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Policy Brief

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The Tragedy of the Unregulated: Why the Government should Reform the Charcoal Sector

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Summary

Charcoal is increasingly becoming a primary energy choice, accounting for 96% of cooking fuel for the growing urban population of South Sudan (NBS, 2012; Tütmamer & Anai, 2018). Yet not much is known about the level of government regulation to make the woodfuel, especially the charcoal sector, sustainable. Using individual interviews and focus group discussions with charcoal producers, transporters, traders, soldiers and communities, this Brief¹ identifies the following issues, and which demand the government's urgent action:

- I. **There is no effective regulation throughout the charcoal value chain.** The charcoal sector remains largely unregulated, leading to tragic consequences. For example, despite an export ban, traders continue to illegally produce and export charcoal through various exit points to neighboring countries and beyond, even to the Persian Gulf.
- II. **Charcoal emerges as a vital source of livelihood for poverty ridden South Sudanese households.** Charcoal production is not just an environmental or energy issue; it is part of income generation for small rural household producers, a stopgap source of income for soldiers facing salary delays, and a source of large profits for large-scale producers. This requires differentiation to avoid harming small-scale producers who rely on it for basic livelihoods.

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- III. **The charcoal sector is militarized.** Soldiers engage in both large- and small-scale charcoal production, transportation, and trade, and provide access for foreigners and other large-scale producers, sometime intimidating landowners, and communities, making the sector less accountable and difficult to regulate.
- IV. **There are significant harmful social and environment impacts of charcoal production and trade.** Charcoal production has had considerable negative social and environmental impacts, including 1) clear-cutting of forests; 2) widespread uprooting of trees and burning of the roots; 3) cutting down and burning of old, socially valuable trees; and 4) losses of ecosystem services.
- V. **Land access for charcoal production generates conflicts.** Charcoal production poses threats to communal cohesion and stability, as the way land is accessed to produce charcoal generates conflicts. Individuals connected to authorities, for example, annex pieces of communal land and lease it to foreigners to produce charcoal, while refusing to share the benefits with the community. These exclusive benefits are causing land disputes, for example, between clans in Lokiliri Payam and charcoal producers, triggering conflicts.

Considering the above, swift government intervention should consider the following:

- Enforce the charcoal export ban and strengthen enforcement mechanisms;
- Ban foreigners and soldiers from engaging in large-scale charcoal production and trade, and put in place mechanisms to produce and trade charcoal for domestic consumption only;
- Introduce licensing for charcoal production and trade and ban cutting of certain tree species and clear cutting/uprooting;
- Promote alternative sources of cooking energy such as gas;
- Improve the welfare of the soldiers, including by indexing salaries to inflation and paying them well and on time; and
- Strengthen governance institutions to manage the sector and ensure sustainability.

1. Introduction

Owing to lack of viable alternatives, charcoal is increasingly becoming a key energy choice for the growing urban populations of South Sudan (Harycom et al., 2021; Tiitmamer & Anai, 2018; NBS, 2012). Intractable conflicts have continuously affected South Sudan's energy development. As a result, the country has the lowest electricity consumption rate in Africa and the highest cost of energy in the world (World Bank, 2016). In addition, lack of strong institutions and inadequate technical and financial capacities have hampered and delayed energy development, including several major hydropower projects on the Nile at Bedden, Shukoli, Fula, and Lakki. Most

important, inadequate capacities have impeded the rollout and enforcement of an effective regulatory framework for producing all forms of sustainable energy, including wood fuel and liquefied petroleum gas (LPG).

About 96 percent of families in South Sudan use biomass (firewood and charcoal) for their cooking needs (NBS, 2012; Tiitmamer & Anai, 2018). Several factors have increased the demand for charcoal, namely, increase in the number of people living in the urban areas, conflicts that have displaced people to refugee settlements and internally displaced persons (IDP) Camps where they depend on charcoal for cooking, and demand from neighboring countries and beyond. Given little capacity to regulate the sector, this has significant negative implications for forests and the environment in South Sudan.

