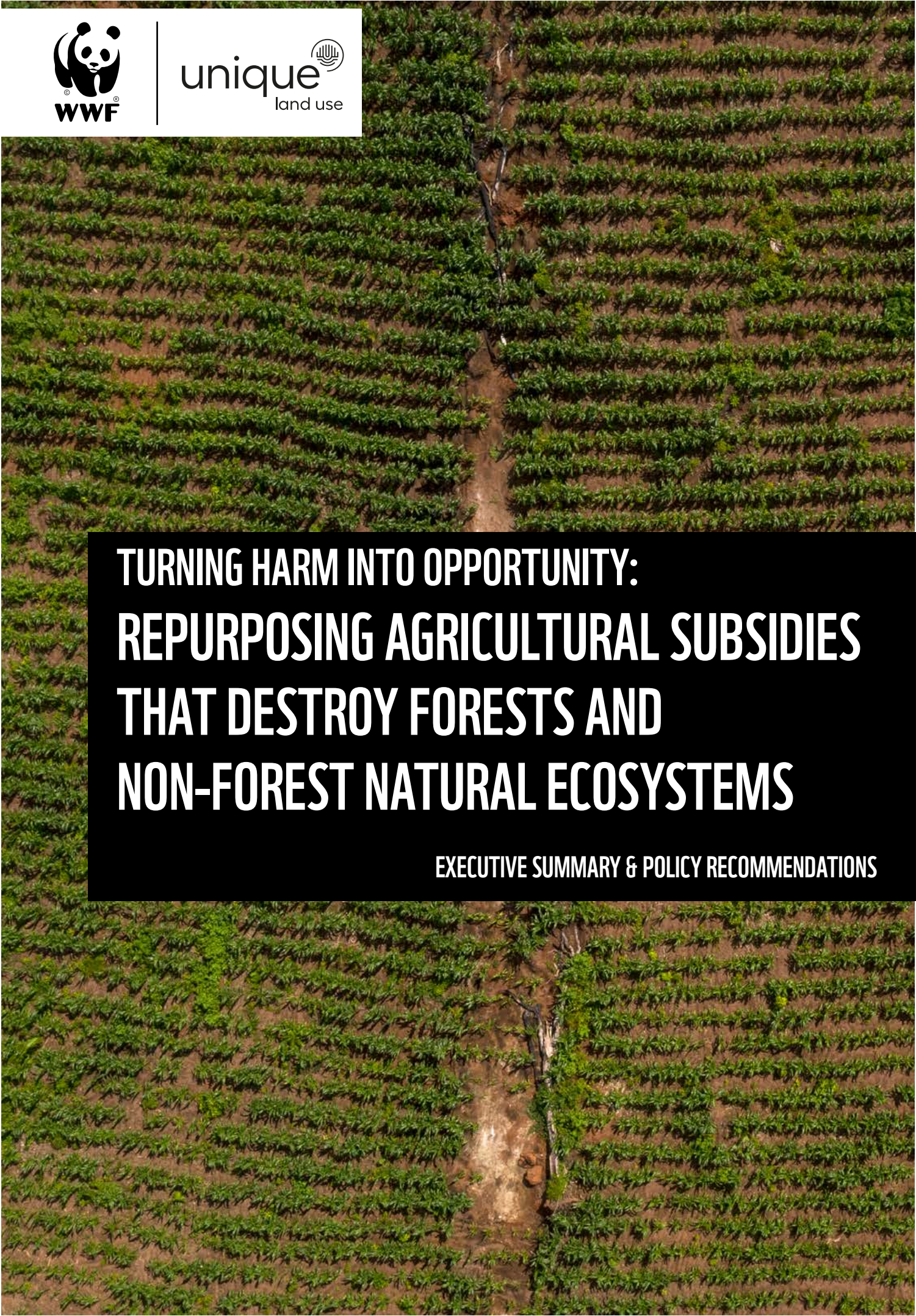




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TURNING HARM INTO OPPORTUNITY: REPURPOSING AGRICULTURAL SUBSIDIES THAT DESTROY FORESTS AND NON-FOREST NATURAL ECOSYSTEMS

EXECUTIVE SUMMARY & POLICY RECOMMENDATIONS

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Cattle farmer, Malawi. © mbrand85 / Shutterstock

INTRODUCTION

Every year, governments spend US\$470 billion¹ on agricultural subsidies that harm biodiversity, and forests and other natural ecosystems. Repurposing these subsidies offers immense opportunity to halt and reverse the loss of forests and transition toward sustainable food systems.

