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**Reaping What They Sow: The Basmati Rice
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Traditional Knowledge**

by

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REAPING WHAT THEY SOW: THE BASMATI RICE CONTROVERSY AND STRATEGIES FOR PROTECTING TRADITIONAL KNOWLEDGE

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Abstract: Traditional knowledge (TK) is a form of intellectual production that is a source of economic and cultural value, especially for local communities in developing countries. Yet, a legal gap exists between the kinds of protections afforded by existing intellectual property (IP) law and TK. This legal gap poses serious consequences for trade relations and the relations between developing and developed countries. Using the controversy in which the U.S.-based RiceTec Company attempted to gain IP rights over basmati rice derived from traditional sources, this Note explains the legal gap that exists and how it manifested itself in U.S. IP law. This Note also argues that TK products like basmati rice, while not strong candidates to receive patent protection, are strong candidates to receive geographical indication protection.

INTRODUCTION

Globalization has raised the stakes in the protection of intellectual property (IP) rights worldwide.¹ Products that depend on IP rights to gain economic value are integral to markets of international trade.² In turn, IP rights are vital to international trade because such rights create expectations of economic gain from investments of intellectual energy, time, and finances.³

Yet, there is an entire field of tradition-based intellectual activity, referred to as traditional knowledge (TK), that often does not receive

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¹ See Graham Dutfield, *TRIPS-Related Aspects of Traditional Knowledge*, 33 CASE W. RES. J. INT'L L. 233, 235–37 (2001); Shubha Ghosh, *Globalization, Patents, and Traditional Knowledge*, 17 COLUM. J. ASIAN LAW 73, 74–75 (2003); Symposium, *Global Intellectual Property Rights: Boundaries of Access and Enforcement*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 753, 771–72 (2002) [hereinafter Symposium].

² See Dutfield, *supra* note 1, at 240–42.

³ See Ghosh, *supra* note 1, at 74–75; Susan Scafidi, *Intellectual Property and Cultural Products*, 81 B.U. L. REV. 793, 794 (2001).

the benefit of IP protection.⁴ Nevertheless, this form of knowledge is valuable to many developing countries.⁵ For instance, in these countries, much economic and cultural value from the agricultural sector flows from products of traditional farming techniques and agricultural knowledge systems.⁶ In these less-industrialized countries, tradition-based products in sectors such as agriculture make use of TK to create value.⁷

Problems arise, however, because TK in these contexts is not the kind of intellectual activity that western IP law anticipates protecting.⁸ The asymmetry in IP protection results in inequities and fuels developing nations' and non-governmental organizations' (NGOs) arguments against the globalization of certain IP rights.⁹ One such inequity that developing countries and NGOs observe is the "taking" of genetic resources and biodiversity, developed by TK in local communities, in support of research and development (R&D) efforts for industries in the developed world.¹⁰ Developed countries and their constituents think of such activities as legitimate R&D, while developing countries and supporting NGOs call these instances of "biopiracy."¹¹

Simply calling such instances "biopiracy," however, does not reflect the full complexity of this gap between existing IP law and TK, especially in the case of the alleged biopiracy of Indian basmati rice that came before two U.S. agencies.¹² The patent reexamination before the United States Patent and Trademark Office (USPTO) and the petition about the use of the name "basmati" before the Federal Trade Commission (FTC) ("Basmati Rice Controversy," referring to both actions together) illustrate how IP frameworks can be limited and be potentially useful in protecting TK.¹³

⁴ See Dutfield, *supra* note 1, at 248–49, 253, 258; Ghosh, *supra* note 1, at 90–91.

⁵ See, e.g., Dutfield, *supra* note 1, at 243–44 (delineating the global economic impact of TK products).

⁶ See *id.*

⁷ See *id.*

⁸ See Ghosh, *supra* note 1, at 75–76; Srividhya Ragavan, *Protection of Traditional Knowledge*, 2 MINN. INTELL. PROP. REV. 1, 5–7 (2001).

⁹ See, e.g., Dutfield, *supra* note 1, at 36–37; Ghosh, *supra* note 1, at 75–76.

¹⁰ See Dutfield, *supra* note 1, at 243–44; Symposium, *supra* note 1, at 765–66.

¹¹ See VANDANA SHIVA, *BIOPIRACY: THE PLUNDER OF NATURE AND KNOWLEDGE* 10–11, 56 (1997) [hereinafter SHIVA, *BIOPIRACY*]; Dutfield, *supra* note 1, at 237–38.

¹² See Dutfield, *supra* note 1, at 248–60; Ghosh, *supra* note 1, at 80–81.

¹³ See U.S. Patent No. 5,663,484, Reexamination Certificate C1 (4525th) (reissued Jan. 29, 2002) [hereinafter USPTO Reexamination]; Press Release, Federal Trade Commission, Commission Denial of Petition for Rulemaking Proceeding (May 15, 2001), <http://www.ftc.gov/opa/2001/05/fyi0131.htm> [hereinafter FTC Press Release].

This Note analyzes the different approaches to dealing with the legal gap between TK and existing IP frameworks and suggests ways to protect TK. Part I describes the challenges of defining TK, its economic impact, and the significance of the concept of “biopiracy” in this debate. Part II discusses the legal gaps between the needs of TK and existing IP frameworks and sets forth the problem of defensive protection and positive protection of TK using IP law. This discussion focuses on two particular IP frameworks, patents and geographical indications, which help in understanding the Basmati Rice Controversy. Part IV analyzes the Basmati Rice Controversy before the USPTO and the FTC and considers possible ways of reconciling TK with existing IP frameworks. This part also suggests strategies that the Indian government and NGOs should use in continuing to seek protection for basmati rice through geographical indications, which could be extended to other TK products.

I. BACKGROUND

A. *Definition of Traditional Knowledge (TK)*

TK, while recognized as a culturally and economically important arena of intellectual activity, presents a definitional challenge to international IP law.¹⁴ At present, no universally accepted definition for TK exists.¹⁵

Most international organizations and scholars define TK, in fairly broad terms, as a diverse range of tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary, or artistic fields.¹⁶ For example, TK’s rubric covers numerous disparate activities, ranging from performing arts to cultivating agricultural products to medicinal use of plants, to name a few.¹⁷ Such a broad definition including diverse intellectual fields means that TK can be organized into several subsets, some of which are designated by the

¹⁴ Dutfield, *supra* note 1, at 240; Symposium, *supra* note 1, at 772. TK is an accepted abbreviation for “traditional knowledge” among international organizations and scholars who deal with the topic. See, e.g., Dutfield, *supra* note 1, at 234; INTELLECTUAL PROPERTY NEEDS AND EXPECTATIONS OF TRADITIONAL KNOWLEDGE HOLDERS: WIPO REPORT ON FACT-FINDING MISSIONS ON INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE (1998–1999) 25 (2001), <http://www.wipo.int/tk/en/tk/ffm/report/final/pdf/part1.pdf> [hereinafter WIPO FFM REPORT].

¹⁵ Dutfield, *supra* note 1, at 240; Symposium, *supra* note 1, at 772.

¹⁶ See WIPO FFM REPORT, *supra* note 14, at 25; Dutfield, *supra* note 1, at 240; Symposium, *supra* note 1, at 772.

¹⁷ See WIPO FFM REPORT, *supra* note 14, at 25.

terms “genetic resources,” “traditional medicinal knowledge,” and “folklore.”¹⁸

What links these disparate activities is that they are “tradition-based,” and tradition itself is a troublesome concept for social scientists and cultural critics, who are wary of reducing culture to rigid paradigms.¹⁹ However, the World Intellectual Property Organization (WIPO), taking into account these conceptual challenges, has fashioned a useful and flexible concept of what defines “tradition-based.”²⁰ According to this definition, tradition-based innovations and creations refer to knowledge systems that: (1) “have generally been transmitted from generation to generation,” (2) “are generally regarded as pertaining to a particular people or its territory,” and (3) “are constantly evolving in response to a changing environment.”²¹

This definition of “tradition-based” suggests that what makes TK “traditional” is not simply its age, but also the method by which it was and continues to be acquired and brought into a community.²² Since TK develops incrementally from generation to generation, TK can lack a precise date of creation and identifiable authors or inventors.²³ Furthermore, the value of TK to local culture and its ties to communitarian values predominate over individualized ownership rights.²⁴ The intellectual activity of indigenous peoples often falls within this description because of their ties to the land and local communities, but TK need not be limited to describing the intellectual activities of these groups.²⁵

¹⁸ *Traditional Knowledge—Operational Terms and Definitions*, Intergovernmental Comm. on Intellectual Prop. and Genetic Res., Traditional Knowledge & Folklore, at 7–8, WIPO/GRTKF/IC/3/9 (June 13–21, 2002), http://www.wipo.int/eng/meetings/2002/igc/pdf/grtkfic3_9.pdf; WIPO FFM REPORT, *supra* note 14, at 25.

¹⁹ See WIPO FFM REPORT, *supra* note 14, at 25; see also Scafidi, *supra* note 3, at 794; Madhavi Sunder, *Intellectual Property and Identity Politics: Playing with Fire*, 4 J. GENDER RACE & JUST. 69, 70–74 (2000). Scholars and cultural critics have extensively examined the problematic ways in which the concept of tradition has been used, and often manipulated, to privilege and elevate certain accepted types of cultural production to the detriment of others. See Scafidi, *supra* note 3, at 794; Sunder, *supra*, at 70–74.

²⁰ WIPO FFM REPORT, *supra* note 14, at 25.

²¹ *Id.*

²² See WIPO FFM REPORT, *supra* note 14, at 25; Dutfield, *supra* note 1, at 242.

²³ Symposium, *supra* note 1, at 772.

²⁴ Dutfield, *supra* note 1, at 240, 245.

²⁵ *Id.*; WIPO FFM REPORT, *supra* note 14, at 25.

