सत्यमेव जयते

ANNUAL REPORT
2010–11

PROTECTION OF PLANT VARIETIES & FARMERS' RIGHTS AUTHORITY
(Department of Agriculture & Cooperation)
Ministry of Agriculture, Government of India
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Foreword

I have immense pleasure in presenting the Annual Report 2010-11 of the Protection of Plant Varieties and Farmers' Rights Authority (PPV & FRA), New Delhi.

India is a pioneer country in the world that effectively enacted a *sui generis* plant variety protection and farmers' rights system in 2001. Plant breeders in public and private sector in India have developed several new plant varieties that have increased productivity and farm income considerably. The Act provides legal protection for plant varieties of economic importance.

Since its notification in November 2005, the Authority has established systems and processes for protection of plant varieties, plant variety registry, National Gene Bank, National Register of Plant Varieties, field gene banks, databases, DUS testing centres, publication of the Plant Varieties Journal of India etc.

The Authority has instituted the *Plant Genome Savior Community Award* with a cash prize of ₹ 10 lakhs to recognise the past, present and future contributions of the farming community in agro-biodiversity conservation. Conscious efforts are being made to generate awareness about the provisions of the Act by providing financial assistance to different stakeholders for training and capacity building. The Authority has initiated action for establishing two branch offices at Ranchi and Guwahati as regional nodal centres for plant variety registration, awareness generation and for dissemination of information amongst stakeholders. Detailed account of the various activities undertaken by the Authority is presented in this report.

I have great privilege in placing on record the guidance and encouragement extended by the Hon'ble Minister of Agriculture & Food Processing Industries, Shri Sharad Pawar, in addressing the mandate of the Authority.

We sincerely acknowledge the support of Department of Agriculture & Cooperation, Government of India and Indian Council of Agricultural Research in implementation of the provisions of the Act.

I express my gratitude to my predecessor, Dr S Nagarajan for his role and services to the establishment and growth of the Authority. I gratefully acknowledge the contributions of the members the Authority and the various Committees for their guidance and support. I also appreciate the staff members of the Authority for their dedication and hard work.

(P L Gautam)

Executive Summary

Government of India enacted the Protection of Plant Varieties and Farmers' Rights (PPV & FR) Act in 2001 (53 of 2001) to provide for the establishment of an effective system for protection of plant varieties, the rights of farmers, plant breeders and researchers and to encourage the development of new varieties of plants of economic importance. The Act follows a *sui generis* system and is unique in substance that it recognizes the concurrent rights to breeders, farmers and researchers. The PPV & FR Authority was established in 11 November 2005 and consists of a Chairperson and fifteen other members.

During financial year 2010-11, specific distinctiveness, uniformity and stability (DUS) guidelines for 22 crop species including vegetables, spices, oil seeds and floriculture were developed and notified in the gazette to make them eligible for plant variety registration. Specific DUS test guidelines for durum wheat (*Triticum durum* Desf.), dicoccum wheat (*Triticum dicoccum* L.) and other *Triticum* species, isabgol (*Plantago ovata* Forsk.), damask rose (*Rosa damascena* Mill), periwinkle (*Catharanthus roseus* L; G Don), brahmi (*Bacopa monnieri* L; Pennell) and coconut (*Cocos nucifera* L.) were published. A total of 642 applications representing 28 crops were received by the Authority for seeking plant variety protection. Of these, 395 applications were filed under new category, 216 in extant category, 30 as farmers' variety and one in essentially derived variety category. In the new variety category, maximum number of applications were received for brinjal (66) followed by cotton (54), maize (43), sunflower (39), tomato (38), rice (30), pearl millet (28), sorghum (24), okra (22), cauliflower (20) etc. Certificates of registration were issued for 60 extant plant varieties. Maximum certificates were issued for maize (31), followed by rice (5), bread wheat (5), field pea (5), green gram (3), lentil (3), cotton (2) and one each for black gram, kidney bean, sorghum, french bean, chickpea and garden pea. Plant variety registration confers an exclusive right on the farmer/breeder(s) to produce, sell, market, distribute, import or export the registered variety.

Passport data of 121 new and extant (varieties about which there is a common knowledge) varieties were accepted for DUS test and 131 extant varieties notified under Seeds Act, 1966, accepted for registration were published in the Plant Variety Journal of India for the information of general public and for inviting objections, if any. Details of 95 varieties for which certificates of registration issued were also published in the Journal for the purpose of inviting claims for benefit sharing.

Two hundred and sixty seven varieties of rice, wheat, maize, cotton, sorghum, pearl millet, jute, chickpea, french bean and other crops are at various stages of testing for granting of registration. A total of 189 varieties belonging to rice, bread wheat, maize, sorghum, pearl millet, cotton, jute, field pea and chickpea were tested at different DUS centres for distinctiveness, uniformity and stability parameters during *kharif* and *rabi*, 2010.

The National Register of Plant Varieties is being maintained at the head office of the Registry at New Delhi. Details of two new wheat varieties, three farmers' varieties of rice and 228 extant varieties registered up to 31 March 2011 have been documented.

The Authority has established National Gene Bank for conservation of seeds of the protected varieties. The Authority also supports 40 DUS test centers across the country (at ICAR institutions, State Agricultural Universities and other research organizations). During this period, funds to the tune of ₹ 1.87 crores were released to carry out DUS test, maintenance breeding and development of DUS criteria. Three field gene banks have been established at Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli; Birsa Agricultural University, Ranchi and Y S Parmar University of Horticulture & Forestry, Solan for asexually/ vegetatively reproduced crops like mango, citrus, banana, ginger, turmeric, apple etc. Two national review meetings were held to monitor the physical and financial progress of the DUS centres, discuss the progress in the maintenance breeding and DUS testing.

The Authority has also identified crops of economic importance in forestry (e.g., *eucalyptus*, *casuarinas*, neem, *jatropha*), fruits (apple, pear, almond, walnut, apricot, cherry, mango, citrus, water melon, musk melon, banana, litchi, guava, papaya), vegetables (pumpkin, bottle gourd, bitter gourd, cucumber and pointed gourd) medicinal and aromatic plants (*aswagandha*, *kalmegh*, *guggal*), seed spices (coriander), tuber crops (sweet potato, cassava), tea and orchids. For this purpose, ₹ 2.78 crores were released to develop, validate and generate DUS criteria in these crops.

The Authority has developed Indian Information System as per DUS Guidelines (IINDUS) and Notified and Released Varieties of India (NORV) databases for documentation of varietal details of extant varieties notified under Seeds Act, 1966.

The legal cell provided timely response to 11 applications sought under RTI Act, 2005 and was also involved in drafting of rules, notifications and legislation of the Act, pleadings in the court matters, providing opinion on international regulatory matters and in the interpretation and implementation of PPV & FR Act, 2001 and Rules 2003. The Authority has been active in implementing the farmers' rights; registering farmers' varieties, framing of rules and procedures for *Plant Genome Savior Community Award* during 2009-10 and initiated the process of selection of awardees from the farming communities. Additionally, the Authority took steps for documentation of farmers' varieties in rice (Odisha, Tamilnadu, Jharkhand and Meghalaya), pigeon pea and faba bean (Bihar); conducted training cum awareness programme in different ICAR institutes, KVKs, SAUs, NGOs and research organization to generate awareness among the plant breeders, seed industry, scientists, research scholars, farmers, traditional communities, NGOs etc. The Authority has also published extension literature in English and Hindi.

Three meetings of the Authority were held during the reporting period and important decisions were taken. These included amendment of PPV & FR Rules, 2003 for providing on

site DUS testing of trees and vines; institution of Plant Genome Savior Community Award from 2009-10; finalization of annual fee return form and fixation of DUS test fees for vegetable, spices, fruits and flower crops.

The Authority has been allotted land by IARI / ICAR in Pusa Campus for construction of its campus. Branch offices are being established at Ranchi and Guwahati with a view to facilitate the applicants for filing applications for plant variety registrations, generating awareness about the Act, communication with local seed industry, research organizations, farming community etc.

