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Intellectual Property, Sustainability and Development: The Case of Morocco's Argan Oil Geographical Indication

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Abstract: *Argania spinosa* yields Argan oil that is culturally, economically, and ecologically significant product endemic in southwestern Morocco. As a Moroccan geographical indication (GI) product since 25 January 2010, Argan oil symbolizes Moroccan history, rural development, and biodiversity preservation. This study explores Argan oil GI recognition, the socioeconomic context of the oil and the legal systems for GI protection and the role played by women's cooperatives. Although GI designation has led to improved quality control and access to global markets, over-commercialization, climate vulnerability, and enforcement challenges persist. This study through case studies, legal analysis, and policy frameworks suggests importance of GI protection for sustainable development and cultural preservation in Morocco.

Keywords: Morocco argan oil; geographical indication; intellectual property law; sustainability; SDGs

1. Introduction

Argan oil is produced from kernels of the *Argania spinosa* tree. For thousands of years, Berber tribes have relied on the Argan tree for sustenance, medicine, and food (Charrouf 2010). Traditional knowledge, wildlife conservation, and community well-being are canvassed by Argan tree. Triangular regions of Agadir, Taroudant, and Essaouira comprising approximately 830,000-hectare semi-desert Sous valley in Morocco, are the only place where the *Argania spinosa* tree grows. Its root systems stabilize soils and stops erosion throughout southwestern Morocco. This UNESCO-designated biosphere reserve (UNESCO 1998) serves as a natural barrier against Sahara desertification. With almost 20 million trees plays an important role in ecosystem worth more than commercial oil extraction, Argan woods are Morocco's second largest woodland.

The production of Argan oil is ingrained in the Amazigh (Berber) cultural legacy, especially in the traditional knowledge systems that women have passed down through the generations (Table 1). Production of one liter of oil using traditional processes, takes 20 hours of expert labor. Oil produced by these traditional methods has special antioxidant and antibacterial compounds, confirming conventional medicinal applications. Argan oil contributes substantially to household earnings and women's empowerment in marginalized communities, supporting the livelihoods of almost three million Moroccans, primarily rural women in cooperatives.

Due to its nutritional, cosmetic, and medicinal qualities, Argan oil is well-known globally. However, its significance goes well beyond its monetary value. Increasing global interest in Argan oil has led to challenges of sustainable resource management, fair benefit sharing, and product authenticity. Accordingly, the Moroccan government recognized Argan oil as a geographical indication (GI) in 25 January 2010. Oil produced only in the specific area of Morocco using traditional procedures can be named "Argan oil" due to the legal protection provided by this categorization (Benabderrazik 2022). This GI certification is helping protect the product's quality, increasing its market value and helping rural producers, particularly women's cooperatives (Belletti 2015). This study explores deeply the socioeconomic repercussions of GI recognition, including market expansion, community empowerment, and the role of women's cooperatives. After highlighting the challenges of commercialization, biopiracy, and environmental sustainability, it recommends to increase GIs' role in supporting equitable and sustainable development (Table 1).

2. GI status in Morocco and EU

Morocco's GI framework Law No. 25-06 (2009), offers legal protection and recognition for goods associated with particular regions as GIs. In 2010, Argan oil was recognized as the first GI under the name "Huile d'Argane - Maroc." International recognition, depends on enforcement by trade agreements, producer associations, and institutional coordination (Table 2). Morocco's GI

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system can serve as a catalyst for women's empowerment, sustainable rural development, and cultural preservation in a global market (Table 2) (Kenny 2008).

Table 1. Traditional vs. Industrialized Argan Production Methods.

Production Aspect	Traditional Moroccan Method	Industrial/Commercial Method
Nut Cracking	Manual cracking between stones	Mechanical crushers (often ineffective)
Kernel Extraction	Hand-sorting kernels	Chemical/solvent extraction
Roasting Process	Clay ovens with controlled heat	Industrial roasters
Oil Extraction	Hand-kneading with water	Centrifugal separation
Additives	None	Often blended with olive oil, silicones
Labor Time	20 hours/liter	<5 hours/liter
Social Impact	Women's cooperatives, fair income	Corporate profit-driven

Table 2. Legal frameworks of TRIPS, EU, and Morocco regarding GI.