B. Economic and Cultural Impact of Traditional Knowledge

The value of TK is both economic and cultural.²⁶ TK has a symbiotic relationship with culture because the intellectual activity that creates TK stems from the habits and customs of a society.²⁷ Conversely, local circumstances influence the ways in which people innovate and adapt to make their lives more fulfilling, whether it be through agricultural techniques that feed people, through plant-based medicines that promote health, or through artistic forms that allow people to express their aesthetic sensibilities.²⁸ These forms of knowledge eventually develop into signatures for culture that bind people's identities to the larger community.²⁹ Ultimately, they create an intangible sense of belonging that provides cohesion to people's lives.³⁰

TK holds an increasing economic importance to traditional agrarian and indigenous communities and to the global economy.³¹ For instance, TK generated from biodiversity and genetic resources in the local flora and fauna has contributed to the profitability of numerous industries world-wide, including pharmaceuticals, agriculture, botanical medicines, cosmetics, and biological pesticides, to name a small sampling.³² Communities in these countries have generated economic value and created global markets by discovering and developing a large range of medicinal plants, health-related herbal formulations, and agricultural products using the genetic resources of plant and animal life in their localities.³³ As just one illustration, the estimated market value of plant-based medicines sold in developing nations (specifically, belonging to the Organization for Economic Co-operation and Development (OECD) countries) was \$61 billion in 1990 and has increased over the years with the rise of globalized trade.³⁴

²⁶ Dutfield, *supra* note 1, at 240, 243.

²⁷ See Scafidi, *supra* note 3, at 810.

²⁸ See *id.*; WIPO FFM REPORT, *supra* note 14, at 25.

²⁹ See Dutfield, *supra* note 1, at 240–41.

³⁰ See *id.*; Scafidi, *supra* note 3, at 810.

³¹ Dutfield, *supra* note 1, at 234.

³² *Id.* at 243.

³³ *Id.*

³⁴ *Id.* at 243–444.

C. Traditional Knowledge in Rice and Its Cultivation

1. Rice Cultivation as TK

The cultivation of rice, notably in Asia, is an important facet of TK that has had significant cultural and economic impact on the region.³⁵ Known in India as the “sustainer of the human race,” rice is a product of TK that is central to the diet and culture in much of Asia.³⁶ By some estimates, rice feeds more people world-wide than any other crop, providing up to eighty-five percent of the calories in the daily diet of about 2.7 billion people.³⁷ In Asia, “[r]ice is more than just a food we find [on] our dining table. It is a cereal that has become the cornerstone of our food system, our language, our culture,” states the Filipino network Magsasaka at Sayantipiko Para sa Ikauunlad ng Agham Pang-agrikultura (MASIPAG), an NGO working with traditional rice farmers.³⁸

Like much TK, which often has no distinct moment of inception, the origins of rice as an agricultural crop have been debated and remain unclear.³⁹ Nevertheless, the domestication of rice is a major agricultural landmark in human development.⁴⁰ Agricultural communities in Asia domesticated the most common species of rice, *Orzya sativa* (*O. sativa*), about 12,000 years ago, and later other communities in West Africa domesticated the other major rice species, *Orzya glabberima* (*O. glabberima*).⁴¹ Since the domestication of rice, traditional farmers have incrementally adapted rice to grow in a wide range of environments, such as irrigated land, rain-fed lowlands, tidal and deepwater ecosystems, and mountainous areas.⁴² The interaction between a particular people’s needs and these different and changing environments forced agricultural communities to innovate gradually,

³⁵ R.E. HUKÉ & E.H. HUKÉ, INT’L RICE RESEARCH INST., RICE: THEN AND NOW (1990), partially reprinted in Int’l Rice Research Inst., A Brief History of Rice, at <http://www.riceweb.org/History.htm> [hereinafter Brief History]; Genetic Resources Action Int’l (GRAIN), *Genetech Preys on the Paddy Field*, SEEDLING (June 1998), available at <http://www.grain.org/publications/jun982-en.cfm> [hereinafter *Genetech*].

³⁶ *Genetech*, supra note 35; Brief History, supra note 35.

³⁷ Michael Woods, *Food for Thought: The Biopiracy of Jasmine and Basmati Rice*, 12 ALB. L.J. SCI. & TECH. 123, 137 (2002).

³⁸ GRAIN, *Protecting Asia’s Most Valuable Resource*, SEEDLING (Dec. 2001), available at <http://www.grain.org/publications/seed-01-12-3-en.cfm> [hereinafter *Protecting*].

³⁹ *Genetech*, supra note 35; Brief History, supra note 35.

⁴⁰ Brief History, supra note 35.

⁴¹ See *id.*; *Genetech*, supra note 35.

⁴² *Genetech*, supra note 35.

in a similar manner, to other forms of TK in developing their rice crops.⁴³ Such rice varieties were not invented in one burst of creativity, but arose incrementally over the centuries.⁴⁴

Gradual adaptation of these communities' specific rice crops fostered genetic diversity and variety in rice.⁴⁵ For example, some varieties grow well during droughts, while others can withstand other conditions such as pests.⁴⁶ The result of such incremental adaptation by farming communities is a body of TK in rice agriculture and an estimated 140,000 varieties of *O. sativa* alone, which farmers have adapted over centuries.⁴⁷

Moreover, because of its centrality to diet in much of the world, rice is a product of TK that is strongly tied to local cultures and informs religious tales, rituals, and ceremonies.⁴⁸ For instance, in many Asian cultures, rice plays an integral symbolic role in creating myth stories and is treated as a divine gift.⁴⁹ In Bali, the story is that the Hindu god, Vishnu, caused the earth to give birth to rice and that another god, Indra, taught people how to raise the crop.⁵⁰ In Shinto belief, the Emperor of Japan is the living embodiment of Ninigo-no-mikoto, the god of the ripened rice plant.⁵¹ Folklore in Myanmar (Burma) tells the story of how the Kachin people brought seeds of rice from the center of the earth and were directed to a place where rice grew well.⁵²

Tradition-based in its origins, rice continues to impact the economies of Asia significantly.⁵³ The continent as a whole produces over 90% of the world's rice.⁵⁴ Rice accounts for half of Asian farm incomes.⁵⁵ Thailand is the top exporter of rice, producing 30% of internationally-traded rice.⁵⁶ China and India put forth 35% and 21% of

⁴³ See *id.*

⁴⁴ See *Genetech*, *supra* note 35; Brief History, *supra* note 35.

⁴⁵ *Genetech*, *supra* note 35.

⁴⁶ *Id.*

⁴⁷ See *id.*

⁴⁸ Brief History, *supra* note 35.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ See M. Hossain, *Rice Supply and Demand in Asia: A Socioeconomic and Biophysical Analysis*, in APPLICATIONS OF SYSTEMS APPROACHES AT THE FARM AND REGIONAL LEVELS (P.S. Teng et al. eds., 1997), partially reprinted in Int'l Rice Research Inst., *Asia: Supply, Demand and Production Potential of Rice in Asia*, at http://www.riceweb.org/g_overasia.htm [hereinafter *Rice Asia*]; *Genetech*, *supra* note 35.

⁵⁴ *Rice Asia*, *supra* note 53.

⁵⁵ *Genetech*, *supra* note 35.

⁵⁶ *Id.*

global rice production, respectively.⁵⁷ In India alone, the primary producer of the basmati rice at issue before the USPTO, rice is the staple food of about 65% of its total population and the grain constitutes just over 50% of the total food-grain production.⁵⁸ Rough rice production has exceeded 100 million tons annually since 1988.⁵⁹

2. Indian Basmati Rice as TK

The basmati variety of rice from northern India is a primary example of the importance of TK to the economic and cultural vitality of a developing country.⁶⁰ Basmati rice, which was the subject of the patent challenge before the USPTO, is one of the most prized varieties of agricultural TK native to South Asia.⁶¹ Farmers cultivate basmati rice on about ten to fifteen percent of the total land area under rice cultivation in India,⁶² and basmati rice is India's primary rice export, exporting just under one million tons and garnering around \$500 million in 2001–02 alone.⁶³ Yet, like other profitable TK-based agricultural products, the exact moment of origin for basmati rice remains unclear.⁶⁴ Grown mostly in northern India, as well as in Pakistan, this long-grained aromatic rice is a traditional grain that has been cultivated in the region for centuries.⁶⁵ Basmati rice also plays a role in religious ceremonies and festivals.⁶⁶

Basmati rice is highly valued for its unique characteristics such as its aroma, flavor, and long-grained quality.⁶⁷ It gains many of its special distinctive qualities due to a complex combination of factors, including its inherent genetic characteristics, the environmental conditions specific to the soil and climate in the foothills of the Himalayas, and

⁵⁷ *Id.*

⁵⁸ Int'l Rice Research Inst., India, at <http://www.riceweb.org/countries/india.htm>.

⁵⁹ *Id.*

⁶⁰ See, e.g., Ghosh, *supra* note 1, at 97–98.

⁶¹ See Jonathan Madeley, *Plant Patents Raise Fear of 'Biopiracy,'* FIN. TIMES (London), Dec. 8, 2000, at 44; Research Found. for Sci., Tech. & Ecology, *The Biopiracy Factsheet, Basmati Rice*, at http://www.vshiva.net/archives/naturefacts/basmati_rice.htm (July 17, 2001) [hereinafter Factsheet].

⁶² VANDANA SHIVA, *STOLEN HARVEST: THE HIJACKING OF THE GLOBAL FOOD SUPPLY* 85 (2000) [hereinafter SHIVA, *STOLEN*].

⁶³ M.R. Subramani, *EU Moves WTO to Protect Basmati, Darjeeling Tea*, BUS. LINE, June 28, 2002.

⁶⁴ See Factsheet, *supra* note 61.

⁶⁵ See SHIVA, *STOLEN*, *supra* note 62, at 85.

