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Making the Commodity Sector Work for Developing Countries

Local Impacts, Global Links, and Knowledge Gaps

Switzerland occupies an important position in the global trade of hard and soft commodities. Companies headquartered within its borders directly or indirectly shape commodity extraction practices around the world, some of which carry considerable negative environmental and social risks on the ground, particularly in fragile contexts. Minimizing these risks and maximizing shared economic gains could enable mutually beneficial development and counteract persistent social and political inequality. This factsheet examines these issues locally in developing countries – complementing a previous factsheet [A] that focused on Switzerland's role as a trading hub. It further highlights promising approaches for research and policy change with regard to developing country governments, involved companies, trading hubs, and the international community.

The commodity sector: Risks, and opportunities at the global and local levels

The production, processing, and trading of commodities through complex global and regional value chains connect actors from developed, developing, and emerging countries. While companies in developed countries can draw on substantial legal, political, and financial resources to pursue their interests within global commodity chains, many developing countries involved have great difficulty mobilizing the necessary resources required to assert their own interests and rights. A lot of attention is paid to the economic outcomes of global commodity markets, but the actors involved also share a responsibility for balancing the environmental and social benefits and costs of commodities along the value chain. Local communities in developing countries are usually vulnerable participants in such equations, often facing food insecurity, environmental degradation, and negative health impacts, while receiving few of the economic benefits of commodiy production. Notably, negative environmental impacts in developing countries can have regional and even global impacts, such as population displacement or widespread pollution. A recent study commissioned by the Swiss Federal Office for the Environment,[1] for instance, describes how Swiss financial practices affect global carbon emissions, including investments in the commodity sector linked to extractive activities in developing countries. These activities are associated with major carbon emissions, contributing to a possible 4 – 6 ° Celslus increase in global temperatures. Meanwhile, experts call for limiting the global temperature increase to 2 ° Celsius.

A "Switzerland and the commodities trade: Taking stock and looking ahead" (2016). Swiss Academies of Arts and Sciences Factsheets 11 (1).

Some key terms

→ **Commodities** are raw materials or primary agricultural products that can be bought or sold.[B] These include soft commodities such as timber, soy, and cotton, and hard commodities such as copper, gold, and crude oil.

→ The **resource curse**, according to Sachs and Warner (1995), refers to "one of the surprising features of economic life (whereby) resource-poor economies often vastly outperform resource-rich economies in economic growth".[C]

→ **Indigenous and local communities** have been described as those communities that have a long association with the lands and waters that they have traditionally used.[D]

→ **Participatory governance (PG)** is a regulatory framework in which the task of running public affairs is not only entrusted to government and public officials, but also allows for people who would otherwise remain voiceless to contribute to decision-making processes. It involves cooperation between state institutions and civil society groups, in an effort to democratize the formulation and implementation of public policy from local to national / international levels. Notably, PG means more than just allowing stakeholders or local communities to participate. Its greater purpose is to deepen democracy, not merely to facilitate implementable agreements.[E]

→ **Hard law** refers to binding legislation (e.g. enshrined in national constitutions, global trade rules, and ratified international treaties). **Soft law** refers to voluntary international or national standards that, while not legally binding, help to build consensus and establish legitimacy (e. g. declarations, guidelines, guiding principles, and codes of conduct). The latter are, however, not enforceable.[F]

B Oxford Dictionaries. Oxford University Press. http://www.oxforddictionaries.com/definition/english/commodity (accessed 18 January 2016).

C Sachs J.D., Warner A.M. 1995. Natural Resource Abundance and Economic Growth. NBER Working Paper Nr. 5398.

D Convention on Biological Diversity. Additional information received on use of the term "Indigenous Peoples and Local Communities". Montreal, Canada 2014. https://www.cbd.int/doc/meetings/cop/cop12/information/cop-12-inf-01-add1-en.pdf.

E Friedman S. 2006. Participatory governance and citizen action in postapartheid South Africa. International Institute for Labour Studies, Geneva.

F Abbott K.W. and Snidal D. 2000. Hard and Soft Law in International Governance. International Organization 54(3): 421.

Developing hard and soft law instruments to promote more equitable sharing of risks and benefits associated with commodity production and trading is a considerable challenge. For one thing, little progress has been made towards identifying evidence-based connections between policies or actions by international players like Switzerland and specific local outcomes in developing countries. Among other reasons, this is due to the opacity of commodity trading activities and multi-actor relationships along commodity chains. As a result, assessing the effectiveness of individual hard and soft law instruments globally has been largely unsuccessful. More attention should be given to interventions and participatory governance processes that can improve conditions at the local level in the countries where commodities are extracted and produced.