Aspect	TRIPS Agreement (WTO)	EU GI System (Reg. 1151/2012)	Moroccan GI Law (Law 25-06)
Legal Basis	TRIPS agreement, articles 22-24 ¹	Regulation (EU) No 1151/2012 ²	Law No. 25-06 on distinctive signs of origin and quality (2008) ³ .
Type of Protection	Geographical indications	protected designation of origin (PDO) and protected geographical indication (PGI).	Appellation of origin (AO) and geographical indication (GI).
Scope	All goods (stronger protection for wines and spirits)	Agricultural products, foodstuffs, wines, spirits	Agricultural, agro-food, fishery, and forest products.
Definition of GI	Product with quality/reputation/characteristics linked to origin	Product with quality/characteristics attributable to a geographical area.	Product deriving qualities, reputation, or features from a defined region.
Protection Level	Basic protection (Art. 22), higher protection for wines/spirits (Art. 23)	High protection for all GI-registered products.	Legal protection against misuse, imitation, or misleading use.
Registration Requirement	Encouraged at national level	Mandatory for official recognition and EU-wide protection.	Mandatory registration with ONSSA and Ministry of Agriculture.
Enforcement	Through national IP laws; no international enforcement body	EU-wide enforcement via national authorities and EUIPO.	National enforcement by ONSSA and local certifying bodies (e.g., ECOCERT).
Use of Symbols/Labels	Not specified	PDO/PGI logos required on products.	National GI logo and label required for certified products.
Collective/Group Involvement	Not specified	Producer groups or consortia apply for GI.	Producer groups/cooperatives must initiate GI application.
Link to Sustainable Development	Not explicit	Strong links: environmental, social, and rural development goals.	Emphasis on rural livelihoods, women's empowerment, and biodiversity.
International Recognition	Through bilateral agreements (e.g., TRIPS, Lisbon Agreement ⁴ or Geneva Act ⁵)	Registered GIs protected via EU trade agreements.	Protected through bilateral agreements (e.g., EU-Morocco FTA).
Argan Oil	Recognized as a GI under Moroccan law; potentially enforceable under TRIPS	Not registered in EU GI system (as of now), but recognized via trade deals.	Registered as GI "Huile d'Argane – Maroc" in 2010 ⁶ .

GI recognition of Morocco and EU PGI is summarized in the Table 3.

¹ TRIPS Agreement. https://www.wto.org/english/docs_e/legal_e/27-trips_03_e.htm

² Regulation (EU) No 1151/2012. <https://eur-lex.europa.eu/eli/reg/2012/1151/oj/eng>

³ Law no. 25-06 on the distinctive signs of origin and quality of foodstuffs and agricultural and fishery products (promulgated by dahir no. 1-08-56 of 17 jomada i 1429 (may 23, 2008)). <https://www.wipo.int/wipolex/en/legislation/details/19878>

⁴ Lisbon Agreement. <https://www.wipo.int/treaties/en/registration/lisbon/>

⁵ Geneva Act. https://www.wipo.int/treaties/en/registration/lisbon/summary_lisbon-geneva.html

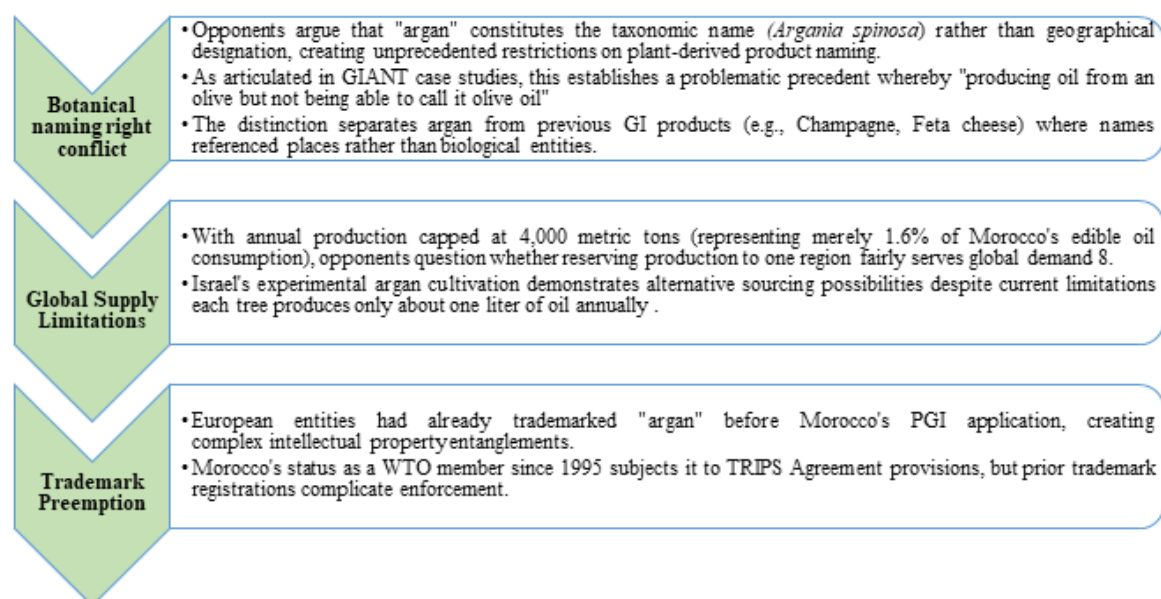
⁶ <https://www.fao.org/fileadmin/templates/olq/files/generaldoc/Morocco.pdf>

Table 3. GI recognition in Morocco and EU.

