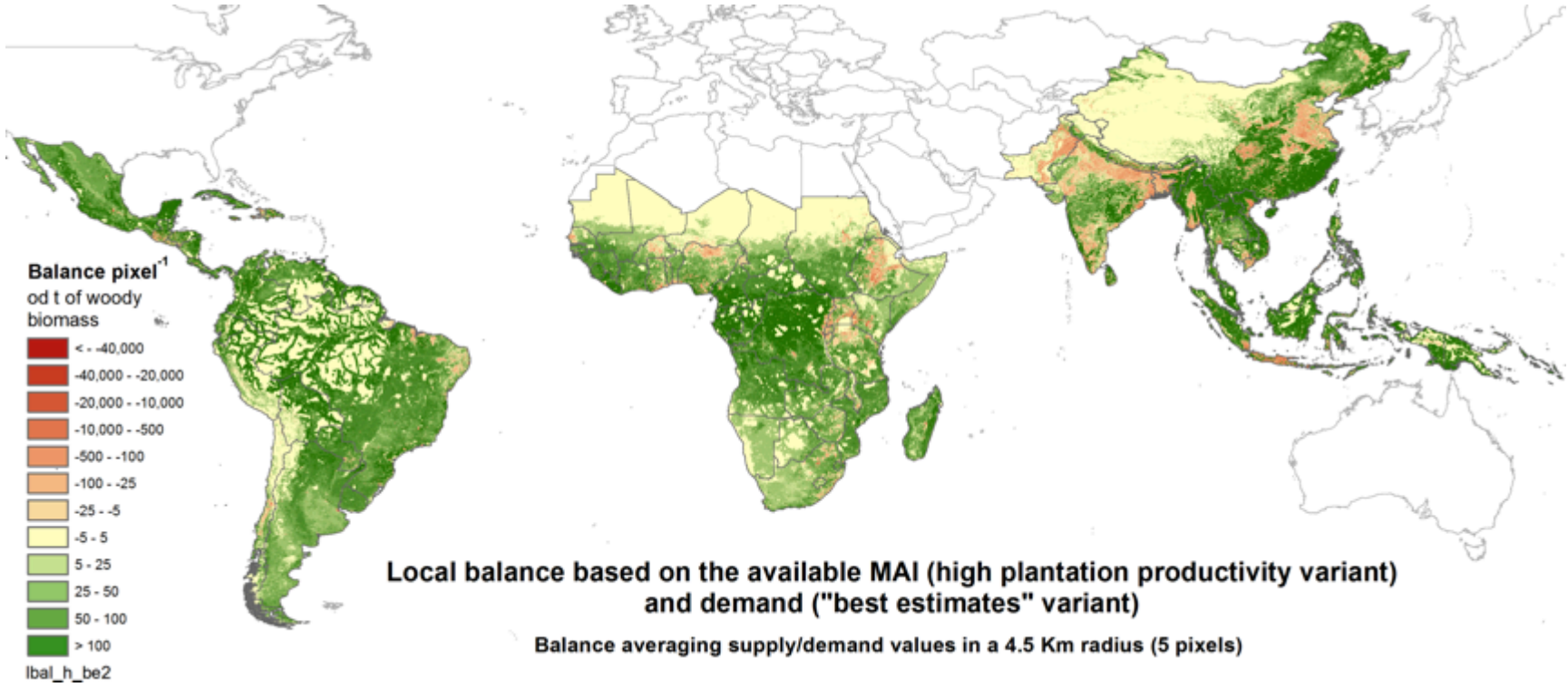


Fig. 5: Major woodsheds in each region showing estimated balance of DEB based on commercial woodfuel demand

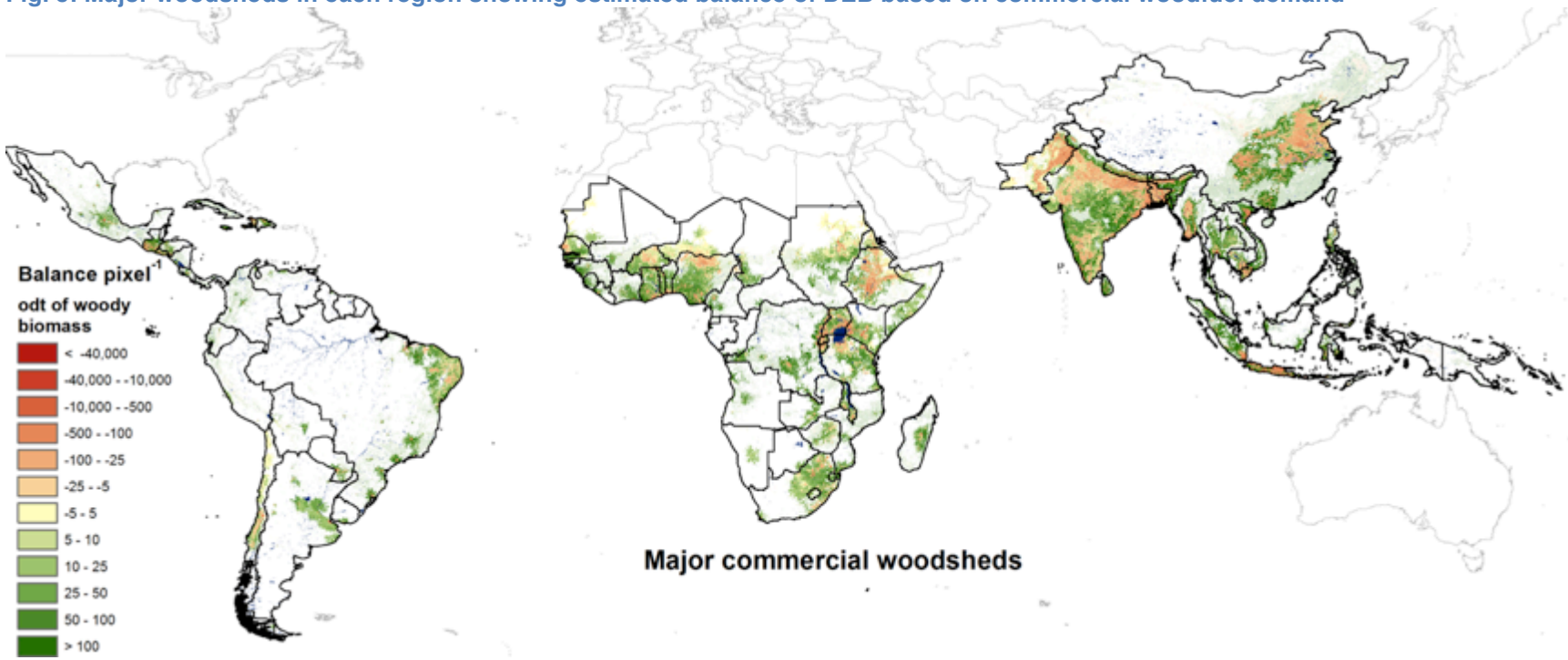


Fig. 6: NRB from deforestation and RB from afforestation sub-national units. Top map shows absolute values and bottom map shows NRB and RB as percent of total woodfuel harvest

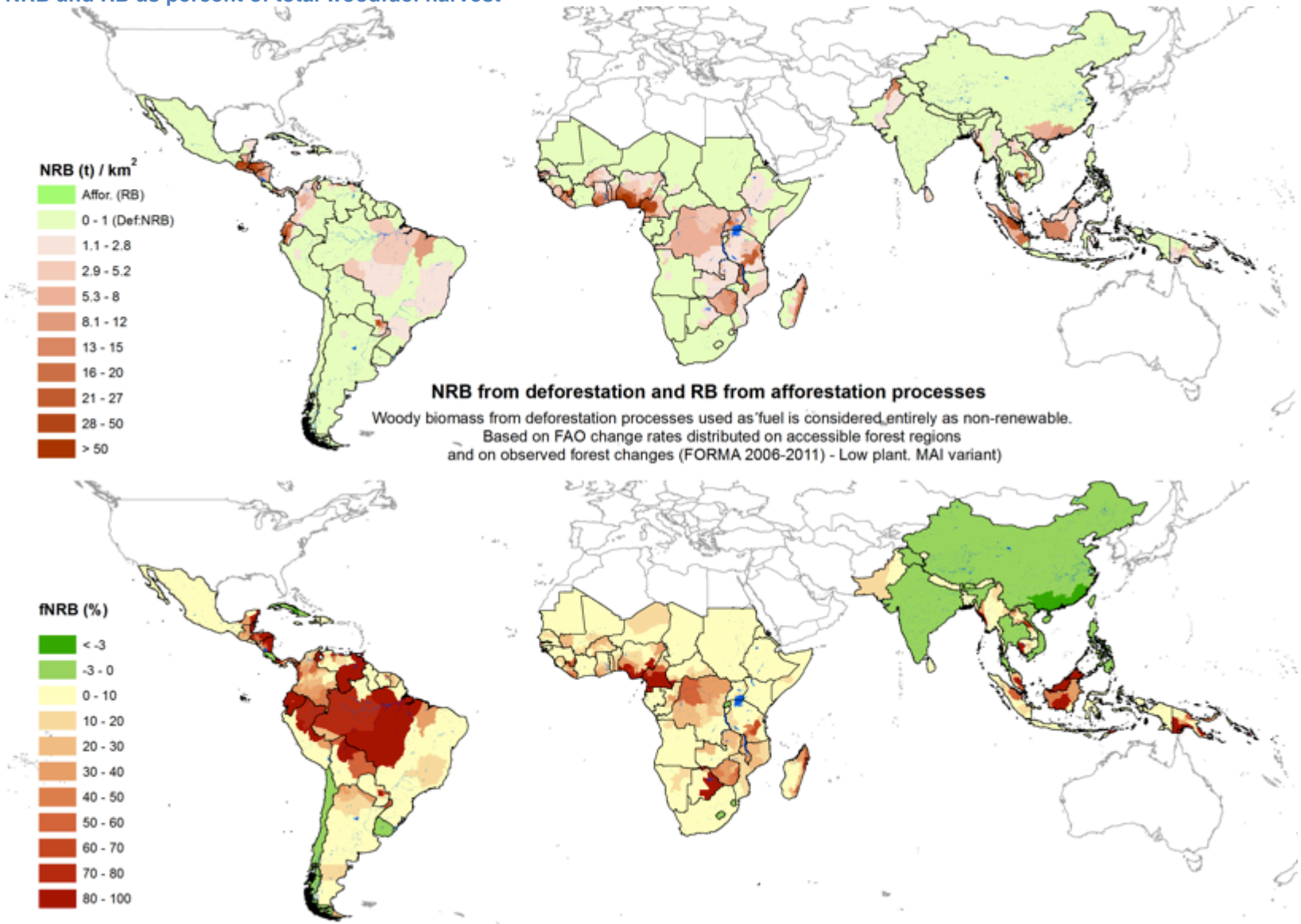
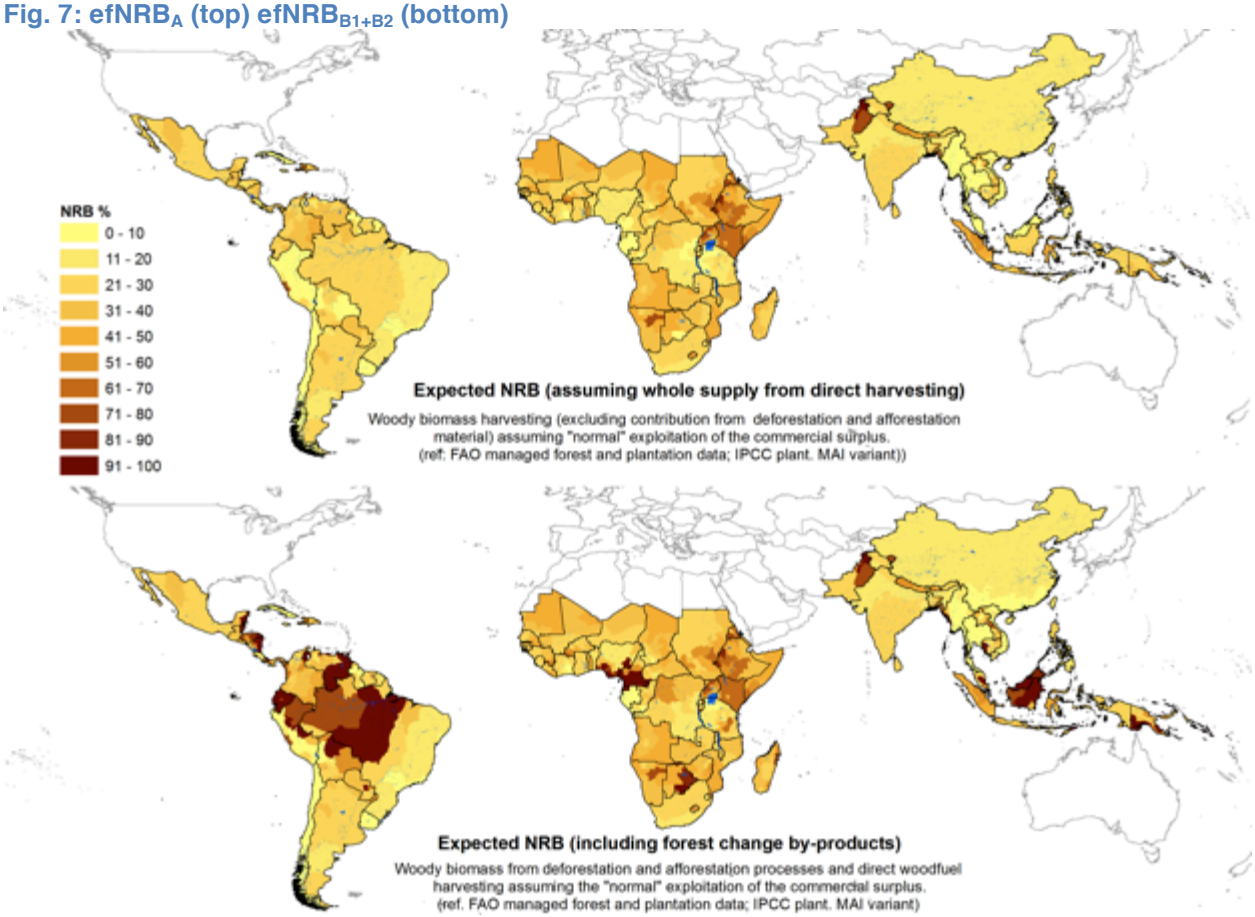


Fig. 7: efNRB$_A$ (top) efNRB$_{B1+B2}$ (bottom)



In these maps, the impact of LCC by-products is apparent, particularly in regions subject to high rates of deforestation like Central America, the Amazon Basin, and SE Asia. If by-products are not used (Scenario A – top of Fig. 7), then few hotspots occur in those regions. However, by definition, woodfuel supplied by deforestation is non-renewable. Thus, if LCC by-products are used as woodfuel, then those areas emerge as major hotspots because the DEB obtained through LCC processes is sufficient to meet the majority of the woodfuel demand.

The lower map in Fig. 7 may overemphasize the impact of NRB in deforestation hotspots. While it shows woodfuel as 100% non-renewable, the underlying drivers of LCC are unrelated to energy demand and would likely be unaffected by measures taken to reduce demand. In addition, if we normalize NRB by population as in Fig. 8, or by area, as in Fig. 9, a different picture emerges. Conditions in the Amazon Basin and SE Asia are less extreme. It is particularly noteworthy that considering NRB per unit area causes large parts of India, which had relatively low levels of fNRB, to stand out among the worse off regions.

Fig. 8: per capita NRB_A (top) and NRB_{B1+B2} (bottom) using sub-national administrative units

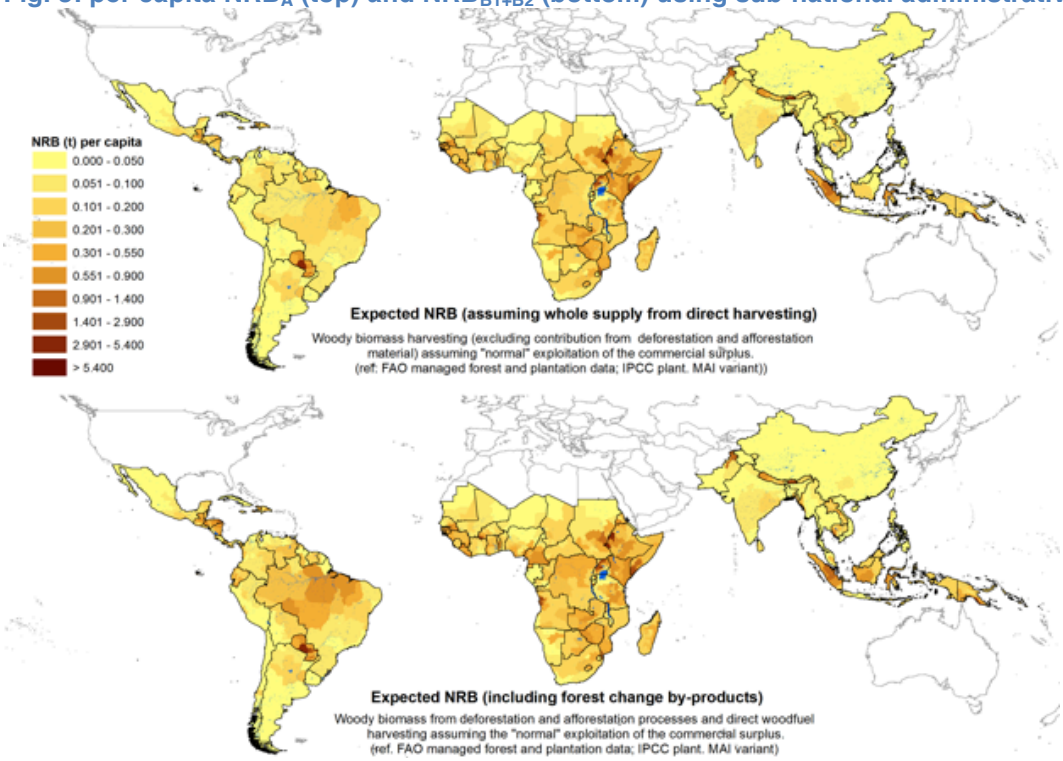
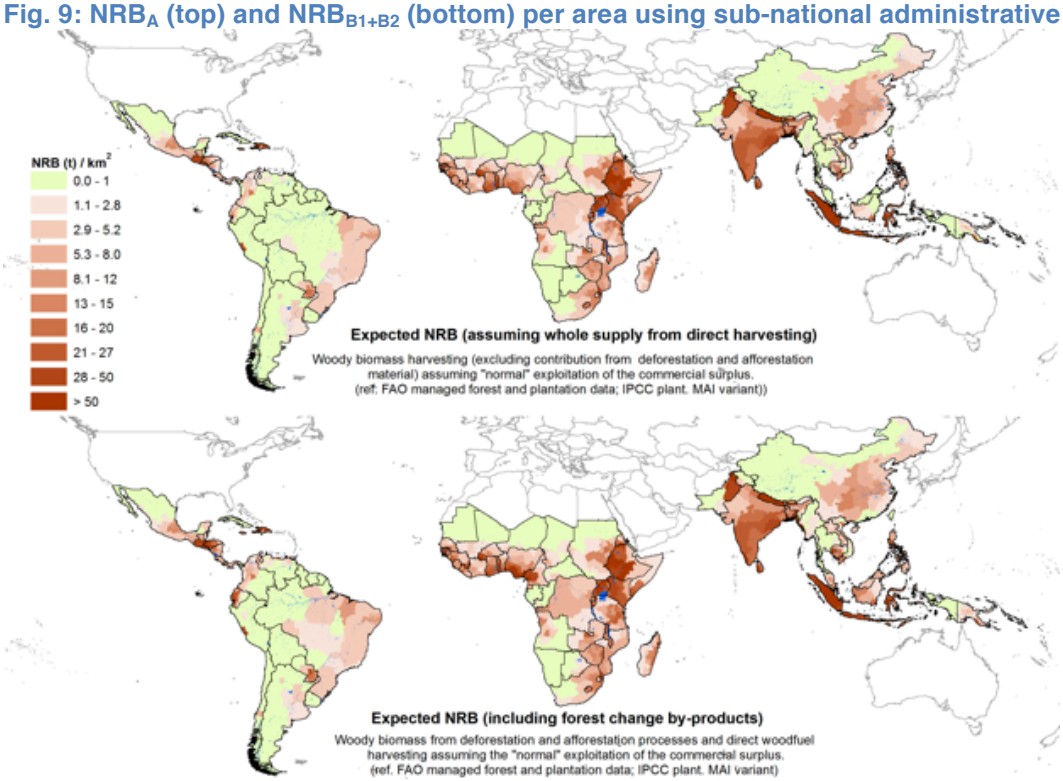
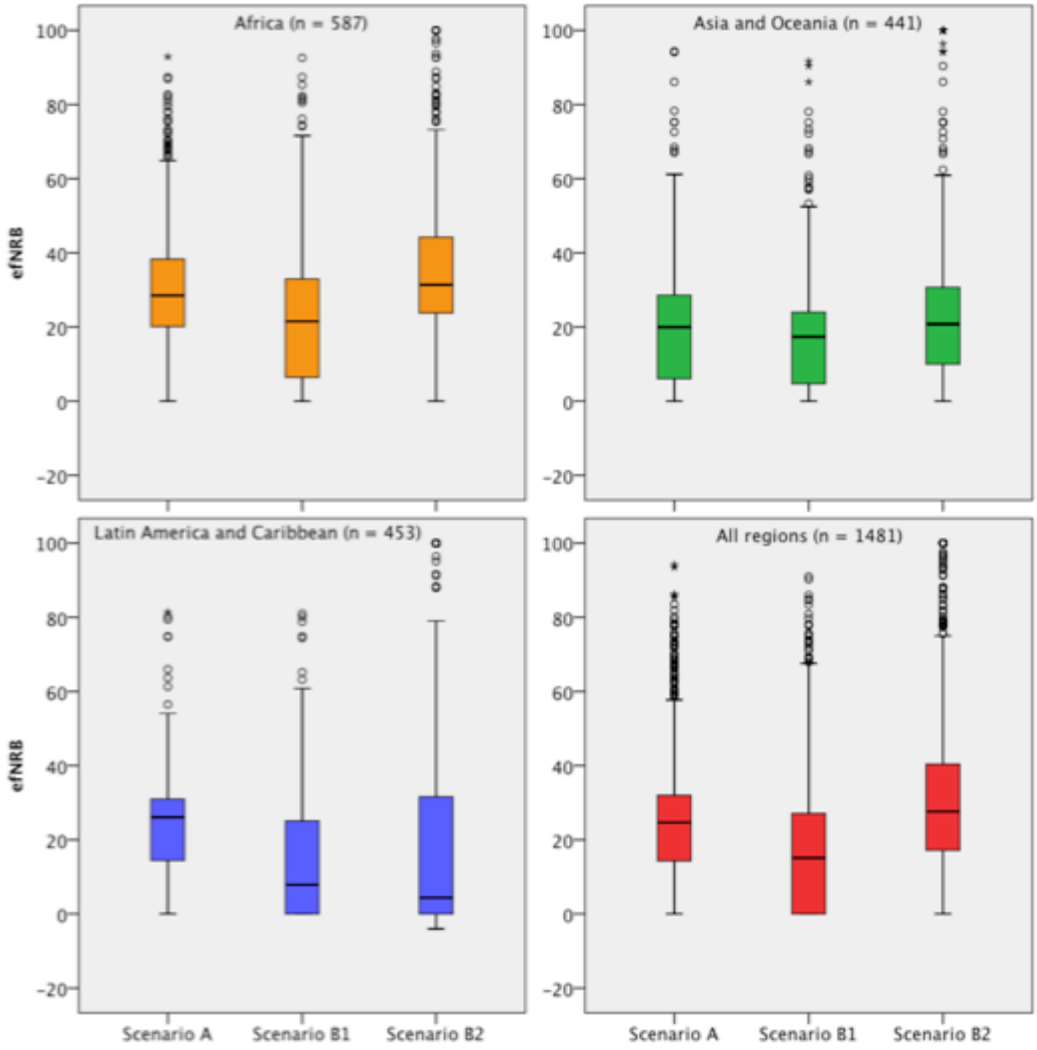


Fig. 9: NRB_A (top) and NRB_{B1+B2} (bottom) per area using sub-national administrative units



There is regional variation in outcome, as discussed in the main text. This is demonstrated in Fig. 10, which shows the regional distribution of efNRB estimates at subnational levels showing different assumptions about the use of LCC by-products.

Fig. 10: Regional distribution of efNRB estimates at subnational levels showing different assumptions about the use of LCC by-products.



The main text gives results of our assessment assuming woodfuel harvesters did not harvest precisely according to sustainable yields, which we defined as the "expected" or efNRB. We also carried out an assessment assuming harvesters acted such that sustainable yields are fully exploited before any unsustainable harvest occurred. This provides estimates of minimum or mfNRB. In addition, in the main text, we focus primarily on national-level results and only refer to a handful of subnational outcomes. In the following pages, we provide tables showing all subnational, national, and regional results. Table 3 lists results of m- and efNRB in all subnational units of the pan-tropics for all scenarios.

GHG emissions

In 2009, net emissions of GHGs from traditional woodfuels were 1.0-1.2 Gt CO_2e. Here we show how these emissions break down by type of woodfuel (Fig. 11) and by climate forcing agent (Fig. 12).

Fig. 11: National woodfuel emissions and CO_2 uptake among the top-20 emitters accounting for over 80% of global emissions disaggregated by fuelwood, charcoal production and charcoal use.

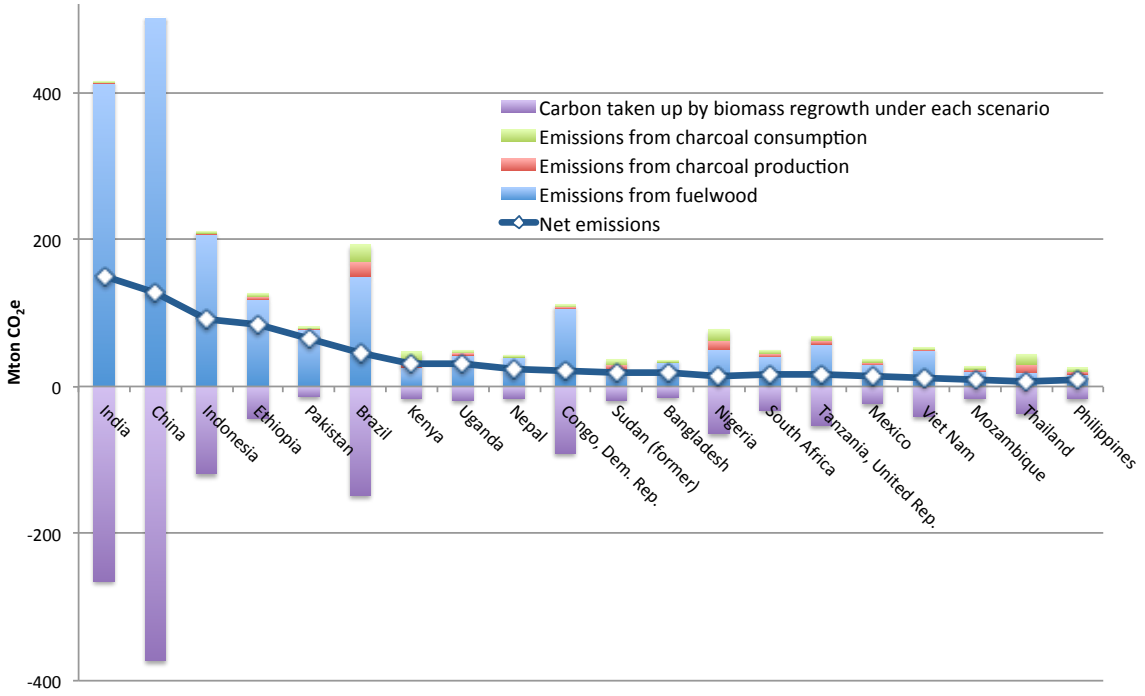


Fig. 12: National woodfuel emissions and CO_2 uptake among the top-20 emitters accounting for over 80% of global emissions disaggregated by climate forcing agent

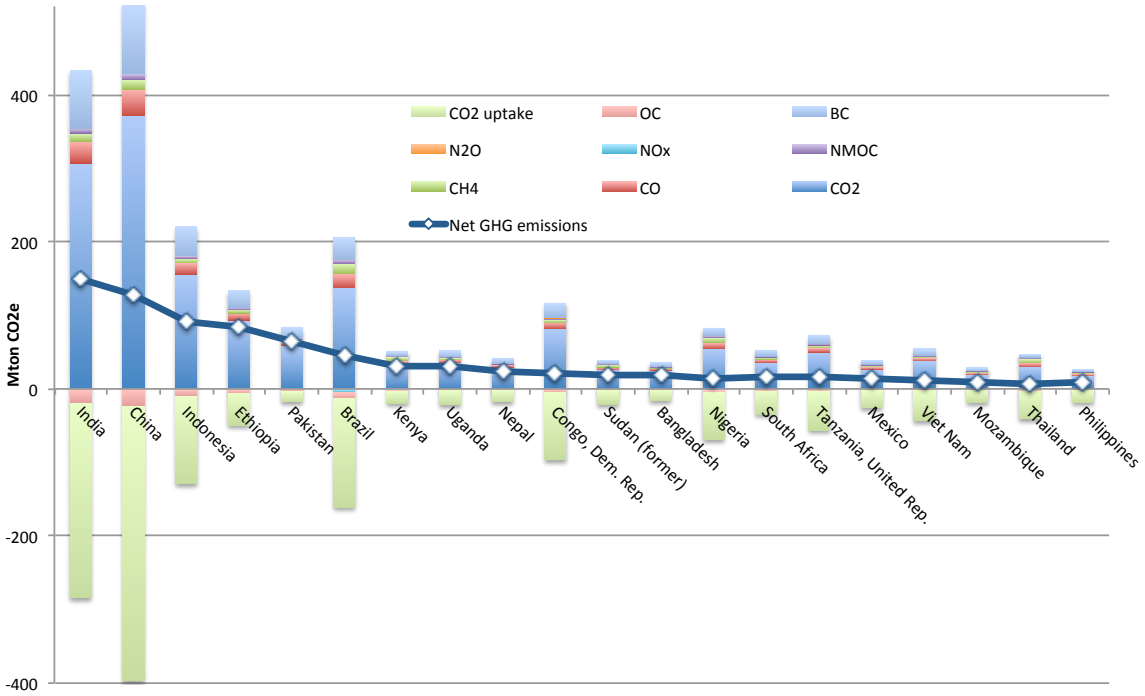


Table 2: Total GHG and SLCF emissions by woodfuels in comparison to emissions from all sectors in 2009

Country/Region	Woodfuel consumption (kton)		Woodfuel emissions (ktCO2e)				Range of CO2 uptake	Total emissions all sectors (ktCO2e) [a]	Range of Woodfuel contrubution to total emissions
	Fuelwood	Charcoal	Fuelwood	Charcoal production	Charcoal consumption	Total	from all NRB estimates		
Angola	4179	1122	8907	3834	4151	16891	2620 - 7475	48103	5% - 16%
Argentina	3259	1318	6946	4506	4879	16330	2248 - 6149	329031	1% - 2%
Bangladesh	15081	321	32141	1096	1187	34425	18242 - 20032	204249	9% - 10%
Belize	72	1	153	3	3	159	27 - 158	1310	2% - 12%
Benin	2850	235	6075	803	870	7748	1247 - 2641	48568	3% - 5%
Bhutan	2813	46	5995	157	170	6322	3116 - 4018	6259	50% - 64%
Bolivia	1372	36	2924	123	134	3181	556 - 1396	135203	0% - 1%
Botswana	403	71	859	244	264	1367	212 - 1244	11004	2% - 11%
Brazil	70284	6144	149792	20118	22736	192646	30048 - 67056	1467005	2% - 5%
Brunei Darussalam	6	1	13	2	2	17	3 - 15	20367	0% - 0%
Burkina Faso	5427	570	11565	1948	2109	15622	5340 - 8663	23031	23% - 38%
Burundi	2426	172	5171	589	638	6397	3378 - 3972	6056	56% - 66%
Cambodia	5428	111	11568	378	409	12355	2146 - 6005	149734	1% - 4%
Cameroon	7961	214	16967	731	792	18489	3124 - 14758	90296	3% - 16%
Central African Rep.	1187	186	2529	636	688	3853	593 - 1450	460657	0.1% - 0.3%
Chad	5263	43	11217	148	160	11525	2069 - 4244	31404	7% - 14%
Chile	8348	278	17792	950	1029	19770	3318 - 3701	111533	3% - 3%
China	234635	0	500062	0	0	500062	91523 - 131720	11531663	1% - 1%
Colombia	4863	481	10363	1643	1779	13786	2187 - 6150	199101	1% - 3%
Congo, Dem. Rep.	49779	704	106090	2405	2604	111100	19034 - 41156	1077696	2% - 4%
Congo, Rep.	1289	169	2747	577	625	3950	612 - 940	40646	2% - 2%
Costa Rica	1970	11	4198	39	42	4278	740 - 1257	10727	7% - 12%
Côte D'Ivoire	7402	963	15774	3290	3562	22627	3656 - 6383	150079	2% - 4%

Country/Region	Woodfuel consumption (kton)		Woodfuel emissions (ktCO2e)				Range of CO2 uptake	Total emissions all sectors (ktCO2e) [a]	Range of Woodfuel contrubution to total emissions
	Fuelwood	Charcoal	Fuelwood	Charcoal production	Charcoal consumption	Total	from all NRB estimates		
Dominican Republic	1910	393	4070	1343	1454	6867	1457 - 2950	31449	5% - 9%
Ecuador	2663	85	5676	291	315	6282	1056 - 6230	52871	2% - 12%
El Salvador	2158	8	4600	27	29	4657	1027 - 2206	11889	9% - 19%
Equatorial Guinea	234	9	498	30	33	560	94 - 532	6056	2% - 9%
Eritrea	1287	128	2743	437	474	3654	2258 - 2658	4851	47% - 55%
Ethiopia	55504	1189	118292	4062	4398	126753	69348 - 85636	108731	64% - 79%
French Guiana	48	7	102	23	25	150	23 - 44	1311	2% - 3%
Gabon	564	20	1202	68	73	1343	225 - 225	14435	2% - 2%
Gambia	450	55	959	188	203	1350	491 - 681	1762	28% - 39%
Ghana	9860	1534	21014	5244	5677	31935	4874 - 12354	79469	6% - 16%
Guatemala	10416	22	22198	75	81	22353	3884 - 9777	47172	8% - 21%
Guinea	7062	340	15051	1164	1260	17475	3181 - 7712	567760	0.6% - 1.4%
Guinea-Bissau	1295	63	2759	214	232	3205	536 - 1273	2329	23% - 55%
Guyana	559	1	1192	2	2	1196	210 - 247	17148	1.2% - 1.4%
Haiti	3500	230	7460	786	851	9097	5873 - 6510	8432	70% - 77%
Honduras	5002	27	10660	92	100	10852	1878 - 7593	19341	10% - 39%
India	193459	128	412306	438	474	413217	104402 - 149126	2909258	4% - 5%
Indonesia	97110	473	206964	1616	1750	210330	61375 - 112241	2706926	2% - 4%
Jamaica	813	81	1732	277	300	2309	365 - 705	12169	3% - 6%
Kenya	11954	3027	25476	10346	11201	47023	27151 - 32204	57523	47% - 56%
Laos	3523	49	7508	167	181	7856	1377 - 3107	34473	4% - 9%
Lesotho	896	95	1910	323	350	2584	1268 - 1537	1951	65% - 79%
Liberia	3195	225	6810	770	834	8414	1364 - 3355	2846	48% - 118%
Madagascar	7774	1067	16567	3648	3950	24166	3792 - 10278	42332	9% - 24%
Malawi	3173	478	6762	1635	1770	10166	1555 - 4377	9165	17% - 48%
Malaysia	3231	6	6886	19	21	6926	1204 - 3840	376954	0.3% - 1.0%
Mali	2660	129	5669	441	477	6586	1101 - 2657	49997	2% - 5%

Country/Region	Woodfuel consumption (kton)		Woodfuel emissions (ktCO2e)				Range of CO2 uptake	Total emissions all sectors (ktCO2e) [a]	Range of Woodfuel contrubution to total emissions
	Fuelwood	Charcoal	Fuelwood	Charcoal production	Charcoal consumption	Total	from all NRB estimates		
Mauritania	417	180	888	614	665	2167	350 - 946	11505	3% - 8%
Mexico	13815	1038	29443	3547	3840	36831	6099 - 13703	683145	1% - 2%
Mozambique	9543	938	20338	3206	3471	27014	6243 - 13274	29996	21% - 44%
Myanmar	22136	94	47177	323	350	47850	8443 - 11129	354516	2% - 3%
Namibia	272	0	580	0	0	580	173 - 329	11459	2% - 3%
Nepal	18772	10	40008	34	37	40080	21233 - 24200	43946	48% - 55%
Nicaragua	2129	10	4538	34	37	4609	798 - 2995	14946	5% - 20%
Niger	3469	0	7394	0	0	7394	1335 - 2725	9418	14% - 29%
Nigeria	23415	3844	49904	13137	14223	77263	11725 - 45060	219671	5% - 21%
Pakistan	36485	255	77757	871	943	79572	63389 - 68569	392141	16% - 17%
Panama	661	5	1408	18	19	1445	249 - 851	16756	1% - 5%
Papua New Guinea	3744	6	7979	20	22	8022	1951 - 4053	44399	4% - 9%
Paraguay	6551	267	13962	913	988	15864	2650 - 7697	38490	7% - 20%
Peru	3980	106	8482	362	392	9236	3346 - 3902	72215	5% - 5%
Philippines	7924	1175	16887	4016	4348	25251	5097 - 8896	170779	3% - 5%
Rwanda	2633	435	5611	1486	1609	8706	5044 - 5242	6126	82% - 86%
Senegal	3120	561	6648	1918	2077	10643	1809 - 4612	21557	8% - 21%
Sierra Leone	1950	373	4155	1274	1379	6808	1017 - 2274	15812	6% - 14%
Singapore	1	16	2	54	58	113	80 - 88	51609	0.2% - 0.2%
Solomon Islands	71	1	151	4	5	160	27 - 160	4494	1% - 4%
Somalia	3854	873	8214	2985	3232	14432	4469 - 8570	21400	21% - 40%
South Africa	18954	1286	40396	4394	4757	49547	9182 - 17499	467681	2% - 4%
Sri Lanka	6718	11	14319	37	40	14396	2853 - 5719	33394	9% - 17%
Sudan (former)	11006	1812	23456	6195	6707	36358	12358 - 18190	212213	6% - 9%
Suriname	111	2	236	8	9	253	43 - 81	4938	1% - 2%
Swaziland	472	41	1005	141	153	1299	208 - 356	2867	7% - 12%
Tanzania, United	26962	1558	57463	5324	5764	68551	14493 - 24434	69372	21% - 35%