The following notifications were published in The Gazette of India:

- Notification of 11 crop species for registration {vide S.O.993(E) dated 30.04.2010}
- Notification of 11 crop species for registration {vide S.O.2883(E) dated 02.12.2010}
- Amendment in Rule 29 of PPV & FR Rules, 2003 relating to on site DUS testing {PPV & FR (Amendment) Rules, 2010- vide G.S.R. 949(E) dated 03.12.2010}
- Plant Variety Protection Appellate Tribunal (Applications and Appeals) Rules, 2010 {vide G.S.R.772(E) dated 21.09.2010}
- Appointment of Chairperson of the Authority vide S.O. 195(E), dated 31.01.2011

The Chairperson, PPV & FR Authority, participated in the Ministerial Conference on Biodiversity, Food Security and Climate Change and the Fourth Session of the Governing Body of the The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), during 11-18 March 2011, held at Bali, Indonesia. He has been elected as member (Asian Region) to the Bureau of the Fifth Governing Body of the ITPGRFA.

Recruitment rules for the various posts existing in the PPV & FRA have been revised making provisions for promotion from one grade to another. The hospitals/labs in and around Delhi have been recognized for providing medical facilities to the staff of the Authority on CGHS rates.

The Authority received ₹ 9.28 crore during 2010-11. Out of this grant, and the unutilized funds of ₹ 0.15 crore from the previous year, the Authority utilized ₹ 9.50 crores on cash basis. The additional expenditure was met from other sources of income.

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Protection of Plant Varieties and Farmers' Rights Authority
Annual Report 2010-11

1.1 General background

Enforcement of legal protection for innovation in plant breeding by the plant breeders and traditional farming communities in producing suitable varieties producing food, fodder, fibre, fuel and other commodities, provide adequate incentive for research, promote trade and regulate use of plant genetic resources. The issue of plant variety protection through enforcement of plant breeders' rights was brought into major focus by the General Agreement on Tariffs and Trade (GATT) that culminated into the establishment of the World Trade Organisation (WTO) in 1995. India, having ratified the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of WTO, *inter alia* was expected to make provision for giving effect to sub-paragraph(b) of paragraph 3 of article 27 in Part II of the said agreement relating to protection of plant varieties.

The Government of India enacted the Protection of Plant Varieties and Farmers' Rights (PPV & FR) Act in 2001 (53 of 2001) to provide for the establishment of an effective *sui generis* system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new plant varieties of economic importance. The PPV & FR Rules were notified on 12 September 2003. Subsequently, for purposes of the Act, the Government of India having exercised the powers conferred by the sub section(1) of the section 3 of this Act, established the Protection of Plant Varieties and Farmers' Rights Authority on 11 November 2005, vide Gazette notification no 1588(E).

1.2 Objectives of the PPV & FR Act, 2001

The objectives of the Act are:

- to establish an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants
- to recognize and protect the rights of the farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties
- to protect plant breeders' rights to stimulate investment for research and development both in the public and private sector for development of new plant varieties

- to facilitate the growth of seed industry in the country that will ensure the availability of high quality seeds and planting material to the farmers.

1.3 Salient Features of the Act

The Act is based on a *sui generis* system and is unique in sense that it concurrently recognizes the rights of breeders, farmers, communities and researchers. It confers an exclusive right upon the breeder or his successor, his agent or licensee, to produce, sell, market, distribute, import or export of the registered variety. As far as farmers' rights are concerned, the Act recognizes a farmer as cultivator, conserver and breeder and provides that the farmers' variety can be registered. Further, the Act provides for compulsory license of a registered variety, if the seeds/propagating material is not available to the public at a reasonable price or quantity. Any person or group of persons or any organization can also claim for benefit sharing if the plant genetic material belonging to them is shared in the development of a registered variety. The researchers are conferred the right to use any registered variety for conducting experiment or research and the use of a variety by any person as an initial source of variety for the purpose of creating the other varieties. India is a pioneer country where a National legislation has been enacted to establish and secure Farmers' Rights. The Act also recognizes the past, present and future contributions of the farming community and provides an opportunity to award the communities for their contributions in agro-biodiversity conservation.

1.4 PPV & FR Authority

The Authority is a body corporate, having perpetual succession and a common seal with the power to acquire, hold and dispose of movable and immovable properties and to contract , and shall by the said name sue and be sued. The head office of the Authority is at New Delhi and the Authority is functioning from a rented premise in the Societies Block, National Agricultural Science Centre complex, Dev Prakash Shastri Marg, Pusa Campus, New Delhi. The Authority consists of a Chairperson and fifteen members. The members of the Authority, appointed by the Central Government, are as follows:

A. Chairperson

B. *Ex-officio* members

(i) Agriculture Commissioner, Government of India, Department of Agriculture and Cooperation, New Delhi;

(ii) Deputy Director General (Crop Science), Indian Council of Agricultural Research, New Delhi;

(iii) Joint Secretary (Seeds), Government of India, Department of Agriculture and Cooperation, New Delhi;

(iv) Horticultural Commissioner, Government of India, Department of Agriculture and Cooperation, New Delhi;

(v) Director, National Bureau of Plant Genetic Resources, New Delhi;

(vi) one member not below the rank of Joint Secretary to the Government of India, to represent the Department of Biotechnology, Government of India;

(vii) one member not below the rank of Joint Secretary to the Government of India, to represent the Ministry of Environment and Forests, Government of India;

(viii) one member not below the rank of Joint Secretary to the Government of India to represent the Ministry of Law, Justice and Company Affairs, Government of India;

C. Nominated members

i) one representative from a National or State level farmers' organization;

ii) one representative from a tribal organization;

iii) one representative from the seed industry;

iv) one representative from an Agricultural University;

v) one representative from a National or State level women's organization associated with agricultural activities; and

xiv & xv)two representatives of State Governments on rotation basis.

The Registrar-General is the *ex officio* Member Secretary of the Authority. The present constitution of the Authority is given in *Annexure 1*.

1.5 Plant Breeders' Rights and Farmers' Rights

Breeders Right is one of the pivotal provisions of this Act with far reaching implications in the context of Indian agriculture and global scenario. The breeder also enjoys provisional protection of his/her variety against any abusive act committed by any third party during the period between filing of application for registration and the final decision taken by the Authority. Similarly, researcher's exemption is also granted. However, for repeated use of a registered variety as parental line, the authorization of the breeder of the registered variety is necessary. The plant variety protection as enshrined in the PPV & FR Act, 2001, follows a broad principle of internationally recognized system of Distinctiveness, Uniformity and Stability (DUS) and Novelty for a new variety. Any person can apply for registration of any variety,

a) of such genera and species as specified under Section 29(2),

b) which is an extant variety, i.e.

   (i) notified under section 5 of Seeds Act, 1966, or

   (ii) variety of common knowledge, or

   (iii) variety in public domain, or,

c) farmers' variety

   (i) that has been traditional cultivated and evolved by farmers in their fields, or

   (ii) is a wild relative or land race about which farmers possess common knowledge.

An essentially derived variety can also be protected in the same way. The total duration of protection is 15 years for crops and 18 years in case of trees and vines from the date of registration of the new variety. In case of extant varieties, it is 15 years from the date of notification of that variety by the Central Government under Section 5 of the Seeds Act, 1966 (54 of 1966).

1.6 Support and Reward to Farmers/Farming Community

The PPV & FR Act provides provisions to support and reward farmers, communities of farmers, particularly the tribal and rural communities engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives, particularly in areas identified as agro-biodiversity hot spots. To operationalise these provisions, the *Plant Genome Savior Community Award* has been instituted from 2009-10. A maximum of 5 awards/ year can be given. The Award consists of ₹ 10 lakh in cash, a citation and a memento. The selection of awardees are made by the very broad-based committee of experts/scientists and headed by an eminent scientist.

1.7 Committees of the PPV & FR Authority

The PPV & FR Authority has constituted the Standing Committee for Farmers' Rights; Project Appraisal Committee; Programme, Planning and Policy committee to assist the Authority on technical and policy matters. The Extant Variety Recommendation Committee (EVRC) has been reconstituted after the expiry of 3 year tenure. The EVRC has a mandate to examine the applications for plant variety registration filed under the extant variety category (notified under the Section 5 of the Seeds Act, 1966), to advise the Registrar on the related issues.

