Basmati Biopiracy

Research Foundation for Science, Technology and Ecology

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INTRODUCTION

Rice forms an integral part of the life of most Indians. It has been the principal crop in several regions of India for thousands of years. India is the world's **second largest** producer of rice after China. Rice is cultivated in over **forty-two million** hectares of land in India. Over **90 percent** of total world production of rice is in Asia of which **21 percent** is grown in India.

Apart from being the staple food of most Indians, rice in India has been closely associated with religious ceremonies and festivals since time immemorial. Each traditional variety has its own religious or cultural significance. The different varieties of rice, the use of different rice preparations in rituals, and the medicinal and therapeutic properties of rice have all been documented in various ancient Indian texts and scriptures.

India possesses a tremendous **diversity** in rice varieties, reflecting the culmination of centuries of informal breeding and evolution by farmers of this country. The varietal diversity of rice in India can be considered to be the richest in the world, with the total number of varieties estimated to be around 200,000 (Krishan and Ghosal :3: 1995).

BASMATI AND BIODIVERSITY

Basmati (Oryza sativa) is one of the most superior varieties of rice grown in the world. Indigenous to North India and Pakistan, this rice variety is distinct for its unique aroma and flavour, hence the Sanskrit name "Basmati" which means "**ingrained aroma**" or "**queen of aroma.**"

Basmati has been grown for centuries in the subcontinent as is evident from references in ancient texts, folklore and poetry. One of the earliest references to Basmati according to the CSS Haryana Agricultural University, Hissar, is made in the famous epic of *Heer Ranjha*, written by the poet Varis Shah in 1766. This naturally perfumed variety of rice has always been treasured and possessively guarded by nobles since time immemorial, and eagerly coveted by foreigners .

Years of research on Basmati strains by Indian and Pakistani farmers, has resulted in a diverse range of Basmati varieties. The superior qualities of this rice must be recognised as predominantly the contributions of farmers' informal breeding and innovation. There are **twenty-seven** distinct documented varieties of Basmati grown in India.

WELL KNOWN INDIGENOUS VARIETIES OF BASMATI GROWN IN INDIA

State of Origin	Name of rice Strain	District/ Location
Uttar Pradesh	Basmati Dehra Dun	Garhwal
	Basmati Safed	Garhwal
	Lal Basmati	Garhwal
	Basmati Basar (red)	Garhwal
	Mota Basmati (scented)	Garhwal
	Baunya Basmati	Garhwal
	Deshi Basmati	Garhwal
	Hansraj Basmati	Garhwal
	Basmati Basar (white)	Garhwal
	Basmati D-52-26-19	Garhwal
	Pusa Basmati	Ramgarh
	Basmati T3	
	Saharanpur Sela Basmati	
	Basmati Pilibit(N-10-B)	
Punjab	Basmati average	Punjab
	Basmati (P.2-33-14)	
	Basmati (P.40-40-17)	
	Basmati 217	
	Basmati superior	
	Basmati 3	
	Sela Basmati 370	
	Basmati T.34	
	Basmati T.23	
Himachal Pradesh	Basmati (K.33-39-5)	Kulu Valley
	Basmati	
	Basmati	
Haryana	Kamal Basmati	

BASMATI AND THE INDIAN ECONOMY

India grows 650,000 tonnes of Basmati annually. Basmati covers 10 - 15 percent of the total land area under rice cultivation in India.

Non-Basmati and Basmati rice is exported to more than eighty countries across the world. Non-Basmati rice exports in 1996-97 were 1.9 million tonnes and amounted to Rs. 18 billion ($ 450 million), while Basmati exports were 488,700 tonnes and fetched the exchequer Rs. 11.2 billion ($280 million). Annual Basmati exports are between 400,000 to 500,000 tonnes. Basmati rice has been one of the fastest growing export items from India in recent years. The main importers of Indian Basmati are the Middle East (65% of Basmati exports), Europe (20%) and USA (10-15%).

At $850 a tonne, Indian Basmati is the **most expensive rice** being imported by the European Union (EU) compared to $700 a tonne for Pakistani Basmati and $500 a tonne for Thai fragrant rice. Indian Basmati exports to the EU in 1996-97 amounted to nearly 100,000 tonnes.

Asians and Indians in Europe and the USA are the main consumers of Indian Basmati rice.

