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Towards the development of a strategy for sustainable commercialization of non-timber forest products in Kenya: A situational analysis

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Abstract

Non-Timber Forest Products (NTFPs) play a significant role in the livelihoods of Kenyans. This paper reports the key strengths that could be optimized, opportunities available, weaknesses that need to be mitigated, and threats that require recognition to have a strategy for the sustainable commercialization of NTFPs in Kenya. This study was funded by The Restoration Initiative (TRI) project being implemented by FAO and other partners. It involved consultations with 50 institutions and a review of relevant publications, reports, policies, legislation, and strategies. The key interventions in the sub-sector include research and development, resource assessment and mapping, value chain analyses, capacity building, value addition, piloting plantation production, and policy reviews for a limited number of products such as gums and resins, honey, aloes, and mushrooms. The major stakeholders are collectors, community groups, traders, National government agencies, County Governments, private sector actors, development partners, and civil society organizations. Key barriers to the commercialization of NTFPs include deforestation, traditional production, and harvesting technologies, inadequate bulking facilities, insufficient value addition, weak market linkages, and information systems as well as weak policy and institutional frameworks. It is concluded that sustainable commercialization of these products in the country requires a strategy that involves revision/domestication of laws and policies, public-private partnerships, research, innovation, value addition, technology development and transfer, capacity building, synergies and complementarities.

Keywords: Non-timber forest products, situational analysis, strategy, Kenya.

Introduction

Forests play a very important role in socio-economic and cultural development of any nation, Kenya being no exception. Kenya, with a population of around 48 million people (KNBS, 2019) is the fourth-largest economy in Africa and has a forest cover of 6.99% (MEF, 2019). Forests are a source of non-timber products (NTFPs). The NTFPs refer to all the resources/products (other than industrial round wood and derived sawn timber, wood chips, wood-based panels, and pulp), that may be extracted from the forest ecosystem and are utilized within the household or are marketed or have social, cultural, or religious significance (FAO, 1990). FAO (1992) defined NTFPs as "non-wood forest products which include all goods of biological origin, as well as services derived from forests or any land under similar use and exclude wood in all its forms. The key NTFPs in Kenya include gums, gum

resins, seed oil/ essential oils, indigenous fruits, African indigenous vegetables, medicinal plants, aloes, forage (foliage and grass), barks and natural fiber, poles, withies, and fitos, insects, and ecosystem services, fungi and associated microorganisms, dyes and tannins, wood fuel and ecotourism.

The Non-timber Forest Products (NTFPs) play an important role in the livelihoods and development of the Kenyan economy since they are increasingly becoming commodities of commerce. The increasing focus on the NTFPs is important in poverty reduction and bio-diversity conservation (FAO, 1995; Marshall *et al*., 2006). They are more beneficial to forests than logging and make significant contribution to livelihoods (Marshall *et al*., 2006); generate additional employment and income (Ahenkan and Boon, 2011); and offer opportunities for enterprises (Subedi, 2003). From the studies by Odiakha (2015) in Marsabit Forest reserve, the estimated economic benefits accruing across the households from NTFPs v extraction is approximately KShs. 121,394.8/ha/year (US$ 1,214/ha/year) with firewood, plant food products, building materials, medicine and honey being the biggest contributors. Despite their importance, not many efforts have been made to quantify and advance their development, unlike timber. There is also little knowledge what interventions and strategies can work with NTFPs. Most of these NTFPs are harvested for domestic use and are obtained from forests and woodlands because their extraction is easy.

Despite the importance of NTFPS in the Kenyan economy, there is no specific NTFPs policy/legislation in the sector which is regulated and influenced by between 20-30 scattered policies and legislation. Further, the policy framework for the development of NTFPs in Kenya is weak and does not regulate or sufficiently support their development. There is poor enforcement on the implementation of existing policies and legislation. There are also existing knowledge gaps and other challenges that impede the realization of NTFPs' full potential in local, national, and global markets bio economies. This includes a general lack of information on the volumes and values of NTFPs to the bio-economy, land-use changes, land tenure systems, decline of forest cover, use of traditional production and harvesting technologies, and poor market systems. Apart from the above challenges, approaches to track and monitor the harvesting, processing, and marketing of NTFPS are not well developed and integrated into marketing institutions as the case for timber products. Extraction challenges emanating from the different management approaches of the forest were also evident (Kiplagat, 2008). Furthermore, entrepreneurship in non-timber forest products is in nascent stages of growth run and there is need for the firms to enhance their capacities through appropriate staff recruitment and/or training, firm registration especially incorporating partnerships and limited companies (Wekesa *et al.,* 2016).