Country/Region	Woodfuel consumption (kton)		Woodfuel emissions (ktCO2e)				Range of CO2 uptake	Total emissions all sectors (ktCO2e) [a]	Range of Woodfuel contrubution to total emissions
	Fuelwood	Charcoal	Fuelwood	Charcoal production	Charcoal consumption	Total	from all NRB estimates		
Rep.									
Thailand	8641	3521	18415	12035	13030	43480	6001 - 6328	386775	2% - 2%
Timor-Leste	74	0	159	0	0	159	28 - 159	934	3% - 17%
Togo	1827	556	3894	1900	2057	7851	2235 - 4019	25304	9% - 16%
Trinidad and Tobago	20	2	42	6	7	55	9 - 35	55097	0.0% - 0.1%
Uganda	19910	906	42432	3097	3353	48882	25044 - 33034	49689	50% - 66%
Uruguay	886	120	1888	411	445	2744	424 - 424	34133	1% - 1%
Venezuela	2380	7	5073	24	26	5123	889 - 3121	303709	0.3% - 1.0%
Viet Nam	22856	439	48711	1501	1625	51836	8905 - 11652	338482	2.6% - 3.4%
Zambia	7878	995	16789	3400	3681	23870	4912 - 10538	76610	6% - 14%
Zimbabwe	10525	5	22430	15	17	22463	3911 - 10861	24994	16% - 43%
Asia and Oceania	682706	6662	1455007	22769	24651	1502427	401395 - 566172	19761355	2% - 3%
Latin America	148803	10754	317135	35872	39792	392800	69846 - 155391	3739502	2% - 4%
sub-Saharan Africa	329754	27165	702782	92844	100521	896148	259720 - 449433	4187427	6% - 11%
TOTAL	1171788	44585	2497355	151501	164981	1181857	734871 - 1181857	27713279	3% - 4%

[a] From EDGAR {JRC, 2014 #3652}

Table 3: Subnational, national and regional NRB results: Min = mfNRB and Exp = efNRB as explained in the main text

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A		NRB_{B1}	NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A		NRB_{B1}	NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp		Min	Exp	Min	Exp		Min	Exp		Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Angola	Bengo	1,057	7.5	44.8	3.6	3.9	41.2	7.5	44.8	1,054	6.7	44.3	3.6	3.1	40.7	6.7	44.3
Angola	Benguela	435	5.2	35.5	4.3	0.9	31.2	5.2	35.5	435	4.9	35.3	4.3	0.6	31.0	4.9	35.3
Angola	Bie	809	4.3	31.8	8.9	0.0	22.9	8.9	31.8	809	4.1	31.6	8.9	0.0	22.7	8.9	31.6
Angola	Cabinda	103	4.0	30.4	9.1	0.0	21.3	9.1	30.4	103	4.0	30.4	9.1	0.0	21.3	9.1	30.4
Angola	Cuando Cubango	76	7.4	44.2	1.1	6.4	43.2	7.4	44.2	76	7.4	44.2	1.1	6.4	43.2	7.4	44.2
Angola	Cuanza Sul	728	4.7	33.5	5.7	0.0	27.8	5.7	33.5	728	4.3	33.2	5.7	0.0	27.5	5.7	33.2
Angola	Cunene	134	7.3	43.6	0.2	7.1	43.4	7.3	43.6	134	7.3	43.6	0.2	7.1	43.4	7.3	43.6
Angola	Huambo	1,530	3.4	28.3	2.5	1.0	25.9	3.4	28.3	1,535	3.0	28.0	2.4	0.5	25.5	3.0	28.0
Angola	Huila	481	5.5	36.3	2.7	2.7	33.6	5.5	36.3	482	5.4	36.3	2.7	2.7	33.6	5.4	36.3
Angola	Kuanza Norte	793	4.3	31.9	7.1	0.0	24.9	7.1	31.9	793	3.6	31.5	7.1	0.0	24.4	7.1	31.5
Angola	Luanda	223	3.7	29.4	0.3	3.4	29.1	3.7	29.4	223	3.7	29.4	0.3	3.4	29.1	3.7	29.4
Angola	Lunda Norte	192	6.6	40.9	4.5	2.1	36.4	6.6	40.9	192	6.6	40.9	4.5	2.1	36.4	6.6	40.9
Angola	Lunda Sul	83	7.1	42.7	4.1	3.0	38.6	7.1	42.7	83	7.0	42.7	4.1	3.0	38.6	7.0	42.7
Angola	Malanje	578	5.0	34.5	8.4	0.0	26.2	8.4	34.5	578	4.9	34.4	8.4	0.0	26.1	8.4	34.4
Angola	Moxico	195	6.9	41.9	3.9	3.0	38.1	6.9	41.9	195	6.9	41.9	3.9	3.0	38.1	6.9	41.9
Angola	Namibe	20	7.3	44.0	1.2	6.2	42.8	7.3	44.0	20	7.0	43.8	1.2	5.8	42.7	7.0	43.8
Angola	Uige	531	5.0	34.6	19.5	0.0	15.0	19.5	34.6	531	4.9	34.5	19.5	0.0	15.0	19.5	34.5
Angola	Zaire	342	7.5	44.6	2.3	5.2	42.3	7.5	44.6	341	6.8	44.3	2.3	4.5	42.0	6.8	44.3
Angola tot		8,310	**5.1**	**35.1**	**5.6**	**1.5**	**29.5**	**7.1**	**35.1**	**8,310**	**4.7**	**34.9**	**5.6**	**1.3**	**29.2**	**6.9**	**34.9**
Argentina	Buenos Aires	1,347	0.0	24.1	8.0	0.0	16.2	8.0	24.1	1,379	0.0	23.7	7.8	0.0	15.9	7.8	23.7
Argentina	Buenos Aires D.f.	5	0.0	12.1	0.6	0.0	11.5	0.6	12.1	5	0.0	12.4	0.6	0.0	11.8	0.6	12.4
Argentina	Catamarca	66	0.0	24.8	13.7	0.0	11.1	13.7	24.8	66	0.0	24.8	13.7	0.0	11.1	13.7	24.8
Argentina	Chaco	289	0.0	25.9	17.8	0.0	8.0	17.8	25.9	288	0.0	25.1	17.9	0.0	7.2	17.9	25.1
Argentina	Chubut	52	0.0	19.5	10.9	0.0	8.7	10.9	19.5	52	0.0	19.8	10.8	0.0	9.0	10.8	19.8
Argentina	Cordoba	1,525	0.0	30.9	4.3	0.0	26.6	4.3	30.9	1,506	0.0	29.2	4.3	0.0	24.9	4.3	29.2
Argentina	Corrientes	192	0.0	24.5	6.7	0.0	17.8	6.7	24.5	193	0.0	24.4	6.6	0.0	17.7	6.6	24.4
Argentina	Entre Rios	1,050	0.0	31.5	5.7	0.0	25.8	5.7	31.5	1,044	0.0	29.8	5.7	0.0	24.0	5.7	29.8
Argentina	Formosa	112	0.0	21.8	30.8	0.0	0.0	30.8	30.8	112	0.0	22.0	30.7	0.0	0.0	30.7	30.7
Argentina	Jujuy	94	0.0	17.8	31.4	0.0	0.0	31.4	31.4	95	0.0	18.1	31.1	0.0	0.0	31.1	31.1
Argentina	La Pampa	59	0.0	23.8	7.9	0.0	15.8	7.9	23.8	59	0.0	24.0	7.9	0.0	16.1	7.9	24.0
Argentina	La Rioja	114	0.0	31.6	0.8	0.0	30.8	0.8	31.6	112	0.0	30.4	0.8	0.0	29.6	0.8	30.4
Argentina	Mendoza	208	0.0	22.7	4.7	0.0	18.0	4.7	22.7	213	0.0	22.4	4.6	0.0	17.8	4.6	22.4
Argentina	Misiones	239	0.0	20.8	54.3	0.0	0.0	54.3	54.3	239	0.0	20.6	54.2	0.0	0.0	54.2	54.2
Argentina	Neuquen	67	0.0	22.9	6.6	0.0	16.3	6.6	22.9	67	0.0	23.1	6.6	0.0	16.6	6.6	23.1
Argentina	Rio Negro	96	0.0	18.8	8.0	0.0	10.8	8.0	18.8	97	0.0	19.0	7.9	0.0	11.1	7.9	19.0
Argentina	Salta	225	0.0	23.2	28.6	0.0	0.0	28.6	28.6	226	0.0	22.9	28.5	0.0	0.0	28.5	28.5
Argentina	San Juan	62	0.0	23.9	3.7	0.0	20.2	3.7	23.9	63	0.0	23.9	3.6	0.0	20.3	3.6	23.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Argentina	San Luis	60	0.0	24.7	5.4	0.0	19.3	5.4	24.7	60	0.0	25.0	5.4	0.0	19.6	5.4	25.0
Argentina	Santa Cruz	43	0.0	21.0	8.1	0.0	12.9	8.1	21.0	43	0.0	21.3	8.1	0.0	13.2	8.1	21.3
Argentina	Santa Fe	1,347	0.0	29.7	5.6	0.0	24.2	5.6	29.7	1,336	0.0	28.2	5.6	0.0	22.6	5.6	28.2
Argentina	Santiago Del Estero	469	0.0	28.6	12.1	0.0	16.5	12.1	28.6	465	0.0	27.1	12.1	0.0	15.0	12.1	27.1
Argentina	Tierra Del Fuego	18	0.0	15.1	24.4	0.0	0.0	24.4	24.4	19	0.0	15.4	24.3	0.0	0.0	24.3	24.3
Argentina	Tucuman	360	0.0	25.4	11.0	0.0	14.4	11.0	25.4	360	0.0	23.9	11.0	0.0	12.9	11.0	23.9
Argentina tot		8,099		**27.4**	**9.6**		**19.2**	**9.6**	**28.8**	**8,099**		**26.3**	**9.6**		**18.1**	**9.6**	**27.7**
Arunachal Prad.	not available	397	0.0	0.0	0.0	0.0	0.0	0.0	0.0	339	6.3	22.2	0.0	6.3	22.2	6.3	22.2
Arunachal Prad.	not available	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26	5.0	18.8	0.0	5.0	18.8	5.0	18.8
Arunachal Prad. tot		429			**0.0**					**365**			**0.0**				
Bangladesh	Barisal	749	16.7	25.5	0.0	16.7	25.4	16.7	25.5	755	15.6	24.4	0.0	15.6	24.4	15.6	24.4
Bangladesh	Chittagong	9,785	69.2	72.6	0.4	68.9	72.2	69.2	72.6	9,507	65.7	69.5	0.4	65.3	69.1	65.7	69.5
Bangladesh	Dhaka	2,109	11.5	20.8	0.0	11.5	20.8	11.5	20.8	2,114	10.8	20.2	0.0	10.8	20.2	10.8	20.2
Bangladesh	Khulna	1,545	28.9	36.7	0.2	28.7	36.4	28.9	36.7	1,781	27.4	35.3	0.2	27.3	35.2	27.4	35.3
Bangladesh	Rajshahi	2,183	5.8	15.7	0.0	5.8	15.7	5.8	15.7	2,184	5.6	15.5	0.0	5.6	15.5	5.6	15.5
Bangladesh	Sylhet	1,212	39.5	45.9	0.1	39.4	45.8	39.5	45.9	1,242	37.2	43.8	0.1	37.1	43.7	37.2	43.8
Bangladesh tot		17,584	**46.6**	**52.3**	**0.2**	**46.4**	**52.1**	**46.6**	**52.3**	**17,584**	**43.6**	**49.6**	**0.2**	**43.4**	**49.4**	**43.6**	**49.6**
Belize	Belize	17	0.0	0.0	96.4	0.0	0.0	96.4	96.4	17	0.0	0.0	96.5	0.0	0.0	96.5	96.5
Belize	Cayo	18	0.7	28.1	100.0	0.0	0.0	100.0	100.0	18	0.7	28.1	100.0	0.0	0.0	100.0	100.0
Belize	Corozal	16	0.3	26.2	100.0	0.0	0.0	100.0	100.0	16	0.3	26.2	100.0	0.0	0.0	100.0	100.0
Belize	Orange Walk	10	0.9	28.8	100.0	0.0	0.0	100.0	100.0	10	0.9	28.8	100.0	0.0	0.0	100.0	100.0
Belize	Stann Creek	11	0.5	27.2	100.0	0.0	0.0	100.0	100.0	11	0.5	27.2	100.0	0.0	0.0	100.0	100.0
Belize	Toledo	9	2.4	34.9	100.0	0.0	0.0	100.0	100.0	9	2.4	34.9	100.0	0.0	0.0	100.0	100.0
Belize tot		81	**0.7**	**22.6**	**99.2**			**99.2**	**99.2**	**81**	**0.7**	**22.7**	**99.3**			**99.3**	**99.3**
Benin	Alibori	283	4.0	20.1	4.3	0.0	15.9	4.3	20.1	283	4.0	20.1	4.3	0.0	15.9	4.3	20.1
Benin	Atakora	389	3.3	19.2	9.8	0.0	9.4	9.8	19.2	389	2.8	18.9	9.9	0.0	9.0	9.9	18.9
Benin	Atlantique	243	3.7	19.2	29.5	0.0	0.0	29.5	29.5	245	3.7	19.2	29.2	0.0	0.0	29.2	29.2
Benin	Borgou	840	2.8	20.3	13.2	0.0	7.1	13.2	20.3	835	1.6	19.3	13.2	0.0	6.0	13.2	19.3
Benin	Collines	583	2.2	18.2	21.3	0.0	0.0	21.3	21.3	582	1.2	17.3	21.3	0.0	0.0	21.3	21.3
Benin	Couffo	174	3.6	19.1	18.4	0.0	0.7	18.4	19.1	175	3.5	19.0	18.3	0.0	0.8	18.3	19.0
Benin	Donga	399	3.6	22.8	15.9	0.0	6.9	15.9	22.8	397	2.3	21.8	16.0	0.0	5.8	16.0	21.8
Benin	Littoral	65	3.7	19.2	0.0	3.7	19.2	3.7	19.2	65	3.7	19.2	0.0	3.7	19.2	3.7	19.2
Benin	Mono	113	3.7	19.2	30.3	0.0	0.0	30.3	30.3	114	3.7	19.2	29.9	0.0	0.0	29.9	29.9
Benin	Oueme	108	3.7	19.2	23.2	0.0	0.0	23.2	23.2	109	3.7	19.2	23.1	0.0	0.0	23.1	23.1
Benin	Plateau	216	2.7	18.4	27.3	0.0	0.0	27.3	27.3	217	2.0	17.8	27.2	0.0	0.0	27.2	27.2
Benin	Zou	336	2.7	18.3	20.3	0.0	0.0	20.3	20.3	337	1.9	17.7	20.2	0.0	0.0	20.2	20.2
Benin tot		3,748	**3.1**	**19.6**	**17.0**	**0.1**	**4.9**	**17.1**	**21.9**	**3,748**	**2.4**	**19.0**	**17.0**	**0.1**	**4.5**	**17.1**	**21.5**

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Bhutan	Bumthang	40	4.8	29.9	-0.5	4.3	29.4	4.3	29.4	40	4.8	29.9	-0.5	4.3	29.4	4.3	29.4
Bhutan	Chhukha	356	54.2	67.6	-0.2	53.9	67.4	53.9	67.4	356	53.7	67.3	-0.3	53.4	67.0	53.4	67.0
Bhutan	Dagana	166	25.8	44.6	-0.4	25.4	44.2	25.4	44.2	167	25.5	44.3	-0.4	25.1	44.0	25.1	44.0
Bhutan	Gasa	0	8.9	45.1	0.0	8.9	45.1	8.9	45.1	0	8.9	45.1	0.0	8.9	45.1	8.9	45.1
Bhutan	Ha	84	65.6	78.3	-0.2	65.4	78.1	65.4	78.1	84	65.1	78.0	-0.2	64.9	77.8	64.9	77.8
Bhutan	Lhuentse	82	9.8	34.2	-0.5	9.3	33.7	9.3	33.7	82	9.7	34.2	-0.5	9.2	33.6	9.2	33.6
Bhutan	Mongar	195	35.0	52.9	-0.4	34.6	52.5	34.6	52.5	195	34.6	52.6	-0.4	34.3	52.2	34.3	52.2
Bhutan	Paro	112	44.7	61.2	-0.3	44.4	60.9	44.4	60.9	112	44.3	60.9	-0.3	44.0	60.6	44.0	60.6
Bhutan	Pemagatshel	62	17.0	37.5	-0.5	16.4	37.0	16.4	37.0	62	16.8	37.4	-0.5	16.3	36.9	16.3	36.9
Bhutan	Punakha	49	23.1	42.5	-0.4	22.7	42.1	22.7	42.1	49	22.9	42.3	-0.4	22.5	41.9	22.5	41.9
Bhutan	Samdrup-Jonkha	259	52.1	67.0	-0.3	51.9	66.7	51.9	66.7	259	51.5	66.5	-0.3	51.2	66.3	51.2	66.3
Bhutan	Samtse	267	43.8	59.3	-0.3	43.5	59.0	43.5	59.0	268	43.2	58.8	-0.3	42.9	58.5	42.9	58.5
Bhutan	Sarpang	241	42.1	57.7	-0.3	41.8	57.4	41.8	57.4	241	41.6	57.3	-0.3	41.3	57.0	41.3	57.0
Bhutan	Thimphu	77	25.9	45.7	-0.4	25.5	45.3	25.5	45.3	77	25.6	45.5	-0.4	25.2	45.1	25.2	45.1
Bhutan	Trashi Yangtse	77	16.8	37.8	-0.4	16.4	37.4	16.4	37.4	77	16.7	37.7	-0.4	16.3	37.3	16.3	37.3
Bhutan	Trashigang	207	30.0	47.4	-0.4	29.7	47.0	29.7	47.0	207	29.7	47.2	-0.4	29.4	46.8	29.4	46.8
Bhutan	Trongsa	39	5.4	32.3	-0.5	5.0	31.8	5.0	31.8	39	5.4	32.3	-0.5	5.0	31.8	5.0	31.8
Bhutan	Tsirang	73	22.0	41.1	-0.5	21.5	40.6	21.5	40.6	73	21.9	41.0	-0.5	21.5	40.5	21.5	40.5
Bhutan	Wangdue-Phodrang	211	53.6	68.5	-0.2	53.4	68.2	53.4	68.2	210	53.2	68.2	-0.2	52.9	67.9	52.9	67.9
Bhutan	Zhemgang	179	43.9	60.3	-0.3	43.6	60.0	43.6	60.0	178	43.5	60.1	-0.3	43.2	59.7	43.2	59.7
Bhutan tot		2,777	**39.6**	**56.4**	**-0.3**	**39.3**	**56.0**	**39.3**	**56.0**	**2,777**	**39.2**	**56.0**	**-0.3**	**38.8**	**55.7**	**38.8**	**55.7**
Bolivia	Pando	15	3.8	31.6	50.9	0.0	0.0	50.9	50.9	15	3.8	31.6	50.9	0.0	0.0	50.9	50.9
Bolivia	Beni	79	0.0	22.8	91.2	0.0	0.0	91.2	91.2	79	0.0	22.8	91.2	0.0	0.0	91.2	91.2
Bolivia	Chuquisaca	114	2.9	28.4	0.1	2.8	28.3	2.9	28.4	114	2.9	28.4	0.1	2.8	28.3	2.9	28.4
Bolivia	Cochabamba	185	0.0	11.8	2.7	0.0	9.1	2.7	11.8	185	0.0	11.8	2.7	0.0	9.1	2.7	11.8
Bolivia	La Paz	389	0.0	0.0	0.8	0.0	0.0	0.8	0.8	389	0.0	0.0	0.8	0.0	0.0	0.8	0.8
Bolivia	Oruro	50	4.1	32.8	0.0	4.1	32.8	4.1	32.8	50	4.1	32.8	0.0	4.1	32.8	4.1	32.8
Bolivia	Potosi	132	2.4	26.9	0.0	2.4	26.9	2.4	26.9	132	2.4	26.9	0.0	2.4	26.9	2.4	26.9
Bolivia	Santa Cruz	511	0.0	0.0	57.0	0.0	0.0	57.0	57.0	511	0.0	0.0	57.0	0.0	0.0	57.0	57.0
Bolivia	Tarija	73	3.5	30.6	0.1	3.4	30.5	3.5	30.6	73	3.5	30.6	0.1	3.4	30.5	3.5	30.6
Bolivia tot		1,548	**0.8**	**9.8**	**24.5**	**0.7**	**8.0**	**25.2**	**32.5**	**1,548**	**0.8**	**9.8**	**24.5**	**0.7**	**8.0**	**25.2**	**32.5**
Botswana	Central	207	0.0	35.5	84.9	0.0	0.0	84.9	84.9	207	0.0	35.5	85.0	0.0	0.0	85.0	85.0
Botswana	Chobe	8	7.9	45.3	20.2	0.0	25.2	20.2	45.3	8	7.9	45.3	20.2	0.0	25.2	20.2	45.3
Botswana	Ghanzi	9	7.7	44.2	0.2	7.4	44.0	7.7	44.2	9	7.7	44.2	0.2	7.4	44.0	7.7	44.2
Botswana	Kgalagadi	12	6.3	38.9	0.0	6.3	38.9	6.3	38.9	12	6.4	38.9	0.0	6.4	38.9	6.4	38.9
Botswana	Kgatleng	79	0.0	0.0	100.0	0.0	0.0	100.0	100.0	79	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Botswana	Kweneng	98	0.0	9.1	100.0	0.0	0.0	100.0	100.0	98	0.0	9.0	100.0	0.0	0.0	100.0	100.0
Botswana	Ngamiland	37	8.4	47.4	2.3	6.2	45.1	8.4	47.4	37	8.4	47.4	2.3	6.2	45.1	8.4	47.4

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Botswana	North East	59	0.0	0.0	100.0	0.0	0.0	100.0	100.0	59	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Botswana	South-East	59	0.0	0.0	93.7	0.0	0.0	93.7	93.7	59	0.0	0.0	93.5	0.0	0.0	93.5	93.5
Botswana	Southern	110	0.0	2.7	100.0	0.0	0.0	100.0	100.0	110	0.0	2.6	100.0	0.0	0.0	100.0	100.0
Botswana tot		677	**0.8**	**17.0**	**85.4**	**0.6**	**4.1**	**86.0**	**89.5**	**677**	**0.8**	**17.0**	**85.4**	**0.6**	**4.1**	**86.0**	**89.5**
Brazil	Acre	263	0.0	27.6	22.0	0.0	5.6	22.0	27.6	263	0.0	28.0	21.9	0.0	6.0	21.9	28.0
Brazil	Alagoas	1,363	0.0	12.0	0.0	0.0	12.0	0.0	12.0	1,420	0.0	11.5	0.0	0.0	11.5	0.0	11.5
Brazil	Amapa	66	0.0	21.5	4.8	0.0	16.8	4.8	21.5	66	0.0	22.0	4.7	0.0	17.2	4.7	22.0
Brazil	Amazonas	892	0.0	28.8	73.4	0.0	0.0	73.4	73.4	894	0.0	29.2	73.3	0.0	0.0	73.3	73.3
Brazil	Bahia	12,404	0.0	19.1	5.8	0.0	13.3	5.8	19.1	12,372	0.0	16.9	5.8	0.0	11.1	5.8	16.9
Brazil	Ceara	7,066	0.0	14.2	0.2	0.0	14.0	0.2	14.2	7,034	0.0	10.8	0.2	0.0	10.6	0.2	10.8
Brazil	Distrito Federal	24	0.0	14.7	0.0	0.0	14.6	0.0	14.7	24	0.0	15.1	0.0	0.0	15.1	0.0	15.1
Brazil	Espirito Santo	1,236	0.0	14.4	5.5	0.0	8.9	5.5	14.4	1,238	0.0	14.2	5.5	0.0	8.7	5.5	14.2
Brazil	Goias	1,533	0.0	25.4	0.3	0.0	25.1	0.3	25.4	1,537	0.0	25.4	0.3	0.0	25.1	0.3	25.4
Brazil	Maranhao	10,655	0.0	20.8	33.3	0.0	0.0	33.3	33.3	10,653	0.0	18.2	33.3	0.0	0.0	33.3	33.3
Brazil	Mato Grosso	913	0.0	27.7	100.0	0.0	0.0	100.0	100.0	915	0.0	28.0	100.0	0.0	0.0	100.0	100.0
Brazil	Mato Grosso Do Sul	692	0.0	28.3	0.3	0.0	28.0	0.3	28.3	694	0.0	28.7	0.3	0.0	28.4	0.3	28.7
Brazil	Minas Gerais	11,861	0.0	17.1	13.1	0.0	4.0	13.1	17.1	11,849	0.0	14.7	13.1	0.0	1.6	13.1	14.7
Brazil	Para	3,627	0.0	23.7	100.0	0.0	0.0	100.0	100.0	3,637	0.0	23.9	100.0	0.0	0.0	100.0	100.0
Brazil	Paraiba	2,633	0.0	14.9	0.0	0.0	14.9	0.0	14.9	2,702	0.0	14.6	0.0	0.0	14.5	0.0	14.6
Brazil	Parana	5,878	0.0	18.4	4.7	0.0	13.7	4.7	18.4	5,865	0.0	16.2	4.7	0.0	11.5	4.7	16.2
Brazil	Pernambuco	5,054	0.0	18.0	0.0	0.0	17.9	0.0	18.0	5,084	0.0	16.0	0.0	0.0	16.0	0.0	16.0
Brazil	Piaui	6,199	0.0	22.1	1.2	0.0	20.9	1.2	22.1	6,090	0.0	17.8	1.2	0.0	16.5	1.2	17.8
Brazil	Rio De Janeiro	1,359	0.0	10.6	0.5	0.0	10.1	0.5	10.6	1,349	0.0	6.5	0.5	0.0	6.0	0.5	6.5
Brazil	Rio Grande Do Norte	1,679	0.0	15.4	0.0	0.0	15.4	0.0	15.4	1,723	0.0	14.4	0.0	0.0	14.4	0.0	14.4
Brazil	Rio Grande Do Sul	6,563	0.0	18.8	0.3	0.0	18.4	0.3	18.8	6,576	0.0	16.5	0.3	0.0	16.2	0.3	16.5
Brazil	Rondonia	945	0.0	27.5	91.7	0.0	0.0	91.7	91.7	948	0.0	27.9	91.5	0.0	0.0	91.5	91.5
Brazil	Roraima	98	0.0	31.5	7.0	0.0	24.5	7.0	31.5	98	0.0	31.9	7.0	0.0	24.9	7.0	31.9
Brazil	Santa Catarina	3,911	0.0	15.3	2.7	0.0	12.6	2.7	15.3	3,912	0.0	12.7	2.7	0.0	10.0	2.7	12.7
Brazil	Sao Paulo	3,820	0.0	12.8	4.3	0.0	8.5	4.3	12.8	3,759	0.0	8.6	4.3	0.0	4.3	4.3	8.6
Brazil	Sergipe	1,048	0.0	11.2	0.1	0.0	11.1	0.1	11.2	1,076	0.0	9.1	0.1	0.0	9.0	0.1	9.1
Brazil	Tocantins	917	0.0	26.2	4.4	0.0	21.8	4.4	26.2	920	0.0	26.5	4.4	0.0	22.1	4.4	26.5
Brazil	Name Unknown	0	0.0	35.8	0.0	0.0	35.8	0.0	35.8	0	0.0	36.2	0.0	0.0	36.2	0.0	36.2
Brazil	Name Unknown	0	0.0	35.8	0.0	0.0	35.8	0.0	35.8	0	0.0	36.2	0.0	0.0	36.2	0.0	36.2
Brazil	Name Unknown	0	0.0	35.8	0.0	0.0	35.8	0.0	35.8	0	0.0	36.2	0.0	0.0	36.2	0.0	36.2
Brazil	Name Unknown	0	0.0	35.8	0.0	0.0	35.8	0.0	35.8	0	0.0	36.2	0.0	0.0	36.2	0.0	36.2
Brazil tot		92,698		**18.5**	**13.7**		**11.0**	**13.7**	**24.7**	**92,698**		**16.2**	**13.8**		**9.0**	**13.8**	**22.8**
Brunei Daruss.	Belait	2	0.0	0.0	100.0	0.0	0.0	100.0	100.0	2	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Brunei Daruss.	Brunei and Muara	5	0.0	0.0	70.8	0.0	0.0	70.8	70.8	5	0.0	0.0	70.8	0.0	0.0	70.8	70.8

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Brunei Daruss.	Temburong	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Brunei Daruss.	Tutong	2	0.0	0.0	100.0	0.0	0.0	100.0	100.0	2	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Brunei Daruss. tot		12			**87.2**			**87.2**	**87.2**	**12**			**87.2**			**87.2**	**87.2**
Burkina Faso	Boucle Du Mouhoun	682	8.0	29.0	27.6	0.0	1.4	27.6	29.0	693	8.5	29.4	27.1	0.0	2.3	27.1	29.4
Burkina Faso	Cascades	1,698	56.1	68.7	5.5	50.6	63.2	56.1	68.7	1,658	53.9	67.2	5.6	48.2	61.5	53.9	67.2
Burkina Faso	Centre	91	2.5	24.7	3.9	0.0	20.8	3.9	24.7	92	2.6	24.8	3.9	0.0	20.9	3.9	24.8
Burkina Faso	Centre-est	289	3.4	25.4	9.8	0.0	15.6	9.8	25.4	292	3.5	25.5	9.7	0.0	15.9	9.7	25.5
Burkina Faso	Centre-nord	334	2.5	24.7	23.1	0.0	1.6	23.1	24.7	337	2.6	24.8	22.9	0.0	1.9	22.9	24.8
Burkina Faso	Centre-ouest	679	29.5	46.1	10.6	19.0	35.6	29.5	46.1	692	28.9	45.6	10.4	18.5	35.3	28.9	45.6
Burkina Faso	Centre-sud	271	18.2	37.9	17.6	0.6	20.3	18.2	37.9	270	17.3	37.2	17.6	0.0	19.6	17.6	37.2
Burkina Faso	Est	575	20.8	40.3	16.4	4.4	23.9	20.8	40.3	579	20.3	39.9	16.3	4.0	23.6	20.3	39.9
Burkina Faso	Hauts-bassins	1,586	45.1	57.8	5.1	40.0	52.7	45.1	57.8	1,591	43.5	56.6	5.1	38.4	51.5	43.5	56.6
Burkina Faso	Nord	316	2.5	24.8	22.9	0.0	1.8	22.9	24.8	320	2.6	24.8	22.6	0.0	2.2	22.6	24.8
Burkina Faso	Plateau Central	160	2.5	24.7	6.8	0.0	18.0	6.8	24.7	161	2.6	24.8	6.7	0.0	18.1	6.7	24.8
Burkina Faso	Sahel	220	2.6	25.0	25.2	0.0	0.0	25.2	25.2	221	2.6	25.1	25.2	0.0	0.0	25.2	25.2
Burkina Faso	Sud-ouest	723	38.5	53.0	22.1	16.4	30.9	38.5	53.0	717	36.9	51.8	22.3	14.6	29.5	36.9	51.8
Burkina Faso tot		7,623	**31.6**	**48.1**	**12.9**	**23.2**	**35.2**	**36.1**	**48.1**	**7,623**	**30.3**	**47.1**	**12.9**	**21.9**	**34.2**	**34.8**	**47.1**
Burundi	Bubanza	71	3.6	18.6	10.2	0.0	8.4	10.2	18.6	88	17.6	30.4	8.2	9.4	22.2	17.6	30.4
Burundi	Bujumbura-Mairie	64	3.6	18.6	0.0	3.6	18.6	3.6	18.6	65	3.7	18.7	0.0	3.7	18.7	3.7	18.7
Burundi	Bujumbura-Rural	144	35.8	45.8	4.3	31.5	41.5	35.8	45.8	206	51.6	59.1	3.0	48.5	56.1	51.6	59.1
Burundi	Bururi	722	77.1	80.6	0.2	76.9	80.5	77.1	80.6	609	71.1	75.6	0.2	70.9	75.4	71.1	75.6
Burundi	Cankuzo	70	3.6	18.6	0.6	3.0	18.0	3.6	18.6	72	3.7	18.7	0.6	3.1	18.1	3.7	18.7
Burundi	Cibitoke	108	3.6	18.6	61.4	0.0	0.0	61.4	61.4	249	55.5	62.4	26.7	28.8	35.7	55.5	62.4
Burundi	Gitega	139	3.6	18.6	0.4	3.2	18.2	3.6	18.6	149	3.7	18.7	0.4	3.3	18.3	3.7	18.7
Burundi	Karuzi	95	3.6	18.6	0.5	3.2	18.1	3.6	18.6	103	3.7	18.7	0.4	3.3	18.3	3.7	18.7
Burundi	Kayanza	84	3.6	18.6	0.6	3.0	18.0	3.6	18.6	93	3.7	18.7	0.6	3.2	18.1	3.7	18.7
Burundi	Kirundo	115	3.6	18.6	0.5	3.2	18.1	3.6	18.6	127	3.7	18.7	0.4	3.3	18.3	3.7	18.7
Burundi	Makamba	526	79.3	82.5	0.2	79.1	82.3	79.3	82.5	592	80.5	83.5	0.1	80.3	83.4	80.5	83.5
Burundi	Muramvya	47	3.6	18.6	1.7	2.0	16.9	3.6	18.6	51	3.7	18.7	1.5	2.2	17.2	3.7	18.7
Burundi	Muyinga	114	3.6	18.6	0.5	3.1	18.1	3.6	18.6	124	3.7	18.7	0.5	3.2	18.2	3.7	18.7
Burundi	Mwaro	60	3.6	18.6	0.4	3.2	18.2	3.6	18.6	64	3.7	18.7	0.4	3.3	18.3	3.7	18.7
Burundi	Ngozi	107	3.6	18.6	0.6	3.1	18.0	3.6	18.6	118	3.7	18.7	0.5	3.2	18.2	3.7	18.7
Burundi	Rutana	615	85.1	87.4	0.1	85.0	87.4	85.1	87.4	368	74.3	78.3	0.1	74.2	78.2	74.3	78.3
Burundi	Ruyigi	113	3.6	18.6	0.5	3.1	18.1	3.6	18.6	116	3.7	18.7	0.5	3.2	18.2	3.7	18.7
Burundi tot		3,194	**49.8**	**57.6**	**2.8**	**49.2**	**56.3**	**51.9**	**59.1**	**3,194**	**46.4**	**54.8**	**2.8**	**43.7**	**52.0**	**46.4**	**54.8**
Cambodia	Banteay Meanchey	252	0.0	26.0	2.3	0.0	23.7	2.3	26.0	255	0.0	25.5	2.3	0.0	23.2	2.3	25.5
Cambodia	Battambang	474	0.0	21.5	96.4	0.0	0.0	96.4	96.4	474	0.0	20.3	96.4	0.0	0.0	96.4	96.4