1.8 Plant Variety Registration and DUS test centres

The PPV & FR Authority has finalized the distinctiveness, uniformity and stability (DUS) test criteria/guidelines for 45 crop species covering field, commercial, oil seed, spices,

vegetables and fibre crops and plant variety registration process was initiated. Till 31 March 2011, 228 varieties (under new, extant notified and farmer's category) have been registered. To attract more applicants, the PPV & FR Authority regularly organizes, supports awareness generation training programme (s) for the benefit of different stakeholders.

The PPV & FR Authority has also established various DUS test centres across the country under the Central Sector Scheme for Protection of Plant Varieties and Farmers' Rights legislation for maintenance breeding, multiplication of reference/example varieties or the varieties notified in the Gazette of India for registration and generation of database for varietal characteristics as per crop specific DUS guidelines developed by the PPV & FRA. In addition, DUS tests for the candidate varieties are being conducted at crop specific DUS centres. The data recorded as per the DUS test guidelines is forwarded to PPV & FR Authority for further analysis. The authority, in consultation with the ICAR and other research institutes has identified potential crop species of economic importance and supports projects for the development of DUS guidelines.

1.9 Databases

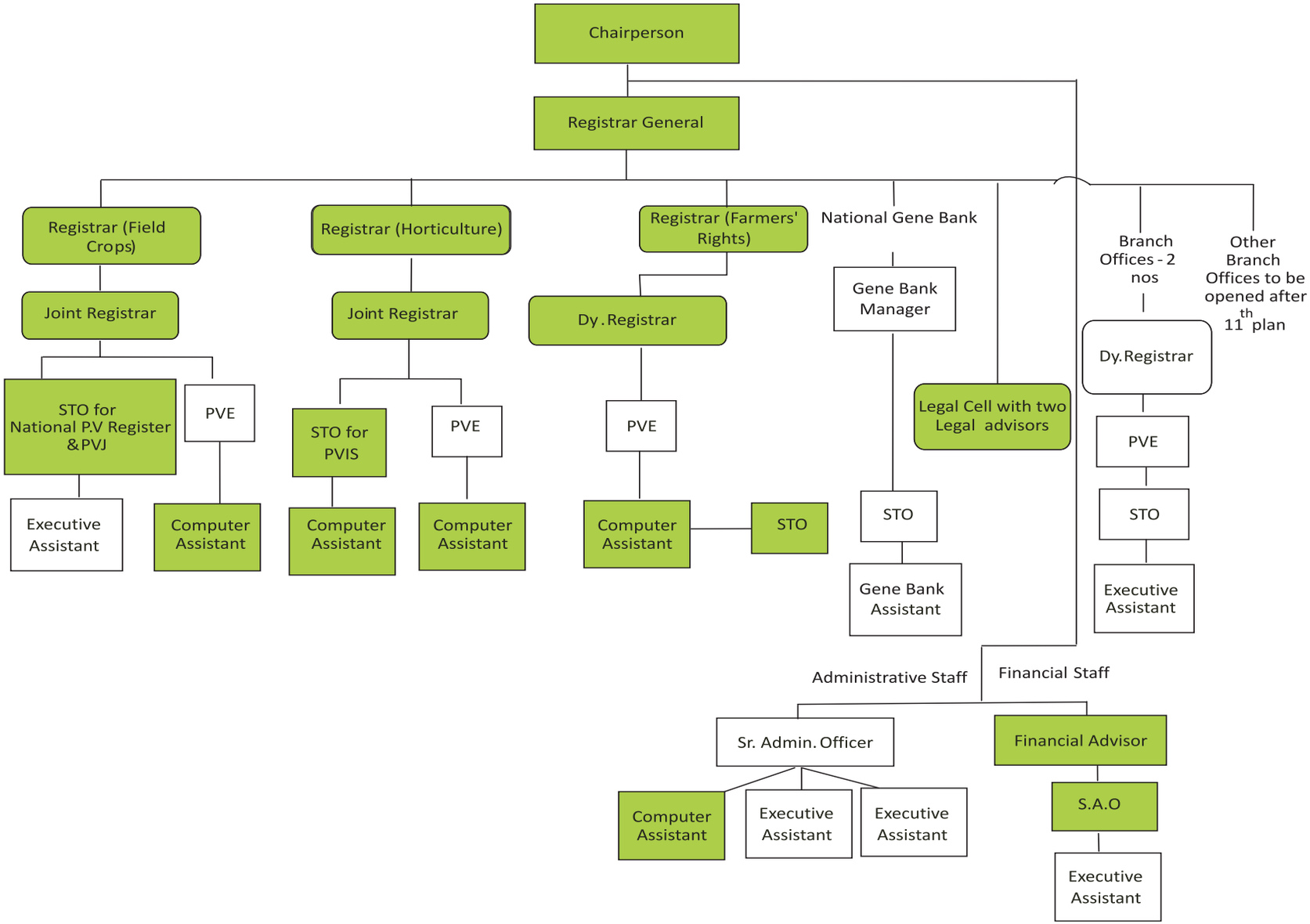
The PPV & FRA Authority has developed database(s) in association with National Bureau of Plant Genetic Resources (NBPGR, ICAR). The software Indian Information System as per DUS guidelines (IINDUS) documents the varietal characteristics/DUS descriptors as per DUS guidelines. It contains exhaustive information on several aspects, e.g. parentage, notification and adaptations of the plant varieties released under section 5 of the Seeds Act, 1966. Another database Notified and Released Varieties of India (NORV) pertains to the denomination and notification number as per the release of these varieties in the Gazette of India. Further, the IINDUS database version 08.1 has been developed for application processing, examination, documentation, digital herbarium for the varieties seeking plant variety registration and named as Plant Variety Information System (PVIS).

1.10 Other activities

The Authority has established the National Gene Bank of PPV & FRA, field gene bank(s) and regularly publishes a monthly journal, viz. *Plant Variety Journal of India*, and maintains the National Register of Plant Varieties.

The Authority has been allotted land measuring 10,480 m^2 by IARI / ICAR in Pusa Campus, New Delhi for construction of its office building. The work has been awarded to the agencies following codal formalities.

1.11 ORGANOGRAM OF PPV & FR AUTHORITY



2
Progress of Plant Varieties Registry

2.1 Notification of Crop Species

In exercise of its power, the Central Government during 2010-11, has notified the 22 crops with their genera and species eligible for registration of varieties under the PPV & FR Act, 2001 (Table 1).

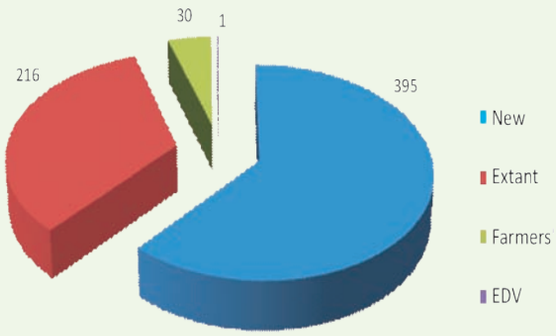
Table 1. Crop species notified during 2010-11

	Common Name	Hindi/Local Name	Botanical Name
1.	Black pepper	*Kali mirch*	*Piper nigrum* L.
2.	Small cardamom	*Choti Elaichi*	*Elettaria cardamomom* Maton
3.	Indian mustard	*Sarson*	*Brassica juncea* L. Czern and Coss
		Karan Rai	*Brassica carinata* A Braun
4.	Rapeseed	*Toria*	*Brassica rapa* L.
		Gobhi sarson	*Brassica napus* L.
5.	Sunflower	*Surya mukhi*	*Helianthus annuus* L.
6.	Safflower	*Kusumbha*	*Carthamus tinctorius* L.
7.	Castor	*Arandi*	*Ricinus communis* L.
8.	Sesame	*Til*	*Sesamum indicum* L.
9.	Linseed	*Alsi*	*Linum usitatissimum* L.
10.	Groundnut	*Moongphali*	*Arachis hypogea* L.
11.	Soybean	*Soybean*	*Glycine max*(L.) Merrill.
12.	Potato	*Alu/Aloo*	*Solanum tuberosum* L.
13.	Garlic	*Lahsun*	*Allium sativum* L.
14.	Onion	*Pyaz*	*Allium cepa* L.
15.	Tomato	*Tamatar*	*Lycopersion lycopersicum* (L.) Karsten ex. Farw.
16.	Brinjal	*Baigan*	*Solanum melongena* L.
17.	Cabbage	*Pattagobhi/ Bandhgobhi*	*Brassica oleracea* L. var *capitata*
18.	Cauliflower	*Phoolgobhi*	*Brassica oleracea* L var botrytis
19.	Lady's finger	*Bhindi*	*Abelmoschus esculentus* (L.) Moench
20.	Rose	*Gulab*	*Rosa* Spp. (other than *Rosa damascena*)
21.	Mango	*Aam*	*Mangifera indica* L.
22.	*Chrysanthemum*	*Guldaudi*	*Chrysanthemum* spp.