To have sustainable commercialization of NFTPs, there is a need for a structured management strategy for NTFPs in Kenya. The Restoration Initiative (TRI) in Kenya, funded by the Global Environment Facility which is being implemented by the Food and Agriculture Organization of the United Nations (FAO), KEFRI and other partners has adopted an integrated approach to address deforestation, land degradation and biodiversity loss. The initiative targets policy and institutional capacity while supporting community-led Forest and Land Restoration (FLR) and the development of alternative livelihoods through the improvement of bio-enterprises of NTFPs in arid and semi-arid lands (ASALs). One of the key outputs of this initiative is the development of a national NTFPs strategy. The steps being taken by the government of Kenya in development of this strategy are summarized in Figure 1. A situational analysis of the NTFP sub-sector in Kenya was undertaken as the initial step towards the development of the strategy. This paper reports the key NTFPS identified, the key strengths that could be optimized, opportunities available, weaknesses that need to be

mitigated and threats that require recognition in order to have a sustainable strategy for commercialization of NTFPs in Kenya.

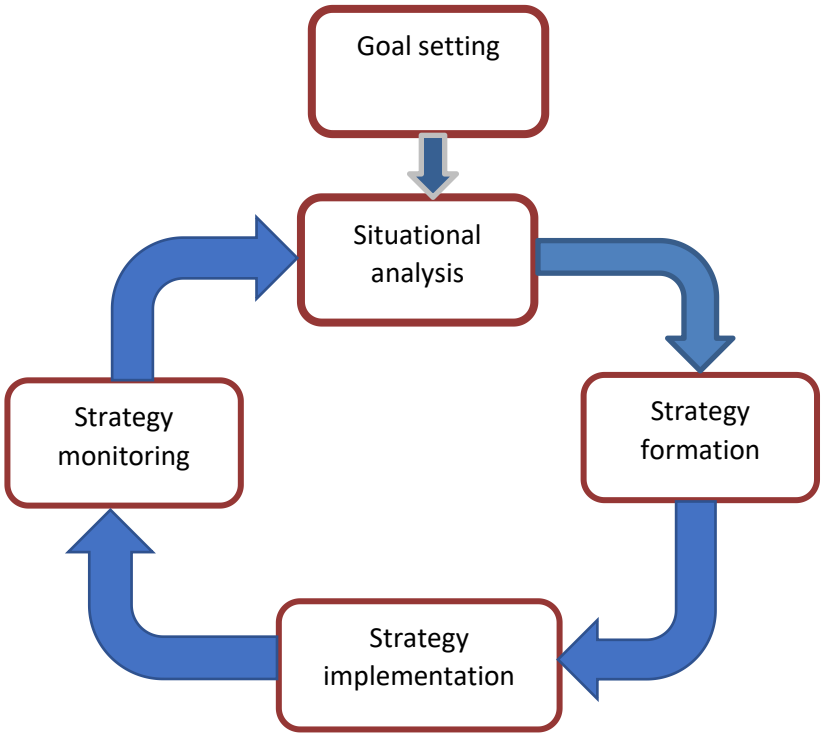

Figure 1. A schematic diagram for strategy development and implementation process

Methodology/approach

Information on the current situation of the sub-sector was collected through discussions and consultations with relevant stakeholders within Nairobi, the three counties targeted by the FAO GEF 6 project (Isiolo, Marsabit, and Laikipia), Coast, Eastern and Lake Basin regions of Kenya. The information was collected using semi-structured questionnaires and discussions with key informants and consultations through personal visits, phone calls, and emails with 50 institutions from the government, non–governmental organizations, private companies, and community associations. These included: Ministry of Environment and Forestry, Ministry of Industialization, Trade and Enterprise Development, Kenya Forestry Research Institute (KEFRI), Kenya Wildlife Services (KWS), Kenya Forest Service (KFS), Farm Forest for Smallholders Kenya (FF-SPAK), National Museums of Kenya (NMK), and Gums and Resin Association (GARA) among others. A review of relevant documents on the past and ongoing interventions on NTFPs in Kenya alongside policies, management strategies, and legislation was also done. Based on the information gathered, SWOT analysis for the sub-sector was done.

