

**Biopiracy:  
The Patenting of Basmati by Ricetec**

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# Biopiracy: The Patenting of Basmati by Ricetec

Uzma Jamil<sup>1</sup>

## Abstract

*The paper discusses the North-South context for biopiracy, explains the process by which RiceTec acquired its patent, ascertains why it amounted to biopiracy and examines its implications for southern export markets. It reviews the international conventions that provide potential relief and suggests how their provisions can be dovetailed with regional and national initiatives.*

Biopiracy can be defined as the manipulation of intellectual property rights laws by corporations to gain exclusive control over national genetic resources, without giving adequate -- if any -- recognition or remuneration to the original possessors of those resources. Examples of biopiracy include recent patents granted by the U.S. Patent and Trademarks Office to American companies on turmeric, 'neem' and, most notably, 'basmati' rice. All three products are indigenous to the Indo-Pak subcontinent.

While biopiracy has many dimensions, we focus here on the North-South aspect as being one of the most pervasive. The patents on turmeric, neem and basmati are a few manifestations of the increasing infringement of the economic and national sovereignty of the South by the North. The North exercises its dominance through many global conventions and bodies; in particular, the World Trade Organization (WTO) is a key entity which seeks to create a uniform, global standard for trade relations, intellectual property rights, agriculture, etc. In reality, this "uniform standard" has an explicitly pro-Northern bias.

Three related issues are at stake. The first is the generic issue of local community rights in the South versus corporate rights of northern organizations.<sup>2</sup> This leads into more specific issue of global standards and national laws, wherein such rights are addressed. The two global conventions pertaining to patent protection, both generally and in terms of specific *standards* are, respectively, the Convention on Biological Diversity (CBD) and the Trade Related Intellectual Property Rights (TRIPS). These have a bearing on national legislation under which individual countries determine patent laws.<sup>3</sup> The application of these standards and the effectiveness of national legislation are at the core of the debate over the livelihood of Southern communities versus northern corporate profits. All three aspects come into play in the basmati case.

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1. I wish to thank Dr. Shaheen Rafi Khan for supervising and editing this paper. Thanks are also due to Dr. Shahid Zia and Mr. Mushtaq Gadi for suggestions. The views included herein and all errors and omissions are mine.
  2. The comparison is between the informal, long-standing rights of the original possessors, namely the indigenous communities in the South, over a genetic resource, and the formal, legal "rights" of corporations over the resource by virtue of their having taken out a patent on it. At issue is the fact that the rights of corporations over a genetic resource are rooted in biopiracy, and yet they are more legally "correct", which places the original possessors at a disadvantage.
  3. The *standards* for patent protection are outlined in the TRIPS Agreement, but TRIPS does not actually set out patent *laws*. Rather, each country determines its own patent laws through national legislation. If the country is a WTO Member, then these laws should follow the global standards for patent protection outlined in TRIPS.

The purpose of this paper is to: i) evaluate the implications of the basmati patent award for India and Pakistan; ii) analyze and assess the effectiveness of TRIPS, CBD and national legislation in challenging this patent and; iii) based on the findings, propose measures to strengthen these options with a view to creating a level playing field for the South.

## The Basmati Patent

On September 2, 1997, the U.S. Patent and Trademarks Office granted Patent No. 5,663,484 on “basmati rice lines and grains” to the Texas-based company RiceTec. This broad patent gives the company several rights, including exclusive use of the term 'basmati', a monopoly on breeding 22 farmer-bred Pakistani basmati varieties with any other varieties in the Western Hemisphere, as well proprietary rights on the seeds and grains from any crosses.<sup>4</sup> The patent also covers the process of breeding RiceTec’s novel rice lines and the method to determine the cooking properties and starch content of the rice grains.<sup>5</sup> The following abstract from the patent application is illustrative.

