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Sustainable wood energy

The forest in sub-Saharan Africa needs comprehensive strategies for energy from biomass

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The forest in sub-Saharan Africa needs comprehensive strategies for energy from biomass

Bonn, 28 March 2018. The 21 March did see the celebration of the International Day of Forests, although very few forest campaigners are in celebratory mood. The United Nations FAO had already launched such a global day in the 1970s. Many millions of hectares of forest have since been lost in the tropics, something for which the expansion of forest area in the temperate zones has been unable to compensate.

A key reason for the loss of forest cover and the deterioration in its environmental quality is the (excessive) harvesting of timber for energy generation. For the 2017 International Day of Forests with its 'wood and energy' theme, the FAO compiled some remarkable figures: 2.4 billion people are dependent on wood energy for cooking and heating; over half of the timber harvested worldwide is used to produce energy; wood energy accounts for 40 per cent of all renewable energy, more than solar, hydroelectric and wind power combined; 900 million people, 75 per cent of them women, are employed in the wood energy sector; and sub-Saharan Africa is particularly dependent on wood energy, which accounts for 90 per cent of total energy consumption in Tanzania, for example.

The International Energy Agency expects biomass energy production to go on increasing globally until at least 2040. Even at its most optimistic, the International Renewable Energy Agency (IRENA) predicts that Africa's biomass consumption will only decrease slightly – in fact, it could even increase significantly. Is this good or bad news for forests?

Interestingly, the answers to this question vary greatly. In many industrialised nations, the use of wood energy is being actively expanded. This concerns the (rediscovered) use of firewood, but far more often of wood pellets. Corresponding trade is growing exponentially. This boom is all down to the versatile and easily storable and transportable nature of biomass, as well as its good compatibility with existing energy systems. Policy-makers are generally supporting this usage trend. In developing countries, the situation is different. Wood is often seen as old-fashioned and laden with negative associations such as emissions, accidents and deforestation. Many nations have tested and are testing out substitution programmes, for example using liquefied petroleum gas. While this certainly has proven and is proving successful in emerging economies, in the poorer sub-Saharan African countries, such programmes have frequently only appealed to urban and higher-income households. In some cases, charcoal production has simply been prohibited. However, in the absence of alternatives, this has only served to promote black market activity and push up prices, barely bringing about any reduction in consumption.

Nonetheless, most countries are working on partial solutions, such as the distribution of improved stoves and reforestation measures as part of climate protection programmes. By contrast, approaches to increasing the supply of sustainably produced biomass are rare. Rarer still are truly integrated approaches addressing the whole wood energy value chain, from production, sales and processing to the consumer.

However, the failure to take realistic action or any action at all on the wood energy front simply displaces and exacerbates the problem instead of solving it. After all, it is precisely the poor population in sub-Saharan Africa that barely has any alternative to wood. And substitution programmes, most of which are based on fossil fuel energy, can only bring about change over a very long period of time. If the African population, which is expected to grow to up to four billion people by 2100, is to move to sustainable energy consumption, then it is necessary to look to the production of sustainable wood energy. This wood can come from forestry (connected stocks of trees) as well as agroforestry (trees integrated into agricultural operations).

These wood energy strategies require a raft of measures: coordinated land, tree and forest rights, improvements in silviculture and processing technology (especially in forest management, agro-forestry cultivation systems and charcoal/pile technology), price increases for non-sustainable production, and reforms in coordination between the sectors involved (agriculture, business, energy, forest) and between the different administrative levels, from individual land/foresters to ministries. Because the African wood energy industry essentially consists of atomised value chains, decentralised approaches originating in rural areas are essential. Nonetheless, the risk of overexploitation means there is an equal need for centralised monitoring.

While this is a highly complex sector with a considerable risk of setbacks and negative headlines, donors should not shy away from it. After all, ignoring it is a worse and more dangerous course of action. Consequently, the positive attitude towards biomass in industrialised nations and these countries' centuries-old tradition of used-based forest conservation should be promoted further. Through consistent efforts, the wood energy sector can become a positive force for forests. Without such efforts, however, the opposite will occur.