



भारत सरकार  
Government of India

भौगोलिक उपदर्शन पत्रिका

**GEOGRAPHICAL INDICATIONS JOURNAL**



बौद्धिक सम्पदा  
भारत  
**INTELLECTUAL  
PROPERTY INDIA**

भौगोलिक उपदर्शन पंजीकृति,  
बौद्धिक सम्पदा अधिकार भवन,  
जी.एस.टी. रोड, गिण्डी,  
चेन्नै - ६०० ०३२.

**Geographical Indications Registry,  
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G.S.T. Road, Guindy, Chennai - 600 032.**



**GOVERNMENT OF INDIA  
GEOGRAPHICAL INDICATIONS  
JOURNAL NO. 104**

**MARCH 28, 2018 / CHAITRA 07, SAKA 1940**

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## OFFICIAL NOTICES

**Sub:** Notice is given under Rule 41(1) of Geographical Indications of Goods (Registration & Protection) Rules, 2002.

1. As per the requirement of Rule 41(1) it is informed that the issue of Journal 104 of the Geographical Indications Journal dated 28<sup>th</sup> March, 2018 / Chaitra 07, Saka 1940 has been made available to the public from 28<sup>th</sup> March, 2018.

## NEW G.I APPLICATION DETAILS

App.No.	Geographical Indications	Class	Goods
566	Wooden Mask of Kushmani	20	Handi Crafts
567	Madurkathi	20,27	Handi Crafts
568	Darjeeling White	30	Agricultural
569	Darjeeling Green	30	Agricultural
570	Otho Dongo	19	Manufactured
571	Jaipuri Razai	24	Textiles
572	Komal Chaul of Assam	30	Agricultural
573	Lucknow Bone Carving	20	Handi Crafts
574	Thaikkal Rattan Furniture	20	Handi Crafts
575	Kalpetta Bamboo Craft	20	Handi Crafts
576	Kannur Baby Wraps	24	Textiles
577	Grana Padano	29	Manufactured
578	Lucknow Chikan Craft (Logo)	24	Handi Crafts
579	Krishnagar Sarpuria	30	Food Stuff
580	Krishnagar Sarbhaja	30	Food Stuff
581	Punjab Seed Potato	31	Agricultural
582	Tawlhlohpuan	24 & 25	Textiles
583	Mizo Puanchei	24 & 25	Textiles
584	Silao Khaja	30	Food Stuff
585	Pethapur Printing Blocks	16	Handicraft
586	Pawndum	24, 25	Textiles
587	Ngotekherh	24, 25	Textiles
588	Hmaram	24, 25	Textiles
589	Hand Knotted Carpet (Dann) of Uttarakhand	27	Handicraft

590	Tamenglong Orange	31	Agricultural
591	Siroi Lily	31	Agricultural
592	Sirarakhong Chili	30	Agricultural
593	Gulbarga Tur Dal	31	Agricultural
594	Phulam Gamusa	24	Textiles
595	Tapil	31	Agricultural
596	Oyik	31	Agricultural
597	Rahre	31	Agricultural
598	Surti Locho	30	Food Stuff
599	Puttapaka Telia Rumal	24	Textiles
600	Leteku	31	Agricultural
601	Manipur Black Cherry	31	Agricultural
602	Manipur Black Rice (Chakhao)	30	Agricultural
603	Assam Elephant Apple	31	Agricultural
604	Coorg Arabica	30	Agricultural
605	Wayand Robusta	30	Agricultural
606	Chikmagalur Arabica	30	Agricultural
607	Araku Valley Arabica	30	Agricultural
608	Bababudangiri Arabica	30	Agricultural
609	Assam Lemon	31	Agricultural
610	Kandhamal Haldi	30	Agricultural
611	Jeeraphool	30	Agricultural
612	Odisha Rasagola	29 & 30	Food Stuff
613	Marayoor Jaggery	30	Agricultural

**PUBLIC NOTICE**

No.GIR/CG/JNL/2010

Dated 26<sup>th</sup> February, 2010

**WHEREAS** Rule 38(2) of Geographical Indications of Goods (Registration and Protection) Rules, 2002 provides as follows:

**“The Registrar may after notification in the Journal put the published Geographical Indications Journal on the internet, website or any other electronic media.”**

**Now therefore**, with effect from 1<sup>st</sup> April, 2010, The Geographical Indications Journal will be Published and hosted in the IPO official website [www.ipindia.nic.in](http://www.ipindia.nic.in) free of charge. Accordingly, sale of Hard Copy and CD-ROM of GI Journal will be discontinued with effect from 1<sup>st</sup> April, 2010.

**Registrar of Geographical Indications**

Advertised under Rule 41 (1) of Geographical Indications of Goods (Registration & Protection) Rules, 2002 in the Geographical Indications Journal 104 dated 28<sup>th</sup> March, 2018

**G.I. APPLICATION NUMBER – 378**

Application Date: 08-02-2012

Application is made by Gramin Vikas Trust, Shiv Villa, Ramkrishna Nagar, Jhabua - 457661 Madhya Pradesh, India for the registration in Part - A of the register of **Jhabua Kadaknath Black Chicken Meat** under Application No. 378 in respect of Poultry Meat falling in Class 29 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) **Name of the Applicant** : Gramin Vikas Trust
- B) **Address** : Gramin Vikas Trust,  
(Established & Supported by KRIBHCO-  
Government of India) Shiv Villa, Ramkrishna  
Nagar, Jhabua - 457661 Madhya Pradesh, India

**Facilitated by:**

Department of Animal Husbandry Government of  
Madhya Pradesh, Bhopal

- C) **Types of Goods** : **Class 29 - Poultry Meat**

**D) Specification:**

The **Kadaknath** is an Indian breed of chicken (It is also spelt as 'Karaknath'). It is also locally known as **Kali masi** in local language because the bird is black inside –out – skin, feathers, legs, meat, blood, etc. Most of the internal organs of these birds exhibit intense black colouration which is due to the deposition of melanin pigment in the connective tissue of organs and in the dermis. The black flesh of Kadaknath is very delicious and very popular among the native tribal people. The native poultry breed of Madhya Pradesh, Kadaknath is well suited to extreme climatic conditions. It tolerates extreme heat and cold climatic conditions and requires minimal costs for maintenance. The meat is considered a delicacy and the birds have good demand in the market. Though comparatively expensive the meat and eggs are rich source of protein. The commonly available varieties of Kadaknath are **jet-black pencilled** and **Golden**, which are found in Jhabua. The bird is very popular among the Adiwasis mainly due to its special capabilities such as adaptability to local environmental, disease resistance, meat quality, texture and flavour.

Nutritional Quality of '**Jhabua Kadaknath Kalamasi Black Chicken Meat**' (Analysis done by National Research Centre on Meat (NRC) Chingicherla, Hyderabad, A unit under Indian Council of Agriculture (ICAR))



1. **Proximate Composition:-**

Composition	Quantity (%)
Moisture	71.5 – 73.5
Protein	21 - 24
Fat	1.94 – 2.6
Ash	1.1 – 1.4

2. **Fatty Acid Profile**

Composition	Quantity (mg/100g)
Myristic Acid (14:0)	40 – 70
Palmitic Acid (16:0)	800 – 1100
Stearic Acid ( 18:0)	210 – 370
<b>Total Saturated Fatty Acids</b>	<b>1050 – 1540</b>
Palmitoleic Acid (16 :1)	220 – 370
Oleic Acid ( 18:1)	1200 – 1770
Eicosenoic Acid ( 20 :1)	20 – 30
<b>Total Monosaturated fatty acids</b>	<b>1440 – 2170</b>
Linoleic Acid (18:2)	400 – 600
Gamma Linoleic Acid (18:3)	20 – 40
Arachidonic Acid (20:4)	20 – 40
Docosahexaenoic Acid	30 – 50
Total Poly unsaturated fatty acids	480 - 730

3. **Cholesterol Content 59 – 60 mg / 100 g**

E) **Name of the Geographical Indication:**

**JHABUA KADAKNATH BLACK CHICKEN MEAT**



F) **Description of the Goods:**

The eggs of the 'Kadaknath' breed are light brown. The day-old chicks are bluish to black with irregular dark stripes over the back. The adult plumage varies from silver and gold spangled to bluish-black without any spangling. The skin, beak, shanks, toes and soles of feet are slate like in colour. The comb, wattles and tongue are purple. Most of the internal organs show intense black colouration is also seen in the skeletal muscles, tendons, nerves, meanings, brain etc. The blood is darker than normal blood. The black pigment has been

due to deposition of melanin, a genetic condition called "Fibromelanosis". The flesh, although repulsive to look at, is delicious. A medium layer lays about 80 eggs per year. The bird is resistant to disease in its natural habitat in free range but the 'Kadakhnath' breed is more susceptible to Marek's disease under intensive rearing conditions. Standard weight (kg): Cock 1.5; hen 1.0.