“The invention relates to novel rice lines and to plants and grains of these lines and to a method for breeding these lines. The invention also relates to a novel means for determining the cooking starch properties of rice grains and its use in identifying desirable rice lines. Specifically, one aspect of the invention relates to novel rice lines whose plants are semi-dwarf in stature, substantially photoperiod insensitive and high yielding, and produce rice grains having characteristics similar or superior to those of good quality basmati rice. Another aspect of the invention relates to the method for breeding these novel lines and to novel rice grains produced from such lines. A third aspect of the invention relates to the finding that the “starch index”(SI) of a rice grain can predict the grain’s cooking and starch properties, to a method based thereon for identifying grains that can be cooked to the firmness of traditional basmati rice preparations, and to the use of this method in selecting desirable segregants in rice breeding programs.”<sup>6</sup>

RiceTec’s claims for its invention could adversely affect Pakistani and Indian basmati production and exports. The company claims that it has produced “novel rice lines and grains” by crossing Pakistani basmati varieties with American long-grain rice varieties, to produce a rice line with the desirable traits of basmati (aroma, long slender grain shape, grain elongation, cooked grain texture) and the semi-dwarf long-grain traits of photoperiod insensitivity, high yield, disease tolerance and short stature.<sup>7</sup> One specific rice line, named Basmati 867, produces plants with rice grains that have characteristics that are comparable in quality to traditional Indian and Pakistani basmati. Basmati 867 is claimed to be very similar to traditional basmati, but with a few differences such as less chalky grains, softer grain texture and more aroma.<sup>8</sup> Second, RiceTec also claims that its superior variety of basmati can be grown in the Western Hemisphere, outside of India and Pakistan.<sup>9</sup>

Specifically, RiceTec’s claims for its invention encroaches upon the use and definition of the term 'basmati', a term traditionally associated with India and Pakistan. Literally translated, 'basmati' means,

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4. “Basmati Rice Patent.” RAFI (Internet) April 1, 1998. <http://www.rafi.ca/genotypes/980401bas.html> and Sarreal et al. “Basmati Rice Lines and Grains”, p. 1.

5. Sarreal et al., “Basmati Rice Lines and Grains.” p.1.

6. Ibid. p. 1.

7. Ibid. Section 5, col. 11.

8. Ibid. Section 9.3.1, col 39.

9. Ibid. Section 9.3.2, col 40.



“queen of fragrance” or “fragrant earth”. It is slender, long-grained, aromatic rice that grows best in the region of the Punjab, which spans both India and Pakistan. Basmati’s unique characteristics are that the grains elongate to twice the original length upon cooking, and the rice remains soft and fluffy in texture. Basmati has a specific amylose (starch) content of approximately 22%, which determines its distinct qualities of stickiness and softness of the cooked grains. Last, the presence of the compound 2-acetyl-1-pyrroline distinguishes its aroma from those of other aromatic rices, rendering basmati unique.<sup>10</sup> Thus, RiceTec’s invention raises the question whether a rice variety grown outside of India and Pakistan can be called ‘basmati’, even if it has similar characteristics to traditional basmati.

## Why Is It Biopiracy?

Our contention is that RiceTec has unfairly appropriated and exploited the genetic resources of the South -- in this case basmati -- by attempting to gain exclusive control on its development and propagation through a legal process that threatens the traditional rights of the original possessors of the resource. Such appropriation represents a one-way flow of resources from the biodiverse rich south to the technologically advanced North. With its research facilities and systems of patent protection that safeguard such research, the North can make inroads into the traditional and long-standing relationship between basmati and the Indo-Pak subcontinent, as well as the formal and informal contributions of the original breeders and basmati farmers to the evolution of basmati rice. We will attempt to demonstrate that this is in violation of the CBD, which supports the South’s sovereignty over its genetic resources and seeks to prevent their exploitation by northern corporations such as RiceTec. We will also show that the company has violated the geographically indicated rights of basmati outlined in the TRIPS Agreement.

The key concern relates to RiceTec’s use of the term ‘basmati’ to describe its rice lines and grains. ‘Basmati’ is associated with the specific aromatic rice variety grown in Pakistan and India. By taking out intellectual property rights on the use of the term to describe its invention, RiceTec has potentially reversed culpability, making India and Pakistan the violators of RiceTec’s legally protected rights -- despite the fact that they are the original possessors and breeders of ‘basmati’ rice. At the very minimum, RiceTec can use its patent as a defensive measure. At worst, it can claim that it’s Basmati 867 is the only ‘true’ legally-patented basmati in the international market, thus pushing aside the original ‘basmati’ name used for Indian and Pakistani rice.