These represent commercially important crops of spices, oil seeds, vegetables and floriculture. It is expected that the registration of plant varieties in spices and mango where India is rich in biodiversity will boost the international trade in these crops and establish legal rights over the sovereign diversity in cultivated varieties of India. Similarly, majority of the oil seed crops and vegetables are now brought under the ambit of legal protection of plant varieties which will pave the way for reward of innovation in plant breeding and investment in R&D. This is quite evident in the number of applications seeking plant variety protection filed under these crops. It is also expected that foreign breeders shall also be encouraged to file for plant variety registration in floricultural crops, like roses, oilseed crops like sunflower, soybean, rapeseed and vegetables, like potato, tomato, cabbage and cauliflower, thus increasing the availability of new varieties and technologies to the benefit of Indian farmers and plant breeders.

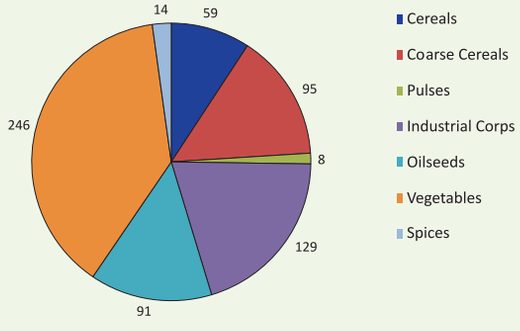
2.2 Applications received

In 2010-11, a total of 642 applications representing 28 crops were received by the Authority for seeking plant variety protection under the Act. The applications belong to new (395), extant (216), farmers' varieties (30) and essentially derived variety (1) categories.



Applications for registration of plant varieties received during 2010-11

The applications for registration of plant varieties for different crops belonged to 12 different plant families, viz. poaceae (bread wheat, rice, pearl millet, maize, sorghum and sugarcane), fabaceae (pigeonpea, kidney bean, soybean and groundnut), malvaceae (cotton and okra), tiliaceae (jute), solanaceae (brinjal, tomato and potato), brassicaceae (Indian mustard, rapeseed, cauliflower and cabbage), zingiberaceae (turmeric, ginger and small cardamom), asteraceae (sunflower), euphorbiaceae (castor), pedaliaceae (sesame), piperaceae (black pepper) and amaryllidaceae (onion).



Applications for registration of plant varieties received during 2010-11

The applications were received for different groups, such as cereals, coarse cereals, pulses, industrial/commercial crops, oil seeds, vegetables, spices and condiments. The maximum number of applications (246) was for vegetables (namely

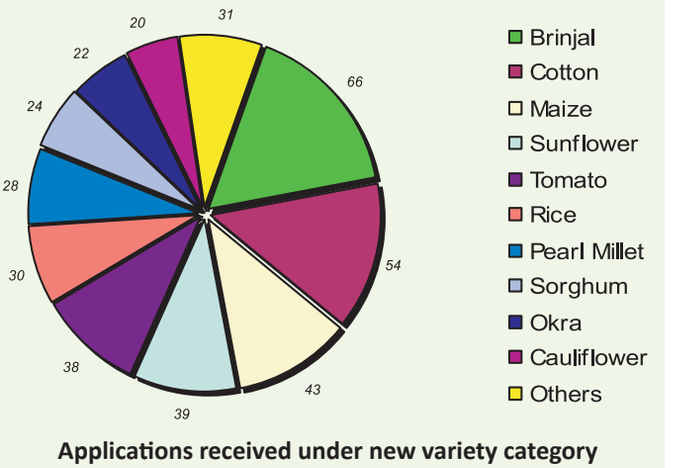
brinjal, tomato, okra, cauliflower, onion, cabbage and potato) followed by 129 in industrial/ commercial crops (cotton, jute and sugarcane), 95 in coarse cereals (maize, pearl millet and sorghum), 91 in oil seeds (sunflower, castor, ground nut etc), 59 in cereals (rice & wheat), 14 in spices (turmeric, ginger, black pepper, small cardamom) and 8 in pulses.

Among the individual crops, continuing the trend as observed in 2009-10, the numbers of applications received were the highest in cotton (125), followed by brinjal (108) and tomato (67). In cotton, especially after the introduction of transgenic technology and licensing, large number of varieties are now available for the farmers to cultivate and similarly plant breeders are interested in getting their rights secured for varieties which may earn significant commercial revenues. Similarly, exploitation of single cross hybrid technology in maize and heterosis in sorghum has also increased availability for a large number of varieties with high yield and consequently the cultivated area under these varieties has increased manifold. However no application has been received for chickpea, garden pea / field pea, lentil, black gram and green gram during this period.

2.3 Registration of New Varieties

During the period of report, 395 applications have been received under the category of new varieties. The maximum applications were received for brinjal (66), followed by cotton(54), maize (43), sunflower(39), tomato(38), rice(30), pearl millet(28), sorghum(24) followed by okra(22), cauliflower(20) and others. It is quite evident that by opening the registration of vegetable crops, there is a sharp increase in number of applications for vegetable crops which are economically very important and breeders are eager to register their varieties. While significant number of applications are still being received in major field crops, like rice, pearl millet, maize, sorghum; no applications were received under new variety category in chickpea, garden pea (field pea), lentil, black gram and green gram.

The applications filed under new variety category were examined by the staff of Plant Varieties Registry and communications have been sent to all the applicants seeking clarifications. It is observed that the majority of the clarification(s) pertain to the proof of sale of the varieties, proof of legally acquiring parent material, details in technical questionnaire (grouping/ distinct/other characters), parentage,



Applications received under new variety category

breeding techniques, comparison with reference varieties etc. The Authority has been utilizing various forum to address these issues and to make the breeders aware of the necessary details which ultimately will help in streamlining the plant variety registration, details of filing of the application and resolve the disputes, if any.

Applicants of the candidate varieties fulfilling all requirements were asked to submit the prescribed fees for registration and DUS test, specified quantity of seed material along with seed test report as per crop specific DUS test guidelines of the authority. Thereafter, seed samples are sent to the respective centres to take up DUS test for two similar crop seasons at two locations.

2.4 Registration of Extant Varieties

The extant varieties include, varieties notified under Section 5 of the Seeds Act, 1966 (54 of 1966), or farmers' varieties, or a variety about which there is common knowledge, or any other variety which is in public domain.

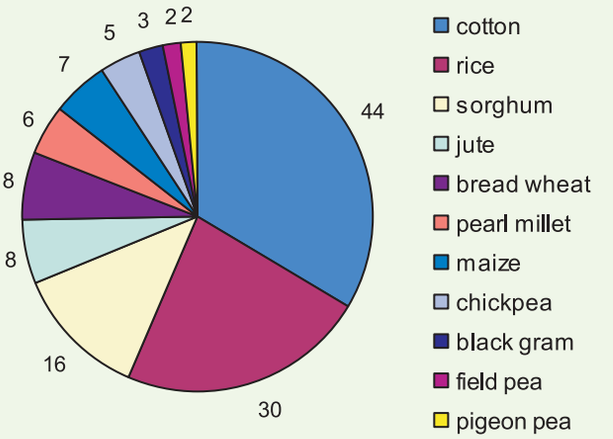
The Act provides that a farmer means any person who, (i) cultivates crops by cultivating the land himself, or (ii) cultivates crops by directly supervising the cultivation of land through any other person, or (iii) conserves and preserves, severally or jointly, with any person any wild species or traditional varieties, or (iv) adds value to such wild species or traditional varieties through selection and identification of their useful properties.