The Kadakhnath is popular mainly for its adaptability, and the well-tasting black meat, which is believed to infuse vigor. The tribal value the breed for its cultural as well as its health values and also consider it sacred.

The bird is high in iron and amino acids and low in fat & cholesterol. The breed is disease resistant and is valued for the quality and flavour of its black meat. Kadakhnath chicken contains many kinds of amino acids (18 kinds of amino acids including the 8 essential amino acids for human body), Vitamins B1, B2, B6, B12, C and E, niacin, protein, fat, calcium, phosphorus, iron, nicotinic acid, etc.

**Characteristics of Kadakhnath Poultry Breed:**

- Black colour meat
- Blue-black plumage
- Black-hued internal organs
- Body weight at 20 weeks: 920 gm
- Body weight of adult cockerel: 1.5–2 kg
- Body weight of adult hen: 1–1.5 kg
- Sexual maturity at: 180 days
- Average annual egg production: 105
- Egg weight at 40 weeks: 49 gm
- Annual egg production (number) 105
- Fertility (%) 55
- Hatchability FES (%) 52

**G) Geographical area of Production and Map as shown in page no: 14**

Jhabua, Dhar & Barwani districts of Madhya Pradesh and the adjoining districts of Rajasthan and Gujarat spreading over an area of about 800sq. miles is considered to be its home tract.

- i. **Primary Centre of origin:** - Called as '*Jhabua District*' of Madhya Pradesh. 22° 45' N Latitude and 74° 38' E Longitude.
- ii. **Secondary Centres of origin:-**

Dhar (Madhya Pradesh)	22° 35' N	75° 20' E
Barwani (Madhya Pradesh)	22° 03' N	74° 57' E

- iii. **Climate:** The climate is hot and the temperature varies between 10° c to 43° c. The area gets an annual rainfall of 500 to 1,000 mm. The *Kadakhnath chicken variety* has been reared by tribals over a long period of time and its unique breed characteristics have been established through many generations of selection and fixation of genes. It

tolerates extreme climatic conditions of summer heat and cold winter stress and thrives very well under minimal management inputs like poor housing, no health care or supplementary feeding while exhibiting appreciable degree of resistance to diseases compared to other exotic breeds of fowl.

#### H) Proof of Origin (Historical records):

‘Kadaknath Chicken’ is a popular variety of bird with unique quality, based upon the climatic characteristics unique to the Jhabua district of Madhya Pradesh. The following table shows the various evidences for proof of origin for ‘Kadaknath black meat chicken’

Historical Record	Remarks
Reviving the Indigenous Poultry Breed- <i>Kadaknath</i> (Good Practice Code: INGP04)	In 1982, the Animal Husbandry Department of Madhya Pradesh established a breeding farm and hatchery in Jhabua district, with the objective of conserving and propagating Kadaknath in and around the district.
Estimation of genetic heterogeneity of chicken germplasm being used for development of rural varieties utilizing DNA markers. Rudra n. Chatterjee*, matam niranjan, ramashraya p. Sharma, meenakshi dange And tarun k. Bhattacharya <i>Project Directorate on Poultry, Rajendranagar, Hyderabad 500 030, India; Journal: Indian Academy of Sciences</i>	The home tract of Kadaknath is mainly in the Jhabua and Dhar districts of in western Madhya Pradesh and adjoining areas of Gujarat and Rajasthan. Most of the internal organs of these birds exhibit intense black coloration which is due to the deposition of melanin pigment in the connective tissue of organs and in the dermis. The black flesh of Kadaknath is very delicious and popular among tribal people (Sharma and Chatterjee 2006).
Reviving the Indigenous Poultry Breed - <i>Kadaknath: Enhancing Livelihoods of Tribals Through Niche Market Opportunities (Based on the experiences of MPRLP and BAIF) (2009)</i>	<i>Kadaknath</i> is a native breed of poultry inhabiting Jhabua and Dhar districts in Western parts of Madhya Pradesh. The Jhabua District's mean altitude ranges from 450 to 700 m above mean sea level.
Evaluation of egg quality traits in indigenous Kadaknath breed of poultry S N S Parmar, M S Thakur, S S Tomar and P V A Pillai <i>Department of Animal Breeding and Genetics, College of Veterinary Science and Animal Husbandry, JNKVV, Jabalpur (M. P.), India-482001 drmohansingh@gmail.com (18 (9) 2006)</i>	The Kadaknath indigenous breed of poultry is being reared by tribals living in Jhabua district of Madhya Pradesh (India). The birds require no extra care and housing which makes them suitable for backyard poultry farming.
Effect of Vitamin E on Production Performance and Egg Quality Traits in Indian Native Kadaknath Hen. A. Biswas*, J. Mohan and K. V. H. Sastry	Kadaknath (KN) is an important Indian reared poultry breed which is well known for poor egg production, slow growth rate, smaller body size as well as late sexual maturity. KN

Division of Physiology and Reproduction, Central Avian Research Institute, Izatnagar, Bareilly-243122, Uttar Pradesh, India(Asian-Aust. J. Anim. Sci.; Vol. 23, No. 3 : 396 – 400 March 2010)	breed is being reared by tribal living in Dhar and Jabua districts of Madhya Pradesh, India.
Unpacking a poultry myth	Similarly, efforts focused on the Kadaknath— another indigenous breed of chicken found largely in the Jhabua district of Madhya Pradesh – have paid off.

#### I) **Method of Production:**

##### **Production characteristics of Kadaknath birds:**

Kadaknath hens start laying eggs from 6 months onwards. Eggs are laid in two to three clutches in a year, with 25 to 30 eggs per clutch; thus, 80 to 90 eggs are produced annually. Hens of this breed show poor brooding ability and the eggs are, therefore, kept under *Desi* hens for hatching—a traditional practice followed by tribals in this area.

A bamboo basket is lined with crop residue of paddy/wheat or dried grass to provide a cushion for the eggs to be hatched. Eggs of both *Desi* and Kadaknath birds are placed on this cushion to be hatched by a broody *Desi* hen. This traditional technique is being encouraged by the PFT to propagate Kadaknath through natural means and ensure availability of Kadaknath chicks in the villages.

#### J) **Uniqueness:**

- The peculiarity of this breed is that most of the internal organs show the characteristic black pigmentation which is more pronounced in trachea, thoracic and abdominal air sacs, gonads, elastic arteries, at the base of the heart and mesentery.
- The shining blue tinge of the earlobes adds to its unique features.
- Kadaknath possesses a distinctive taste.

#### K) **Inspection Body:**

The inspection body of (Kadaknath Black Meat Chicken) proposed to consist of the following;