## ***Infringement of the CBD***

RiceTec’s actions constitute biopiracy because they violate the provisions of the CBD, giving states sovereignty over their genetic resources. The CBD aims to bring about the conservation and sustainable use of biological diversity and the *fair* and *equitable* sharing of benefits arising from the use of their genetic resources. The manner in which RiceTec established its patent demonstrates that it has ignored the contributions of local communities in the production of basmati and that it does not intend to share the benefits accruing from the use of their genetic resources. This includes both the informal contributions of farmers who have been growing basmati for hundreds of years in India and Pakistan, as well as the more formal, scientific breeding work that has been done by rice research institutes to evolve better varieties of basmati. RiceTec has capitalized on this work by taking out the patent on basmati and intends to

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10. Based on a personal interview with Dr. Mohammad Ashraf, Rice Coordinator and Mr. Mohammad Akram, Basmati Breeder at National Agricultural Research Center (NARC), Islamabad, July 1, 1998.

monopolize the commercial profits of past research, without giving any recognition or remuneration to those who have played key roles in the evolution and breeding of basmati rice in its natural habitat.

An example of the formal study and research on basmati varieties is the work done by the Rice Research Institute (RRI) in Kala Shah Kaku, Pakistan. This institute has undertaken considerable research and development on commercial basmati varieties. It developed the first basmati variety in 1933 named Basmati 370. In 1968, Karnal Basmati, also known as Basmati Pak, was released, which had a longer grain than Basmati 370. This was followed by Basmati 198, which was late maturing and had a higher yield. In 1985, the institute released the Basmati 385 variety in Punjab, which was readily adopted by farmers due to its high yielding qualities. The latest variety, released in 1996, is called Super Basmati and its defining characteristics are an extra long grain, higher yield and higher resistance to pests and disease.<sup>11</sup>

The informal contributions of Pakistani and Indian farmers to the breeding of basmati rice have also been appropriated by RiceTec. There are 22 farmer-bred basmati varieties in Pakistan<sup>12</sup> and 27 listed in India.<sup>13</sup> These have come about as a result of the traditional knowledge, innovation and informal contributions of farmers. RiceTec's patent gives it the right to use these varieties to breed new rice lines. Such infringement reflects not only a lack of recognition of the South Asian origins of the genetic strains, but also potential monopolization of the breeding that results from it in other parts of the world.

### **Contravention of TRIPS**

RiceTec's patent also contravenes certain provisions in TRIPS. The TRIPS Agreement provides the standard for intellectual property rights in the world and it is particularly relevant for this biopiracy case. RiceTec's patent on basmati violates Article 22 of TRIPS, which deals with geographical indications. As defined in TRIPS, *geographical indications* "...identify a good as originating in the territory of a Member, 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"(Article 22(1)).

For example, wines and liquors are most commonly associated with geographical indications. The term "champagne" can only be used to describe wine that has been produced in the Champagne region of France, the area from which the wine derives its name. A wine with the similar characteristics but produced in another part of the world, cannot be called "champagne". "Champagne" remains the exclusive product and the name the exclusive property of French champagne producers. A similar case of geographical indication is "Scotch" whisky, which is produced in the Scottish highlands. This additional protection for geographical indications for wines and liquors is outlined in Article 23 of TRIPS.

Basmati falls in this category because it enjoys the same closely linked and exclusive relationship with its place of origin, namely, India and Pakistan. Specifically, basmati originated in the area in Pakistan known today as Gujranwala, in Punjab. Today, the majority of basmati in Pakistan is grown in a belt called the "Kallar tract", which includes Gujranwala, Sheikhpura and Sialkot districts. This area of 1.3 million hectares is exclusively devoted to basmati production in the summer.<sup>14</sup> Annual production of

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11. Ibid.

12. "Basmati Rice Patent", RAFI.

13. "The Biopiracy Factsheet on Basmati Rice." *Dossier on Patenting of Basmati Rice by the RiceTec Inc. in USA*. Prepared by Research Foundation for Science, Technology and Ecology (RFSTE), New Delhi. P. 1-2.

14. Personal interview with Dr. Ashraf and Mr. Akram, July 1, 1998.

basmati in Pakistan averages about 1.5 million tons.<sup>15</sup> In India, basmati is grown mainly in scattered districts in Punjab, Haryana and Uttar Pradesh, over an area of 0.7 million hectares.<sup>16</sup> India grows about 650,000 tons of the rice annually.<sup>17</sup> Thus, it is clear that basmati rice, as it is traditionally recognized, is geographically unique in its origins.