Results

The review identified 16 priority NTFPs namely: Gum arabic, gum resins, seed and essential oils, indigenous fruits, African indigenous vegetables, medicinal plants e.g., aloes, forage (foliage and grass), barks and natural fiber, poles, withies & fitos, forest insects, ecosystem services, fungi and associated microorganisms, dyes & tannins, wood fuel and ecotourism. Apart from the few value chains of the NTFPs mentioned above such as gum arabic, gum resins, honey, aloes and wood fuel where some attempts to commercialize the products have been made, the rest are exploited and used at a subsistence level. The key stakeholders identified included: collectors, community groups/associations, traders, marketing cooperatives, National government agencies, County Governments, private sector actors, regional networks, development partners, and civil society organizations.

The key interventions in the sub-sector include research and development, resource assessment and mapping, value chain analyses, capacity building, value addition, piloting plantation production, and policy reviews.

Discussion

The study identified strengths, weaknesses, opportunities, and threats of the sub-sector as summarized below. The sub-sector has several strengths that can be utilized to propel it to greater heights (Table 1). It is also recognized that the commercialization of NTFPs the country is impeded by several factors that can be classified as production, marketing, policy, and institutional barriers. The key weakness of the sub-sector are recorded in Table 3. A number opportunities that can be taken advantage of in commercialization and development of NTFPs exist and summarized in Table 3. The sub-sector is also not devoid of a few potential threats that needs to be eliminated in order to realize their sustainable commercialization (Table 3).

Table 1: Strengths

- Many rural dwellers depend on non-timber forest products (NTFPs) for their livelihood and income requirements.
- Presence of institutions involved in promoting NTFPs Research and development in the country such as KEFRI, KALRO, KFS, ICRAF, ICIPE, FAO, GARA, NGARA, KWS, various NGOs, Private sector, and Academia
- Availability of skills for production, processing, marketing, and policy development
- Availability of NTFPs in the wild and some in plantations
- Existence of relevant legislation, regulations, policies, and strategies such as the UN decade of restoration, Sustainable development goals, the big 4 agenda for the Kenyan government (Health improvement) for Kenya, National Forest Conservation Act 2016, the draft Forest (gums and resins) regulations, the draft Forest (access and benefit-sharing) regulations, the Access to genetic resources and Benefit-sharing regulations (legal notice no.160, 2006), a draft Agroforestry strategy with a component on Non-Timber Forest Products,
- Availability institutions that can carry out capacity building, coaching, mentoring, research and development, the existence of new cutting technologies

- Availability of information of some NTFPs such as gums, gum resins, wood fuel, aloes, honey, and bee products
- Existence of commodity groups and cooperatives for several NTFPs
- Provision of financing such as grants to support NFTPs programs and projects by government agencies
- Good returns realized from some NTFPs encourages private sector investment
- Ready support from Ministry of Industrialization, Trade and Enterprise Development on exports, trade negotiations, commodity exchange and standardization of products through Kenya Bureau of standards

Table 2: Weaknesses

Classification	Weaknesses
Production	• The rapid decline of forest cover, use of traditional production and harvesting technologies • Low adoption rates of best practices • Poor and unsustainable production practices leading to low yields of NTFPs and damage to trees • Inadequate information on production potential and their variations among sites, counties, and varieties • Poor quality of products • Unsustainable production as some of the products are produced from the wild and limited domestication of the producing species leading to land degradation and loss of biodiversity • Limited/Inadequate 'clean' propagation material (seeds, suckers, and stems) for products such as aloes • Incidences of pests and diseases • Low yield of products per plant • Limited up-to-date information on variations in quality and quantity of products with sites and provenances • Over exploitation of the preferred tree species by the communities especially for wood fuel production • Inadequate quality control laboratory equipment to strengthen testing centers
Marketing	• Inadequate data on available quantities of the IFTS, quantities collected and marketed • Weak market information systems on market access, requirements, and price trends • Inadequate capacity to bulk enough quantities and lack of reliable suppliers • Inadequate markets for some of the products such as aloes • Poorly developed markets and low investments on market development. • Inadequate incubation and commercialization of developed products. • Inadequate marketing skills by the local communities and cooperatives • Inadequate networking of market actors and poor market linkages
Policy and	• NFTPs not adequately acknowledged or mainstreamed in Kenya's development