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Cambodia	Kampong Cham	662	0.0	23.4	15.3	0.0	8.1	15.3	23.4	666	0.0	22.5	15.2	0.0	7.3	15.2	22.5
Cambodia	Kampong Chhnang	348	0.0	21.7	0.9	0.0	20.8	0.9	21.7	347	0.0	20.5	0.9	0.0	19.6	0.9	20.5
Cambodia	Kampong Speu	399	0.0	21.1	6.2	0.0	14.9	6.2	21.1	397	0.0	19.6	6.2	0.0	13.3	6.2	19.6
Cambodia	Kampong Thom	692	0.0	23.2	28.7	0.0	0.0	28.7	28.7	692	0.0	21.5	28.7	0.0	0.0	28.7	28.7
Cambodia	Kampot	280	0.0	23.6	17.2	0.0	6.4	17.2	23.6	279	0.0	22.4	17.2	0.0	5.1	17.2	22.4
Cambodia	Kandal	258	1.6	27.3	1.3	0.4	26.0	1.6	27.3	259	1.2	27.0	1.3	0.0	25.7	1.3	27.0
Cambodia	Koh Kong	163	0.0	22.5	100.0	0.0	0.0	100.0	100.0	162	0.0	20.8	100.0	0.0	0.0	100.0	100.0
Cambodia	Kep	10	0.0	25.4	0.2	0.0	25.2	0.2	25.4	10	0.0	24.9	0.2	0.0	24.7	0.2	24.9
Cambodia	Kratie	178	0.8	27.4	5.4	0.0	22.0	5.4	27.4	179	0.2	26.9	5.3	0.0	21.6	5.3	26.9
Cambodia	Sihanoukville	123	0.0	19.1	34.7	0.0	0.0	34.7	34.7	123	0.0	17.3	34.9	0.0	0.0	34.9	34.9
Cambodia	Mondul Kiri	19	7.0	38.3	3.9	3.1	34.4	7.0	38.3	19	7.0	38.3	3.9	3.1	34.4	7.0	38.3
Cambodia	Oddar Meanchey	86	0.0	22.8	2.5	0.0	20.3	2.5	22.8	86	0.0	21.7	2.5	0.0	19.2	2.5	21.7
Cambodia	Pailin	35	0.0	18.9	13.8	0.0	5.1	13.8	18.9	35	0.0	16.9	13.8	0.0	3.1	13.8	16.9
Cambodia	Phnom Penh	94	4.8	29.6	0.0	4.8	29.6	4.8	29.6	94	4.8	29.6	0.0	4.8	29.6	4.8	29.6
Cambodia	Preah Vihear	236	0.0	20.4	1.6	0.0	18.8	1.6	20.4	235	0.0	18.5	1.6	0.0	16.8	1.6	18.5
Cambodia	Prey Veng	216	4.6	29.4	0.0	4.5	29.4	4.6	29.4	216	4.5	29.4	0.0	4.5	29.4	4.5	29.4
Cambodia	Pursat	465	0.0	23.0	100.0	0.0	0.0	100.0	100.0	463	0.0	21.3	100.0	0.0	0.0	100.0	100.0
Cambodia	Ratanak Kiri	60	5.6	32.7	8.6	0.0	24.0	8.6	32.7	61	5.6	32.7	8.6	0.0	24.1	8.6	32.7
Cambodia	Siemreap	523	0.0	20.9	5.5	0.0	15.3	5.5	20.9	521	0.0	19.4	5.5	0.0	13.8	5.5	19.4
Cambodia	Stung Treng	49	5.9	34.1	4.2	1.7	29.9	5.9	34.1	49	5.9	34.1	4.2	1.7	29.9	5.9	34.1
Cambodia	Svay Rieng	178	2.6	28.0	0.2	2.5	27.8	2.6	28.0	181	2.3	27.7	0.2	2.1	27.6	2.3	27.7
Cambodia	Takeo	162	3.8	28.9	0.0	3.8	28.9	3.8	28.9	163	3.7	28.8	0.0	3.7	28.8	3.7	28.8
Cambodia	Nat. Admin. 1	0	9.8	49.6	0.0	9.8	49.6	9.8	49.6	0	9.8	49.6	0.0	9.8	49.6	9.8	49.6
Cambodia	Nat. Admin. 2	5	3.0	34.1	0.6	2.4	33.5	3.0	34.1	5	2.4	33.7	0.6	1.8	33.1	2.4	33.7
Cambodia tot		5,969	**0.6**	**23.7**	**26.3**	**0.5**	**12.4**	**26.8**	**38.7**	**5,969**	**0.6**	**22.6**	**26.3**	**0.4**	**11.8**	**26.7**	**38.1**
Cameroon	Adamaoua	472	4.2	22.9	51.7	0.0	0.0	51.7	51.7	473	4.2	22.9	51.7	0.0	0.0	51.7	51.7
Cameroon	Centre	1,912	0.0	0.0	100.0	0.0	0.0	100.0	100.0	1,908	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Cameroon	Est	405	4.9	24.6	100.0	0.0	0.0	100.0	100.0	406	4.9	24.6	100.0	0.0	0.0	100.0	100.0
Cameroon	Extreme-Nord	828	2.7	18.1	4.3	0.0	13.8	4.3	18.1	831	2.7	18.1	4.2	0.0	13.9	4.2	18.1
Cameroon	Littoral	1,401	0.0	0.0	100.0	0.0	0.0	100.0	100.0	1,397	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Cameroon	Nord	578	3.6	21.3	10.9	0.0	10.3	10.9	21.3	579	3.6	21.3	10.9	0.0	10.4	10.9	21.3
Cameroon	Nord-Ouest	921	0.0	14.6	58.7	0.0	0.0	58.7	58.7	923	0.0	14.5	58.6	0.0	0.0	58.6	58.6
Cameroon	Ouest	877	0.0	10.7	54.5	0.0	0.0	54.5	54.5	879	0.0	10.3	54.4	0.0	0.0	54.4	54.4
Cameroon	Sud	433	0.0	15.0	100.0	0.0	0.0	100.0	100.0	433	0.0	14.7	100.0	0.0	0.0	100.0	100.0
Cameroon	Sud-Ouest	1,018	0.0	3.0	100.0	0.0	0.0	100.0	100.0	1,017	0.0	2.3	100.0	0.0	0.0	100.0	100.0
Cameroon tot		8,846	**0.9**	**9.1**	**73.8**		**2.0**	**73.8**	**75.8**	**8,846**	**0.9**	**9.0**	**73.7**		**2.0**	**73.7**	**75.7**
Cent. Afr. Rep.	Bamingui-bangora	10	6.5	40.1	0.0	6.5	40.1	6.5	40.1	10	6.5	40.1	0.0	6.5	40.1	6.5	40.1
Cent. Afr. Rep.	Basse Kotto	100	2.8	27.0	22.4	0.0	4.6	22.4	27.0	100	2.8	27.0	22.4	0.0	4.6	22.4	27.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Cent. Afr. Rep.	Haut-mboumou	21	4.7	33.7	15.7	0.0	18.0	15.7	33.7	21	4.7	33.7	15.7	0.0	18.0	15.7	33.7
Cent. Afr. Rep.	Hautte-kotto	32	5.6	36.8	2.8	2.8	34.1	5.6	36.8	32	5.6	36.8	2.8	2.8	34.1	5.6	36.8
Cent. Afr. Rep.	Kemo	63	0.0	28.5	6.1	0.0	22.4	6.1	28.5	63	0.0	28.5	6.1	0.0	22.4	6.1	28.5
Cent. Afr. Rep.	Lobaye	175	0.0	15.9	29.8	0.0	0.0	29.8	29.8	175	0.0	15.9	29.8	0.0	0.0	29.8	29.8
Cent. Afr. Rep.	Mambere-kadei	131	1.5	28.7	16.6	0.0	12.1	16.6	28.7	131	1.5	28.7	16.6	0.0	12.1	16.6	28.7
Cent. Afr. Rep.	Mbomou	66	4.4	32.5	16.0	0.0	16.6	16.0	32.5	66	4.4	32.5	16.0	0.0	16.6	16.0	32.5
Cent. Afr. Rep.	Nana Grebizi	36	5.1	35.0	3.8	1.3	31.2	5.1	35.0	36	5.1	35.0	3.8	1.3	31.2	5.1	35.0
Cent. Afr. Rep.	Nana Mambere	80	3.8	30.6	7.8	0.0	22.8	7.8	30.6	80	3.8	30.6	7.8	0.0	22.8	7.8	30.6
Cent. Afr. Rep.	Ombella-mpoko	697	0.0	15.6	3.9	0.0	11.8	3.9	15.6	697	0.0	15.6	3.9	0.0	11.8	3.9	15.6
Cent. Afr. Rep.	Ouaka	96	4.8	34.1	10.4	0.0	23.7	10.4	34.1	96	4.8	34.1	10.4	0.0	23.7	10.4	34.1
Cent. Afr. Rep.	Ouham	120	4.3	32.4	4.9	0.0	27.5	4.9	32.4	120	4.3	32.4	4.9	0.0	27.5	4.9	32.4
Cent. Afr. Rep.	Ouham-pende	158	2.8	27.1	8.5	0.0	18.7	8.5	27.1	158	2.8	27.1	8.5	0.0	18.7	8.5	27.1
Cent. Afr. Rep.	Sangha Mbaere	43	3.2	28.5	100.0	0.0	0.0	100.0	100.0	43	3.2	28.5	100.0	0.0	0.0	100.0	100.0
Cent. Afr. Rep.	Vakaga	18	5.9	37.8	0.0	5.8	37.8	5.9	37.8	18	5.9	37.8	0.0	5.8	37.8	5.9	37.8
Cent. Afr. Rep.	Bangui	37	1.1	21.5	0.4	0.7	21.1	1.1	21.5	37	1.1	21.5	0.4	0.7	21.1	1.1	21.5
Cent. Afr. Rep. tot		1,882	**1.8**	**23.5**	**11.8**	**0.2**	**14.6**	**12.0**	**26.4**	**1,882**	**1.8**	**23.5**	**11.8**	**0.2**	**14.6**	**12.0**	**26.4**
Chad	Biltine	152	5.5	36.1	0.5	5.0	35.5	5.5	36.1	152	5.5	36.1	0.5	5.0	35.5	5.5	36.1
Chad	Guera	244	5.1	34.4	8.3	0.0	26.1	8.3	34.4	244	5.1	34.4	8.3	0.0	26.1	8.3	34.4
Chad	Lac	82	4.4	31.8	1.4	3.1	30.4	4.4	31.8	82	4.4	31.8	1.4	3.1	30.4	4.4	31.8
Chad	Logone Occidental	376	0.0	17.8	0.9	0.0	16.9	0.9	17.8	376	0.0	17.7	0.9	0.0	16.8	0.9	17.7
Chad	Salamat	129	7.3	43.4	6.7	0.6	36.7	7.3	43.4	129	7.3	43.4	6.7	0.6	36.7	7.3	43.4
Chad	Batha Est	71	7.1	42.6	0.9	6.3	41.8	7.1	42.6	71	7.1	42.6	0.9	6.3	41.8	7.1	42.6
Chad	Batha Ouest	152	5.1	34.7	4.2	0.9	30.4	5.1	34.7	152	5.1	34.7	4.2	0.9	30.4	5.1	34.7
Chad	Borkou	1	8.6	48.5	0.0	8.6	48.5	8.6	48.5	1	8.6	48.5	0.0	8.6	48.5	8.6	48.5
Chad	Ennedi	18	8.7	48.8	0.0	8.7	48.8	8.7	48.8	18	8.7	48.8	0.0	8.7	48.8	8.7	48.8
Chad	Tibesti	1	8.7	48.9	0.0	8.7	48.9	8.7	48.9	1	8.7	48.9	0.0	8.7	48.9	8.7	48.9
Chad	Baguirmi	495	0.0	20.3	2.5	0.0	17.7	2.5	20.3	495	0.0	20.1	2.5	0.0	17.6	2.5	20.1
Chad	Daraba	118	4.7	32.9	2.9	1.8	30.0	4.7	32.9	118	4.7	32.9	2.9	1.8	30.1	4.7	32.9
Chad	Hadjer Lamis	308	3.7	28.9	1.7	2.0	27.2	3.7	28.9	308	3.7	28.9	1.7	2.0	27.2	3.7	28.9
Chad	Barl El Gazal	45	8.3	47.4	0.1	8.2	47.3	8.3	47.4	45	8.3	47.4	0.1	8.2	47.3	8.3	47.4
Chad	Kanem	197	4.3	31.4	0.5	3.9	30.9	4.3	31.4	197	4.3	31.4	0.5	3.9	30.9	4.3	31.4
Chad	Logone Oriental	402	0.0	20.9	4.9	0.0	16.0	4.9	20.9	402	0.0	20.8	4.9	0.0	15.9	4.9	20.8
Chad	Mont De Lam	147	0.0	14.2	11.3	0.0	2.9	11.3	14.2	146	0.0	14.1	11.3	0.0	2.8	11.3	14.1
Chad	Kabia	237	0.0	25.6	1.0	0.0	24.6	1.0	25.6	237	0.0	25.6	1.0	0.0	24.6	1.0	25.6
Chad	Mayo-Boneye	258	0.0	16.2	1.8	0.0	14.5	1.8	16.2	258	0.0	16.1	1.8	0.0	14.3	1.8	16.1
Chad	Mayo-Dala	317	0.0	15.7	4.7	0.0	11.0	4.7	15.7	317	0.0	15.7	4.7	0.0	10.9	4.7	15.7
Chad	Barh Koh	261	0.0	21.2	10.0	0.0	11.2	10.0	21.2	261	0.0	21.1	10.0	0.0	11.1	10.0	21.1

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Chad	Lac Iro	122	0.0	24.4	5.3	0.0	19.2	5.3	24.4	122	0.0	24.3	5.3	0.0	19.0	5.3	24.3
Chad	Mandoul	530	0.0	8.8	5.5	0.0	3.3	5.5	8.8	530	0.0	8.7	5.5	0.0	3.2	5.5	8.7
Chad	Assongha	105	3.6	28.5	3.0	0.6	25.5	3.6	28.5	105	3.6	28.5	3.0	0.6	25.5	3.6	28.5
Chad	Ouaddai	143	7.2	42.8	1.8	5.4	41.0	7.2	42.8	143	7.2	42.8	1.8	5.4	41.0	7.2	42.8
Chad	Sila	133	5.3	35.3	5.8	0.0	29.6	5.8	35.3	133	5.3	35.3	5.8	0.0	29.6	5.8	35.3
Chad	Tandjile Est	243	0.0	15.3	2.2	0.0	13.0	2.2	15.3	243	0.0	15.1	2.2	0.0	12.9	2.2	15.1
Chad	Tandjile Ouest	193	0.0	22.7	0.9	0.0	21.8	0.9	22.7	193	0.0	22.6	0.9	0.0	21.7	0.9	22.6
Chad tot		5,481	**1.8**	**23.7**	**3.7**	**0.8**	**20.0**	**4.6**	**23.7**	**5,481**	**1.8**	**23.7**	**3.7**	**0.8**	**19.9**	**4.6**	**23.7**
Chile	Antofagasta (ii)	152	8.5	17.5	-0.3	8.2	17.3	8.2	17.3	95	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Chile	Araucania (ix)	1,011	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	1,926	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile	Atacama (iii)	158	0.0	0.0	-0.7	0.0	0.0	0.0	0.0	177	0.0	0.0	-0.6	0.0	0.0	0.0	0.0
Chile	Aysen Del Gen.d.c. (xi)	57	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	63	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile	Biobio (viii)	1,948	24.8	29.8	-0.2	24.5	29.5	24.5	29.5	2,720	0.0	7.9	-0.2	0.0	7.8	0.0	7.8
Chile	Coquimbo (iv)	511	7.8	16.6	-0.2	7.5	16.4	7.5	16.4	346	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Chile	Libertador (vi)	485	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	492	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile	Los Lagos (x)	925	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	1,088	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile	Magallanes (xii)	1,663	78.0	80.2	0.0	77.9	80.1	77.9	80.1	78	0.0	0.0	-0.8	0.0	0.0	0.0	0.0
Chile	Maule (vii)	743	0.0	4.7	-0.3	0.0	4.4	0.0	4.4	1,133	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile	Metropolitana (xiii)	472	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	434	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Chile	Ocean Islands	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chile	Tarapaca (i)	45	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	53	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Chile	Valparaiso (v)	1,102	21.9	26.1	-0.1	21.8	26.0	21.8	26.0	670	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Chile tot		9,278	**22.3**	**25.3**	**-0.2**	**22.2**	**25.2**	**22.2**	**25.2**	**9,278**		**2.3**	**-0.2**		**2.3**		**2.3**
China	Anhui Sheng	11,492	18.6	26.3	0.0	18.6	26.3	18.6	26.3	10,782	1.4	10.8	0.0	1.3	10.8	1.3	10.8
China	Beijing Shi	918	38.1	44.7	0.0	38.1	44.7	38.1	44.7	922	4.1	14.4	0.0	4.1	14.4	4.1	14.4
China	Chongqing Shi	9,428	14.6	22.6	0.0	14.5	22.6	14.5	22.6	10,592	1.3	10.7	0.0	1.3	10.6	1.3	10.6
China	Fujian Sheng	2,406	0.0	8.9	-4.0	0.0	4.9	0.0	4.9	2,450	0.2	9.7	-4.0	0.0	5.8	0.0	5.8
China	Gansu Sheng	4,326	3.9	13.1	0.0	3.9	13.1	3.9	13.1	4,629	0.4	10.0	0.0	0.4	10.0	0.4	10.0
China	Guangdong Sheng	7,648	5.7	14.7	-19.5	0.0	0.0	0.0	0.0	7,350	0.4	9.9	-20.3	0.0	0.0	0.0	0.0
China	Guangxi Zhuangzu Zizhiqu	26,095	20.2	27.7	-5.0	15.2	22.8	15.2	22.8	23,629	1.4	10.8	-5.5	0.0	5.3	0.0	5.3
China	Guizhou Sheng	19,786	15.1	23.1	0.0	15.1	23.1	15.1	23.1	21,798	1.4	10.8	0.0	1.4	10.8	1.4	10.8
China	Hainan Sheng	1,454	0.0	8.9	-0.1	0.0	8.8	0.0	8.8	1,502	0.3	9.8	-0.1	0.1	9.7	0.1	9.7
China	Hebei Sheng	6,056	9.9	18.5	0.0	9.9	18.4	9.9	18.4	6,102	0.9	10.3	0.0	0.8	10.3	0.8	10.3
China	Heilongjiang Sheng	8,583	0.0	9.3	0.0	0.0	9.3	0.0	9.3	9,887	0.4	10.1	0.0	0.4	10.0	0.4	10.0
China	Henan Sheng	8,150	14.1	22.2	0.0	14.0	22.2	14.0	22.2	8,765	1.3	10.8	0.0	1.3	10.8	1.3	10.8
China	Hong Kong	6	0.0	9.0	-0.4	0.0	8.6	0.0	8.6	6	0.3	9.8	-0.4	0.0	9.4	0.0	9.4

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
China	Hubei Sheng	15,809	21.5	29.0	0.0	21.5	29.0	21.5	29.0	14,815	1.7	11.2	0.0	1.7	11.2	1.7	11.2
China	Hunan Sheng	25,776	28.7	35.5	-0.1	28.6	35.4	28.6	35.4	18,390	2.0	11.3	-0.1	1.9	11.2	1.9	11.2
China	Jiangsu Sheng	3,807	3.7	12.8	0.0	3.7	12.8	3.7	12.8	3,938	0.5	10.0	0.0	0.5	10.0	0.5	10.0
China	Jiangxi Sheng	7,694	17.4	25.2	-0.4	17.0	24.9	17.0	24.9	6,764	1.4	10.8	-0.4	0.9	10.4	0.9	10.4
China	Jilin Sheng	6,311	0.0	9.0	0.0	0.0	9.0	0.0	9.0	6,944	0.3	9.8	0.0	0.2	9.8	0.2	9.8
China	Liaoning Sheng	5,805	0.0	9.0	0.0	0.0	9.0	0.0	9.0	6,880	0.3	9.8	0.0	0.2	9.7	0.2	9.7
China	Nei Mongol Zizhiqu	5,558	0.0	10.1	0.0	0.0	10.1	0.0	10.1	5,838	0.8	10.9	0.0	0.7	10.8	0.7	10.8
China	Ningxia Huizu Zizhiqu	658	0.0	9.0	0.0	0.0	9.0	0.0	9.0	737	0.3	9.8	0.0	0.2	9.8	0.2	9.8
China	Qinghai Sheng	398	0.0	10.1	-0.1	0.0	10.0	0.0	10.0	414	0.8	10.8	-0.1	0.7	10.8	0.7	10.8
China	Shaanxi Sheng	13,982	27.4	34.8	0.0	27.4	34.8	27.4	34.8	13,524	2.6	12.5	0.0	2.6	12.5	2.6	12.5
China	Shandong Sheng	6,211	2.7	11.9	0.0	2.7	11.9	2.7	11.9	6,942	0.5	10.0	0.0	0.5	10.0	0.5	10.0
China	Shanghai Shi	49	0.0	8.9	-0.1	0.0	8.8	0.0	8.8	53	0.2	9.7	-0.1	0.2	9.7	0.2	9.7
China	Shanxi Sheng	7,405	23.9	31.2	0.0	23.8	31.1	23.8	31.1	7,531	2.1	11.6	0.0	2.1	11.5	2.1	11.5
China	Sichuan Sheng	21,766	15.9	23.9	0.0	15.9	23.9	15.9	23.9	26,433	1.6	11.0	0.0	1.6	11.0	1.6	11.0
China	Taiwan Sheng	63	0.0	10.1	-0.8	0.0	9.3	0.0	9.3	63	0.8	10.9	-0.8	0.0	10.1	0.0	10.1
China	Tianjin Shi	433	11.2	19.6	0.0	11.2	19.6	11.2	19.6	508	1.3	10.7	0.0	1.3	10.7	1.3	10.7
China	Xinjiang Uygur Zizhiqu	2,106	0.0	10.0	0.0	0.0	10.0	0.0	10.0	2,165	0.7	10.8	0.0	0.7	10.8	0.7	10.8
China	Xizang Zizhiqu	245	1.9	14.3	0.0	1.9	14.2	1.9	14.2	248	2.7	15.0	0.0	2.6	15.0	2.6	15.0
China	Yunnan Sheng	9,404	6.8	15.7	-1.2	5.6	14.5	5.6	14.5	9,893	0.9	10.4	-1.1	0.0	9.2	0.0	9.2
China	Zhejiang Sheng	2,302	13.2	21.4	-0.3	12.9	21.1	12.9	21.1	1,634	0.4	9.9	-0.4	0.0	9.5	0.0	9.5
China tot		242,127	**15.3**	**23.3**	**-1.3**	**14.5**	**22.2**	**14.5**	**22.2**	**242,127**	**1.3**	**10.8**	**-1.3**	**1.1**	**9.8**	**1.1**	**9.8**
Colombia	Amazonas	14	4.2	39.6	45.2	0.0	0.0	45.2	45.2	14	4.3	39.6	45.2	0.0	0.0	45.2	45.2
Colombia	Antioquia	865	6.5	31.0	39.2	0.0	0.0	39.2	39.2	864	5.4	30.2	39.2	0.0	0.0	39.2	39.2
Colombia	Arauca	62	2.4	32.3	25.6	0.0	6.7	25.6	32.3	62	2.5	32.3	25.6	0.0	6.7	25.6	32.3
Colombia	Atlantico	108	2.7	27.2	3.6	0.0	23.6	3.6	27.2	108	2.4	27.0	3.5	0.0	23.5	3.5	27.0
Colombia	Bolivar	286	1.4	27.1	26.8	0.0	0.3	26.8	27.1	286	1.4	27.1	26.8	0.0	0.4	26.8	27.1
Colombia	Boyaca	290	2.1	27.1	30.7	0.0	0.0	30.7	30.7	290	1.9	27.0	30.7	0.0	0.0	30.7	30.7
Colombia	Buenaventura	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colombia	Caldas	163	0.8	25.8	38.3	0.0	0.0	38.3	38.3	164	0.9	25.8	38.2	0.0	0.0	38.2	38.2
Colombia	Caqueta	126	2.1	30.7	32.0	0.0	0.0	32.0	32.0	126	2.1	30.7	32.0	0.0	0.0	32.0	32.0
Colombia	Casanare	85	3.1	34.8	18.7	0.0	16.1	18.7	34.8	85	3.1	34.9	18.7	0.0	16.2	18.7	34.9
Colombia	Cauca	386	3.3	28.2	30.6	0.0	0.0	30.6	30.6	387	2.9	27.9	30.6	0.0	0.0	30.6	30.6
Colombia	Cesar	171	1.2	27.1	20.8	0.0	6.3	20.8	27.1	172	1.2	27.1	20.8	0.0	6.4	20.8	27.1
Colombia	Choco	114	2.5	32.3	68.9	0.0	0.0	68.9	68.9	114	2.5	32.4	68.9	0.0	0.0	68.9	68.9
Colombia	Cordoba	279	0.9	26.2	21.0	0.0	5.2	21.0	26.2	279	1.0	26.3	21.0	0.0	5.3	21.0	26.3
Colombia	Cundinamarca	1,184	13.2	35.2	10.4	2.8	24.7	13.2	35.2	1,179	10.7	33.2	10.5	0.2	22.8	10.7	33.2
Colombia	Guainia	11	4.5	40.8	21.8	0.0	19.0	21.8	40.8	11	4.6	40.8	21.8	0.0	19.0	21.8	40.8

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Colombia	Guajira	89	2.1	30.8	17.6	0.0	13.1	17.6	30.8	89	2.1	30.8	17.6	0.0	13.2	17.6	30.8
Colombia	Guaviare	29	3.1	35.1	33.8	0.0	1.3	33.8	35.1	29	3.2	35.1	33.8	0.0	1.3	33.8	35.1
Colombia	Huila	186	1.2	27.2	24.1	0.0	3.1	24.1	27.2	186	1.2	27.2	24.1	0.0	3.1	24.1	27.2
Colombia	Magdalena	200	1.0	26.5	15.1	0.0	11.4	15.1	26.5	200	1.0	26.5	15.1	0.0	11.4	15.1	26.5
Colombia	Meta	128	3.8	34.5	23.2	0.0	11.3	23.2	34.5	128	3.6	34.4	23.2	0.0	11.2	23.2	34.4
Colombia	Narino	389	1.0	26.5	35.5	0.0	0.0	35.5	35.5	389	1.0	26.5	35.5	0.0	0.0	35.5	35.5
Colombia	Norte De Santander	165	1.7	28.1	52.1	0.0	0.0	52.1	52.1	165	1.6	28.1	52.0	0.0	0.0	52.0	52.0
Colombia	Putumayo	89	2.2	31.2	37.7	0.0	0.0	37.7	37.7	89	2.2	31.2	37.7	0.0	0.0	37.7	37.7
Colombia	Quindio	43	0.8	25.7	13.6	0.0	12.2	13.6	25.7	43	0.9	25.8	13.5	0.0	12.2	13.5	25.8
Colombia	Risaralda	91	0.8	25.8	32.1	0.0	0.0	32.1	32.1	92	0.9	25.8	31.9	0.0	0.0	31.9	31.9
Colombia	San Andres Y Providencia	10	0.8	25.5	0.6	0.2	24.9	0.8	25.5	10	0.8	25.5	0.6	0.2	24.9	0.8	25.5
Colombia	Santander	285	1.2	27.3	52.2	0.0	0.0	52.2	52.2	285	1.2	27.4	52.1	0.0	0.0	52.1	52.1
Colombia	Sucre	159	0.9	26.2	11.8	0.0	14.4	11.8	26.2	160	1.0	26.2	11.8	0.0	14.4	11.8	26.2
Colombia	Tolima	246	2.9	28.2	24.9	0.0	3.3	24.9	28.2	247	2.6	28.0	24.9	0.0	3.1	24.9	28.0
Colombia	Valle Del Cauca	389	6.8	30.7	14.5	0.0	16.2	14.5	30.7	389	5.6	29.8	14.5	0.0	15.3	14.5	29.8
Colombia	Vaupes	8	4.5	40.8	44.4	0.0	0.0	44.4	44.4	8	4.6	40.8	44.4	0.0	0.0	44.4	44.4
Colombia	Vichada	27	4.9	42.1	9.6	0.0	32.5	9.6	42.1	27	4.9	42.1	9.6	0.0	32.5	9.6	42.1
Colombia tot		6,676	**4.8**	**29.9**	**26.7**	**0.5**	**7.9**	**27.2**	**34.6**	**6,676**	**4.0**	**29.4**	**26.7**	**0.0**	**7.5**	**26.7**	**34.2**
Congo	Bouenza	234	0.0	15.8	0.3	0.0	15.6	0.3	15.8	234	0.0	15.9	0.3	0.0	15.6	0.3	15.9
Congo	Cuvette	112	0.0	24.2	38.8	0.0	0.0	38.8	38.8	112	0.0	24.3	38.8	0.0	0.0	38.8	38.8
Congo	Cuvette Ovest	43	0.0	24.0	0.5	0.0	23.5	0.5	24.0	43	0.0	24.1	0.5	0.0	23.6	0.5	24.1
Congo	Kouilou	236	0.0	0.0	0.3	0.0	0.0	0.3	0.3	237	0.0	0.0	0.3	0.0	0.0	0.3	0.3
Congo	Lekoumou	82	0.0	23.2	0.8	0.0	22.4	0.8	23.2	82	0.0	23.2	0.8	0.0	22.5	0.8	23.2
Congo	Likouala	52	0.0	21.6	15.3	0.0	6.4	15.3	21.6	52	0.0	21.6	15.2	0.0	6.4	15.2	21.6
Congo	Niari	159	0.0	18.6	0.8	0.0	17.8	0.8	18.6	160	0.0	18.6	0.8	0.0	17.8	0.8	18.6
Congo	Plateaux	164	0.0	23.3	17.7	0.0	5.6	17.7	23.3	164	0.0	23.3	17.7	0.0	5.6	17.7	23.3
Congo	Pool	909	0.0	0.0	0.1	0.0	0.0	0.1	0.1	908	0.0	0.0	0.1	0.0	0.0	0.1	0.1
Congo	Sangha	52	0.0	20.3	7.7	0.0	12.6	7.7	20.3	52	0.0	20.3	7.7	0.0	12.7	7.7	20.3
Congo tot		2,043		**9.0**	**4.3**		**5.5**	**4.3**	**9.8**	**2,043**		**9.0**	**4.3**		**5.5**	**4.3**	**9.9**
Costa Rica	Alajuela	535	1.0	23.6	-0.6	0.4	23.0	0.4	23.0	527	0.0	10.8	-0.6	0.0	10.2	0.0	10.2
Costa Rica	Cartago	155	0.0	22.4	-0.6	0.0	21.9	0.0	21.9	163	0.0	14.5	-0.5	0.0	14.0	0.0	14.0
Costa Rica	Guanacaste	255	0.0	21.5	-0.8	0.0	20.6	0.0	20.6	259	0.0	22.2	-0.8	0.0	21.4	0.0	21.4
Costa Rica	Heredia	157	3.0	25.2	-0.6	2.4	24.6	2.4	24.6	143	0.0	3.7	-0.7	0.0	3.0	0.0	3.0
Costa Rica	Limon	234	0.0	21.8	-0.9	0.0	20.9	0.0	20.9	242	0.0	20.0	-0.9	0.0	19.1	0.0	19.1
Costa Rica	Puntarenas	372	0.0	22.3	-0.8	0.0	21.5	0.0	21.5	374	0.0	18.2	-0.8	0.0	17.4	0.0	17.4
Costa Rica	San Jose	312	0.7	23.1	-0.6	0.2	22.6	0.2	22.6	312	0.0	11.3	-0.6	0.0	10.8	0.0	10.8
Costa Rica tot		2,020	**0.6**	**22.8**	**-0.7**	**0.3**	**22.1**	**0.3**	**22.1**	**2,020**		**14.6**	**-0.7**		**13.9**		**13.9**

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Côte d'Ivoire	Agneby	726	0.0	10.2	0.4	0.0	9.8	0.4	10.2	718	0.0	4.1	0.4	0.0	3.7	0.4	4.1
Côte d'Ivoire	Bas Sassandra	885	1.2	21.9	0.7	0.5	21.2	1.2	21.9	895	0.1	21.1	0.7	0.0	20.4	0.7	21.1
Côte d'Ivoire	Denguele	190	5.0	28.5	0.6	4.4	27.9	5.0	28.5	190	5.1	28.5	0.6	4.5	27.9	5.1	28.5
Côte d'Ivoire	Lacs	592	0.0	7.8	0.3	0.0	7.5	0.3	7.8	577	0.0	1.5	0.3	0.0	1.2	0.3	1.5
Côte d'Ivoire	Lagunes	1,235	0.0	13.8	0.3	0.0	13.5	0.3	13.8	1,231	0.0	9.9	0.3	0.0	9.6	0.3	9.9
Côte d'Ivoire	Marahoue	452	0.0	18.1	0.3	0.0	17.8	0.3	18.1	457	0.0	15.9	0.3	0.0	15.5	0.3	15.9
Côte d'Ivoire	Moyen Comoe	325	0.0	17.7	0.6	0.0	17.1	0.6	17.7	325	0.0	15.3	0.6	0.0	14.7	0.6	15.3
Côte d'Ivoire	N'zi Comoe	911	0.0	10.9	0.6	0.0	10.4	0.6	10.9	896	0.0	5.9	0.6	0.0	5.3	0.6	5.9
Côte d'Ivoire	Savanes	640	3.9	24.8	0.2	3.8	24.6	3.9	24.8	642	4.0	24.8	0.1	3.8	24.6	4.0	24.8
Côte d'Ivoire	Sud Bandama	571	0.0	15.5	0.5	0.0	14.9	0.5	15.5	576	0.0	12.2	0.5	0.0	11.6	0.5	12.2
Côte d'Ivoire	Sud Comoe	447	0.0	15.0	0.6	0.0	14.4	0.6	15.0	448	0.0	11.6	0.6	0.0	11.0	0.6	11.6
Côte d'Ivoire	Vallee Du Bandama	797	0.0	15.1	0.2	0.0	14.9	0.2	15.1	782	0.0	12.0	0.2	0.0	11.8	0.2	12.0
Côte d'Ivoire	Zanzan	601	3.9	24.6	0.6	3.3	24.0	3.9	24.6	602	3.9	24.7	0.6	3.3	24.0	3.9	24.7
Côte d'Ivoire	18 Montagnes	615	2.7	23.0	1.1	1.6	22.0	2.7	23.0	622	2.3	22.7	1.1	1.2	21.7	2.3	22.7
Côte d'Ivoire	Moyen-Cavally	392	3.8	24.2	0.8	3.0	23.4	3.8	24.2	398	3.8	24.2	0.8	3.0	23.4	3.8	24.2
Côte d'Ivoire	Haut-sassandra	697	0.7	21.4	0.4	0.3	20.9	0.7	21.4	710	0.0	20.3	0.4	0.0	19.8	0.4	20.3
Côte d'Ivoire	Fromager	439	0.0	15.3	0.4	0.0	14.9	0.4	15.3	447	0.0	11.8	0.4	0.0	11.4	0.4	11.8
Côte d'Ivoire	Bafing	129	4.0	24.8	1.0	3.0	23.8	4.0	24.8	129	4.0	24.9	1.0	3.0	23.9	4.0	24.9
Côte d'Ivoire	Worodougou	339	3.6	25.3	0.5	3.1	24.8	3.6	25.3	339	3.5	25.2	0.5	3.0	24.7	3.5	25.2
Côte d'Ivoire tot		10,984	**1.1**	**17.6**	**0.5**	**0.9**	**17.1**	**1.4**	**17.6**	**10,984**	**1.0**	**15.0**	**0.5**	**0.8**	**14.6**	**1.3**	**15.0**
Cuba	Camaguey	109	0.3	4.9	-4.0	0.0	0.9	0.0	0.9	109	0.5	5.1	-4.0	0.0	1.1	0.0	1.1
Cuba	Ciego De Avila	64	0.2	4.8	-2.3	0.0	2.5	0.0	2.5	64	0.4	4.9	-2.3	0.0	2.7	0.0	2.7
Cuba	Cienfuegos	47	0.1	4.6	-1.8	0.0	2.8	0.0	2.8	48	0.3	4.8	-1.8	0.0	3.0	0.0	3.0
Cuba	Ciudad De La Habana	47	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	48	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Cuba	Granma	112	0.1	4.6	-1.4	0.0	3.2	0.0	3.2	112	0.3	4.8	-1.4	0.0	3.4	0.0	3.4
Cuba	Guantanamo	65	0.3	4.9	-2.0	0.0	2.9	0.0	2.9	65	0.5	5.1	-2.0	0.0	3.1	0.0	3.1
Cuba	Holguin	135	0.1	4.6	-1.9	0.0	2.8	0.0	2.8	135	0.3	4.8	-1.9	0.0	3.0	0.0	3.0
Cuba	Isla De La Juventud	14	0.5	5.2	-3.0	0.0	2.2	0.0	2.2	14	0.6	5.4	-3.0	0.0	2.4	0.0	2.4
Cuba	La Habana	173	0.0	0.0	-0.8	0.0	0.0	0.0	0.0	167	0.0	0.0	-0.8	0.0	0.0	0.0	0.0
Cuba	Las Tunas	81	0.1	4.6	-2.2	0.0	2.4	0.0	2.4	82	0.3	4.8	-2.1	0.0	2.6	0.0	2.6
Cuba	Matanzas	84	0.2	4.7	-2.5	0.0	2.3	0.0	2.3	84	0.4	4.9	-2.4	0.0	2.5	0.0	2.5
Cuba	Pinar Del Rio	116	0.0	3.3	-2.5	0.0	0.8	0.0	0.8	117	0.0	2.5	-2.5	0.0	0.0	0.0	0.0
Cuba	Sancti Spiritus	84	0.1	4.6	-1.5	0.0	3.2	0.0	3.2	84	0.3	4.8	-1.5	0.0	3.3	0.0	3.3
Cuba	Santiago De Cuba	92	0.1	4.7	-1.8	0.0	2.9	0.0	2.9	93	0.3	4.9	-1.8	0.0	3.1	0.0	3.1
Cuba	Villa Clara	113	0.1	4.6	-1.8	0.0	2.8	0.0	2.8	113	0.3	4.8	-1.8	0.0	3.0	0.0	3.0
Cuba tot		1,335	**0.1**	**3.8**	**-1.9**		**2.0**		**2.0**	**1,335**	**0.3**	**3.9**	**-1.9**		**2.1**		**2.1**
DR Congo	Bandundu	6,173	0.0	25.4	26.3	0.0	0.0	26.3	26.3	6,174	0.0	25.3	26.3	0.0	0.0	26.3	26.3

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
DR Congo	Bas-Congo	3,667	0.0	12.8	6.8	0.0	6.1	6.8	12.8	3,667	0.0	12.8	6.8	0.0	6.0	6.8	12.8
DR Congo	Equateur	5,563	4.9	31.5	50.2	0.0	0.0	50.2	50.2	5,563	4.9	31.5	50.2	0.0	0.0	50.2	50.2
DR Congo	Kasai-Occidental	5,096	0.0	13.6	23.8	0.0	0.0	23.8	23.8	5,096	0.0	13.6	23.8	0.0	0.0	23.8	23.8
DR Congo	Kasai-Oriental	5,298	0.0	10.9	17.2	0.0	0.0	17.2	17.2	5,297	0.0	10.8	17.2	0.0	0.0	17.2	17.2
DR Congo	Katanga	8,985	0.0	13.8	9.2	0.0	4.7	9.2	13.8	8,983	0.0	13.8	9.2	0.0	4.6	9.2	13.8
DR Congo	Kinshasa	837	0.0	20.1	3.2	0.0	16.9	3.2	20.1	837	0.0	20.1	3.2	0.0	16.9	3.2	20.1
DR Congo	Maniema	3,074	0.0	7.1	24.7	0.0	0.0	24.7	24.7	3,073	0.0	7.0	24.7	0.0	0.0	24.7	24.7
DR Congo	Nord-Kivu	4,288	0.0	5.8	15.6	0.0	0.0	15.6	15.6	4,289	0.0	5.7	15.6	0.0	0.0	15.6	15.6
DR Congo	Province Orientale	6,830	0.0	21.0	34.4	0.0	0.0	34.4	34.4	6,830	0.0	21.0	34.4	0.0	0.0	34.4	34.4
DR Congo	Sud-Kivu	2,720	0.0	15.2	16.2	0.0	0.0	16.2	16.2	2,722	0.0	15.2	16.2	0.0	0.0	16.2	16.2
DR Congo tot		52,531	**0.5**	**16.7**	**22.6**		**1.5**	**22.6**	**24.0**	**52,531**	**0.5**	**16.7**	**22.6**		**1.5**	**22.6**	**24.0**
Dominican Rep.	Azua	79	5.5	31.1	0.0	5.5	31.1	5.5	31.1	79	5.5	31.1	0.0	5.5	31.1	5.5	31.1
Dominican Rep.	Baoruco	31	5.1	30.6	0.0	5.1	30.6	5.1	30.6	31	5.1	30.6	0.0	5.1	30.6	5.1	30.6
Dominican Rep.	Barahona	42	5.3	30.9	0.0	5.3	30.9	5.3	30.9	42	5.3	30.9	0.0	5.3	30.9	5.3	30.9
Dominican Rep.	Dajabon	41	5.0	30.1	0.0	5.0	30.1	5.0	30.1	41	5.0	30.1	0.0	5.0	30.1	5.0	30.1
Dominican Rep.	Santo Domingo	136	7.6	32.4	0.0	7.6	32.4	7.6	32.4	136	7.6	32.4	0.0	7.6	32.4	7.6	32.4
Dominican Rep.	Duarte	237	7.9	33.1	0.0	7.9	33.1	7.9	33.1	237	7.9	33.1	0.0	7.9	33.1	7.9	33.1
Dominican Rep.	El Seibo	65	6.2	32.3	0.0	6.2	32.3	6.2	32.3	65	6.2	32.3	0.0	6.2	32.3	6.2	32.3
Dominican Rep.	Espaillat	108	7.5	32.0	0.0	7.5	32.0	7.5	32.0	108	7.5	32.0	0.0	7.5	32.0	7.5	32.0
Dominican Rep.	Independencia	29	5.2	31.0	0.0	5.2	31.0	5.2	31.0	29	5.2	31.0	0.0	5.2	31.0	5.2	31.0
Dominican Rep.	La Altagracia	82	5.0	30.2	0.0	5.0	30.2	5.0	30.2	82	5.0	30.2	0.0	5.0	30.2	5.0	30.2
Dominican Rep.	Elias Pina	40	5.1	30.6	0.0	5.1	30.6	5.1	30.6	40	5.1	30.6	0.0	5.1	30.6	5.1	30.6
Dominican Rep.	La Romana	24	5.0	30.0	0.0	5.0	30.0	5.0	30.0	24	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Dominican Rep.	La Vega	242	8.2	33.6	0.0	8.2	33.6	8.2	33.6	242	8.2	33.6	0.0	8.2	33.6	8.2	33.6
Dominican Rep.	Maria Trinidad Sanches	135	7.3	32.0	0.0	7.3	32.0	7.3	32.0	135	7.3	32.0	0.0	7.3	32.0	7.3	32.0
Dominican Rep.	Monte Cristi	73	5.8	30.6	0.0	5.8	30.6	5.8	30.6	73	5.8	30.6	0.0	5.8	30.6	5.8	30.6
Dominican Rep.	Pedernales	11	6.2	35.0	0.0	6.2	35.0	6.2	35.0	11	6.2	35.0	0.0	6.2	35.0	6.2	35.0
Dominican Rep.	Peravia	50	6.8	32.4	0.0	6.8	32.4	6.8	32.4	50	6.8	32.4	0.0	6.8	32.4	6.8	32.4
Dominican Rep.	Puerto Plata	205	8.5	35.4	0.0	8.5	35.4	8.5	35.4	205	8.5	35.4	0.0	8.5	35.4	8.5	35.4
Dominican Rep.	Salcedo	69	7.4	31.8	0.0	7.4	31.8	7.4	31.8	69	7.4	31.8	0.0	7.4	31.8	7.4	31.8
Dominican Rep.	Samana	60	5.8	30.6	0.0	5.8	30.6	5.8	30.6	60	5.8	30.6	0.0	5.8	30.6	5.8	30.6
Dominican Rep.	San Cristobal	205	7.4	31.8	0.0	7.4	31.8	7.4	31.8	205	7.4	31.8	0.0	7.4	31.8	7.4	31.8
Dominican Rep.	San Juan	96	5.1	30.5	0.0	5.1	30.5	5.1	30.5	96	5.1	30.5	0.0	5.1	30.5	5.1	30.5
Dominican Rep.	San Pedro de Macoris	92	6.5	31.1	0.0	6.5	31.1	6.5	31.1	92	6.5	31.1	0.0	6.5	31.1	6.5	31.1
Dominican Rep.	Sanchez Ramirez	153	7.5	31.8	0.0	7.5	31.8	7.5	31.8	153	7.5	31.8	0.0	7.5	31.8	7.5	31.8
Dominican Rep.	Santiago	214	9.3	37.2	0.0	9.3	37.2	9.3	37.2	214	9.3	37.2	0.0	9.3	37.2	9.3	37.2