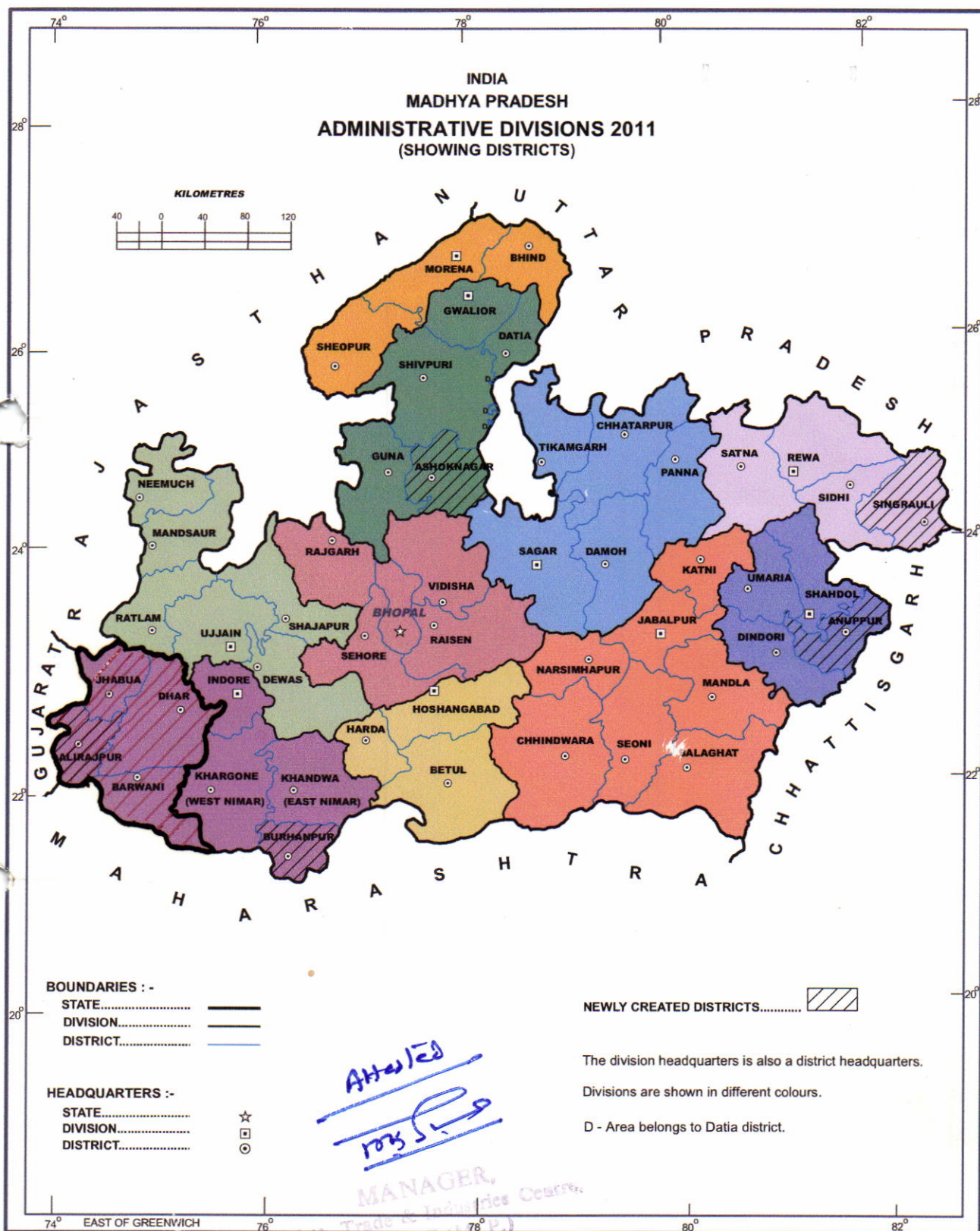
- a) Agencies like Commissioner of Agriculture, Govt. of M.P.
- b) Subject Matter Experts from Madhya Pradesh State from institutions like Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior.
- c) Subject Matter Experts from outside Madhya Pradesh State National Research Centre on Meat (NRC on meat) have consented to be part of the Inspection body (A letter of consent given by NRC on meat, Chingicherla, Hyderabad is attached)
- d) Representatives from Progressive Kadaknath breed chicken farmers from Jhabua region.

## L) Others:

The Kadaknath bird commands an elevated position since a year old Kadaknath bird fetches Rs 250 to 300 (as compared to Rs 150 for a *Desi* bird) and the eggs are sold at Rs 4 to 5 each, depending on the season and the location. The meat of a Kadaknath bird is softer than that of a *Desi* bird, a characteristic preferred by local consumers. Though the Indian Poultry Industry has grown by leaps and bounds over the last few decades, it is a sad fact that the well established tradition of back yard poultry farming which is a quintessential aspect of Indian farm practice has progressively declined over the years and is a matter of grave concern.

The tribal uses Kadaknath blood in the treatment of chronic disease in human beings and its meat is believed to be an aphrodisiac. Kadaknath possesses a distinctive taste and has special medicinal value for treating nervous disorders and in addition to it is claimed to be a well known aphrodisiac. Abundant clinical experience has indicated that Kadaknath chicken has a peculiar effectiveness in treating women's discuss, sterility, menoxenic (abnormal menstruation), habitual abortion, blood leucorrhoea, metorrhagia and sickness after giving birth to offspring and also aids in curing pulmonary problems - tuberculosis (TB), heart diseases, neurasthenia (a condition of nervous debility supposed to be dependent upon impairment in the functions of the spinal cord), and children's osteomalacia neurasthenia (a condition marked by softening of the bones). The eggs of Kadaknath chicken can be used effectively to treat headaches, headaches after giving birth, faintness, asthma and nephritis (acute or chronic inflammation of the kidney). The eggs are also an ideal nutritive, especially for old people and high blood pressure victims, since the cholesterol content is lower and free amino acids which are found to be higher than that of eggs of other kinds of birds.

Geographical area of production of "Jhabua Kadaknath Black Chicken Meat" showing demarcation of districts of Jhabua, Dhar, Barwani & Alirajpur



The state boundaries between Chhattisgarh and Madhya Pradesh have not been verified by the Government concerned.

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District	Latitude	Longitude
Jhabua (Madhya Pradesh)	22° 45' N	74° 38' E
Dhar (Madhya Pradesh)	22° 35' N	75° 20' E
Barwani (Madhya Pradesh)	22° 03' N	74° 57' E
Alirajpur (Madhya Pradesh)	22° 30' N	74° 35' E

**G.I. APPLICATION NUMBER – 558**

Application Date: 25-07-2016

Application is made by 1. Lotus Progressive Centre (LPC), Morowa, Nalbari - 781348, Assam, India; 2. Centre for Environment Education (CEE), CEE North East, KK Bhatta Road, Chenikuthi, Guwahati-781003, Assam, India for Registration in Part A of the Register of **Boka Chaul** under Application No. 558 in respect of Rice falling in Class – 30 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) Name of the Applicant** : 1. Lotus Progressive Centre (LPC)  
2. Centre for Environment Education (CEE)
- B) Address** : 1. Lotus Progressive Centre (LPC),  
Morowa, Nalbari - 781348, Assam, India  
2. Centre for Environment Education (CEE),  
CEE North East, KK Bhatta Road,  
Chenikuthi, Guwahati-781003, Assam
- C) Types of Goods** : **Class 30 – Rice**
- D) Specification:**

*Boka Chaul* is a native rice of the state of Assam, India, which is well-known for its unique property of preparation by just soaking it in water at room temperature. It is a group name attributed to the entity product with whole rice kernels processed through parboiling the rice grains of a special kind of winter rice called *Boka dhan*. The specification is as follows-

Sl.No.	PARAMETERS	DESCRIPTION
<b>1</b>	<b>General</b>	
1.01	Class of the variety	<i>Sali</i> rice (or, Winter rice) (Vernacular name – <i>Bokadhan</i> )
1.02	Varietal names (Local)	<i>Boka</i> <sup>1</sup> , <i>Banta Boka</i> <sup>2</sup> , <i>Bhokhoorie Boka</i> <sup>3</sup> , <i>Boka jahinga</i> <sup>4</sup> , <i>Jokhoroo boka</i> <sup>5</sup> , <i>Khamti boka</i> <sup>6</sup> , <i>Laobuka</i> <sup>7</sup> , <i>Para chakhua</i> <sup>8</sup> , <i>Ranga bokadhan</i> <sup>9</sup> , <i>Ronga boka</i> <sup>10</sup> , <i>Santi boka</i> <sup>11</sup> , <i>Booka</i> <sup>12</sup> , <i>Baga jhul</i> <sup>13</sup> and <i>Boga</i> <sup>14</sup>
1.03	Seed sowing time	3 <sup>rd</sup> to 4 <sup>th</sup> week of June
1.04	Seed Rate (Amount of seed per <i>bigha</i> of cultivable land)	5-6 kg per <i>bigha</i> <i>Hint: 1 Bigha is equal to 14400 Sq ft</i>
1.05	Type of land selected for the cultivation	Medium to Low land
1.06	Type of soil suitable for cultivation	Loamy to heavy soil
1.07	Numbers of ploughing / Tillage required	5-6 times
1.08	Use of chemical or organic manure for seedbed preparation	• Negligible amount of organic manure or well decomposed cow-dung (normally used by the farmers).

