



ambition for biodiversity

BIODEV
2030

**PRIORITIZED SECTORAL
POLICY REFORMS
TO ADVANCE
BIODIVERSITY-
FRIENDLY PRODUCTION
PRACTICES IN KEY
AGRICULTURAL AND
FISHERIES VALUE
CHAINS IN MOZAMBIQUE**

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EXECUTIVE SUMMARY

In Mozambique today, current agricultural and fisheries practices, such as deforestation (slash and burn agriculture), illegal exploitation of mangroves, inappropriate use of pesticides and inorganic fertilizers, and overfishing by large industrial fleets and the rapid and uncontrolled expansion of artisanal fishing, and use of non-selective fishing gears, are causing biodiversity loss through land-use and land cover changes (terrestrial and marine habitat destruction), pollution, and overexploitation of natural resources (as opposed to resource renewal). Agricultural and fisheries policy instruments are not yet effective in promoting change from harmful to sustainable practices. They need to be reformed to encourage this shift in practices and contribute to reducing pressure on biodiversity. This policy brief discusses the main challenges facing agricultural and fisheries policy, and presents recommendations for policy reforms to change soybean, sugarcane, shrimps and crabs' production practices with positive impacts on nature.

The recommendations were formulated through a thorough review of agricultural and fisheries public policy instruments, and consultation process with key stakeholders. It was found that main current challenges for agricultural and fisheries public policy instruments (PPIs) to better integrate biodiversity are:

1. the current absence of criteria to clearly differentiate between users and non-users of production practices with positive impacts on nature;
2. the current non clear directing and allocation of incentives and benefits to users of production practices with positive impacts on nature; and

3. the current very weak enforcement of agricultural and fisheries policy instruments which, if not well addressed, would lead to ineffectiveness of proposed policy reforms.

Therefore, to strongly integrate biodiversity and promote change from harmful to biodiversity-friendly in the agricultural and fisheries sectors, the policy-makers in charge of designing reforms and implementing the reformed PPIs should consider the following main recommendations:

1. implementing differentiated benefits in the form of Environmental Award, to guide policy makers in charge of designing and implementing reforms, in identifying and rewarding operators who apply biodiversity-friendly practices such as zero deforestation approach, promoting organic or certified crops, developing agro ecology and agroforestry to improve soil condition, Integrated Pest and Disease Management (IPM), precision agriculture, disease and pest resistant varieties, restoration of mangroves, and creation of sanctuaries for Community Fisheries Councils (CCPs).
2. repurposing/recycling part of the 50% tax reduction on diesel for cleaner energies such as renewable power (solar power) and lower-carbon fuels like LPG (Liquefied petroleum gas); allocating a percentage high enough compensate the operator for the opportunity cost associated with not using diesel, and higher benefits to deductions from taxable income (IRPC) and other taxes such a licensing fees to the users of sustainable practices; and
3. policy enforcement, for all PPIs, through strengthening sectors' capacities for learning, implementation and monitoring of sustainable production practices by agricultural and fisheries investments.



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TABLE 1. MAJOR POLICY RECOMMENDATIONS

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#	Type	PPIs	Main limitation/problem	Recommendations
1	CC	Decree No. 54/2015 of December 31. Regulation on the Environmental Impact Assessment.	Absence of criteria to clearly differentiate between users and non-users of production practices with positive impacts on nature.	R4. Introduce, in Chapter V (monitoring, fees, sanctions, and benefits) between Articles 27 (Fees) and 28 (Infractions and Sanctions), differentiated benefits in the form of an Environmental Award.
2	CC	Law No. 8/2023 of June 9. Private Investment Law”.	No inclusion of production practices friendly to biodiversity as key factors for the approval of private investments.	R5. Revise Law No. 8/2023, Article 13 (Investor Social Responsibility) to include specific investments for development of sustainable agriculture and fisheries to address deforestation and pollution, as a criterion for valuing investment projects subject to authorization procedures.
3	CC	Decree No. 8/2024 of March 7. Regulation of the Private Investment Law.		R6. Revise Decree No. 8/2024, Article 20 (Investment Authorization) by including required sustainable practices as a key condition of project approval.
4	APIs	Law No. 4/2009 of January 12. Approves the Tax Benefits Code.	Does not consider biodiversity and non-clear directing and allocation of incentives and benefits to users of production practices with positive impacts on nature.	R7. In Article 2 (Concept of Tax Benefits), differentiate between operators using the required minimal number of sustainable practices (defined in the EMP or other appropriate technical instrument), allocating a higher percentage of benefits to deductions from taxable income (IRPC) to the users of sustainable practices.
5	APIs	Ministerial Decree No. 102/2019. Specific Instructions on the Use of Diesel Fuel Tax Incentive.	Does not integrate biodiversity, requirements for approval of diesel subsidy are complex and difficult to enforce, and non clear directing and allocation of incentives and benefits to users of production practices with positive impacts on nature.	R8. Repurpose/recycle the 50% tax reduction on diesel by redirecting part (for example 30%) of tax reduction to operators who comply with environmentally friendly practices.
6	APIs	Decree No. 27/2024 of May 7. Regulation on Fertilizer Management.	Heavily oriented towards the production of inorganic fertilizer.	R10. Support organic fertilizer production (for example, compost) to reduce the excessive use of inorganic fertilizer leading to water pollution, through differentiated fee charges, with producers and users of organic fertilizer obtaining major subsidies.