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Dominican Rep.	Santiago Rodriguez	66	7.9	34.3	0.0	7.9	34.3	7.9	34.3	66	7.9	34.3	0.0	7.9	34.3	7.9	34.3
Dominican Rep.	Valverde	68	6.8	31.5	0.0	6.8	31.5	6.8	31.5	68	6.8	31.5	0.0	6.8	31.5	6.8	31.5
Dominican Rep.	Hato Mayor	102	8.6	35.3	0.0	8.6	35.3	8.6	35.3	102	8.6	35.3	0.0	8.6	35.3	8.6	35.3
Dominican Rep.	Monsenor Nouel	144	9.5	37.8	0.0	9.5	37.8	9.5	37.8	144	9.4	37.8	0.0	9.4	37.8	9.4	37.8
Dominican Rep.	Monte Plata	376	8.3	33.1	0.0	8.3	33.1	8.3	33.1	376	8.3	33.1	0.0	8.3	33.1	8.3	33.1
Dominican Rep.	San José de Ocoa	78	8.9	34.2	0.0	8.9	34.2	8.9	34.2	78	8.9	34.2	0.0	8.9	34.2	8.9	34.2
Dominican Rep.	Distrito Nacional	4	5.0	30.0	0.0	5.0	30.0	5.0	30.0	4	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Dominican Rep. tot		3,358	**7.5**	**33.0**	**0.0**	**7.5**	**33.0**	**7.5**	**33.0**	**3,358**	**7.5**	**33.0**	**0.0**	**7.5**	**33.0**	**7.5**	**33.0**
Ecuador	Azuay	111	0.0	22.6	100.0	0.0	0.0	100.0	100.0	111	0.0	22.7	100.0	0.0	0.0	100.0	100.0
Ecuador	Bolivar	75	0.0	22.2	100.0	0.0	0.0	100.0	100.0	75	0.0	22.3	100.0	0.0	0.0	100.0	100.0
Ecuador	Canar	79	8.7	30.7	100.0	0.0	0.0	100.0	100.0	78	5.8	28.5	100.0	0.0	0.0	100.0	100.0
Ecuador	Carchi	51	0.0	23.0	100.0	0.0	0.0	100.0	100.0	52	0.0	23.1	100.0	0.0	0.0	100.0	100.0
Ecuador	Chimborazo	86	0.0	22.3	100.0	0.0	0.0	100.0	100.0	87	0.0	22.4	100.0	0.0	0.0	100.0	100.0
Ecuador	Cotopaxi	89	0.0	23.6	100.0	0.0	0.0	100.0	100.0	90	0.0	23.4	100.0	0.0	0.0	100.0	100.0
Ecuador	El Oro	129	0.0	22.2	100.0	0.0	0.0	100.0	100.0	130	0.0	22.3	100.0	0.0	0.0	100.0	100.0
Ecuador	Esmeraldas	115	0.0	25.4	100.0	0.0	0.0	100.0	100.0	115	0.0	25.6	100.0	0.0	0.0	100.0	100.0
Ecuador	Galapagos	6	0.3	34.5	0.0	0.3	34.5	0.3	34.5	6	0.5	34.6	0.0	0.5	34.6	0.5	34.6
Ecuador	Guayas	864	15.4	35.9	100.0	0.0	0.0	100.0	100.0	857	11.1	32.6	100.0	0.0	0.0	100.0	100.0
Ecuador	Imbabura	74	0.0	24.0	100.0	0.0	0.0	100.0	100.0	75	0.0	23.9	100.0	0.0	0.0	100.0	100.0
Ecuador	Loja	145	0.0	23.0	100.0	0.0	0.0	100.0	100.0	145	0.0	23.2	100.0	0.0	0.0	100.0	100.0
Ecuador	Los Rios	275	2.3	25.6	100.0	0.0	0.0	100.0	100.0	276	1.2	24.8	100.0	0.0	0.0	100.0	100.0
Ecuador	Manabi	378	0.0	22.1	100.0	0.0	0.0	100.0	100.0	379	0.0	22.3	100.0	0.0	0.0	100.0	100.0
Ecuador	Morona Santiago	57	0.0	29.0	100.0	0.0	0.0	100.0	100.0	57	0.0	29.2	100.0	0.0	0.0	100.0	100.0
Ecuador	Napo	15	0.0	26.4	100.0	0.0	0.0	100.0	100.0	15	0.0	26.6	100.0	0.0	0.0	100.0	100.0
Ecuador	Orellana	14	0.0	28.0	100.0	0.0	0.0	100.0	100.0	14	0.0	28.2	100.0	0.0	0.0	100.0	100.0
Ecuador	Pastaza	12	0.0	31.3	100.0	0.0	0.0	100.0	100.0	12	0.0	31.4	100.0	0.0	0.0	100.0	100.0
Ecuador	Pichincha	288	8.5	31.9	100.0	0.0	0.0	100.0	100.0	289	5.9	30.1	100.0	0.0	0.0	100.0	100.0
Ecuador	Sucumbios	36	0.0	30.4	100.0	0.0	0.0	100.0	100.0	36	0.0	30.6	100.0	0.0	0.0	100.0	100.0
Ecuador	Tungurahua	63	0.0	22.1	59.9	0.0	0.0	59.9	59.9	64	0.0	22.2	59.0	0.0	0.0	59.0	59.0
Ecuador	Zamora Chinchipe	16	0.0	30.1	100.0	0.0	0.0	100.0	100.0	16	0.0	30.2	100.0	0.0	0.0	100.0	100.0
Ecuador	Zona No Delimtda	37	0.0	22.4	100.0	0.0	0.0	100.0	100.0	37	0.0	22.4	100.0	0.0	0.0	100.0	100.0
Ecuador tot		3,018	**5.7**	**28.2**	**99.0**	**0.0**	**0.1**	**99.0**	**99.0**	**3,018**	**4.0**	**27.0**	**98.9**	**0.0**	**0.1**	**98.9**	**99.0**
El Salvador	Ahuachapan	149	21.6	40.9	14.3	7.3	26.6	21.6	40.9	148	18.8	38.8	14.4	4.4	24.5	18.8	38.8
El Salvador	Cabanas	125	22.4	40.9	7.7	14.7	33.2	22.4	40.9	125	19.5	38.7	7.8	11.7	30.9	19.5	38.7
El Salvador	Chalatenango	233	24.5	42.5	9.7	14.8	32.9	24.5	42.5	230	21.2	40.1	9.8	11.4	30.3	21.2	40.1
El Salvador	Cuscatlan	79	16.9	36.8	9.6	7.3	27.2	16.9	36.8	80	14.6	35.2	9.6	5.1	25.6	14.6	35.2
El Salvador	La Libertad	220	20.0	39.4	12.0	8.0	27.3	20.0	39.4	219	17.3	37.3	12.1	5.2	25.2	17.3	37.3

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
El Salvador	La Paz	114	11.5	32.9	10.5	0.9	22.3	11.5	32.9	115	10.0	31.8	10.4	0.0	21.4	10.4	31.8
El Salvador	La Union	148	7.7	29.7	7.8	0.0	21.9	7.8	29.7	151	7.2	29.4	7.6	0.0	21.7	7.6	29.4
El Salvador	Morazan	150	18.4	37.8	9.7	8.7	28.2	18.4	37.8	151	16.1	36.1	9.6	6.5	26.5	16.1	36.1
El Salvador	San Miguel	209	16.4	36.3	9.9	6.4	26.4	16.4	36.3	211	14.4	34.8	9.9	4.5	24.9	14.4	34.8
El Salvador	San Salvador	86	5.3	27.9	10.5	0.0	17.4	10.5	27.9	88	4.7	27.5	10.3	0.0	17.2	10.3	27.5
El Salvador	San Vicente	125	22.4	41.4	9.1	13.3	32.3	22.4	41.4	125	19.6	39.3	9.1	10.5	30.3	19.6	39.3
El Salvador	Santa Ana	206	19.6	40.1	11.0	8.7	29.2	19.6	40.1	205	17.0	38.2	11.1	5.9	27.1	17.0	38.2
El Salvador	Sonsonate	147	15.6	35.8	12.7	2.9	23.0	15.6	35.8	147	13.5	34.2	12.7	0.7	21.5	13.5	34.2
El Salvador	Usulutan	235	22.0	41.2	11.1	10.9	30.1	22.0	41.2	234	19.1	39.1	11.2	7.9	27.9	19.1	39.1
El Salvador tot		2,227	**18.3**	**38.1**	**10.5**	**8.0**	**27.6**	**18.5**	**38.1**	**2,227**	**15.9**	**36.3**	**10.5**	**5.7**	**25.8**	**16.2**	**36.3**
Equat. Guinea	Annobon	2	0.0	13.5	5.5	0.0	8.0	5.5	13.5	2	0.0	13.5	5.5	0.0	8.0	5.5	13.5
Equat. Guinea	Bioko Norte	19	0.0	0.0	53.3	0.0	0.0	53.3	53.3	19	0.0	0.0	53.3	0.0	0.0	53.3	53.3
Equat. Guinea	Bioko Sur	11	0.0	0.0	100.0	0.0	0.0	100.0	100.0	11	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Equat. Guinea	Centro Sur	48	0.0	20.7	100.0	0.0	0.0	100.0	100.0	48	0.0	20.7	100.0	0.0	0.0	100.0	100.0
Equat. Guinea	Kientem	58	0.0	13.6	100.0	0.0	0.0	100.0	100.0	58	0.0	13.6	100.0	0.0	0.0	100.0	100.0
Equat. Guinea	Litoral	61	0.0	0.0	92.7	0.0	0.0	92.7	92.7	61	0.0	0.0	92.8	0.0	0.0	92.8	92.8
Equat. Guinea	Welenzas	49	0.0	17.4	100.0	0.0	0.0	100.0	100.0	49	0.0	17.4	100.0	0.0	0.0	100.0	100.0
Equat. Guinea tot		247		**10.7**	**94.0**		**0.0**	**94.0**	**94.0**	**247**		**10.7**	**94.0**		**0.0**	**94.0**	**94.0**
Eritrea	Anseba	140	11.7	35.6	1.0	10.7	34.6	11.7	35.6	140	10.8	34.9	1.0	9.8	33.9	10.8	34.9
Eritrea	Archipelagos	4	5.6	31.7	0.0	5.6	31.7	5.6	31.7	4	5.6	31.7	0.0	5.6	31.7	5.6	31.7
Eritrea	Debub	592	59.8	70.1	1.3	58.5	68.8	59.8	70.1	603	59.7	70.0	1.3	58.4	68.7	59.7	70.0
Eritrea	Debubawi Keih Bahri	18	7.1	37.7	0.1	7.1	37.6	7.1	37.7	18	7.1	37.7	0.1	7.1	37.6	7.1	37.7
Eritrea	Gash Barka	725	66.5	75.6	1.5	65.1	74.1	66.5	75.6	715	65.7	75.0	1.5	64.2	73.5	65.7	75.0
Eritrea	Maekel	31	5.0	29.2	1.6	3.3	27.6	5.0	29.2	32	8.2	31.6	1.6	6.6	30.1	8.2	31.6
Eritrea	Semenawi Keih Bahri	298	55.6	67.5	0.8	54.8	66.6	55.6	67.5	295	54.4	66.6	0.8	53.6	65.8	54.4	66.6
Eritrea tot		1,807	**56.5**	**68.1**	**1.3**	**55.3**	**66.8**	**56.5**	**68.1**	**1,807**	**55.9**	**67.6**	**1.3**	**54.6**	**66.4**	**55.9**	**67.6**
Ethiopia	Addis Ababa	28	4.0	27.9	1.2	2.8	26.7	4.0	27.9	28	4.0	27.9	1.2	2.8	26.8	4.0	27.9
Ethiopia	Afar	673	17.0	39.8	1.9	15.1	37.9	17.0	39.8	679	16.8	39.7	1.9	14.9	37.7	16.8	39.7
Ethiopia	Amhara	8,742	23.2	42.4	1.8	21.4	40.6	23.2	42.4	8,845	22.9	42.2	1.8	21.1	40.4	22.9	42.2
Ethiopia	Benishangul Gumuz	3,975	75.4	82.7	0.9	74.4	81.7	75.4	82.7	3,850	74.3	81.9	1.0	73.3	80.9	74.3	81.9
Ethiopia	Dire Dawa	27	4.0	27.9	1.1	2.9	26.8	4.0	27.9	28	4.0	27.9	1.1	2.9	26.9	4.0	27.9
Ethiopia	Gambella	1,738	79.6	86.9	1.6	78.0	85.3	79.6	86.9	1,676	78.6	86.2	1.6	76.9	84.6	78.6	86.2
Ethiopia	Harari	15	4.0	27.9	0.2	3.7	27.7	4.0	27.9	16	4.0	27.9	0.2	3.8	27.7	4.0	27.9
Ethiopia	SNNP	7,714	37.3	53.2	2.4	35.0	50.9	37.3	53.2	7,800	36.8	52.8	2.4	34.5	50.5	36.8	52.8
Ethiopia	Tigray	2,728	42.0	56.7	1.6	40.4	55.1	42.0	56.7	2,752	41.4	56.2	1.6	39.7	54.6	41.4	56.2
Ethiopia	Oromia	31,872	56.9	67.9	1.6	55.3	66.4	56.9	67.9	31,829	56.0	67.3	1.6	54.4	65.7	56.0	67.3
Ethiopia	Somali	2,966	13.1	38.8	2.5	10.6	36.3	13.1	38.8	2,975	12.9	38.6	2.5	10.4	36.2	12.9	38.6
Ethiopia tot		60,478	**48.1**	**61.6**	**1.7**	**46.3**	**59.9**	**48.1**	**61.6**	**60,478**	**47.2**	**60.9**	**1.7**	**45.4**	**59.2**	**47.2**	**60.9**

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
French Guiana	Cayenne	45	0.0	0.0	11.1	0.0	0.0	11.1	11.1	45	0.0	0.0	11.1	0.0	0.0	11.1	11.1
French Guiana	Saint-laurent-du-maroni	21	0.0	13.7	28.2	0.0	0.0	28.2	28.2	21	0.0	13.7	28.2	0.0	0.0	28.2	28.2
French Guiana tot		66		**4.3**	**16.5**			**16.5**	**16.5**	**66**		**4.4**	**16.5**			**16.5**	**16.5**
Gabon	Estuaire	166	0.0	0.0	0.0	0.0	0.0	0.0	0.0	166	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Haut-Ogooue	68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	68	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Moyen-Ogooue	40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Ngounie	95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Nyanga	63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Ogooue-Ivindo	49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Ogooue-Iolo	46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Ogooue-Maritime	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon	Woleu-Ntem	81	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gabon tot		635			**0.0**					**635**			**0.0**				
Gambia	Banjul	1	2.4	23.4	-0.2	2.2	23.2	2.2	23.2	1	2.4	23.4	-0.2	2.2	23.2	2.2	23.2
Gambia	Central River	122	15.5	33.7	-0.6	15.0	33.2	15.0	33.2	123	15.3	33.6	-0.6	14.8	33.0	14.8	33.0
Gambia	Kombo Saint Mary	9	2.4	23.4	-0.2	2.2	23.2	2.2	23.2	9	2.4	23.4	-0.2	2.3	23.3	2.3	23.3
Gambia	Lower River	159	50.3	61.5	-0.3	50.1	61.2	50.1	61.2	156	48.8	60.3	-0.3	48.6	60.1	48.6	60.1
Gambia	North Bank	92	10.7	30.1	-0.5	10.2	29.6	10.2	29.6	92	10.4	29.8	-0.5	9.9	29.3	9.9	29.3
Gambia	Upper River	90	3.1	23.9	-0.5	2.5	23.4	2.5	23.4	91	3.2	24.1	-0.5	2.7	23.5	2.7	23.5
Gambia	Western	173	31.4	46.2	-0.3	31.1	45.9	31.1	45.9	175	30.9	45.8	-0.3	30.6	45.5	30.6	45.5
Gambia tot		647	**25.7**	**41.9**	**-0.4**	**25.3**	**41.5**	**25.3**	**41.5**	**647**	**25.0**	**41.3**	**-0.4**	**24.6**	**40.9**	**24.6**	**40.9**
Ghana	Ashanti	2,235	9.0	28.3	21.8	0.0	6.5	21.8	28.3	2,309	7.1	26.9	21.1	0.0	5.7	21.1	26.9
Ghana	Brong Ahafo	2,623	10.1	29.5	15.9	0.0	13.6	15.9	29.5	2,663	7.9	27.7	15.6	0.0	12.1	15.6	27.7
Ghana	Central	884	7.2	26.8	21.5	0.0	5.4	21.5	26.8	926	6.0	25.9	20.5	0.0	5.4	20.5	25.9
Ghana	Eastern	1,494	7.1	26.6	20.8	0.0	5.9	20.8	26.6	1,549	6.0	25.7	20.1	0.0	5.7	20.1	25.7
Ghana	Greater Accra	143	4.1	24.2	6.4	0.0	17.8	6.4	24.2	147	4.1	24.2	6.2	0.0	18.0	6.2	24.2
Ghana	Northern	2,462	10.0	31.1	7.6	2.4	23.5	10.0	31.1	2,415	7.9	29.3	7.7	0.1	21.6	7.9	29.3
Ghana	Upper East	353	4.3	24.3	4.3	0.0	20.0	4.3	24.3	358	4.2	24.1	4.3	0.0	19.8	4.3	24.1
Ghana	Upper West	818	10.5	31.4	7.1	3.4	24.3	10.5	31.4	545	5.8	26.5	10.6	0.0	15.9	10.6	26.5
Ghana	Volta	1,309	6.8	26.3	13.3	0.0	12.9	13.3	26.3	1,334	5.8	25.4	13.1	0.0	12.4	13.1	25.4
Ghana	Western	3,144	12.4	32.3	30.4	0.0	1.9	30.4	32.3	3,217	9.4	30.0	29.7	0.0	0.3	29.7	30.0
Ghana tot		15,465	**9.5**	**29.4**	**18.1**	**0.6**	**11.3**	**18.7**	**29.4**	**15,465**	**7.4**	**27.7**	**18.1**	**0.0**	**9.5**	**18.1**	**27.7**
Guatemala	Guatemala	281	6.9	30.1	24.9	0.0	5.2	24.9	30.1	290	5.1	28.7	24.1	0.0	4.6	24.1	28.7
Guatemala	El Progreso	183	10.1	33.5	25.2	0.0	8.3	25.2	33.5	185	6.0	30.5	25.0	0.0	5.5	25.0	30.5
Guatemala	Sacatepequez	76	5.6	29.1	29.4	0.0	0.0	29.4	29.4	78	4.7	28.5	28.3	0.0	0.2	28.3	28.5
Guatemala	Chimaltenango	327	7.7	30.7	31.5	0.0	0.0	31.5	31.5	335	5.2	28.8	30.7	0.0	0.0	30.7	30.7

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Guatemala	Escuintla	449	8.2	31.8	19.0	0.0	12.9	19.0	31.8	457	5.5	29.9	18.6	0.0	11.3	18.6	29.9
Guatemala	Santa Rosa	420	10.2	33.6	26.8	0.0	6.8	26.8	33.6	425	6.1	30.5	26.5	0.0	4.1	26.5	30.5
Guatemala	Solola	199	5.5	29.1	29.4	0.0	0.0	29.4	29.4	206	4.7	28.5	28.4	0.0	0.1	28.4	28.5
Guatemala	Totonicapan	162	5.2	28.9	21.0	0.0	7.8	21.0	28.9	169	4.7	28.5	20.2	0.0	8.2	20.2	28.5
Guatemala	Quetzaltenango	292	6.0	29.4	25.3	0.0	4.1	25.3	29.4	303	4.8	28.6	24.4	0.0	4.2	24.4	28.6
Guatemala	Suchitepequez	272	6.5	29.8	22.3	0.0	7.5	22.3	29.8	281	4.9	28.6	21.6	0.0	7.0	21.6	28.6
Guatemala	Retalhulehu	130	7.3	31.2	17.5	0.0	13.8	17.5	31.2	133	5.3	29.8	17.1	0.0	12.7	17.1	29.8
Guatemala	San Marcos	559	5.4	28.9	27.0	0.0	1.9	27.0	28.9	580	4.7	28.5	26.1	0.0	2.4	26.1	28.5
Guatemala	Huehuetenango	1,093	10.6	34.0	29.7	0.0	4.3	29.7	34.0	1,094	6.2	30.7	29.7	0.0	1.1	29.7	30.7
Guatemala	Quiche	1,088	13.2	38.1	32.1	0.0	6.0	32.1	38.1	1,070	7.3	33.9	32.6	0.0	1.3	32.6	33.9
Guatemala	Baja Verapaz	379	13.0	35.7	30.0	0.0	5.7	30.0	35.7	375	6.7	31.0	30.3	0.0	0.7	30.3	31.0
Guatemala	Alta Verapaz	1,843	14.0	37.5	33.8	0.0	3.7	33.8	37.5	1,809	7.2	32.6	34.5	0.0	0.0	34.5	34.5
Guatemala	Peten	710	12.9	38.5	33.6	0.0	4.9	33.6	38.5	694	7.4	34.7	34.4	0.0	0.2	34.4	34.7
Guatemala	Izabal	967	17.3	42.0	32.0	0.0	10.0	32.0	42.0	926	8.5	35.8	33.4	0.0	2.5	33.4	35.8
Guatemala	Zacapa	283	12.1	36.5	30.7	0.0	5.8	30.7	36.5	282	6.9	32.8	30.8	0.0	1.9	30.8	32.8
Guatemala	Chiquimula	304	8.4	32.2	23.1	0.0	9.0	23.1	32.2	311	5.6	30.1	22.6	0.0	7.5	22.6	30.1
Guatemala	Jalapa	247	8.2	31.4	23.7	0.0	7.7	23.7	31.4	253	5.4	29.3	23.2	0.0	6.1	23.2	29.3
Guatemala	Jutiapa	276	6.1	29.8	15.0	0.0	14.8	15.0	29.8	285	4.9	28.9	14.5	0.0	14.4	14.5	28.9
Guatemala tot		10,541	**11.0**	**34.9**	**29.0**		**6.0**	**29.0**	**34.9**	**10,541**	**6.4**	**31.5**	**29.0**		**2.9**	**29.0**	**31.9**
Guinea	Boke	1,369	0.0	14.9	0.6	0.0	14.3	0.6	14.9	1,300	2.8	27.5	0.6	2.2	26.9	2.8	27.5
Guinea	Conakry	210	3.1	27.6	0.1	3.0	27.4	3.1	27.6	213	4.1	28.3	0.1	4.0	28.2	4.1	28.3
Guinea	Faranah	566	4.9	30.9	0.7	4.2	30.2	4.9	30.9	566	4.9	30.9	0.7	4.2	30.2	4.9	30.9
Guinea	Kankan	1,123	4.7	30.6	0.4	4.3	30.2	4.7	30.6	1,123	4.8	30.7	0.4	4.5	30.3	4.8	30.7
Guinea	Kindia	2,058	0.0	12.0	6.3	0.0	5.7	6.3	12.0	2,191	2.2	26.8	5.9	0.0	20.9	5.9	26.8
Guinea	Labe	811	1.7	26.6	0.2	1.5	26.4	1.7	26.6	785	4.2	28.4	0.2	4.0	28.3	4.2	28.4
Guinea	Mamou	892	0.0	19.2	0.4	0.0	18.8	0.4	19.2	847	3.3	27.6	0.4	2.9	27.2	3.3	27.6
Guinea	N'Zerekore	1,316	3.7	28.1	59.0	0.0	0.0	59.0	59.0	1,318	4.2	28.5	58.9	0.0	0.0	58.9	58.9
Guinea tot		8,344	**1.8**	**21.4**	**11.1**	**1.1**	**15.1**	**12.2**	**26.2**	**8,344**	**3.5**	**28.3**	**11.1**	**2.0**	**22.0**	**13.1**	**33.1**
Guinea-Bissau	Bafata	259	3.0	26.9	5.4	0.0	21.5	5.4	26.9	259	2.8	26.8	5.5	0.0	21.4	5.5	26.8
Guinea-Bissau	Biombo	55	4.0	27.3	3.9	0.1	23.4	4.0	27.3	55	4.0	27.3	3.9	0.1	23.4	4.0	27.3
Guinea-Bissau	Bolama/bijagos	28	5.3	32.0	12.2	0.0	19.8	12.2	32.0	28	5.3	32.0	12.2	0.0	19.8	12.2	32.0
Guinea-Bissau	Cacheu	337	2.7	27.6	5.8	0.0	21.8	5.8	27.6	338	2.4	27.4	5.8	0.0	21.6	5.8	27.4
Guinea-Bissau	Gabu	199	4.8	30.3	3.5	1.3	26.8	4.8	30.3	199	4.8	30.3	3.5	1.3	26.8	4.8	30.3
Guinea-Bissau	Oio	452	2.2	27.0	4.5	0.0	22.6	4.5	27.0	451	1.8	26.8	4.5	0.0	22.3	4.5	26.8
Guinea-Bissau	Quinara	63	4.7	29.8	18.9	0.0	11.0	18.9	29.8	63	4.7	29.8	18.9	0.0	11.0	18.9	29.8
Guinea-Bissau	Sector Autonomo De Bissau	15	4.0	27.3	0.8	3.2	26.4	4.0	27.3	15	4.0	27.3	0.8	3.2	26.4	4.0	27.3
Guinea-Bissau	Tombali	107	4.4	28.9	14.6	0.0	14.3	14.6	28.9	107	4.4	28.9	14.6	0.0	14.3	14.6	28.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Guinea-Bissau tot		1,515	**3.2**	**27.9**	**6.2**	**0.2**	**21.7**	**6.4**	**27.9**	**1,515**	**3.0**	**27.8**	**6.2**	**0.2**	**21.6**	**6.4**	**27.8**
Guyana	Barima Waini	19	1.9	26.0	0.0	1.9	26.0	1.9	26.0	19	1.9	26.0	0.0	1.9	26.0	1.9	26.0
Guyana	Cuyuni/mazaruni	37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	Demerara Mahaica	101	0.0	0.0	0.0	0.0	0.0	0.0	0.0	101	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	East Berbice/ corentyne	51	0.0	7.9	0.0	0.0	7.9	0.0	7.9	51	0.0	7.9	0.0	0.0	7.9	0.0	7.9
Guyana	Essequibo Isl./ west Demerar	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	Mahaica Berbice	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	Pomeroon/supenaam	33	0.0	16.4	0.0	0.0	16.4	0.0	16.4	33	0.0	16.4	0.0	0.0	16.4	0.0	16.4
Guyana	Potaro/siparuni	8	2.5	27.6	0.0	2.5	27.6	2.5	27.6	8	2.5	27.6	0.0	2.5	27.6	2.5	27.6
Guyana	Upper Demerara/ berbice	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	Upp. Takutu/ Upp. Essequibo	19	2.8	28.7	0.0	2.8	28.7	2.8	28.7	19	2.8	28.7	0.0	2.8	28.7	2.8	28.7
Guyana tot		559	**0.2**	**3.9**	**0.0**	**0.2**	**3.9**	**0.2**	**3.9**	**559**	**0.2**	**3.9**	**0.0**	**0.2**	**3.9**	**0.2**	**3.9**
Haiti	L'Artibonite	461	46.5	56.5	0.4	46.1	56.1	46.5	56.5	463	44.8	55.2	0.4	44.4	54.8	44.8	55.2
Haiti	Centre	440	55.3	63.7	0.4	54.9	63.2	55.3	63.7	453	55.0	63.5	0.4	54.6	63.0	55.0	63.5
Haiti	Nord	416	58.1	66.0	0.8	57.4	65.2	58.1	66.0	414	56.4	64.5	0.8	55.6	63.8	56.4	64.5
Haiti	Nord-Est	531	77.2	81.4	0.4	76.7	81.0	77.2	81.4	515	75.6	80.2	0.4	75.2	79.7	75.6	80.2
Haiti	Nord-Ouest	220	41.4	52.4	0.8	40.7	51.7	41.4	52.4	228	41.6	52.5	0.7	40.9	51.8	41.6	52.5
Haiti	Ouest	488	43.5	54.1	0.5	43.1	53.7	43.5	54.1	485	41.6	52.5	0.5	41.1	52.1	41.6	52.5
Haiti	Sud	559	68.9	74.7	0.4	68.6	74.4	68.9	74.7	549	67.1	73.3	0.4	66.8	72.9	67.1	73.3
Haiti	Sud-Est	278	52.3	61.3	0.5	51.8	60.8	52.3	61.3	277	50.7	59.9	0.5	50.2	59.4	50.7	59.9
Haiti	Grand'Anse	726	74.6	79.4	0.5	74.1	78.8	74.6	79.4	722	73.4	78.4	0.5	72.8	77.8	73.4	78.4
Haiti	Nippes	153	39.6	50.9	1.1	38.6	49.9	39.6	50.9	167	42.8	53.5	1.0	41.8	52.5	42.8	53.5
Haiti tot		4,272	**59.6**	**67.2**	**0.5**	**59.1**	**66.6**	**59.6**	**67.2**	**4,272**	**58.2**	**66.0**	**0.5**	**57.7**	**65.5**	**58.2**	**66.0**
Honduras	Atlantida	210	0.0	17.7	78.7	0.0	0.0	78.7	78.7	210	0.0	17.7	78.7	0.0	0.0	78.7	78.7
Honduras	Choluteca	265	1.0	21.8	21.0	0.0	0.8	21.0	21.8	265	1.0	21.8	21.0	0.0	0.8	21.0	21.8
Honduras	Colon	203	4.2	24.7	79.0	0.0	0.0	79.0	79.0	203	4.2	24.7	79.0	0.0	0.0	79.0	79.0
Honduras	Comayagua	421	0.0	16.8	48.6	0.0	0.0	48.6	48.6	421	0.0	16.8	48.6	0.0	0.0	48.6	48.6
Honduras	Copan	255	3.9	23.8	77.7	0.0	0.0	77.7	77.7	255	3.9	23.8	77.6	0.0	0.0	77.6	77.6
Honduras	Cortes	384	0.0	17.7	57.7	0.0	0.0	57.7	57.7	384	0.0	17.7	57.7	0.0	0.0	57.7	57.7
Honduras	Francisco Morazan	751	0.0	14.3	52.2	0.0	0.0	52.2	52.2	751	0.0	14.3	52.2	0.0	0.0	52.2	52.2
Honduras	Gracias A Dios	68	6.7	33.1	100.0	0.0	0.0	100.0	100.0	68	6.7	33.1	100.0	0.0	0.0	100.0	100.0
Honduras	Intibuca	251	0.0	19.0	70.5	0.0	0.0	70.5	70.5	251	0.0	19.0	70.5	0.0	0.0	70.5	70.5
Honduras	Islas De Bahia	15	3.9	23.8	21.7	0.0	2.1	21.7	23.8	15	3.9	23.8	21.7	0.0	2.1	21.7	23.8

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Honduras	La Paz	182	0.0	18.7	60.0	0.0	0.0	60.0	60.0	182	0.0	18.7	60.0	0.0	0.0	60.0	60.0
Honduras	Lempira	285	3.3	23.3	77.8	0.0	0.0	77.8	77.8	285	3.3	23.3	77.8	0.0	0.0	77.8	77.8
Honduras	Name Unknown	0	9.0	40.7	0.0	9.0	40.7	9.0	40.7	0	9.0	40.7	0.0	9.0	40.7	9.0	40.7
Honduras	Ocotepeque	100	3.9	23.8	95.1	0.0	0.0	95.1	95.1	100	3.9	23.8	95.1	0.0	0.0	95.1	95.1
Honduras	Olancho	454	2.9	24.2	88.0	0.0	0.0	88.0	88.0	454	2.9	24.2	88.0	0.0	0.0	88.0	88.0
Honduras	Paraiso	316	0.0	20.8	54.4	0.0	0.0	54.4	54.4	316	0.0	20.8	54.4	0.0	0.0	54.4	54.4
Honduras	Santa Barbara	467	0.0	18.7	73.6	0.0	0.0	73.6	73.6	467	0.0	18.7	73.6	0.0	0.0	73.6	73.6
Honduras	Valle	119	1.8	22.1	25.1	0.0	0.0	25.1	25.1	119	1.8	22.1	25.0	0.0	0.0	25.0	25.0
Honduras	Yoro	351	0.0	21.8	64.6	0.0	0.0	64.6	64.6	351	0.0	21.8	64.6	0.0	0.0	64.6	64.6
Honduras tot		5,097	**1.1**	**19.9**	**63.6**	**0.0**	**0.0**	**63.6**	**63.7**	**5,097**	**1.1**	**19.9**	**63.6**	**0.0**	**0.0**	**63.6**	**63.7**
India	Andaman and Nicobar	344	17.4	29.2	-0.5	16.8	28.7	16.8	28.7	80	3.7	17.6	-2.3	1.4	15.3	1.4	15.3
India	Andhra Pradesh	17,820	10.7	23.5	-0.1	10.7	23.5	10.7	23.5	19,678	10.5	23.3	-0.1	10.4	23.2	10.4	23.2
India	Assam	9,148	13.3	26.4	-0.3	13.1	26.1	13.1	26.1	4,587	4.1	17.8	-0.5	3.5	17.2	3.5	17.2
India	Delhi	27	3.6	17.3	0.0	3.5	17.3	3.5	17.3	27	3.6	17.3	0.0	3.6	17.3	3.6	17.3
India	Goa	573	18.9	30.7	0.0	18.9	30.7	18.9	30.7	636	17.0	29.1	0.0	17.0	29.1	17.0	29.1
India	Gujarat	6,406	6.3	19.7	0.0	6.3	19.7	6.3	19.7	6,181	5.0	18.6	0.0	5.0	18.5	5.0	18.5
India	Haryana	1,708	5.5	19.0	0.0	5.5	19.0	5.5	19.0	1,713	5.2	18.7	0.0	5.2	18.7	5.2	18.7
India	Himachal Pradesh	2,762	10.6	23.4	0.0	10.6	23.3	10.6	23.3	2,352	7.2	20.5	0.0	7.2	20.4	7.2	20.4
India	Karnataka	15,078	9.8	22.8	0.0	9.8	22.8	9.8	22.8	17,604	9.8	22.8	0.0	9.8	22.8	9.8	22.8
India	Kerala	6,917	9.2	22.1	0.0	9.1	22.1	9.1	22.1	8,634	9.3	22.2	0.0	9.2	22.2	9.2	22.2
India	Lakshadweep	0	3.6	17.5	0.0	3.6	17.4	3.6	17.4	0	3.7	17.5	0.0	3.6	17.4	3.6	17.4
India	Maharashtra	21,944	11.6	24.2	0.0	11.5	24.2	11.5	24.2	26,161	11.6	24.3	0.0	11.6	24.2	11.6	24.2
India	Manipur	3,300	20.5	33.0	-0.6	19.9	32.4	19.9	32.4	330	3.7	17.6	-5.5	0.0	12.1	0.0	12.1
India	Meghalaya	3,804	18.5	30.8	-0.2	18.3	30.6	18.3	30.6	721	3.7	17.5	-1.1	2.5	16.4	2.5	16.4
India	Mizoram	2,909	18.9	30.7	-2.5	16.4	28.1	16.4	28.1	437	3.6	17.5	-16.9	0.0	0.6	0.0	0.6
India	Nagaland	3,361	16.9	28.9	-0.3	16.6	28.6	16.6	28.6	883	3.6	17.4	-1.1	2.5	16.3	2.5	16.3
India	Orissa	16,534	13.6	26.2	-0.5	13.1	25.7	13.1	25.7	18,377	12.7	25.4	-0.5	12.2	24.9	12.2	24.9
India	Punjab	2,159	5.5	19.0	0.0	5.5	19.0	5.5	19.0	2,142	5.1	18.6	0.0	5.1	18.6	5.1	18.6
India	Rajasthan	8,208	4.2	17.9	0.0	4.2	17.9	4.2	17.9	8,460	3.8	17.6	0.0	3.8	17.5	3.8	17.5
India	Sikkim	375	16.0	28.0	0.0	15.9	28.0	15.9	28.0	346	13.8	26.1	0.0	13.7	26.1	13.7	26.1
India	Tamil Nadu	9,350	9.7	22.7	0.0	9.7	22.7	9.7	22.7	10,226	9.5	22.6	0.0	9.5	22.5	9.5	22.5
India	Tripura	1,708	13.3	25.7	0.0	13.3	25.7	13.3	25.7	824	3.6	17.3	-0.1	3.5	17.3	3.5	17.3
India	West Bengal	6,038	5.6	19.1	-0.1	5.5	19.0	5.5	19.0	6,567	5.3	18.8	-0.1	5.3	18.8	5.3	18.8
India	Arunachal Pradesh	1,127	16.9	29.3	-0.1	16.8	29.3	16.8	29.3	316	3.8	17.9	-0.3	3.5	17.6	3.5	17.6
India	Bihar	5,092	5.0	18.5	-0.2	4.8	18.3	4.8	18.3	5,184	5.0	18.5	-0.2	4.7	18.3	4.7	18.3
India	Chandigarh	5	3.7	17.4	0.0	3.7	17.4	3.7	17.4	5	3.8	17.5	0.0	3.8	17.5	3.8	17.5
India	Chhattisgarh	11,095	16.8	29.2	0.0	16.8	29.1	16.8	29.1	11,907	15.3	27.8	0.0	15.2	27.7	15.2	27.7