1.09	Age of seedling for transplanting	<ul style="list-style-type: none"> <li>• Normal planting : 30-35 days</li> <li>• Late planting : 40-45 days</li> </ul>
1.10	Transplanting time	<ul style="list-style-type: none"> <li>• Normal planting : 2<sup>nd</sup> to 4<sup>th</sup> week of July</li> <li>• Late planting : Up to 1<sup>st</sup> week of August</li> </ul>
1.11	Number of seedlings/ hill	<ul style="list-style-type: none"> <li>• Normal planting : 2-3 nos. / hill</li> <li>• Late planting : 4-5 nos./ hill</li> </ul>
1.12	Spacing	<ul style="list-style-type: none"> <li>❖ Normal planting : 25 x 20 cm</li> <li>❖ Late planting : 20 x 20 cm</li> </ul>
1.13	Days to maturity (Crop duration)	130-140 Days
1.14	Days to 50% flowering	100-110 days
1.15	Harvesting Periods	November to December
1.16	Harvesting Methods	Mature paddy is harvested manually with the help of sickle. The panicle containing plant is cut at the length about 1.5 feet and then it is tied in a bundle. Then bundles are carried to the farmer's house and kept in house premise till threshing.
1.17	Storage	After harvesting, paddy is threshed with bullock or power tiller. Grains are then sundried for 2-3 hours. Farmers use a special kind of container called Topa (A type traditional seed storage tool made from paddy straw and bamboo) to store grains. Farmers also use earthen jar, Bamboo basket (Duli), jute sac for storage.
1.18	Use of Pesticide and Insecticide	This is a native variety of paddy. The paddy has the natural resistance to commonly prevalent pest and diseases. Hence no pesticide and insecticides are applied by farmers. In some instances, farmers use traditional pest control methods like erecting decomposed frogs, fish against gundhi bugs, erecting bamboo parce for increasing bird activities etc.
1.19	Chemical Fertilizer application	Farmers' practice : Nil
1.20	Interculture operation	<ul style="list-style-type: none"> <li>➤ Weeding: 1 or 2 at vegetative stage</li> <li>➤ Irrigation : 1-2 nos. if drought spell occurs at booting and/or flowering stages</li> <li>➤ Drainage : Discourage local inundation and helps to let out excess water</li> </ul>
1.21	Yielding ability	Field management conditions: <ul style="list-style-type: none"> <li>• Poor : 7-8md/bigha (2.1-2.4t/ha approx.)</li> <li>• Average : 10-12md/bigha (3.0-3.6t/ha approx.)</li> <li>• Well : 14-15md/bigha (4.2-4.5t/ha approx.)</li> </ul>



		<i>Hint: 1 mound (md) = 40 kg</i>
1.22	Plant height at maturity	146.2cm (Range: 135-155 cm )
1.23	Ear bearing tillers/plant	- Average : 12-16 nos. - Well :30-40 nos.
1.24	Factors affecting on poor yield of the paddy	<ul style="list-style-type: none"> <li>• Drought</li> <li>• Lodging</li> </ul>
<b>2</b>	<b>Leaf</b>	
2.01	Leaf length	43.4cm (Range: 36-55 cm)
2.02	Flag Leaf angle	26.5 <sup>0</sup> (Range: 23-35 <sup>0</sup> )
2.03	Leaf width	1.31 cm (Range: 1.1 – 1.4 cm)
<b>3</b>	<b>Seed</b>	
3.01	Panicle length	28.43 cm (Range: 22.5-31.5 cm)
3.02	Colour & Grade	Brown colour , Fine
3.03	Nos. of grains/panicle	195 (Range: 139 – 248)
3.04	Grain length ( L)	8.5mm (Range: 8.2 – 9.0mm)
3.05	Grain wide ( B)	2.5mm (Range: 2.4 –2.6mm)
3.06	L/B Ratio	3.40 (Range: 3.36 –3.53)
3.07	Shape of the grain	Medium Slender
3.08	1000 Grain weight	24-26 g
3.09	Method of preservation of grain and seed	
<b>4</b>	<b>Draught/Flood/ Storm tolerance</b>	Draught: Tolerance level Mild to Medium. <i>Boka dhan</i> has the ability to withstand the erratic behaviour of rainfall, ranging from scanty to minimum, during the active vegetative phase.
<b>5</b>	<b>Pest and disease reaction</b>	Negligible. Usual infestation to Stem borer and Gundhi-bug/Rice-bug is minimal.
<b>6</b>	<b>Kernel</b>	
6.01	Kernel length	6.5mm
6.02	Kernel width	2.2mm
6.03	Aroma	Nil
6.04	Intensity of aroma	NA
6.05	Colour of the kernel	Yellowish white
<b>7</b>	<b>Water absorption capacity of soaked <i>Bokachaul</i> ready for consumption</b>	73.55 % (As per analysis of Biotechnology Department, Guwahati University. Report enclosed)
<b>8</b>	<b>Chemical Content</b>	<i>Data obtained for the content of each parameter referred to g/100g of sample analysed</i>
8.1	Moisture	5.88% (Range: 5.50-5.98%)
8.2	Ash	0.98% (Range: 0.95-1.01%)
8.3	Protein	6.83% (Range: 5.50-8.50%)
8.4	Crude Fat	1.2% (Range: 1.1-1.3%)
8.5	Starch	59.0% (Range: 58.0-60.0%)
8.6	Amylose	13.3% (Range: 9.0-14.0%)
8.7	Amylopectin	57.2% (Range: 45.0-58.0%)
<b>9</b>	<b>Fibre Content of Boka Chaul</b>	10.01

The varieties of *Boka dhan* and their special features:-

**1. Boka —**

Robinson, Descript. Acc. Assam, Calcutta, 1841, p. 89. Named as a race of hali or transplanted winter rice, sown in May and June, transplanted and reaped from November to January.

Hunter, Statist. Acc. Assam, ii, 1879, p. 54. A race of rice in Goalpara which is eaten uncooked, being only steeped in water till it becomes soft.

Hooper in Agric. Ledger, No. 5, of 1908-09, pp. 72 and 73. Named as a race of rice in Assam which does not require boiling, but only to be steeped in hot water.

Beng. Econ. Museum, Regrs. C and E, Nos. 5426 and 11409, 1876. A race of aman rice in Hooghly and Mangaldai, Assam.

All above references were documented in –

Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. Edited by The Reporter on Economic Products to the Government of India. Published by Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. Printed by Gian Offset Printers, Daya Basti, Delhi-110035, India. P-88. Being Vol. XVI, P-694.

**2. Banta Boka —**

Hopkinson in Journ. Agric.-Hort. Soc. India, N. S., ii, pt. i, 1870, p. 94-. A race of *shalee* or *amon* rice of the *lahee* or finer variety in Assam, grown on low lands, and transplanted. Grain white and large. Outturn, value and cost of cultivation given.

Above reference was documented in

Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. Edited by The Reporter on Economic Products to the Government of India. Published by Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. Printed by Gian Offset Printers, Daya Basti, Delhi-110035, India. P-51. Being Vol. XVI, P-657.

**3. Bhokhoorie Boka—**

Beng. Econ. Museum, Regr. E, No. 12931, 1873. A race of rice in Kamrup.

Above reference was documented in

Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. Edited by The Reporter on Economic Products to the Government of India. Published by Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. Printed by Gian Offset Printers, Daya Basti, Delhi-110035, India. P-79. Being Vol. XVI, P-685.

**4. Boka jahinga—**

Hunter, Statist. Acc. Assam, i, 1879, p. 252. A race of *Iahi* rice in Sibsagar, sown on low lands during the rainy season and grows well in water up to two feet deep.

Above reference was documented in

Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. Edited by The Reporter on Economic Products to the Government of India. Published by Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. Printed by Gian Offset Printers, Daya Basti, Delhi-110035, India. P-88. Being Vol. XVI, P-694.

**5. Jokhoroo boka —**

Beng. Econ. Museum, Regr. E., No. 12906, 1878. A race of rice in Kamrup.