Reforming harmful subsidies, conserving forests and other natural ecosystems, and transforming food systems are all high priorities on the international agenda:

- Under Target 18 of the Global Biodiversity Framework (GBF), 196 countries agreed to identify and eliminate, phase out or reform subsidies and other incentives that harm biodiversity and to scale up positive incentives.²
- Through the Glasgow Leaders’ Declaration, 145 governments agreed to work collectively to halt and reverse forest loss by 2030, including by redesigning agricultural policies and programmes to incentivize sustainable agriculture.³
- At the 2023 UN climate conference in Dubai, the UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action emphasized the need to reorient policies and public support for agriculture and food systems to maximize the climate and environmental benefits and minimize harmful impacts, including by conserving and restoring natural ecosystems.⁴

Despite the widely acknowledged need to repurpose harmful subsidies, little has been done to define guidelines and criteria to guide this process. To reduce harm to nature and to achieve the socioeconomic and environmental targets of subsidies in a “just, fair, effective and equitable way” (GBF Target 18), repurposing strategies need to be carefully crafted. Essential components include reducing adverse impacts, safeguarding remaining forests and other natural ecosystems, empowering small producers, promoting research and innovation in sustainable production, and ensuring food security. Various enabling conditions need to be put in place, and trade-offs need to be carefully managed.

By scrutinizing how agricultural subsidies affect forests, this report aims to inform policy and subsidy reform processes. It introduces a framework for identifying and repurposing subsidies that harm forests and non-forest natural ecosystems, and outlines potential repurposing options and complementary measures to support the shift to sustainable production systems that provide food security and resilient livelihoods, while contributing to carbon sequestration and biodiversity conservation. Two case studies from Brazil and Malawi offer an in-depth look into forest-harming subsidies and opportunities for reform. The report concludes with recommendations for action at international and national level.

FORESTS AND AGRICULTURE

Agriculture both depends upon and threatens forests and the services they provide.

Forests provide vital provisioning, regulating, supporting and cultural ecosystem services that we all depend on. These include food production, clean water supply, flood and erosion protection, and regulation of the Earth’s climate and hydrological cycles. They also provide habitat for much of the world’s terrestrial biodiversity. The value of forest ecosystem services has been estimated at US\$7.5 trillion, or 9% of world GDP.⁵ One in five people globally rely on forests for their livelihood,⁶ and they play an especially vital role for sustaining the livelihoods of the rural poor.

Forests and their biodiversity are crucial to agricultural productivity. They help stabilize soils, prevent erosion and improve soil health and fertility.⁷ They secure water supplies, improve water quality and reduce flood risk. They provide habitat for a wide range of pollinators that many food crops depend on. Forests are key for mitigating and adapting to climate change, and critical for preventing climate-related food insecurity. They store and sequester vast quantities of carbon, and act as buffers against extreme weather events, reducing the risk of agricultural losses from climate-related hazards.

But while agriculture depends on forests, it is also the greatest threat they face. The UN Food and Agriculture Organization (FAO) and UN Environment Programme estimate that cropland expansion accounts for 52% of forest loss, with

livestock grazing contributing another 38%.⁸ Between 2013 and 2019, commercial agriculture drove 60% of tropical forest loss, with more than two-thirds of this violating national laws and regulations.⁹ After commercial agriculture, small-scale shifting agriculture has been the second largest driver of deforestation this century, accounting for 113 million hectares of tree cover loss between 2001 and 2023.¹⁰ In certain regions, such as the Brazilian Amazon, the higher economic value of agricultural land compared to forest land incentivizes land conversion and land grabbing for private financial gain.¹¹

In 2022, 4.77 million hectares of forest was permanently destroyed worldwide to make room for commodity production, mostly agriculture.¹² Despite global pledges to end deforestation, this represents a 5.6% increase compared to 2021 (4.52 million hectares) and only a slight decrease against a 2018-2020 baseline. The tropics, particularly the Amazon rainforest, have experienced high rates of land-use change due to the expansion of large-scale commercial agriculture and cattle ranching, with 10% more primary rainforest lost in 2022 than in the previous year.¹³ Brazil accounted for 41-43% of the global total.¹⁴ The conversion of other natural ecosystems such as savannahs, grasslands and wetlands to agricultural land is also a major concern, with negative impacts on biodiversity, climate resilience and the provision of ecosystem services.

THE ROLE OF ENVIRONMENTALLY HARMFUL SUBSIDIES

Understanding the role of subsidies in driving deforestation and ecosystem conversion, and how they can be reformed to support sustainable production, is an urgent priority.

Governments spend around US\$540 billion per year in support for agricultural production, and this is set to increase to US\$1.8 trillion by 2030, according to the FAO.¹⁵ Most of these subsidies (87%) are classified as price-distorting or harmful to nature and health.¹⁶ Although there are challenges with data availability and methodologies, various estimates provide insights into the size and nature of subsidies that can have negative environmental impacts in specific regions or in relation to the production of particular commodities.

Green subsidies, which are intended to support positive environmental outcomes, account for only 5% of total agricultural input subsidies, or US\$29 billion.¹⁷ These subsidies are primarily provided in high-income countries, and to some extent in China. Estimates indicate that annual financing to protect, restore and sustainably manage

natural ecosystems and biodiversity needs to increase from US\$166 billion to nearly US\$1 trillion by 2030.¹⁸ This includes an estimated US\$460 billion per year for forests.¹⁹

Subsidies can cause a range of harmful environmental impacts; this report focuses specifically on how they incentivize practices that result in deforestation and ecosystem conversion. Incentives can directly promote expansion of production, increasing the strain on available land resources and encouraging encroachment into forests and other natural ecosystems. Subsidies may also reward farmers for practices that exhaust the land in the long run and threaten the long-term health and vitality of farming communities.²⁰ They can encourage unfair competition and distort market dynamics, which may reduce incentives for more environmentally friendly practices.