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
India	Dadra and Nagar Haveli	60	18.2	29.9	0.0	18.2	29.8	18.2	29.8	47	15.4	27.5	0.0	15.4	27.5	15.4	27.5
India	Daman and Diu	19	14.8	27.0	0.0	14.8	26.9	14.8	26.9	7	3.6	17.3	-0.1	3.5	17.2	3.5	17.2
India	Jharkhand	7,374	11.3	24.0	0.0	11.3	23.9	11.3	23.9	8,454	11.1	23.9	0.0	11.1	23.8	11.1	23.8
India	Madhya Pradesh	18,629	12.0	24.6	0.0	11.9	24.6	11.9	24.6	21,367	11.7	24.4	0.0	11.7	24.4	11.7	24.4
India	Puducherry	42	4.0	17.7	0.0	4.0	17.7	4.0	17.7	45	4.4	18.0	0.0	4.3	18.0	4.3	18.0
India	Uttar Pradesh	12,425	5.1	18.6	0.0	5.1	18.6	5.1	18.6	12,662	5.1	18.6	0.0	5.1	18.6	5.1	18.6
India	Uttarakhand	3,955	13.3	25.8	0.0	13.3	25.8	13.3	25.8	3,335	10.4	23.3	0.0	10.4	23.3	10.4	23.3
India tot		200,298	**11.0**	**23.9**	**-0.1**	**10.9**	**23.7**	**10.9**	**23.7**	**200,298**	**9.6**	**22.6**	**-0.1**	**9.5**	**22.5**	**9.5**	**22.5**
Indonesia	Nangroe Aceh Darussalam	3,331	24.1	45.4	7.9	16.2	37.5	24.1	45.4	3,753	27.5	47.8	7.0	20.5	40.8	27.5	47.8
Indonesia	Bali	823	14.5	34.9	0.0	14.4	34.9	14.5	34.9	882	15.7	35.5	0.0	15.7	35.5	15.7	35.5
Indonesia	Bengkulu	2,189	22.7	41.9	2.1	20.6	39.8	22.7	41.9	2,533	26.5	44.8	1.8	24.7	43.0	26.5	44.8
Indonesia	Daerah Istimewa Yogyakarta	380	1.5	24.5	0.0	1.5	24.5	1.5	24.5	422	2.5	25.3	0.0	2.5	25.3	2.5	25.3
Indonesia	Dki Jakarta	19	0.0	21.9	0.0	0.0	21.9	0.0	21.9	19	0.0	21.8	0.0	0.0	21.8	0.0	21.8
Indonesia	Jambi	4,899	27.3	47.3	6.2	21.1	41.1	27.3	47.3	5,705	31.2	50.1	5.3	25.9	44.8	31.2	50.1
Indonesia	Jawa Tengah	4,281	6.0	28.0	0.1	5.8	27.9	6.0	28.0	4,910	8.4	29.9	0.1	8.3	29.8	8.4	29.9
Indonesia	Jawa Timur	4,840	7.1	29.2	0.1	7.0	29.1	7.1	29.2	5,462	9.1	30.8	0.1	9.0	30.7	9.1	30.8
Indonesia	Kalimantan Barat	4,496	17.7	39.5	44.2	0.0	0.0	44.2	44.2	2,748	4.3	27.9	72.4	0.0	0.0	72.4	72.4
Indonesia	Kalimantan Selatan	4,628	26.5	45.8	5.7	20.8	40.1	26.5	45.8	1,911	10.2	31.8	13.8	0.0	18.0	13.8	31.8
Indonesia	Kalimantan Tengah	2,176	16.5	38.7	100.0	0.0	0.0	100.0	100.0	1,215	0.0	25.1	100.0	0.0	0.0	100.0	100.0
Indonesia	Kalimantan Timur	1,233	29.6	53.5	37.4	0.0	16.1	37.4	53.5	320	0.3	27.9	100.0	0.0	0.0	100.0	100.0
Indonesia	Lampung	3,223	9.9	32.1	1.0	8.9	31.1	9.9	32.1	3,742	12.6	34.1	0.9	11.7	33.2	12.6	34.1
Indonesia	Nusatenggara Barat	1,527	10.4	32.2	0.0	10.4	32.2	10.4	32.2	1,254	2.8	25.9	0.0	2.8	25.9	2.8	25.9
Indonesia	Nusatenggara Timur	3,593	3.0	25.8	0.0	3.0	25.8	3.0	25.8	3,305	0.0	22.2	0.0	0.0	22.2	0.0	22.2
Indonesia	Sulawesi Tengah	3,229	22.0	44.9	3.6	18.4	41.4	22.0	44.9	3,356	24.2	46.6	3.4	20.7	43.1	24.2	46.6
Indonesia	Sulawesi Tenggara	3,872	28.3	49.9	2.5	25.8	47.4	28.3	49.9	1,099	0.0	23.7	8.7	0.0	14.9	8.7	23.7
Indonesia	Sumatera Barat	5,605	24.8	44.2	5.4	19.4	38.8	24.8	44.2	6,623	28.6	47.1	4.6	24.0	42.5	28.6	47.1
Indonesia	Sumatera Utara	8,441	26.3	45.5	11.4	14.9	34.0	26.3	45.5	9,607	29.8	48.1	10.0	19.7	38.1	29.8	48.1
Indonesia	Bangka Belitung	353	0.0	22.1	7.4	0.0	14.8	7.4	22.1	354	0.0	22.1	7.3	0.0	14.8	7.3	22.1
Indonesia	Banten	1,341	19.9	38.9	0.1	19.8	38.8	19.9	38.9	1,588	23.7	41.8	0.1	23.7	41.8	23.7	41.8
Indonesia	Gorontalo	1,041	25.0	45.9	0.5	24.5	45.4	25.0	45.9	592	14.6	36.1	0.8	13.8	35.3	14.6	36.1
Indonesia	Papua Barat	217	0.0	29.3	1.5	0.0	27.8	1.5	29.3	219	0.0	29.2	1.5	0.0	27.7	1.5	29.2
Indonesia	Jawa Barat	5,247	11.9	32.6	0.7	11.2	31.9	11.9	32.6	6,136	15.2	35.2	0.6	14.7	34.6	15.2	35.2
Indonesia	Kepulauan-riau	123	0.0	22.0	0.1	0.0	22.0	0.1	22.0	124	0.0	22.0	0.1	0.0	21.9	0.1	22.0
Indonesia	Maluku	515	1.7	26.7	0.7	1.0	26.1	1.7	26.7	493	0.0	25.2	0.7	0.0	24.5	0.7	25.2
Indonesia	Maluku Utara	712	5.0	29.1	0.2	4.8	28.9	5.0	29.1	612	0.0	23.8	0.2	0.0	23.6	0.2	23.8

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Indonesia	Papua	958	0.0	28.7	5.2	0.0	23.5	5.2	28.7	970	0.0	28.3	5.1	0.0	23.2	5.1	28.3
Indonesia	Riau	7,747	30.1	49.8	56.6	0.0	0.0	56.6	56.6	9,086	34.0	52.6	48.3	0.0	4.3	48.3	52.6
Indonesia	Sulawesi Barat	1,833	25.1	44.8	0.5	24.7	44.3	25.1	44.8	2,150	29.0	47.6	0.4	28.6	47.2	29.0	47.6
Indonesia	Sulawesi Selatan	5,387	22.2	43.0	0.7	21.5	42.2	22.2	43.0	6,127	25.4	45.3	0.6	24.8	44.6	25.4	45.3
Indonesia	Sulawesi Utara	1,806	21.3	41.3	0.1	21.2	41.2	21.3	41.3	882	3.0	25.9	0.2	2.8	25.7	3.0	25.9
Indonesia	Sumatera Selatan	9,823	26.5	44.9	13.6	12.9	31.3	26.5	44.9	11,690	30.6	48.0	11.4	19.2	36.6	30.6	48.0
Indonesia tot		99,890	**20.3**	**41.0**	**12.9**	**12.6**	**30.1**	**25.5**	**43.1**	**99,890**	**21.2**	**41.2**	**11.8**	**14.3**	**31.8**	**26.2**	**43.6**
Jamaica	Clarendon	100	0.0	18.5	2.0	0.0	16.5	2.0	18.5	100	0.0	16.4	2.0	0.0	14.4	2.0	16.4
Jamaica	Hanover	47	0.0	20.2	2.8	0.0	17.4	2.8	20.2	47	0.0	18.4	2.8	0.0	15.6	2.8	18.4
Jamaica	Manchester	94	0.0	19.4	2.1	0.0	17.3	2.1	19.4	94	0.0	17.5	2.1	0.0	15.4	2.1	17.5
Jamaica	Portland	61	0.0	18.2	4.6	0.0	13.6	4.6	18.2	61	0.0	16.0	4.7	0.0	11.3	4.7	16.0
Jamaica	Saint Andrew And Kingston	57	0.0	23.3	1.5	0.0	21.8	1.5	23.3	57	0.0	22.3	1.5	0.0	20.8	1.5	22.3
Jamaica	Saint Ann	137	0.0	19.3	2.2	0.0	17.1	2.2	19.3	138	0.0	17.4	2.2	0.0	15.2	2.2	17.4
Jamaica	Saint Catherine	126	0.0	20.0	2.1	0.0	17.9	2.1	20.0	126	0.0	18.0	2.1	0.0	15.9	2.1	18.0
Jamaica	Saint Elizabeth	106	0.0	19.0	1.8	0.0	17.2	1.8	19.0	106	0.0	17.0	1.8	0.0	15.1	1.8	17.0
Jamaica	Saint James	77	0.0	19.2	2.3	0.0	16.9	2.3	19.2	77	0.0	17.3	2.3	0.0	15.0	2.3	17.3
Jamaica	Saint Mary	85	0.0	18.8	2.2	0.0	16.5	2.2	18.8	85	0.0	16.7	2.2	0.0	14.4	2.2	16.7
Jamaica	Saint Thomas	78	0.0	19.6	2.5	0.0	17.1	2.5	19.6	78	0.0	17.5	2.5	0.0	15.1	2.5	17.5
Jamaica	Trelawny	75	0.0	18.9	3.5	0.0	15.5	3.5	18.9	74	0.0	16.7	3.5	0.0	13.2	3.5	16.7
Jamaica	Westmoreland	73	0.0	19.8	2.1	0.0	17.6	2.1	19.8	73	0.0	18.0	2.1	0.0	15.9	2.1	18.0
Jamaica tot		1,115		**19.4**	**2.4**		**17.1**	**2.4**	**19.4**	**1,115**		**17.5**	**2.4**		**15.1**	**2.4**	**17.5**
Jammu Kashmir	not available	664	1.8	16.0	-0.2	1.6	15.8	1.6	15.8	392	5.0	18.8	-0.3	4.7	18.5	4.7	18.5
Jammu Kashmir	not available	134	5.7	20.6	-0.2	5.5	20.4	5.5	20.4	137	5.7	20.6	-0.2	5.5	20.4	5.5	20.4
Jammu Kashmir	not available	14	7.0	24.0	-0.1	6.9	24.0	6.9	24.0	14	6.9	23.9	-0.1	6.9	23.8	6.9	23.8
Jammu Kashmir	not available	15	5.8	21.0	-0.1	5.7	20.8	5.7	20.8	15	5.8	20.9	-0.1	5.7	20.8	5.7	20.8
Jammu Kashmir	not available	63	3.9	17.8	-0.2	3.7	17.6	3.7	17.6	55	5.0	18.8	-0.2	4.8	18.6	4.8	18.6
Jammu Kashmir	not available	121	3.3	17.3	-0.2	3.1	17.1	3.1	17.1	97	5.0	18.8	-0.2	4.8	18.6	4.8	18.6
Jammu Kashmir	not available	38	4.2	18.0	-0.2	4.0	17.9	4.0	17.9	34	5.0	18.8	-0.2	4.8	18.6	4.8	18.6
Jammu Kashmir	not available	110	3.7	17.7	-0.5	3.2	17.2	3.2	17.2	90	5.1	18.9	-0.6	4.5	18.3	4.5	18.3
Jammu Kashmir	not available	36	2.2	16.4	-0.2	2.1	16.3	2.1	16.3	23	5.0	18.8	-0.2	4.8	18.5	4.8	18.5
Jammu Kashmir	not available	252	3.6	17.6	-0.1	3.5	17.4	3.5	17.4	210	5.0	18.8	-0.2	4.8	18.6	4.8	18.6
Jammu Kashmir	not available	166	1.7	15.9	-0.2	1.5	15.7	1.5	15.7	92	5.0	18.8	-0.3	4.7	18.5	4.7	18.5
Jammu Kashmir	not available	988	1.0	15.4	-0.2	0.8	15.2	0.8	15.2	465	5.0	18.8	-0.4	4.6	18.3	4.6	18.3
Jammu Kashmir tot		2,600	**2.2**	**16.4**	**-0.2**	**2.0**	**16.2**	**2.0**	**16.2**	**1,626**	**5.1**	**19.0**	**-0.3**	**4.8**	**18.7**	**4.8**	**18.7**
Kenya	Central	1,301	34.5	47.7	0.7	33.8	47.0	34.5	47.7	1,318	33.8	47.1	0.7	33.1	46.4	33.8	47.1
Kenya	Coast	3,189	61.1	69.5	0.1	61.0	69.4	61.1	69.5	3,215	60.4	68.9	0.1	60.4	68.9	60.4	68.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Kenya	Eastern	5,284	56.6	65.7	0.1	56.5	65.6	56.6	65.7	5,217	55.5	64.9	0.1	55.4	64.7	55.5	64.9
Kenya	Nairobi	28	3.7	22.7	0.0	3.7	22.7	3.7	22.7	28	3.7	22.7	0.0	3.7	22.7	3.7	22.7
Kenya	North Eastern	1,188	51.1	64.1	0.1	51.1	64.1	51.1	64.1	1,180	50.3	63.5	0.1	50.2	63.5	50.3	63.5
Kenya	Nyanza	922	8.8	26.8	0.1	8.8	26.7	8.8	26.8	942	8.9	26.8	0.1	8.8	26.8	8.9	26.8
Kenya	Rift Valley	10,525	60.1	68.4	5.8	54.3	62.6	60.1	68.4	10,523	59.2	67.7	5.8	53.4	61.9	59.2	67.7
Kenya	Western	717	20.7	36.5	0.2	20.5	36.3	20.7	36.5	732	20.1	36.1	0.2	19.9	35.9	20.1	36.1
Kenya tot		23,154	**54.2**	**63.9**	**2.7**	**51.5**	**61.1**	**54.2**	**63.9**	**23,154**	**53.3**	**63.1**	**2.7**	**50.6**	**60.4**	**53.3**	**63.1**
Lao P. D. R.	Attapu	72	5.2	31.9	0.3	4.9	31.6	5.2	31.9	72	5.2	31.9	0.3	4.9	31.6	5.2	31.9
Lao P. D. R.	Bokeo	96	5.1	31.8	13.9	0.0	18.0	13.9	31.8	96	5.2	31.8	13.8	0.0	18.1	13.8	31.8
Lao P. D. R.	Bolikhamxai	110	0.0	17.2	62.4	0.0	0.0	62.4	62.4	111	0.0	14.9	61.9	0.0	0.0	61.9	61.9
Lao P. D. R.	Champasak	354	0.0	23.9	0.9	0.0	23.0	0.9	23.9	355	0.0	23.2	0.9	0.0	22.3	0.9	23.2
Lao P. D. R.	Houaphan	179	5.4	32.7	15.7	0.0	17.0	15.7	32.7	179	5.4	32.7	15.7	0.0	17.0	15.7	32.7
Lao P. D. R.	Khammouan	202	0.0	15.6	75.1	0.0	0.0	75.1	75.1	203	0.0	13.6	74.7	0.0	0.0	74.7	74.7
Lao P. D. R.	Louangphabang	522	0.0	0.0	9.1	0.0	0.0	9.1	9.1	514	0.0	0.0	9.2	0.0	0.0	9.2	9.2
Lao P. D. R.	Louang-Namtha	86	5.6	33.8	42.0	0.0	0.0	42.0	42.0	86	5.6	33.7	41.8	0.0	0.0	41.8	41.8
Lao P. D. R.	Oudomxai	138	0.0	28.0	25.1	0.0	2.8	25.1	28.0	137	0.0	27.5	25.2	0.0	2.3	25.2	27.5
Lao P. D. R.	Phongsali	114	6.0	35.2	26.1	0.0	9.1	26.1	35.2	114	6.0	35.2	26.1	0.0	9.1	26.1	35.2
Lao P. D. R.	Salavan	184	4.8	30.5	0.2	4.7	30.4	4.8	30.5	185	4.8	30.6	0.2	4.7	30.4	4.8	30.6
Lao P. D. R.	Savannakhet	485	0.0	22.3	15.9	0.0	6.3	15.9	22.3	486	0.0	21.4	15.9	0.0	5.5	15.9	21.4
Lao P. D. R.	Xaignabouli	195	1.1	29.0	9.6	0.0	19.3	9.6	29.0	196	0.7	28.6	9.6	0.0	19.0	9.6	28.6
Lao P. D. R.	Xekong	40	6.0	35.2	5.0	0.9	30.1	6.0	35.2	40	6.0	35.2	5.0	1.0	30.2	6.0	35.2
Lao P. D. R.	Vientiane capital	234	0.0	11.7	1.7	0.0	10.0	1.7	11.7	239	0.0	9.4	1.7	0.0	7.7	1.7	9.4
Lao P. D. R.	Vientiane	443	0.0	0.0	22.0	0.0	0.0	22.0	22.0	439	0.0	0.0	22.3	0.0	0.0	22.3	22.3
Lao P. D. R.	Xiangkhouang	160	5.1	31.6	2.3	2.8	29.3	5.1	31.6	161	5.1	31.6	2.3	2.8	29.3	5.1	31.6
Lao P. D. R. tot		3,613	**1.4**	**18.5**	**17.1**	**0.5**	**10.3**	**17.5**	**27.4**	**3,613**	**1.4**	**18.0**	**17.1**	**0.5**	**10.0**	**17.5**	**27.1**
Lesotho	Berea	88	30.8	44.9	0.0	30.8	44.8	30.8	44.8	89	29.9	44.1	0.0	29.9	44.1	29.9	44.1
Lesotho	Butha Buthe	95	45.0	56.2	0.0	45.0	56.2	45.0	56.2	95	43.7	55.1	0.0	43.7	55.1	43.7	55.1
Lesotho	Leribe	135	41.8	53.6	0.0	41.8	53.6	41.8	53.6	137	40.3	52.5	0.0	40.3	52.5	40.3	52.5
Lesotho	Mafeteng	75	31.0	45.1	0.0	31.0	45.0	31.0	45.0	76	30.8	44.8	0.0	30.8	44.8	30.8	44.8
Lesotho	Maseru	361	54.9	64.2	0.0	54.9	64.2	54.9	64.2	357	53.1	62.7	0.0	53.1	62.7	53.1	62.7
Lesotho	Mohale's Hoek	65	12.9	30.6	0.0	12.9	30.6	12.9	30.6	67	13.6	31.2	0.0	13.6	31.2	13.6	31.2
Lesotho	Mokhotlong	64	30.0	44.8	0.0	30.0	44.7	30.0	44.7	63	28.9	43.8	0.0	28.8	43.8	28.8	43.8
Lesotho	Qacha's Nek	38	15.3	32.9	0.0	15.2	32.8	15.2	32.8	38	15.2	32.8	0.0	15.2	32.8	15.2	32.8
Lesotho	Quthing	59	17.8	34.5	0.0	17.8	34.5	17.8	34.5	60	17.5	34.3	0.0	17.5	34.2	17.5	34.2
Lesotho	Thaba Tseka	149	47.1	57.8	0.0	47.0	57.8	47.0	57.8	146	45.3	56.5	0.0	45.3	56.5	45.3	56.5
Lesotho tot		1,129	**40.9**	**53.0**	**0.0**	**40.9**	**53.0**	**40.9**	**53.0**	**1,129**	**39.5**	**51.9**	**0.0**	**39.5**	**51.9**	**39.5**	**51.9**
Liberia	Bomi	278	0.0	15.4	12.7	0.0	2.7	12.7	15.4	278	0.0	15.1	12.7	0.0	2.4	12.7	15.1
Liberia	Bong	521	0.0	20.2	20.6	0.0	0.0	20.6	20.6	520	0.0	20.0	20.6	0.0	0.0	20.6	20.6

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Liberia	Gbarpolu	368	0.0	21.1	26.5	0.0	0.0	26.5	26.5	368	0.0	20.7	26.5	0.0	0.0	26.5	26.5
Liberia	Grand Bassa	423	0.0	18.7	30.5	0.0	0.0	30.5	30.5	423	0.0	18.5	30.5	0.0	0.0	30.5	30.5
Liberia	Grand Cape Mount	459	0.0	14.6	17.4	0.0	0.0	17.4	17.4	458	0.0	14.2	17.4	0.0	0.0	17.4	17.4
Liberia	Grand Gedeh	70	6.4	37.0	30.1	0.0	6.9	30.1	37.0	70	6.4	37.0	30.1	0.0	6.9	30.1	37.0
Liberia	Grand Kru	45	5.7	34.5	43.7	0.0	0.0	43.7	43.7	45	5.7	34.5	43.7	0.0	0.0	43.7	43.7
Liberia	Lofa	377	4.2	28.6	50.3	0.0	0.0	50.3	50.3	377	4.2	28.6	50.3	0.0	0.0	50.3	50.3
Liberia	Margibi	257	0.0	23.9	10.4	0.0	13.6	10.4	23.9	257	0.0	23.8	10.3	0.0	13.5	10.3	23.8
Liberia	Maryland	100	4.1	28.4	22.3	0.0	6.1	22.3	28.4	100	4.1	28.4	22.3	0.0	6.1	22.3	28.4
Liberia	Montserrado	259	1.3	25.4	6.7	0.0	18.7	6.7	25.4	260	1.2	25.4	6.7	0.0	18.6	6.7	25.4
Liberia	Nimba	459	4.1	28.4	21.8	0.0	6.5	21.8	28.4	460	4.1	28.4	21.8	0.0	6.6	21.8	28.4
Liberia	Rivercess	58	6.2	36.3	40.2	0.0	0.0	40.2	40.2	58	6.2	36.3	40.2	0.0	0.0	40.2	40.2
Liberia	River Ghee	57	6.6	38.0	40.4	0.0	0.0	40.4	40.4	57	6.6	38.0	40.4	0.0	0.0	40.4	40.4
Liberia	Sinoe	109	5.7	34.3	56.6	0.0	0.0	56.6	56.6	109	5.7	34.3	56.6	0.0	0.0	56.6	56.6
Liberia tot		3,840	**1.6**	**23.1**	**24.8**		**3.4**	**24.8**	**28.3**	**3,840**	**1.6**	**22.9**	**24.8**		**3.4**	**24.8**	**28.2**
Madagascar	Alaotra Mangoro	1,575	0.0	26.3	18.4	0.0	7.9	18.4	26.3	1,558	0.0	22.8	18.6	0.0	4.2	18.6	22.8
Madagascar	Amoron'i Mania	714	0.0	26.0	6.9	0.0	19.1	6.9	26.0	710	0.0	23.3	6.9	0.0	16.4	6.9	23.3
Madagascar	Analamanga	970	0.0	26.0	6.2	0.0	19.7	6.2	26.0	967	0.0	23.4	6.3	0.0	17.1	6.3	23.4
Madagascar	Analanjirofo	645	2.1	27.5	73.1	0.0	0.0	73.1	73.1	646	0.8	26.5	73.0	0.0	0.0	73.0	73.0
Madagascar	Androy	242	5.0	29.7	0.4	4.6	29.3	5.0	29.7	242	5.0	29.7	0.4	4.6	29.3	5.0	29.7
Madagascar	Anosy	278	5.5	31.8	20.6	0.0	11.2	20.6	31.8	279	5.5	31.8	20.6	0.0	11.2	20.6	31.8
Madagascar	Atsimo Andrefana	504	5.7	32.6	1.5	4.2	31.1	5.7	32.6	504	5.7	32.6	1.5	4.2	31.1	5.7	32.6
Madagascar	Atsimo Atsinanana	327	5.0	29.8	51.0	0.0	0.0	51.0	51.0	328	4.9	29.8	50.9	0.0	0.0	50.9	50.9
Madagascar	Atsinanana	988	0.0	24.4	36.7	0.0	0.0	36.7	36.7	983	0.0	21.4	36.9	0.0	0.0	36.9	36.9
Madagascar	Betsiboka	223	0.7	33.4	2.2	0.0	31.2	2.2	33.4	221	0.0	31.6	2.3	0.0	29.3	2.3	31.6
Madagascar	Boeny	215	5.8	32.9	12.6	0.0	20.3	12.6	32.9	215	5.8	32.9	12.6	0.0	20.3	12.6	32.9
Madagascar	Bongolava	371	0.0	25.7	0.5	0.0	25.2	0.5	25.7	369	0.0	23.2	0.5	0.0	22.6	0.5	23.2
Madagascar	Diana	251	5.1	30.3	36.5	0.0	0.0	36.5	36.5	252	5.1	30.3	36.3	0.0	0.0	36.3	36.3
Madagascar	Haute Matsiatra	630	0.5	26.5	9.6	0.0	17.0	9.6	26.5	637	0.0	25.0	9.5	0.0	15.5	9.5	25.0
Madagascar	Ihorombe	101	7.0	38.3	2.3	4.8	36.0	7.0	38.3	101	7.0	38.2	2.3	4.7	36.0	7.0	38.2
Madagascar	Itasy	331	2.2	27.0	0.9	1.3	26.1	2.2	27.0	340	0.7	25.9	0.9	0.0	25.0	0.9	25.9
Madagascar	Melaky	95	8.5	43.7	7.8	0.8	35.9	8.5	43.7	95	8.6	43.7	7.8	0.8	35.9	8.6	43.7
Madagascar	Menabe	203	6.8	37.0	9.6	0.0	27.4	9.6	37.0	203	6.8	37.0	9.6	0.0	27.4	9.6	37.0
Madagascar	Sava	379	5.0	30.0	56.4	0.0	0.0	56.4	56.4	381	5.0	30.0	56.1	0.0	0.0	56.1	56.1
Madagascar	Sofia	490	5.3	31.1	32.5	0.0	0.0	32.5	32.5	491	5.3	31.1	32.4	0.0	0.0	32.4	32.4
Madagascar	Vakinankaratra	885	0.5	26.1	2.6	0.0	23.5	2.6	26.1	895	0.0	24.6	2.5	0.0	22.1	2.5	24.6
Madagascar	Vatovavy Fitovinany	1,234	0.0	23.6	28.3	0.0	0.0	28.3	28.3	1,235	0.0	20.9	28.3	0.0	0.0	28.3	28.3
Madagascar tot		11,652	**1.7**	**27.5**	**20.9**	**0.4**	**12.4**	**21.2**	**33.3**	**11,652**	**1.5**	**25.7**	**20.9**	**0.3**	**11.2**	**21.2**	**32.1**
Malawi	Central Region	1,575	14.1	33.4	23.5	0.0	9.9	23.5	33.4	1,641	8.4	29.1	22.5	0.0	6.5	22.5	29.1

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Malawi	Northern Region	1,640	40.4	54.1	34.5	5.9	19.7	40.4	54.1	1,495	21.4	39.6	37.8	0.0	1.8	37.8	39.6
Malawi	Southern Region	1,725	19.0	37.3	30.6	0.0	6.8	30.6	37.3	1,805	10.4	30.8	29.2	0.0	1.6	29.2	30.8
Malawi	Nat. Admin.	62	1.2	23.8	1.0	0.2	22.8	1.2	23.8	62	1.6	24.3	1.0	0.6	23.3	1.6	24.3
Malawi tot		5,003	**24.2**	**41.4**	**29.3**	**1.9**	**12.2**	**31.2**	**41.4**	**5,003**	**12.9**	**32.8**	**29.3**	**0.0**	**3.5**	**29.3**	**32.8**
Malaysia	Johor	315	0.0	0.0	52.1	0.0	0.0	52.1	52.1	307	0.0	0.0	53.5	0.0	0.0	53.5	53.5
Malaysia	Kedah	282	0.0	0.0	2.7	0.0	0.0	2.7	2.7	248	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Malaysia	Kelantan	285	0.0	0.0	24.0	0.0	0.0	24.0	24.0	281	0.0	0.0	24.3	0.0	0.0	24.3	24.3
Malaysia	Kuala Lumpur	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaysia	Melaka	86	0.0	0.0	0.3	0.0	0.0	0.3	0.3	69	0.0	0.0	0.4	0.0	0.0	0.4	0.4
Malaysia	Negeri Sembilan	183	0.0	0.0	6.8	0.0	0.0	6.8	6.8	136	0.0	0.0	9.1	0.0	0.0	9.1	9.1
Malaysia	Pahang	334	0.0	0.0	100.0	0.0	0.0	100.0	100.0	302	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Malaysia	Perak	368	0.0	0.0	27.7	0.0	0.0	27.7	27.7	317	0.0	0.0	32.1	0.0	0.0	32.1	32.1
Malaysia	Perlis	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaysia	Pulau Pinang	49	0.0	0.0	0.1	0.0	0.0	0.1	0.1	47	0.0	0.0	0.1	0.0	0.0	0.1	0.1
Malaysia	Sabah	521	0.0	0.0	90.4	0.0	0.0	90.4	90.4	536	0.0	0.0	87.9	0.0	0.0	87.9	87.9
Malaysia	Sarawak	348	0.0	0.0	100.0	0.0	0.0	100.0	100.0	353	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Malaysia	Selangor	374	0.0	0.0	6.9	0.0	0.0	6.9	6.9	549	0.0	0.0	4.7	0.0	0.0	4.7	4.7
Malaysia	Terengganu	117	0.0	0.0	18.3	0.0	0.0	18.3	18.3	118	0.0	0.0	18.1	0.0	0.0	18.1	18.1
Malaysia	Labuan	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaysia tot		3,317			**46.9**			**46.9**	**46.9**	**3,317**			**46.1**			**46.1**	**46.1**
Mali	Bamako	35	3.5	27.3	0.7	2.9	26.6	3.5	27.3	35	3.6	27.3	0.7	2.9	26.6	3.6	27.3
Mali	Gao	52	6.5	38.7	3.8	2.7	34.9	6.5	38.7	52	6.5	38.7	3.8	2.7	34.9	6.5	38.7
Mali	Kayes	524	5.0	33.5	20.3	0.0	13.2	20.3	33.5	522	3.6	32.6	20.4	0.0	12.2	20.4	32.6
Mali	Kidal	4	7.7	43.5	0.0	7.7	43.5	7.7	43.5	4	7.7	43.4	0.0	7.7	43.4	7.7	43.4
Mali	Koulikoro	1,068	3.4	28.7	7.4	0.0	21.3	7.4	28.7	1,066	0.0	25.9	7.4	0.0	18.5	7.4	25.9
Mali	Mopti	407	4.1	29.3	16.1	0.0	13.2	16.1	29.3	408	4.1	29.3	16.0	0.0	13.3	16.0	29.3
Mali	Segou	445	3.8	28.2	7.0	0.0	21.2	7.0	28.2	447	3.8	28.2	7.0	0.0	21.2	7.0	28.2
Mali	Sikasso	587	3.6	27.8	10.2	0.0	17.6	10.2	27.8	587	2.9	27.2	10.2	0.0	17.1	10.2	27.2
Mali	Tombouctou	120	5.3	33.9	1.9	3.4	32.0	5.3	33.9	120	5.3	33.9	1.9	3.4	32.0	5.3	33.9
Mali tot		3,243	**4.0**	**29.6**	**10.7**	**0.2**	**19.0**	**10.9**	**29.6**	**3,243**	**2.5**	**28.5**	**10.7**	**0.2**	**17.8**	**10.9**	**28.5**
Mauritania	Adrar	0	9.9	46.5	0.0	9.9	46.5	9.9	46.5	0	9.9	46.5	0.0	9.9	46.5	9.9	46.5
Mauritania	Assaba	67	7.5	37.3	9.3	0.0	28.0	9.3	37.3	67	7.5	37.3	9.3	0.0	28.0	9.3	37.3
Mauritania	Brakna	69	6.4	33.1	0.8	5.6	32.4	6.4	33.1	69	6.4	33.1	0.8	5.6	32.4	6.4	33.1
Mauritania	Dakhlet Nouadhibou	1	5.1	28.5	0.0	5.1	28.5	5.1	28.5	1	5.1	28.5	0.0	5.1	28.5	5.1	28.5
Mauritania	Gorgol	76	5.2	28.7	3.8	1.4	25.0	5.2	28.7	77	5.2	28.7	3.8	1.4	25.0	5.2	28.7
Mauritania	Guidimaka	61	5.1	28.3	7.7	0.0	20.6	7.7	28.3	61	5.1	28.3	7.7	0.0	20.6	7.7	28.3
Mauritania	Hodh Ech Chargui	88	8.8	42.1	2.6	6.2	39.5	8.8	42.1	88	8.8	42.1	2.6	6.2	39.5	8.8	42.1
Mauritania	Hodh El Gharbi	73	7.6	37.9	6.8	0.9	31.1	7.6	37.9	73	7.6	37.9	6.8	0.9	31.1	7.6	37.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Mauritania	Inchiri	0	9.0	43.1	0.0	9.0	43.1	9.0	43.1	0	9.0	43.1	0.0	9.0	43.1	9.0	43.1
Mauritania	Nouakchott	1	6.4	33.1	0.0	6.4	33.1	6.4	33.1	1	6.4	33.1	0.0	6.4	33.1	6.4	33.1
Mauritania	Tagant	14	8.4	40.8	1.3	7.1	39.5	8.4	40.8	14	8.4	40.8	1.3	7.1	39.5	8.4	40.8
Mauritania	Tiris Zemmour	0	9.2	43.7	0.0	9.2	43.7	9.2	43.7	0	9.2	43.7	0.0	9.2	43.7	9.2	43.7
Mauritania	Trarza	71	6.3	32.8	2.2	4.0	30.5	6.3	32.8	71	6.3	32.8	2.2	4.1	30.5	6.3	32.8
Mauritania tot		521	**6.8**	**34.8**	**4.5**	**2.9**	**30.3**	**7.4**	**34.8**	**522**	**6.8**	**34.8**	**4.5**	**2.9**	**30.3**	**7.3**	**34.8**
Mexico	Aguascalientes	18	1.7	25.6	0.2	1.5	25.4	1.7	25.6	18	1.9	25.8	0.2	1.7	25.6	1.9	25.8
Mexico	Baja California	74	1.9	26.0	0.1	1.8	25.9	1.9	26.0	75	1.7	25.9	0.1	1.6	25.8	1.7	25.9
Mexico	Baja California Sur	17	2.3	27.9	0.0	2.3	27.9	2.3	27.9	17	2.5	28.1	0.0	2.4	28.0	2.5	28.1
Mexico	Campeche	149	2.9	30.0	33.0	0.0	0.0	33.0	33.0	149	3.0	30.2	32.8	0.0	0.0	32.8	32.8
Mexico	Chiapas	1,542	1.9	26.4	0.5	1.4	25.9	1.9	26.4	1,560	2.1	26.5	0.5	1.6	26.0	2.1	26.5
Mexico	Chihuahua	278	4.1	33.7	0.3	3.8	33.4	4.1	33.7	276	3.1	33.1	0.3	2.8	32.7	3.1	33.1
Mexico	Coahuila	116	2.7	28.4	0.1	2.6	28.3	2.7	28.4	116	1.8	27.8	0.1	1.8	27.7	1.8	27.8
Mexico	Colima	55	2.0	26.5	0.7	1.3	25.9	2.0	26.5	56	2.1	26.6	0.6	1.5	26.0	2.1	26.6
Mexico	Distrito Federal	95	5.1	30.3	0.1	4.9	30.1	5.1	30.3	94	0.0	24.2	0.1	0.0	24.1	0.1	24.2
Mexico	Durango	177	3.5	32.4	0.4	3.1	32.0	3.5	32.4	178	3.6	32.5	0.4	3.2	32.1	3.6	32.5
Mexico	Guanajuato	442	3.4	27.0	0.2	3.2	26.7	3.4	27.0	443	0.0	22.9	0.2	0.0	22.7	0.2	22.9
Mexico	Guerrero	1,360	3.7	28.2	0.4	3.3	27.8	3.7	28.2	1,351	0.0	24.6	0.4	0.0	24.2	0.4	24.6
Mexico	Hidalgo	1,237	4.8	28.2	0.2	4.6	28.0	4.8	28.2	1,212	0.0	21.0	0.2	0.0	20.7	0.2	21.0
Mexico	Jalisco	452	3.9	28.0	0.6	3.3	27.3	3.9	28.0	445	0.0	23.5	0.6	0.0	22.8	0.6	23.5
Mexico	Mexico	1,654	5.2	28.4	0.2	5.0	28.2	5.2	28.4	1,607	0.0	20.2	0.2	0.0	20.0	0.2	20.2
Mexico	Michoacan	788	2.7	27.3	0.6	2.1	26.7	2.7	27.3	789	0.7	25.9	0.6	0.1	25.2	0.7	25.9
Mexico	Morelos	247	4.4	27.8	0.1	4.3	27.7	4.4	27.8	249	0.0	21.4	0.1	0.0	21.3	0.1	21.4
Mexico	Nayarit	112	2.2	27.6	0.8	1.4	26.7	2.2	27.6	113	2.4	27.7	0.8	1.6	26.9	2.4	27.7
Mexico	Nuevo Leon	234	5.8	32.5	0.2	5.6	32.3	5.8	32.5	231	0.0	26.0	0.2	0.0	25.9	0.2	26.0
Mexico	Oaxaca	1,459	2.0	26.6	0.6	1.4	26.0	2.0	26.6	1,469	2.1	26.7	0.6	1.4	26.1	2.1	26.7
Mexico	Puebla	1,739	4.1	28.2	0.2	3.9	28.0	4.1	28.2	1,743	0.0	23.1	0.2	0.0	22.9	0.2	23.1
Mexico	Queretaro	278	5.0	28.4	0.2	4.7	28.2	5.0	28.4	268	0.0	20.9	0.2	0.0	20.7	0.2	20.9
Mexico	Quintana Roo	125	2.7	29.1	100.0	0.0	0.0	100.0	100.0	126	2.7	29.2	100.0	0.0	0.0	100.0	100.0
Mexico	San Luis Potosi	507	2.7	28.6	0.5	2.2	28.1	2.7	28.6	510	1.9	28.0	0.5	1.4	27.5	1.9	28.0
Mexico	Sinaloa	273	2.2	27.3	0.2	1.9	27.0	2.2	27.3	275	2.3	27.4	0.2	2.0	27.1	2.3	27.4
Mexico	Sonora	160	2.8	29.6	0.1	2.7	29.5	2.8	29.6	161	2.8	29.7	0.1	2.7	29.6	2.8	29.7
Mexico	Tabasco	422	1.8	26.0	3.6	0.0	22.4	3.6	26.0	425	2.0	26.1	3.6	0.0	22.6	3.6	26.1
Mexico	Tamaulipas	171	3.3	29.5	0.6	2.7	29.0	3.3	29.5	173	1.3	28.1	0.5	0.8	27.6	1.3	28.1
Mexico	Tlaxcala	197	4.2	27.4	0.1	4.1	27.3	4.2	27.4	198	0.0	21.3	0.1	0.0	21.2	0.1	21.3
Mexico	Veracruz	2,621	3.3	27.1	0.2	3.1	26.9	3.3	27.1	2,663	0.0	23.5	0.2	0.0	23.3	0.2	23.5
Mexico	Yucatan	708	3.0	28.6	7.4	0.0	21.2	7.4	28.6	711	1.1	27.1	7.3	0.0	19.8	7.3	27.1
Mexico	Zacatecas	143	2.6	28.9	0.2	2.4	28.7	2.6	28.9	143	2.7	29.1	0.2	2.5	28.9	2.7	29.1