Above reference was documented in

Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. Edited by The Reporter on Economic Products to the Government of India. Published by Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. Printed by Gian Offset Printers, Daya Basti,

Delhi-110035, India. P-235. Being Vol. XVI, P-841.
<p><b>6. <i>Khamti boka</i> —</b>  Beng. Econ. Museum, Regr. E, No. 12917, 1878. A race of rice in Kamrup.  Above reference was documented in  Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. <i>Edited by</i> The Reporter on Economic Products to the Government of India. <i>Published by</i> Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. <i>Printed by</i> Gian Offset Printers, Daya Basti, Delhi-110035, India. P-802. Being Vol. XVI, P-908.</p>
<p><b>7. <i>Laobuka</i> —</b>  Beng. Econ. Museum, List A, No. 844, 1875. A race of rice in Goalpara.  Above reference was documented in  Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. <i>Edited by</i> The Reporter on Economic Products to the Government of India. <i>Published by</i> Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. <i>Printed by</i> Gian Offset Printers, Daya Basti, Delhi-110035, India. P-842. Being Vol. XVI, P-948.</p>
<p><b>8. <i>Para chakhua</i> —</b>  Hunter, Statist. Ace. Assam, ii, 1879, p. 54. A race of <i>haimantik</i> rice in Goalpara, sown from May to July, transplanted from July to September and reaped from November to January. It is also called <i>boka dhan</i>, a variety of rice which is eaten uncooked, being only steeped in water until it becomes soft.  Above reference was documented in  Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. <i>Edited by</i> The Reporter on Economic Products to the Government of India. <i>Published by</i> Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. <i>Printed by</i> Gian Offset Printers, Daya Basti, Delhi-110035, India. P-436. Being Vol. XVI, P-1042.</p>
<p><b>9. <i>Ranga bokadhan</i> —</b>  Rep. Cal. Intern. Exh., ii, 1888-84, p. 679. Name only as of a sample obtained from Kamrup.  Above reference was documented in  Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. <i>Edited by</i> The Reporter on Economic Products to the Government of India. <i>Published by</i> Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. <i>Printed by</i> Gian Offset Printers, Daya Basti, Delhi-110035, India. P-474. Being Vol. XVI, P-1080.</p>
<p><b>10. <i>Ronga boka</i> —</b>  Hopkinson in Journ. Agri-Hort. Soc. India, N. S., ii, pt. i, 1870, p. 94. A race of <i>lahee</i> rice in Assam, with a large, white grain. Rep- Cal. Intern. Exh., ii, 1883-84, p. 579. Name only as of a sample obtained from Kamrup.  Above reference was documented in  Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. <i>Edited by</i> The Reporter on Economic Products to the Government of India. <i>Published by</i> Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. <i>Printed by</i> Gian Offset Printers, Daya Basti, Delhi-110035, India. P-483. Being Vol. XVI, P-1089.</p>
<p><b>11. <i>Santi boka</i> —</b>  Hunter, Statist. Acc. Assam, ii, 1879, p. 54. A race of <i>haimanti</i> rice in Goalpara, sown from May to July, transplanted from July to September, and reaped from November to January.</p>

Above reference was documented in Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. *Edited by* The Reporter on Economic Products to the Government of India. *Published by* Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. *Printed by* Gian Offset Printers, Daya Basti, Delhi-110035, India. P-502. Being Vol. XVI, P-1108.

**12. *Booka* —**

Beng. Econ. Museum, Regr. E, No. 13061, 1878. A race of rice in Mangaldai, Assam. Above reference was documented in Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. *Edited by* The Reporter on Economic Products to the Government of India. *Published by* Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. *Printed by* Gian Offset Printers, Daya Basti, Delhi-110035, India. P-90. Being Vol. XVI, P-696.

**13. *Baga jhul* —**

Hunter, Statist. Acc. Bengal, x, 1876, p. 881. A race of *amon* rice in Cooch Behar. Eaten uncooked, and only requires to be steeped in cold water for a short time to soften it. Beng. Econ. Museum, Regr. D, No. 9918, 1877. A race of rice in Dinajpur. Above reference was documented in Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. *Edited by* The Reporter on Economic Products to the Government of India. *Published by* Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. *Printed by* Gian Offset Printers, Daya Basti, Delhi-110035, India. P-29. Being Vol. XVI, P-635.

**14. *Boga*—**

Hunter, Statist. Ace. Bengal, x, 1876, p. 381. A race of winter rice in Cooch Behar, eaten uncooked and only requires to be steeped in cold water for a short time to soften it. Above reference was documented in Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. *Edited by* The Reporter on Economic Products to the Government of India. *Published by* Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. *Printed by* Gian Offset Printers, Daya Basti, Delhi-110035, India. P-87. Being Vol. XVI, P-693.

**Bokadhan:** The potential uses of these rice varieties: Need not be cooked and can be eaten after soaking them in water for 45 min at room temperature or for 15 min in lukewarm water’.

[http://www.currentscience.ac.in/Downloads/article\\_id\\_098\\_01\\_0015\\_0015\\_0.pdf](http://www.currentscience.ac.in/Downloads/article_id_098_01_0015_0015_0.pdf)

Other common forms akin to *Boka dhan* were *Panta* group, *Jahinga* group and *Chakowa* group of rice. *Santi Boka* is one of the important representatives of the *Boka dhan* group, and thus it has been exemplified to establish the present claim for GI on *Boka* rice. *Boka dhan* has been represented in several classic forms of agricultural varieties with morpho-physiological differentiations. Agricultural records of erstwhile Assam (or Greater Assam in the pre independence era) have been documented in the Agricultural Ledger, 1910 with cross references dated back mostly to 1875 or so (1841-1888).

**E) Name of the Geographical Indication:**

**BOKA CHAUL**



**F) Description of the Goods:**

*Boka chaul* is and has been known for its 'Zero-cooking' identity. It does not require boiling in water or pressurised cooking at the time of preparation just like the other kinds of rice. It is mostly used in the preparation of traditional Assamese food items or cuisines called *Jalpaan* where *Boka chaul* is generally eaten with curd/milk and jaggery/sugar along with other ingredients. Traditionally in Assamese culture, at the eleventh hour of arrival of guests or during the need of savouring homemade light dishes at any undecided moments or at the time of guerrilla warfare in want of hurriedly consuming dishes during the bygone days of swords and arches or at the time of field work in agricultural lands at distant places, *Boka chaul* has ever been the first preference that can be easily prepared without requiring any fuel. As cold water i.e. water at ambient temperature, would suffice in soaking the kernels and making them ready for consumption, *Boka chaul* has a wide acceptability to be used anytime, anywhere. By virtue of this nature, *Boka chaul* has metaphorically assumed another nomenclature- 'Magic Rice'. Merely, before arrangement of any form of dine, a handful of kernels or any assumed quantity of *Boka Chaul* is simply kept immersed in cold water for about 15 to 30 minutes, depending upon the quality and characteristics of the variety. Sometimes, to speed things up, lukewarm water is used. After the stipulated time, the kernels swell approximately up to 2 times (cold water) or 2-3 times (lukewarm water) and become soft and fit to be eaten. This is a peculiar and exclusive property of the rice of this kind, which is seemingly absent in any similar class of rice widely and is widely recognized as 'Instant rice' or 'Soft rice' in the community.

The most popular and traditional dish of *Boka Chaul* is known as *Boka chaular Jalpan* (Jalpan of *Boka Chaul*) that is taken as breakfast or light refreshment and the method is as follows:

- Name of the Dish: *Boka Chaular Jalpan* (Snacks of Rice variety *Boka*)
- Ingredients required: *Boka Chaul* (Rice), curd or Milk, Jaggery or Sugar, or/with banana, Salt.
- Preparation of Dish: 100 g of *Boka Chaul* (good quality rice derived from well processed parboiled grain) soaked in 250ml of warm water (80-90 Degree Celcius) for 10-15 minutes or in normal water (room temperature water) for 30 minutes. The common practice is to soak in cool water also for 4-5 hrs. The excess water is decanted after soaking. The *Chaul* is served in a bowl with about 100ml curd or milk, 15-20 gm Jaggery or sugar, a pinch of salt. Sometimes additional item of ripen banana enriches the breakfast and make the breakfast tasty.

Another traditional dish “*Mukh Roshak*” is prepared by mixing the *Boka Chaul* with germinated moong seeds, chopped and fried carrot, some edible oils, chopped chillies, pinch of salts and admixed with little amount of juice from Assam lemon.

In the state of Assam, people traditionally regard Boka Chaul food as “stomach coolant food” and so during the summer, when the farmers work in the agricultural fields, such food is popular. Besides, as such food preparation is quick and healthy, it serves perfectly to the people working in the harsh, humid weather of Rain and Sun above and being in the mud and water. Besides, it is eaten by pregnant women due to its high nutritious value and energy content. Traditionally, it is used as light refreshment during marriage or other religious ceremony with curd and sugar. Boka chaul is eaten in the entire state of Assam. It is a special food item offered to celebrate function and perform religious ceremonies and rituals. Boka chaul is also eaten as breakfast cereal. Boka chaul is deeply ingrained in the socio-culture ethos of Assamese society. The present market price of Boka Dhan is about Rs. 20-25/- per kg in village markets, but may cost up to Rs. 30-40/- per kg in the urban markets especially during the festive time. Also, the present market price of milled Boka Chaul is Rs 50-60/Kg in village market and Rs 80-100/Kg in urban market.