Subsidies that inflate market prices drive around 2.2 million hectares of forest loss annually, or 14% of all deforestation.²¹ This estimate comes from a recent World Bank study focusing on the causal link between agricultural market price support and deforestation.

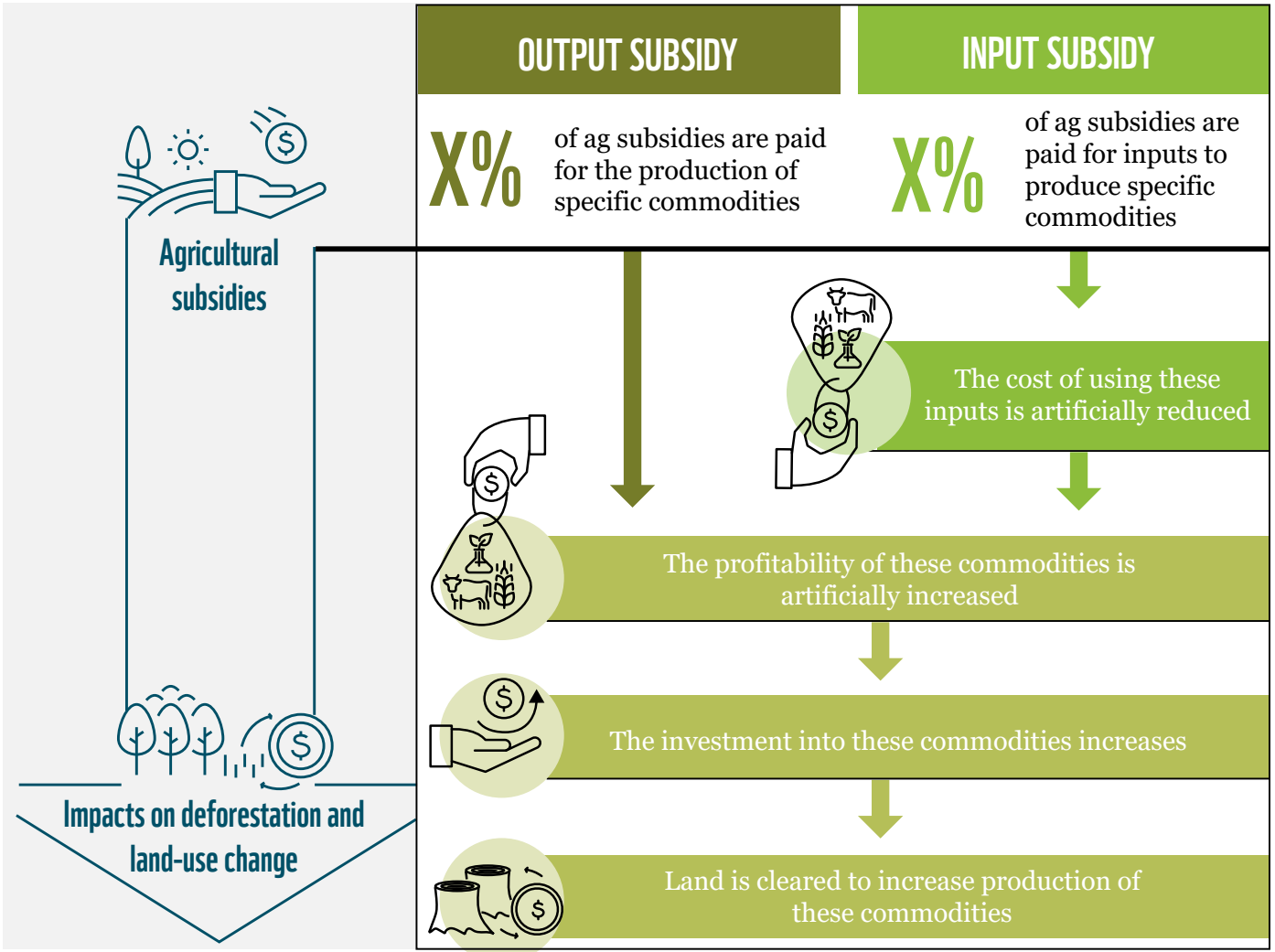
Agricultural support measures in importing countries can have strong spillover effects by influencing demand for agricultural commodities linked to deforestation in exporting countries. The primary example is the impact of livestock subsidies in the United States which increase animal production and therefore demand for soybeans as feed, driving soybean expansion and tropical deforestation in Brazil.²²

In addition to their environmental impact, harmful subsidies often lead to unfair and inequitable socioeconomic development. While many agricultural support programmes are intended to bolster rural development and benefit low-income farmers, they are often more regressive

and disproportionately go to wealthy landowners and larger farms.²³ Research indicates a correlation between levels of subsidies and agricultural sector lobbying power, benefiting large corporations and businesses while small-scale farmers and local communities are left behind.²⁴

A narrow focus on economic indicators has (often unintentionally) sustained environmentally harmful practices, such as deforestation and conversion, and fails to capture the many negative externalities.²⁵ Various reasons exist for retaining environmentally harmful agricultural support measures. They include political economy considerations, policy priorities, powerful agricultural lobbies, targets and monitoring systems that fail to measure negative externalities, limited understanding of the value of ecosystem services for agriculture, limited knowledge of how subsidies affect forests, and a lack of knowledge and technical capacity on regenerative and nature-positive agriculture.