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Mexico tot		17,848	**3.4**	**27.9**	**1.7**	**2.9**	**26.7**	**4.6**	**28.4**	**17,848**	**0.8**	**24.6**	**1.7**	**0.5**	**23.4**	**2.2**	**25.1**
Mozambique	Cabo Delgado	791	4.4	30.9	17.9	0.0	12.9	17.9	30.9	791	4.4	30.9	17.9	0.0	12.9	17.9	30.9
Mozambique	Gaza	1,593	25.1	46.4	4.1	21.0	42.3	25.1	46.4	1,593	24.8	46.2	4.1	20.7	42.1	24.8	46.2
Mozambique	Inhambane	1,277	18.8	41.6	13.7	5.0	27.9	18.8	41.6	1,276	18.5	41.5	13.7	4.8	27.8	18.5	41.5
Mozambique	Manica	1,231	22.7	44.5	11.2	11.5	33.2	22.7	44.5	1,229	22.4	44.3	11.2	11.2	33.0	22.4	44.3
Mozambique	Maputo	1,804	32.5	54.8	4.1	28.4	50.7	32.5	54.8	1,802	32.1	54.5	4.1	28.0	50.4	32.1	54.5
Mozambique	Maputo (city)	66	4.9	29.1	0.6	4.3	28.5	4.9	29.1	66	4.9	29.0	0.6	4.3	28.5	4.9	29.0
Mozambique	Nampula	1,963	7.9	31.5	16.3	0.0	15.1	16.3	31.5	1,965	7.9	31.4	16.3	0.0	15.1	16.3	31.4
Mozambique	Niassa	485	5.1	33.6	22.4	0.0	11.2	22.4	33.6	485	5.1	33.6	22.4	0.0	11.2	22.4	33.6
Mozambique	Sofala	1,288	22.0	43.8	14.4	7.5	29.3	22.0	43.8	1,287	21.7	43.6	14.5	7.3	29.1	21.7	43.6
Mozambique	Tete	739	4.7	32.2	12.4	0.0	19.7	12.4	32.2	740	4.7	32.2	12.4	0.0	19.7	12.4	32.2
Mozambique	Zambezia	1,854	4.6	29.3	26.6	0.0	2.7	26.6	29.3	1,856	4.6	29.3	26.6	0.0	2.7	26.6	29.3
Mozambique	Nat. Administration	0	7.7	44.2	1.7	6.0	42.4	7.7	44.2	0	7.7	44.2	1.7	6.0	42.4	7.7	44.2
Mozambique tot		13,092	**16.2**	**39.7**	**13.7**	**8.8**	**26.0**	**22.5**	**39.7**	**13,092**	**16.1**	**39.6**	**13.7**	**8.6**	**25.8**	**22.3**	**39.6**
Myanmar	Rakhine	913	4.2	4.7	100.0	0.0	0.0	100.0	100.0	926	2.5	3.0	100.0	0.0	0.0	100.0	100.0
Myanmar	Chin	241	4.2	4.8	31.7	0.0	0.0	31.7	31.7	241	4.2	4.8	31.7	0.0	0.0	31.7	31.7
Myanmar	Ayeyawaddy	2,054	4.2	4.7	0.8	3.3	3.9	4.2	4.7	2,072	2.1	2.7	0.8	1.3	1.8	2.1	2.7
Myanmar	Kachin	454	4.0	4.5	13.8	0.0	0.0	13.8	13.8	459	4.0	4.6	13.7	0.0	0.0	13.7	13.7
Myanmar	Kayin	1,190	4.8	5.4	4.5	0.3	0.9	4.8	5.4	1,194	0.6	1.2	4.5	0.0	0.0	4.5	4.5
Myanmar	Kayar	115	3.6	4.2	0.1	3.6	4.1	3.6	4.2	117	3.6	4.1	0.1	3.5	4.0	3.6	4.1
Myanmar	Magway	2,957	4.1	4.6	0.1	4.0	4.5	4.1	4.6	2,925	0.0	0.4	0.1	0.0	0.3	0.1	0.4
Myanmar	Mandalay	2,983	5.2	5.8	0.1	5.1	5.7	5.2	5.8	2,959	0.8	1.4	0.1	0.6	1.3	0.8	1.4
Myanmar	Mon	603	3.4	3.9	0.8	2.7	3.2	3.4	3.9	624	1.6	2.1	0.7	0.9	1.4	1.6	2.1
Myanmar	Sagaing	2,132	3.6	4.1	1.3	2.3	2.8	3.6	4.1	2,143	1.8	2.4	1.3	0.5	1.0	1.8	2.4
Myanmar	Taninthayi	383	3.4	3.9	9.0	0.0	0.0	9.0	9.0	387	3.4	3.9	8.9	0.0	0.0	8.9	8.9
Myanmar	Yangon	682	4.2	4.8	0.0	4.2	4.7	4.2	4.8	688	2.0	2.6	0.0	2.0	2.6	2.0	2.6
Myanmar	Bago (E)	2,634	6.7	7.4	1.3	5.5	6.1	6.7	7.4	2,593	0.9	1.7	1.3	0.0	0.4	1.3	1.7
Myanmar	Bago (W)	1,398	5.0	5.6	0.1	4.9	5.5	5.0	5.6	1,371	0.7	1.3	0.1	0.6	1.3	0.7	1.3
Myanmar	Shan (E)	259	3.8	4.4	14.5	0.0	0.0	14.5	14.5	262	3.7	4.3	14.3	0.0	0.0	14.3	14.3
Myanmar	Shan (N)	1,834	5.0	5.6	5.6	0.0	0.1	5.6	5.6	1,850	0.6	1.2	5.5	0.0	0.0	5.5	5.5
Myanmar	Shan (S)	2,030	5.1	5.7	4.3	0.8	1.4	5.1	5.7	2,049	1.2	1.8	4.3	0.0	0.0	4.3	4.3
Myanmar tot		22,862	**4.7**	**5.3**	**6.4**	**2.9**	**3.4**	**9.3**	**9.8**	**22,862**	**1.2**	**1.8**	**6.4**	**0.4**	**0.7**	**6.8**	**7.2**
Namibia	Caprivi	14	7.3	36.7	83.1	0.0	0.0	83.1	83.1	14	7.3	36.7	83.1	0.0	0.0	83.1	83.1
Namibia	Erongo	6	7.5	37.4	5.2	2.3	32.2	7.5	37.4	6	7.5	37.4	5.2	2.3	32.2	7.5	37.4
Namibia	Hardap	8	7.6	37.9	6.3	1.4	31.6	7.6	37.9	8	7.6	37.9	6.3	1.4	31.6	7.6	37.9
Namibia	Karas	11	7.9	38.8	0.1	7.8	38.7	7.9	38.8	11	7.9	38.8	0.1	7.8	38.7	7.9	38.8
Namibia	Kavango	32	8.4	40.7	14.0	0.0	26.7	14.0	40.7	32	8.4	40.7	14.0	0.0	26.7	14.0	40.7
Namibia	Khomas	6	6.9	35.2	18.0	0.0	17.2	18.0	35.2	6	6.9	35.2	18.0	0.0	17.2	18.0	35.2

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Namibia	Kunene	10	8.6	41.4	4.1	4.5	37.3	8.6	41.4	10	8.6	41.4	4.1	4.5	37.3	8.6	41.4
Namibia	Ohangwena	37	5.7	30.5	9.7	0.0	20.7	9.7	30.5	37	5.7	30.5	9.7	0.0	20.7	9.7	30.5
Namibia	Omaheke	12	8.5	41.2	3.8	4.7	37.4	8.5	41.2	12	8.5	41.2	3.8	4.7	37.4	8.5	41.2
Namibia	Omusati	43	5.5	29.9	0.2	5.3	29.6	5.5	29.9	43	5.5	29.9	0.2	5.3	29.6	5.5	29.9
Namibia	Oshana	14	5.5	29.9	0.0	5.5	29.9	5.5	29.9	14	5.5	29.9	0.0	5.5	29.9	5.5	29.9
Namibia	Oshikoto	26	6.9	35.0	7.2	0.0	27.8	7.2	35.0	26	6.9	35.0	7.2	0.0	27.8	7.2	35.0
Namibia	Otjozondjupa	67	69.8	79.5	13.5	56.3	65.9	69.8	79.5	67	69.8	79.5	13.5	56.3	65.9	69.8	79.5
Namibia tot		286	**21.5**	**45.3**	**11.8**	**15.0**	**35.8**	**26.7**	**47.6**	**286**	**21.5**	**45.3**	**11.8**	**15.0**	**35.8**	**26.7**	**47.6**
Nepal	Central	3,770	40.0	49.2	0.0	40.0	49.2	40.0	49.2	3,768	39.1	48.5	0.0	39.1	48.5	39.1	48.5
Nepal	Eastern	3,557	39.8	49.1	0.0	39.8	49.1	39.8	49.1	3,564	39.0	48.4	0.0	39.0	48.4	39.0	48.4
Nepal	Far Western	3,086	49.3	57.7	0.0	49.3	57.7	49.3	57.7	3,067	48.1	56.7	0.0	48.1	56.7	48.1	56.7
Nepal	Mid Western	4,666	48.8	57.0	0.0	48.8	57.0	48.8	57.0	4,671	47.8	56.2	0.0	47.8	56.2	47.8	56.2
Nepal	Western	3,622	41.7	50.8	0.0	41.7	50.8	41.7	50.8	3,629	40.8	50.0	0.0	40.8	50.0	40.8	50.0
Nepal tot		18,700	**44.0**	**52.8**	**0.0**	**44.0**	**52.8**	**44.0**	**52.8**	**18,700**	**43.1**	**52.0**	**0.0**	**43.1**	**52.0**	**43.1**	**52.0**
Nicaragua	Atlantico Norte	151	6.2	34.9	100.0	0.0	0.0	100.0	100.0	151	6.2	34.9	100.0	0.0	0.0	100.0	100.0
Nicaragua	Atlantico Sur	178	6.3	35.2	100.0	0.0	0.0	100.0	100.0	178	6.3	35.2	100.0	0.0	0.0	100.0	100.0
Nicaragua	Boaco	107	6.9	31.5	49.6	0.0	0.0	49.6	49.6	106	6.2	31.0	49.8	0.0	0.0	49.8	49.8
Nicaragua	Carazo	105	14.7	36.4	15.8	0.0	20.6	15.8	36.4	105	11.4	34.0	15.8	0.0	18.2	15.8	34.0
Nicaragua	Chinandega	175	4.8	29.4	34.3	0.0	0.0	34.3	34.3	176	4.8	29.4	34.1	0.0	0.0	34.1	34.1
Nicaragua	Chontales	109	5.1	30.5	59.9	0.0	0.0	59.9	59.9	109	5.1	30.5	59.8	0.0	0.0	59.8	59.8
Nicaragua	Esteli	82	4.8	29.3	34.0	0.0	0.0	34.0	34.0	82	4.8	29.3	33.9	0.0	0.0	33.9	33.9
Nicaragua	Granada	64	15.1	37.6	18.6	0.0	19.0	18.6	37.6	63	11.7	35.1	18.7	0.0	16.4	18.7	35.1
Nicaragua	Jinotega	199	5.1	30.4	88.0	0.0	0.0	88.0	88.0	200	5.1	30.4	87.5	0.0	0.0	87.5	87.5
Nicaragua	Leon	135	5.6	29.8	28.9	0.0	0.9	28.9	29.8	135	5.4	29.6	28.8	0.0	0.8	28.8	29.6
Nicaragua	Madriz	81	4.7	29.0	42.7	0.0	0.0	42.7	42.7	82	4.7	29.0	42.5	0.0	0.0	42.5	42.5
Nicaragua	Managua	244	16.1	38.1	16.7	0.0	21.4	16.7	38.1	239	12.3	35.3	17.0	0.0	18.3	17.0	35.3
Nicaragua	Masaya	44	9.9	32.8	22.7	0.0	10.1	22.7	32.8	44	8.2	31.6	22.5	0.0	9.1	22.5	31.6
Nicaragua	Matagalpa	276	4.9	29.4	63.8	0.0	0.0	63.8	63.8	276	4.8	29.4	63.7	0.0	0.0	63.7	63.7
Nicaragua	Nueva Segovia	106	4.8	29.5	60.2	0.0	0.0	60.2	60.2	107	4.8	29.5	59.9	0.0	0.0	59.9	59.9
Nicaragua	Rio San Juan	63	5.5	31.9	100.0	0.0	0.0	100.0	100.0	63	5.5	31.9	100.0	0.0	0.0	100.0	100.0
Nicaragua	Rivas	85	6.3	30.6	23.9	0.0	6.7	23.9	30.6	85	5.8	30.2	23.8	0.0	6.4	23.8	30.2
Nicaragua tot		2,201	**7.4**	**32.2**	**53.8**		**4.4**	**53.8**	**58.2**	**2,201**	**6.6**	**31.6**	**53.8**		**3.8**	**53.8**	**57.6**
Niger	Agadez	51	6.5	39.0	10.6	0.0	28.3	10.6	39.0	51	6.5	39.0	10.6	0.0	28.4	10.6	39.0
Niger	Diffa	108	2.8	25.9	0.7	2.0	25.2	2.8	25.9	108	2.8	26.0	0.7	2.1	25.2	2.8	26.0
Niger	Dosso	419	1.7	22.1	3.9	0.0	18.2	3.9	22.1	426	1.7	22.2	3.8	0.0	18.3	3.8	22.2
Niger	Maradi	443	1.7	22.1	0.4	1.3	21.8	1.7	22.1	445	1.7	22.2	0.4	1.3	21.8	1.7	22.2
Niger	Niamey	18	1.7	22.1	0.5	1.2	21.7	1.7	22.1	18	1.7	22.2	0.5	1.2	21.7	1.7	22.2
Niger	Tahoua	422	2.1	23.6	1.7	0.3	21.8	2.1	23.6	431	2.1	23.6	1.7	0.4	21.9	2.1	23.6

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Niger	Tillaberi	486	1.9	23.0	2.9	0.0	20.2	2.9	23.0	489	2.0	23.1	2.9	0.0	20.2	2.9	23.1
Niger	Zinder	456	2.3	24.3	0.4	1.9	23.9	2.3	24.3	457	2.3	24.3	0.4	1.9	23.9	2.3	24.3
Niger tot		2,404	**2.1**	**23.5**	**2.0**	**0.8**	**21.5**	**2.7**	**23.5**	**2,425**	**2.1**	**23.5**	**2.0**	**0.8**	**21.6**	**2.7**	**23.5**
Nigeria	Adamawa	787	2.1	16.9	12.6	0.0	4.2	12.6	16.9	790	2.2	16.9	12.6	0.0	4.3	12.6	16.9
Nigeria	Akwa Ibom	713	3.8	18.4	80.1	0.0	0.0	80.1	80.1	722	2.9	17.7	79.1	0.0	0.0	79.1	79.1
Nigeria	Anambra	481	3.5	18.1	24.4	0.0	0.0	24.4	24.4	482	2.7	17.4	24.4	0.0	0.0	24.4	24.4
Nigeria	Benue	1,601	4.2	18.6	14.2	0.0	4.5	14.2	18.6	1,596	3.0	17.6	14.2	0.0	3.4	14.2	17.6
Nigeria	Borno	954	2.1	16.9	30.3	0.0	0.0	30.3	30.3	956	2.2	17.0	30.2	0.0	0.0	30.2	30.2
Nigeria	Cross River	1,632	6.5	20.8	100.0	0.0	0.0	100.0	100.0	1,624	4.0	18.7	100.0	0.0	0.0	100.0	100.0
Nigeria	Delta	1,775	6.5	20.8	100.0	0.0	0.0	100.0	100.0	1,772	4.0	18.7	100.0	0.0	0.0	100.0	100.0
Nigeria	Edo	1,826	7.1	21.4	77.8	0.0	0.0	77.8	77.8	1,813	4.2	19.0	78.3	0.0	0.0	78.3	78.3
Nigeria	FCT, Abuja	440	7.0	21.0	13.5	0.0	7.5	13.5	21.0	436	4.1	18.5	13.6	0.0	5.0	13.6	18.5
Nigeria	Imo	540	3.4	18.0	63.3	0.0	0.0	63.3	63.3	548	2.7	17.3	62.4	0.0	0.0	62.4	62.4
Nigeria	Jigawa	454	2.1	16.9	8.5	0.0	8.4	8.5	16.9	459	2.2	16.9	8.4	0.0	8.5	8.4	16.9
Nigeria	Kaduna	1,610	4.5	18.9	10.9	0.0	8.0	10.9	18.9	1,622	3.1	17.7	10.8	0.0	6.9	10.8	17.7
Nigeria	Kano	462	2.1	16.9	5.4	0.0	11.4	5.4	16.9	466	2.2	16.9	5.4	0.0	11.5	5.4	16.9
Nigeria	Katsina	501	2.1	16.9	8.8	0.0	8.1	8.8	16.9	509	2.2	16.9	8.7	0.0	8.2	8.7	16.9
Nigeria	Kebbi	684	2.3	17.0	3.9	0.0	13.1	3.9	17.0	689	2.2	17.0	3.8	0.0	13.1	3.8	17.0
Nigeria	Kogi	2,374	6.9	20.9	31.2	0.0	0.0	31.2	31.2	2,333	4.0	18.5	31.7	0.0	0.0	31.7	31.7
Nigeria	Kwara	1,632	7.3	21.7	32.1	0.0	0.0	32.1	32.1	1,606	4.4	19.2	32.6	0.0	0.0	32.6	32.6
Nigeria	Lagos	384	4.2	18.7	69.1	0.0	0.0	69.1	69.1	385	3.0	17.7	68.9	0.0	0.0	68.9	68.9
Nigeria	Niger	2,243	5.8	20.0	12.9	0.0	7.2	12.9	20.0	2,251	3.6	18.2	12.8	0.0	5.4	12.8	18.2
Nigeria	Ogun	1,302	6.0	20.9	88.9	0.0	0.0	88.9	88.9	1,312	3.9	19.1	88.2	0.0	0.0	88.2	88.2
Nigeria	Osun	992	5.7	20.1	97.6	0.0	0.0	97.6	97.6	997	3.6	18.3	97.1	0.0	0.0	97.1	97.1
Nigeria	Oyo	1,821	6.0	20.2	38.7	0.0	0.0	38.7	38.7	1,806	3.7	18.2	39.0	0.0	0.0	39.0	39.0
Nigeria	Taraba	836	2.9	17.6	97.6	0.0	0.0	97.6	97.6	836	2.5	17.3	97.6	0.0	0.0	97.6	97.6
Nigeria	Yobe	565	2.2	16.9	15.1	0.0	1.8	15.1	16.9	567	2.2	17.0	15.0	0.0	1.9	15.0	17.0
Nigeria	Abia	432	4.1	18.6	82.4	0.0	0.0	82.4	82.4	438	3.0	17.6	81.4	0.0	0.0	81.4	81.4
Nigeria	Bauchi	1,118	3.5	18.0	5.6	0.0	12.4	5.6	18.0	1,131	2.7	17.4	5.6	0.0	11.8	5.6	17.4
Nigeria	Bayelsa	1,320	7.6	21.9	100.0	0.0	0.0	100.0	100.0	1,306	4.5	19.3	100.0	0.0	0.0	100.0	100.0
Nigeria	Ebonyi	565	3.2	17.8	14.1	0.0	3.7	14.1	17.8	567	2.6	17.3	14.0	0.0	3.2	14.0	17.3
Nigeria	Ekiti	596	4.5	18.8	96.6	0.0	0.0	96.6	96.6	602	3.1	17.7	95.7	0.0	0.0	95.7	95.7
Nigeria	Enugu	786	4.3	18.8	30.8	0.0	0.0	30.8	30.8	785	3.0	17.6	30.8	0.0	0.0	30.8	30.8
Nigeria	Gombe	503	3.1	17.7	1.8	1.3	15.9	3.1	17.7	507	2.5	17.2	1.8	0.8	15.5	2.5	17.2
Nigeria	Nassarawa	1,169	5.7	19.9	10.2	0.0	9.7	10.2	19.9	1,164	3.6	18.2	10.3	0.0	7.9	10.3	18.2
Nigeria	Ondo	1,648	6.4	21.1	100.0	0.0	0.0	100.0	100.0	1,649	4.0	19.2	100.0	0.0	0.0	100.0	100.0
Nigeria	Plateau	711	2.6	17.3	7.2	0.0	10.1	7.2	17.3	719	2.4	17.1	7.1	0.0	10.0	7.1	17.1
Nigeria	Rivers	1,356	5.9	20.1	100.0	0.0	0.0	100.0	100.0	1,354	3.6	18.2	100.0	0.0	0.0	100.0	100.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Nigeria	Sokoto	470	2.1	16.9	8.7	0.0	8.2	8.7	16.9	474	2.2	16.9	8.6	0.0	8.3	8.6	16.9
Nigeria	Zamfara	816	2.8	17.4	4.9	0.0	12.5	4.9	17.4	826	2.4	17.1	4.9	0.0	12.3	4.9	17.1
Nigeria tot		38,098	**5.1**	**19.5**	**48.0**	**0.0**	**3.2**	**48.0**	**51.2**	**38,098**	**3.4**	**18.1**	**47.9**	**0.0**	**2.9**	**48.0**	**50.9**
Pakistan	Balochistan	726	1.5	23.5	19.7	0.0	3.7	19.7	23.5	753	1.6	23.5	19.0	0.0	4.5	19.0	23.5
Pakistan	Fata	554	35.5	48.5	20.1	15.3	28.3	35.5	48.5	661	43.7	55.0	16.9	26.8	38.1	43.7	55.0
Pakistan	Islamabad	516	92.6	94.1	2.4	90.2	91.7	92.6	94.1	493	91.8	93.5	2.5	89.3	91.0	91.8	93.5
Pakistan	Nwfp	23,410	93.0	94.4	4.1	89.0	90.4	93.0	94.4	23,868	92.7	94.2	4.0	88.7	90.2	92.7	94.2
Pakistan	Punjab	11,927	69.1	75.3	2.1	67.0	73.3	69.1	75.3	11,289	66.6	73.4	2.2	64.5	71.2	66.6	73.4
Pakistan	Sind	1,411	1.3	21.3	12.4	0.0	8.9	12.4	21.3	1,480	3.0	22.7	11.8	0.0	10.9	11.8	22.7
Pakistan tot		38,544	**79.7**	**83.8**	**4.3**	**76.2**	**79.6**	**80.5**	**83.8**	**38,544**	**79.0**	**83.3**	**4.3**	**75.4**	**79.0**	**79.7**	**83.3**
Panama	Bocas Del Toro	46	3.9	32.6	100.0	0.0	0.0	100.0	100.0	46	3.6	32.3	100.0	0.0	0.0	100.0	100.0
Panama	Chiriqui	138	2.6	27.6	62.6	0.0	0.0	62.6	62.6	138	2.3	27.3	62.6	0.0	0.0	62.6	62.6
Panama	Cocle	65	2.9	28.6	19.9	0.0	8.7	19.9	28.6	66	2.6	28.3	19.7	0.0	8.5	19.7	28.3
Panama	Colon	53	0.0	17.5	88.4	0.0	0.0	88.4	88.4	42	3.3	30.8	100.0	0.0	0.0	100.0	100.0
Panama	Comarca De San Blas	15	3.2	30.0	49.9	0.0	0.0	49.9	49.9	15	2.9	29.7	49.9	0.0	0.0	49.9	49.9
Panama	Darien	27	5.2	37.6	54.8	0.0	0.0	54.8	54.8	27	4.9	37.3	54.8	0.0	0.0	54.8	54.8
Panama	Herrera	40	2.6	27.4	24.4	0.0	2.9	24.4	27.4	40	2.3	27.1	24.4	0.0	2.7	24.4	27.1
Panama	Los Santos	40	2.9	28.8	19.2	0.0	9.6	19.2	28.8	40	2.6	28.5	19.2	0.0	9.3	19.2	28.5
Panama	Panama	156	0.0	8.8	31.6	0.0	0.0	31.6	31.6	167	15.9	38.8	29.5	0.0	9.3	29.5	38.8
Panama	Veraguas	116	3.0	28.9	41.9	0.0	0.0	41.9	41.9	116	2.7	28.6	41.9	0.0	0.0	41.9	41.9
Panama tot		696	**2.1**	**23.7**	**47.4**		**1.5**	**47.4**	**48.9**	**696**	**5.9**	**31.4**	**46.6**		**3.7**	**46.6**	**50.3**
Papua N. G.	Central	915	38.0	55.0	1.7	36.3	53.3	38.0	55.0	904	36.3	53.8	1.7	34.6	52.1	36.3	53.8
Papua N. G.	Chimbu	163	0.0	20.3	14.7	0.0	5.5	14.7	20.3	164	0.0	20.3	14.6	0.0	5.7	14.6	20.3
Papua N. G.	East New Britain	106	0.0	21.2	29.4	0.0	0.0	29.4	29.4	107	0.0	21.2	29.2	0.0	0.0	29.2	29.2
Papua N. G.	East Sepik	233	0.0	25.7	6.5	0.0	19.1	6.5	25.7	233	0.0	25.7	6.5	0.0	19.2	6.5	25.7
Papua N. G.	Eastern Highlands	248	0.0	20.0	5.6	0.0	14.4	5.6	20.0	250	0.0	20.1	5.6	0.0	14.5	5.6	20.1
Papua N. G.	Enga	206	0.0	20.5	2.3	0.0	18.2	2.3	20.5	206	0.0	20.6	2.3	0.0	18.3	2.3	20.6
Papua N. G.	Gulf	60	0.0	28.3	100.0	0.0	0.0	100.0	100.0	60	0.0	28.4	100.0	0.0	0.0	100.0	100.0
Papua N. G.	Madang	229	0.0	23.8	57.3	0.0	0.0	57.3	57.3	229	0.0	23.9	57.2	0.0	0.0	57.2	57.2
Papua N. G.	Manus	18	0.0	23.7	1.9	0.0	21.9	1.9	23.7	18	0.0	23.8	1.9	0.0	21.9	1.9	23.8
Papua N. G.	Milne Bay	124	0.0	22.3	2.2	0.0	20.1	2.2	22.3	124	0.0	22.3	2.2	0.0	20.2	2.2	22.3
Papua N. G.	Morobe	306	6.9	30.5	8.4	0.0	22.1	8.4	30.5	306	6.4	30.1	8.4	0.0	21.8	8.4	30.1
Papua N. G.	National Capital District	15	5.3	27.5	0.0	5.3	27.5	5.3	27.5	15	4.9	27.2	0.0	4.9	27.1	4.9	27.2
Papua N. G.	New Ireland	51	0.0	22.7	2.6	0.0	20.1	2.6	22.7	51	0.0	22.8	2.6	0.0	20.2	2.6	22.8
Papua N. G.	Northern	81	0.0	28.4	100.0	0.0	0.0	100.0	100.0	81	0.0	28.4	100.0	0.0	0.0	100.0	100.0
Papua N. G.	Northern Solomons	75	0.0	23.0	2.1	0.0	20.9	2.1	23.0	75	0.0	23.1	2.1	0.0	21.0	2.1	23.1

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Papua N. G.	Southern Highlands	332	0.0	21.0	38.8	0.0	0.0	38.8	38.8	333	0.0	21.1	38.7	0.0	0.0	38.7	38.7
Papua N. G.	West New Britain	95	0.0	24.8	43.5	0.0	0.0	43.5	43.5	95	0.0	24.8	43.4	0.0	0.0	43.4	43.4
Papua N. G.	West Sepik	88	0.0	29.7	3.6	0.0	26.1	3.6	29.7	88	0.0	29.7	3.6	0.0	26.1	3.6	29.7
Papua N. G.	Western	110	0.0	32.5	100.0	0.0	0.0	100.0	100.0	110	0.0	32.6	100.0	0.0	0.0	100.0	100.0
Papua N. G.	Western Highlands	283	0.0	20.0	21.0	0.0	0.0	21.0	21.0	285	0.0	20.1	20.8	0.0	0.0	20.8	20.8
Papua N. G. tot		3,736	**9.9**	**31.4**	**20.1**	**8.9**	**20.5**	**29.0**	**40.5**	**3,736**	**9.3**	**31.1**	**20.1**	**8.4**	**20.0**	**28.5**	**40.1**
Paraguay	Alto Paraguay	33	2.3	37.3	0.0	2.3	37.3	2.3	37.3	33	2.3	37.3	0.0	2.3	37.3	2.3	37.3
Paraguay	Alto Parana	541	0.0	27.2	9.4	0.0	17.8	9.4	27.2	541	0.0	27.1	9.4	0.0	17.7	9.4	27.1
Paraguay	Amambay	141	2.3	37.3	16.2	0.0	21.2	16.2	37.3	141	2.3	37.3	16.1	0.0	21.2	16.1	37.3
Paraguay	Boqueron	77	2.4	37.8	0.0	2.4	37.7	2.4	37.8	77	2.4	37.8	0.0	2.4	37.8	2.4	37.8
Paraguay	Caaguazu	821	0.0	24.9	15.5	0.0	9.4	15.5	24.9	823	0.0	24.7	15.5	0.0	9.2	15.5	24.7
Paraguay	Caazapa	622	0.0	27.7	7.3	0.0	20.4	7.3	27.7	621	0.0	27.1	7.3	0.0	19.8	7.3	27.1
Paraguay	Canindeyu	314	0.9	31.6	57.7	0.0	0.0	57.7	57.7	314	0.9	31.7	57.7	0.0	0.0	57.7	57.7
Paraguay	Central	180	0.0	24.2	0.0	0.0	24.2	0.0	24.2	181	0.0	24.1	0.0	0.0	24.1	0.0	24.1
Paraguay	Concepcion	294	0.7	30.8	16.6	0.0	14.2	16.6	30.8	294	0.8	30.8	16.6	0.0	14.3	16.6	30.8
Paraguay	Cordillera	435	0.0	25.8	0.0	0.0	25.8	0.0	25.8	436	0.0	25.4	0.0	0.0	25.4	0.0	25.4
Paraguay	Guaira	307	0.0	23.3	1.0	0.0	22.3	1.0	23.3	308	0.0	23.0	1.0	0.0	22.0	1.0	23.0
Paraguay	Itapua	889	0.0	26.4	4.5	0.0	21.9	4.5	26.4	890	0.0	26.2	4.5	0.0	21.7	4.5	26.2
Paraguay	Misiones	319	0.0	32.0	0.0	0.0	32.0	0.0	32.0	319	0.0	31.5	0.0	0.0	31.5	0.0	31.5
Paraguay	Neembucu	142	1.3	37.1	0.0	1.3	37.1	1.3	37.1	142	1.0	37.0	0.0	1.0	37.0	1.0	37.0
Paraguay	Paraguari	569	0.0	25.8	0.1	0.0	25.8	0.1	25.8	570	0.0	25.4	0.1	0.0	25.3	0.1	25.4
Paraguay	Presidente Hayes	922	0.0	40.0	0.0	0.0	39.9	0.0	40.0	914	0.0	39.1	0.0	0.0	39.1	0.0	39.1
Paraguay	San Pedro	853	0.0	28.8	100.0	0.0	0.0	100.0	100.0	853	0.0	28.6	100.0	0.0	0.0	100.0	100.0
Paraguay tot		7,458	**0.2**	**29.3**	**18.4**	**0.1**	**20.1**	**18.5**	**38.5**	**7,458**	**0.2**	**29.0**	**18.4**	**0.1**	**19.8**	**18.5**	**38.2**
Peru	Amazonas	107	2.1	5.0	0.2	1.8	4.8	2.1	5.0	107	2.1	5.0	0.2	1.9	4.8	2.1	5.0
Peru	Ancash	205	9.4	12.0	0.0	9.4	11.9	9.4	12.0	206	9.1	11.7	0.0	9.1	11.7	9.1	11.7
Peru	Apurimac	122	1.5	4.3	0.0	1.5	4.3	1.5	4.3	123	1.6	4.4	0.0	1.6	4.4	1.6	4.4
Peru	Arequipa	96	16.6	19.6	0.0	16.6	19.6	16.6	19.6	99	17.5	20.5	0.0	17.5	20.5	17.5	20.5
Peru	Ayacucho	122	2.3	5.4	0.1	2.3	5.3	2.3	5.4	123	2.4	5.4	0.1	2.3	5.4	2.4	5.4
Peru	Cajamarca	421	0.8	3.3	0.1	0.7	3.2	0.8	3.3	421	0.8	3.4	0.1	0.7	3.3	0.8	3.4
Peru	Callao, Provincia Constitucion	19	9.8	12.2	0.0	9.8	12.2	9.8	12.2	19	10.7	13.1	0.0	10.7	13.1	10.7	13.1
Peru	Cusco	256	1.7	4.6	0.1	1.6	4.5	1.7	4.6	257	1.8	4.6	0.1	1.7	4.5	1.8	4.6
Peru	Huancavelica	106	1.4	4.1	0.0	1.4	4.1	1.4	4.1	107	1.4	4.2	0.0	1.4	4.1	1.4	4.2
Peru	Huanuco	148	1.5	4.2	3.4	0.0	0.9	3.4	4.2	149	1.5	4.3	3.4	0.0	0.9	3.4	4.3
Peru	Ica	51	16.1	18.7	0.0	16.1	18.7	16.1	18.7	53	16.4	19.1	0.0	16.4	19.0	16.4	19.1
Peru	Junin	204	1.3	4.1	0.2	1.2	3.9	1.3	4.1	206	1.4	4.1	0.2	1.2	3.9	1.4	4.1
Peru	La Libertad	193	1.2	3.9	0.0	1.2	3.9	1.2	3.9	193	1.2	3.9	0.0	1.2	3.9	1.2	3.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Peru	Lambayeque	107	1.0	3.7	0.0	1.0	3.6	1.0	3.7	108	1.1	3.7	0.0	1.0	3.7	1.1	3.7
Peru	Lima	1,334	74.1	74.9	0.0	74.1	74.9	74.1	74.9	1,316	72.6	73.4	0.0	72.6	73.4	72.6	73.4
Peru	Loreto	112	3.5	6.8	78.1	0.0	0.0	78.1	78.1	112	3.5	6.8	77.6	0.0	0.0	77.6	77.6
Peru	Madre De Dios	8	2.7	5.9	33.5	0.0	0.0	33.5	33.5	8	2.7	5.9	33.5	0.0	0.0	33.5	33.5
Peru	Moquegua	17	8.0	10.9	0.0	8.0	10.9	8.0	10.9	18	13.5	16.3	0.0	13.5	16.2	13.5	16.3
Peru	Pasco	43	2.7	5.8	0.2	2.5	5.6	2.7	5.8	43	2.7	5.9	0.2	2.5	5.6	2.7	5.9
Peru	Piura	316	0.9	3.5	0.1	0.9	3.5	0.9	3.5	317	1.0	3.6	0.1	0.9	3.5	1.0	3.6
Peru	Puno	281	1.5	4.3	0.1	1.4	4.2	1.5	4.3	282	1.5	4.3	0.1	1.5	4.2	1.5	4.3
Peru	San Martin	106	2.4	5.5	100.0	0.0	0.0	100.0	100.0	106	2.5	5.6	100.0	0.0	0.0	100.0	100.0
Peru	Tacna	15	4.4	8.0	0.0	4.4	8.0	4.4	8.0	15	4.4	8.0	0.0	4.4	8.0	4.4	8.0
Peru	Tumbes	28	1.8	4.6	0.1	1.7	4.5	1.8	4.6	29	1.8	4.7	0.1	1.7	4.5	1.8	4.7
Peru	Ucayali	31	2.9	6.1	100.0	0.0	0.0	100.0	100.0	32	2.9	6.1	100.0	0.0	0.0	100.0	100.0
Peru tot		4,449	**24.2**	**26.4**	**5.3**	**23.9**	**25.9**	**29.2**	**31.2**	**4,449**	**23.5**	**25.7**	**5.3**	**23.3**	**25.2**	**28.5**	**30.5**
Philippines	Cordillera Administrative region	709	6.4	23.4	-0.9	5.5	22.5	5.5	22.5	485	11.0	27.1	-1.3	9.7	25.8	9.7	25.8
Philippines	National Capital region	62	1.5	19.2	-0.1	1.4	19.1	1.4	19.1	62	1.4	19.1	-0.1	1.3	19.0	1.3	19.0
Philippines	Region I	919	5.1	22.3	-0.5	4.5	21.8	4.5	21.8	909	11.0	27.0	-0.5	10.4	26.5	10.4	26.5
Philippines	Region II	678	3.6	21.1	-0.8	2.8	20.3	2.8	20.3	653	6.5	23.4	-0.8	5.7	22.6	5.7	22.6
Philippines	Region V	929	2.2	19.8	-0.9	1.4	19.0	1.4	19.0	879	2.1	19.7	-0.9	1.1	18.8	1.1	18.8
Philippines	Region VI	952	1.5	19.3	-0.8	0.7	18.5	0.7	18.5	966	1.5	19.2	-0.8	0.7	18.4	0.7	18.4
Philippines	Region VII	794	2.3	19.9	-0.7	1.6	19.2	1.6	19.2	783	3.2	20.7	-0.7	2.5	19.9	2.5	19.9
Philippines	Region VIII	805	1.5	19.2	-1.5	0.0	17.8	0.0	17.8	808	1.4	19.1	-1.4	0.0	17.7	0.0	17.7
Philippines	Region XIII	451	1.5	19.3	-2.0	0.0	17.3	0.0	17.3	453	1.4	19.2	-2.0	0.0	17.2	0.0	17.2
Philippines	Autonomous region in Muslim Mindanao	656	1.5	19.2	-1.0	0.5	18.3	0.5	18.3	664	1.4	19.1	-1.0	0.4	18.2	0.4	18.2
Philippines	Reg.IX	542	1.5	19.3	-1.3	0.3	18.0	0.3	18.0	545	1.4	19.2	-1.2	0.2	17.9	0.2	17.9
Philippines	Region X	560	1.6	19.3	-1.4	0.2	18.0	0.2	18.0	559	1.5	19.2	-1.4	0.1	17.9	0.1	17.9
Philippines	Region XI	459	2.0	19.7	-1.6	0.3	18.0	0.3	18.0	457	2.3	19.9	-1.7	0.7	18.3	0.7	18.3
Philippines	Region XI	522	1.7	19.4	-1.3	0.4	18.1	0.4	18.1	527	1.7	19.4	-1.3	0.4	18.2	0.4	18.2
Philippines	Region III	1,421	5.9	23.5	-0.5	5.5	23.1	5.5	23.1	1,501	13.7	29.7	-0.4	13.2	29.3	13.2	29.3
Philippines	Region IV-A	1,737	6.4	23.3	-0.4	5.9	22.9	5.9	22.9	1,938	15.8	31.0	-0.4	15.4	30.6	15.4	30.6
Philippines	Region IV-B	368	1.5	19.4	-1.4	0.2	18.0	0.2	18.0	372	1.4	19.2	-1.3	0.1	17.9	0.1	17.9
Philippines tot		12,563	**3.5**	**21.0**	**-0.9**	**2.6**	**20.1**	**2.6**	**20.1**	**12,563**	**6.6**	**23.5**	**-0.9**	**5.8**	**22.6**	**5.8**	**22.6**
Rwanda	Butare	141	3.6	7.1	-2.3	1.3	4.9	1.3	4.9	201	4.0	7.5	-1.6	2.4	5.9	2.4	5.9
Rwanda	Byumba	120	3.6	7.1	-2.3	1.2	4.8	1.2	4.8	246	35.9	38.2	-1.1	34.7	37.1	34.7	37.1
Rwanda	Cyangugu	289	54.8	56.4	-1.0	53.8	55.4	53.8	55.4	468	63.4	64.7	-0.6	62.7	64.1	62.7	64.1
Rwanda	Gikongoro	128	3.6	7.1	-2.3	1.3	4.9	1.3	4.9	173	4.0	7.5	-1.7	2.3	5.9	2.3	5.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Rwanda	Gisenyi	141	3.6	7.1	-1.8	1.8	5.3	1.8	5.3	188	4.0	7.5	-1.4	2.6	6.2	2.6	6.2
Rwanda	Gitarama	164	3.6	7.1	-2.3	1.3	4.9	1.3	4.9	238	4.0	7.5	-1.6	2.4	6.0	2.4	6.0
Rwanda	Kibungo	975	81.0	81.7	-0.5	80.5	81.2	80.5	81.2	866	71.5	72.6	-0.6	70.9	72.0	70.9	72.0
Rwanda	Kibuye	112	3.6	7.1	-2.2	1.3	4.9	1.3	4.9	156	4.0	7.5	-1.6	2.4	5.9	2.4	5.9
Rwanda	Kigali-ngali	388	49.5	51.4	-1.3	48.3	50.1	48.3	50.1	486	45.6	47.6	-1.0	44.6	46.6	44.6	46.6
Rwanda	Ville De Kigali	8	3.6	7.1	-2.0	1.6	5.1	1.6	5.1	10	4.0	7.5	-1.5	2.5	6.0	2.5	6.0
Rwanda	Ruhengeri	119	3.6	7.1	-2.2	1.4	4.9	1.4	4.9	169	4.0	7.5	-1.6	2.4	6.0	2.4	6.0
Rwanda	Umutara	1,728	92.6	92.9	-0.3	92.4	92.6	92.4	92.6	1,110	84.8	85.4	-0.4	84.4	85.0	84.4	85.0
Rwanda tot		4,313	**64.3**	**65.6**	**-0.9**	**63.4**	**64.7**	**63.4**	**64.7**	**4,313**	**51.3**	**53.1**	**-0.9**	**50.4**	**52.2**	**50.4**	**52.2**
Senegal	Dakar	19	3.0	26.4	1.0	2.0	25.4	3.0	26.4	20	3.2	26.6	0.9	2.2	25.7	3.2	26.6
Senegal	Kaolack	368	4.2	27.5	1.5	2.7	26.0	4.2	27.5	390	3.8	27.3	1.4	2.5	25.9	3.8	27.3
Senegal	Kolda	1,807	20.4	39.7	8.2	12.2	31.5	20.4	39.7	1,777	10.4	32.2	8.4	2.0	23.8	10.4	32.2
Senegal	Tambacounda	1,357	23.7	48.8	7.2	16.4	41.6	23.7	48.8	1,302	13.2	41.7	7.5	5.6	34.1	13.2	41.7
Senegal	Thies	175	3.0	26.4	3.0	0.0	23.4	3.0	26.4	188	3.2	26.6	2.8	0.4	23.8	3.2	26.6
Senegal	Ziguinchor	566	19.7	39.5	31.8	0.0	7.7	31.8	39.5	578	10.2	32.4	31.2	0.0	1.2	31.2	32.4
Senegal	Diourbel	88	3.0	26.4	0.8	2.2	25.7	3.0	26.4	91	3.2	26.6	0.8	2.4	25.9	3.2	26.6
Senegal	Fatick	205	7.2	30.3	13.0	0.0	17.3	13.0	30.3	215	5.2	28.9	12.3	0.0	16.6	12.3	28.9
Senegal	Louga	242	4.2	29.0	10.3	0.0	18.7	10.3	29.0	248	4.0	28.9	10.1	0.0	18.9	10.1	28.9
Senegal	Matam	190	6.6	31.8	15.0	0.0	16.9	15.0	31.8	199	5.4	31.1	14.3	0.0	16.8	14.3	31.1
Senegal	Saint-Louis	224	3.1	26.8	8.6	0.0	18.2	8.6	26.8	231	3.3	27.0	8.4	0.0	18.6	8.4	27.0
Senegal tot		5,239	**16.6**	**38.8**	**10.3**	**8.7**	**28.5**	**19.0**	**38.8**	**5,239**	**9.1**	**33.3**	**10.3**	**2.3**	**23.0**	**12.6**	**33.3**
Sierra Leone	Eastern	698	0.0	25.0	13.2	0.0	11.7	13.2	25.0	698	0.0	24.8	13.2	0.0	11.5	13.2	24.8
Sierra Leone	Northern	1,407	0.0	21.9	10.1	0.0	11.8	10.1	21.9	1,406	0.0	21.6	10.1	0.0	11.5	10.1	21.6
Sierra Leone	Southern	1,028	0.0	19.7	7.7	0.0	12.0	7.7	19.7	1,027	0.0	19.2	7.7	0.0	11.5	7.7	19.2
Sierra Leone	Western Area	132	1.7	26.8	1.7	0.0	25.1	1.7	26.8	132	1.6	26.7	1.7	0.0	25.0	1.7	26.7
Sierra Leone tot		3,264	**0.1**	**22.1**	**9.7**	**0.0**	**12.4**	**9.7**	**22.1**	**3,264**	**0.1**	**21.7**	**9.7**		**12.0**	**9.7**	**21.7**
Singapore	Ang Mo Kio-cheng San	2	5.0	30.0	0.0	5.0	30.0	5.0	30.0	2	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Bukit Timah	3	5.0	30.0	0.0	5.0	30.0	5.0	30.0	3	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Central Singapore	2	5.0	30.0	0.0	5.0	30.0	5.0	30.0	2	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Hougang	0	5.0	30.0	0.0	5.0	30.0	5.0	30.0	0	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Marine Parade	3	5.0	30.1	0.0	5.0	30.1	5.0	30.1	3	5.0	30.1	0.0	5.0	30.1	5.0	30.1
Singapore	Northeast	1	5.0	30.0	0.0	5.0	30.0	5.0	30.0	1	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Potong Pasir	0	5.0	30.0	0.0	5.0	30.0	5.0	30.0	0	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore	Sembawang-hong Kah	52	81.2	86.1	0.0	81.2	86.1	81.2	86.1	52	80.9	86.0	0.0	80.9	86.0	80.9	86.0
Singapore	Tanjong Pagar	1	5.0	30.0	0.0	5.0	30.0	5.0	30.0	1	5.0	30.0	0.0	5.0	30.0	5.0	30.0
Singapore tot		64	**66.8**	**75.6**	**0.0**	**66.8**	**75.6**	**66.8**	**75.6**	**64**	**66.6**	**75.4**	**0.0**	**66.6**	**75.4**	**66.6**	**75.4**