**G) Geographical area of Production and Map as shown in page no: 28**

*Boka dhan* is cultivated in the regions in lower Assam. It is concentrated in areas like Nalbari, Barpeta, Baksa, undivided Kamrup, Goalpara, Dhubri, Kokrajhar, Darrang, etc. Thus, ‘*Boka Chaul*’ is mostly common in Lower Assam districts.

The Latitude and Longitude of the production area is as follows:-

Cultivating Areas	Latitude	Longitude
Nalbari:	26° 25'N	91° 26'E
Barpeta:	26° 19'N	91° 00'E
Dhubri:	26°02'N	89° 58'E
Goalpara:	26° 10'N	90° 37'E
Bongaingaon:	26°28'N	90° 34'E
Kokrajhar:	26°24'N	90° 16'E
Darrang:	26°.40'N	92°.00'E
Kamrup (Rural):	26°.31'N	92°.59'E
Kamrup (Metro):	26°07'N	91° 63'E
Baksa:	26°69'N	91° 59'E

**H) Proof of Origin (Historical records):**

*Boka chaul* literally means ‘soft rice’ in Assamese. The word- *Boka* means “mud” in Assamese and relates to mud being soft whereas *Chaul* means rice and hence soft rice. Its use in history is evident in the historical records. Several citation on *Boka chaul*, *Boka dhan* has been referred in many historical references and this includes the phonetically similar sounded word forms for *Boka* in present anglo-assamese literature that has been rightly pronounced as *Baka*, *Banka*, *Bukaor*, *Booka* is available in colloquial dialects of the ethnic tribes dwelling in the lower division of the Brahmaputra Valley. Inhabitants in the old or undivided districts like Kamrup and Goalpara usually spell the word as ‘*Bakachaul*’ (or with a nasal sound pronounced as ‘*Banka chaol*’, ‘*Buka chal*’ or ‘*Boga Jhul*’) instead of *Boka*. This can be referred as special identity of the entity.

Some of the historical references are as follows-

1. Superintendent Government Printing, Calcutta, India. 1911. Races of Rice In India. Agricultural Ledger, 1910, No. 1. *Edited by* The Reporter on Economic Products to the Government of India. *Published by* Agricole Publishing Academy, D-76, Panchsheel Enclave, New Delhi-110017. *Printed by* Gian Offset Printers, Daya Basti, Delhi-110035, India. P-436. Being Vol. XVI, P-1042.
2. “Ningni Bhaoriar Rahashya” authored by Jadav Chandra Das and the 1<sup>st</sup> edition of this book was published in the year 1949. In this 25<sup>th</sup> story of the book an incident that took place between Ningni Bhaoria and an English *Mem* (British Lady) has been described in page no 93-95. Enclosed in separate sheet.
3. Lakshminath Bezbaroa. 1970. Bezbaroa Granthavalee (Vol-II).
4. Satyendra Nath Sarma. 1989. A Socio-Economic and cultural history of medieval Assam (1200-1800 A.D.)
5. Jahnabi Gogoi (2002). Extent and Method of Cultivation in Agrarian System of Medieval Assam. Concept Publishing Company, New Delhi-110059. Pp 69-70.

*Boka Chaul* is a group name attributed to the entity product with whole rice kernels processed through parboiling the rice grains of a special kind of winter rice called *Boka dhan*. Cultivation practises highlighting the area and the production of this class of winter rice (*i.e.*, *Boka dhan*) is endemic to a specific agro-ecological zone (AEZ, Group V) called as the Lower Brahmaputra Valley Zone of Assam that includes of present districts like Dhubri, Kokrajhar , Chirang, Bongaigaon, Goalpara, Barpeta , Nalbari, Baksa ,Kamrup Rural ,Kamrup Metro, Darrang and Udalguri . Use and consumption of their end-products (*i.e.*, *Boka Chaul*) has so far been primarily confined to the same domain.

*Boka dhan* has been represented in several classic forms of agricultural varieties with morpho-physiological differentiations. Agricultural records of erstwhile Assam (or Greater Assam in the pre independence era) have been documented in the Agricultural Ledger, 1910 with cross references dated back mostly to 1875 or so (1841-1888). Some of the well documented *Boka dhan* varieties were: *Boka*<sup>1</sup>, *Banta Boka*<sup>2</sup>, *Bhokhoorie Boka*<sup>3</sup>, *Boka jahinga*<sup>4</sup>, *Jokhoroo Boka*<sup>5</sup>, *Khamti Boka*<sup>6</sup>, *Laobuka*<sup>7</sup>, *Para chakhua*<sup>8</sup>, *Ranga Bokadhan*<sup>9</sup>, *Ronga Boka*<sup>10</sup>, *Santi Boka*<sup>11</sup>, *Booka*<sup>12</sup>, *Baga jhul*<sup>13</sup> and *Boga*<sup>14</sup>.

Hunter (1879) delineated the *Boka dhan* of Assam, as a variety of rice which is eaten uncooked, being only steeped in water until it becomes soft. Later, according to an article published in Current Science, *Boka dhan* need not be cooked and can be eaten after soaking them in water for 45 min at room temperature or for 15 min in lukewarm water’. On the other hand, Hooper (1908-09) described this kind of soft rice as a race of rice in Assam which does not require boiling, but only to be steeped in hot water. There is common observation in both that *Boka dhan* essentially does not require fuel to prepare final dishes.

#### I) Method of Production:

The traditional processing method of *Boka Chaul* varies slightly from place to place. However, the basic steps are the same and bring about the same effect on the quality of *Boka Chaul*.

Basic step	Description
1. Soaking	<ul style="list-style-type: none"> <li>• Paddy (Dehusked form) is soaked in hot water overnight.</li> <li>• Paddy is soaked in water at room temperature for 2-4hr.</li> </ul>

	<ul style="list-style-type: none"> <li>• Paddy is brought to boil in water the in the previous night</li> <li>• Entire stock left overnight undisturbed in the same container.</li> <li>• Soaking is traditionally done in an iron vessel '<i>kerahi</i>'.</li> </ul>
2. Parboiling	<ul style="list-style-type: none"> <li>• Soaked paddy or paddy as such is brought to boil in water for 35-80 min till husk splits open slightly. For soaked paddy, boiling is done in the soak –water.</li> <li>• Boiling is done in the '<i>kerahi</i>' over wood fire traditionally.</li> </ul>
3. Draining and heaping paddy	<ul style="list-style-type: none"> <li>• Water is drained and the boiled paddy is heaped on a colander made form bamboo to drain off excess water for 30-60 min.</li> </ul>
4. Drying	<ul style="list-style-type: none"> <li>• The boiled paddy is spread thinly to cool and dry in the sun.</li> <li>• Turning over of paddy while sun drying is done. Complete drying is done compulsorily on the same day.</li> <li>• It takes between 5-6 hr to dry fully.</li> <li>• If drying is not done in a day, the quality deteriorates.</li> </ul>
5. Tempering	<ul style="list-style-type: none"> <li>• The sun dried paddy is tempered in shade for moisture equalization.</li> </ul>
6.Storage	<ul style="list-style-type: none"> <li>• After drying it can be stored up to 3-5 months. Farmers go for milling whenever required for their consumption</li> </ul>
7. Milling	<ul style="list-style-type: none"> <li>• The sun dried boiled paddy gives the <i>boka chaul</i>.</li> </ul>

#### Traditional Practices Adapted:

*Boka Chaul* derived from parboiled grain after milling can be used for preparation by soaking in the cold water or lukewarm water. It swells approximately up to 2 times after soaking in cold water, while it swells 2-3 times in lukewarm water.

The harvested grains are prepared parboiled. After boiling it is dried in the Sun for a day. If it is not dried in single day, it starts rotten and become unfit for milling So, it requires a thorough knowledge - for those who prepares parboiled rice- on a short span of weather condition (say 3-4 days of no rain), expecting a bright sunshine in Next-day. However, alternative drying procedure may be utilized as was detailed by Himjyoti Dutta and co-workers who had exclusive and series of research works on the subject. Hence farmers take utmost care while boiling. Farmers generally do not undertake boiling task in bad weather or rainy day. After drying it can be stored up to 3-5 months. Farmers go for milling whenever required for their consumption. Soaking in hot water shortens the cooking time as compared to soaking at room temperature. *Boka Chaul* is generally eaten with curd/milk and jaggery/sugar.