Some of the previous works on charcoal sector in South Sudan look at a range of issues that include illicit trade in charcoal across borders (Harycom et al., 2021), challenges and barriers to safe access to cooking fuel (Barbelet et al., 2012), analysis of experiences and perspectives of end users of charcoal in the value chain (Leonardi et al., 2020), and charcoal production as a threat to biodiversity and wildlife habitats (Adkins 2018). Yet little attention has been paid to the regulation and militarization of the charcoal sector, its potential as a conflict driver, and the power relations or power structures that control the sector and the state of regulatory capacity and its effectiveness. Therefore, this analysis contributes to our understanding of how the militarization of the charcoal sector and inadequate governmental regulatory capacity undermine sustainable management of the charcoal sector.

The rest of the Brief is structured as follows: Section 2 describes the methods used in collecting the data and in analyzing the collected data, Section 3 discusses key findings and policy implications while Section 4 concludes the Brief by offering policy recommendations.

2. Methodology

The study used key informant interviews, focus group discussions, and field observations. Questionnaires targeting specific groups in the value chain – producers, traders, and communities were designed. Three teams conducted field work in Nimule, Aru Junction on Juba-Nimule Highway, and around the areas between Juba and Mongalla between November 2020 and January 2021.

In Aru area, we conducted 34 key informant interviews with community leaders, elders, youth, and women representatives. Out of these participants, 9 were charcoal producers, 7 were traders (both wholesalers and retailers), 8 were transporters and 10 were members of the communities where charcoal is being produced. We also conducted five focus group meetings in Lokiliri Payam and one with the Department of Forestry in Eastern Equatoria

State. In Nimule and adjacent areas, such as Pageri, Moli, and other locations, we conducted a total of 53 interviews. Of these, 11 were with producers, 12 with community members, 11 with traders, 10 with transporters, and 9 with officials of the local government. Finally, a content analysis was deployed to generate insights from the interviews.

3. Key Findings and Policy Implications

3.1. Lack of laws and regulations

The charcoal sector is not effectively regulated at various stages in the value chain, including production, trade, use, export, and transportation. This is despite the government banning charcoal exports in 2015 through a Ministry of Environment and Forestry’s Ministerial Order, followed in 2018 by a similar ban by the Ministry of Trade and Industry and followed in August 2020 with an order by the Governor of Eastern Equatoria State banning illegal logging and international exports of logs and charcoal as an effort towards a peaceful, just, and sustainable charcoal sector.

However, none of these bans has been effectively enforced and the charcoal still finds its way out of the country. For example, our interviews and field observations reveal that traders collude with some elements within the law enforcement agencies to smuggle out the charcoal through the Nimule border port. Other border points, such as Renk, a border town with Sudan, have never even adhered to the charcoal ban order in the first place. The danger is that charcoal export increases the demand and puts pressure on the forest resources of South Sudan. Sustainable charcoal production can be achieved if charcoal export ban is strictly enforced. The increased demand for charcoal from the regional markets, coupled with domestic consumption, will drive production to unsustainable levels. Part of the failure of the charcoal export ban is that the government pronounces policies without adequate policy tools to enforce them. For example, on the ground, there are not enough forest rangers. Meanwhile, members of organized forces are complicit in the business of charcoal, making enforcement a futile exercise.

While charcoal production is legal for domestic production, there is no law or policy that specifies the amount to be produced, locations of production, what types of trees to cut, and how to manage the land and reforestation. This makes the sector vulnerable to illegal activities. Regulating the sector in an effective manner is also made difficult by the cross-cutting nature of charcoal, spanning forestry, environment, energy, development, urban governance, and international trade, which are not easy to coordinate and regulate.

The absence of forestry and environmental laws presents multiple policy relevant implications, including lack of active forest rangers to enforce production practices; lack

of knowledge of the dangers of unregulated charcoal business; and lack of clear forest regulations or policies from the government that define their mandate. As a result, charcoal producers use informal means outside legal regulations to gain access to forests and produce charcoal. They promise landowners – mostly communities and individuals – small fees, ranging from 50 SSP to 150 SSP a bag, depending on location, to gain access. The armed elements don't even need such permission from the community. They walk into the forest, cut, and leave the land bare and barren. Some of the soldiers interviewed revealed that nobody grants them access as they just walk deep into the forest for about 2 hours and cut and produce charcoal. Some of the charcoal produced by the soldiers is on small scale, just enough to make ends meet, while others are involved in large scale production, often with foreigners, producing about 100,000 bags in a month. It is this large-scale production that is posing serious threats to the environment.