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Solomon Isl.	not available	73	0.0	0.0	100.0	0.0	0.0	100.0	100.0	73	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Solomon Isl. tot		73			**100.0**			**100.0**	**100.0**	**73**			**100.0**			**100.0**	**100.0**
Somalia	Awdal	88	5.6	33.2	1.1	4.6	32.1	5.6	33.2	88	5.6	33.2	1.1	4.6	32.1	5.6	33.2
Somalia	Bakool	197	18.7	48.2	13.4	5.3	34.8	18.7	48.2	197	18.7	48.2	13.4	5.3	34.8	18.7	48.2
Somalia	Bari	194	8.5	44.6	0.9	7.6	43.7	8.5	44.6	194	8.5	44.6	0.9	7.6	43.7	8.5	44.6
Somalia	Bay	1,325	33.3	57.5	7.8	25.5	49.8	33.3	57.5	1,325	33.2	57.5	7.8	25.5	49.7	33.2	57.5
Somalia	Banadir	93	4.8	29.8	0.1	4.7	29.7	4.8	29.8	93	4.8	29.8	0.1	4.7	29.7	4.8	29.8
Somalia	Galgaduud	254	8.2	43.0	4.5	3.7	38.5	8.2	43.0	254	8.2	43.0	4.5	3.7	38.5	8.2	43.0
Somalia	Gedo	224	8.4	43.3	5.9	2.4	37.4	8.4	43.3	224	8.4	43.3	5.9	2.4	37.4	8.4	43.3
Somalia	Hiraan	198	8.1	42.2	13.0	0.0	29.2	13.0	42.2	198	8.1	42.2	13.0	0.0	29.2	13.0	42.2
Somalia	Juba Hoose	1,766	41.8	66.8	6.6	35.2	60.2	41.8	66.8	1,766	41.7	66.8	6.6	35.1	60.2	41.7	66.8
Somalia	Shabelle Hoose	750	28.3	51.8	8.9	19.4	42.9	28.3	51.8	750	28.3	51.7	8.9	19.3	42.8	28.3	51.7
Somalia	Juba Dhexe	508	33.0	55.4	7.2	25.8	48.2	33.0	55.4	508	33.0	55.4	7.2	25.8	48.2	33.0	55.4
Somalia	Shabelle Dhexe	284	8.9	34.3	3.8	5.1	30.5	8.9	34.3	284	8.9	34.3	3.8	5.1	30.5	8.9	34.3
Somalia	Mudug	285	7.5	40.7	7.3	0.2	33.4	7.5	40.7	285	7.5	40.7	7.3	0.2	33.4	7.5	40.7
Somalia	Nugaal	69	9.4	48.2	2.5	6.8	45.7	9.4	48.2	69	9.4	48.2	2.5	6.8	45.7	9.4	48.2
Somalia	Sanaag	192	8.7	42.7	0.9	7.8	41.8	8.7	42.7	192	8.7	42.7	0.9	7.8	41.8	8.7	42.7
Somalia	Sool	107	7.4	40.3	0.9	6.5	39.4	7.4	40.3	107	7.4	40.3	0.9	6.5	39.4	7.4	40.3
Somalia	Togdheer	282	6.5	35.3	3.3	3.2	32.0	6.5	35.3	282	6.5	35.3	3.3	3.2	32.0	6.5	35.3
Somalia	Woqooyi Galbeed	203	5.7	33.5	2.5	3.2	31.0	5.7	33.5	203	5.7	33.5	2.5	3.2	31.0	5.7	33.5
Somalia tot		7,019	**25.4**	**52.4**	**6.5**	**19.1**	**46.0**	**25.6**	**52.4**	**7,019**	**25.4**	**52.4**	**6.5**	**19.1**	**45.9**	**25.5**	**52.4**
South Africa	Eastern Cape	3,789	0.0	18.5	0.0	0.0	18.5	0.0	18.5	3,467	0.0	16.3	0.0	0.0	16.3	0.0	16.3
South Africa	Free State	2,244	5.8	28.6	0.0	5.8	28.6	5.8	28.6	2,457	4.5	27.5	0.0	4.5	27.5	4.5	27.5
South Africa	Gauteng	669	2.5	21.8	0.0	2.5	21.8	2.5	21.8	778	2.1	21.5	0.0	2.1	21.5	2.1	21.5
South Africa	Kwazulu-natal	5,313	3.7	22.4	0.0	3.7	22.4	3.7	22.4	5,428	1.6	20.5	0.0	1.6	20.5	1.6	20.5
South Africa	Mpumalanga	4,279	10.5	30.9	0.0	10.5	30.9	10.5	30.9	4,070	6.6	26.9	0.0	6.6	26.9	6.6	26.9
South Africa	North-west	2,540	4.5	24.8	0.0	4.5	24.8	4.5	24.8	2,636	2.7	23.3	0.0	2.7	23.3	2.7	23.3
South Africa	Northern Cape	555	1.5	27.8	0.0	1.5	27.8	1.5	27.8	498	0.0	25.9	0.0	0.0	25.9	0.0	25.9
South Africa	Northern Province	3,462	5.0	26.6	0.0	5.0	26.6	5.0	26.6	3,533	2.8	24.8	0.0	2.8	24.8	2.8	24.8
South Africa	Western Cape	1,060	0.0	21.3	0.0	0.0	21.3	0.0	21.3	1,045	0.0	20.0	0.0	0.0	20.0	0.0	20.0
South Africa tot		23,911	**4.6**	**24.8**	**0.0**	**4.6**	**24.8**	**4.6**	**24.8**	**23,911**	**2.7**	**22.8**	**0.0**	**2.7**	**22.8**	**2.7**	**22.8**
Sri Lanka	Central	892	0.0	22.1	2.0	0.0	20.2	2.0	22.1	1,008	4.7	27.1	1.7	3.0	25.3	4.7	27.1
Sri Lanka	Eastern	466	0.0	23.3	1.9	0.0	21.4	1.9	23.3	362	4.1	26.7	2.5	1.7	24.2	4.1	26.7
Sri Lanka	North Central	834	0.0	19.9	1.6	0.0	18.3	1.6	19.9	615	4.8	27.3	2.1	2.7	25.1	4.8	27.3
Sri Lanka	North Western	1,052	0.0	22.0	1.5	0.0	20.5	1.5	22.0	1,205	4.8	27.1	1.3	3.5	25.8	4.8	27.1
Sri Lanka	Northern	475	0.0	22.2	2.7	0.0	19.6	2.7	22.2	276	4.0	26.7	4.6	0.0	22.1	4.6	26.7
Sri Lanka	Sabaragamuwa	897	0.0	21.3	2.0	0.0	19.4	2.0	21.3	1,054	4.9	27.2	1.7	3.2	25.5	4.9	27.2
Sri Lanka	Southern	788	0.0	22.7	1.2	0.0	21.6	1.2	22.7	862	4.6	27.0	1.1	3.5	25.9	4.6	27.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Sri Lanka	Uva	747	0.0	20.8	1.8	0.0	19.0	1.8	20.8	655	4.7	27.1	2.0	2.7	25.0	4.7	27.1
Sri Lanka	Western	678	0.0	23.3	1.8	0.0	21.5	1.8	23.3	793	4.6	27.0	1.5	3.1	25.4	4.6	27.0
Sri Lanka tot		6,831		**21.8**	**1.7**		**20.1**	**1.7**	**21.8**	**6,831**	**4.7**	**27.0**	**1.7**	**2.9**	**25.3**	**4.7**	**27.0**
Sudan	Al Jazeera	465	3.3	23.0	0.1	3.2	22.9	3.3	23.0	488	3.3	23.0	0.1	3.2	22.9	3.3	23.0
Sudan	El Buheyrat	325	3.4	23.3	2.9	0.4	20.4	3.4	23.3	326	3.4	23.3	2.9	0.4	20.4	3.4	23.3
Sudan	Unity	329	26.7	45.6	1.0	25.8	44.7	26.7	45.6	248	20.8	41.4	1.3	19.5	40.1	20.8	41.4
Sudan	Central Equatoria	444	19.2	38.3	3.1	16.1	35.2	19.2	38.3	343	10.8	30.9	4.0	6.7	26.9	10.8	30.9
Sudan	Blue Nile	521	20.2	37.8	3.0	17.2	34.8	20.2	37.8	622	25.5	42.0	2.5	22.9	39.4	25.5	42.0
Sudan	Eastern Equatoria	247	5.9	31.9	2.6	3.3	29.3	5.9	31.9	247	5.9	31.9	2.6	3.3	29.3	5.9	31.9
Sudan	Jonglei	1,202	35.1	52.2	0.5	34.6	51.7	35.1	52.2	849	31.2	49.2	0.7	30.5	48.5	31.2	49.2
Sudan	Khartoum	250	3.7	24.3	0.0	3.6	24.3	3.7	24.3	258	3.7	24.3	0.0	3.6	24.2	3.7	24.3
Sudan	Northern Bahr El Ghazal	628	39.3	55.8	0.4	38.8	55.3	39.3	55.8	146	10.4	33.2	1.9	8.5	31.3	10.4	33.2
Sudan	Northern	63	4.5	27.2	0.0	4.5	27.2	4.5	27.2	66	4.5	27.1	0.0	4.5	27.1	4.5	27.1
Sudan	Northern Darfur	574	4.1	25.7	0.2	3.8	25.5	4.1	25.7	578	4.1	25.7	0.2	3.8	25.4	4.1	25.7
Sudan	Nile	148	4.9	28.5	0.1	4.8	28.5	4.9	28.5	156	4.8	28.3	0.1	4.8	28.2	4.8	28.3
Sudan	Sennar	970	26.8	44.4	0.7	26.2	43.7	26.8	44.4	1,246	31.8	48.3	0.5	31.2	47.8	31.8	48.3
Sudan	Southern Darfur	1,195	4.4	24.9	0.7	3.6	24.2	4.4	24.9	1,216	4.5	25.0	0.7	3.8	24.3	4.5	25.0
Sudan	Warab	848	20.9	37.4	0.5	20.4	36.9	20.9	37.4	617	11.0	29.5	0.7	10.2	28.7	11.0	29.5
Sudan	Western Bahr El Ghazal	562	40.3	57.1	0.4	39.9	56.7	40.3	57.1	316	35.3	52.8	0.7	34.6	52.1	35.3	52.8
Sudan	Western Equatoria	175	6.1	32.6	9.3	0.0	23.4	9.3	32.6	175	6.1	32.6	9.3	0.0	23.4	9.3	32.6
Sudan	Western Darfur	693	3.3	23.2	0.6	2.7	22.6	3.3	23.2	721	3.3	23.1	0.6	2.8	22.6	3.3	23.1
Sudan	White Nile	693	9.6	28.7	0.4	9.2	28.4	9.6	28.7	764	12.2	30.9	0.3	11.9	30.6	12.2	30.9
Sudan	Upper Nile	1,522	41.2	58.5	0.9	40.3	57.5	41.2	58.5	1,529	43.2	60.3	0.9	42.2	59.4	43.2	60.3
Sudan	Red Sea	124	8.4	32.4	0.2	8.2	32.3	8.4	32.4	137	10.7	33.8	0.1	10.5	33.7	10.7	33.8
Sudan	Kassala	510	10.8	29.7	0.3	10.5	29.3	10.8	29.7	584	14.2	32.3	0.3	13.9	32.0	14.2	32.3
Sudan	Northern Kordofan	1,078	6.8	27.4	0.3	6.5	27.1	6.8	27.4	1,119	8.0	28.4	0.3	7.7	28.1	8.0	28.4
Sudan	Southern Kordofan	3,149	36.5	53.1	0.8	35.7	52.3	36.5	53.1	3,557	39.2	54.9	0.7	38.5	54.2	39.2	54.9
Sudan	Gadaref	1,121	26.0	41.4	0.8	25.2	40.6	26.0	41.4	1,528	32.5	46.6	0.6	31.9	46.0	32.5	46.6
Sudan tot		17,836	**22.7**	**41.0**	**0.9**	**21.9**	**40.2**	**22.7**	**41.0**	**17,836**	**23.0**	**41.1**	**0.9**	**22.2**	**40.2**	**23.1**	**41.1**
Suriname	Brokopondo	6	0.0	15.0	61.8	0.0	0.0	61.8	61.8	6	0.0	15.1	61.8	0.0	0.0	61.8	61.8
Suriname	Commewijne	9	0.0	10.9	3.2	0.0	7.6	3.2	10.9	9	0.0	10.3	3.2	0.0	7.1	3.2	10.3
Suriname	Coronie	3	0.0	18.9	0.6	0.0	18.3	0.6	18.9	3	0.0	19.0	0.6	0.0	18.4	0.6	19.0
Suriname	Marowijne	9	0.0	13.7	2.2	0.0	11.5	2.2	13.7	9	0.0	13.8	2.2	0.0	11.6	2.2	13.8
Suriname	Nickerie	18	0.0	14.0	1.8	0.0	12.2	1.8	14.0	18	0.0	14.1	1.8	0.0	12.3	1.8	14.1
Suriname	Para	12	0.0	14.4	42.6	0.0	0.0	42.6	42.6	12	0.0	14.3	42.7	0.0	0.0	42.7	42.7
Suriname	Paramaribo	10	0.0	7.6	0.5	0.0	7.1	0.5	7.6	10	0.0	7.4	0.5	0.0	6.9	0.5	7.4

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Suriname	Saramacca	10	0.0	15.2	2.6	0.0	12.6	2.6	15.2	10	0.0	15.0	2.6	0.0	12.5	2.6	15.0
Suriname	Sipaliwini	18	0.0	26.1	4.7	0.0	21.4	4.7	26.1	18	0.0	26.2	4.7	0.0	21.5	4.7	26.2
Suriname	Wanica	24	0.0	0.0	1.7	0.0	0.0	1.7	1.7	24	0.0	0.0	1.7	0.0	0.0	1.7	1.7
Suriname tot		121		**12.5**	**9.5**		**8.6**	**9.5**	**18.1**	**121**		**12.5**	**9.5**		**8.6**	**9.5**	**18.1**
Swaziland	Hhohho	143	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	152	0.0	12.8	-0.4	0.0	12.4	0.0	12.4
Swaziland	Lubombo	170	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	145	0.0	15.9	-0.6	0.0	15.3	0.0	15.3
Swaziland	Manzini	161	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	179	0.0	9.8	-0.4	0.0	9.4	0.0	9.4
Swaziland	Shiselweni	161	0.0	5.8	-0.4	0.0	5.4	0.0	5.4	158	0.0	16.6	-0.4	0.0	16.2	0.0	16.2
Swaziland tot		634		**1.5**	**-0.5**		**1.4**		**1.4**	**634**		**13.6**	**-0.5**		**13.1**		**13.1**
Thailand	Amnat Charoen	90	0.5	4.0	-0.1	0.4	3.9	0.4	3.9	87	0.8	4.3	-0.1	0.7	4.2	0.7	4.2
Thailand	Ang Thong	45	0.5	3.9	0.0	0.4	3.9	0.4	3.9	48	0.7	4.2	0.0	0.7	4.2	0.7	4.2
Thailand	Bangkok	120	0.5	4.0	0.0	0.4	3.9	0.4	3.9	152	0.6	4.1	0.0	0.5	4.0	0.5	4.0
Thailand	Buriram	402	0.7	4.2	0.0	0.7	4.2	0.7	4.2	410	0.0	2.2	0.0	0.0	2.1	0.0	2.1
Thailand	Chachoengsao	278	1.4	4.9	0.0	1.4	4.8	1.4	4.8	316	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Chainat	146	1.2	4.7	0.0	1.2	4.7	1.2	4.7	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Chaiyaphum	542	1.5	4.9	0.0	1.4	4.9	1.4	4.9	535	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Chanthaburi	460	2.1	5.7	-0.1	2.0	5.6	2.0	5.6	492	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Chiang Mai	478	2.1	5.8	-0.1	2.0	5.7	2.0	5.7	430	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Chiang Rai	403	1.6	5.2	-0.2	1.4	5.1	1.4	5.1	351	0.0	1.2	-0.2	0.0	1.0	0.0	1.0
Thailand	Chonburi	308	1.2	4.7	0.0	1.2	4.7	1.2	4.7	366	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Chumphon	485	2.6	6.3	0.0	2.5	6.2	2.5	6.2	579	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Kalasin	337	1.2	4.6	0.0	1.1	4.6	1.1	4.6	285	0.0	1.2	0.0	0.0	1.2	0.0	1.2
Thailand	Kampaeng Phet	472	1.8	5.2	0.0	1.7	5.2	1.7	5.2	539	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Kanchanaburi	492	1.9	5.4	0.0	1.9	5.4	1.9	5.4	539	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Khon Kaen	563	1.2	4.7	0.0	1.1	4.6	1.1	4.6	562	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Krabi	89	0.5	4.0	-0.4	0.1	3.6	0.1	3.6	96	0.8	4.3	-0.3	0.5	4.0	0.5	4.0
Thailand	Lampang	929	3.5	7.6	-0.1	3.4	7.4	3.4	7.4	691	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Thailand	Lamphun	347	2.4	6.1	-0.1	2.4	6.1	2.4	6.1	324	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Loei	330	1.6	5.1	-0.1	1.5	5.0	1.5	5.0	260	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Lopburi	407	1.6	5.1	0.0	1.6	5.0	1.6	5.0	506	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Mae Hong Son	51	1.4	5.3	-0.2	1.2	5.1	1.2	5.1	52	1.7	5.6	-0.2	1.5	5.4	1.5	5.4
Thailand	Maha Sarakham	230	0.6	4.1	0.0	0.5	4.0	0.5	4.0	237	0.0	3.2	0.0	0.0	3.1	0.0	3.1
Thailand	Mukdahan	96	1.3	4.9	-0.1	1.3	4.8	1.3	4.8	63	0.0	3.4	-0.1	0.0	3.3	0.0	3.3
Thailand	Nakhon Nayok	79	1.3	4.8	0.0	1.3	4.8	1.3	4.8	99	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Nakhon Pathom	122	0.6	4.1	0.0	0.6	4.0	0.6	4.0	144	0.0	2.7	0.0	0.0	2.7	0.0	2.7
Thailand	Nakhon Phanom	216	0.6	4.0	-0.1	0.5	4.0	0.5	4.0	210	0.7	4.2	-0.1	0.6	4.1	0.6	4.1
Thailand	Nakhon Ratchasima	1,116	1.7	5.2	0.0	1.6	5.1	1.6	5.1	1,173	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Nakhon Sawan	493	1.4	4.8	-0.1	1.3	4.7	1.3	4.7	601	0.0	0.0	-0.1	0.0	0.0	0.0	0.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf harvest	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Thailand	Nakhon Si Thammarat	361	1.0	4.4	-0.7	0.3	3.7	0.3	3.7	327	0.0	3.6	-0.8	0.0	2.8	0.0	2.8
Thailand	Nan	121	0.9	4.5	-1.0	0.0	3.5	0.0	3.5	116	1.1	4.7	-1.1	0.0	3.6	0.0	3.6
Thailand	Narathiwat	118	0.5	4.0	-1.0	0.0	3.1	0.0	3.1	127	0.6	4.1	-0.9	0.0	3.2	0.0	3.2
Thailand	Nong Bua Lamphu	330	1.7	5.2	0.0	1.7	5.2	1.7	5.2	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Nong Khai	333	0.9	4.4	0.0	0.9	4.4	0.9	4.4	307	0.0	1.8	0.0	0.0	1.8	0.0	1.8
Thailand	Nonthaburi	47	0.4	3.9	0.0	0.4	3.9	0.4	3.9	54	0.7	4.2	0.0	0.7	4.2	0.7	4.2
Thailand	Pathum Thani	96	0.8	4.3	0.0	0.8	4.2	0.8	4.2	113	0.0	1.8	0.0	0.0	1.8	0.0	1.8
Thailand	Pattani	93	0.5	4.0	-0.1	0.4	3.9	0.4	3.9	107	0.1	3.6	-0.1	0.0	3.5	0.0	3.5
Thailand	Phachinburi	190	1.4	4.9	0.0	1.4	4.8	1.4	4.8	242	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Phangnga	65	0.5	4.0	-0.2	0.3	3.8	0.3	3.8	66	0.8	4.4	-0.2	0.6	4.1	0.6	4.1
Thailand	Phatthalung	112	0.5	4.0	-0.1	0.3	3.8	0.3	3.8	123	0.8	4.3	-0.1	0.7	4.2	0.7	4.2
Thailand	Phayao	162	1.2	4.7	-0.1	1.1	4.7	1.1	4.7	130	0.7	4.2	-0.1	0.6	4.2	0.6	4.2
Thailand	Phetchabun	600	1.8	5.3	0.0	1.8	5.3	1.8	5.3	717	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Phetchaburi	275	2.3	6.0	0.0	2.3	6.0	2.3	6.0	344	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Phichit	238	1.2	4.7	0.0	1.2	4.6	1.2	4.6	283	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Phitsanulok	549	1.9	5.3	-0.2	1.7	5.2	1.7	5.2	463	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Thailand	Phra Nakhon Si Ayudhya	123	0.8	4.2	0.0	0.7	4.2	0.7	4.2	158	0.0	1.6	0.0	0.0	1.6	0.0	1.6
Thailand	Phrae	426	3.1	7.1	-0.1	3.0	7.0	3.0	7.0	232	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Thailand	Phuket	40	0.5	4.0	0.0	0.5	4.0	0.5	4.0	48	0.2	3.7	0.0	0.2	3.7	0.2	3.7
Thailand	Prachuap Khilikhan	280	2.4	6.1	-0.3	2.1	5.8	2.1	5.8	387	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Thailand	Ranong	64	2.3	6.2	-0.1	2.3	6.1	2.3	6.1	58	0.0	0.2	-0.1	0.0	0.1	0.0	0.1
Thailand	Ratchaburi	351	2.3	6.0	-0.1	2.1	5.8	2.1	5.8	402	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Rayong	420	2.4	6.0	0.0	2.3	6.0	2.3	6.0	576	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Roi Et	344	0.8	4.3	0.0	0.8	4.3	0.8	4.3	313	0.0	3.1	0.0	0.0	3.1	0.0	3.1
Thailand	Sa Kaeo	200	1.3	4.8	-0.1	1.3	4.7	1.3	4.7	139	0.0	2.1	-0.1	0.0	2.1	0.0	2.1
Thailand	Sakon Nakhon	422	1.2	4.7	0.0	1.2	4.7	1.2	4.7	306	0.0	2.3	-0.1	0.0	2.2	0.0	2.2
Thailand	Samut Prakarn	91	0.4	3.9	0.0	0.4	3.9	0.4	3.9	109	0.7	4.2	0.0	0.7	4.2	0.7	4.2
Thailand	Samut Sakhon	68	0.9	4.4	0.0	0.9	4.4	0.9	4.4	83	0.0	1.0	0.0	0.0	1.0	0.0	1.0
Thailand	Samut Songkham	54	1.1	4.6	0.0	1.1	4.6	1.1	4.6	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Saraburi	265	1.8	5.4	0.0	1.8	5.4	1.8	5.4	342	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Satun	61	0.5	4.0	-0.1	0.4	3.9	0.4	3.9	70	0.8	4.3	-0.1	0.7	4.2	0.7	4.2
Thailand	Si Saket	315	0.5	4.0	0.0	0.4	3.9	0.4	3.9	316	0.7	4.2	0.0	0.7	4.2	0.7	4.2
Thailand	Singburi	41	0.4	3.9	0.0	0.4	3.9	0.4	3.9	43	0.7	4.2	0.0	0.7	4.2	0.7	4.2
Thailand	Songkhla	200	0.7	4.2	-0.1	0.7	4.2	0.7	4.2	216	0.1	3.7	-0.1	0.1	3.6	0.1	3.6
Thailand	Sukhothai	421	2.3	6.0	-0.1	2.2	5.9	2.2	5.9	376	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Suphanburi	220	0.8	4.3	0.0	0.8	4.3	0.8	4.3	231	0.0	1.1	0.0	0.0	1.1	0.0	1.1

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Thailand	Surat Thani	537	1.9	5.4	-0.4	1.4	4.9	1.4	4.9	435	0.0	0.0	-0.5	0.0	0.0	0.0	0.0
Thailand	Surin	337	0.6	4.1	0.0	0.6	4.1	0.6	4.1	336	0.0	3.3	0.0	0.0	3.3	0.0	3.3
Thailand	Tak	414	2.0	5.6	-0.2	1.9	5.4	1.9	5.4	465	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Thailand	Trad	188	1.8	5.3	-0.1	1.7	5.2	1.7	5.2	64	0.8	4.3	-0.2	0.7	4.2	0.7	4.2
Thailand	Trang	223	1.5	5.0	-0.1	1.5	4.9	1.5	4.9	200	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Ubon Ratchathani	418	0.6	4.1	-0.1	0.6	4.1	0.6	4.1	403	0.0	3.5	-0.1	0.0	3.4	0.0	3.4
Thailand	Udon Thani	768	1.7	5.2	-0.1	1.6	5.1	1.6	5.1	649	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Thailand	Uthai Thani	215	1.7	5.1	0.0	1.6	5.1	1.6	5.1	226	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Uttaradit	392	2.8	6.6	0.0	2.7	6.6	2.7	6.6	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	Yala	74	0.6	4.1	-0.2	0.4	3.9	0.4	3.9	82	0.9	4.4	-0.1	0.7	4.3	0.7	4.3
Thailand	Yasothon	137	0.5	4.0	0.0	0.4	3.9	0.4	3.9	134	0.8	4.3	0.0	0.7	4.2	0.7	4.2
Thailand tot		21,924	**1.6**	**5.2**	**-0.1**	**1.5**	**5.1**	**1.5**	**5.1**	**21,924**	**0.1**	**0.9**	**-0.1**	**0.1**	**0.9**	**0.1**	**0.9**
Timor-Leste	Aileu	7	5.0	28.6	100.0	0.0	0.0	100.0	100.0	7	5.0	28.6	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Ainaro	5	5.0	28.6	100.0	0.0	0.0	100.0	100.0	5	5.0	28.6	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Baucau	5	5.1	29.0	100.0	0.0	0.0	100.0	100.0	5	5.1	29.0	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Bobonaro	13	5.0	28.6	100.0	0.0	0.0	100.0	100.0	13	5.0	28.6	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Cova Lima	8	5.1	28.8	100.0	0.0	0.0	100.0	100.0	8	5.1	28.8	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Dili	4	5.0	28.6	100.0	0.0	0.0	100.0	100.0	4	5.0	28.6	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Ermera	5	5.0	28.6	100.0	0.0	0.0	100.0	100.0	5	5.0	28.6	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Lautem	7	5.1	28.9	100.0	0.0	0.0	100.0	100.0	7	5.1	28.9	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Liquica	2	5.2	29.2	100.0	0.0	0.0	100.0	100.0	2	5.2	29.2	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Manatuto	15	0.0	16.7	100.0	0.0	0.0	100.0	100.0	15	0.0	13.7	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Manufahi	5	5.1	29.0	100.0	0.0	0.0	100.0	100.0	5	5.1	29.0	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Oecussi	10	0.0	1.2	100.0	0.0	0.0	100.0	100.0	10	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Timor-Leste	Viqueque	8	5.1	28.9	100.0	0.0	0.0	100.0	100.0	8	5.1	28.9	100.0	0.0	0.0	100.0	100.0
Timor-Leste tot		95	**3.7**	**24.0**	**100.0**			**100.0**	**100.0**	**95**	**3.7**	**23.4**	**100.0**			**100.0**	**100.0**
Togo	Centrale	738	38.0	51.8	10.6	27.3	41.2	38.0	51.8	727	34.8	49.4	10.8	24.0	38.6	34.8	49.4
Togo	Kara	477	20.1	37.9	5.2	14.9	32.7	20.1	37.9	475	18.4	36.6	5.2	13.3	31.5	18.4	36.6
Togo	Maritime	608	17.2	35.7	11.0	6.2	24.7	17.2	35.7	624	16.3	35.0	10.7	5.6	24.3	16.3	35.0
Togo	Plateaux	1,721	34.6	49.2	11.6	23.0	37.6	34.6	49.2	1,710	31.9	47.1	11.7	20.2	35.4	31.9	47.1
Togo	Savanes	234	9.3	29.6	5.4	3.9	24.1	9.3	29.6	243	9.5	29.7	5.2	4.2	24.4	9.5	29.7
Togo tot		3,778	**29.1**	**44.9**	**10.1**	**18.9**	**34.8**	**29.1**	**44.9**	**3,778**	**26.8**	**43.1**	**10.1**	**16.6**	**33.0**	**26.8**	**43.1**
Trinidad & Tobago	Arima	1	0.0	2.1	3.4	0.0	0.0	3.4	3.4	1	0.0	2.4	3.4	0.0	0.0	3.4	3.4
Trinidad & Tobago	Chaguanas	2	0.0	2.1	4.5	0.0	0.0	4.5	4.5	2	0.0	2.4	4.5	0.0	0.0	4.5	4.5
Trinidad & Tobago	Couva/Tabaquite	7	0.0	0.0	71.5	0.0	0.0	71.5	71.5	7	0.0	0.0	72.0	0.0	0.0	72.0	72.0
Trinidad & Tobago	Diego Martin	4	0.0	2.1	18.8	0.0	0.0	18.8	18.8	4	0.0	2.4	18.8	0.0	0.0	18.8	18.8
Trinidad & Tobago	Penal/Debe	3	0.0	0.0	28.6	0.0	0.0	28.6	28.6	3	0.0	0.0	28.2	0.0	0.0	28.2	28.2
Trinidad & Tobago	Point Fortin	0	0.0	2.1	42.2	0.0	0.0	42.2	42.2	0	0.0	2.4	42.2	0.0	0.0	42.2	42.2