#### Know How:

- Milled *Boka Chaul* (good quality rice derived from well processed parboiled grain) soaked in 2 warm water (80°-90°C) for 10-15 minutes or in normal water (room temperature water) for 30 minutes. The common practice is to soak in cool water also for 4-5 hrs. Soaked rice is served with curd & sugar or banana or jaggery etc.
- Parboiled rices are dipped in cold water for 12-15 minutes for kernel swelling and sweet dishes are prepared mixing with ripe banana and molasses.
- Optional dishes are prepared and relish Salty that were admixed with some cooked vegetables and/or hot chillies.
- Other optional dishes were prepared with light frying of pre-soaked *Boka chaul* to prepare oily and salty food items for enjoying light moments in the evening.
- The property of many *Boka* rice group like *Bhari-dhowa Panta* a *Panta* sub-group, requires even less time, say 12-15 minutes of soaking in cold water.



- People opine that this food act as gastric refrigerant during the summer time requiring to attend agricultural field works healthy, through a harsh weather with the Rains and the Sun above and the mud and the water under.
- It is offered to pregnant women as nutritious items.
- Used as light refreshment during marriage or other religious ceremony with curd and sugar.

Good quality Beaten rice (*Sira*), Fired flour (*Sandah guri*) and Fried Corn (*Akhoi*) are prepared from it.

## J) Uniqueness:

*Boka chaul* in Assamese means soft rice which indicates the state of the rice at the time of eating. Even though its processing method is same as that followed for making parboiled rice eaten in the staple diet, *boka chaul* needs no cooking unlike parboiled rice. The uniqueness of *boka chaul* lies in the type of rice that is converted into *boka chaul*. The rice types used either have 10-20% amylose. Further, the complete drying of paddy in one day is essential to the optimum quality of the *boka chaul*.

The peculiarity of this rice is that it attains texture comparable to cooked rice on soaking in lukewarm water for a few minutes (Dutta and Mahanta, 2014). The property of many *Boka* rice group like *Bhari-dhowa Panta* a *Panta* sub-group, requires even less time, say 12-15 minutes of soaking in cold water.

As for this short-grain variant's unique softness, it is a result of its low content of amylose, a starch component that contributes to the hardness of food grains. Compared to the usual 20-25% in most of the regular rice varieties, it contains just 8-12 % amylose. This also makes *Boka chaul* easily digestible, which is why this fragrant and fluffy rice is light on the stomach. It also makes a versatile ingredient, as it doesn't have a distinctive flavour of its own and it takes on the flavour of other, stronger-flavoured additions to the dish.

The water absorption capacity and fibre content of *Boka Chaul* is much higher than other variety of parboiled rice.

The comparative result analysed by Biotechnology Department, Guwahati University is shown as follows:-

Sl	Parboiled Rice Variety	Water Absorption Capacity (%)	Fibre Content (%)
1	Boka Chaul	73.55%	10.01%
2	Tengre ( Indigenous rice variety )	47.78 %	2.14 %
3	Ranjit ( High yielding rice variety)	51.08 %	4.76%
4	Baishmuthi (High yielding rice variety)	50.14%	1.67%
5	Athaica (High yielding rice variety)	47.94 %	1.94%
6	Untrisa (High yielding rice variety)	49.94 %	0.24%
7	Sastik (Commercial brand)	47.49%	0.47%
8	Basmati (Premium Basmati rice)	53.17 %	0.92%
9	Arham (Commercial brand)	44.18 %	0.34 %
10	Bordhan (Indigenous rice variety )	47.10 %	0.22%

Dry heat parboiling is a unique paddy processing technique that has been scarcely exploited. Dry heat parboiling at high temperature for short time and low temperature for long time on physical and physicochemical properties of three rice varieties differing in

amylose content were studied. Hardness of the kernels increased from 66.4 N, 68.8 N and 59.8 N in raw samples to 89.1 N, 86.9 N and 59.8 N in parboiled high amylose, low amylose and waxy rice samples respectively. Rapid migration and evaporation of water from severely heated kernels caused cavity formation at the centre. Irreversible damage of amylopectin structures to leachable fractions caused continuous rise of the pasting curve. Crystallinity was thereby reduced. Parboiled high amylose samples gave X-ray diffraction patterns with peaks characteristic of A, B and V-type starch crystallinity. Crystalline starch-lipid complexes were observed in low amylose and waxy rices. The significant increase in the amount of rapidly digestible starch from 56.7%, 61.7% and 66.6% in raw samples to 92.1%, 90.8% and 94.8% respectively in severely processed rice samples and subsequent reduction in resistant starch from 24.5%, 21.2% and 18.4% to 0.4%, 1.9% and 0.1% indicated possibilities for targeted food use of the dry heat parboiled samples (Dutta et al., 2015).

#### Environment linkage - “Boka Chaul”

Boka dhan is predominantly grown in rain fed medium to low land Lower Brahmaputra Valley Zone agro-ecosystem. The alluvial soils are extensively distributed over this zone. These soils are very fertile as they formed from the alluvium deposits, deposited by the rivers Brahmaputra and its tributaries. The old alluvial soil occurs in some patches of Lower Brahmaputra Valley Zone. Generally the old alluvial soil is very deep, brownish to yellowish brown with texture of fine loams to coarse loams and is slightly to moderately acidic. The climate in the zone is humid subtropical characterized by a warm humid climate having hot summer. The average rainfall during the monsoon season (June-September) ranges from 1065 mm to 2498 mm followed by post-monsoon period (October-November) which receives an average rainfall from 11.1 mm to 250 mm. The soil temperature during Boka dhan growing areas ranges from 22<sup>o</sup> -27<sup>o</sup> C . Higher temperature during the cultivating season stimulate organic matter degradation and limits accumulation of intermediate metabolites. (N.Gogoi et.al).

Boka dhan used to cultivate in the undivided Goalpara district in Assam during the olden times i.e., prior to the British era was best described as a race of Haimanti rice (Haimanti, a Sanskrit word, meaning Autumn), which have been sown from May to July, transplanted from July to September, and reaped from November to January (Hunter, 1879). According to him, a special kind of Boka dhan called Boka Jahinga, used to sow on the low lands during the rainy season (May/June to August/September) and grows well in water up to two-feet (2') deep.

Robinson (1841) described Boka dhan as a race of Hali or transplanted winter rice, sown in May and June, transplanted and reaped from November to January. Hali means Sali which is a colloquial term used by the inhabitants of Upper Assam districts wherein Robinson was appointed by the British authority.

While, the Bengal Economic Museum has a well preserved document till date, which recorded in the year 1876, that Boka dhan is a race of Aman rice in Hooghly in the Bengal as well as in the greater areas in Mangaldai, Assam; which has indicated a link between the places for food item relished by the colonial people. Aman is a Bengali word meaning Sali in Assamese.

Hopkinson (1870) had described Boka dhan as a race of Shalee or Amon rice. He had further described that the boka dhan as Lahee or finer variety in Assam, grown on low lands, and transplanted. Grain white and large.