#	Type	PPIs	Main limitation/problem	Recommendations
7	APIs	Decree No. 6/2009 of March 31. Regulation on the Management of Pesticides.	Does not highlight the importance of bio pesticides in reducing biodiversity loss. specified in Article 51 (Toxicological Classification).	R11. Promote production and use of organic (e.g., biological) pesticides by introducing an article establishing that part of the fees/ fines collected be used to contribute to the pesticide production authorization fee (7,500 Mt) and the annual maintenance fee (5,000 Mt) for organic pesticides. R12. In Article 31 highlight organic pesticides to ensure that farmers involved in crop production use organic pesticides and/or an adequate combination of inorganic/synthetic and organic pesticides. R13. Differentiate fees according to the toxicological class of the pesticide, to reduce the use of toxic pesticides.
8	APIs	Law No. 17/2023 of December 29. Forestry Law.	Weak enforcement	R1. Strengthen the capacity to monitor forest exploitation and Adopt EU DEFORESTATION REGULATION in MOZAMBIQUE for “Forest-risk commodities” including soybeans, through staff training in data management (collection, analysis and reporting); improve budget for M&E and supervision, and awareness raising. piloting/experimenting, and d scaling up EU deforestation Regulation.
9	FPIs	Decree No. 9/2024 of March 7th. Organization and Functioning of the Fisheries Co-Management Committee.	Weak enforcement	R2. Strengthen sector’s capacity to mobilize resources for monitoring the implementation of fisheries committees, through staff training in data management (collection, analysis and reporting) and facilitation skills to improve participation of fishermen in the licensing process.
10	FPIs	Ministerial Decree No. 126/2023 of November 17. Closed Season for Mangrove Crab Fishing.	Weak enforcement	R3. Strengthen sector’s capacity for im-plementation, monitoring and learning of fisheries authorities, through staff training in data management (collection, analysis and reporting) and facilitation skills to improve participation of the CCPs in the implementa-tion of fisheries’ legislation .

Legend: **CC** – Cross-cutting; **APIs** – Agricultural Policy Instruments; **FPIs** – Fisheries Policy Instruments



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1. CONTEXT

1.1. SOCIO-ECONOMIC BENEFITS OF BIODIVERSITY¹

Soybean, sugarcane, shrimp and crab value chains play an important role in Mozambique's socio-economic development. In 2023, Mozambique ranked 23rd in global exports of soybean with an export value of USD 47 million (1) while sugar exports, totalized USD 60 million to the European Union (EU) [under The European Union (EU)-SADC (Southern African Development Community) Economic Partnership Agreement (EPA) (EU-SADC EPA)] South Africa, and the U.S.A [via African Growth and Opportunity Act (AGOA)]. The revenues from shrimp and crab fisheries in the last 10 years (2014-2024) amounts to about USD 261,3 million and 99,9 million, respectively (2). Shrimps, crabs, and lobsters' exports to the European Union (Spain, Portugal) and Asia (China) were valued at USD 50 million in 2023 (3).

To support the economic growth in the agricultural and fisheries sectors, several public plans and strategies² aim at increasing agricultural productivity, facilitating access to agricultural inputs and technologies, and encouraging crop diversification and production of higher value-added products, such as processed foods and organic products, and increasing fisheries productivity. Yet, in the coming years, significant investments will be channeled into agriculture and fisheries to modernize production techniques, increase productivity and integrate small producers into broader value chains including soybeans, sugar cane, shrimps and crabs with technological support from National and International Research Centers³ (4).

1.2. BIODIVERSITY CONSERVATION POLICY

The national context is favorable to biodiversity conservation (5) (6) (7). The National Agricultural Sector Investment Plan II 2022-2026 (PNISA) acknowledges the risk of environmental degradation due to unsustainable natural resource management practices, and it foresees encouragement and development, dissemination and use of conservation agriculture techniques,

¹ Biodiversity is defined as the variability among living organisms (from bacteria to plants, animals, and humans) from all sources, including terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part. This encompasses diversity within species (genetic), between species, and of ecosystems. [International Union for Conservation of Nature (IUCN)].

² The Strategic Plan for the Development of the Agricultural Sector PEDSA (2030), the National Investment Plan for the Agricultural Sector PNISA (2022-2026) and the Ministerial Decree No. 80/2021 of August 23-Surface Shrimp Fishery Management Plan for the Sofala Bank (PGP-CBS) – 2021-2025.