A growing body of literature describes how commodity production in developing countries – so-called host countries – reshapes local socio-economic conditions. Our empirical review of this literature (see Box) highlights how the production of hard and soft commodities affects local livelihoods and environmental conditions in distinct ways. Promising approaches to reduce vulnerability and address inherent inequalities in the system are common to both commodity types, yet many research gaps remain. The remainder of this factsheet first introduces insights from past research on hard and soft commodity production, before discussing existing knowledge gaps and potential policy implications and solutions.

Soft commodities

Grains, sugar, soy, rubber, palm oil, timber, coffee, cocoa, and cotton are among the most important soft commodities produced by developing and emerging countries. As the "home" country for several major transnational companies involved in commodity trading and extraction, Switzerland plays a key role in the corresponding value chains. Half of the entire global trade in sugar, for instance, is handled in Switzerland, and 60 % of the world's coffee trade. The production of soft commodities extends across vast geographical areas, but our review of some 150 papers on local impacts associated with these production activities yielded common threads related to impacts on people's livelihoods and the environment.

Livelihood impacts and environmental risks of soft commodity production

Soft commodity production depends on access to arable land, water resources, and human labour. Most of the crops are grown as monocultures on a massive scale, such as vast rubber and oil palm plantations. This often results in *increased vulnerability* among local communities. While locals may experience economic benefits, mainly as production activities begin, they often become dependent on unfamiliar crops.[2, 3] In addition, they face an increased risk of elite capture (see below) and vulnerability to market prices that fluctuate based on global rather than local dynamics. They must also contend with depressed commodity prices resulting from agricultural subsidies in developed countries. Small-scale farmers producing crops like soy and cotton often shift from local to genetically modified seeds and related technologies.[4] While some evidence suggests that vulnerable social groups such as indigenous communities or women can

Storage of coal waste on the lands of the El Hatillo community in Colombia has had devastating impacts. Although resettlement talks began six years ago, the matter is unresolved.

benefit from the introduction of such technologies, the lasting impacts of such shifts are unclear due to the lack of comprehensive sustainability assessments.[5] Moreover, modern technologies have been linked to deskilling at the farm level, and resulting dependency on external inputs like seeds, fertilizers, and pesticides likewise increases exposure to market volatility.[6–9]

The push to transform diverse landscapes into large-scale monocultures for soft commodity production can also result in increased *concentration of wealth and power* in the hands of local or regional elites. Landowner rights and access to land are frequently reshaped by unequal partnerships and private land deals between national or transnational commodity companies and states. Related pressures often lead to conflict, illegal seizure of land and water resources, and subsequent displacement and migration of communities or small-scale farmers.[7, 10, 11] These dynamics contribute to "elite capture", in which a small group receives the consolidated benefits of soft commodity production, while the majority of the community experiences increased vulnerability and dependency.[12]

Land use change for soft commodity production is frequently associated with significant or even irreversible environmental damage.[13–15] Conversion of primary forests or peatlands into rubber or oil palm plantations, for example, can severely harm biodiversity and soil fertility.[16, 17] Large-scale deforestation for timber production or the cultivation of cash crops like soy can also fundamentally change watersheds, potentially constraining water availability over time.[18, 19] Short-term overexploitation of soils and primary forests can also reduce the long-term productive capacity of land. Finally, changes in land use also frequently cause growing carbon emissions that further accelerate climate change.[14, 15]

Hard commodities

Whereas soft commodities are largely agricultural, hard commodities are overwhelmingly mined and extracted. The following section outlines some of the local impacts associated with production of hard commodities in developing countries, in particular gold, copper, iron, aluminium, coal, gas, and oil.

Livelihood impacts and environmental risks of hard commodity production

Extractive activities often initially have a *positive impact on local economic development*, with affected communities generally

experiencing income increases, in terms of both labour and compensation.[20–22] Farming households, for example, can benefit from artisanal and small-scale mining work in their off-season.[23–25] But the benefits may be short-lived, as mine operators tend to favour increased mechanization over time, potentially pushing labourers back into severe poverty. In some cases, the increasing importance of mining over traditional agriculture causes social structures to change, undermining the economic and social status of women, in particular, who face further (or renewed) marginalization and impoverishment.[26, 27]

Extractive activities also frequently cause *health risks* and conflict, sometimes in contravention of national laws and global commitments.[28–30] Mercury used in artisanal gold mining, for instance, harms water quality and has been linked to adverse health effects among local people.[31, 32] Since rural subsistence farmers, many ethnic minorities, indigenous groups, and forest communities depend directly on the natural environment for their livelihoods, mining-related health and environmental harms can contribute to local conflicts. This, in turn, can exacerbate the political marginalization of certain groups and compromise livelihood systems. Similar to soft commodities, positive short-term impacts on incomes often go hand in hand with long-term negative impacts on human and natural capital.[33–35]