Figure 1: How agricultural subsidies drive deforestation and land-use change





Open Brazil nut, Madre de Dios, Peru. © WWF-US / Yawar Motion Films

SUBSIDIES AND THE NEED FOR REFORM

Subsidy reform offers a cost-effective strategy to achieve national and international environmental and climate goals and transition to resilient and sustainable food systems.

The Kunming-Montreal Global Biodiversity Framework recognizes the need for urgent action to reform subsidies that are harmful to nature. Target 18 sets clear requirements and steps to “identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least \$500 billion per year by 2030.”²⁶ Countries must report on their progress under two headline indicators: the positive incentives in place to promote biodiversity conservation and sustainable use (18.1) and the value of subsidies and other incentives harmful to biodiversity that have been eliminated, phased out or reformed (18.2).²⁷ A complementary indicator looks at “trends in potentially environmentally harmful elements of government support to agriculture”.²⁸

Agricultural support measures and incentives, or agricultural subsidies, aim to promote agricultural activities or offset costs within the sector. They cover a wide range of financial benefits and support measures provided by public sector institutions to the agricultural sector. These come in direct or indirect forms, including as trade and market interventions (such as import/export bans, quotas and tariffs), direct cash payments, tax and fee exemptions or reductions, discounted credit/loans, price controls and regulations. Support measures may focus on inputs (e.g., fertilizer, irrigation, seeds, fuel and energy), outputs (e.g. tax refunds, preferential loans, crop insurance) or other production-related factors like machinery, land area, market prices, price floor guarantees and property taxes on farmland. Externalities, in the form of uncompensated indirect costs to society from the negative impacts of agricultural activities, can also be seen as a form of subsidy.

Our report looks specifically at subsidies based on a direct financial transfer from government bodies to private beneficiaries, through direct payments,

preferential loans and other mechanisms. This narrower focus helps demonstrate the opportunities available from redirecting existing public funds.

Removing harmful subsidies can reduce negative impacts on forests, ecosystems and biodiversity, but the transition to sustainable agricultural systems must also be underpinned by behavioural and technological change. Redirecting subsidies from supporting environmentally harmful activities to supporting sustainable practices can drive shifts in behaviour, promote research and innovation, and empower smallholders.

From a social perspective, subsidy reform needs to be just and equitable. Repurposing can create both winners and losers, so there is a need to manage trade-offs and seek compromises between those affected. Sustainable development, social and economic fairness and inclusion, rural livelihoods and food security must be at the centre of any repurposing strategy.

Embarking on subsidy reform entails political and financial challenges. The effects – both positive and negative – may only become apparent in the medium to long term. Policymakers need to anticipate the environmental, social, political and economic repercussions of change, and construct a pathway that takes these issues and time realities into account. In evaluating repurposing options, policymakers also need to weigh up possible trade-offs between environmental outcomes, food prices, public health and economic factors, depending on the country’s socioeconomic and environmental context.

A number of challenges also need to be addressed to create an enabling environment for reform and to reduce the risk of failure. These may include changes in the legal framework, institutional development, the introduction of new financial mechanisms and capacity development, among others.

A FRAMEWORK FOR IDENTIFYING AND REPURPOSING SUBSIDIES THAT HARM FORESTS

GUIDANCE FOR REFORMING SUBSIDIES

The BIOFIN initiative, launched by UNDP and the European Commission, aims to help governments redirect financial resources, including subsidies, toward environmental goals. In 2024, BIOFIN published guidelines entitled *The Nature of Subsidies*, offering a step-by-step approach to redirecting subsidies that harm biodiversity. These guidelines provide a framework for identifying, analysing and redirecting subsidies to enhance their positive impacts for people and nature.

While the BIOFIN guidelines touch on forests as a critical habitat for biodiversity, the framework in the current report places greater emphasis on analysing and redirecting subsidies that are specifically harmful to forests. Our framework is closely aligned with the BIOFIN guidance. The two frameworks complement each other, and policymakers and organizations engaged in redirecting harmful subsidies can use elements and tools from both to achieve more effective outcomes.

Agricultural subsidies and their impacts vary significantly between countries, and any repurposing strategy will need to be adapted to the national context. There are, however, various common issues that need to be considered in any repurposing process. The framework below provides a set of questions that all countries can use to guide the process of identifying and repurposing harmful subsidies.