Lack of effective regulation of the forestry sector translates to charcoal production taking place concurrently with logging. The loggers cut and use the big logs for timber and the small ones for charcoal. What is taking place is basically a clear cutting, with all the woods that are not in use for charcoal being used for logs and big trees of more than 100 years old used for logs and their branches used to make the charcoal. Consequently, communities fear their lands will turn to desert soon if the production of charcoal continues unabated.

3.2. Poverty and limited opportunities

Charcoal production has become a means of livelihood for various groups. There are soldiers whose salary, which is barely paid, is so meager that it cannot make ends meet. Accordingly, there are smallholder farmers, who produce a few bags to earn an extra income; and there are others hired as laborers by largescale producers to earn some Pounds. The large-scale charcoal producers and sellers make huge profits through exports and domestic sales.

Some of the large-scale producers we interviewed indicated that they sell about 1000 bags or more in a month and make about 5,000,000 SSP a month. This is about \$11, 627.91 at the current exchange rate (US\$1=430 SSP).

Of the retail traders interviewed in Nimule and adjacent areas, the highest earner makes about 300,000 SSP in a month and the lowest earner makes about 50,000 SSP in a month, both roughly translating to \$697 and \$116.28, respectively. Thus, both the commercial and subsistence producers are highly motivated by the opportunity to make profits or make ends meet.

3.3. Militarization of & foreigners' involvement in the charcoal sector

The charcoal sector in South Sudan has been militarized² with foreigners dominating and colluding with elements from the organized forces. Community members, on whose lands the charcoal production occurs, have little power, even though they sometimes perform the ceremonial role of giving permission to the charcoal producers.

One of the Payam Administrators we interviewed lamented that communities “are voiceless in the hands of foreigners and internally displaced persons (IDPs) since some soldiers used foreigners to work for them in charcoal production, they don't respect the citizens of this land.” They went on to say that soldiers use “their unmatched privilege or impunity to reap more profits from the charcoal business.” In other words, members of the organized forces coerce the communities to gain access to land and its forest resources and use their privileges to access the market.

One of the participants said that soldiers “can stop any truck passing by and load it with charcoal by force.” It is important to note that militarization of charcoal has different dimensions: high militarization and lower militarization of the charcoal sector. The later involves soldiers who engage in producing charcoal to earn an extra income. The former involves soldiers, the ones with influence and authority, who engage in acquiring lands, hiring foreigners to produce the charcoal from it, engage in or collude with foreigners to export and share the profits. The former are hard to control, and are the ones who are causing the greatest damage to the forest and the environment.

Foreigners constitute the bulk of those who produce and sell the charcoal at large scale for domestic use and export. Foreigners are also dominant in the large-scale transportation of charcoal to the market. Large-scale production is dominated by Ugandans, Congolese, and Darfuris, while transportation is dominated by Ethiopians and Eritreans. The price of a 50 kg bag at the production site ranges from 1,500 to 2,000 SSP; in Juba, the price jumps to 5000 SSP. At the lower rung of the production are the communities who produce charcoal mainly for subsistence.

3.4. Environmental and social impacts

An increase in charcoal production and trade in the study areas has produced two types of impacts: environmental and social impacts. Environmental impacts manifest in form

² By militarization of charcoal, we mean soldiers are involved in the business of charcoal as producers, traders, and enablers, using their influence and authority to facilitate the business of charcoal.

of forests degradation, which threatens ecosystem services often expressed in form of climate regulation, food supply, medicine, building materials, clean air, water, and nutrient cycling, among others (Mengist et al, 2020). Social impacts are experienced through the loss of land, conflicts, poverty, and corruption.

Almost all the charcoal producers in the areas we visited use all kinds of tree-cutting machines such as 272-excavator, with a few small-scale producers using hand tools such as axes and machetes/pangas. The types of tools used determine the scale of production and the subsequent impacts on the forest and the environment. None of the producers interviewed applies best land management practices. They do not replace the trees they cut down. This practice causes an unprecedented level of damage on the environment, as the capacity for it to regenerate is zero without reforestation³.

South Sudan's first State of the Environment and Outlook Report released in 2018 estimated the annual rate of deforestation to be between 1.5 and 2 percent. Communities told us that some of the tree species that dominated considerable parts of their landscape are now disappearing. These include Bamboo, Lulu, Lalob and Tamarind trees "because forestry has been turned into an individual property that some individuals (unnamed) cut at will." In Moli, for example, more than 100-year-old trees of various species have been cut, leading to the disappearance of the whole heritage. The communities have lamented they have no power to either speak out or act for fear of guns, as the soldiers are the ones doing the charcoal and logging business in collaboration with the foreigners.