**K) Inspection Body:**

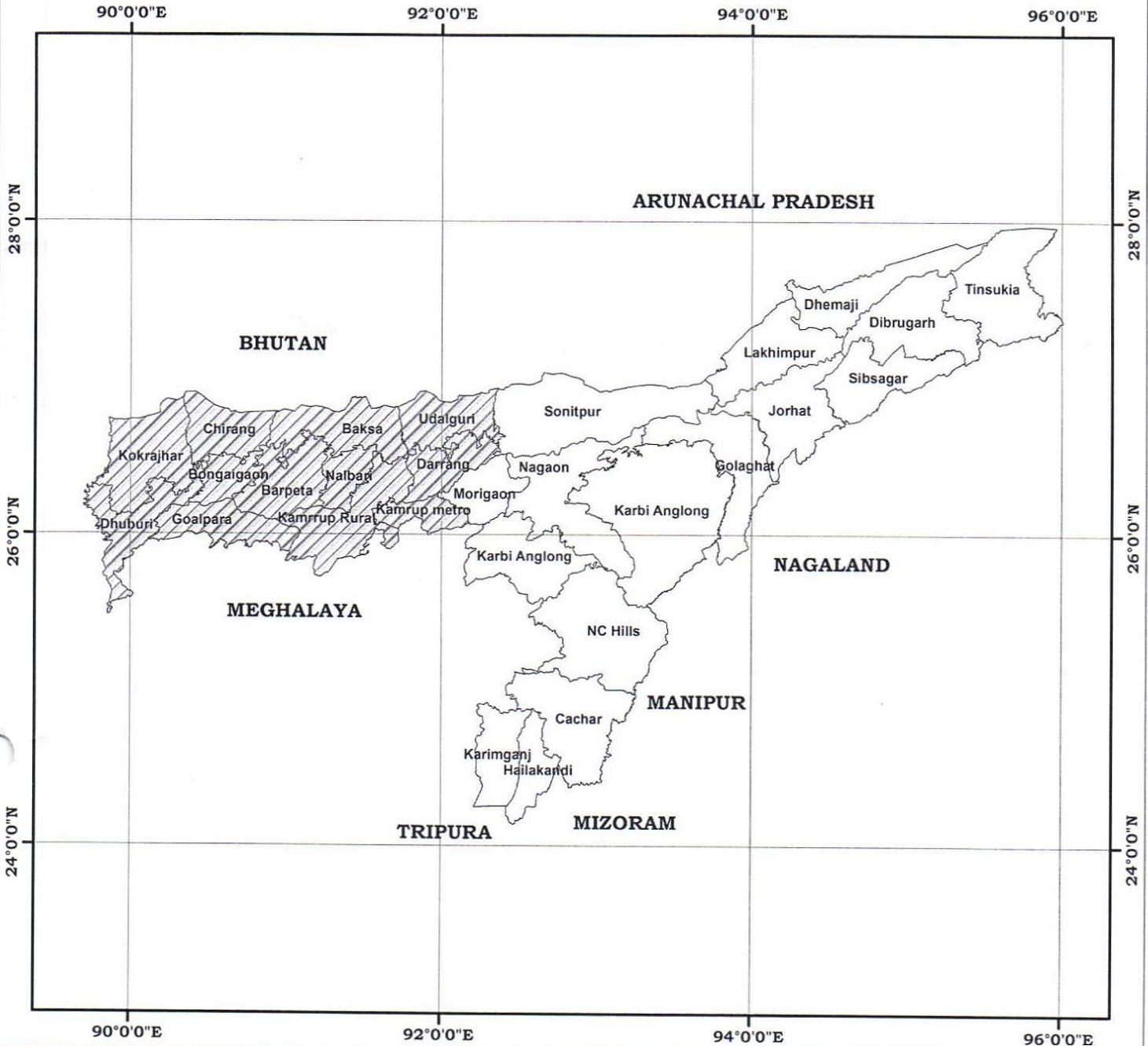
1. A Senior Scientist, Regional Agricultural Research Station, Shillongani, Nagaon.
2. Officer In Charge, Regional Lowland Rainfed Rice Research Station, Gerua, Kamrup
3. Member of Mugkuchi Farmers Club.
4. Patent Information Centre, ASTEC, Guwahati, Assam
5. Regional Co-ordinator, Centre for Environment Education (CEE)
6. Project Director, Lotus Progressive Centre

**L) Others:**

*Boka* chaul is nowadays also supplied to the defence services for consumption by the armed forces for its unique softening property without cooking. This has also provided livelihood to many people. *Boka* chaul is an eco-friendly product which has various medical values. People sometime use it as their face pack and sometime use it to gumming the fabrics.

# ASSAM STATE BOUNDARY MAP

0 25 50 100 150 200  
Kilometers



Prepared by Assam Remote Sensing Application Centre (ARSAC)  
**ASSAM SCIENCE TECHNOLOGY & ENVIRONMENT COUNCIL**  
 (Dept. of Science & Technology, Govt of Assam)  
 Bigyan Bhawan, G.S. Road, Guwahati- 781005  
 Assam, India

**Legend**  
 Assam Boundary  
 Boka Dhan Production area

*[Signature]*  
Head i/c

Assam Remote Sensing Application Centre  
(ASTE Council), Bigyan Bhawan  
G. S. Road, Guwahati

March 28, 2018

*[Handwritten signature]*  
28-3-18

## General Information

### What is a Geographical Indication?

- It is an indication,
- It is used to identify agricultural, natural, or manufactured goods originating in the said area,
- It originates from a definite territory in India,
- It should have a special quality or characteristics unique to the geographical indication.

### Examples of possible Geographical Indications in India:

Some of the examples of Geographical Indications in India include Basmati Rice, Darjeeling Tea, Kancheepuram silk saree, Alphonso Mango, Nagpur Orange, Kolhapuri Chappal, Bikaneri Bhujia etc.

### What are the benefits of registration of Geographical Indications?

- It confers legal protection to Geographical Indications in India,
- It prevents unauthorized use of a registered Geographical Indication by others.
- It boosts exports of Indian Geographical indications by providing legal Protection.
- It promotes economic Prosperity of Producers.
- It enables seeking legal protection in other WTO member countries.

### Who can apply for the registration of a Geographical Indication?

Any association of persons, producers, organization or authority established by or under the law can apply.

The applicant must represent the interest of the producers.

The application should be in writing in the prescribed form.

The application should be addressed to the Registrar of Geographical Indications along with prescribed fee.

### Who is the Registered Proprietor of a Geographical Indication?

Any association of persons, producers, organisation or authority established by or under the law can be a registered proprietor. Their name should be entered in the Register of Geographical Indications as registered proprietor for the Geographical Indication applied for.

### Who is an authorized user?

A producer of goods can apply for registration as an authorized user, with respect to a registered Geographical Indication. He should apply in writing in the prescribed form along with prescribed fee.

### Who is a producer in relation to a Geographical Indication?

A producer is a person dealing with three categories of goods

- Agricultural Goods including the production, processing, trading or dealing.
- Natural Goods including exploiting, trading or dealing.
- Handicrafts or industrial goods including making, manufacturing, trading or dealing.

### Is registration of a Geographical Indication compulsory?

While registration of Geographical indication is not compulsory, it offers better legal protection for action for infringement.

**What are the advantages of registering?**

- Registration affords better legal protection to facilitate an action for infringement.
- The registered proprietor and authorized users can initiate infringement actions.
- The authorized users can exercise right to use the Geographical indication.

**Who can use the registered Geographical Indication?**

Only an authorized user has the exclusive rights to use the Geographical indication in relation to goods in respect of which it is registered.

**How long is the registration of Geographical Indication valid? Can it be renewed?**

The registration of a Geographical Indication is for a period of ten years.

Yes, renewal is possible for further periods of 10 years each.

If a registered Geographical Indication is not renewed, it is liable to be removed from the register.

**When a Registered Geographical Indication is said to be infringed?**

- When unauthorized use indicates or suggests that such goods originate in a geographical area other than the true place of origin of such goods in a manner which misleads the public as to their geographical origins.
- When use of Geographical Indication results in unfair competition including passing off in respect of registered Geographical indication.
- When the use of another Geographical Indication results in a false representation to the public that goods originate in a territory in respect of which a Geographical Indication relates.

**Who can initiate an infringement action?**

The registered proprietor or authorized users of a registered Geographical indication can initiate an infringement action.

**Can a registered Geographical Indication be assigned, transmitted etc?**

No, A Geographical Indication is a public property belonging to the producers of the concerned goods. It shall not be the subject matter of assignment, transmission, licensing, pledge, mortgage or such other agreement. However, when an authorized user dies, his right devolves on his successor in title.

**Can a registered Geographical Indication or authorized user be removed from the register?**

Yes, The Appellate Board or the Registrar of Geographical Indication has the power to remove the Geographical Indication or authorized user from the register. The aggrieved person can file an appeal within three months from the date of communication of the order.

**How a Geographical Indication differs from a trade mark?**

A trade mark is a sign which is used in the course of trade and it distinguishes goods or services of one enterprise from those of other enterprises. Whereas a Geographical Indication is used to identify goods having special characteristics originating from a definite geographical territory.

## THE REGISTRATION PROCESS

In December 1999, Parliament passed the Geographical Indications of Goods (Registration and Protection) Act 1999. This Act seeks to provide for the registration and protection of Geographical Indications relating to goods in India. This Act is administered by the Controller General of Patents, Designs and Trade Marks, who is the Registrar of Geographical Indications. The Geographical Indications Registry is located at Chennai.

The Registrar of Geographical Indication is divided into two parts. Part 'A' consists of particulars relating to registered Geographical indications and Part 'B' consists of particulars of the registered authorized users.

The registration process is similar to both for registration of geographical indication and an authorized user which is illustrated below:

