TRAFFIC

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POLICY BRIEF

ON THE MALAGASY MEDICINAL AND AROMATIC PLANTS

ILLEGAL WILDLIFE TRADE CHALLENGE FUND

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CHAMPIONING MADAGASCAR'S ENDEMIC AND HIGH-VALUE MEDICINAL AND AROMATIC PLANTS (MAPs)[1]

Madagascar is home to at least 14,000 plant species, of which 85% are endemic (Ramananjanahary *et al*., 2010). Approximately 4,000 species have been reported to have medicinal value, of which 60% are endemic to the country (Anon., 2006; Rafidison et al., 2019). Of nearly 150 species in trade, 125 are collected from the wild, and 60 are traded internationally (Ratsimbazafy *et al*., in prep.). These species are collected by harvesting communities who are paid between 47 and 50USD a month. The national minimum monthly wage is 54USD (National minimum wage, decree N°2023 – 563 of 17 May 2023). Although Madagascar's medicinal plants have been traded since the colonial period, the COVID-19 pandemic has caused an unprecedented explosion in this trade, with new actors involved and an increase in the exploitation of particular species (Ratsimbazafy *et al.*, in prep.). The harvest and trade is widespread throughout the country, and it is crucial that this is sustainably regulated and controlled to ensure the longevity of both the species and the livelihoods of those involved.

Harvester of Hariungana madagascarensis leaves

SHINING THE LIGHT ON MEDICINAL PLANT HARVEST AND TRADE DYNAMICS.

To provide a comprehensive understanding of the wild MAPs harvest and trade dynamics and to highlight the legislative and enforcement gaps to Malagasy policymakers, TRAFFIC, in collaboration with Kew Madagascar Conservation Centre, conducted a baseline assessment of Madagascar's MAPs harvest and trade, including a non-detriment finding (NDF) following the methodology of Rosser and Haywood (2002).

This review includes an analysis of the traded species, trade volumes, prices, and, as far as possible, revenue distribution along the supply chain. According to the data collected from government institutions, between 2018 and 2023, approximately 120,000 tonnes of plants were wild-harvested, and the country exported 38,000 tonnes, i.e. 6,300 tonnes annually, with an annual average declared commercial value of USD68 million (INSTAT, 2023). The most traded species include *Adansonia grandidieri, Aloe macroclada, Catharanthus roseus, Camphora officinarum, Cedrelopsis grevei, Centella asiatica, Cinnamomum camphora, Cinnamosma fragans, Cryptocarya agathophylla, Drosera madagascariensis, Prunus africana,* and *Uncarina stellulifera.*

This assessment revealed that several issues characterise the MAPs sector in Madagascar:

- The Ministry of the Environment and Sustainable Development (MEDD) leads medicinal plant governance. However, the analysis of each ministry's regulatory texts (Environment, Commerce, and Health) reveals contradictions and a lack of clarity regarding roles in processing and issuing administrative papers such as collection permits, transport authorisation, and export permits. This constitutes a significant challenge for the agencies involved in enforcing wildlife laws in Madagascar. (Ratsimbazafy *et al.*, in prep.).
- Law enforcement officers lack knowledge and understanding of regulations and procedures.
- There is low capacity amongst management and control officers in species identification.
- There is a low level of coordination between management and control officers engaged in harvest and trade management.
- There is a lack of personnel and infrastructure to manage and regulate the industry.
- There is no traceability system in place to monitor the harvest, transport, processing, and trade of MAPs.
- There is a low level of awareness regarding the environmental, social, and economic value of medicinal plants.

These factors facilitate illegal, unregulated, and uncontrolled harvest and trade. Among 154 sellers[2] surveyed by the project, 75% reported operating informally, without following the required administrative procedures, and lacking official documents to prove the legality of their activities. At the transformer/processing level, out of 46 surveyed, 65% do not have the required legal documents to operate.

[1] The term medicinal and aromatic plants (MAPs) refers to a group of wild-harvested plants used in medicines and aromatherapy, but that are also often used in other industries for example food, beverage, and beauty (Timoshyna and Drinkwater, 2021).
[2] These are medicinal plants sellers in the markets surveyed by the project: Ambositra, Antananarivo, Antsirabe, Mahajanga, Moramanga, Morondava

Baobab (Adansonia diginata) fruit

UNCONTROLLED AND UNMONITORED TRADE PUTS SPECIES AT RISK

For decades, the uncontrolled and unsustainable harvest and trade of MAPs by pharmaceutical, food, and cosmetic companies have been partially responsible for the decline of Madagascar's biological diversity (Rakotoarisoa, pers. comm. to TRAFFIC, 2020). It is therefore assumed that many medicinal plant species are at risk from unsustainable harvest and trade, and the industry falls short of adequately benefiting the harvester communities that rely on this for their livelihood (Rakotoarisoa, pers. comm. to TRAFFIC, 2020).

Based on the list of the most traded species provided by stakeholders and the IUCN Red List, fourteen species were selected for a detailed harvest and trade sustainability analysis. This analysis was based on desktop research, field surveys in species habitats, and expert consultations. Data compiled using the above-mentioned methodology were analysed using the IUCN NDF guidelines and criteria (Rosser & Haywood, 2002).

The analysis revealed that the harvest and trade of most selected species are unsustainable. The main reasons for this include limited distribution of populations, low regeneration rates, unsustainable harvesting practices, inadequate harvest monitoring and control systems, and the threat from land use change, such as agriculture, mining, or bushfires. Apart from the management plan for CITES, Appendix II listed Prunus africana, which was developed in 2003 and revisited in 2020 (Ramamonjisoa,2020); Madagascar has not developed species management plans for MAPs. Additionally, there is a noted lack of knowledge regarding the population status of most species subject to trade (Ratsimbazafy *et al.*, in prep.).

According to the NDF analysis, the harvest and trade of nine species traded at national and international levels are detrimental to their survival. As such, it is worth re-evaluating their conservation status to inform the development of stricter conservation measures to ensure long-term survival. These species are: *Adansonia grandidieri, Aloe macroclada, Cedrelopsis grevei, Cinnamosma fragans, Cryptocarya agathophylla, Drosera madagascariensis, Prunus africana, Uncarina stellulifera, Vanilla madagascariensis* (Ratsimbazafy *et al*., in prep.).

AVAILABILITY OF OPPORTUNITIES

Despite the issues mentioned, the non-detriment findings analysis revealed that out of the fourteen species selected for the analysis, five species were being traded sustainably because of their large distribution, high regeneration rates, and biological resilience. These species are Camphora officinarum, Catharanthus roseus, Centella asiatica, Harungana madagascariensis, Tambourissa thouvenotii. These species are highly sought after in international markets, with the main destinations in Viet Nam, India, France, Spain, and Belgium (INSTAT, 2023). For 2023 alone, the declared export value of Madagascar's unprocessed Centella asiatica is worth USD8 million (INSTAT, 2023).

BENEFITS ARE UNEQUALLY SHARED AMONG STAKEHOLDERS.

In Madagascar, more than 70% of the population uses medicinal plants to treat themselves (WHO,2020; MESUPRES, 2025). According to interviews carried out in the Alaotra Mangoro region with 84 harvesters, the harvest of medicinal plants has become an essential source of income for many households; this is particularly more important for Centella asiatica harvesters as 73% of the interviewed harvesters claimed to depend entirely on these species for their livelihood during the lean period (approximately October to March).

As mentioned above, for 2023 only, the declared export value of dried Centella asiatica leaf from Madagascar was nearly USD8 million (INSTAT, 2023). However, according to the survey conducted between September and November 2023 among forty-five harvesters in the Moramanga region, 85% of the interviewed harvesters claimed to earn between USD2 and USD2.50 per day. This is equivalent to intermediaries paying for one kilogram of the dried leaf. By comparison, the Free-on-Board (FOB) price per kilogram paid by the first importer at destination countries is between USD6,50 and USD10 USD. Internationally, a 100ml container of cream, made from one kilogram of dried leaf, is reportedly sold for up to USD 105 to end consumers (Anon., 2024).

The national decree regulating access and benefit sharing (ABS) from genetic resources was promulgated in 2017. On this basis, the National Competent Authority for Access and Benefit Sharing, in conjunction with the MEDD is in the process of embedding ABS regulation into the non-timber forest products (NTFPs) harvest, collection, transport and trade regulations and processes. However, its implementation faces obstacles. Although Madagascar has already issued two ABS agreements, they remain voluntary, and international buyers compensate local communities voluntarily.

Dried medicinal plants leaves sold in Moramanga market

THE CENTELLA ASIATICA VALUE CHAIN IN MADAGASCAR

2-$2.50 PER DAY is what over 85% of **harvesters** earn for their labor.

LOW PRICES are paid for dried leaves by **intermediaries** to harvesters.

$6.50-$10 PER KILO is the price of leaves sold by **exporters.**

$105 is the retail price of a 100ml jar of **Centella asiatica cream**.

RECOMMENDATIONS

TO PROMOTE LEGAL, SUSTAINABLE, AND EQUITABLE HARVEST AND TRADE OF MADAGASCAR'S MAPs

A multistakeholder workshop convened on 13 and 14 August 2024 gathered sixty participants from a wide range of MAP sectors to identify key actions for implementation over the five-year period from 2024 to 2029. These actions range from legal text review to research, institutional and stakeholder capacity building, and awareness raising.