RICETEC INC. AND THE PATENT ON BASMATI RICE

RiceTec is a Transnational Corporation chaired by Prince Hans-Adam II, the ruler of Liechtenstein. Its American subsidiary, RiceTec Inc. employs one hundred people and has an annual turnover of US $ 10 million.

On September 2, 1997, the Texas based RiceTec Inc. was granted patent number **5663484** on Basmati **rice lines and grains**. RiceTec got patent rights on Basmati rice and grains while already trading in its brand names such as Kasmati, Texmati and Jasmati.

This patent will allow RiceTec Inc. to sell a "new" variety of Basmati which it claims to have developed under the name of Basmati, in the US and abroad.

The following abstract from **Patent No. 5663484**, issued by the US Patent and Trademark Office (USPTO) demonstrates what a broad patent it is.

> *" 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 and 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 novel rice grains produced for novel rice lines. The invention provides a method for breeding these novel rice lines. "

Patent Number. 5663484 not only defines the scope of the patent, but also includes 19 distinct and separate claims within this one patent.

The Basmati variety for which RiceTec has claimed a patent has been derived from Indian Basmati crossed with semi-dwarf varieties including *indica* varieties. The patent is thus for a variety that is essentially *derived* from a **farmers' variety**. Therefore it cannot be treated as novel. It falsely claims a **derivation** as an invention.

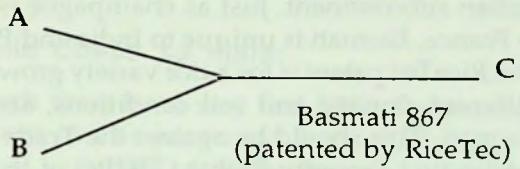
The RiceTec's claim states that:

"Although the invention is described in detail with reference to specific embodiments thereof, it will be understood that variations which are ***"functionally equivalent"*** *are within the scope of this invention. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description and accompanying drawings. Such modifications are extended to fall within the scope of the appended claims."*

PROBLEMS WITH THE RICETEC PATENT ON BASMATI RICE

1. Though the patent is for a particular variety of Basmati rice, the clause **"functional equivalents"** in the claim has widespread implications and could be used against all traditional varieties of Basmati (A and B in the diagram). This could severely harm Indian Basmati growers.

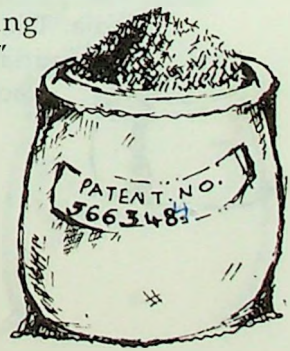
   traditional Basmati (farmers' variety)

   semi-dwarf variety

2. A patent can only be issued if it meets the three criteria of **novelty, non-obviousness and utility.** Novelty implies that the innovation must be new. It must not be part of **"prior art"** or existing knowledge. Non-obviousness implies that someone familiar in the art should not be able to achieve the same step. The development of the 'new' variety (Basmati 867) by RiceTec has been derived from Indian Basmati through conventional breeding techniques. The claims of "novelty" and "invention" are therefore totally false.

3. Indian law **forbids** the patenting of any **life forms** unlike US law.



4. The gene bank of the International Rice Research Institute (IRRI) is maintained by the CGIAR (Consultative Group on International Agricultural Research), which now has an agreement with the FAO (Food and Agriculture Organisation) of the UN. None of the varieties held in this gene bank can be patented. Since RiceTec used the Indian Basmati strain from this bank, its product cannot be patented under the terms of the agreement of which both the US and India are members.

5. The name "Basmati" is not a generic one as RiceTec claims, but is distinctive of the rice grown in the Indian subcontinent. Just as champagne is unique to France, Basmati is **unique** to India and Pakistan. The RiceTec patent is for a rice variety grown under different climatic and soil conditions, and called Basmati. This should be against the Trade Related Intellectual Property Rights (**TRIPs**) of the World Trade Organisation (WTO), which is supposed to protect geographic appellations.

The patent is thus a serious threat to our culture, science and heritage, and needs to be revoked.

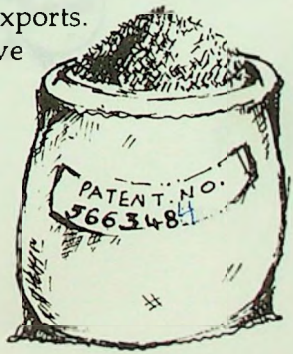
Legal Implications :

If Indian patent laws were in conjunction with US patent laws, then patents like RiceTec would be applicable in India. This is precisely what the TRIPs dispute initiated by the US in the WTO aims at achieving by 1999.

- If the US pressure forces India to implement US style patent laws, RiceTec would have the sole right to use the term 'Basmati' for marketing the rice anywhere in the world.
- US case law is already establishing that once a patent law is granted for a genetic trait (in this case aroma), all occurrences of that trait will be an infringement, irrespective of how they came to exist (Shiva Vandana: 1998). This could lead to the absurd situation in which RiceTec could claim that Indian farmers growing Basmati were "infringing" on the RiceTec patent.

Economic Costs to India:

- Though there is no way that Indian exporters and growers can be prevented from conducting their normal activities of trade, the patent will **affect exports** of Basmati rice to the US by allowing the marketing of a "pseudo Basmati" as Basmati. About 45,000 tonnes of Basmati are exported annually to the US. The loss of these exports will have an adverse effect on Indian exporters.
- Exports to the Middle East and the EU might also suffer as RiceTec could capture these markets with its *fake* Basmati. These are non-competitive trade barriers that would harm Indian exports. "In the long run, India will have severe problems in positioning its exports", says Mr. Gurnam Arora, President, All India Rice Exporters Association (AIREA).



Threat to Farmers:

- The patent is a **direct appropriation** of traditional knowledge of Indian farmers. It reduces years of informal research, breeding and innovation to a patented product patent.
- If the patent claim is interpreted to apply to all functional varieties of Basmati which were used to develop the patented variety (Basmati 867), Indian and Pakistani farmers could be forced to pay royalties to RiceTec Inc. for the use of their **own** seeds and strains.
- The livelihood of 250,000 farmers growing Basmati in India and Pakistan could be jeopardised by the new barriers this patent would establish.
- The patent on Basmati 867 is an outright violation of farmers' ethics, which respect agriculture and all life, and condemn its patenting in any form.

BIOPIRACY

What is biopiracy ?

The appropriation of indigenous knowledge by obtaining patents on biodiversity resources in the developing world is known as biopiracy. Years of indigenous research and development, are reduced to a mere product. The patenting of Basmati by RiceTec Inc. is a classic example of biopiracy, and is part of the norm rather than an exception. The main reason for developing this Basmati Campaign Kit is because biopiracy is taking the dimension of an epidemic all over the world.

Why it needs to be stopped :

According to Dr. Vandana Shiva, biopiracy results in the following:

1. It creates a **false claim to novelty** and invention, even though the knowledge has evolved from ancient times as part of the cultural and intellectual heritage of the developing world.
2. It divests biological resources (germplasm) to the **monopoly control** of corporations, thus depriving local communities from the benefits of its use.
3. It creates **market monopolies** and excludes the original innovators (farmers) from their rightful access to local, national and global markets.

The Basmati patent, a clear case of biopiracy, represents a *theft* in three ways:

1. It is a theft of **collective intellectual and biodiversity heritage** of Indian farmers who had evolved and bred the Basmati varieties.
2. It is a theft from **Indian traders and exporters** whose markets are being stolen by the theft of Indian aromatic rice varieties. It is a theft of the name "Basmati" which describes the aromatic characteristics of the rice.
3. It involves a **deception of consumers** since RiceTec Inc. is using the stolen name "Basmati" for rice derived from Indian rice but not grown in India and therefore not of the same quality.

Countries like the US vindicate developing nations of pirating information from them, however, the UNDP estimates that biological resources worth approximately **US$ 5.4 billion are stolen by the rich industrialised** countries from Third World nations every year. The US alone accounts for nearly 60 percent of this 'loot.'

The issue of biopiracy is a very serious one. In order to rectify the problem, a number of efforts have to be made at both the **international** and **national** levels. Strong **legislation** coupled with a commitment towards **equity** are the prerequisites for any solution to be feasible in reality.

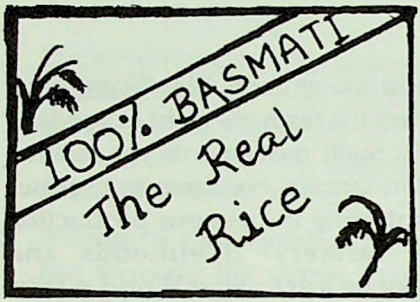
WHAT YOU CAN DO / HOW YOU CAN HELP

CONSUMER ACTION:

- Support Third World movements like 'Navdanya' which strive to protect the farmer's right to produce and conserve seeds. Such movements are needed to ensure that Indian farmers continue to produce Basmati rice. By protecting indigenous production of Basmati rice, farmers' livelihoods and contributions will not be lost to First World piracy.
- Urge consumers, non resident Asians and Indians to consume only Indian and Pakistani Basmati rice.
- Boycott *fake* American Basmati
- Launch a campaign to inform people of the superior qualities of Indian Basmati rice. Advertise it as the **"real thing."**
- **Label** Indian Basmati as **"patent-free "**, similar to the way in which tuna from the US was labelled "dolphin safe tuna" to discriminate it from Mexican tuna, and sugar was earlier labelled "slave free."
- Use media - television, student radio, newspapers to reach out to people and generate awareness about the piracy of Basmati and its implications on Indian farmers and the Indian economy.

- Design stickers, labels and posters for cars, supermarkets and stores.

Some samples which could be used



- Write letters to the **Indian government** expressing your support on the move to revoke the Basmati patent. Urge them to resist WTO pressure to change patent laws.

Minister Ministry of Agriculture Krishi Bhavan Dr. Rajandra Prasad Road New Delhi - 110 001 INDIA

- Write letters to the **USDA** (US Department of Agriculture) and **USPTO** (US Patent and Trademark Office), condemning biopiracy in general, and the patenting of Basmati in particular. Urge them to enforce legislation that promotes equity between the North and South, and to take measures to stop the practice of biopiracy. The US should be pressurised to amend its patent laws while recognising the needs and problems of developing nations, instead of taking advantage of them.

Contacts:

USDA	USPTO
Dan Glickman Secretary, Agriculture 200-A Whitten Building, Washington DC 20250. USA. E-mail: agsec@usda.gov	The USPTO Box 4 Commissioner of Patents and Trademarks, Washington DC 20231. USA

ADVOCACY ACTION AT THE NATIONAL LEVEL

1) Establish "sui generis" systems

Article 27(3) of the TRIPs states that, "*parties shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof.*" "**Sui generis**" means self generated. National governments should develop systems to suit their own cultural and intellectual needs. In countries like India, 80% of the seeds still used are farmers' varieties. Hence such *sui generis* legislation should recognise the collective rights of farmers, and should therefore be an alternative to the western, industrial style Intellectual Property Right (IPR) regimes. Legislation should be passed which sets up mechanisms to enforce these ideals and ensure that indigenous knowledge holders are not victimised.

2) Farmers' Rights Law

Farmers' Rights are the only means to assert our national sovereign rights to our indigenous innovation. This indigenous innovation is based on collective, cumulative processes, and hence on **collective intellectual rights**. Since the only way to prevent biopiracy of our agricultural biodiversity is by preventing the patenting of varieties derived from them, we need to develop a strong legal system of Farmers' Rights for protection of farmers' varieties.

3) National Biodiversity Act

The Indian government should develop and enforce a National Biodiversity Act which builds on the principles of sovereignty and protection of indigenous knowledge as stressed by the Convention on Biological Diversity (CBD). The principle of sovereignty should be based on co-ownership of biodiversity by local communities, and the nation as a whole. The State should hold biodiversity in public trust for the people of India but not interfere in their daily lives , nor police them in their utilisation of biodiversity for survival. The drafts of the Act must be revised to prevent free access of bioprospectors whose primary motive is profit.

Once this legislation comes into place, India can take foreign companies to court under the CBD, which confers biodiversity ownership rights to national governments.

4) National Patent Laws

There is an impending need to strengthen Indian patent laws, which do not have any provisions to combat biopiracy. All life forms should be exempt from patenting. India should not yield to US pressure to change laws according to their demands. We must be assertive and develop systems, which safeguard our ethical and cultural values. Articles 27.2 and 27.3 of the TRIPs that specify exclusions to patenting of life forms should be stressed while formulating strong domestic legislation.

5) Non co-operation : *Seed Satyagraha*

The motto of the *Swadeshi Satyagraha* launched by Gandhiji during the freedom struggle was 'non co-operation with the British.' In case none of the above legal alternatives to prevent biopiracy work, the *Seed Satyagraha*, should be launched, which proclaims: 'non co-operation with IPR regimes and Transnational Corporations aimed at plundering Third World biodiversity.'

ADVOCACY ACTION AT THE INTERNATIONAL LEVEL

1) TRIPs and Intellectual Property Right (IPR) Regimes of the WTO

The problem of biopiracy is not merely national, but has international origins too. The loopholes in international agreements, and their distinct bias towards the developed nations, facilitate the marginalisation of the Third World.

The TRIPs of the WTO are aimed at facilitating **free trade**, regardless of its costs to humanity. Under the garb of promoting free trade, developed countries get away with a number of atrocities against the developing nations. Such free trade treaties thus significantly discriminate against poor countries. The TRIPs regime calls for a system of **uniform patent laws** by 1999, discounting the differences in ethics and value systems of Third World nations, where life is sacred and exempt from patenting.

The TRIPs agreement has provisions for "**effective sui generis systems**" as an alternative to patents. Since these systems are not defined, developing nations should be free to interpret them as indigenous methods of protection of plant variety.

A uniform IPR regime, which the WTO would like to establish, would exclude the freedom of farmers to freely exchange and grow seeds. The WTO needs to be amended in order to eliminate the prejudice against holders of indigenous knowledge.

2) The Convention on Biological Diversity (CBD)

The CBD is an international treaty which aims at protecting biodiversity, recognising sovereignty of nations, and promoting equity. It came into force in 1992 at the Earth Summit at Rio. It is legally binding on all signatories. Measures should be taken by all contracting parties to uphold the principles embodied in this treaty. The CBD should supersede all trade treaties with the goal of protecting human health and the environment. The true purpose of the CBD needs to be recognised. National diversity laws of some countries have, under pressure from the developed world, become mere access laws, which promote their access to biodiversity of the Third World. The CBD was developed to protect the biodiversity in the Third World, and should be used effectively to counter appropriation of biological resources.

3) FAO International Undertaking on Plant Genetic Resources (March 1987)

This undertaking is an initiative of the FAO to safeguard plant varieties and the rights of farmers. It defines **Farmers' Rights** as "rights arising from the past, present and future contributions of farmers in conserving, improving and making available Plant Genetic Resources, particularly those in the centres of origin and diversity."

Attempts should be made to uphold the principles of this undertaking and to establish legal mechanisms to safeguard the rights of farmers.

4) US Patent Act

There are certain distortions in the US law which facilitate the patenting process for companies. One such distortion is the interpretation of '**prior art.**' It permits patents to be filed on discoveries in the US, despite the fact that identical ones may already be existing and in use, in other parts of the world. **Section 102** of the US Patent law does not state a general definition of 'prior art' but a very narrow rule bound method to be used by low level patent examiners to determine which materials will defeat a patent application by violation of the novelty and non-obviousness criteria.

Prior foreign knowledge, use, and invention are all excluded from the 'prior art' related to US patent applications. Unless Section 102 of the US patent law is amended, new examples of biopiracy will continue to occur.

CONCLUSION

Basmati is just one example of the increasing number of biopiracy cases in India. As responsible citizens, it is our duty to act, speak up and initiate change. We must strive to prevent further **human rights violations** of this nature. It is time to wake up and take action, or else the ***silent majority*** will soon be reduced to the ***silenced majority***.

References:

- RFSTE, *Dossier on Patenting of Basmati by RiceTec Inc.*, 1998.
- Krishnan Omkar, Ghosal Anjali, *Rice*, Navdanya, 1995.
- Shiva Vandana, *Biopiracy*, 1997.

"The Basmati patent once again makes clear that the US patent system facilitates biopiracy and the WTO protects this biopiracy."

Dr. Vandana Shiva, Director, RFSTE.

"The tussle is not just between Basmati and Rice Tec Inc. It is between globalisation and national sovereignty. And it is a much bigger issue than we think, and basically a political rather than economic issue."

Jai Dubashi
Economist

"We really do not know how many of our fully developed hybrids and quality seeds are being utilised now by other countries."

Dr. Mangala Rai, Deputy Director-General, Indian Council of Agricultural Research (ICAR).

"If both product and process patents are introduced in agriculture; it will mean a scientific apartheid for the Third World."

Dr. Ismail Serageldin, Chairman, CGIAR.