Farmers' variety as per the Act means a (i) variety which has been traditionally cultivated and evolved by the farmers in their fields, (ii) or is a wild relative or land race of a variety about which the farmers possess the common knowledge.

PPV & FR Authority has also provided the definition of Variety of Common Knowledge as published in the Plant Variety Journal of India, 3 (Sept), 2009. It includes (i) a variety which is not released and notified under the Seeds Act, 1966 but is well documented through publications and is capable of satisfying the definition of variety, or (ii) the candidate variety should either have an entry in the official register of varieties or in the course of being made, or (iii) the candidate variety should find inclusion in a reference collection or is having a precise definition in a publication, or (iv) by any other means a variety has become a matter of common knowledge and the variety is under cultivation or marketing during the timing of filling of applications for registration.

During the period, 216 applications were received for registration under extant varieties. In accordance with the Regulations 6 of the PPV & FR Regulations, 2006 framed under the Act, the Authority constituted an Extant Variety Recommendation Committee (EVRC) to examine the applications of varieties released under Seeds Act

1966 and to recommend the Registrar on the suitability of these varieties for registration and other technical matters.



Extant varieties recommended by EVRC for registration

2.4.1 Recommendations of the EVRC: PPV & FR Authority had earlier constituted a seven member Extant Varieties Recommendation Committee under the Chairmanship of Dr R B Singh, Former Member, National Commission for Farmers (NCF) to examine and recommend for the registration of suitable varieties. Subsequently, after completion of the 3 years term, the EVRC has been reconstituted as under the Chairmanship of Dr D P Ray, Vice Chancellor (Orissa University of Agriculture and Technology) and during the financial year 2010-11 (*Annexure 7*).

The committee has recommended 131 extant varieties notified under the Seeds Act, 1966, for registration. Out of these 131 applications, 56 applications were filed by Indian Council of Agricultural Research (ICAR), 65 by State Agricultural Universities (SAUs) and 10 by private seed companies. Maximum number was recommended in cotton (44), followed by rice (30), sorghum (16), jute (08), bread wheat (08), pearl millet (06), maize (07), chickpea (05), black gram (03), field pea (02) and pigeon pea (02). Passport data of the recommended varieties were published in Plant Variety Journal of India for information of general public and also for making any objections to be raised within 90 days of publication. Thereafter, applicants were asked to submit the prescribed fees for registration and specified quantities of seed material for medium storage in the National Gene Bank during the period of protection.

The registration of extant varieties notified under the Seeds Act, 1966, is a potent provision for protecting domestic crop varieties which have been mainly bred under National Agricultural Research System at ICAR/State Agricultural Universities/other research organizations/industry, tested through multi-location trials under All India Coordinated Research Project (AICRP) and recommended for release by Central Seed Committee under Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India. It is a recognition of the untiring devotion of the plant breeders mainly in the public sector and by extending this provision, plant breeders/institutes can legally protect their varieties which is otherwise commercially exploited, can license

and earn royalties/revenues which in turn can be ploughed back in further R&D activities.

2.4.2 Registration of Extant Varieties: During 2010-11, certificates of registration were issued for 60 extant plant varieties (*Annexure 9*). Maximum 31 certificates were issued in maize, followed by rice (5), bread wheat (5), field pea (5), green gram (3), lentil (3), cotton (2) and one each in black gram, kidney bean, sorghum, french bean, chickpea and garden pea.

2.5 Varieties of Common Knowledge

The criteria for registration of varieties of common knowledge (VCK) was published in Plant Variety Journal of India and subsequently notified vide G.S.R. 452(E) on 30 June 2009. Applications for varieties, hybrids, parental lines are being accepted under this category and after completion of examination of applications, the candidate varieties will undergo one year DUS testing at two locations.

2.6 Farmers' Varieties

PPV & FR Authority also received 30 applications of different crops of farmers' varieties for registration includes rice(24), french bean/ kidney bean(4) and 2 application of ground nut(2) and one farmers variety of chickpea is under grow out test.

2.7 Field Monitoring of DUS tests

The DUS testing of candidate varieties was conducted at several centres and the tests were monitored by respective team(s) led by eminent subject matter specialists (*Annexure 11*). The monitoring team is entrusted with the job of checking the uniformity, stability of the candidate varieties and distinctiveness of the traits as claimed by the applicants in comparison to suitable reference varieties. The team also reports to the PPV & FRA whether the design and modalities of the trials being conducted are as per DUS test guidelines as specified by PPV & FRA. The crop specific experts also share their rich and varied experiences in different facets of plant breeding that helps in improvement of the conduct of DUS trials.

2.8 DUS Tests

In total 189 varieties were tested at different centres for distinctiveness, uniformity and stability parameters during kharif and rabi seasons of 2010-11 (Table 2). Upto the end of March 2011, 8 varieties of rice, 23 maize, 3 wheat, 10 sorghum, 9 pearl millet and 5 cotton have completed two years of DUS test under New category. Two varieties of bread wheat under Farmers' variety category have also completed grow out tests. These DUS test results are being analyzed.

Table 2. No of candidate varieties for which DUS testing was carried out during 2010-11

Crop Species	*Kharif* 2010			*Rabi* 2010
	New variety	Extant (VCK) variety	Farmers' variety	New variety
Rice	15	6	8	---
Bread wheat	---	---	---	1
Maize	15	21	---	---
Sorghum	14	2	---	---
Pearl millet	20	---	---	---
Cotton	60	19	---	---
Jute	4	---	---	---
Field pea	---	---	---	2
Pigeonpea	1	---	---	---
French bean	---	---	---	2
Total	**129**	**48**	**8**	**5**

2.9 DUS test centres

The Authority supported 48 DUS test centres (*Annexure 3*) for different crop species with a mandate of maintenance and multiplication of reference/example varieties and characterization as per DUS descriptors, DUS testing and database maintenance. Brief progress regarding some DUS test centres is as follows:

2.9.1 Directorate of Wheat Research (DWR), Karnal: It is the nodal centre for DUS test and maintenance breeding of wheat with Indian Agricultural Research Institute, Regional Station, Indore as the co-nodal centre. The centre conducted the DUS trial as per crop specific guidelines and also maintained reference and example varieties. One candidate wheat variety 'AKAW 3722' (VIMAL) with 17 reference varieties was tested during rabi 2010-11 at DWR, Karnal and IARI, Regional Station, Indore. The centre also maintained 293 reference varieties in *T. aestivum* including 80 example varieties, 44 in *T. durum*, 4 in *T. dicoccum*, and 3 in *Triticale*. Database of all extant varieties was also maintained in excel format. One day sensitization programme on *Protection of Plant Varieties and Farmers' Rights Act, 2001* was conducted on 13 January 2011 where 102 farmers from 7 districts of Uttar Pradesh, Haryana, Punjab, Rajasthan were participated.

2.9.2 Directorate of Maize Research (DMR), New Delhi: DMR is the Nodal Centre for DUS test in maize along with Acharya N G Ranga Agricultural University, Hyderabad as co-nodal centre. During the *Kharif* 2010, 3 new inbred candidate varieties, namely 'BIO 10107', 'M 3432' and 'SYN-Co-NP-5024' were tested out of which 'M 3432' and 'Syn-Co—NP 5024' completed two years of testing. 'Bio 10107' was in the first year and will be sown during

the next season. Thirty three candidate varieties were also under testing during *kharif* 2010 out of which 21 hybrids were under extant category (VCK). Ten hybrids were in the first year and will be sown in *kharif* season during 2011. Besides, the centre is also engaged in the maintenance breeding of reference/example varieties, compilation and submission of final DUS data to PPV & FRA.