A precedent also exists for the recognition of basmati as a geographical indication by international buyers. The European Commission recognizes India's and Pakistan's geographically-indicated rights, allowing only basmati rice that has been grown in these two countries to be labeled as such.<sup>18</sup> Similarly, the code of practice for rice in the U.K., the largest market for basmati rice in Europe, describes long-grain, aromatic rice grown only in India and Pakistan as basmati. Saudi Arabia, which is a major buyer of Pakistani basmati in the Middle East, follows a similar stringent labeling standard.<sup>19</sup>

## The Economic Implications of the Patent

Patents and geographically indicated rights help to ensure a monopoly over a product. By taking out intellectual property rights on its invention, RiceTec seeks to gain exclusive control on the basmati name and on any future breeding of basmati germplasm in the Western Hemisphere.<sup>20</sup> It has already been selling basmati type aromatic rice in the U.S. for the last twenty years. Previously, it attempted to make headway into the lucrative basmati market by selling its rice under similar-sounding brand names. This is legally known as "passing off", where a company passes off one's own product as that of another better-established company.<sup>21</sup> One such brand name is 'Texmati' which RiceTec has marketed as "American basmati" in the U.S. and in some European countries.<sup>22</sup>

The use of these brand names caused a stir in Europe among retailing firms, which objected to the similarity between these names and the traditional "basmati". The concern was that consumers would not be able to differentiate between "real" basmati and RiceTec's products. In 1996, Indian exporters launched legal proceedings against RiceTec in the U.K. for trying to sell its American long-grain rice variety as Indian and Pakistani basmati. RiceTec settled out of court with the Indian side, agreeing to withdraw Kasmati from the market for at least two years in return for a \$30,000 payment to compensate for the company's incurred losses.<sup>23</sup> Similarly, in 1997, Greece rejected RiceTec's application to register its brand names, Texmati, Jasmati, and Kasmati, in the country so that the company could market its products there.<sup>24</sup>

15. *Agricultural Statistics of Pakistan, 1994-95*. Islamabad: Economic Wing, Ministry of Food, Agriculture & Livestock.

16. Personal interview with Dr. Ashraf and Mr. Akram, July 1, 1998.

17. "Indian Concern over US Basmati Patent." *Business Recorder*, Karachi. April 4, 1998.

18. Subramaniam, G. Ganpathy. "Kasmati to be kept out of UK Market: RiceTec Enters into Out-of-Court Settlement." (Internet).

<http://www.indiaserver.com/bline/1996/04/02/BLFP02.html>.

19. "India will fight US Patent for Basmati Rice." *Intellectual Property & Biodiversity News*. Vol. 7, No. 3. March 4, 1998.

20. "Basmati patent to protect our Seeds: RiceTek." *The Economic Times*. (internet) Feb. 20, 1998. <http://www.economictimes.com/200298/20econ3.html> and Sarreal et al. "Basmati Rice Lines and Grains."

21. Debroy, Bibek. "Caught unawares." (Internet).

<http://www.webpage.com/tradeindia/tflash/backissues/vol3issue6/content/indtom.html>

22. "Basmati patent to protect our seeds: RiceTek." *The Economic Times*. (Internet).

23. Subramaniam, G. Ganpathy. "Kasmati to be kept out of UK Market."

24. Mukherjee, Arindam. "Say No to Kasmati." *Outlook*. (Internet). June 25, 1997. <http://www.indolink.com/Analysis/kasmati.html>.

These cases checked RiceTec’s ambitions to increase its market share only temporarily. The patent signifies the company’s latest effort to cash in on this market. Its objective, as stated in the patent application, is “to grow basmati rice outside of traditional basmati-growing areas”, and equivalent in quality to traditional Indian and Pakistani basmati.<sup>25</sup> It is precisely because of this threat to Pakistan and India’s monopoly in the international basmati market -- represented by the piracy of their rice variety -- that the countries are protesting against the patent.

RiceTec’s patent creates two opportunities for the company. The first relates to quality. RiceTec’s aim at this point appears to be to break into the international basmati market by creating a product of comparable quality, and one grown in the U.S.<sup>26</sup> It claims that its Basmati 867 is of the same or superior quality to traditional basmati, and has the potential to make inroads into the market.<sup>27</sup> However, this claim is disputed. Tests carried out by the National Agricultural Research Council (NARC) in Islamabad show that RiceTec’s product is, in fact, inferior. It has a lower grain quality, less aroma, lower volume for elongation and a higher amylose (starch) content than Indian and Pakistani basmati.<sup>28</sup> If NARC claims are true, then RiceTec will probably face difficulties in taking over the traditional market share of Pakistan and India, in which case traditional basmati exports will not be damaged too severely in the short term.

However, the patent, incorporating use of the term ‘basmati’, would overcome a possible competitive disadvantage. It is in this context that it is pernicious and biased against Southern producers. RiceTec has attempted to gain exclusive rights over the product by calling its novel rice lines and grains ‘basmati’, of which one variety is Basmati 867. Theoretically, therefore, RiceTec can prevent others from using the term, even if it is used to describe the ‘original’ Indian and Pakistani product. Under the WTO, this can constitute a punishable offense. Indian and Pakistani basmati exporters could be penalized if they continue to use the name basmati, unless – and in an unjust inversion – they agree to pay royalties to RiceTec to use it.

## **The Potential Impact on Rice Farmers**

### ***Volume and Direction of Basmati Exports***

The potential loss of basmati export earnings is an appropriate index of impacts on the livelihoods of Pakistani and Indian farmers. The volume and direction of trade for both countries is shown in the table below:

**Table 1: Basmati Production and Exports**

<b>Basmati Production &amp; Exports</b>	<b>Pakistan (1995-96)</b>	<b>India (1996-97)</b>
Production and Exports		
Production (million tons)	1.49	0.65
Exports (million tons)	0.70	0.45

25. Sarreal et al., “Basmati Rice Lines and Grains”, section 9.3.2, col. 40.

26. RiceTec states in its patent application that its invention makes possible “the production of high quality, higher yielding, basmati rice worldwide.”(Section 3, col. 8). In section 9.3.2, col. 40, RiceTec states that its objective of growing good quality “basmati rice outside of traditional basmati growing areas” has been accomplished. Thus, it appears that RiceTec’s first objective is to break the Indian and Pakistani monopolies on basmati and to get into the rice market by creating a comparable product in a different part of the world, namely the United States.

27. Sarreal et al, “Basmati Rice Lines and Grains”, section 9.3.2, col. 40.

28. Personal interview with Dr. Ashraf and Mr. Akram, July 1, 1998

Export Revenue (million \$)	295.00	312.00
Direction of Trade		
Middle East (%)	76.00	65.00
Europe(%)	1.54	20
US(%)	0.50	6.92

Source: Agricultural Statistics of Pakistan, 1994-'95  
Biopiracy Factsheet on Basmati Rice, RFSTE, New Delhi, 1996

Earnings from Basmati constitute almost half of Pakistan's rice export revenues.<sup>29</sup> In 1995-96, Pakistan produced 1,487,500 tons of basmati.<sup>30</sup> Of this amount, about 700,000 metric tons were exported, earning revenues of about \$295 million.<sup>31</sup> In India, 650,000 tons of basmati were produced in 1996-97. Of this amount, about 400,000-500,000 tons were exported, securing revenues of approximately \$312 million. Basmati comprises about three-quarters of India's total rice exports.<sup>32</sup>

The main export markets for Indian and Pakistani basmati are the Middle East, Europe and the United States. At present, the Middle East makes up the bulk of the basmati export market because of the large number of South Asian expatriates living there. About 76% of the total quantity of Pakistani basmati go to the region, generating about \$166 million in sales.<sup>33</sup> Similarly, India exports the majority of its basmati, about 65%, to the region, generating revenues of approximately \$200 million.<sup>34</sup>

Europe is the next largest market for both Pakistani and Indian basmati, with the United Kingdom being the largest buyer. Pakistan's total exports to Europe amount to approximately 23,000 metric tons of rice, of which the U.K. buys about 70%.<sup>35</sup> India sells 20% of its total export quantity to Europe.<sup>36</sup>

The United States is a relatively small market for both countries. It imports only about 7,500 metric tons of basmati from Pakistan.<sup>37</sup> India exports 45,000 metric tons to the U.S., a more significant amount but still small in relation to other countries.<sup>38</sup>

### **Farmer Level Impacts**

RiceTec's patent could impact Indian and Pakistani farmers in two possible ways: i) by displacement of basmati exports from India and Pakistan and; ii) monopolization of basmati seed supplies. Regarding the first, possible inroads by the US into South Asian export markets are a function of relative production capabilities and export surpluses. In 1995, the United States produced 7.89 million metric tons of rice. In the same year, Pakistan produced 5.71 million metric tons and India 122.37 million metric tons.<sup>39</sup> American rice exports are significantly greater than those of Pakistan and India, meaning the U.S. has a

29. *Review on Pakistan's Exports 1996-97*. Karachi: Export Promotion Bureau, p. 9.

30. *Agricultural Statistics of Pakistan 1994-95*.

31. *Review on Pakistan's Exports*, p. 9.

32. "The Biopiracy Factsheet on Basmati Rice." *Dossier*. p.2.

33. Information received from Export Promotion Bureau, Islamabad.

34. "The Biopiracy Factsheet on Basmati Rice." *Dossier*. P.2.

35. Export Promotion Bureau.

36. "The Biopiracy Factsheet on Basmati Rice." *Dossier*. p.2

37. Export Promotion Bureau.

38. Rao, Radhakrishna. "Basmati: Whose rice is it anyway?" *Free Press Journal*. Bombay. March 4, 1998.

39. "World Wheat, Rice and Corn Production, 1995." *The World Almanac and Book of Facts 1997*. Data provided by UN Food and Agriculture Organization. p. 163. The amount listed for India is an unofficial figure. However, based on data from the *FAO Production Yearbook 1993*, which lists 1993 Indian rice production as being 111,011,000 tons, this number is close enough to be a good estimate.

greater production surplus. In 1994, the U.S. exported 2.82 million metric tons of rice, compared to 0.98 million metric tons by Pakistan and 0.89 million metric tons by India.<sup>40</sup> Thus, a potential exists for the U.S. to displace Indian and Pakistani basmati exports, which could be tapped thanks to RiceTec's patent (as noted earlier, RiceTec has been attempting to make inroads into traditional basmati markets).<sup>41</sup>

A second and more serious threat is that, through its patent, RiceTec could acquire a monopoly on basmati seed supply to the sub-continent. It is a premier developer of commercial hybrid rice varieties in the United States.<sup>42</sup> A precedent exists, in as much as other foreign agri-business companies have brought hybrid seeds to Third World countries. For example, Monsanto has recently undertaken a joint venture with Grameen Bank in Bangladesh to distribute its hybrid seeds through loan packages to small farmers.<sup>43</sup> Hybridization is likely to harm small farmers more as they are less able to absorb the higher seed costs. In its extreme form (referred to as terminator technologies) such hybridization could harm genetic diversity and deplete farmlands of their intrinsic resources.

## Policy Prescriptions

The actual and potential threats posed by RiceTec are an outcome of inequitable institutional arrangements between the North and the South. This section of the paper outlines initiatives aimed at redressing this imbalance and, more specifically, challenging the basmati patent. Basically provisions in the global conventions/agreements that give the South potential leverage need to be strengthened through national legislation. Key elements of such legislation include a comprehensive patenting mechanism and systems to catalogue, regulate and monitor the South's genetic resources.

### **Global Conventions**

#### TRIPS

At present TRIPS provides limited options for the South. While it ostensibly establishes a common global standard on intellectual property rights, in reality its provisions accommodate the specific levels of industrialization and development that characterize developed countries. Consequently, the IPR regimes and standards created end up protecting northern corporate interests.

However, there are two articles in TRIPS, which offer potential leverage in challenging patents, like the one on basmati. One is Article 27 on patentable subject matter. Paragraph 3(b) of the article states that members may exclude from patentability "plants and animals other than microorganisms, and essentially biological processes for the production of plants and animals other than non-biological and microbiological processes". However, Members must protect plant varieties "either by patents or an effective *sui generis* system or by any combination thereof". So far, this option has not been utilized effectively by the South and, in the absence of legislation for plant protection, opportunities for biopiracy have been availed.

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40. "Wheat, Rice and Corn- Exports and Imports of 10 Leading Countries." *The World Almanac and Book of Facts 1997*. Data provided by UN Food and Agriculture Organization. p.163.

41. Information received from Dr. Shahid Zia, Sustainable Development Policy Institute, June 22, 1998.

42. "Dr. Henry M. Beachell: A Biographical Profile."(Internet)  
<http://www.netins.net/showcase/wfp/beachellbio.html>.

43. "Grameen Turns Mean?" RAFI News Release, July 7, 1998. Received through email.

Similarly, Article 22 on "geographical indications" protects the rights of owners of a product associated with a particular area. RiceTec contends that 'basmati' is not a geographical indication, but a generic name, such as "durum wheat". Therefore, it does not come under the TRIPS Agreement at all.<sup>44</sup> Though a strong case can be made by India and Pakistan -- vis a vis -- Article 22, that basmati is a geographical indication, they have been unable to push this through. Consequently, Article 24 of TRIPS has come into effect, which states that "there shall be no obligation under this Agreement to protect geographical indications which are not, or cease to be protected in their country of origin..."<sup>45</sup> This highlights the urgent need for legislation protecting geographical indications in both countries, since the lack of it leaves open a legal loophole favoring RiceTec -- one which it has exploited to its full potential.

## CBD

The CBD is more impartial as it provides the South greater opportunities for conserving its biological diversity, as well as sharing more equally in the benefits from its genetic resources. However, it remains open-ended with respect to how its provisions should be interpreted, leaving it up to individual parties to decide. The outcomes are a function of national legislation, interpretation of the provisions, and implementation and enforcement of the agreement. Since national legislation with specific CBD objectives in mind has not been enacted in Third World countries, their ability and effectiveness in invoking the terms of the CBD to their advantage is weakened.

Articles 8 and 15 of the CBD are of note. They center on the theme of the sovereign rights of states over their natural resources, as introduced in Article 3. Article 8(j) is particularly important for the basmati issue because it recognizes the rights of indigenous farming communities in India and Pakistan and their traditional knowledge and practices. It states,

"Subject to its national legislation, [contracting parties shall] respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity, and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;"

This article enunciates three rights. First, it acknowledges farmers' traditional rights over their biological resources. Second, it stipulates that wider application of farmers' knowledge, innovations and practices is subject to their approval and involvement. Third, it calls for the equitable sharing of ensuing benefits. All three rights, if appropriately embodied in national legislation, can provide ownership and protection of local resources. The challenge, however, is to develop such legislation.

Article 15 of the CBD, regarding access to genetic resources, is also important for providing a framework for regulating access to genetic resources and their use by foreign organizations and corporations. Paragraph 1 recognizes "the sovereign rights of States over their natural resources [and gives] the authority to determine access to genetic resources [to] national governments...subject to national legislation". Though this reaffirms state authority, it does not give them property rights over these resources. The issue of ownership is left to be determined by national law, which should keep in mind the

44. "Basmati Case Highlights Geographical Aspects of TRIPS." *BRIDGES Weekly Trade News Digest*. Vol. 2, No. 7, March 2, 1998.

45. Article 24(9), TRIPS Agreement.

ownership rights of local communities as well.<sup>46</sup> This is another area that needs to be addressed when creating an institutional framework in Third World countries.

Paragraph 4 of Article 15 deals with the terms of access to genetic resources between two parties. It emphasizes that access shall be on “mutually agreed terms”, meaning that there will be negotiations between the provider of genetic resources, be it an individual or a community, and the potential user. This is again substance for national legislation. Enlightened legislation can ensure a coincidence between the interests of the state and that of communities. Thus access agreements between two parties can be implemented by a national focal point (a government agency or private non-profit organization), which ensures that community interests are not jeopardized. The legislation would also distinguish between genetic resources that are owned by the state versus those owned by the communities.<sup>47</sup>

Paragraph 7 of Article 15 relates to the sharing of benefits arising from research and development and the commercial utilization of genetic resources. It states:

“Each contracting party shall take legislative, administrative or policy measures...with the aim of sharing in a fair and equitable way [and on mutually agreed terms] the results of research and development and the benefits arising from the commercial and other utilization of genetic resources, with the Contracting Party providing such resources”. (Article 15(7)).

While supportive of the South, this condition is again subject to such terms being enforced, implemented and monitored. It is difficult for communities in the South to stay abreast of the activities of northern corporations and to predict the exact future benefits that may come about from their use of Southern resources. It is even more difficult to make sure that these corporations will share their profits with the indigenous communities. As before, this illustrates the need for workable institutional mechanisms at the national or regional levels.

### **National Legislation**

The urgent need for and scope for national legislation is clearly defined above within the context of the two major global conventions governing biodiversity. The conventions also establish parameters and time frames for such legislation. Thus, India and Pakistan have yet to comply with the TRIPS provision for creating IPR regimes, and they have till 2000 to implement it. This is a task of vital importance and needs to be accomplished soon if the South is to protect its genetic resources from patenting by foreign corporations. Creating an IPR regime would include establishing more comprehensive patent laws; incorporating geographical indications into patent legislation and creating a *sui generis* system to protect plant varieties.

According to a Draft Paper put together by the Third World Network on the options available for developing countries to strengthen their IPRs, highlights several areas that are subject for national legislation.

First, the contribution of local and indigenous communities to innovation and inventions should be officially recognized and incorporated into patent legislation.<sup>48</sup> Second, the law should define the

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46. Glowka et al. A Guide to the Convention on Biological Diversity, Switzerland and U.K., IUCN: 1994, P.76

47. Ibid, p.80.

48. “Options for Implementing the TRIPS Agreement in Developing Countries.” *Draft Report of an Expert Group on TRIPS and Developing Countries convened by the Third World Network*. Published by Third World Network, Malaysia. 1997. P.4.



invention to exclude certain areas from patentability in order to protect the biological diversity of the country. Living materials and new uses of a known product or process can be excluded – as we indicated above. But plant varieties must be protected, as per TRIPS, through a sui generis system or patents.<sup>49</sup> In this regard, it would be more in the interests of the South to establish the former.<sup>50</sup> As per the standards for patentability outlined in Article 27(1), legislation can define more specifically the term “new” or “novel”, to make sure that patents are given only to inventions that are really new and “do not form part of the state of the art”. This can be accomplished by defining “state of the art” to include knowledge made available to the public in other countries or within a local or indigenous community.<sup>51</sup> Lastly, applications for patents can require that applicants inform the country of origin of any biological materials covered by the patent and to demonstrate that they acquired them by complying with the terms of access.<sup>52</sup> This would ensure compliance with the CBD as well.

### ***Regional Cooperation and the Role of NGOs***

Strengthening regional cooperation among the developing countries in the South is another vehicle for giving the South greater leverage in relation to the North. This is a promising alternative, especially as national governments in countries such as Pakistan and India have been notably lax in taking advantage of the favorable clauses of TRIPS and the CBD to enact protective legislation. Distracted by growing political and economic problems, they have been unable to focus on the long-term view and plan for the sustainable conservation and use of their biological resources.<sup>53</sup> In particular, representation in international fora has been minimal. Bonding together as a bloc offers scope for more leverage with the WTO, and in offsetting weaknesses at the national level.

The key actors in pushing the regional agenda – especially in view of the inability of national governments to take the lead -- are networks of NGOs and other professional private sector organizations. With respect to RiceTec’s patent, this would entail advocacy at both the national and international levels, and capacity building efforts in conjunction with national governments.

### ***Advocacy***

Possible options for advocacy at the national level include lobbying and raising awareness in the government to take action against RiceTec’s patent. This is vital since the governments themselves are too weak to mount any substantial campaign to challenge the patent.

At the international level, lobbying is needed to highlight the inequities in the U.S. patent system and to raise the issue of biopiracy in various fora to increase awareness, especially among Western audiences. Collaboration with civil society members from other developing countries, as well as coalition building with NGOs from the Western world, such as the Rural Advancement Foundation International (RAFI), is also important. Another issue is lobbying to open up the WTO to non-state actors from civil society to voice their opinions and criticisms. This is aimed at enabling the South to counter the dominant influence of the North in the WTO and to allow it to exercise greater informal leverage through such coalitions.<sup>54</sup>

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49. Ibid. p.6-7.

50. Ibid. p.9.

51. Ibid. p.11.

52. Ibid. p.14.

53. Personal conversation with Mushtaq Gadi, Program Coordinator, SUNGI. July 13, 1998.

54. Ibid.

## Capacity Building

Capacity building includes working with various ministries in the government to raise awareness of biopiracy issues and to provide them with policy suggestions to strengthen the institutional framework for the protection of the country's genetic resources. The Pakistan National Committee, comprising NGO members, scientists and ministry officials, which is working on plant protection in general as well as the basmati case, in particular, are an example of such an approach. A specific issue that needs to be addressed is preparation for the 1999 review of the TRIPS Agreement. This should involve cooperation with other developing countries in the South to evolve a strategy to make TRIPS more effective in preventing biopiracy and addressing the interests of the South.<sup>55</sup>

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