Increased pollution is one of the primary environmental risks of copper,[36–39] iron,[37, 40] coal,[33, 41] and gold mining,[30, 42, 43] as water sources become contaminated with mining waste. But water is only one pathway through which surface contaminants spread; wind can also pick up dangerous sediments and disperse them over wide areas.[44, 45] Metal concentrations in nearby soils and watersheds often reach elevated levels, damaging aquatic ecosystems and soil quality.[46–49] Surface mining,[37] coal extraction,[33, 50] and gas drilling[51] can likewise generate unsafe levels of air pollution, often contributing also to negative impacts on biodiversity and ecosystems.[52, 53]

Mining activities can *negatively impact indigenous and local communities*, who rely on sustainable use of local ecosystems and biological diversity. Studies of mining in Africa have found evidence of extensive clearing of rainforests near mines. Likewise, water, soil, and air pollution combine to degrade or cause irreversible harm to agricultural lands and forests.[43,54] Local communities often face major power asymmetries due to endemic corruption and repression by local elites, whose favoured tools are formal top-down governance mechanisms designed to their benefit.[55–57] The remoteness of national policymakers and elites from the directly affected natural systems and communities can also contribute to clashes between local and national interests.

Sustainable development calls for more participatory governance

At the local level, participatory governance has proven to be one of the most effective ways of addressing economic and social needs, while fostering sustainable use of natural resources. Commodity value chains that lack regulations in line with basic principles of sustainable development tend to externalize environmental costs, destabilize local social structures, and exacerbate existing inequalities between winners and losers. In the case of rubber and oil palm plantations, for instance, participatory approaches to avoiding conversion of primary forests and managing agricultural areas have been shown to be effective at balancing social needs and development needs, while ensuring long-term conservation of local agro-biodiversity.[58–60]

To enable a more equitable distribution of benefits and costs of commodity production and trade, processes should be made more transparent and participatory. This entails both the use of impact assessments and the empowerment of indigenous and local communities to ensure fairer baseline conditions for entering into negotiations with mining / agricultural companies and the state.[54, 61] Projects should be organized in a way that empowers local communities and gives them a sense of self-determination.[62] Private companies involved in commodity extraction, for instance, sometimes improve local infrastructure, or directly provide health, education, and security services for local communities. While such actions may initially appear to be beneficial, research shows that local actors often feel this makes them overly dependent on private interests. Participatory processes can be used to better allocate responsibilities to state authorities, civil society actors, and private businesses in local commodity-related investment settings.

Literature review on commodity sector shows need for studies on "home" and "host" countries, cross-border connections, and policy measures

The challenges and research needs summarized here stem from a detailed commodity-sector literature review, from the perspective of sustainable development, conducted by researchers at the Centre for Development and Environment (CDE), the World Trade Institute (WTI) of the University of Bern, and the Institute for Business Ethics (IWE) of the University of St. Gallen. The review calls for additional studies on the role of "home" countries like Switzerland, where commodity traders and extractive companies are headquartered, and "host" countries in the developing world, where fossil fuels and minerals are extracted and food, feed, and fibres are grown. Studies are especially needed on the impacts in both home and host countries, on the relations between them, and on the policy measures available in either group of countries. This factsheet focuses on key issues facing host countries in regard to resource extraction, environmental impacts, and pathways to participatory governance and equitable benefit sharing. A previous factsheet based on this review emphasized the pressing knowledge gaps and policy issues for Switzerland and other home countries (available at www.swiss-academies.ch/en/factsheets).

The original full-length review (CDE/WTI/IWE 2015) is available at: www.kfpe.ch/WorkingPaper-commodity

Artisanal gold mining with excavation waste in the background (Kankan Region, Republic of Guinea).

Closing knowledge gaps

Focus on local socio-economic impacts

Most research and related policy recommendations on the economic effects of commodity extraction rely on cross-country analyses. However, there is little research that helps to explain why the socio-economic impacts of commodity production, in particular, vary so greatly from one subnational setting to another.[63] More and greater subnational, local-level studies are needed. Initial research suggests that diverse, fluctuating impacts on local welfare and economic development can be usefully understood according to the "boom" and "bust" (e. g. mine closing) cycles associated with extractive activities. Fledgling research also highlights the potential for local governments to do more to counteract growing inequality between those who tend to benefit from economic boom cycles and those who do not, including women, youth, and the elderly. Finally, initial studies highlight the promise of research on the environmental and sociopolitical effects of "no-go" zones for commodity production, enabling local communities to access international courts or courts in the home countries of commodity firms for the enforcement of the principle of "free, prior and informed consent".[64]

Unknown effectiveness of hard and soft law instruments

Research is urgently needed on the extent to which states, international bodies, and commodity producers / traders can be compelled to contribute to more participatory negotiation of resource use through soft and hard law standards and regulations. Many policy instruments have been designed to promote sustainability and best practices in the commodiy sector. But their local impacts remain largely unknown. This can be partly attributed to lack of transparency in the production and trading of commodities as well as to lack of coordinated oversight across different sectors of public administration, civil society, and the scientific community. It is critical to assess the degree to which existing commodity-related hard and soft law instruments are capable of safeguarding human rights, socio-economic equity, and environmental sustainability at subnational levels. The Swiss National Science Foundation has taken initial steps towards closing this research gap,[65] but much work remains to be done.