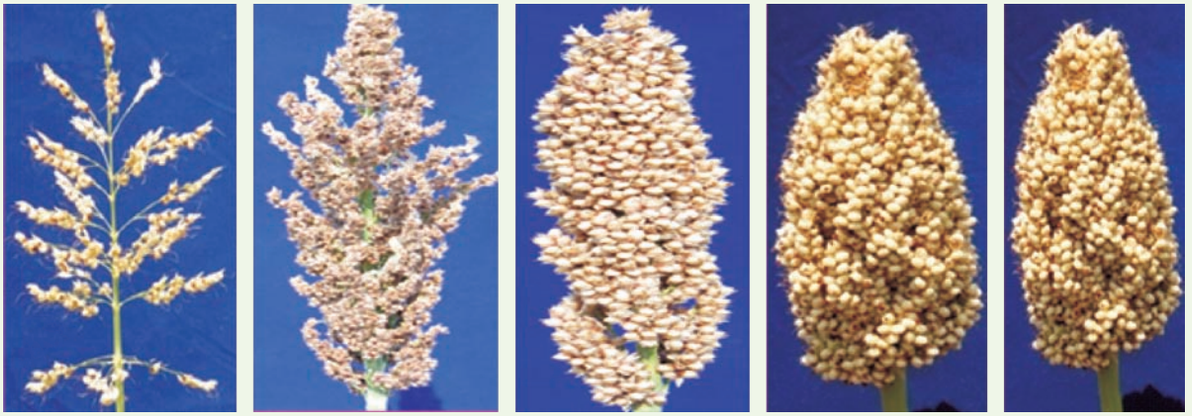
DMR is also the Nodal Agency for filling of applications for public bred candidate varieties and has filed applications of 103 varieties. Of these, 8 hybrids and 10 composites have been granted the registration certificates under extant category.

During the reporting period, one day *Awareness cum Training Program* with special reference to maize was conducted at DMR on 23 November 2010 and 60 persons from ICAR/ KVKs and farmers were participated. Two bulletins, namely *A Compendium of Maize Hybrids and Composites under PPV & FRA* and *Reprint of DUS guidelines* were also published.

***2.9.3 Directorate of Sorghum Research (DSR), Hyderabad*:** it is the nodal centre and Seed Technology Research Unit, Mahatma Phule Krishi Vidyapeeth, Rahuri is the co-nodal centre for DUS testing in sorghum. During 2010-11, a total of 6 candidate varieties ('CSV 20', ' CSV 22', 'CSV 23', 'CSV 18', 'CSV 21F' and 'JKSSH 02') were characterized for second year of testing at DSR and MPKV Rahuri, along with 15 reference varieties ('JJ 1041', 'Panchari 5', 'CSV 15', 'CSH 20MF', 'MR 750', 'CSH 18', 'CSV 13', 'CSV 216 R', 'CSV 14R', 'UPCHARI 2', 'CSH 14', 'CSH 16', 'JJ 1022', 'GFS5' and 'CSH 22SS') during *kharif* 2010. The second set of 10 candidate varieties ('KJH 6363', 'Phule chitra', 'KSMS 233', 'CSH 24 MF', 'DSV 6', 'CSV 24SS', 'CSH 23', 'KSR 6203', 'BGS 801', 'PVK 809') along with 25 reference varieties ('GFS 4', 'CSH 9', 'Pant chari 6', 'GFS 5', 'Phule maulee', 'Selection 3', 'Phule yasodha', '14A', '27A', 'RS 29', 'AKR 150', 'JJ 741', 'DSV 5', 'SPV

462', 'PVR 453', 'P. dagadi', 'SSV 84', 'CSV 19SS', 'CS 3541', 'Indore 12', 'C43', 'RS673', '2219B', 'PVK 400' and 'AKMS 14B') were characterized for first year of testing at both the centres.

Panicle Density at maturity (ear head compactness



Very loose | loose | Semi loose | Semi compact | Compact

No DUS testing of candidate varieties were conducted during *rabi* season but 114 Reference varieties were grown for seed multiplication. DUS testing of 6 candidate varieties for second year and 10 candidate varieties for first year in *kharif* was completed. One day workshop on *Awareness programme on Plant Variety Protection* supported by PPV & FRA was also organized by DSR, Hyderabad in association with AP Seedsman Association on 30 March 2011 where 110 persons including seed industry representatives, farmers, scientists and research scholars participated

2.9.4 All India Coordinated Pearl Millet Improvement Project (AICPMIP), Mandore, Jodhpur: A total of eight candidate varieties of pearl millet were tested along with 11 reference /example varieties at AICPMIP, Mandor, Jodhpur and MPKV Rahuri. Out of eight candidate varieties, three were tested for second year and five were tested for first year. The monitoring team visited the DUS experiments at both the locations. One day training on awareness on PPV & FR Act, 2001 was organized at AICPMIP, Mandor in which 21 scientists/technical persons participated. Participants were practically trained for recording observations in pearl millet as per DUS test guidelines.

2.9.5 Directorate of Rice Research (DRR), Hyderabad: DUS Tests in rice were conducted during *kharif* 2010 at DRR, Hyderabad; Central Rice Research Institute (CRRI), Cuttack; Tamil Nadu Agricultural University (TNAU), Coimbatore and Assam Agricultural University (AAU), Jorhat. A total of 15 new candidate varieties, 6 extant varieties and 8 Farmers' varieties were under DUS test. DUS testing of fifteen new candidate varieties was organized at DRR, Hyderabad and CRRI, Cuttack, with 86 reference varieties. Eight Farmers' varieties were tested at DRR Hyderabad, while 4 farmers' varieties each were tested at AAU, Jorhat and TNAU, Coimbatore along with 28 reference varieties. Six extant varieties were tested at DRR, Hyderabad, while three extant varieties each were tested at AAU, Jorhat and TNAU, Coimbatore with 11 reference varieties. All the varieties were tested as per the guidelines and characterized for 29 essential and 33 additional DUS descriptors. A set of 11 reference varieties were also characterized during the period under report.

2.9.6 Indian Institute of Pulses Research (IIPR), Kanpur: A total of 74 varieties of green gram and 46 varieties of black gram were maintained during *kharif* 2010. In *rabi* season (2010-11), 52 varieties of pea, 36 varieties of lentil and 13 varieties of *rajmash* were maintained. For maintenance of these varieties, 10 single plants were selected from each variety and harvested individually during *kharif* 2010 and *rabi* 2010-11. Two candidate varieties ('N 585', 'N 605') in green gram were sent by PPV & FR Authority for DUS testing during *kharif* 2010. These varieties were tested alongwith reference varieties and monitored by the team as nominated by PPV & FRA. Data were recorded as per DUS test guidelines. Two candidate varieties ('Arka Anoop' and 'Arka Bold') of rajmash were received from PPV & FR Authority for DUS testing during *rabi* 2010-11 at IIPR, Kanpur and also tested.

In pigeon pea, 68 varieties were maintained and characterized for 21 DUS descriptors and 1 variety 'Richa 2000' was tested for DUS along with 7 reference varieties ('Pusa 855', 'ICPL 151', 'GT 100', 'Manak', 'Paras', 'Azad' and 'Amar'). Monitoring was done on 10 October 2010.

2.9.7 Central Institute for Cotton Research (CICR), Regional Research Station, Coimbatore: It is the nodal centre for DUS testing in cotton and the other co-nodal centres are CICR (Nagpur); University of Agricultural Sciences (UAS), Dharwad; Punjab Agricultural University (PAU), Ludhiana and CCS Haryana Agricultural University (Hisar). During the period, the centre at CICR (Coimbatore) has characterized 134 cotton genotypes in diploid and tetraploid species on morphological aspects and the data were recorded. Seed multiplication

of 162 genotypes (*Gossypium hirsutum* L., *G. barbadense* L., *G arboretum* L.) were also done. DUS testing of 74 candidate varieties were done in comparison with 87 reference varieties at these centres given in Table 3.

Table 3. List of Cotton varieties undergoing DUS test

Species	CICR, CBE	CICR, NGP	UAS, Dharwad	PAU, Ludhiana	HAU, Hisar	Total
Diploid	-	1 (2)	1 (2)	-	-	2(4)
Tetraploid	19 (20)	17(17)	20 (20)	6(12)	10 (14)	72 (83)
Total	19 (20)	18(19)	21(22)	6(12)	10 (14)	74(87)

Figures in parenthesis indicate number of reference varieties tested

The monitoring team observed that the trials were conducted scientifically and adopted the procedures as laid down in crop specific DUS test guidelines of tetraploid and diploid cotton. The experimental trials were conducted in a randomized block design with 3 replications, the crop growth was good and plant population was maintained uniformly in all the varieties. The monitoring team could observe the expression of characters in all the candidate and reference varieties and claimed attributes of each candidate variety.