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Trinidad & Tobago	Port Of Spain	1	0.0	2.1	0.1	0.0	1.9	0.1	2.1	1	0.0	2.4	0.1	0.0	2.3	0.1	2.4
Trinidad & Tobago	Princes Town	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Trinidad & Tobago	Rio Claro/Mayaro	1	0.0	2.1	100.0	0.0	0.0	100.0	100.0	1	0.0	2.4	100.0	0.0	0.0	100.0	100.0
Trinidad & Tobago	San Fernando	2	0.0	0.2	0.5	0.0	0.0	0.5	0.5	2	0.0	0.1	0.5	0.0	0.0	0.5	0.5
Trinidad & Tobago	San Juan/Laventille	4	0.0	2.1	27.7	0.0	0.0	27.7	27.7	4	0.0	2.4	27.7	0.0	0.0	27.7	27.7
Trinidad & Tobago	Sangre Grande	2	0.0	2.2	100.0	0.0	0.0	100.0	100.0	2	0.0	2.6	100.0	0.0	0.0	100.0	100.0
Trinidad & Tobago	Siparia	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0	3	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Trinidad & Tobago	Tobago	2	0.0	2.1	100.0	0.0	0.0	100.0	100.0	2	0.0	2.4	100.0	0.0	0.0	100.0	100.0
Trinidad & Tobago	Tunapuna/Piarco	4	0.0	2.1	52.4	0.0	0.0	52.4	52.4	4	0.0	2.5	52.4	0.0	0.0	52.4	52.4
Trinidad & Tobago tot		39		**1.2**	**55.5**		**0.1**	**55.5**	**55.6**	**39**		**1.4**	**55.2**		**0.1**	**55.2**	**55.2**
Uganda	Adjumani	100	3.3	27.5	8.9	0.0	18.6	8.9	27.5	101	3.6	27.6	8.8	0.0	18.8	8.8	27.6
Uganda	Apac	670	31.1	48.2	6.4	24.7	41.8	31.1	48.2	672	30.8	48.0	6.4	24.4	41.6	30.8	48.0
Uganda	Bugiri	127	11.0	33.2	7.3	3.8	26.0	11.0	33.2	129	11.1	33.3	7.2	4.0	26.1	11.1	33.3
Uganda	Bundibugyo	91	6.2	29.6	15.1	0.0	14.5	15.1	29.6	92	6.7	29.9	14.9	0.0	15.0	14.9	29.9
Uganda	Bushenyi	440	50.3	63.5	7.4	43.0	56.1	50.3	63.5	435	49.6	62.9	7.4	42.1	55.5	49.6	62.9
Uganda	Busia	54	4.3	28.1	7.9	0.0	20.1	7.9	28.1	55	4.7	28.4	7.8	0.0	20.6	7.8	28.4
Uganda	Gulu	1,674	66.7	75.3	3.7	63.0	71.6	66.7	75.3	1,658	66.1	74.8	3.7	62.3	71.1	66.1	74.8
Uganda	Hoima	939	62.8	72.2	9.6	53.2	62.6	62.8	72.2	935	62.2	71.7	9.7	52.5	62.1	62.2	71.7
Uganda	Jinja	108	2.5	26.8	5.0	0.0	21.7	5.0	26.8	109	2.7	27.0	5.0	0.0	22.0	5.0	27.0
Uganda	Kabale	104	1.3	25.9	11.9	0.0	13.9	11.9	25.9	107	1.3	25.9	11.6	0.0	14.3	11.6	25.9
Uganda	Kalangala	66	47.5	60.5	12.4	35.0	48.1	47.5	60.5	66	47.1	60.3	12.5	34.6	47.8	47.1	60.3
Uganda	Kasese	106	17.0	37.8	11.4	5.6	26.4	17.0	37.8	106	16.7	37.6	11.4	5.3	26.2	16.7	37.6
Uganda	Kibaale	1,452	68.2	76.2	8.7	59.6	67.5	68.2	76.2	1,443	67.7	75.7	8.7	59.0	67.0	67.7	75.7
Uganda	Kiboga	766	60.5	70.4	7.3	53.2	63.1	60.5	70.4	770	60.2	70.1	7.3	52.9	62.9	60.2	70.1
Uganda	Kisoro	46	1.3	25.9	16.6	0.0	9.3	16.6	25.9	48	1.6	26.1	16.2	0.0	10.0	16.2	26.1
Uganda	Kumi	182	16.1	37.2	1.8	14.4	35.4	16.1	37.2	183	15.9	37.0	1.7	14.1	35.2	15.9	37.0
Uganda	Masaka	326	20.9	40.8	12.3	8.6	28.5	20.9	40.8	328	20.7	40.6	12.2	8.5	28.4	20.7	40.6
Uganda	Moyo	110	12.0	33.9	7.3	4.7	26.6	12.0	33.9	113	13.3	34.9	7.1	6.2	27.8	13.3	34.9
Uganda	Nebbi	187	9.4	31.9	7.6	1.8	24.3	9.4	31.9	190	10.0	32.4	7.5	2.5	24.9	10.0	32.4
Uganda	Ntungamo	124	3.1	27.2	9.9	0.0	17.3	9.9	27.2	126	3.3	27.4	9.8	0.0	17.6	9.8	27.4
Uganda	Pallisa	176	22.1	41.9	2.4	19.8	39.6	22.1	41.9	176	21.7	41.6	2.4	19.3	39.2	21.7	41.6
Uganda	Rakai	474	42.9	57.2	8.9	34.0	48.3	42.9	57.2	475	42.5	56.9	8.9	33.6	48.0	42.5	56.9
Uganda	Sembabule	315	50.0	62.4	7.8	42.1	54.6	50.0	62.4	315	49.5	62.1	7.8	41.7	54.2	49.5	62.1
Uganda	Iganga	204	11.4	33.4	6.7	4.7	26.7	11.4	33.4	206	11.2	33.3	6.7	4.6	26.7	11.2	33.3
Uganda	Kabarole	107	14.5	35.8	15.1	0.0	20.7	15.1	35.8	108	14.4	35.7	14.9	0.0	20.7	14.9	35.7
Uganda	Kaberamaido	131	30.9	48.1	2.3	28.6	45.8	30.9	48.1	133	31.2	48.3	2.3	28.9	46.1	31.2	48.3
Uganda	Kampala	12	1.3	25.9	3.7	0.0	22.1	3.7	25.9	12	1.3	25.9	3.7	0.0	22.2	3.7	25.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Uganda	Kamwenge	209	40.9	55.6	8.6	32.4	47.1	40.9	55.6	211	40.9	55.6	8.5	32.4	47.2	40.9	55.6
Uganda	Kanungu	68	11.0	33.2	14.9	0.0	18.3	14.9	33.2	68	11.2	33.4	14.8	0.0	18.6	14.8	33.4
Uganda	Kayunga	155	25.9	44.3	12.0	13.9	32.4	25.9	44.3	156	25.7	44.2	11.9	13.8	32.3	25.7	44.2
Uganda	Kitgum	1,077	64.0	73.1	4.9	59.0	68.1	64.0	73.1	1,069	63.4	72.6	5.0	58.4	67.6	63.4	72.6
Uganda	Kyenjojo	1,099	63.4	72.5	9.1	54.3	63.4	63.4	72.5	1,099	62.9	72.2	9.1	53.8	63.0	62.9	72.2
Uganda	Masindi	1,059	60.3	70.5	6.6	53.7	63.8	60.3	70.5	1,055	59.8	70.1	6.7	53.1	63.4	59.8	70.1
Uganda	Mayuge	126	31.5	48.7	8.1	23.4	40.6	31.5	48.7	127	31.0	48.4	8.0	23.0	40.3	31.0	48.4
Uganda	Moroto	197	45.1	59.3	10.3	34.8	49.0	45.1	59.3	200	45.3	59.4	10.2	35.1	49.3	45.3	59.4
Uganda	Mpigi	426	39.8	54.8	10.9	28.9	43.9	39.8	54.8	431	39.7	54.8	10.8	28.9	44.0	39.7	54.8
Uganda	Mukono	584	43.4	57.6	11.5	31.9	46.1	43.4	57.6	584	42.9	57.2	11.5	31.4	45.8	42.9	57.2
Uganda	Nakapiripirit	183	38.9	54.5	8.2	30.7	46.3	38.9	54.5	186	39.3	54.9	8.1	31.3	46.8	39.3	54.9
Uganda	Nakasongola	940	70.5	77.9	1.7	68.8	76.2	70.5	77.9	932	70.0	77.5	1.8	68.2	75.7	70.0	77.5
Uganda	Pader	1,111	64.3	73.2	3.3	61.0	69.9	64.3	73.2	1,101	63.7	72.7	3.4	60.3	69.4	63.7	72.7
Uganda	Rukungiri	64	1.3	25.9	10.1	0.0	15.8	10.1	25.9	64	1.3	26.0	10.0	0.0	15.9	10.0	26.0
Uganda	Sironko	104	43.4	58.0	8.3	35.1	49.8	43.4	58.0	104	43.0	57.7	8.2	34.8	49.5	43.0	57.7
Uganda	Soroti	204	14.9	36.2	1.7	13.2	34.5	14.9	36.2	208	15.7	36.8	1.7	14.0	35.1	15.7	36.8
Uganda	Wakiso	239	17.8	38.2	9.3	8.5	29.0	17.8	38.2	241	17.8	38.3	9.2	8.6	29.1	17.8	38.3
Uganda	Yumbe	155	10.7	32.9	6.6	4.1	26.3	10.7	32.9	155	10.6	32.9	6.6	4.1	26.3	10.6	32.9
Uganda	Amolatar	58	4.1	28.2	5.0	0.0	23.2	5.0	28.2	59	4.7	28.7	4.9	0.0	23.8	4.9	28.7
Uganda	Amuria	238	38.4	53.7	2.8	35.6	51.0	38.4	53.7	238	38.1	53.5	2.7	35.4	50.8	38.1	53.5
Uganda	Arua	346	23.8	42.8	6.2	17.7	36.6	23.8	42.8	351	24.1	43.0	6.1	18.0	37.0	24.1	43.0
Uganda	Bukwa	16	1.3	25.9	14.2	0.0	11.6	14.2	25.9	16	1.3	25.9	14.1	0.0	11.8	14.1	25.9
Uganda	Butaleja	54	13.7	35.2	5.0	8.7	30.2	13.7	35.2	54	13.7	35.2	5.0	8.7	30.2	13.7	35.2
Uganda	Ibanda	88	31.0	48.6	5.6	25.4	43.0	31.0	48.6	87	30.3	48.1	5.6	24.7	42.5	30.3	48.1
Uganda	Isingiro	178	14.8	36.1	9.0	5.8	27.1	14.8	36.1	181	15.1	36.3	8.9	6.2	27.4	15.1	36.3
Uganda	Kaabong	602	54.8	66.2	8.4	46.4	57.8	54.8	66.2	600	54.3	65.8	8.5	45.8	57.3	54.3	65.8
Uganda	Kaliro	71	17.3	38.1	3.9	13.4	34.1	17.3	38.1	72	17.4	38.2	3.9	13.5	34.3	17.4	38.2
Uganda	Kamuli	236	14.0	35.4	9.3	4.7	26.1	14.0	35.4	238	14.0	35.5	9.2	4.8	26.3	14.0	35.5
Uganda	Kapchorwa	54	2.1	26.5	8.7	0.0	17.8	8.7	26.5	55	2.1	26.5	8.7	0.0	17.9	8.7	26.5
Uganda	Katakwi	225	45.3	59.0	4.9	40.4	54.1	45.3	59.0	226	45.1	58.8	4.9	40.2	53.9	45.1	58.8
Uganda	Kiruhura	497	53.2	64.9	6.0	47.3	58.9	53.2	64.9	498	52.9	64.6	6.0	46.9	58.7	52.9	64.6
Uganda	Koboko	72	21.0	40.7	8.3	12.7	32.3	21.0	40.7	73	21.3	40.9	8.2	13.1	32.7	21.3	40.9
Uganda	Kotido	333	46.2	59.7	8.5	37.7	51.2	46.2	59.7	331	45.6	59.3	8.5	37.0	50.7	45.6	59.3
Uganda	Lira	575	39.8	54.8	2.8	37.0	52.0	39.8	54.8	574	39.3	54.5	2.8	36.5	51.6	39.3	54.5
Uganda	Luweero	291	37.4	53.0	10.5	26.9	42.5	37.4	53.0	292	37.0	52.7	10.5	26.5	42.2	37.0	52.7
Uganda	Manafwa	43	1.7	26.2	7.9	0.0	18.2	7.9	26.2	44	1.7	26.2	7.9	0.0	18.3	7.9	26.2
Uganda	Mbale	33	3.1	27.3	5.4	0.0	21.9	5.4	27.3	33	3.5	27.6	5.3	0.0	22.3	5.3	27.6
Uganda	Mbarara	108	2.4	26.7	9.8	0.0	16.9	9.8	26.7	110	2.6	26.9	9.7	0.0	17.2	9.7	26.9

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		NRB_{B1}+NRB_{B2}		Wf harvest	NRB_A			NRB_{B2}		NRB_{B1}+NRB_{B2}	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Uganda	Mityana	129	6.5	29.8	17.7	0.0	12.1	17.7	29.8	131	6.8	30.0	17.5	0.0	12.5	17.5	30.0
Uganda	Mubende	926	58.8	69.1	8.4	50.4	60.6	58.8	69.1	929	58.4	68.7	8.4	50.0	60.4	58.4	68.7
Uganda	Nakaseke	1,089	70.9	78.1	3.7	67.2	74.4	70.9	78.1	1,080	70.3	77.7	3.8	66.5	73.9	70.3	77.7
Uganda	Tororo	78	1.3	25.9	1.7	0.0	24.2	1.7	25.9	79	1.3	25.9	1.6	0.0	24.3	1.6	25.9
Uganda tot		23,431	**48.6**	**61.5**	**6.9**	**42.1**	**54.6**	**49.0**	**61.5**	**23,431**	**48.1**	**61.1**	**6.9**	**41.5**	**54.2**	**48.5**	**61.1**
Un. Rep. Tanzania	Arusha	719	10.9	14.9	5.0	5.9	9.8	10.9	14.9	719	10.3	14.3	5.0	5.3	9.3	10.3	14.3
Un. Rep. Tanzania	Dar es Salaam	93	11.7	15.2	5.4	6.4	9.8	11.7	15.2	94	11.1	14.6	5.3	5.8	9.3	11.1	14.6
Un. Rep. Tanzania	Dodoma	2,522	16.3	19.6	5.9	10.4	13.7	16.3	19.6	2,516	15.1	18.4	5.9	9.2	12.5	15.1	18.4
Un. Rep. Tanzania	Iringa	2,240	16.0	19.4	49.8	0.0	0.0	49.8	49.8	2,241	14.8	18.2	49.8	0.0	0.0	49.8	49.8
Un. Rep. Tanzania	Kagera	1,337	4.9	8.6	8.7	0.0	0.0	8.7	8.7	1,349	4.9	8.6	8.6	0.0	0.0	8.6	8.6
Un. Rep. Tanzania	Kigoma	979	4.1	7.9	14.3	0.0	0.0	14.3	14.3	983	4.1	7.9	14.2	0.0	0.0	14.2	14.2
Un. Rep. Tanzania	Kilimanjaro	480	6.5	10.2	6.7	0.0	3.5	6.7	10.2	485	6.3	10.0	6.6	0.0	3.4	6.6	10.0
Un. Rep. Tanzania	Lindi	1,709	18.6	22.0	9.5	9.1	12.5	18.6	22.0	1,704	17.2	20.7	9.5	7.7	11.1	17.2	20.7
Un. Rep. Tanzania	Manyara	3,139	23.4	27.4	6.6	16.8	20.8	23.4	27.4	3,114	21.7	25.8	6.7	15.0	19.1	21.7	25.8
Un. Rep. Tanzania	Mara	947	10.9	14.5	6.0	5.0	8.6	10.9	14.5	952	10.2	13.9	5.9	4.3	7.9	10.2	13.9
Un. Rep. Tanzania	Mbeya	1,703	11.6	15.4	8.0	3.6	7.4	11.6	15.4	1,709	10.9	14.7	8.0	2.9	6.7	10.9	14.7
Un. Rep. Tanzania	Morogoro	2,007	15.5	19.0	68.9	0.0	0.0	68.9	68.9	2,005	14.4	17.9	69.0	0.0	0.0	69.0	69.0
Un. Rep. Tanzania	Mtwara	962	7.6	11.3	8.9	0.0	2.4	8.9	11.3	972	7.4	11.0	8.8	0.0	2.2	8.8	11.0
Un. Rep. Tanzania	Mwanza	1,206	4.3	8.0	4.7	0.0	3.3	4.7	8.0	1,219	4.3	8.0	4.6	0.0	3.4	4.6	8.0
Un. Rep. Tanzania	Pemba North	30	4.1	7.9	7.1	0.0	0.7	7.1	7.9	31	4.1	7.9	7.0	0.0	0.8	7.0	7.9
Un. Rep. Tanzania	Unguja North	31	4.1	7.9	5.8	0.0	2.0	5.8	7.9	32	4.1	7.9	5.8	0.0	2.1	5.8	7.9
Un. Rep. Tanzania	Pwani	2,459	20.7	24.0	8.2	12.5	15.8	20.7	24.0	2,446	19.1	22.4	8.3	10.8	14.2	19.1	22.4
Un. Rep. Tanzania	Rukwa	867	5.1	9.1	14.6	0.0	0.0	14.6	14.6	869	5.1	9.1	14.6	0.0	0.0	14.6	14.6
Un. Rep. Tanzania	Ruvuma	855	5.6	9.7	20.6	0.0	0.0	20.6	20.6	858	5.6	9.7	20.5	0.0	0.0	20.5	20.5
Un. Rep. Tanzania	Shinyanga	1,501	4.6	8.3	4.8	0.0	3.5	4.8	8.3	1,513	4.6	8.3	4.7	0.0	3.6	4.7	8.3
Un. Rep. Tanzania	Singida	2,618	21.3	25.0	5.5	15.8	19.5	21.3	25.0	2,596	19.7	23.4	5.5	14.2	17.9	19.7	23.4
Un. Rep. Tanzania	Pemba South	35	4.1	7.9	8.0	0.0	0.0	8.0	8.0	36	4.1	7.9	7.9	0.0	0.0	7.9	7.9
Un. Rep. Tanzania	Unguja South	61	7.9	11.5	14.6	0.0	0.0	14.6	14.6	61	7.5	11.2	14.5	0.0	0.0	14.5	14.5
Un. Rep. Tanzania	Tabora	2,338	17.0	20.7	5.9	11.1	14.9	17.0	20.7	2,335	15.8	19.6	5.9	9.9	13.7	15.8	19.6
Un. Rep. Tanzania	Tanga	1,987	16.8	20.2	13.5	3.3	6.7	16.8	20.2	1,985	15.5	19.0	13.5	2.0	5.4	15.5	19.0
Un. Rep. Tanzania	Unguja Urban West	36	4.1	7.9	2.6	1.5	5.3	4.1	7.9	37	4.1	7.9	2.6	1.6	5.3	4.1	7.9
Un. Rep. Tanzania tot		32,861	**14.5**	**18.1**	**14.7**	**6.5**	**9.2**	**21.2**	**23.9**	**32,861**	**13.5**	**17.1**	**14.7**	**5.7**	**8.3**	**20.4**	**23.0**
Uruguay	Artigas	41	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	42	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Uruguay	Canelones	237	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	267	0.0	0.0	-0.5	0.0	0.0	0.0	0.0
Uruguay	Cerro Largo	30	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	31	0.0	0.0	-0.5	0.0	0.0	0.0	0.0
Uruguay	Colonia	114	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	114	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Uruguay	Durazno	31	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	32	0.0	0.0	-0.5	0.0	0.0	0.0	0.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Uruguay	Flores	13	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	13	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Florida	162	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	135	0.0	0.0	-0.7	0.0	0.0	0.0	0.0
Uruguay	Lavalleja	61	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	54	0.0	0.0	-0.6	0.0	0.0	0.0	0.0
Uruguay	Maldonado	74	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	75	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Montevideo	43	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	49	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Paysandu	47	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	48	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Rio Negro	34	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	35	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Rivera	39	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	39	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Uruguay	Rocha	48	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	49	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Uruguay	Salto	51	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	52	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Uruguay	San Jose	167	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	157	0.0	0.0	-0.6	0.0	0.0	0.0	0.0
Uruguay	Soriano	41	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	42	0.0	0.0	-0.3	0.0	0.0	0.0	0.0
Uruguay	Tacuarembo	59	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	60	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Uruguay	Treinta Y Tres	33	0.0	0.0	-0.4	0.0	0.0	0.0	0.0	34	0.0	0.0	-0.4	0.0	0.0	0.0	0.0
Uruguay tot		1,326			**-0.4**					**1,326**			**-0.4**				
Venezuela	Amazonas	13	0.0	36.7	100.0	0.0	0.0	100.0	100.0	13	0.0	36.7	100.0	0.0	0.0	100.0	100.0
Venezuela	Anzoategui	165	0.0	30.0	7.1	0.0	22.9	7.1	30.0	165	0.0	30.0	7.1	0.0	22.9	7.1	30.0
Venezuela	Apure	128	0.0	37.3	1.3	0.0	36.0	1.3	37.3	128	0.0	37.3	1.3	0.0	36.0	1.3	37.3
Venezuela	Aragua	141	0.0	0.0	12.4	0.0	0.0	12.4	12.4	141	0.0	0.0	12.4	0.0	0.0	12.4	12.4
Venezuela	Barinas	164	0.0	30.1	3.3	0.0	26.8	3.3	30.1	164	0.0	30.1	3.3	0.0	26.8	3.3	30.1
Venezuela	Bolivar	128	0.0	35.4	100.0	0.0	0.0	100.0	100.0	128	0.0	35.4	100.0	0.0	0.0	100.0	100.0
Venezuela	Carabobo	61	0.0	12.0	54.7	0.0	0.0	54.7	54.7	61	0.0	12.0	54.7	0.0	0.0	54.7	54.7
Venezuela	Cojedes	44	0.0	34.3	43.6	0.0	0.0	43.6	43.6	44	0.0	34.3	43.6	0.0	0.0	43.6	43.6
Venezuela	Delta Amacuro	22	0.0	37.9	100.0	0.0	0.0	100.0	100.0	22	0.0	37.9	100.0	0.0	0.0	100.0	100.0
Venezuela	Dependencias Federales	0	0.3	42.0	0.0	0.3	42.0	0.3	42.0	0	0.3	42.0	0.0	0.3	42.0	0.3	42.0
Venezuela	Falcon	137	0.0	30.3	2.5	0.0	27.8	2.5	30.3	137	0.0	30.3	2.5	0.0	27.8	2.5	30.3
Venezuela	Guarico	193	0.0	33.4	11.9	0.0	21.6	11.9	33.4	193	0.0	33.4	11.9	0.0	21.6	11.9	33.4
Venezuela	Lara	143	0.0	10.0	10.7	0.0	0.0	10.7	10.7	143	0.0	10.0	10.7	0.0	0.0	10.7	10.7
Venezuela	Merida	57	0.0	22.5	21.1	0.0	1.5	21.1	22.5	57	0.0	22.5	21.1	0.0	1.5	21.1	22.5
Venezuela	Miranda	183	0.0	0.0	100.0	0.0	0.0	100.0	100.0	183	0.0	0.0	100.0	0.0	0.0	100.0	100.0
Venezuela	Monagas	95	0.0	28.6	100.0	0.0	0.0	100.0	100.0	95	0.0	28.6	100.0	0.0	0.0	100.0	100.0
Venezuela	Nueva Esparta	18	0.0	21.3	1.6	0.0	19.6	1.6	21.3	18	0.0	21.3	1.6	0.0	19.6	1.6	21.3
Venezuela	Portuguesa	119	0.0	18.4	7.8	0.0	10.6	7.8	18.4	119	0.0	18.4	7.8	0.0	10.6	7.8	18.4
Venezuela	Sucre	94	0.0	24.4	100.0	0.0	0.0	100.0	100.0	94	0.0	24.4	100.0	0.0	0.0	100.0	100.0
Venezuela	Tachira	87	0.0	22.9	9.2	0.0	13.7	9.2	22.9	87	0.0	22.9	9.2	0.0	13.7	9.2	22.9
Venezuela	Trujillo	54	0.0	20.6	12.8	0.0	7.9	12.8	20.6	54	0.0	20.6	12.8	0.0	7.9	12.8	20.6
Venezuela	Yaracuy	38	0.0	14.2	100.0	0.0	0.0	100.0	100.0	38	0.0	14.2	100.0	0.0	0.0	100.0	100.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Venezuela	Zulia	293	0.0	15.5	100.0	0.0	0.0	100.0	100.0	293	0.0	15.5	100.0	0.0	0.0	100.0	100.0
Venezuela	Vargas	27	0.0	0.0	4.4	0.0	0.0	4.4	4.4	27	0.0	0.0	4.4	0.0	0.0	4.4	4.4
Venezuela	Distrito Capital	16	0.0	7.0	5.2	0.0	1.7	5.2	7.0	16	0.0	7.0	5.2	0.0	1.7	5.2	7.0
Venezuela tot		2,421	**0.0**	**21.5**	**42.7**	**0.0**	**10.0**	**42.7**	**52.7**	**2,421**	**0.0**	**21.5**	**42.7**	**0.0**	**10.0**	**42.7**	**52.7**
Viet Nam	An Giang	297	2.0	20.7	-0.1	1.9	20.6	1.9	20.6	296	1.7	20.6	-0.1	1.7	20.5	1.7	20.5
Viet Nam	Ba Ria-Vung Tau	216	0.0	16.2	-0.1	0.0	16.0	0.0	16.0	242	0.0	4.1	-0.1	0.0	4.0	0.0	4.0
Viet Nam	Bac Kan	354	0.0	13.1	-0.4	0.0	12.7	0.0	12.7	277	0.0	0.0	-0.5	0.0	0.0	0.0	0.0
Viet Nam	Bac Giang	494	0.0	16.5	-0.1	0.0	16.3	0.0	16.3	607	0.0	2.8	-0.1	0.0	2.6	0.0	2.6
Viet Nam	Bac Lieu	169	0.9	19.8	-0.2	0.7	19.6	0.7	19.6	202	0.0	14.7	-0.1	0.0	14.5	0.0	14.5
Viet Nam	Bac Ninh	73	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	99	2.8	21.4	-0.1	2.8	21.4	2.8	21.4
Viet Nam	Ben Tre	226	1.8	20.5	-0.1	1.7	20.4	1.7	20.4	241	0.9	19.9	-0.1	0.8	19.8	0.8	19.8
Viet Nam	Binh Dinh	599	0.0	17.9	-0.2	0.0	17.7	0.0	17.7	586	0.0	5.3	-0.2	0.0	5.2	0.0	5.2
Viet Nam	Binh Duong	363	0.0	14.8	-0.1	0.0	14.7	0.0	14.7	405	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Viet Nam	Binh Phuoc	760	0.0	14.7	-0.2	0.0	14.5	0.0	14.5	842	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Viet Nam	Binh Thuan	632	0.0	18.3	-0.1	0.0	18.2	0.0	18.2	586	0.0	2.2	-0.2	0.0	2.1	0.0	2.1
Viet Nam	Cao Bang	180	0.7	19.8	-0.8	0.0	19.1	0.0	19.1	191	0.0	16.4	-0.7	0.0	15.6	0.0	15.6
Viet Nam	Ca Mau	341	0.0	18.9	-0.3	0.0	18.5	0.0	18.5	353	0.0	15.6	-0.3	0.0	15.3	0.0	15.3
Viet Nam	Da Nang City	81	0.0	20.2	-0.1	0.0	20.1	0.0	20.1	85	0.0	13.2	-0.1	0.0	13.1	0.0	13.1
Viet Nam	Dong Nai	693	0.0	17.2	-0.2	0.0	17.0	0.0	17.0	805	0.0	4.9	-0.1	0.0	4.8	0.0	4.8
Viet Nam	Dong Thap	308	1.0	19.9	-0.1	0.9	19.8	0.9	19.8	299	0.0	18.6	-0.1	0.0	18.5	0.0	18.5
Viet Nam	Gia Lai	889	0.0	16.6	-2.3	0.0	14.3	0.0	14.3	542	0.0	6.6	-3.7	0.0	2.9	0.0	2.9
Viet Nam	Ha Giang	445	0.0	15.3	-0.4	0.0	14.9	0.0	14.9	320	0.0	6.9	-0.6	0.0	6.4	0.0	6.4
Viet Nam	Ha Nam	85	1.0	19.9	-0.1	0.9	19.8	0.9	19.8	112	0.0	17.1	-0.1	0.0	17.0	0.0	17.0
Viet Nam	Ha Noi City	125	2.4	21.0	-0.1	2.4	21.0	2.4	21.0	147	2.2	20.9	-0.1	2.1	20.9	2.1	20.9
Viet Nam	Ha Tay	199	2.0	20.7	-0.1	1.9	20.6	1.9	20.6	271	0.8	19.8	-0.1	0.7	19.7	0.7	19.7
Viet Nam	Ha Tinh	508	0.0	17.7	-0.5	0.0	17.3	0.0	17.3	590	0.0	2.7	-0.4	0.0	2.2	0.0	2.2
Viet Nam	Hai Duong	130	1.7	20.4	-0.1	1.6	20.3	1.6	20.3	165	0.0	19.1	-0.1	0.0	19.0	0.0	19.0
Viet Nam	Hai Phong City	92	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	104	2.8	21.4	-0.1	2.7	21.3	2.7	21.3
Viet Nam	Ho Chi Minh City	199	1.0	20.6	-0.1	0.8	20.5	0.8	20.5	242	0.0	17.0	-0.1	0.0	16.9	0.0	16.9
Viet Nam	Hoa Binh	610	0.0	15.6	-0.2	0.0	15.3	0.0	15.3	682	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Viet Nam	Hung Yen	88	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	122	2.8	21.4	-0.1	2.7	21.4	2.7	21.4
Viet Nam	Khanh Hoa	235	0.0	18.1	-0.2	0.0	18.0	0.0	18.0	213	0.0	10.4	-0.2	0.0	10.2	0.0	10.2
Viet Nam	Kien Giang	373	0.9	19.8	-0.2	0.7	19.6	0.7	19.6	368	0.0	18.5	-0.2	0.0	18.3	0.0	18.3
Viet Nam	Kon Tum	484	0.0	23.6	-1.3	0.0	22.4	0.0	22.4	211	0.0	10.2	-2.9	0.0	7.2	0.0	7.2
Viet Nam	Lam Dong	821	0.0	15.5	-1.1	0.0	14.3	0.0	14.3	750	0.0	0.0	-1.2	0.0	0.0	0.0	0.0
Viet Nam	Lang Son	1,127	0.0	13.5	-0.2	0.0	13.3	0.0	13.3	1,161	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Viet Nam	Long An	458	0.0	18.2	-0.1	0.0	18.0	0.0	18.0	465	0.0	12.6	-0.1	0.0	12.4	0.0	12.4
Viet Nam	Nam Dinh	134	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	149	2.8	21.4	-0.1	2.8	21.4	2.8	21.4

		Low plantation productivity variant								High plantation productivity variant							
		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$		Wf	NRB_A			NRB_{B2}		$NRB_{B1}+NRB_{B2}$	
		harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp	harvest	Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Viet Nam	Nghe An	1,105	0.0	19.0	-1.0	0.0	18.0	0.0	18.0	1,193	0.0	4.5	-1.0	0.0	3.5	0.0	3.5
Viet Nam	Ninh Binh	138	0.0	19.9	-0.1	0.0	19.8	0.0	19.8	171	0.0	12.8	-0.1	0.0	12.7	0.0	12.7
Viet Nam	Ninh Thuan	208	0.0	17.8	-0.1	0.0	17.6	0.0	17.6	174	0.0	3.7	-0.2	0.0	3.6	0.0	3.6
Viet Nam	Phu Tho	471	0.0	17.8	-0.1	0.0	17.7	0.0	17.7	579	0.0	6.5	-0.1	0.0	6.4	0.0	6.4
Viet Nam	Phu Yen	326	0.0	16.5	-0.2	0.0	16.2	0.0	16.2	295	0.0	6.7	-0.3	0.0	6.5	0.0	6.5
Viet Nam	Quang Binh	536	0.0	15.9	-0.7	0.0	15.2	0.0	15.2	475	0.0	0.3	-0.8	0.0	0.0	0.0	0.0
Viet Nam	Quang Nam	863	0.0	17.6	-0.2	0.0	17.4	0.0	17.4	764	0.0	0.6	-0.3	0.0	0.3	0.0	0.3
Viet Nam	Quang Ngai	525	0.0	17.5	-0.2	0.0	17.3	0.0	17.3	526	0.0	4.6	-0.2	0.0	4.5	0.0	4.5
Viet Nam	Quang Ninh	468	0.0	16.3	-0.2	0.0	16.1	0.0	16.1	466	0.0	2.1	-0.2	0.0	1.9	0.0	1.9
Viet Nam	Quang Tri	185	0.0	17.8	-0.6	0.0	17.2	0.0	17.2	166	0.0	15.8	-0.7	0.0	15.1	0.0	15.1
Viet Nam	Soc Trang	221	2.0	20.7	-0.1	1.9	20.6	1.9	20.6	236	1.3	20.2	-0.1	1.2	20.1	1.2	20.1
Viet Nam	Son La	339	0.0	19.4	-1.8	0.0	17.6	0.0	17.6	332	0.0	16.3	-1.8	0.0	14.5	0.0	14.5
Viet Nam	Tay Ninh	378	0.0	17.3	-0.1	0.0	17.2	0.0	17.2	429	0.0	7.9	-0.1	0.0	7.7	0.0	7.7
Viet Nam	Thai Binh	135	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	153	2.8	21.4	-0.1	2.8	21.4	2.8	21.4
Viet Nam	Thai Nguyen	525	0.0	14.6	-0.1	0.0	14.5	0.0	14.5	632	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Viet Nam	Thanh Hoa	1,188	0.0	18.1	-0.6	0.0	17.4	0.0	17.4	1,324	0.0	2.8	-0.5	0.0	2.3	0.0	2.3
Viet Nam	Thua Thien - Hue	288	0.0	19.5	-0.5	0.0	19.0	0.0	19.0	287	0.0	9.9	-0.5	0.0	9.4	0.0	9.4
Viet Nam	Tien Giang	235	1.4	20.2	-0.1	1.3	20.1	1.3	20.1	235	0.0	19.0	-0.1	0.0	19.0	0.0	19.0
Viet Nam	Tra Vinh	183	1.9	20.6	-0.1	1.8	20.5	1.8	20.5	196	0.0	19.1	-0.1	0.0	19.0	0.0	19.0
Viet Nam	Tuyen Quang	698	0.0	15.9	-0.2	0.0	15.7	0.0	15.7	708	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Viet Nam	Vinh Long	136	2.4	21.0	-0.1	2.3	20.9	2.3	20.9	139	2.5	21.2	-0.1	2.4	21.1	2.4	21.1
Viet Nam	Vinh Phuc	105	1.2	20.1	-0.1	1.1	20.0	1.1	20.0	139	0.0	17.6	-0.1	0.0	17.5	0.0	17.5
Viet Nam	Yen Bai	551	0.0	14.8	-0.2	0.0	14.5	0.0	14.5	553	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
Viet Nam	Can Tho city	103	2.5	21.1	-0.1	2.4	21.0	2.4	21.0	104	2.8	21.4	-0.1	2.7	21.3	2.7	21.3
Viet Nam	Dak Lak	1,076	0.0	14.5	-1.5	0.0	13.0	0.0	13.0	933	0.0	1.9	-1.7	0.0	0.2	0.0	0.2
Viet Nam	Dak Nong	657	0.0	15.5	-0.7	0.0	14.8	0.0	14.8	582	0.0	0.0	-0.8	0.0	0.0	0.0	0.0
Viet Nam	Dien Bien	116	2.7	21.8	-2.0	0.8	19.8	0.8	19.8	122	3.0	22.1	-1.9	1.2	20.2	1.2	20.2
Viet Nam	Hau Giang	148	2.3	20.9	-0.1	2.2	20.8	2.2	20.8	149	2.2	20.9	-0.1	2.1	20.8	2.1	20.8
Viet Nam	Lai Chau	100	2.8	21.9	-2.2	0.6	19.7	0.6	19.7	103	3.1	22.2	-2.1	0.9	20.1	0.9	20.1
Viet Nam	Lao Cai	309	0.0	16.0	-0.4	0.0	15.6	0.0	15.6	210	0.0	12.3	-0.7	0.0	11.6	0.0	11.6
Viet Nam tot		25,105	**0.3**	**17.3**	**-0.5**	**0.2**	**16.8**	**0.2**	**16.8**	**25,105**	**0.2**	**6.6**	**-0.5**	**0.2**	**6.2**	**0.2**	**6.2**
Zambia	Central	2,522	19.4	39.2	7.2	12.2	32.0	19.4	39.2	2,520	19.0	38.9	7.2	11.8	31.7	19.0	38.9
Zambia	Copperbelt	1,834	22.1	42.0	8.7	13.4	33.3	22.1	42.0	1,831	21.7	41.7	8.7	13.0	33.0	21.7	41.7
Zambia	Eastern	1,184	4.2	25.0	12.2	0.0	12.8	12.2	25.0	1,185	4.2	25.0	12.1	0.0	12.8	12.1	25.0
Zambia	Luapula	694	4.3	25.1	26.9	0.0	0.0	26.9	26.9	694	4.3	25.1	26.8	0.0	0.0	26.8	26.8
Zambia	Lusaka	582	17.8	38.0	7.1	10.8	31.0	17.8	38.0	581	17.5	37.7	7.1	10.4	30.7	17.5	37.7
Zambia	North-Western	645	8.1	34.3	20.7	0.0	13.6	20.7	34.3	645	8.1	34.3	20.7	0.0	13.6	20.7	34.3
Zambia	Northern	1,542	4.9	27.0	24.4	0.0	2.6	24.4	27.0	1,543	4.9	27.0	24.4	0.0	2.6	24.4	27.0

		Low plantation productivity variant								High plantation productivity variant							
		Wf harvest	NRB_A			NRB_{B2}		NRB_{B1}+NRB_{B2}		Wf harvest	NRB_A			NRB_{B2}		NRB_{B1}+NRB_{B2}	
			Min	Exp	NRB_{B1}	Min	Exp	Min	Exp		Min	Exp	NRB_{B1}	Min	Exp	Min	Exp
Country	Admin unit	Kt	%	%	%	%	%	%	%	Kt	%	%	%	%	%	%	%
Zambia	Southern	1,783	12.9	32.5	7.4	5.5	25.1	12.9	32.5	1,786	12.7	32.3	7.3	5.3	25.0	12.7	32.3
Zambia	Western	784	6.7	33.2	7.4	0.0	25.8	7.4	33.2	785	6.7	33.2	7.4	0.0	25.8	7.4	33.2
Zambia tot		11,569	**12.9**	**33.9**	**12.2**	**6.2**	**21.9**	**18.4**	**34.0**	**11,569**	**12.6**	**33.8**	**12.2**	**6.0**	**21.7**	**18.2**	**33.9**
Zimbabwe	Bulawayo	19	7.8	30.7	14.7	0.0	16.0	14.7	30.7	19	7.2	30.3	14.7	0.0	15.6	14.7	30.3
Zimbabwe	Harare	40	5.4	28.6	12.4	0.0	16.3	12.4	28.6	40	5.3	28.5	12.3	0.0	16.2	12.3	28.5
Zimbabwe	Manicaland	1,172	5.4	29.0	51.0	0.0	0.0	51.0	51.0	1,177	5.2	28.9	50.7	0.0	0.0	50.7	50.7
Zimbabwe	Mashonaland Central	1,135	6.5	29.6	35.6	0.0	0.0	35.6	35.6	1,141	6.2	29.4	35.3	0.0	0.0	35.3	35.3
Zimbabwe	Mashonaland West	1,728	10.8	34.3	30.9	0.0	3.4	30.9	34.3	1,724	9.9	33.6	30.9	0.0	2.6	30.9	33.6
Zimbabwe	Masvingo	1,240	5.5	30.1	40.5	0.0	0.0	40.5	40.5	1,244	5.4	30.0	40.4	0.0	0.0	40.4	40.4
Zimbabwe	Matabeleland South	1,029	11.3	37.2	33.6	0.0	3.7	33.6	37.2	1,025	10.4	36.6	33.7	0.0	2.9	33.7	36.6
Zimbabwe	Midlands	1,857	11.4	35.2	31.7	0.0	3.5	31.7	35.2	1,853	10.4	34.4	31.8	0.0	2.6	31.8	34.4
Zimbabwe	Matabeleland North	1,168	13.9	40.5	42.5	0.0	0.0	42.5	42.5	1,158	12.6	39.7	42.8	0.0	0.0	42.8	42.8
Zimbabwe	Mashonaland East	1,199	6.9	30.1	24.6	0.0	5.5	24.6	30.1	1,204	6.6	29.8	24.5	0.0	5.3	24.5	29.8
Zimbabwe tot		10,584	**9.2**	**33.3**	**35.6**		**2.2**	**35.6**	**37.8**	**10,584**	**8.5**	**32.8**	**35.6**		**1.9**	**35.6**	**37.5**
Total Africa		**441,321**	**19.5**	**35.4**	**15.0**	**15.8**	**26.4**	**30.8**	**41.4**	**441,321**	**18.5**	**34.5**	**15.0**	**15.1**	**25.6**	**30.1**	**40.6**
Total Americas		**188,549**	**4.7**	**23.7**	**15.8**	**3.5**	**15.0**	**19.4**	**30.9**	**188,549**	**3.0**	**20.8**	**15.8**	**2.1**	**12.2**	**17.9**	**28.1**
Total Asia & Oceania		**729,112**	**17.8**	**29.2**	**2.4**	**16.2**	**26.7**	**19.1**	**29.6**	**729,112**	**12.8**	**24.1**	**2.2**	**11.4**	**21.9**	**14.2**	**24.6**
Total Pan-tropics		**1,358,982**	**16.6**	**30.4**	**8.3**	**14.3**	**25.0**	**22.9**	**33.6**	**1,358,982**	**13.3**	**27.0**	**8.3**	**11.3**	**21.8**	**19.9**	**30.3**