TOPIC	SELECTED GUIDING QUESTIONS
Identification of harmful subsidies	
What are the subsidies which could be repurposed?	
Existing subsidies	What kinds of support/subsidy exist in the agricultural sector? Who finances the subsidies (national government, sub-national or supranational authorities etc.)?
Effectiveness and efficiency of subsidies	What is the intended purpose of the subsidy programme? Does it achieve its targets and goals? What are the unintended adverse effects of the subsidy programme or subsidy? Do they outweigh the benefits?
Associations between subsidy and deforestation/land-use change	To what extent does the subsidy programme contribute to deforestation and land-use change? What is the evidence to quantify this contribution? Is it a direct or an indirect contribution?
Prioritization of subsidies according to level of harm	Which subsidies are identified as harmful? Is there a subsidy that needs to be tackled first because its impact is greatest? Which of the identified harmful subsidies is likely to meet the highest level of acceptance for repurposing, and under what conditions?
Conditions and barriers for repurposing harmful subsidies	
Political and institutional motivation and feasibility	Is there an expressed political will for repurposing? Has the country committed toward repurposing in existing national development strategies, NDCs, NBSAPs or others? Are there cross-ministerial coordination mechanisms in place, e.g., with the Ministry of Finance? Are there debates at parliament level?
Acceptance	What is the perception of fairness by beneficiaries on the repurposing option and the transition process? Are there vested interests, large groups or unions that may lobby against repurposing? Should compensation be provided to avoid strong opposition from these groups?

Financial feasibility	Have the repurposing upfront costs and the complementary costs been assessed? Should these costs be borne from the reallocation of a share of the repurposed subsidy, or from external (additional) resources?
Technical/knowledge feasibility	Are there sufficient knowledge and capacities in government institutions and among land users to shift from the previous subsidy system to the new one? Is data available to ensure an adequate selection of beneficiaries and a solid monitoring system to track the impact of the reform?
Scalability	What is the scalability/applicability of the new option to a large area and a large number of smallholder farmers?
What are the expected impacts of repurposing?	
Social impacts	What are the expected social impacts of the repurposing option, including equity, gender, employment, nutrition, health, poverty and interests of Indigenous people? Are there safeguards/mechanisms in place to ensure that vulnerable groups do indeed benefit from repurposing or are not negatively affected?
Impacts on the environment	Is repurposing expected to promote production that is deforestation- and conversion-free and respects human rights (including in a third-party country for importing countries)? To what extent is repurposing expected to expand sustainable agricultural practices that restore land?
Economic impacts	To what extent is the repurposing option expected to be less distortive than the previous subsidy system? And more cost-effective? What is the expected impact on employment and income for different population groups (e.g. middle class, disadvantaged communities)?



Campo Grande, Brazil. © Jaap van der Waarde / WWF-Netherlands

REPURPOSING OPTIONS

The table below gives examples of measures supporting nature-positive and deforestation- and conversion-free food production, which can be funded through the repurposing of harmful subsidies. These options should be regarded as examples of how the repurposing framework might work, but are not intended to be prescriptive. A full-scale repurposing process in any country would require a comprehensive multistakeholder negotiation process, supported by in-depth socioeconomic and environmental analyses.

EXAMPLE	EXPLANATION
Objective: Strengthening nature-positive agricultural production	
Direct payment for the provision of ecosystem services (PES) through the introduction of regenerative agriculture and agroecological practices	Reallocating harmful subsidies to bolster funding for the provision of ecosystem services can scale up regenerative agriculture and agroecological practices. These include crop-livestock-forestry systems, agroforestry systems, and allowing natural regeneration.
Direct payment for the provision of ecosystem services through compensation for opportunity costs from the reduction of deforestation and degradation	PES can support conversion-free land-use practices by compensating for the financial loss farmers incur from keeping forests and natural ecosystems intact. These payments can also be linked to poverty alleviation for disadvantaged communities at the forest frontier.
Objective: Restoring degraded land for food production	
Direct payments for undertaking restorative farming practices on degraded lands for food production	Supporting agricultural practices that enhance soil fertility can help restore degraded land and make it suitable for food production. This decreases the need to convert forests and other natural ecosystems for new agricultural land.
Support for crop-livestock-forestry systems	These systems have proven to be an effective way to restore degraded pasture and diversify production. Subsidies taking the form of direct payments must be decoupled from production. Material support and guidance (extension services) are other possible forms of support.
Support for land restoration interventions (e.g., agroforestry, natural regeneration)	Restorative or regenerative practices can improve soil health, leading to better productivity and reduced need to open new lands, while providing many other co-benefits. Subsidies taking the form of direct payments must be decoupled from production. Material support and guidance (extension services) are other possible forms of support.
Objective: Promoting deforestation- and conversion-free agriculture	
Insurance and credit support based on environmental criteria	Stringent environmental criteria for allocating credit, combined with efficient monitoring systems, can steer conventional agriculture away from ecosystem degradation and promote sustainable and regenerative agricultural practices (e.g., soil conservation measures, trees on farms etc.).
Support to introduce traceability systems at farm level	Controlling production across supply chains is key to build and sustain deforestation- and conversion-free agriculture. Extension services and capacity building can support small producers to participate in traceability systems and ensure they are not left out of deforestation- and conversion-free supply chains. Support for traceability systems should align with the EU Deforestation Regulation.