Flower colour variation in Cotton

A database on released varieties notified in the Seeds Act , 1966, have been prepared. The database consists of information regarding name of the variety, species, notification number, year of notification, institution that released the said variety, state, pedigree, present status of notification, yield parameters, ginning percentage, fibre length, bundle strength, spinning potential (counts), area of adaptation, ecosystem for which the variety is recommended are also available in the database.

2.9.8 Indian Institute of Vegetable Research (IIVR), Varanasi: It is the nodal centre for DUS testing in tomato, brinjal, okra, cauliflower, cabbage, vegetable pea and french bean. Other co nodal centres are Indian Institute of Horticultural Research, Bangalore and IARI Regional Station (Katrain). During 2010-11, 76 reference varieties of tomato were raised for data observation and maintenance. Similarly, 77 reference varieties in brinjal, 39 in okra, 4 in cauliflower, 8 in cabbage, 41 in vegetable pea and 24 in french bean were raised for maintenance breeding and

data validation for crop specific DUS descriptors. The off-type plants were rogued out and only true-to-type plants were retained for seed extraction. Selfing of individual flowers has been done in okra and brinjal in true-to-type selected plants. In case of tomato, french bean and vegetable pea, seeds were harvested from true-to-type individual plants. Cabbage and cauliflower seeds are being maintained at IARI, Regional Station, Katrain**.** DUS testing was conducted for two French bean candidate varieties ('Arka Anoop', 'Arka Bold') along with 'PDR 14', 'HUR 15', 'HUR 137', 'IPR-96-4', 'Arka Komal' taken as reference varieties. Monitoring was done on 7-8 February 2011 at IIVR, Varanasi.

2.9.9 ***Central Research Institute of Jute and Allied Fibres, Barrackpore:*** DUS test was conducted for the first year for two new candidate *capsularis* jute varieties ('JRC 517' and 'JRC 532') during 2010-11 along with reference varieties to establish their distinctiveness, uniformity and stability. These two varieties were found to be distinct with regard to leaf petiole colour and pod pigmentation as compared to reference varieties in first growing cycle of DUS trial. Sowing of these two varieties have been completed during February-March for second season during 2011-12. In the second year of DUS test during 2010-11, two new *olitorius* candidate jute varieties ('IRA' and 'JR0 234') were also tested.

DUS Maintenance Breeding plots in Jute

The centre also forwarded application of one extant *capsularis* jute variety 'Monalisa' (RRPS-27-C-3), and one new *olitorius* variety 'Sourav' (CO-58) both of which have been accepted by the Authority for DUS test. Seeds and registration fees of nine extant jute varieties *viz*. 'JRO 128', 'JRO 66', 'SUBALA', 'JRO 8432', 'JRC 80', 'JRC 698', 'Bidha Pat 1', 'Bidhan Pat 2' and 'Bidhan Pat 3' have been received in the PPV & FR Authority for registration. Characterization of new jute varieties has been completed and nucleus seed has been produced for 33 reference varieties of jute.

2.9.10 Directorate of Onion and Garlic Research, Rajgurunagar, Pune: It is the nodal centre for maintenance breeding and DUS testing of onion and garlic. The centre is maintaining 46 varieties (including 38 in *rabi* and 8 in *kharif*) of onion and 12 varieties of garlic. Of these, long day onion and garlic varieties are being maintained at Central Institute for Temperate Horticulture, Srinagar; multiplier onions (bunch type) are being maintained at TNAU, Coimbatore and rest of the varieties are being maintained at Nodal centre. The stored bulbs of previous *rabi* season onion varieties and recent year harvested

bulbs of *kharif* season onion were planted in December 2010 in the nylon cages under strict isolation for further seed production and maintenance. All these varieties were characterized as per DUS descriptors.

2.9.11 Directorate of Oilseeds Research, Hyderabad: It is the nodal centre for DUS testing in castor, sunflower and safflower. In castor, the centre evaluated 8 varieties(2 hybrids, 1 variety and 5 parental lines) for seed lot purity through morphological and quantitative traits. Three varieties, viz. 'GCH 7', 'TMV 6', 'GC 3' and other example varieties' viz. 'DCS 59', 'CO 1', 'Sowbhagya' and 'Aruna' along with parental lines, 'SKI 215' and 'SKP 84' were characterized for 29 descriptors and digitization of data were also completed.

In sunflower, 23 breeder seed entries(6 hybrid, 6 variety and 11 parental lines) were evaluated during *rabi* 2010 and observation on 32 descriptors were taken. New cultivars 'TNA USUF 10', 'PSH 569', 'KBSH 53'; parental lines '7 IA', '7 IB', 'RHA 271'; hybrid varieties, like 'DSH 1' were characterized. In safflower, the centre evaluated 1 hybrid and 2 varieties from breeder seed entries during *rabi* 2010. New cultivars, viz. 'SSF 658', 'NARI 38' and 'NARIH 15' were evaluated for 24 descriptors. The centre has also submitted data for 34 DUS characters of 28 varieties in sunflower including 10 hybrids, 7 varieties and 11 parental lines which have been uploaded in the IINDUS database.

2.9.12 Directorate of Rapeseed and Mustard Research, Bharatpur: This nodal centre is responsible for maintenance breeding and characterization of rapeseed-mustard varieties. The centre maintained 110 example varieties of rapeseed mustard including 67 of Indian mustard, 30 of brown *sarsoon*, 06 of *gobhi sarsoon*, 05 of *karan rai*, 03 of *taramira*, 14 of *toria* and 12 of yellow *sarsoon*. These were grown and pure seed was multiplied through selfing/sib mating. During the same period , 24 varieties of Indian mustard, two varieties of toria, 2 varieties each of yellow *sarsoon* and *karan rai* were also characterized for DUS descriptors.

2.9.13 Indian Institute of Sugarcane Research, Lucknow: The centre evaluated 108 different sugarcane varieties/clones from various centres of sub-tropical India. Six sugarcane varieties, namely 'BO 145', 'BO 147', 'BO 139', 'CoP 9302', 'BO 141' and 'Co-Pant 99214' were collected from RAU, Pusa and GBPUA&T for multiplication and characterization. These varieties are being maintained in the field. Data of reference collection was submitted to PPV & FRA through Project Coordinator as per the existing DUS guidelines.

2.10 National review meeting of DUS centres

Two National review meeting of the DUS test centres were conducted, i.e., one at National Academy of Agricultural Research Management (NAARM) at Hyderabad during 11-12 August 2010 and another at National Agricultural Science Centre (NASC) complex at New Delhi on 25 February 2011. The DUS centres submitted half yearly technical and financial

progress in these meetings. Nodal Officers presented the progress report of the centres; discussed various technical issues in conduct of DUS test, maintenance of varieties and DUS characterization, infrastructure requirement etc. Brief recommendation (s) of the two meetings are as follows:

2.10.1 *First Review meeting at NAARM, Hyderabad:*

- Authority may initiate reviewing DUS guidelines for initial 12 crops that were notified in 2007 after completion of 5 years
- Nodal officer may also select other reference varieties as per their crop specific experience. PPV & FR Authority may also include parentage as disclosed in the PVJ as public document
- Crop specific Project Coordinator/Project Director has the responsibility to file the complete application on behalf of the Breeders (ICAR/SAU) and submit through NBPGR
- DUS centres should initiate action to maintain varietal purity and maintenance breeding under the observation of Nodal officers. Off types need to be mentioned in DUS test report.
- DUS test and monitoring information is required to inform to the applicants well in time. After completion, certificate of destruction of test material duly signed by Nodal Officer/ Project Coordinator/Project Director is required to be submitted to PPV & FR Authority.
- DUS test report and procedure of DUS test may be reviewed by an expert committee. Access to IINDUS database and online application filling procedure should also be considered.
- Physical and financial monitoring of DUS centres and projects is required to be strengthened and streamlined.

2.10.2 Second Review meeting at NASC, New Delhi:

1. The parental material of a hybrid may be registered as under:
   - Parental lines of a hybrid which have been notified under the Seeds Act, 1966 or otherwise commercialized and the date of notification / commercialization is within one year from the date of filing may be filed as new varieties.
   - Parental lines of a hybrid which has been notified under the Seeds Act, 1966 or otherwise commercialized and the date of notification / commercialization is more than one year from the date of filing may be filed as VCK if the notification / commercialization is within 13 years from the date of filing of the parental line.