⁶⁶ Factsheet, *supra* note 61.

⁶⁷ See U.S. Patent No. 5,663,484 § 2.3 (issued Sept. 2, 1997) [hereinafter RiceTec Patent]; Factsheet, *supra* note 61.

the sowing practices that farmers developed over the centuries.⁶⁸ Consequently, there has been limited success in the efforts to cultivate basmati rice outside of South Asia because of the need for many geographically-specific conditions.⁶⁹

D. "Biopiracy" and the Debate over Misappropriation of TK

The acknowledgment of TK's economic and cultural value and, consequently, the debate surrounding its use and misappropriation, has made TK the subject of considerable international attention.⁷⁰ The misappropriation—or, even outright theft, as some critics claim—of such genetic resources has been referred to as "biopiracy."⁷¹

The term "biopiracy" appropriates and modifies the western IP legal terminology to describe the unique character of TK protection.⁷² Western IP law uses the word "piracy" generally to describe activities in which IP rights, as granted through patents and copyrights, are infringed upon through misappropriation.⁷³ Developed countries, particularly the United States, assert that developing nations have aided piracy because of "weak" IP laws and lax enforcement.⁷⁴ The complaint arises particularly in relation to the pharmaceutical and technological industries, whose profitability relies heavily on the economic value of patents, copyrights, and trademarks.⁷⁵

In turn, developing countries and NGOs have adapted the western IP concept of piracy to describe what they observe as a misappropriation of TK.⁷⁶ The biodiversity of developing countries, whose genetic resources in flora and fauna have not been depleted because of industrialization, is a source of agricultural, medicinal, and other types of products that foreign corporate entities seek to market to western consumers.⁷⁷ These governments and NGOs charge that corporations seek to profit by taking tradition-based knowledge from local communities.⁷⁸ They claim that these entities either directly apply for exclusive owner-

⁶⁸ See RiceTec Patent, *supra* note 67, § 2.3.

⁶⁹ See *id.* § 2.5; Factsheet, *supra* note 61.

⁷⁰ See Dutfield, *supra* note 1, at 237–38.

⁷¹ See *id.* at 237.

⁷² See SHIVA, BIOPIRACY, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁷³ See SHIVA, BIOPIRACY, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁷⁴ See SHIVA, BIOPIRACY, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁷⁵ See SHIVA, BIOPIRACY, *supra* note 11, at 56; Muria Kruger, Note, *Harmonizing TRIPS and the CBD: A Proposal From India*, 10 MINN. J. GLOBAL TRADE 169, 181 (2001).

⁷⁶ See SHIVA, BIOPIRACY, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁷⁷ See SHIVA, BIOPIRACY, *supra* note 11, at 69; Dutfield, *supra* note 1, at 237–38.

⁷⁸ See Dutfield, *supra* note 1, at 237; Symposium, *supra* note 1, at 765–66.

ship rights through IP law or indirectly use this TK as an integral element of their own intellectual products, for which they eventually seek exclusive IP rights and gain economic value.⁷⁹ Since many of the tradition-based products misappropriated are genetic resources of plant and animal life for agricultural and medicinal TK, developing countries and NGOs alter the term from “piracy” to “biopiracy.”⁸⁰

The instances of such alleged TK misappropriation have burgeoned in gene rich developing countries.⁸¹ For example, a Japanese company claimed patents to the medicinal properties of the banaba plant from the Philippines, a well-known plant used to treat fever, diarrhea, and diabetes.⁸² Similarly, the French fashion house, Yves Saint Laurent, imported flowers from the Philippines and secured a patent for its perfume formula based on the extracts from the native Filipino species.⁸³ Many other countries whose biodiversity offers such resources find themselves targets of similar R&D or, alternatively, “biopiratic” efforts.⁸⁴

TK in biodiversity from India has been particularly vulnerable to such patent claims, and the Indian government and NGOs have made several biopiracy claims in recent years.⁸⁵ For example, they asserted in the Basmati Rice Controversy that the alleged misappropriation of traditional basmati rice sold in the United States fell into this category.⁸⁶ In addition to the Basmati Rice Controversy,⁸⁷ foreign pharmaceutical corporations have attempted to patent aspects of Ayurvedic medicines, which are forms of TK written in ancient verse and passed by practical application through generations.⁸⁸ In another specific case, the U.S.-based W.R. Grace, an agricultural chemical company, obtained samples of the bark of the neem tree, which contains a natu-

⁷⁹ See SHIVA, *BIOPIRACY*, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁸⁰ See GRAIN ET AL., *BIOPIRACY, TRIPS AND THE PATENTING OF ASIA'S RICE BOWL* (May 1998), <http://www.grain.org/briefings/?id=29> [hereinafter GRAIN, *BIOPIRACY*]; SHIVA, *BIOPIRACY*, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁸¹ See Dutfield, *supra* note 1, at 237–38; Meetal Jain, Note, *Global Trade and the New Millennium: Defining the Scope of Intellectual Property Protection of Plant Genetic Resources and Traditional Knowledge in India*, 22 HASTINGS INT'L & COMP. L. REV. 777, 815–16 (1999).

⁸² GRAIN, *BIOPIRACY*, *supra* note 80.

⁸³ *Id.*

⁸⁴ See *id.*

⁸⁵ See Jain, *supra* note 81, at 816.

⁸⁶ See, e.g., Shuchi Sinha, *Basmati Patent: Whose Rice Is It Anyway?*, INDIA TODAY, Sept. 3, 2001, at 40.

⁸⁷ Shalini Bhutani & Ashish Kothari, *The Biodiversity Rights of Developing Nations: A Perspective From India*, 32 GOLDEN GATE U. L. REV. 587, 603 (2002).

⁸⁸ Tina Rosenberg, *The Year in Ideas; Patent Your Heritage*, N.Y. TIMES, Dec. 15, 2002, at 107.

ral fungicide and had been used for centuries in India in medicinal and ceremonial ways, and applied to the European Patent Office to gain rights to the active ingredient, much to the anger of Indian groups.⁸⁹ In another instance, a U.S.-based company sought a U.S. patent for tumeric, a plant-based product widely known in India to have varied uses in cooking and medicine.⁹⁰ Another company sought to patent the properties of the karela plant, whose juice is considered a purifier and affords various medicinal benefits.⁹¹

The companies that engage in these activities assert that such activities are not only legally permissible, but also integral to R&D.⁹² The companies claim that R&D in agricultural and pharmaceutical industries, for example, depends on prospecting for raw materials that will spur the inventive process toward making more efficient crops or effective drugs.⁹³

However, developing nations and NGOs use the term biopiracy to criticize developed countries in three different but interrelated ways that must be recognized.⁹⁴ First, in a purely political sense, biopiracy becomes an incarnation of anti-globalization protest by NGO activists and developing world governments against the practices of the companies from the industrialized world and western IP notions of ownership.⁹⁵ Interestingly, in this political debate, these critics have adapted a word with roots in western IP law while simultaneously attacking the system's validity.⁹⁶ Second, in a related tactical sense, accusations of biopiracy in TK have acted as a counterattack against developed nations and their claims of lax IP laws and enforcement in developing countries. Developing countries have used this lax IP enforcement in international IP treaty negotiations.⁹⁷

Finally, in a broader economic sense, biopiracy addresses the asymmetry in trade between the developing and developed world.⁹⁸ TK and its intellectual products are becoming increasingly important subjects of international trade that give developing countries leverage

⁸⁹ See SHIVA, *BIOPIRACY*, *supra* note 11, at 69–70; Kruger, *supra* note 75, at 173–75.

⁹⁰ Symposium, *supra* note 1, at 781–82; Jain, *supra* note 81, at 816.

⁹¹ Jain, *supra* note 81, at 816.

⁹² See Dutfield, *supra* note 1, at 237–38.

⁹³ See *id.* at 237–38, 243–44.

⁹⁴ See SHIVA, *BIOPIRACY*, *supra* note 11, at 10–11; Dutfield, *supra* note 1, at 237–38.

⁹⁵ See SHIVA, *BIOPIRACY*, *supra* note 11, at 10–11.

⁹⁶ See *id.*; Dutfield, *supra* note 1, at 237–38.

⁹⁷ See Dutfield, *supra* note 1, at 237–38.

⁹⁸ See *id.*

in a free trade system.⁹⁹ However, there is a gap between the cultural and economic value of TK and the current lack of IP protection it receives when TK moves from the developing to the developed world. The consequence is an asymmetry that could be detrimental to international trade.¹⁰⁰ If developing countries' TK products do not have adequate protection for the intellectual production that moves from their countries to the developed world, then exclusive IP rights as supported by IP law will function as a proxy for protectionist barriers that favor developed countries, the value of whose intellectual production is protected by the law.¹⁰¹

II. DISCUSSION

A. *TK and the Modern IP Framework*

Underlying the political and economic implications of biopiracy is a profound gap between the TK and IP legal frameworks.¹⁰² In legal terms, this gap lies between the elaborate protections granted by existing IP frameworks to other forms of intellectual activity and the inadequate, or often non-existent, protections available for the misappropriated TK belonging to local communities.¹⁰³ The questions that arise from this problem are twofold: (1) to what extent does such a legal gap between protecting TK and protecting other forms of knowledge exist in current IP law, and (2) should, or can, this legal gap between TK and the modern IP legal framework be bridged?¹⁰⁴

B. *The Nature of IP Law and Its Frameworks*

In its broadest sense, IP refers to the ownership rights in creations of the mind.¹⁰⁵ This definition includes, but is not limited to, literary, scientific and artistic works, inventions, industrial designs, and trademarks.¹⁰⁶ The goal of IP law is to promote intellectual creativity and innovation, first, by rewarding intellectual activity that produces innova-

⁹⁹ See *id.* at 237–38, 243–57.

¹⁰⁰ See *id.* at 273–74.

¹⁰¹ See *id.*

¹⁰² See Dutfield, *supra* note 1, at 248; Symposium, *supra* note 1, at 765–66.

¹⁰³ See *id.*

¹⁰⁴ See *id.*

¹⁰⁵ WIPO FFM REPORT, *supra* note 14, at 31; Scafidi, *supra* note 3, at 799–800.

¹⁰⁶ WIPO FFM REPORT, *supra* note 14, at 31.

tion and, second, by providing incentives for the continuation of such activities, especially when they benefit social progress.¹⁰⁷

To further these goals, IP law and policy must balance the rights of private innovators and creators and the public at large.¹⁰⁸ Protecting private rights of individual innovators rewards creativity, encourages further innovation, and safeguards investment necessary to spur such intellectual activity.¹⁰⁹ Alternatively, IP law values the disclosure and public dissemination of knowledge to promote further progress in innovation.¹¹⁰

Regardless of where the balance is struck, this IP framework clearly demarcates a line between private and public rights.¹¹¹ This private-public distinction also conforms to a western notion of property rights by emphasizing that the individual innovator deserves to reap what he has sown.¹¹² However, in the realm of TK, the unclear demarcation between private and public, because of the incremental nature of innovation and collective nature of ownership, is one overriding reason for why existing IP law does not effectively protect tradition-based knowledge systems effectively.¹¹³

The inadequacies of the existing IP law frameworks motivate various TK supporters, whether in developing countries' governments or NGOs, to promulgate two opposing approaches to TK's conflict with IP law.¹¹⁴ The first approach seeks to protect TK by declaring that TK is beyond the scope of existing IP constructs.¹¹⁵ The result of this "defensive protection" approach would prevent corporate entities or other prospectors from seeking exclusive IP rights over TK and keep such knowledge communal.¹¹⁶ The second approach is to utilize IP frameworks to protect TK by interpreting ways to bridge the gap in protection and expanding definitions in the existing IP systems to accommodate TK.¹¹⁷ The result of this "positive protection" would be

¹⁰⁷ See WIPO FFM REPORT, *supra* note 14, at 31–32; Scafidi, *supra* note 3, at 803–04.

¹⁰⁸ WIPO FFM REPORT, *supra* note 14, at 31–32.

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ See WIPO FFM REPORT, *supra* note 14, at 31; Scafidi, *supra* note 3, at 803–04.

¹¹² See Dutfield, *supra* note 1, at 242–43; Scafidi, *supra* note 3, at 803–04.

¹¹³ See Dutfield, *supra* note 1, at 248.

¹¹⁴ See *id.*; Symposium, *supra* note 1, at 766.

¹¹⁵ See Symposium, *supra* note 1, at 766.

¹¹⁶ World Intellectual Prop. Org., Traditional Knowledge, at <http://www.wipo.int/tk/en/tk/background/index.html> [hereinafter WIPO Background]; see Symposium, *supra* note 1, at 766–67.

¹¹⁷ See Symposium, *supra* note 1, at 766

that TK holders themselves, however defined, would become conventional IP rights holders with some form of exclusivity over TK.¹¹⁸

To evaluate which of the two approaches best preserves agricultural TK, it is important to examine how existing IP frameworks do, and do not, safeguard TK.¹¹⁹ Two key areas of the IP framework that are relevant to TK are patents and geographical indications.¹²⁰ Patent law appears to present a wide array of problems in dealing with TK; however, geographical indications may provide for a way in which TK can fit into the existing IP framework.¹²¹

1. Patent Law and TK

As a form of IP protection, a patent grants exclusive rights for an invention that is a product or process that offers a new technical solution to a problem.¹²² The basic premise of patent law illustrates the balance that IP law and policy in general attempt to maintain between private and public rights.¹²³ Patent law allows for innovators to submit applications to their national patent office, for example, to the USPTO.¹²⁴ After a period of review, the office may grant exclusive rights to an invention.¹²⁵ This exclusivity acts as a regulated statutory monopoly, allowing for the innovators who invested intellectual and monetary efforts to profit from those investments for usually twenty years.¹²⁶

Patent law, in general principles and as applied domestically in the United States, exhibits shortcomings in protecting TK because of the inability of TK to fit into western patent norms.¹²⁷ Specifically, the shortcomings of patent law with respect to TK protection can be viewed from substantive, evidentiary, and administrative perspectives.¹²⁸

¹¹⁸ WIPO Background, *supra* note 116; see Symposium, *supra* note 1, at 766–67.

¹¹⁹ See Symposium, *supra* note 1, at 766–67; WIPO Background, *supra* note 116.

¹²⁰ See Dutfield, *supra* note 1, at 253; Kruger, *supra* note 75, at 183–84.

¹²¹ See WIPO FFM REPORT, *supra* note 14, at 35–37, 39. A discussion of sui generis rights and trade secrets as ways to protect TK are beyond the scope of this Note. See *id.* at 24–25.

¹²² See *id.* at 35.

¹²³ See *id.* at 32, 35–36.

¹²⁴ See *id.* at 31, 35–37.

¹²⁵ See WIPO FFM REPORT, *supra* note 14, at 31, 35–37.

¹²⁶ See Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND, 33 I.L.M. 1197 (1994), http://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm#5 [hereinafter TRIPS Agreement]; WIPO FFM REPORT, *supra* note 14, at 36; Ragavan, *supra* note 8, at 8.

¹²⁷ See Dutfield, *supra* note 1, at 253–60.

¹²⁸ See Dutfield, *supra* note 1, at 253–54.

From a substantive perspective, western patent law treats inventiveness as an isolated, individualized achievement of an identifiable inventor, while TK is often collectively held and generated by the people of a specific territory.¹²⁹ In most developed nations, there is a need for the economic value of patents to flow to an identifiable inventor.¹³⁰ In its response to a 2001 WIPO Survey on protection of TK, the United States responded that TK does not receive specific protection under patent law largely because IP law exists to create incentives for creation, but, by definition, TK needs no incentives for development.¹³¹

Implicit in this perspective is the ease of rewarding and creating incentives for an individual inventor.¹³² In contrast, TK develops incrementally in a response to the communal necessity, and an individual innovator does not always emerge.¹³³ In fact, naming individual inventors, especially in agrarian communities where knowledge is shared, may be at odds with the community's ethic.¹³⁴

From an evidentiary perspective, it is difficult to document the existence of TK to the standards required by most patent regimes.¹³⁵ Evidentiary obstacles for TK exist when asserting that a particular form of TK meets the requisite inventiveness to support a patent application.¹³⁶ Moreover, they also exist when asserting that a form of TK is "prior art" to defend against another party's patent application.¹³⁷

A successful patent application requires an applicant to supply evidence of a distinct moment when some new and previously unknown result emerges from a process of invention.¹³⁸ In many countries, this standard is articulated by a three prong test in which an invention must be: (1) novel, in that it must show some new characteristic not known in the body of existing knowledge, (2) non-obvious, in that the innovator must show an original step deduced by

¹²⁹ See *id.* at 254–55; WIPO FFM REPORT, *supra* note 14, at 25.

¹³⁰ See Dutfield, *supra* note 1, at 254; United States Responses to Survey on Existing Forms of Intellectual Property Protection for Traditional Knowledge, at <http://www.wipo.int/tk/en/questionnaires/ic-2-5/usa.pdf> (last visited May 2, 2004) [hereinafter U.S. Survey Responses].

¹³¹ U.S. Survey Responses, *supra* note 130 (response to Question 27).

¹³² See *id.*

¹³³ See WIPO FFM REPORT, *supra* note 14, at 25–26; Dutfield, *supra* note 1, at 254.

¹³⁴ See Dutfield, *supra* note 1, at 245, 254.

¹³⁵ See *id.* at 247–48, 254–55.

¹³⁶ See *id.*

¹³⁷ See *id.*

¹³⁸ JANE C. GINSBURG ET AL., TRADEMARK AND UNFAIR COMPETITION LAW 52–53 (2001); Dutfield, *supra* note 1, at 254–55.

her expertise, and (3) useful, in that the invention will be capable of application to some endeavor, usually one involving industry.¹³⁹

However, for a TK holder, proving novelty and non-obviousness is difficult because TK forms often have no clear moment of innovation.¹⁴⁰ Many forms of TK, especially dealing with agriculture and medicinal remedies, are so old that current TK holders are hard-pressed to pinpoint a date of origin.¹⁴¹ Moreover, TK holders develop their knowledge systems incrementally from generation to generation and, as a result, it becomes difficult to separate elements that were previously known from those that are new.¹⁴² This incrementality also makes it difficult to determine which elements are self-evident derivations and which are non-obvious creations.¹⁴³

Similar difficulties arise under U.S. law when a party attempts to challenge a patent involving TK.¹⁴⁴ Two ways for a patent to be challenged are by showing that a certain form of TK is "in public use"¹⁴⁵ or is "prior art"¹⁴⁶ and, consequently, beyond the scope of patentability.¹⁴⁷ The public use exception appears to be relevant because forms of TK are undocumented and considered in public use in their respective countries of origin.¹⁴⁸ However, in the United States, only documented knowledge that appears in a patent of printed publication is beyond patentability.¹⁴⁹ Conversely, even if a form of TK is common knowledge, but undocumented, that TK may still be patented in the United States.¹⁵⁰

The prior art exception appears to provide some form of protection for TK.¹⁵¹ If TK is considered prior art under U.S. law, then an applicant cannot patent it, even if the applicant did not rely on the TK in her proposed invention.¹⁵² The prior art exception most readily

¹³⁹ See WIPO FFM REPORT, *supra* note 14, at 35 (summarizing general patent law); see also 35 U.S.C. §§ 101–103 (2001) (setting forth analogous U.S. domestic patent requirements).

¹⁴⁰ See Dutfield, *supra* note 1, at 254–55; Ragavan, *supra* note 8, at 13.

¹⁴¹ See Ragavan, *supra* note 8, at 13.

¹⁴² See Dutfield, *supra* note 1, at 255; Ragavan, *supra* note 8, at 13.

¹⁴³ See Dutfield, *supra* note 1, at 255; Ragavan, *supra* note 8, at 13.

¹⁴⁴ See Dutfield, *supra* note 1, at 247–48; Ragavan, *supra* note 8, at 13–14.

¹⁴⁵ 35 U.S.C. § 102(b).

¹⁴⁶ *Id.* at § 103(a).

¹⁴⁷ See Dutfield, *supra* note 1, at 247–48.

¹⁴⁸ See *id.*; Ragavan, *supra* note 8, at 13–14.

¹⁴⁹ See Dutfield, *supra* note 1, at 247–48; Ragavan, *supra* note 8, at 13–14.

¹⁵⁰ See Dutfield, *supra* note 1, at 247–48; Ragavan, *supra* note 8, at 13–14.

¹⁵¹ See WIPO FFM REPORT, *supra* note 14, at 36; Dutfield, *supra* note 1, at 247–48.

¹⁵² 35 U.S.C. § 103(a); see U.S. Survey Responses, *supra* note 130 (response to Question 1).

undercuts the non-obvious requirement of an application.¹⁵³ According to the relevant U.S. statute, a patent may not be obtained if the differences between the proposed invention and the prior art "would have been obvious at the time the invention was made to a person having ordinary skill in the art."¹⁵⁴

The evidence of prior art, however, does not come to the attention of the USPTO unless either the USPTO finds evidence of prior art during its search before a patent is granted or another challenging party raises its existence after a patent is granted.¹⁵⁵ Moreover, the extent of these searches varies with each country's patent office and has given rise to much of the controversy with respect to the protection of TK, particularly in the United States.¹⁵⁶ Search activities depend greatly on the time and resources available to the patent office.¹⁵⁷ Searches usually do not extend to disclosures other than publications and often do not include examinations of whether disclosure of prior art or relevant existing knowledge has taken place by public use.¹⁵⁸

By its nature, TK is not always documented in the formal ways required by patent laws, as much of it is passed down orally and in practice from generation to generation and will not appear on such a limited search.¹⁵⁹ Even if TK is documented, it may not be available in ready and accessible sources. For example, these searches generally do not include religious texts or other written and non-written cultural sources, where evidence of TK resides.¹⁶⁰ The USPTO encourages developing countries and TK holders to document TK in searchable databases as a way to minimize this kind of misappropriation.¹⁶¹ However, this suggestion simply shifts the burden to the TK holders without addressing the shortcomings of the search process or the inherent limitations that TK might have in providing ready documentation for patent examiners.¹⁶²

¹⁵³ See 35 U.S.C. § 103(a); Dutfield, *supra* note 1, at 248.

¹⁵⁴ See 35 U.S.C. § 103(a).

¹⁵⁵ See WIPO FFM REPORT, *supra* note 14, at 36; Dutfield, *supra* note 1, at 247-48.

¹⁵⁶ WIPO FFM REPORT, *supra* note 14, at 36; see Dutfield, *supra* note 1, at 248; Symposium, *supra* note 1, at 781.

¹⁵⁷ WIPO FFM REPORT, *supra* note 14, at 36; Dutfield, *supra* note 1, at 248.

¹⁵⁸ WIPO FFM REPORT, *supra* note 14, at 36.

¹⁵⁹ See Dutfield, *supra* note 1, at 240-41.

¹⁶⁰ See *id.* at 247-48; WIPO FFM REPORT, *supra* note 14, at 36.

¹⁶¹ See WIPO FFM REPORT, *supra* note 14, at 36; Dutfield, *supra* note 1, at 247-48.

¹⁶² See WIPO FFM REPORT, *supra* note 14, at 36; Dutfield, *supra* note 1, at 247-48.

From an administrative perspective, there are a number of ways in which TK does not fit into the modern patent-granting process.¹⁶³ For instance, under U.S. law, to obtain a patent, inventors must fulfill elaborate procedural requirements stipulated by the USPTO by filing a patent application in their domestic patent office.¹⁶⁴ The patent application generally entails: (1) the name and address of the specific inventor, (2) a formal request for exclusive rights, (3) one or more "claims" that concisely define the extent of protection being sought, (4) a description of the invention, and (5) any necessary drawings and collateral information that better describes the invention, usually in scientific or technical terms.¹⁶⁵

Once the inventor files the patent application, the national patent office examines the application in relation to the requirements of patentability and conducts a search if needed.¹⁶⁶ If an office grants a patent, the office normally then publishes information submitted in the patent application, thus making the information publicly available.¹⁶⁷ This decision may be challenged by the applicant and by third parties.¹⁶⁸

However, TK holders in local communities in developing countries do not necessarily have the resources to apply for patents for their own TK or defend their TK against patents brought by others.¹⁶⁹ Patent applications must be written in technical terms that examiners can understand, while TK holders often have more fluid and less overtly technical ways to describe their knowledge systems.¹⁷⁰ In addition, applying for, enforcing, or defending against patents are all expensive processes, which may be prohibitively expensive to TK holders that are based in local communities in developing countries.¹⁷¹

2. Geographical Indication Protection and TK

As a form of IP protection, geographical indications possibly represent a viable method to protect TK in the modern IP framework.¹⁷²

¹⁶³ See Dutfield, *supra* note 1, at 254-56.

¹⁶⁴ See WIPO FFM REPORT, *supra* note 14, at 36.

¹⁶⁵ See *id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ See Dutfield, *supra* note 1, at 254-56.

¹⁷⁰ See *id.* at 253-55.

¹⁷¹ See *id.* at 253-56.

¹⁷² See Ragavan, *supra* note 8, at 19-20.

Geographical indications are an important method by which products specific to a geographic region can receive economic value.¹⁷³ The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) defines geographical indications as those “which identify a good as originating in the territory of a [country], or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.”¹⁷⁴ A geographical indication can be the name of a region associated with a product, or even a name of a product that is only produced in a specific region.¹⁷⁵

Geographical indications communicate to a consumer the link between a product that she sees and the territory from which it originates.¹⁷⁶ The assumption is that being from a certain territory reflects on the product’s quality or authenticity.¹⁷⁷ Accurate geographical indications validate a consumer’s expectations about the quality of the product that she purchases.¹⁷⁸

Geographical indications are akin to trademark, though in a more specified context.¹⁷⁹ The difference between the two concepts is that trademarks indicate the source of products specifically of private producers or manufacturers.¹⁸⁰ On the other hand, to gain geographical indication protection, a product does not need to have one specific producer. The product simply needs to have territorial roots and derive its special qualities from its specific geographic origin.¹⁸¹

In this respect, geographical indications, like TK, echo a collective sense of common characteristics that a product from a specific region retains.¹⁸² The most prominent example of recognized geographical indication is the designation given to wine and spirits from specific regions, such as “champagne,” “burgundy,” or “bordeaux” for wines produced in those respective regions in France.¹⁸³ The proponents for these wines and spirits contend that these products gain

¹⁷³ See *id.*; Kruger, *supra* note 75, at 183.

¹⁷⁴ TRIPS Agreement, *supra* note 126, art. 22.1.

¹⁷⁵ See *id.* art. 22; M.R. Subramani, *US Opposes EU Move to Protect Basmati Rice*, BUS. LINE, Oct. 8, 2002 [hereinafter Subramani, *US Opposes*].

¹⁷⁶ See Ragavan, *supra* note 8, at 19–20; Kruger, *supra* note 75, at 183.

¹⁷⁷ See Ragavan, *supra* note 8, at 19–20; Kruger, *supra* note 75, at 183.

¹⁷⁸ See Ragavan, *supra* note 8, at 19–20; Kruger, *supra* note 75, at 183.

¹⁷⁹ See Ragavan, *supra* note 8, at 19–20.

¹⁸⁰ See GINSBURG, *supra* note 138, at 45.

¹⁸¹ See Ragavan, *supra* note 8, at 20.

¹⁸² See *id.*

¹⁸³ See Bhutani & Kothari, *supra* note 87, at 604; Desa Philadelphia, *Catfish by Any Other Name*, TIME, Feb. 25, 2002, at B14; Sinha, *supra* note 86, at 40.

their special qualities from growing in the soil of these regions or from being produced by the customs of the region.¹⁸⁴

As an IP framework, geographical indications have not been traditionally protected under U.S. law.¹⁸⁵ Instead, the TRIPS Agreement has played a relatively important role in establishing a more definite structure by which countries agree to honor geographical indications within their domestic laws.¹⁸⁶ According to Article 22, countries must provide the legal means for a party who seeks geographical indication protection to prevent the use of any kind of designation on a product that indicates or suggests a false place of origin in a manner that misleads the public.¹⁸⁷ Furthermore, a country that is party to the TRIPS Agreement has the right to refuse trademark registration if the goods indicated are not from the territory indicated and if the trademark would mislead consumers.¹⁸⁸

Thus far, however, the products that receive the greatest protection are wine and spirits.¹⁸⁹ For example, Article 23 of the TRIPS Agreement grants an additional heightened protection for wine and spirits, but for no other products.¹⁹⁰ For instance, wine producers have full power to bring a legal action against a party for using a false geographical indication, even if that party does not mislead consumers and indicates the true origin or uses the geographical indication, like "champagne," accompanied by expressions such as "kind," "type," "style," or "imitation."¹⁹¹

Supporters of TK want to expand this heightened geographical indication protection enjoyed by wines and spirits to cover TK-related products.¹⁹² They argue that because TK emerges from the customs, practices, and needs of a particular people or territory, TK products very often have a strong association with geographical regions.¹⁹³ They argue that other products of TK have as much direct connection as, if not more than, wine and spirits to the region in which they origi-

¹⁸⁴ See Philadelphia, *supra* note 183.