1. ACTIONS TO STRENGTHEN THE CONTROL AND MONITORING OF HARVEST AND TRADE.

Addressed to the Ministry of Environment and Sustainable Development (MEDD) and potential donors:

- Reform and update the legal texts on MAPs harvest and trade, putting them on the same level as forest products rather than minor forest products.
- Harmonise the harvest, collection, transport, and trade permit issuance procedures at local, provincial, and national levels.
- Digitise authorisation and permit issuance procedures to ensure effective and efficient file processing and to improve traceability.
- Build the capacity of government agents regarding applicable procedures, species identification, and harvest and trade control techniques.
- Develop a species identification tool for all medicinal plant species, especially for those species most at risk.
- Develop a guideline explaining the regulations and permits required for MAP harvest, collection, transport, trade, transformation, and export

The Alley of the Baobab, Madagascar

2. ACTIONS TO PROMOTE CONSERVATION AND SUSTAINABLE PRACTICES.

Addressed to the MEDD:

- Use international standards and guidelines to inform the design of harvest control and ensure harvest sustainability.
- Promote the use of a certification standard in the MAP industry.

Addressed to the MEDD, Ministry of Trade Industry and Consumption, Ministry of Scientific Research:

- Restructuring the MAP sector's governance through re-establishing the MAP Coordination Committee (MCC), originally formed in 1992 but which has since rarely been convened. Under the Ministry of Environment's leadership, the MCC will oversee the implementation of species management plans for traded MAPs to ensure that trade is sustainable and benefits are equitably shared.

Addressed to the MEDD, research institutions, and relevant technical and financial partners:

- Conduct a detailed resource assessment and update the conservation status of at-risk species.
- Develop a Biodiversity Management Plan for each of the at-risk species.
- Promote legal trade of substitute species to reduce pressures on at-risk species.
- Build the capacity of all stakeholders involved in the harvest and trade value chain on sustainable practices as introduced by FairWild and UEBT.
- Raise the profile of Madagascar's MAPs and the importance of sustainable and equitable trade practices through national fairs and TV documentaries.

Addressed to the MAP industry:

- Implement sustainable practices that respect people and biodiversity to ensure business sustainability.
- Build the capacity of local partners, such as harvester communities, on sustainable harvest practices.
- Participate in international events on fair trade to increase market opportunities, experience, and knowledge of sustainable practice.

Addressed to the CITES Secretariat:

- Under a similar programme as the *CITES Tree Species Programme*, provide technical and financial support to Madagascar to develop a biodiversity management plan for *Adansonia grandidieri* and *Aloe macroclada,* both endemic to Madagascar and highly demanded in national and international markets.

Madagascar Periwinkle (Catharanthus roseus)

Harvest of Centella Asiatica in Moramanga

3. ACTIONS TO PROMOTE FAIR AND EQUITABLE BENEFIT SHARING AMONG STAKEHOLDERS INVOLVED IN THE MAP VALUE CHAIN

Addressed to the MEDD:

- Advocate for the promulgation of regulations required to implement the ABS Decree (Decree N° 2017 – 066 of 31/01/2017) approved in 2017 by the President of the Republic of Madagascar.
- Build the institutional capacity of the ABS Competent National Authority (CNA) formed by MEDD and expand it to the provincial level to ease communication and the issuance of harvest and trade permits.
- Establish a mechanism to recover monetary benefits from the voluntary ABS agreements and ensure transparent fund management within the government.
- Strengthening of legislative measures to ensure the recognition of the rights of local communities, holders of traditional knowledge, and managers or residents of the land where the genetic resources are harvested.
- Build the capacity of MEDD officials to embed the ABS regulations in the harvest and trade authorisations and permit issuance procedures.
- Raise awareness amongst MAP stakeholders of the ABS decree and regulations.

Addressed to the MAP industry:

- Invest more in implementing a traceability system to assist MEDD in ensuring sustainability and equitability along the value chain.
- Explore opportunities and implement a certification standard to ensure responsible sourcing and sustainable and fair business.

Addressed to the harvesters (represented under community-based organisations or harvesters associations):

- In conjunction with the MEDD and with support from conservation NGOs, develop a national protocol to ensure respect for customary rights and fair benefit sharing by the MAP industry (this will not supplement the ABS regulation but rather strengthen its implementation on the ground)
- Establish a harvester community steering committee to oversee ABS negotiations and ensure equitable benefit sharing.