Burnt forest next to standing forest in Brazil. © Day's Edge Productions / WWF-US



Guarana fruit, Amazonas, Brazil.
© Andre Dib / WWF-Brazil

COMPLEMENTARY MEASURES

Various enabling conditions need to be in place for subsidy reform to be successful. Policymakers should identify and address any bottlenecks through the following complementary measures.

Institutional development: Functioning institutions and coordination between environmental agencies and other government bodies are a precondition for a successful repurposing process. This is particularly relevant in the case of subsidy reform as this may involve the transfer of financial resources from the budget of one government institution to another. This may require specific resources to strengthen knowledge and capacities at individual and organizational level.

Land regulations and law enforcement: Poor governance, corruption and lack of enforcement of environmental regulations can create an environment where illegal forest clearing and conversion are low-risk, low-cost activities. Suitable safeguards and enforcement mechanisms may be required before any repurposing process starts if new subsidies for nature-friendly and deforestation- and conversion-free food production are to be effective.

Land rights and tenure: Recognized Indigenous and community forest rights are strongly associated with lower rates of deforestation.²⁹ Similarly, well-defined and enforced land tenure systems support higher incomes and productivity, which can help combat deforestation.³⁰ Subsidy reform should be accompanied by a process of strengthening the land rights of those who benefit.

Regulatory framework: Subsidies are diverse and require an appropriate regulatory framework. Where sub-national jurisdictions are responsible for delivering the subsidy, there must be clear mechanisms for transferring funds from the central budget to the local administration, and legal mechanisms for the local administration to disburse and control the funds. Situations where the subsidy is channelled from a national fund to many individual landowners also require a comprehensive regulatory framework. For example, a PES system needs clear regulation to encompass the selection of beneficiaries, disbursement procedures and various monitoring and reporting mechanisms.

Research on technologies for sustainable agriculture: Support provided to research programmes and companies to catalyse innovation can improve the productivity and competitiveness of deforestation- and conversion-free agriculture and reduce the need for opening new land. Examples of research include improving crop varieties, introducing new technologies to improve competitiveness, experimenting with specific conservation agriculture, agroecology or agroforestry practices, and strengthening climate resilience.

Education, training and capacity building: Training and information programmes are key to enabling farmers to switch to conversion-free land-use practices, take full advantage of input subsidies and increase productivity. Agricultural extension services in rural areas can play a key role in disseminating and consolidating knowledge and can be provided in packages with other types of incentives (e.g., direct payments, preferential credits). These services depend on having enough well-qualified field officers with suitable resources. Technical, vocational and academic education should also support the transition to sustainable land-use practices.

Social policies: Subsidy reform needs to be accompanied by appropriate social policies that target more vulnerable and disadvantaged social groups. These include ensuring better access to social programmes for smallholders, preventing human rights violations and livelihood displacement, and providing social safety nets to the most vulnerable communities.

Data and monitoring systems: Public investments in data collection and monitoring systems are important in various ways. Data is needed to demonstrate and quantify the negative impact of a particular subsidy on the environment,

which is key to justifying the process of repurposing. Data at household or farm level, disaggregated to provide information on disadvantaged groups, Indigenous peoples and local communities and other aspects, is needed to identify beneficiaries and ensure the subsidy reaches those who need it most. A robust monitoring system should be in place to inform conditional funding, measure progress and enable peer learning. This should include data on land and land-use change, biodiversity or any other important aspect targeted by the subsidy.

Functioning markets: Legislation, business rules, tariffs and taxes, and market distortions can impair the competitiveness of conversion-free agriculture. Where the previous subsidy system has created a monopoly or oligopoly, market prices might be distorted – for example, with an input subsidy programme where inputs are provided by the government or by a few companies that crowd out other potential input providers. Moving to a less monopolistic system can take time. A careful analysis of bottlenecks preventing a functioning market and measures to counteract them may be required to support the repurposing strategy.



Farmer, Malawi. © Shutterstock.com



Soy in Cerrado. © Ana Paula Rabelo / WWF-UK

CASE STUDY: BRAZIL

Brazil is one of the world’s leading agricultural producers. It is the number one producer and exporter of soybeans, and one of the leading cattle producers. Expansion of pasture and cropland has been the main driver of deforestation and other ecosystem conversion, particularly in the Amazon and Cerrado regions – two of the most important places for biodiversity on the planet. This has cascading effects on climate, ecosystem services and biodiversity.³¹

Deforestation rates have oscillated over time. In the Amazon, policies and regulations led to an 84% decrease in forest loss between 2004 and 2012, but deforestation rates doubled between 2012 and 2022, accelerating under the Bolsonaro government.³² The Cerrado has seen a similar pattern of declining then increasing rates of conversion of forest, savannah and grassland.³³ Research shows significant leakage between the two biomes, with efforts to prevent soy expansion in the Amazon contributing to increased conversion for soy production in the Cerrado.³⁴

Public subsidies for agriculture are a key policy instrument in Brazil, especially in the form of preferential loans and tax exemptions.³⁵ The main subsidy programme connected to the expansion of ranching and agriculture in the Amazon and Cerrado is the National Rural Credit System, which provides low-interest credit for agricultural production.³⁶ Three-quarters

of subsidized operating credit is allocated to soy, cattle and corn farmers.³⁷

The spatial distribution of rural credit volumes reflects regional agricultural expansion trends, with more credit allocated to municipalities facing high deforestation rates. In the Amazon, 72% of rural credit is allocated to municipalities with high deforestation rates; in the Cerrado, 42% of credit is allocated to municipalities with high conversion rates.³⁸ While this does not demonstrate that subsidized credit directly triggers deforestation and conversion, support for agriculture and cattle production expansion may indirectly increase the pressure for further deforestation and conversion.

While public funding remains significant, the proportion of commercial finance has increased, especially in the Cerrado and for large-scale farmers. This makes it challenging to isolate the role of public subsidized rural credit in driving deforestation and conversion. Public credit still constitutes the majority of finance for cattle ranching and soy production credit in the Amazon (54%), compared to 40% of total credit in the Cerrado.³⁹ Allocating public credit to places with higher deforestation and conversion risk can pave the way for further commercially funded expansion once the agricultural frontiers are established.

REPURPOSING OPTIONS

Overall, public subsidies could play a more strategic role in supporting the transition to deforestation- and conversion-free agriculture in Brazil. Public funding could target smallholders and medium-scale farmers who cannot access commercial loans for subsidized credit that supports sustainable agricultural practices. More fundamental repurposing of public subsidized credit flows could result in more effective allocations of public money for achieving sustainability targets.

The proposed repurposing options include support for:

- Financing land and forest restoration measures, such as restoring degraded pasture through integrating livestock and forestry
- Expanding low-carbon agriculture and agroecology
- Scaling up agroforestry systems
- Strengthening bioeconomy value chains
- Providing direct payment to farmers for ecosystem services
- Introducing de-risking instruments and improving risk coverage in agricultural insurance for deforestation- and conversion-free production models and practices.

Subsidy reform must be accompanied by more structural complementary measures, including land regularization and securing public lands, institutional support to strengthen a socio-bioeconomy that promotes sustainable development while keeping forests standing and restoring deforested areas, improved technical assistance and other support services, effective monitoring and improved accountability, and indirect financial transfers through taxation.

EXPECTED OUTCOMES

Environmental

- Reduced deforestation and conversion, boosting biodiversity and ecosystem services
- Increased adoption of sustainable land management practices and forest conservation
- Reduced greenhouse gas emissions

Social

- Reduced income disparities and stronger rural communities
- Improved governance and capacity
- Support for Indigenous peoples’ rights and livelihoods

Economic

- Long-term economic stability and employment
- Enhanced productivity and technological advancement
- Rural development and poverty alleviation



The Cerrado, Brazil. © David Bebbler / WWF-UK



Potato sellers in Lilongwe, Malawi. © Diana Kykot / Shutterstock

CASE STUDY: MALAWI

In Malawi, agriculture accounts for 30% of GDP⁴⁰ and is the primary livelihood for over 90% of the rural population.⁴¹ Tobacco is the main export crop, while other crops such as maize, rice and cassava also have an important role in the domestic economy.⁴² Forests are also important contributors to Malawi's economy, accounting for 5% of the country's total wealth.⁴³

Malawi has suffered from significant deforestation and forest degradation, losing over half of its forests in the last 40 years.⁴⁴ Although reliable data is hard to come by, estimates suggest the country lost up to 19% of its tree cover (over 400,000 hectares) between 2000 and 2015, with twice this area suffering from degradation.⁴⁵ The main drivers are agricultural expansion, overexploitation of biomass for energy, and tobacco cultivation. Indirect drivers include a lack of alternatives to biomass for household energy, agricultural policies and practices, and a lack of support and capacity building for sustainable management.

Land degradation linked to deforestation has significantly affected agricultural productivity, with soil loss costing an estimated 0.42-2.1% of agricultural GDP and 0.25%-1.28%

of total GDP.⁴⁶ Forest loss and degradation are also major contributors to Malawi's greenhouse gas emissions.

The main subsidy connected with land-use change is the Affordable Inputs Programme (AIP), by far the largest subsidy programme in the Malawi's agricultural sector.⁴⁷ The AIP focuses on providing fertilizers and seeds, mainly for maize cultivation, at subsidized prices to rural households. The AIP dominates agricultural support, constituting 64% of the agriculture ministry's budget and 9% of national spending.⁴⁸

While aiming to enhance food security and alleviate poverty, the AIP contributes to deforestation and soil degradation by promoting intensive maize cultivation, leading to land clearing and soil fertility loss.⁴⁹ Inputs are also sometimes diverted from their intended purpose of growing maize to growing tobacco, which leads to increased harvesting of wood for tobacco curing.⁵⁰ In many cases, the AIP has failed to improve rural incomes. Farmers' incomes remain low and these households continue to turn to the forest to harvest firewood and charcoal to meet short-term needs.

REPURPOSING OPTIONS

The government of Malawi has signalled its intention to reform the AIP. Subsidy reform has the potential to improve agricultural productivity, reduce environmental degradation and promote sustainable land management.

Recommended options include:

- Diversifying the variety of crops supported by the programme to improve resilience to climate change and food security
- Supporting agroforestry systems for income generation and wood production
- Upscaling finance for landscape restoration measures
- Strengthening non-maize value chains
- Supporting the production of organic fertilizer and enhancing the country's fertilizer storage capacity.

To ensure effective repurposing, complementary measures should include strengthening agricultural extension services and research, supporting farmer organizations as entry points for local agro-processing and mechanization, strengthening forest management frameworks and supporting commercial tree plantations to reduce pressure on natural forests.

EXPECTED OUTCOMES

Environmental

- Reduced deforestation and forest degradation
- Reduced soil fertility loss and erosion
- Increased carbon storage, biodiversity and climate resilience

Social

- Improved food security and nutrition
- Increased income from crop value chains and market access
- Reduced labour intensity, especially for women, thanks to less time spent on sourcing firewood
- Skills development and women's empowerment through capacity building
- Better water quality and quantity in downstream areas

Economic

- Increased agricultural productivity and revenues
- More jobs in agricultural product value chains and organic fertilizer manufacturing
- Reduced costs from erosion and sedimentation, including benefits for hydropower generation



Tea cultivation, Mount Mulanje, Malawi. © mhenrion / Shutterstock

RECOMMENDATIONS

Redirecting harmful subsidies toward sustainable practices is a pivotal strategy for combating deforestation and nurturing resilient food systems. Establishing an enabling environment for subsidy repurposing will mean addressing governance challenges and exploring complementary instruments. Consistent with Target 18 of the Global Biodiversity Framework, subsidy reforms must prioritize fairness and equity.

Political momentum and opportunities exist to redirect harmful agricultural subsidies toward protecting forests and other natural ecosystems and restoring degraded agricultural lands, or at least to reduce the harm they cause. Updates to nationally determined contributions (NDCs) under the UN Framework Convention on Climate Change (UNFCCC) and national biodiversity strategies and action plans (NBSAPs) under the Convention on Biological Diversity (CBD) provide opportunities for collaborative action across the climate and nature agendas.

Repurposing forest-harming subsidies requires strong action, properly resourced, from public and private sectors in both producer and consumer countries. At international level, we recommend the following actions:

- Establish an inter-ministerial working group that connects work and progress under the **Glasgow Leaders’ Declaration**, the UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and **Climate Action**, and the agenda of the **UN Food Systems Summit** to more explicitly link agricultural subsidies and forest-related goals.
- Create an intersectoral working group, with members from **FAO’s committees on forests** (COFO) and **agriculture** (COAG), on subsidies, best-practice examples and incentives for agriculture and forests.
- Establish effective channels for collaboration across the UNFCCC and the CBD and adopt a joint programme of work on repurposing harmful agricultural subsidies.
- Establish dialogues and roundtables on sustainable agri-food repurposing of subsidies with finance ministers of forest-rich countries and key consumer governments. This could be facilitated through the **Forest and Climate Leaders’ Partnership**.

- Establish a task team on the role and promotion of forests and ecosystems in the agri-food agenda under the **Just Rural Transition initiative**.
- Use the momentum of the recently adopted **EU Deforestation Regulation** and tailor agricultural repurposing programmes in producer countries to meet the EU’s requirements.
- Channel international finance to support enabling conditions for efficient repurposing of harmful subsidies through multilateral reform programmes, such as under the World Bank, Global Environment Facility or Green Climate Fund. These could be supplemented bilaterally through, for example, the Forest and Climate Leaders’ Partnership, the **German International Climate Initiative** (IKI) or **Norway’s International Climate and Forest Initiative** (NICFI).

At national level, governments can start to identify and reform harmful agricultural subsidies and scale up policies and support for sustainable, deforestation- and conversion-free and forest-supporting agriculture. This should include the following actions:

- Use the framework presented in this report to trigger a broad reflection in government agencies on repurposing harmful subsidies, and use the predefined guiding questions and steps to operationalize the process.
- Take advantage of existing support programmes including **FAO’s Monitoring and Analysing Food and Agricultural Policies** (MAFAP) programme and **BIOFIN’s new guidance on repurposing of subsidies**.
- Update and strengthen NDCs by including emission targets for the agricultural sector that relate to deforestation and conversion of non-forest natural ecosystems.
- Include national targets and/or policies in national biodiversity strategies and action plans on sustainable agriculture (**GBF Target 10**) aiming at addressing deforestation and conversion in agricultural production.
- Explore how repurposing harmful subsidies can complement domestic resource mobilization in national biodiversity finance plans (**GBF Target 19**).

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