¹⁸⁵ GINSBURG, *supra* note 138, at 1009.

¹⁸⁶ See *id.*; Kruger, *supra* note 75, at 183–84.

¹⁸⁷ See TRIPS Agreement, *supra* note 126, art. 22.2(a).

¹⁸⁸ See *id.* art. 22(3); Kruger, *supra* note 75, at 183–84.

¹⁸⁹ See Bhutani & Kothari, *supra* note 87, at 604; Kruger, *supra* note 75, at 184.

¹⁹⁰ See TRIPS Agreement, *supra* note 126, art. 23; Kruger, *supra* note 75, at 184.

¹⁹¹ See TRIPS Agreement, *supra* note 126, art. 23; Kruger, *supra* note 75, at 184.

¹⁹² See Daniel Pruzin, *Australia Assails EU Over WTO Talks on Geographical Indications*, BNA INT'L TRADE REP., Mar. 14, 2002, at 457; Subramani, *US Opposes*, *supra* note 175.

¹⁹³ See Ragavan, *supra* note 8, at 20; Subramani, *US Opposes*, *supra* note 175.

nate.¹⁹⁴ In fact, at the 2001 World Trade Organization (WTO) ministerial conference at Doha, Qatar, EU member states and various developing countries, including India, discussed the possibility of extending geographic indication protection under the TRIPS Agreement to food products that originated in specific regions from which they derived their quality and brand power.¹⁹⁵ Some common examples of products that countries have proposed to be protected are basmati rice from India and Pakistan, Darjeeling tea from India, jasmine rice from Thailand, rugs from Turkey, art paper from China, and Parmagiano Reggiano cheese from Italy.¹⁹⁶

These countries argue that expanded protection is needed because the current TRIPS system still does not facilitate sufficient geographical protection for TK uniformly across countries and, certainly, does not recognize products of TK explicitly for such protection.¹⁹⁷ That is, a TK holder currently can apply for geographical indication protection in an individual country; but, the burden of going to each country hinders the effort to gain protection for TK.¹⁹⁸ This system, consequently, gives TK products asymmetric protection across many countries.¹⁹⁹

III. ANALYSIS

A. *IP Frameworks as Applied in the Basmati Rice Controversy*

The Basmati Rice Controversy as a whole is an illuminating example of how supporters of TK use both “defensive protection” and “positive protection” arguments to oppose the misappropriation of TK.²⁰⁰ The controversy involved a U.S.-based company, the RiceTec Corporation (RiceTec), patenting a type of basmati rice and selling it under the name “basmati,” for which the Government of India and a coalition of NGOs brought a challenge in the USPTO and the FTC.²⁰¹ In the primary part of the controversy before the USPTO, the Government of India and interested NGOs presented a “defensive protec-

¹⁹⁴ See *Indian Basmati Is Quite Well, Thank You*, FIN. EXPRESS, Oct. 5, 2001.

¹⁹⁵ See Pruzin, *supra* note 192, at 457; Subramani, *US Opposes*, *supra* note 175.

¹⁹⁶ See Philadelphia, *supra* note 183; Subramani, *US Opposes*, *supra* note 175.

¹⁹⁷ See TRIPS Agreement, *supra* note 126, art. 22–24; Subramani, *US Opposes*, *supra* note 175.

¹⁹⁸ See TRIPS Agreement, *supra* note 126, art. 22–24; Subramani, *US Opposes*, *supra* note 175.

¹⁹⁹ See Philadelphia, *supra* note 183.

²⁰⁰ See Symposium, *supra* note 1, at 766; Saritha Rai, *India-U.S. Fight on Basmati Rice Is Mostly Settled*, N.Y. TIMES, Aug. 25, 2001, at C1; WIPO Background, *supra* note 116.

²⁰¹ See Rai, *supra* note 200.

tion" argument against the use of IP law by arguing that U.S. patent law should not encroach into the realm of tradition-based intellectual production.²⁰² However, in the other part of the controversy before the FTC, NGOs took a "positive protection" approach by arguing in favor of using the IP-related rights of geographical indication to regulate the term "basmati."²⁰³

In July 1994, the Texas-based RiceTec submitted twenty claims with the USPTO for utility patents for its hybridized basmati rice.²⁰⁴ Of the twenty claims, most related to the rice plant, while the others related to the grain, seeds, and farming methods.²⁰⁵ The company claimed to have spent an estimated ten years and approximately \$4 million to devise a way to breed a rice plant that bore the same or similar qualities of traditional Indian basmati rice and would grow in North America.²⁰⁶ The researchers derived these characteristics by crossing seeds of South Asian basmati rice, donated by India and Pakistan to a U.S.-based international agricultural research center in Idaho, with seeds of an American dwarf variety of rice.²⁰⁷

RiceTec called the patent for these strains "Basmati Rice Lines and Grains."²⁰⁸ Prior to this filing, RiceTec had been selling rice that it developed in the United States under the name "Texmati," which it described as "American-style Basmati rice" for almost two decades.²⁰⁹ This 1994 patent was for a superior variety that RiceTec eventually sold under the name "Kasmati," described by the company as "Indian-style Basmati rice."²¹⁰

Nearly three years later, in September 1997, the USPTO granted exclusive rights under a patent for all of RiceTec's twenty claims and subsequently published the patent.²¹¹ RiceTec's patent did not prevent South Asian growers of basmati rice from exporting their prod-

²⁰² See *id.*; Sinha, *supra* note 86, at 40.

²⁰³ See FTC Press Release, *supra* note 13; Jairam Ramesh, Viewpoint, *Basmati Gets Steaming Again*, INDIA TODAY, Sept. 3, 2001, at 35.

²⁰⁴ Sinha, *supra* note 86, at 40; Research Found. for Sci., Tech. and Ecology, Chronology of Events of Basmati Battle, at http://www.vshiva.net/articles/chronology_basmati_battle.htm (Sept. 4, 2001) [hereinafter Chronology].

²⁰⁵ Sinha, *supra* note 86, at 40; Brad Tyer, *RiceTec Paddy Whack*, HOUSTON PRESS, Nov. 23, 2000.

²⁰⁶ Tyer, *supra* note 205.

²⁰⁷ *Id.*; Sinha, *supra* note 86, at 40.

²⁰⁸ Sinha, *supra* note 86, at 40.

²⁰⁹ Ramesh, *supra* note 203, at 35.

²¹⁰ *Id.*; Tyer, *supra* note 205.

²¹¹ See RiceTec Patent, *supra* note 67 (heading); Rai, *supra* note 200.

ucts from their traditional origins.²¹² However, the patent did allow RiceTec to grow its hybridized forms of basmati rice, and, moreover, the USPTO allowed RiceTec to keep the name "Basmati Rice Lines and Grains."²¹³ Though it does not make official judgments on the use of trademarks, the USPTO implicitly endorsed RiceTec's use of the term "basmati" for its newly patented varieties by remaining silent on the patent's name.²¹⁴ Since RiceTec had previously sold various products under the name "basmati" without objections, it continued to do so with its new "Kasmati" brand.²¹⁵

What appeared at first to be a routine patent to RiceTec, however, touched a cultural nerve.²¹⁶ The patent issuance drew attention internationally and incited outrage from governments and NGOs.²¹⁷ Many of these NGOs soon mobilized their efforts to organize protests of what they saw as RiceTec's biopiracy.²¹⁸

In March 1998, the Research Foundation for Science, Technology and Ecology (RFSTE), an Indian NGO that works with traditional farming communities, initiated litigation in the Supreme Court of India.²¹⁹ The goal was to place pressure on the Indian government to challenge RiceTec's patent in the USPTO.²²⁰ India said that it would fight the patent, calling it a threat to the survival of thousands of farmers.²²¹ RiceTec defended its activities as a harmless and non-exploitative part of its routine R&D and marketing, the kind in which it had been engaging for years.²²² The company asserted that its activities simply created a comparable rice variety to basmati and that its patent did not directly prevent Indian basmati farmers from exporting their rice to the United States.²²³

²¹² See Rai, *supra* note 200.

²¹³ See RiceTec Patent, *supra* note 67 (heading); Rai, *supra* note 200.

²¹⁴ See RiceTec Patent, *supra* note 67 (heading).

²¹⁵ See Ramesh, *supra* note 203, at 35; Tyer, *supra* note 205.

²¹⁶ See David Ivanovich, *RiceTec Sees Partial Win Over Patents; Indian Government Angry That Basmati Types OK'd*, HOUSTON CHRON., Aug. 24, 2001, at 1; Rai, *supra* note 200.

²¹⁷ See Michela Wrong, *Helping Itself to Basmati Rice*, FIN. TIMES (London), Nov. 25, 2000, at 17.

²¹⁸ See, e.g., Ivanovich, *supra* note 216, at 1; Rai, *supra* note 200; Chronology, *supra* note 204.

²¹⁹ See Chronology, *supra* note 204.

²²⁰ *Id.*

²²¹ See Rai, *supra* note 200.

²²² See Tyer, *supra* note 205.

²²³ See Madeley, *supra* note 61, at 44; Tyer, *supra* note 205.

It took nearly three years for the Indian government to launch its challenge.²²⁴ The government filed a petition for reexamination with the USPTO in April 2000 after compiling research on prior art.²²⁵ However, the call for revocation was not a sweeping one.²²⁶ The Indian team, consisting of scientists working for various research groups and government agencies, honed in on only three of RiceTec's twenty claims, Claims 15, 16, and 17, for rice grains.²²⁷ Amid their hundreds of pages of research, the scientists provided evidence that these three claims were prior art.²²⁸ They argued that the three claims had been worded in such a way that the characteristics of the rice grain mentioned in the patent could easily apply to ninety percent of all basmati grown anywhere in the world.²²⁹ Essentially, the research asserted that RiceTec's claims to inventiveness were nothing that did not already exist in India, where most of the world's basmati rice grows.²³⁰

The scrutiny of the Indian petition did have an impact on RiceTec's original claims of inventiveness.²³¹ The USPTO began a full reexamination of each one of RiceTec's claims.²³² The reexamination led to a preliminary decision by the USPTO in March 2001 to reject of most RiceTec's claims and gave the company until May 2001 to file a response.²³³ By April 2001, RiceTec withdrew not only the three claims directly challenged by the Indian government, but also withdrew an additional eleven claims and amended another one.²³⁴ RiceTec left only five of its original twenty claims before the USPTO.²³⁵ RiceTec even changed the name of its patent from "Basmati Rice Lines and Grains" to the more neutral "Rice Lines Bas 867, RT 1117, and RT 1121."²³⁶

The USPTO came to its final decision in August 2001 to narrow RiceTec's patent.²³⁷ The USPTO upheld the patent for three hybrid

²²⁴ Sinha, *supra* note 86, at 40.

²²⁵ Rai, *supra* note 200; Sinha, *supra* note 86, at 40.

²²⁶ See Sinha, *supra* note 86, at 40.

²²⁷ *Id.*; Chronology, *supra* note 204.

²²⁸ See Rai, *supra* note 200.

²²⁹ See Rai, *supra* note 200; Sinha, *supra* note 86, at 40.

²³⁰ See Sinha, *supra* note 86, at 40.

²³¹ *Id.*

²³² *Id.*

²³³ *Protecting*, *supra* note 38; Chronology, *supra* note 204.

²³⁴ Sinha, *supra* note 86, at 40; Chronology, *supra* note 204.

²³⁵ Sinha, *supra* note 86, at 40; Chronology, *supra* note 204.

²³⁶ Sinha, *supra* note 86, at 40; Chronology, *supra* note 204.

²³⁷ See Rai, *supra* note 200; Sinha, *supra* note 86, at 40.

varieties that RiceTec developed, as put forth in claims 8, 9, and 11.²³⁸ The patent relates to the rice lines as well as the plans and grains associated with these varieties.²³⁹ However, the USPTO rejected the remaining broader claims.²⁴⁰ The current patent does not prevent Indian basmati producers from exporting to the United States or significantly disadvantage Indian basmati rice in the U.S. market.²⁴¹ The Indian government and NGOs considered the result to be a victory, and the Indian government decided not to challenge the three upheld claims.²⁴² Even the RiceTec company called it a fair outcome and a "Solomon-type" result.²⁴³

Nevertheless, supporters of TK in basmati rice still assert that there is an economic threat because the term "basmati" does not have specific protection and is deemed generic under U.S. law.²⁴⁴ This assertion implicates the second part of the Basmati Rice Controversy, dealing with the actual name rather than the patent.²⁴⁵

Around the same time as the Indian government brought its patent proceedings against RiceTec, the RFSTE and another U.S.-based NGO filed a petition with the FTC requesting the agency to regulate the use of the term "basmati" in domestic advertising.²⁴⁶ In their petition, these two groups also argued that consumers were harmed by the inaccurate use of the term "basmati" for rice grown in the United States.²⁴⁷ "Basmati," the NGOs argued, was not a generic term, but rather a name that referred to rice grown in specific regions in India and Pakistan.²⁴⁸ As such, the term "basmati" deceived consumers into thinking that rice labeled "basmati" actually comes from South Asia.²⁴⁹ The groups did not file a formal action asking officially for geographi-

²³⁸ U.S. Patent No. 5,663,484, Reexamination Certificate C1 (4525th) (reissued Jan. 29, 2002); Chronology, *supra* note 204.

²³⁹ U.S. Patent No. 5,663,484, *supra* note 238; Chronology, *supra* note 204.

²⁴⁰ Sinha, *supra* note 86, at 40.

²⁴¹ *Id.*

²⁴² See *India Not To Contest Basmati Patent for Texan Company*, FIN. EXPRESS, Oct. 5, 2001; Sinha, *supra* note 86, at 40.

²⁴³ Ivanovich, *supra* note 216, at 1.

²⁴⁴ See Ramesh, *supra* note 203, at 35; Sinha, *supra* note 86, at 40.

²⁴⁵ See Ramesh, *supra* note 203, at 35; Sinha, *supra* note 86, at 40.

²⁴⁶ Ramesh, *supra* note 203, at 35; *Protecting*, *supra* note 38.

²⁴⁷ FTC Press Release, *supra* note 13; *Protecting*, *supra* note 38.

²⁴⁸ See FTC Press Release, *supra* note 13; *Protecting*, *supra* note 38.

²⁴⁹ See FTC Press Release, *supra* note 13; *Protecting*, *supra* note 38.

cal indication protection.²⁵⁰ However, they instead attempted to get similar protection under U.S. law through the administrative route.²⁵¹

The FTC denied the petition summarily.²⁵² In a response letter dated May 9, 2001, the FTC rejected the petition, first, because it did not believe that the injury to consumers was great.²⁵³ Second, the FTC said that there were no agricultural regulations mandating that the use of the term "basmati" be controlled by a rice product's country of origin.²⁵⁴ The FTC stated that basmati rice is "included as an example of 'aromatic rough rice,' and is not limited to rice grown in any particular country."²⁵⁵ Finally, the FTC found that products claiming to be basmati did not misrepresent their origins as the products indicated accurate descriptions such as "American Basmati Rice."²⁵⁶ As a consequence, RiceTec and any other company that produces aromatic, basmati-like rice anywhere in the world outside of South Asia, basmati rice's place of origin, can sell the products using the name "basmati."²⁵⁷

According to Indian farmers, NGOs, and the Indian government, there is no such thing as "American Basmati Rice."²⁵⁸ It is inaccurate and even oxymoronic, in the same way that the term "American Champagne" would be to the French.²⁵⁹ Still, the FTC is not fully to blame for its overly legalistic dismissal based on likelihood of consumer injury.²⁶⁰ The FTC's priority was not to grant protection to TK.²⁶¹ Furthermore, its competence is not in granting geographical protection to a product, which can be more appropriately decided by the USPTO's trademark offices.²⁶²

However, because "basmati" failed to be recognized as even a geographically specific term, the Indian government and other interested observers viewed the result of the USPTO case as only a limited

²⁵⁰ See FTC Press Release, *supra* note 13; *Protecting*, *supra* note 38.

²⁵¹ See FTC Press Release, *supra* note 13; *Protecting*, *supra* note 38.

²⁵² Letter Declining to Take Action on Request for Rulemaking to Prevent Such Advertising (May 9, 2003), <http://www.ftc.gov/os/2001/05/riceletter.pdf> [hereinafter FTC Letter]; FTC Press Release, *supra* note 13.

²⁵³ FTC Letter, *supra* note 252; FTC Press Release, *supra* note 13.

²⁵⁴ FTC Letter, *supra* note 252.

²⁵⁵ *Id.*

²⁵⁶ *Id.*

²⁵⁷ FTC Press Release, *supra* note 13; Sinha, *supra* note 86, at 40.

²⁵⁸ See FTC Letter, *supra* note 252; Sinha, *supra* note 72, at 53.

²⁵⁹ See Philadelphia, *supra* note 183; Sinha, *supra* note 86, at 40.

²⁶⁰ See FTC Letter, *supra* note 252; FTC Press Release, *supra* note 13.

²⁶¹ See FTC Letter, *supra* note 252; FTC Press Release, *supra* note 13.

²⁶² See FTC Letter, *supra* note 252; FTC Press Release, *supra* note 13.

victory.²⁶³ The Indian government, with the help of NGOs, had successfully defended against a potentially economically destructive patent by showing that basmati rice was a product of prior art.²⁶⁴ However, U.S. law still denied geographical indication protection and permitted the generic use of the name "basmati," which Indian observers view as inextricably linked to their cultural heritage.²⁶⁵

B. Bridging the Gap Between IP Law and TK

Considering the Basmati Rice Controversy and the gap between the protections offered by IP frameworks and the needs of TK, the question that arises is whether this gap in legal protection can, and should, be bridged.²⁶⁶ In a closely related issue, tension still exists as to whether "defensive protection" of TK or "positive protection" of TK is the better approach to safeguarding its survival in local communities and its economic value.²⁶⁷

The "defensive protection" and "positive protection" approaches to safeguarding TK have seemingly contradictory methods and goals.²⁶⁸ The first approach asserts that TK and IP law cannot and should not be bridged because western notions of IP law are incompatible to TK and its products.²⁶⁹ Efforts should be made to ensure that parties seeking IP rights do not abuse the system to commit "biopiracy" and gain exclusive ownership over pre-existing TK.²⁷⁰ On the other hand, the positive protection approach asserts that the gap between TK and existing IP legal frameworks can be bridged.²⁷¹ Supporters of this approach are optimistic that TK, even though it does not fit into all western IP norms, can still use IP frameworks for protection and to gain economic value.²⁷² The Basmati Rice Controversy shows that both can, and should, be used to protect the same product.²⁷³

The Indian government was successful in using the first approach in the case against the USPTO by successfully petitioning the office to

²⁶³ See D. Sampathkumar, *India: Basmati: The Threat Still Lingers*, BUS. LINE, Sept. 2, 2001; Sinha, *supra* note 86, at 40.

²⁶⁴ See Sinha, *supra* note 86, at 40.

²⁶⁵ See Ramesh, *supra* note 203, at 35; Sinha, *supra* note 86, at 40.

²⁶⁶ See Symposium, *supra* note 1, at 766.

²⁶⁷ See *id.*; WIPO Background, *supra* note 116.

²⁶⁸ See Symposium, *supra* note 1, at 766; WIPO Background, *supra* note 116.

²⁶⁹ See Symposium, *supra* note 1, at 766.

²⁷⁰ See *id.*

²⁷¹ See *id.*

²⁷² See *id.*

²⁷³ See *id.*; Sinha, *supra* note 86, at 40.

cancel and significantly narrow RiceTec's patent.²⁷⁴ The existing IP legal frameworks for patents, for example, stand in stark opposition to TK in basmati rice, which would make positive protection of basmati rice, using patents, particularly challenging.²⁷⁵ On substantive and evidentiary levels, patents require an identifiable inventor and a clear moment of inventiveness to show novelty and non-obviousness.²⁷⁶ However, basmati rice as cultivated by local farming communities in South Asia does not lend itself to identifying an inventor and was developed so incrementally over generations that a moment of inventiveness is difficult to prove.²⁷⁷

Considering the issues, the defensive protection approach was probably the best way to protect basmati rice before the USPTO.²⁷⁸ Whether through politically-charged rhetoric or scientific documentation, the Indian government and the supporting NGOs successfully argued that TK in basmati rice is a prior art that is beyond the reach of patentability and that those seeking IP rights over TK by using patent law should be truncated.²⁷⁹

However, the NGOs were much less successful in gaining greater protection for the actual "basmati," which from India's and NGO activists' statements seems to have been as important a goal as revoking RiceTec's patent.²⁸⁰ Part of the reason is that the FTC examined the issue primarily from the point of view of consumers.²⁸¹ While accurate prevention of consumer injury is one rationale for granting protection to geographically specific terms for products, consumer injury should not have been the only issue.²⁸² What should be of equal or greater importance is that producers receive the economic value for products that gain their quality from their geographic specificity.²⁸³ To deal with this need, geographical indication protection, as granted through the TRIPS Agreement, would be a better way to circumvent the legalistic interpretations of the FTC.²⁸⁴

²⁷⁴ See Symposium, *supra* note 1, at 766; Rai, *supra* note 200.

²⁷⁵ See Dutfield, *supra* note 1, at 254; Rai, *supra* note 200.

²⁷⁶ See Dutfield, *supra* note 1, at 253-54.

²⁷⁷ See *id.*; Factsheet, *supra* note 61.

²⁷⁸ See Dutfield, *supra* note 1, at 254; Symposium, *supra* note 1, at 766.

²⁷⁹ See Rai, *supra* note 200; Sinha, *supra* note 86, at 40.

²⁸⁰ See Ramesh, *supra* note 203, at 35; Sampathkumar, *supra* note 263.

²⁸¹ See FTC Letter, *supra* note 252; FTC Press Release, *supra* note 13.

²⁸² See Ragavan, *supra* note 8, at 19-20; Kruger, *supra* note 75, at 83-84.

²⁸³ See WIPO FFM REPORT, *supra* note 14, at 39; Ragavan, *supra* note 8, at 19-20.

²⁸⁴ See FTC Letter, *supra* note 252; Bhutani & Kothari, *supra* note 87, at 604-05.

Existing IP law “geographical indication protection” is a framework that can be adapted to protect TK that is geographically rooted such as basmati rice.²⁸⁵ One reason is that geographical indications do not rely upon a sharp public-private distinction in the way that other frameworks like patents do.²⁸⁶ For example, receiving geographical indication protection does not require a product to have an identifiable originator or inventor.²⁸⁷ This aspect benefits TK products like basmati rice because communities often incrementally adapt know-how and transmit this TK from generation to generation without identifying an originator.²⁸⁸ Geographical indications are better than other IP frameworks at echoing a communal sense of origin, which is a key characteristic of many forms of TK.²⁸⁹

To qualify for geographical indication protection, a product must gain its special characteristics based on its territorial origin.²⁹⁰ This aspect acknowledges that the value of a product comes from being embedded in the region’s attributes and culture.²⁹¹ TK products, such as basmati rice, often gain their distinctive qualities from their geographical origin.²⁹² As even the USPTO acknowledges, basmati rice is a product that gains its special qualities from the soil and climatic conditions of South Asia.²⁹³ Basmati rice, because of its strong connection to the people and the land in South Asia, is the kind of product that is deeply rooted in the territory.²⁹⁴

Currently, the TRIPS Agreement provides heightened geographical indication protection for wine and spirits.²⁹⁵ Countries such as India argue that TK in food products like basmati rice makes as strong a case for such heightened protection.²⁹⁶ Advocates of this approach argue that geographical indication protection can be made flexible enough to accommodate TK like basmati rice, which gains its unique qualities from its territorial origins in South Asia.²⁹⁷

²⁸⁵ See Ragavan, *supra* note 8, at 20; Kruger, *supra* note 75, at 183–84, 198.

²⁸⁶ See Ragavan, *supra* note 8, at 20.

²⁸⁷ See *id.*

²⁸⁸ See *id.*

²⁸⁹ See *id.*

²⁹⁰ See TRIPS Agreement, *supra* note 126, art. 22.

²⁹¹ See *id.*; Ragavan, *supra* note 8, at 20.

²⁹² See WIPO FFM REPORT, *supra* note 14, at 25; Dutfield, *supra* note 1, at 241–42.

²⁹³ RiceTec Patent, *supra* note 67, § 2.3.

²⁹⁴ See *id.*; Factsheet, *supra* note 61.

²⁹⁵ See TRIPS Agreement, *supra* note 126, art. 23; Kruger, *supra* note 75, at 184.

²⁹⁶ See Kruger, *supra* note 75, at 197–98.

²⁹⁷ See *id.*

For many of the reasons that the existing patent framework is inadequate in positively protecting TK in basmati rice, similar reasons make TK as embodied in the name "basmati" a strong candidate for geographical indication protection.²⁹⁸ For example, basmati is a form of TK that has no identifiable inventor, which creates an almost insurmountable difficulty in gaining patent protection.²⁹⁹ However, because basmati rice is a form of South Asian TK that has developed incrementally in the region and often without a clear inventor, it is easier to show basmati rice's connection to the specific region.³⁰⁰ Prior art documentation can also prove the close geographical association needed to show the necessity for geographical indication protection.³⁰¹

It is important for India and other countries with high stakes in protecting TK to pursue geographical indications as a method of IP protection.³⁰² The initiative would involve reforming Articles 22–24 of the TRIPS Agreement to include explicit geographical indication protection.³⁰³ The goal should be to amend the TRIPS Agreement so as to accommodate heightened geographical indication protection for TK products like basmati rice.³⁰⁴

If TK products like basmati rice receive this kind of protection, then the framework would be in place for these products to receive geographical indication protection without applying for protection separately in each country.³⁰⁵ The EU has already supported this position and launched an initiative as a follow-up to the WTO Doha Ministerial Round to protect products like basmati rice, among others, that share similar geographic specificity.³⁰⁶

Still, the United States and other countries opposed this proposal on the grounds that it places unnecessary protectionist barriers through geographical indication protection that do not have a clear limit.³⁰⁷ These countries also argue that names that countries now claim as geographically specific have already come into common usage through exports, cultural exchange, and word usage. Therefore, such a

²⁹⁸ See Dutfield, *supra* note 1, at 253–54; Ragavan, *supra* note 8, at 20.

²⁹⁹ See Dutfield, *supra* note 1, at 254.

³⁰⁰ See TRIPS Agreement, *supra* note 126, art. 22; Ragavan, *supra* note 8, at 20.

³⁰¹ See Ragavan, *supra* note 8, at 14, 20.

³⁰² See Bhutani & Kothari, *supra* note 87, at 604; Kruger, *supra* note 75, at 197–98.

³⁰³ See TRIPS Agreement, *supra* note 126, arts. 22–24; Kruger, *supra* note 75, at 198.

³⁰⁴ See Bhutani & Kothari, *supra* note 87, at 604–05; Kruger, *supra* note 75, at 184, 197–98.

³⁰⁵ See Subramani, *US Opposes*, *supra* note 175.

³⁰⁶ *Id.*

³⁰⁷ See Pruzin, *supra* note 192, at 457; Subramani, *US Opposes*, *supra* note 175.

restriction on "basmati" should not be promoted.³⁰⁸ As such, they argue that the level of protection should remain stable.³⁰⁹

The remedy for the lack of a clear standard on what products gain geographical indication protection, however, is not necessarily to restrict such protection to only wine and spirits.³¹⁰ Instead, these countries should acknowledge that burdens of granting extra protection are offset by the benefits to the preservation of TK.³¹¹ Protecting TK and its products, which have economic value to the local communities in which they develop, is important when such fruits of intellectual activity cannot be protected through IP frameworks.³¹² Granting geographical indication protection is one small but poignant way of acknowledging the deep roots of certain forms of TK in their places of origin.³¹³

CONCLUSION

The debate over the protection of TK, and specifically the Basmati Rice Controversy, is an area in which the larger debates about the rift between developing and developed countries, and globalization in general, surface. Local communities in developing nations, such as India in the Basmati Rice Controversy, rely on TK for their cultural and economic value. However, existing IP law, based on western norms of intellectual activity, is very often inadequate in recognizing such values in the same way it would for other more conventional forms of knowledge that fit into its frameworks.

In response, supporters of TK seek to protect tradition-based intellectual activity in different ways. "Defensive protection" keeps TK separate from IP law, while the "positive protection" seeks to integrate TK into IP law. The Basmati Rice Controversy presents one interesting example in which the two differing approaches can be used for different frameworks. Geographical indication protection is one way to integrate TK into existing IP law. In the future, developed nations and supporters of TK should recognize that not all IP frameworks equally marginalize TK and should recognize the use of geographical indication protection to safeguard TK products.

³⁰⁸ See Pruzin, *supra* note 192, at 457.

³⁰⁹ See *id.*; Subramani, *US Opposes*, *supra* note 175.

³¹⁰ See Kruger, *supra* note 75, at 184, 198.

³¹¹ See *id.* at 198.

³¹² See Dutfield, *supra* note 1, at 253.

³¹³ See Ragavan, *supra* note 8, at 19–20; Kruger, *supra* note 75, at 184, 198.