Country/Area	Scope	Authority
Morocco	Exclusively covers oil produced using traditional Berber methods (e.g., hand-cracking kernels, stone-milling)	Enforced by the National Agency for the Development of Oasis and Argan Zones (ANDZOA) ⁷
EU	Mandates Moroccan origin and compliance with production standards. Non-Moroccan products cannot use "argan" on EU markets	Regulated under EU Commission Regulation 1151/2012 ⁸

The rural women are directly impacted by the GI program, and the main stakeholders are cooperatives such as Tifaout Women's Agricultural Cooperative and Amal Cooperative in Tamanar (WFO 2022). Prior to GI status, women were paid very less for their hard work. In Europe, they made €50 per litre for producing oil, whereas in Morocco, they only made €5-10. Price premiums of 20-35% on average are made possible by GI protection, which raises household incomes considerably and finances social initiatives like healthcare access and literacy campaigns. Professor Charrouf made a clear connection between economic justice and scientific validation, contending that *"there has to be a return to the disenfranchised of these regions who taught us about the Argan's benefits"* (Montanari 2023).

The EU's protected geographical indication (PGI) concentrates on market access and consumer protection, while Morocco's GI system prioritizes the biodiversity and cultural preservation. The economic disparity of local producers can be addressed by strengthening fair-trade certificates and blockchain traceability, which ANDZOA plans to do in 2026. European Union (EU) has not yet granted protected geographical indication (PGI) to Morocco's argan oil (European Commission 2015) (Table 3). Morocco applied to the European Commission in October 2011 for protected geographical indication (PGI) status for "Argane" (the French designation). PGIs are defined as identifying items having attributes "essentially attributable to their geographic origin" under EU Regulation 510/2006, which is the basis for the application (WIPO 2010). The EU PGI's approval will ensure exclusive name rights that would reserve the term "Argan" for recognized producers, market distinction through geographic location and authenticity through legally binding production standards (Table 4). The PGI initiative triggered significant opposition based on multiple contentions as shown in Figure 1.

**Figure 1.** Problems in granting Argan PGI status by EU.

The Moroccan Argan oil industry has seen significant change since "Huile d'Argane - Maroc" was formally registered as a GI in 2010. Besides conserving cultural and ecological heritage, the GI designation stimulated transformational changes in the economic, social, environmental, and legal elements of the value chain. It established a governance system that supports sustainable growth, strengthened local ownership, and increased product visibility in international markets (Table 5).

⁷ <https://andzoa.ma/>

⁸ <https://eur-lex.europa.eu/eli/reg/2012/1151/oj/eng>

Table 4. GI recognition of Argan Oil in Morocco.

Year	Milestone/Event	Description and Significance
1998	UNESCO Designates Arganeraie as Biosphere Reserve	Recognizes ecological importance of <i>Argania spinosa</i> forest; sets foundation for conservation and future GI status.
2000s	Surge in global demand for Argan oil	Increase in exports and international popularity leads to concerns over quality, traceability, and resource depletion.
2006	Drafting of Law 25-06 on Distinctive Signs of Origin and Quality	Morocco begins to align national GI laws with international standards (e.g., TRIPS, EU regulations).
2008	Promulgation of Law No. 25-06	Establishes legal framework for Geographical Indications and Appellations of Origin in Morocco.
2009	Implementation decrees and institutional setup	ONSSA designated as national authority for GI regulation and registration.
2010	“Huile d’Argane - Maroc” officially registered as a geographical indication	First Moroccan product to be granted GI status. Recognized for origin, quality, and traditional methods.
2011	Inclusion in Morocco’s green plan (Plan Maroc Vert)	Argan oil recognized as a priority value chain for rural development and agro-export strategy.
2014	Establishment of producer associations and GI oversight bodies	Cooperatives and certification bodies like ECOCERT work to enforce GI specifications and traceability.
2020	Launch of Generation Green 2020–2030 strategy	Government commits to scaling GI products like Argan oil to promote rural resilience and sustainable agriculture.
2021	UN Declares May 10 as <i>International Day of the Argan Tree</i>	Elevates global recognition of Argan oil and tree as part of Morocco’s cultural and ecological heritage.

Table 5. Economic & social impact of GI recognition in Morocco and EU.

Aspect	Morocco	EU
Pricing	Farmers earn ~5% of export price (\$60/L)	Retail markup: 300-400% in cosmetics
Exports	700 tons/year, projected to triple by 2030	Top markets: EU (40% demand), Gulf states
Livelihoods	Supports 3 million people; 90% women workers	Premium pricing boosts cooperative revenue

3. Key Challenges

The GIs link the quality of a product with its geographic location of origin. Argan oil, is the first African product being examined for PGI by the EU. One of the key challenges is to handle the global corporations who have already registered trademarks using the word "argan" (Cedrola 2018). When a GI and a trademark coexist, it may result in legal disputes and commercial misunderstandings, which could enable businesses to sell "argan" goods without meeting the GI's requirements for quality or location of origin. The European Court of Justice's in the Chiemsee case, for example, indicates how geographical names can be registered as trademarks if they acquire a "secondary meaning" (Cedrola 2018), a legal precedent that could complicate GI enforcement.

Industrial-scale mechanical extraction is increasing with increasing demand for Argan oil. Although this can boost productivity, it bypasses the Berber women's customary, time-consuming procedure. The loss of the traditional knowledge and cultural assets that the GI is meant to preserve is also at stake, besides the cooperatives' financial stability (Montanari 2023). The social fabric of the cooperative model, which is essential to the GI's culture, may be disrupted by the process' mechanization, although it has higher yield and better-quality control (Perry 2020).

Similarly, products marketed as "100% pure Argan oil" are sometimes mixed with less expensive vegetable oils (Gunning 2020). Although the GI establishes particular physicochemical requirements for quality control and offers a legal framework for authenticity, monitoring the worldwide supply chain for fraud is a huge task. This shacks the consumer confidence and diminishes the value of the genuine Moroccan product.

Overgrazing and climate change are accelerating the destruction of argan woods, with an annual decline of about 600 hectares. Adherence to UNESCO Biosphere Reserve conservation requirements, such as controlled goat grazing during fruiting seasons and reforestation projects funded by premium pricing, is necessary for the PGI application. This is consistent with Morocco's Green Generation Strategy 2020-2030, which links ecological resilience to agricultural value chains (GI Publication 2019).

4. Comparative African GI Case Studies

Since the 2013 Rooibos tea GI registration has protected the production of *Aspalathus linearis* only in the Cederberg region of South Africa. Like Argan, rooibos is a species with a distinct physiological makeup that is not limited to a certain location. It supports the livelihoods of almost 5,000 people in marginal agricultural areas, giving it a similar social significance. The successful settlement, required striking a balance between geographical protection and botanical classification. However, it faced less resistance overseas because rooibos had no cosmetic applications and no global supply chains like Argan's previously established (Table 6) (Luth 2004).

Table 6. African Geographical Indications Comparative Analysis.

Product	Country	Key Protection Challenges	Socioeconomic Impact
Argan Oil	Morocco	Botanical naming rights, global market demand, prior trademarks	3 million dependents, women's empowerment
Rooibos Tea	South Africa	Species uniqueness, establishing production boundaries	5,000 livelihoods, smallholder inclusion
Oku White Honey	Cameroon	Community governance, quality standardization	Sustainable forest management, niche marketing

The Oku White Honey GI in Cameroon is as an example of how community-based certification programs can safeguard goods associated with certain regions and customs. This project, run by the Oku Apidological Forum, created procedures for collaborative governance that guarantee quality while avoiding ecological overexploitation. The model shows how GI frameworks can combine livelihood protection and biodiversity conservation, which is especially important considering the anti-desertification role of Argan woods. However, external appropriation pressures are more intense for Argan than for honey growers because to its much higher market value (Taous 2020).

5. Conclusions

The Argan oil GI highlights differences between Southern biocultural resources and Northern intellectual property laws, indicating the necessity for balanced approaches that both respect Morocco's sovereignty and consider international markets. By guaranteeing thorough origin verification, scientific techniques such as isotope authentication can facilitate compromise. Effective GIs in Africa rely on producer collaboration, legal protection, and transparent certification, as demonstrated by WIPO case studies. With lessons that can be applied to resources like Madagascar's vanilla and Namibia's devil, the Argan instance provides a model for incorporating ecologically distinctive products from underdeveloped nations.

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