While soft law can make certain aspects of individual value chains more sustainable, it often fails to address other issues that are just as relevant to sustainability, i. e. paying of applicable taxes and levies.[66] Soft law instruments' non-binding nature also means that not all companies will apply them, making it difficult to evaluate their broader contribution according to key sustainable development indicators.[67]

Nevertheless, one systematic assessment of the effectiveness of 67 voluntary schemes in six European countries concluded that 55 of them performed poorly according to one or more of the following measures: target achievement (the extent to which voluntary targets are realized); target ambition (the stringency of the targets relative to the policy objective); and level of uptake (participation rate).[68] Indeed, development researchers increasingly agree that voluntary approaches alone are insufficient. Future research must focus on how to incorporate them most effectively into a broader set of coherent policies that include meaningful standards against which to regulate the commodity sector.

Future of agroforestry and agrotechnology

Traditional agroforestry practices are attracting increasing attention as a promising way of avoiding many risks associated with large-scale monocultures. To a limited extent, agroforestry can be used to produce soft commodities such as cocoa, rubber, and coffee.[69–72] Besides fostering biodiversity, agroforestry methods can reduce the vulnerability of coffee and cocoa farmers to volatile markets and climatological risks.[73, 74] However, concerns exist that agroforestry systems are an intermediary step towards monocultures, enabled in some cases by the availability of newly developed hybrid varieties.[71, 75, 76] In addition, genetically modified organisms and hybrid seeds are opening up new ways of producing soft commodities, but little is known about their long-term environmental and social impacts. Comprehensive, independent sustainability assessments are needed on the potential costs and benefits of new forms of agrotechnology in comparison with traditional production systems.

Identifying interdependency of host and home countries

Tracing environmental and livelihood impacts in host countries to specific policies or business activities in home countries such as Switzerland remains very challenging. Lack of transparency of trade and transit data plays a major role. Moreover, commodity producers seldom operate alone in any specific area; hence local impacts reflect the cumulative effects of multiple operators. This often makes it impossible to establish the links between affected actors in local sites of exploitation or production of commodities and the national and global actors that are causing these local activities. In addition, host countries often lack the capacity and (scientific) expertise to properly assess the sustainability of local commodity production activities and related value chains, including environmental and health impacts at the local level. More research is needed on how to best support local authorities in effectively monitoring these ground-level impacts and feeding the results into decision-making. Connecting business decisions or policies in home countries with local impacts in host countries could help to identify ways of ensuring maximum sustainability benefits from foreign investments. Among other things, this might mean expanding corporate social responsibility (CSR) schemes to include maximization of shared benefits, not just minimization of local harms.[77]

International action by host countries

Developing and emerging countries are frequently called upon to promote transparency and participatory processes within their own borders, while industrialized countries largely dominate international policymaking processes. More research, knowledge transfer, and training are needed to identify ways for host countries to better protect their interests in the realm of international policy and commodity value chains. There is significant scope for them to negotiate better commodity-related investment and tax agreements, shape trade rules, and otherwise assert their position. Certain commodity-producing countries have, for instance, explored the (highly contentious) policy of keeping their own black lists or grey lists of countries[78] in which multinationals are headquartered that pay relatively little taxes or act in a non-transparent manner. These and similar measures by host country governments may be seen as attempts to increase their say in managing and profiting from their own natural resources. Progress in these areas could enable them to better fund their own development.

Effectiveness of participatory governance

Although there is a broad consensus that participatory governance is required, little scientific evidence is available about the optimal conditions under which it can effectively improve negotiation processes or related socio-economic, political, and environmental outcomes. Further research is needed to clarify the mechanisms that must be established to balance objectives and mitigate conflict via participatory governance in these settings, and to explore innovative new approaches capable of adapting to dynamic environmental, economic, and social contexts. The broader potential for participatory governance to promote a democratic transition to sustainability likewise remains unknown.

FURTHER READING

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This factsheet of the Swiss Academies of Arts and Sciences draws on findings in the working paper specified under "Further reading". It also incorporates insights from attendees at a workshop held to discuss the working paper. Workshop attendees included representatives of Swiss federal agencies, NGOs, the private sector, and other research groups.

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