institutional barriers	policies and legislation • No NTFPs strategy at the national nor county levels • Lack of a legal framework by the county governments to oversee investment and development of NTFPs • The weak enforcement and compliance of existing laws and regulations. • Lack of specific national and county statutory boards on NTFPs • Lack of recognition of NTFPs in the national accounting system • Insufficient local accreditation and certification framework for NTFPs and where present, relatively costly • Inadequate coordination among the various actors and stakeholders that develop and promote NTFP • Inadequate skills/capacity and advisory services on NTFPs • Lack of a joint platform for knowledge management and information sharing • Limited financial resources, capacity, knowledge, and policy support to institutions • Inadequate access to sustainable credit facilities for NTFPs investment by commodity groups and potential investors • Insufficient resources for the implementation of NTFPs programs as well as robust monitoring systems. • the link between the economic benefits of NTFPs and their resource base (including local availability and sustainability) and sources are poorly understood. • NTFPs are undervalued and not be included in the national accounts therefore lowers overall contribution of forests to the GDP.

Table 3: Opportunities and threats

Opportunities	Potential threats
• Declaration of 2021-2030 as UN Decade for Ecosystem restoration provides a window for the sustainable development of NTFPs for poverty reduction and livelihood support for vulnerable communities • Existence of global funding instruments such as UNFCCC's Special Climate Change Fund, GCF and the Adaptation Fund under the Kyoto Protocol, Global Environment Facility (GEF)'s Least Developed Countries Fund, REDD+ and other facilities linked to the UNCCD • Private-public partnerships providing blended finance and performance-based financing opportunities. • Existence of potential domestic and external markets	• Rapid population growth • Changing livelihood and consumption patterns • Global climate change • Deforestation and land degradation • Bureaucratic process and procedures in accessing donor funding • Global crises such as conflicts and pandemics could shift funding priorities • Deteriorating ecological conditions

Conclusions

Whereas sixteen (16) potential NTFPs have been identified, it is recognized that only a few of these such as gums, gum resins, indigenous fruits, medicinal plants, honey and bee products, wood fuel, ecotourism, seed oil, essential oils, African indigenous vegetables, forage (foliage & grass), dyes and tannins, are being exploited to some degree in a commercial sense. It is also recognized that sustainable commercialization of NTFPs have a great potential for the creation of employment, contributing to improved benefit-sharing, improved conservation of biodiversity, reduced land degradation, and increased households' incomes thus leading to reduced vulnerability of local communities. However, the commercialization of NTFPs in the country is impeded by several factors that can be classified as production, marketing, policy, and institutional barriers. Sustainable commercialization of these products in the country therefore requires revision and domestication of laws and policies, public-private partnerships, research, innovation, value addition, technology development and transfer, capacity building, synergies, and complementarities and development of a national strategy. In the short term, a national strategy would be critical in streamlining the NTFPs sub-sector.

Recommendations

1. A national strategy for sustainable commercialization of NTFPs should be developed to mitigate the challenges by reducing the potential threats and taking advantage of the identified opportunities.
2. Continuous engagement of Ministry of Industrialization, Trade and Enterprise Development on exports, trade negotiations, commodity exchange and standardization of products through Kenya Bureau of standards
3. Supportive policy and institution frameworks should be established at the national level, and cascaded to the counties for regulating commercialization of NTFPs should be put in place
4. Formation and strengthening of producer associations and cooperative societies should be prioritized for access to better markets and financial services
5. Continuous awareness creation to and capacity building of various stakeholders on production, processing, marketing using digital platforms, policy, and legal frameworks is critical
6. Continuous coaching, mentoring, and market linkages for various community groups and associations dealing with NTFPs are supported
7. Value addition and branding and certification of NTFPs for specialized markets should be enhanced.
8. Establishment of plantations for commercial production of NTFPs should be promoted

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