Addressed to the protected areas managers and conservation NGOs:

- Build the capacity of community-based organisations on ABS negotiation process and contract development.
- Build trust between industry and community-based organisations throughout the development of an ABS agreement and ensure that CBOs receive fair benefits from the harvest and trade of MAP.
- Raise awareness of the MAP industry on customary rights relevant to these resources' harvest and trade.

RECOGNITION

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IMAGE CREDITS

COVER - *Droser madagascariensis* Krzysztof Golik / Wikimedia

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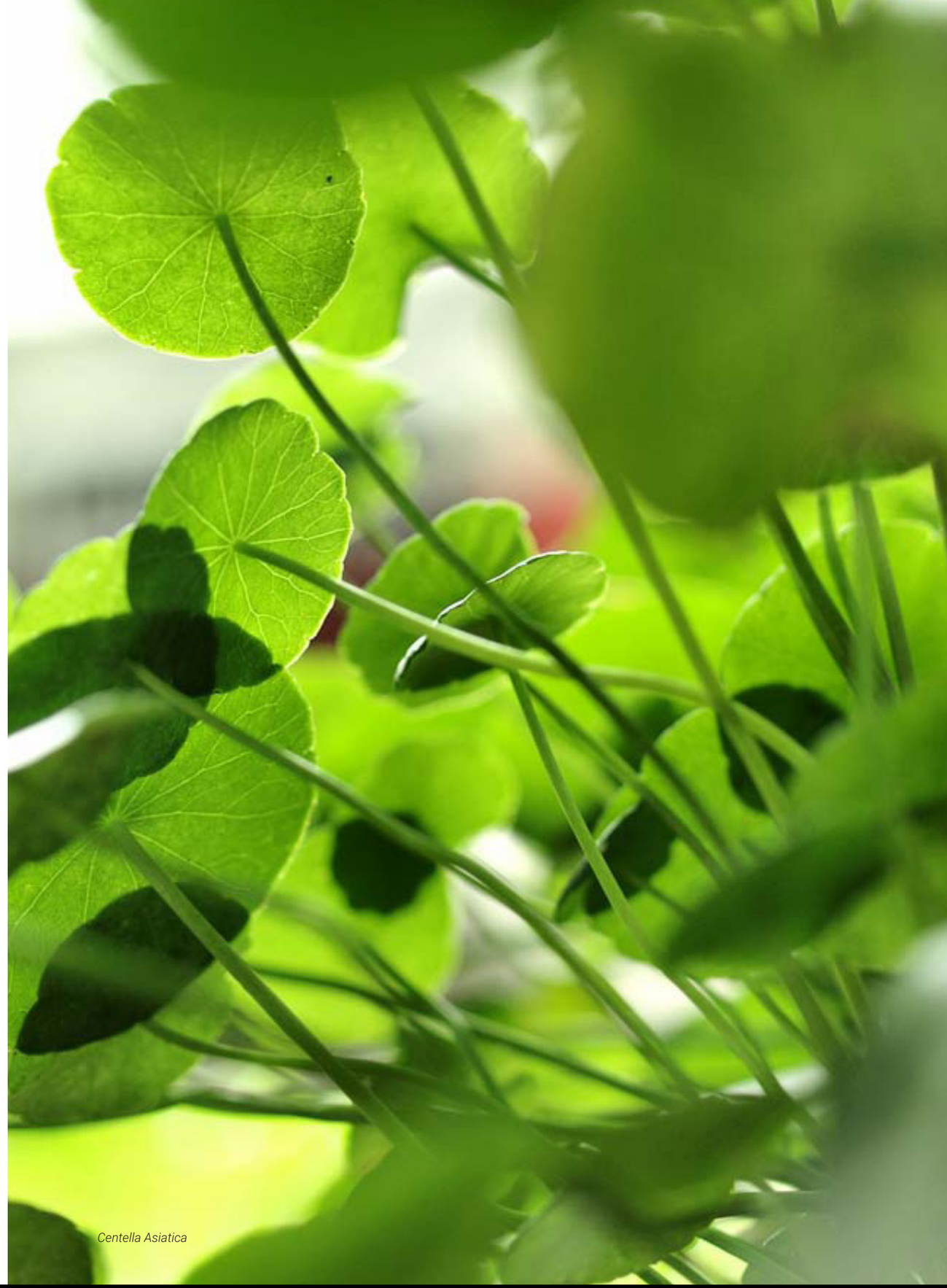

Centella Asiatica

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WORKING TO ENSURE THAT TRADE IN WILD SPECIES IS LEGAL AND SUSTAINABLE, FOR THE BENEFIT OF THE PLANET AND PEOPLE.

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