The way charcoal production is done generates conflict due to lack of land tenure regulations. Accordingly, traditional landowners give verbal permission to foreigners to cut trees from a random chunk of forests owned by the community. One of the interviewees reported that a local "landlord can decide to give away an area of 10km² to charcoal makers for just SSP10, 000 and additional fee of SSP200 per bag of charcoal." These exclusive benefits have caused land wrangles between the clans in Lokiliri Payam and the charcoal producers, leading to conflicts.

Inefficient charcoal production processes in the form of locally built kilns and unregulated production practices have affected the communities by causing large volumes of wood to be harvested from nearby forests on community land, leading to cutting of more trees and degradation of the land. Shea nut trees and Axil Africano tree species, locally known as (Eri tree), cut down for logs, house construction, and residual small branches being burnt for charcoal, are now at risk of complete depletion. Participants reported to us that no

³ It is important to note that if the land is left completely bare for sometimes and not disturbed again, perhaps some regeneration can occur. However, if the land is cut and subjected to other uses such as farming, it may not regenerate completely. To come up with best practices would need innovative solutions through further studies.

trees are being left, with even the oracle trees being cut in full view of government officials. There is visible desperation on the part of communities as they are not sure what the future holds. Community participants said that the destruction of forest resources is happening because of weak, unenforced, or disjointed forest policies.

3. Conclusion and Recommendations

We have shed light on the nonregulation of charcoal sector and the power relations that control it. As illuminated, militarization of and colluding with foreigners in the sector make the sector less accountable, posing serious security threats to the people of South Sudan. Other factors include inadequate regulatory capacity and poverty, leading to destructive charcoal production. This has resulted in substantial environmental and social damage. The main environmental impact is deforestation which poses a substantial threat to habitats for wildlife species, as well as to ecosystem services. Social impacts include land dispossession, conflicts, corruption, and poverty.

In conclusion, the charcoal sector is an important part of the energy sector in South Sudan. The charcoal sector in this context characterizes the Garrett Hardin's concept of the "tragedy of the commons," which we prefer to call the tragedy of the unregulated. Given the absence of an effective regulation, it would be a matter of time before the forest resources are depleted, with huge, negative consequences. Therefore, the sector should be effectively regulated to become more sustainable.

To ensure the charcoal sector contributes to a sustainable energy mix and end the tragedy of the unregulated, we recommend the following:

- I. Enforce the existing charcoal export ban by enhancing regulatory capacity, including establishing a special environmental and forestry police unit, strengthening border control, training the police and armed forces on ethics and environmental awareness, and equipping the special units with tools to monitor, detect, and arrest those engaging in illegal production and export of charcoal.
- II. Ban foreigners and soldiers from engaging in all the value chains of charcoal sector, particularly large-scale charcoal production, trade, and transportation as this intervention can go a long way in reducing the pressure on forest resources. Control mechanisms should be strengthened within the army to reign in the rogue elements and soldiers should be given environmental awareness training. Welfare of men and women in uniform and their families should be improved by increasing their pay and indexing benefits to inflation.
- III. Review and enact policies, laws and regulations on environmental protection, forestry, and energy. This includes restricting production, particularly production of certain trees, banning and enforcing a ban on clear-cutting and up-rooting, and

enforcing replacement of cut trees. Producers need to be licensed, and the issuing of licenses should be conditional on a clear plan and strict implementation with regards to sustainable management of the land. While doing these, efforts should be made to distinguish the large-scale charcoal producers who cause significant harm from the small-scale producers who engage in charcoal business to make ends meet.

- IV. Promote investment in alternative forms of energy: one important aspect is to invest in LPG which should include studying the barriers to its development and use, creating production incentives and subsidies to make it affordable to produce and consume.
- V. Address poverty and constrained livelihoods, which prompt exploitation of forests for charcoal. Accordingly, the government should invest in income generating activities for communities as alternatives to charcoal.

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The Sudd Institute is an independent research organization that conducts and facilitates policy relevant research and training to inform public policy and practice, to create opportunities for discussion and debate, and to improve analytical capacity in South Sudan. The Sudd Institute's intention is to significantly improve the quality, impact, and accountability of local, national, and international policy- and decision-making in South Sudan in order to promote a more peaceful, just and prosperous society.

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