³ Agricultural Research Institute of Mozambique (IIAM), National Fisheries Research Institute of Mozambique (IIP), Aquaculture Research Center (CEPAQ), Higher Education Institutions (HEIs), Research and Technology Transfer Center (CITT) of the Ministry of Science, Technology and Higher Education, private sector and International Agricultural Research Centers (IARCs) members of the Consultative Group on International Agricultural Research (CGIAR), for example ICRISAT (International Crops Research Institute for the Semi-Arid Tropics), International Potato Center (CIP), and International Institute of Tropical Agriculture (IITA).

through the “green direct payment” (or “greening”) to support actors who ADOPT or MAINTAIN agricultural practices that contribute to the country's environmental and climate objectives (p. 52). There is also the EU Deforestation Regulation (EUDR) for Deforestation-free products approved in 2023 and implementation starting in 2025 (8). This regulation will contribute to biodiversity conservation through reduction of the use of deforestation as an agricultural production practice.

The fisheries sector implements regulatory reforms aligned with the country's commitments to the United Nations' Sustainable Development Goals (SDGs) and the African Union's Agenda 2063, showing its dedication to balancing economic growth with environmental sustainability (9). The fisheries law nO. 22/2013 and its respective Marine Fisheries Regulation (REPMAR) (Law nO. 89/2020) are outcomes of regulatory reforms that incorporate the principles of sustainable use of marine resources to foster economic growth while conserving marine ecosystems. The Fisheries law establishes a comprehensive legal framework for fisheries regulation, addressing licensing, quotas, gear restrictions, and conservation measures. It classifies fishing activities into artisanal, semi-industrial, industrial, and aquaculture practices, promoting community involvement through participatory management of artisanal fisheries and the establishment of Community Fishing Councils (10). The Marine fisheries regulation (REPMAR) aims to make fisheries more sustainable and their management more participatory. One important innovation is that, the regulation allows artisanal fishers, through community-based organizations, to co-manage fishing areas to ensure the sustainable use and management of coastal and marine resources.

Therefore, there exists policy instruments both in the agricultural and fisheries sectors, that encourage more sustainable production practices but they are poorly enforced.

2. PROBLEM STATEMENT AND THE RATIONALE FOR POLICY REFORMS

2.1. HARMFUL PRACTICES TO BIODIVERSITY

Despite favorable national context to biodiversity conservation, today agricultural and fisheries policies are not yet effective in promoting change from harmful to sustainable practices, and reducing pressure on biodiversity. For example, current agricultural and fisheries practices – deforestation (slush and burn agriculture), illegal exploitation of mangroves, inappropriate use of pesticides and inorganic fertilizers, and overfishing by large industrial fleets and the rapid and uncontrolled expansion of artisanal fishing, and use of non-selective fishing gears – are causing biodiversity loss through land-use and land cover changes⁴ (terrestrial and marine habitat destruction), pollution, and overexploitation of natural resources (as opposed to resource renewal) (11) (12). Recent report on Fishery Statistics indicates a 14% increase in the number of artisanal fishing licenses from 2023 to 2024 (2) and continued use of non-selective fishing gears with impacts to increased fishing effort and decreased marine species stocks (9) (13). The ineffectiveness of agricultural and fisheries policies in reducing pressure on biodiversity threatens not only the sustainability of the environment and natural resources, but also, the socioeconomic well-being of communities reliant on agriculture, and coastal and marine resources. Therefore, there is a huge opportunity to better align agricultural production with biodiversity

⁴ Major impact of land use and land cover change is the alteration of the flow of ecosystem services such as food, water provision, climate change regulation and cultural benefits.

conservation by integrating nature into the designing and defining objectives of agricultural and fisheries investments and of agricultural and fisheries policy instruments that shape production practices.

2.2. LACK OF INCENTIVES TO INVEST IN BIODIVERSITY

The main causes of producers' decisions to 'disinvest' in biodiversity conservation, as an asset, lie in the input incentives offered by government (for example, public spending, including subsidies, on inorganic fertilizers and pesticides, and diesel) and market institutions (for example, lack of reward for biodiversity conservation) (20) (14). Agricultural and fisheries PPIs including incentives lack differentiating parameters between users and non-users of production practices with positive impacts on nature. In addition, there is a very weak enforcement of existing policy instruments. In Mozambique, the authorization to operate in the agriculture and fisheries sectors is dependent on Environmental licensing, a surrogate that the project will be implemented following environmental standards (including biodiversity conservation), as required by the Decree 54/2015 de 31 December. The environmental license is issued by the Ministry of Agriculture, Environment and Fisheries and is the outcome of an approved Environmental Impact Study (EIS). However, this procedure does not guarantee, on its own, biodiversity conservation during project implementation, nor differentiate between users and non-users of production practices with positive impacts on nature. Policy enforcement is also very weak. The EIS procedure imposes that the project operator undertakes and submits yearly audit reports to the Environmental Audit authorities (AQUA). These reports should inform about the compliance of the project activities to the Environmental Management Plan (mitigation measures). According to the EIS procedure, AQUA is responsible for monitoring, in the



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field, these audit reports (by the operators). However, AQUA lacks resources to do follow up the implementation of the projects, and enforce compliance with decree 54/2015 31 December, hampering assurance of the compliance of project activities to the Environmental Management Plan (EMP) Ministerial Diploma No. 102/2019.

Furthermore, the government has provided incentives to the agricultural and fishery sectors, but it is not clear how much of these incentives are directed to users of production practices with positive impacts on nature. For example, out of USD 131 million of public spending in the agricultural sector between 2009 and 2020, the majority (27%) was used to purchase inputs including inorganic fertilizers and pesticides. Farmers also have 50% discount diesel tax (Ministerial Diploma nº102/2019). The sugar value chain, in particular, benefits from incentives to reduce transmission costs of products necessary for the sugar value chain, ensure equitable access for domestic producers to the national and international markets [Sugar Reference Price (Ministerial Decree No. 100/2015, of November 19) and VAT exemption in the sugar value chain (Law No. 16/2020, of December 23). These incentives are encouraging increased production of sugar-cane through increased use of inorganic fertilizer and pesticides, and contributing to biodiversity loss due to pollution.

Fishermen also benefit from subsidies, including (i) subsidies for the procurement of boats and engines; (ii) exemption of import tax for imported fishing inputs (gears, equipment, and materials essential for fishing activities); and (iii) 50% discount fuel tax (Ministerial Diploma nº102/2019). The subsidies for the procurement of boats and engines are expected to make prices more affordable for artisanal fishers. The exemption of import tax should ensure the necessary supply of inputs given the limited local production of fishing inputs. Similarly, there is a logical pathway between 50% discount fuel tax and discouragement of harmful practices, explained by the fact

that the 50% discount fuel tax aims at making fuel more affordable to encourage artisanal fishing away from the shallow waters covering mangroves, seaweeds and seagrasses and nursery habitats for shrimps and crabs. This would enable protection of coastal sensitive ecosystems/ habitats, reduce pollution on these habitats and protect juvenile individuals of shrimps and crabs with impacts to biodiversity conservation. However, all the above subsidies are yet to be effective in creating a change from harmful to more sustainable practices (9) (14). For instance, the 50% discount fuel tax benefits industrial operators more than artisanal, it may increase CO2 emissions contributing to global warming and climate change, and increase fishing effort with negative impacts to biodiversity. According to the UN, approximately 14% of the world's coral reefs were lost between 2009 and 2018, mostly due to climate change (15).

In the fishery sector, diesel incentives can perpetuate increased fishing effort with effects to reduced stocks of shallow-water shrimps already over-exploited. In the agricultural sector, access to more fuel may also instigate extension of the cultivation area with implication to deforestation.

In summary, if current policy instruments and incentives fail to contain or enforce checks against biodiversity degradation, or omit consideration of biodiversity, agricultural and fisheries activities might lead to biodiversity degradation. Hence, the solution to the problem lies in repurposing the current incentives. This is aligned with Target 18 of KMGBF and National Biodiversity Target "By 2035, ensure the establishment and adoption of mechanisms to promote incentives for actions beneficial to the conservation and sustainable use of biodiversity, as well as identify and gradually eliminate incentives for activities harmful to biodiversity".

3. OBJECTIVES AND METHODOLOGY

3.1. OBJECTIVES

This policy brief presents recommendations for reforms of public policy instruments (PPI) to change soybean, sugarcane, shrimps and crabs' production practices, with positive impacts on nature.

3.2. METHODOLOGY

Building on the BIODEV2030 project implemented in Mozambique by IUCN (11) (16) (18), the recommendations were formulated through a consultation process following four main steps: first, 18 semi-structured interviews with key informants of agricultural and fisheries sectors were conducted to identify agricultural and fisheries policy documents. A total of 42 agricultural and fisheries public policy instruments (PPIs) were identified and reviewed. From the 42 PPIs, 22 [(09 crosscuttings, 09 Agricultural Policy Instruments (API) and 04 Fisheries Policy Instruments (FPI)] were selected based on the following criteria: Environmental licensing, Agricultural and Fisheries

Investments, Incentives and Specific Production Practices. The selected PPIs were examined to assess biodiversity consideration (i.e. containing or imposing controls against biodiversity degradation; and encouraging adoption or addressing

specific Sustainable Production Practices), and recommendations to improve biodiversity consideration were formulated. Second, the first national multi-stakeholder dialogue (i.e. workshop 1) was held for engaging stakeholders in

examining the identified 22 PPIs and assessing the feasibility of proposed policy recommendations. Third, seven bilateral meetings and five focus group interviews were conducted with key informants of agricultural, fisheries and financial

sectors to further discuss the feasibility of proposed recommendations of policy reforms, and narrow down the number of PPIs with an impact on production practices. This resulted in selection of 10 (out of 22) PPIs (05 crosscutting, 03 APIs and 02 FPIs) (Table

1) for recommendations of reforms to strengthen biodiversity integration in Mozambique. Fourth, the second national multi-stakeholder dialogue (i.e. workshop 2) was held for presenting the sectoral policy reforms to the high-level policy-makers.



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4. PROPOSED REFORMS OF AGRICULTURAL AND FISHERIES POLICY TO DECREASE PRESSURE ON BIODIVERSITY

4.1. OUR APPROACH

The recommendations for policy reform focus on disincentives to discourage operators/producers from engaging in activities that lead to biodiversity loss. This purpose will be pursued mainly through inclusion in the regulatory and fiscal instruments, of the following: ⁵

- differentiating criteria (minimum required sustainable practices) between operators using sustainable production practices from those using harmful production practices; and
- (re)directing incentives, offering rewards for behaviour change, for example, through implementation of projects on payment for the use of sustainable practices. This means rewarding the use of practices⁶ conducive to biodiversity conservation.



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For example, reducing the quantity of chemical inputs used and control their use, implement a zero deforestation approach, promoting organic or certified crops, developing agro ecology and agroforestry to improve soil condition, Integrated Pest and Disease Management (IPM), precision agriculture, disease and pest resistant varieties, restoration of mangroves, creation of sanctuaries for Community Fisheries Councils (CCPs), promoting the development of producers' networks to share experience, knowledge and services (at local, regional and national levels)

This will entail the following three major steps:

⁵ Sustainable production practices/technologies are those that aim to maintain or improve the quality of life for people, without depleting or damaging natural resources, and include: reducing the quantity of chemical inputs used and control their use, implement a zero deforestation approach, promoting organic or certified crops, developing agro ecology and agroforestry to improve soil condition, Integrated Pest and Disease Management (IPM), precision agriculture, disease and pest resistant varieties, restoration of mangroves, creation of sanctuaries for Community Fisheries Councils (CCPs), promoting the development of producers' networks to share experience, knowledge and services (at local, regional and national levels).

- First, identifying and rewarding/certifying operators using practices conducive to biodiversity conservation;
- Second, making sustainable technologies more available, affordable and attractive by increasing tax exemptions or subsidies for operators who use them, and reducing them for operators with conventional practices; and
- Third, strengthening the monitoring and evaluation of agricultural and fisheries investments to enforce compliance with existing and proposed sectoral PPI.

4.2. THE NATURE OF POLICY RECOMMENDATIONS: REVISION, REPURPOSING AND ENFORCEMENT

The next section recommends policy reforms needed to better incorporate biodiversity considerations within public policy instruments in the agricultural and fisheries sectors. The recommendations address policy revisions, repurposing and enforcement. While policy revisions and repurposing are directed to some of the reviewed PPIs, policy enforcement applies to all existing and the reviewed PPIs, specially the following PPIs (next section).

STRENGTHENING ENFORCEMENT (ONLY)

Law No. 17/2023 of December 29. Forestry Law

This Law applies to individuals and legal entities, as well as local communities, in the exercise of any activities relating to the creation, protection, conservation, enhancement, access, exploitation, transport, processing, marketing and monitoring of the existing forest heritage throughout the national territory. It integrates biodiversity through the promotion of applied forestry research, aimed at biodiversity conservation, enhancement, management and sustainable forest management (Article 4 – Objectives). It also establishes the forestry closed season (January 1st and March 31st) within which forestry exploitation is prohibited, with a view to reducing the impact of this

activity on soils, natural regeneration of species, conservation of biodiversity and protection of the environment (Article 34 – Forestry closed season). To strongly integrate biodiversity, Law No. 17/2023 of December 29 should be enforced by considering the following recommendation:

R1. Strengthen sector's capacity to monitor forest exploitation and Adopt EU DEFORESTATION REGULATION in MOZAMBIQUE for "Forest-risk commodities" including soybeans. The objective of this regulation is to ensure that the products placed on EU market (or products exported from the EU) are: Deforestation-free, i. e. not associated with deforestation or forest degradation that occurred after December 31, 2020. This capacity can be strengthened through staff training in data management (collection, analysis and reporting); improve budget for M&E and supervision, and awareness raising. piloting/experimenting, and d scaling up EU deforestation Regulation.

Decree No. 9/2024 of March 7th. Organization and Functioning of the Fisheries Co-Management Committee

This instrument defines the Organization and Functioning of the Fisheries Co-Management Committee (Article 1 – Object). It integrates biodiversity. For example, fishing communities have the responsibility to ensure the sustainable use of aquatic biological resources (ARTICLE 14 – Responsibilities). The instrument allows for the identification, promotion, and monitoring of sustainable management initiatives for aquatic biological resources. However, current annual licensing campaigns by officials from the Ministry of Agriculture, Environment and Fisheries (MAAP) are limited, and leave many artisanal fishermen without proper licensing. To strongly integrate biodiversity, Decree No. 9/2024 of March 7th should consider the following recommendation:

R2. Strengthening sector's capacity to mobilize resources for monitoring the implementation of fisheries committees, through staff training in data management (collection, analysis and reporting) and facilitation skills to improve participation of fishermen in the licensing process. This would increase the government revenues (licensing payments). A certain portion of the revenues (for example 30%) can be used for funding activities of Fisheries Co-Management Committee.

31st considers biodiversity. It establishes the provisions for the environmental impact assessment process (Article 2). The provisions of this regulation (Article 3) apply to all public or private activities that may directly or indirectly influence environmental components. However, the instrument does not provide guidance for differentiating and rewarding operators who apply biodiversity-friendly practices. To strongly integrate biodiversity, the Decree No. 54/2015 of December 31st should consider the following recommendations:

R4. Introduce in Chapter V (monitoring, fees, sanctions, and benefits) between Articles 27 (Fees) and 28 (Infractions and Sanctions) differentiated benefits in the form of an Environmental Award. This will guide policy-makers in charge of designing and implementing reforms, in identifying and rewarding operators who apply biodiversity-friendly practices defined in the Environmental Management Plan (EMP) with mandatory targets for Sustainable Production Practices (SPPs), including, for example, an adequate minimum number of sustainable production practices to reduce overall pressure on

THE SPPs SHOULD BE BASED ON TECHNOLOGY PROTOCOLS WITH SOLID SCIENTIFIC EVIDENCE, OR INTERNATIONAL STANDARDS CERTIFIED BY AN ACCREDITED AGENCY (SUCH AS BONSURO FOR SUSTAINABLE SUGAR-CANE PRODUCTION)

R3. Strengthen sector's capacity for implementation, monitoring and learning of fisheries authorities, through staff training in data management (collection, analysis and reporting), and facilitation skills to improve participation of artisanal fishermen and fishing operators in the implementation of fisheries' legislation.

REVISION AND REPURPOSING

Decree No. 54/2015 of December 31st. Regulation of Environmental Impact Assessment

The Decree No. 54/2015 of December

ecosystems/habitats. The SPPs should be based on technology protocols with solid scientific evidence, or international standards certified by an accredited agency (such as Bonsucro for sustainable sugar-cane production), and consistent with conservation, i.e., with the set of interventions aimed at the protection, maintenance, rehabilitation, restoration, enhancement, management and sustainable use of natural resources in order to guarantee their quality and value, protecting their material essence and ensuring their integrity, defined in the Decree No. 89/2017 that approves the Regulation of Law No. 16/2014, of June 20th, Law on the Protection, Conservation and Sustainable Use of Biological Diversity, and also aligned with national biodiversity conservation objectives (Mozambique NBSAP).

Law No. 8/2023 of June 9. Private Investment Law" and Decree No. 8/2024 of March 7. Regulation of the Private Investment Law

The Law No. 8/2023 establishes the legal framework and general principles applicable to the realization of private investments in the Republic of Mozambique eligible for the enjoyment of tax and non-tax guarantees and incentives (Article 1 - Subject). It is regulated by the Decree No. 8/2024 of March 7 that establishes the procedures applicable for the approval and implementation process of private investments, eligible for fiscal and non-

fiscal guarantees and incentives (Article 1 - Object).

The Private Investment Law considers environmental aspects relevant to the conservation of biodiversity, for example the Investment Objectives (Article 5) include the protection and enhancement of natural resources. This is in line with the concept of conservation defined in Law No. 5/2017 - Mozambique Law on the Protection, Conservation and Sustainable Use of Biological Diversity.

The Private Investment Law also imposes some controls against the degradation of biodiversity by establishing specific duties for investors (Article 12, paragraph 2) to respect and comply with current legislation relating to the environment, nature protection and waste management. In addition, the investor's social responsibility (Article 13) includes the promotion of active policies for the defense and protection of the environment.

Yet, both, Law No. 8/2023 and the Decree No. 8/2024 do not consider production practices friendly to biodiversity as key factors for the approval of private investments. This weakens the conditional approach to biodiversity integration implied by the private investment policy. Therefore, to improve biodiversity integration, the private investment policy should consider the following recommendations:

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R5. Revision of the Law No. 8/2023, Article 13 (Investor Social Responsibility) to include specific investments for development of sustainable agriculture and fisheries to address deforestation and pollution, as a criterion for valuing investment projects subject to authorization procedures. The investments should actively promote the use of sustainable production practices such as certified seeds, irrigation technologies, renewable energies, agroforestry systems, integrated pest management and bio-fertilizers and pesticides; and ensuring that habitats of high importance for biodiversity, including mangroves, seaweeds/ seagrasses and ecosystems of high ecological integrity/sensitivity are under participatory, integrated and inclusive spatial planning for marine biodiversity.

R6. Revision of the Decree No. 8/2024, Article 20 (Investment Authorization) by including required sustainable practices as a key condition of project approval.

Law No. 4/2009 of January 12. Approves the Tax Benefits Code

The provisions of this Code apply to investments made by both individuals and legal entities, provided they are duly registered for tax purposes. While the Code does not integrate biodiversity, it highlights in number 1 of Article 2 (concept of the tax benefits) that tax benefits are considered to be measures that imply the exemption or reduction of the amount payable of taxes in force in order to favor activities of recognized public interest, as well as to encourage the economic development of the country. To integrate biodiversity, the following is recommended:

R7. In the determination and control of tax benefits, established in Article 2 (Concept of Tax Benefits), differentiate between operators using the required minimal number of sustainable practices (defined in the EMP or other appropriate technical instrument),



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allocating a higher percentage of benefits to deductions from taxable income (IRPC) to the users of sustainable practices.

Ministerial Decree No. 102/2019. Specific Instructions on the Use of Diesel Fuel Tax Incentive

The decree is inter-sectoral in nature (Article 1 –Beneficiaries), enabling the agricultural sector (individual farmers and agricultural companies that use mechanized agricultural equipment) and the fishing sector/fishing boats (artisanal fishing, semi-industrial fishing and industrial fishing) to benefit from 50% reduction (ARTICLE 4 – Reduction Limit) on the Fuel Tax levied on diesel. Sugar-Cane is the third major crop benefiting from Diesel Fuel Tax Incentive and receives 240 liters of diesel/ha yearly. In the fisheries sector, the industrial fishing receives major quantities of diesel, up to 171.360 liters monthly for boats with engines of 950 – 1400 (horsepower-hp)

The Decree does not integrate biodiversity despite the use of diesel which contributes to increases in CO2 and global warming, with implications for climate change and biodiversity loss. Additionally, the requirements (ARTICLE 2 – Requirements) for approval of diesel subsidy are complex and difficult to enforce. For example, the producer must have an organized accounting or integrated into the simplified accounting system; submit a request addressed to the General Director tax authority for inclusion in the incentive scheme, and the request must be accompanied by a confirmation document, issued by the supervisory entity (agricultural/fisheries sectors), relating to the exercise of the economic activity, the quantity and capacity of the equipment used and, in the case of the agricultural sector, the area cultivated per crop during the year, without prejudice to confirmation by the tax administration.

To strongly integrate biodiversity and supporting the energy transition, the Ministerial Decree No. 102/2019 should

consider the following recommendations:

R8. Repurposing/recycling the 50% tax reduction on diesel by redirecting 30% of tax reduction to operators who comply with environmentally friendly practices, including the use of alternatives to the conventional petrol and diesel fuels, such as renewable power (solar power) electric vehicles (EVs), lower-carbon fuels like LPG (Liquefied petroleum gas) or Compressed Natural Gas (CNG), and properly monitor and report their activities.

R9. Improve enforcement; through strengthening producers' capacity to comply with subsidy requirements, as well as the capacity of sectoral policy makers to enable them to take action in confirming producers' compliance with requirements.

Decree No. 27/2024 of May 7. Regulation on Fertilizer Management

The Decree No. 27/2024 of May 7 establishes the legal framework for the management of fertilizers circulating in the country, observing the principles of protecting public health, animal health, and the environment. The decree considers biodiversity through the requirement of environmental license for the authorization of fertilizer production (Article 28 – Production), and prohibits the use of adulterated and obsolete fertilizers, respectively (Articles 36 and 37). However, the instrument is heavily oriented towards the production of inorganic fertilizer and does not differentiate between inorganic fertilizers and bio –fertilizers. To strongly integrate biodiversity, the Decree No. 27/2024 of May 7 should consider the following recommendation:

R10. Supporting organic fertilizer production (for example, compost) to reduce the excessive use of inorganic fertilizer leading to water pollution, through differentiated fee charges, with producers and users of organic fertilizer obtaining major subsidies.

Decree No. 6/2009 of March 31. Pesticides Management Regulation

This instrument considers biodiversity. It serves to ensure that all processes involving the work or handling of pesticides are carried out without prejudice to public, animal and environmental health, including ecosystems and biodiversity. The instrument prohibits production of pesticides included in the Stockholm Convention on Persistent Organic Pollutants (Article 21 – Authorization for the production of pesticides). The application of pesticides should not harm crops, animals, consumers of plant and animal products, non-targeted organisms, and pose risks to the environment (Article 37 – Application of Pesticides). Additionally, the instrument (Annex I – Fees) defines high/heavy fines equivalent to 150% of the value of the damage caused, as assessed by the environmental sector, for environmental damage caused by pesticides. However, Decree No. 6/2009 of March 31 does not highlight the importance of bio pesticides in reducing biodiversity loss. To strongly integrate biodiversity, the Decree No.6/2009 of March 31st should consider the following recommendations:

R11. Promote production and use of organic (e.g., biological) pesticides by introducing an article establishing that part of the fees/fines collected be used to contribute to the pesticide production authorization fee (7,500 Mt) and the annual maintenance fee (5,000 Mt) for organic pesticides.

R12. The obligations of private crop promotion companies (Article 31) should highlight organic pesticides to ensure that farmers involved in crop production use organic pesticides and/or an adequate combination of inorganic/synthetic and organic pesticides.

R13. To reduce the use of toxic pesticides, pesticide fees should also be differentiated according to the toxicological class of the pesticide, as specified in Article 51 (Toxicological Classification).



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5. PRACTICAL IMPLICATIONS

The effective implementation of the policy recommendations formulated above, thanks to the BIODEV2030 project, relying on science and involving key stakeholders and experts, will demand coordinated work involving environmental department, agricultural and fisheries directorates, research centers, tax authority, producers, and donors as follows:

1. Coordinated work among environmental department, including AQUA and Agricultural Research Institute of Mozambique (IIAM), National Fisheries Research Institute of Mozambique (IIP), Agricultural directorate, Fisheries directorate, and producers, to define, the minimum mandatory targets for Sustainable Production Practices (SPPs)

in the Environmental Management Plan (EMP) and the form of Environmental Award (certificate/diploma, monetary), to guide policy makers in charge of designing and implementing reforms, in identifying and rewarding operators who apply biodiversity-friendly practices. Stakeholders could, also, identify niche markets (price premiums) for 'biodiversity-friendly' products for operators with environmental award/certification of their products, and projects on payment of ecosystems services (PES)– for the use of sustainable practices. This work must be based on a good understanding of total economic value of biodiversity, especially the opportunity costs of conservation; and of the complex relationships between natural resources management options, biodiversity impacts, changes in ecological services and their value, to account for market failures and biodiversity as a public.

- 2. The Ministry of Mineral Resources and Energy, environmental department, including AQUA, tax authority, Agricultural directorate, Fisheries directorate, fuel distributors and producers, should collaborate to repurposing/recycling part of 50% tax reduction on diesel for cleaner energies, and allocating higher percentage of benefits to deductions from taxable income (IRPC) and other taxes such a licensing fees to the users of sustainable practices, and targeted subsidies linked to the use of sustainable practices.
- 3. Coordinated work involving donors, environmental department, including AQUA, Agricultural directorate, Fisheries directorate, and producers, to mobilize resources for strengthening capacity of producers, policy makers and monitoring units to improve law enforcement of existing policies and proposed policy reforms. Main activities must include budgeting and implementation of enforcement activities, dissemination of environmental friendly practices, and facilitation of multi-stakeholder learning platforms to discuss main implementing challenges and ways of addressing them.

We strongly believe it is possible and encourage high-level policy-makers to support these reforms and establish a roadmap for their implementation. They will contribute to reconcile economic development with the preservation of Mozambique’s most precious asset: its natural capital.

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BIODEV2030 PROJECT DESCRIPTION

IUCN in close collaboration with the Environmental Directorate of the ministry of Agriculture, Environment and Fisheries, is implementing the BIODEV2030 project, a pilot initiative funded by the French Development Agency (AFD) and coordinated by Expertise France, to support the government of Mozambique in identifying policies that integrate biodiversity conservation in key economic sectors. The BIODEV2030 project comprises two phases (I and II). Phase I ran from the year 2020 to 2022 and aimed to integrate biodiversity in economic sectors by promoting voluntary commitments in economic sectors that pose threats to biodiversity. During Phase I, and based on the DPSIR (Driver, Pressure, State, Impact, and Response) framework, the project identified agriculture (soybean and sugar-cane value chains) and fisheries (prawns and crab value chains) as the main economic sectors (drivers) engendering pressures on ecosystems (Land use change, Pollution, Natural resources overexploitation). Diagnosis of main threats to biodiversity (11), and diagnosis of main sectors (16) causing these threats have been conducted and a synthetic brief has been produced (18). Phase I resulted in voluntary commitments (19) to biodiversity by the economic actors in the agricultural and fisheries sectors. In the agricultural sector voluntary commitments include practices to reverse deforestation in soybean cultivation (i.e. promotion of organic fertilizers, use of adapted, high-yielding, and resistant crop varieties, promotion of agroforestry programs); and practices to reverse the reduction of biodiversity in sugarcane cultivation (integrated pest and disease management (IPM), precision agriculture, disease- and pest-resistant varieties. Voluntary commitments to biodiversity by the fisheries sector include practices to reverse the reduction of marine biodiversity in shrimp and crab capture – restoration of mangroves, creation of sanctuaries for Community Fisheries Councils (CCPs), banning of non-selective fishing gear, limiting the expansion of artisanal fishing vessels and the industrial fleet. As a follow up to BIODEV2030 Phase I, Phase II (2024-2026) intends to contribute to the implementation of the Kunming – Montreal Global Biodiversity Framework in 15 countries (including Mozambique) with two specific objectives: 1) promoting changes in production practices that reconcile biodiversity and economic development, through the support of national public authorities in identifying the sectoral public policy instruments (SPPIs) of priority sectors as well as possible reforms to encourage impactful changes in practices and 2) developing a landscape-level bankable project.

6 <https://www.biodev2030.org/wp-content/uploads/2021/04/Rapport-Evaluation-des-menaces-EN.pdf>

7 <https://www.biodev2030.org/wp-content/uploads/2023/01/Mozambique-In-depth-sectoral-analysis-and-commitments-identification-for-biodiversity-EN.pdf>

8 <https://www.biodev2030.org/wp-content/uploads/2022/02/Policy-Brief-BIODEV-2030-Mozambique-PT-and-EN.pdf>

9 <https://www.biodev2030.org/wp-content/uploads/2024/11/Results-of-the-dialogue-process-and-commitments-in-Mozambique.pdf>

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This policy brief discusses the main challenges facing agricultural and fisheries policy, and presents recommendations for policy reforms to change soybean, sugarcane, shrimps and crabs' production practices with positive impacts on nature.

The recommendations were formulated through a thorough review of agricultural and fisheries public policy instruments, and consultation process with key stakeholders.

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IMPLEMENTATION