- Parental lines which have not been exploited for developing any hybrid may be filed as New varieties.

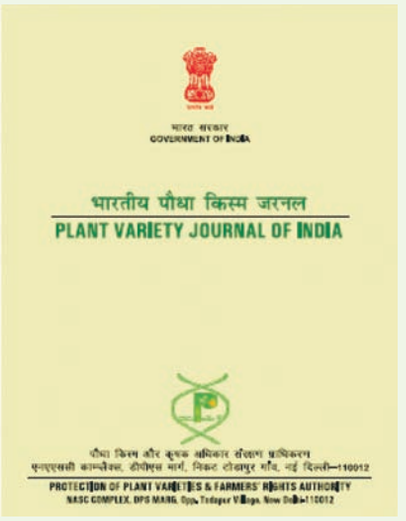
2. DUS test guidelines of existing crop species need to be revisited. Authority will constitute a committee for this purpose. DUS test centres may submit their observation to the Registrar for consideration.

3. Database of reference varieties needs to be updated and centres are requested to take up the same at the earliest

4. DUS test centres should encourage and guide the farmers to register their varieties within the time frame notified by the Authority.

2.11 Plant Variety Journal of India

In accordance with Rule 2(g) of PPV & FR Rules, 2003, the Authority publishes its official journal *Plant Variety Journal of India* as a monthly bilingual (Hindi and English) publication and makes it available for public on the first working day of each month by uploading the same in the website of the Authority (*www.plantauthority.gov.in*). This journal has the status of a gazette for the Act.



Plant Variety Journal of India- A Gazette for PPV & FR Act

During the period under report, specific DUS test guidelines of durum wheat (*Triticum durum* Desf.), dicoccum wheat (*Triticum dicoccum* L.) and other *Triticum* species, isabgol (*Plantago ovata* Forsk.), damask rose (*Rosa damascena* Mill), periwinkle (*Catharanthus roseus* L; G Don), brahmi (*Bacopa monnieri* L; Pennell) and coconut (*Cocos nucifera* L.) were published, passport data of 121 new and extant varieties about which there is a common knowledge accepted for DUS test as well as passport data of 131 extant notified varieties accepted for registration were published seeking opposition, if any, from any interested person/organization. Details of 95 extant notified varieties which were registered and issued certificate of registration by the Registrar on

behalf of the Authority were published in the journal for the purpose of inviting applications for benefit sharing. Several official / public notices including constitution of second EVRC Committee, revised timings for receiving of applications for registration in Authority, notice for receiving applications of extant varieties for new crop species notified by the Authority, extension of time for filing of applications of farmers' variety and extant variety about which there is a common knowledge, submission of germination test report obtained from public as well as private seed companies, notification of DUS test fee for new crop species notified by the Authority, were also published in public interest.

2.12 Publications

Two brochures on *Farmers' Rights* and *PPV & FR Authority* and a poster highlighting the various aspects related to the Act and the activities of PPV & FR Authority were published.

3
National Register of Plant Varieties

The PPV & FR Authority, in compliance to Section 13 of the PPV & FR Act, 2001, opened the National Register of Plant Varieties at the Head office of the Plant Varieties Registry. The register has complete details of the names of all the registered plant varieties along with the names and addresses of the respective breeders, denomination, specifications , salient features etc. During the period of reporting, details of 3 new varieties, 2 farmers varieties and 212 extant varieties released under Section 5 of Seeds Act 1966 that have been registered under the Act.

4
National Gene Bank

As per the Section 27 of PPV & FR Act, 2001, every applicant/breeder has to deposit the required quantity of seeds or propagating material including seeds of parental lines as specified in the crop specific DUS test guidelines in the National gene bank. For this purpose, a separate Gene bank was established at the National Bureau of Plant Genetic Resources (NBPGR) old campus, New Delhi. Capacity was developed under the technical guidance and supervision of NBPGR and true (orthodox) seeds of registered varieties under the medium term storage conditions and short term storage/DUS test repository are being maintained in safe storage under controlled climatic conditions.

4.1 Medium Term Storage of seeds of Registered Varieties

Seed samples of all registered varieties are conserved in seed cabinets designed specifically for the purpose under controlled climatic conditions. The temperature is maintained at 4^0C with 30±5 % relative humidity to ensure that seed samples are physiologically viable for a long duration.

Seed samples of 272 extant varieties (notified under Section 5 of the Seeds Act, 1966), 2 new candidate varieties of wheat and 3 farmers' varieties for which the registration certificate were issued, are being kept. These seed samples will be kept during the period of protection and viability will be checked at prescribed intervals. If necessary rejuvenation of seed samples will be undertaken or breeder may be asked to submit fresh seed samples at their own cost in case of loss of viability of the submitted seed samples takes place. The seeds are hermetically sealed in a triple layer aluminum foil pouches of suitable size with proper labeling indicating the denomination of candidate variety, application number as allotted by the plant varieties registry, category (new/extant/variety of common knowledge/ farmers' etc), year of harvest and seed quality parameter (moisture content, viability and genetic purity). The entire specified seed quantity is required to be submitted in two equal size seed packets/pouches.

Table 4. Seed samples of registered varieties stored in the National Gene Bank under medium term storage condition

Year	2008-09	2009-10	2010-11
Public sector	Pearl millet(5), sorghum(3) greengram(5), blackgram(4) kidney bean(1), field pea(8) lentil(5), maize (6)	Pearl millet(17), rice(7), sorghum(8), greengram(12), blackgram(4), kidney bean(2), field pea(2), lentil(1), Bread wheat(46), maize(14), garden pea(4)	Rice(10), blackgram(1) kidney bean(1), maize(15), cotton(1). garden pea(1)

Year	2008-09	2009-10	2010-11
Private sector	Pearl millet(1), rice(1) sorghum(1)	Pearl millet(6), cotton(5) wheat(2)	Pearl millet(1) rice(2), maize(1)
Farmers'	Nil	Rice(3)	Nil

4.2 Short Term Storage of Seeds of varieties undergoing DUS test

A separate facility of the National Gene Bank is also used for short term storage of seeds of the candidate varieties undergoing DUS test. Section 19 of PPV & FR Act, 2001, stipulates that seeds of candidate varieties are required to be submitted for conducting appropriate tests to ascertain the distinctiveness, uniformity and stability (DUS). Rule 29(1) (c) also specifies that DUS test should be field and multi-location based for at least two crop seasons. Further, for new varieties, varieties of common knowledge under extant category and farmers' varieties, the applicant/breeder has to submit the specified quantities of seeds and for new varieties and varieties of common knowledge, breeders have to submit prescribed quantities of seeds, DUS test and registration fee. The seed samples should also adhere to the prescribed quality standards and the applicant is required to submit the seed testing certificate. The seeds should also be hermetically sealed in a triple layer aluminum foil pouches of suitable size with proper labeling indicating the denomination of candidate variety, application number as allotted by the plant varieties registry, category (new/extant/ variety of common knowledge/farmers' etc), year of harvest and seed quality parameter (moisture content, viability and genetic purity). The entire seed lot should be equally divided in ten (for new varieties) or five (for variety of common knowledge or Farmers' varieties) seed packets/pouches. Representative seed samples are sent to DUS test centres and rest of the samples are kept for any contingency. The seed packets are stored at 20 ± 2^{0}C till the period of DUS test is over. As on 31 March 2011, seeds of 237 new varieties, 105 varieties of common knowledge (including parental materials) and 25 farmer's varieties are being maintained under short term storage.

4.3 Field Gene Banks

The National Gene Bank of PPV & FRA has been established for medium term storage of orthodox or true seeds (e.g. rice, wheat, maize, sorghum, tomato, rapeseed-mustard, jute etc) of candidate varieties for plant variety registration purpose at PPV & FRA.

However, for fruit trees (like coconut, mango and citrus), plantation species (like *eucalyptus* and *poplar*), spices (black pepper, ginger and turmeric), commercial species, like rubber, that either produces recalcitrant (seeds normally do not withstand desiccation or low temperature storage and are not easy to store under conventional storage conditions) seeds having long regeneration cycles or sexually sterile, no seeds at all or species that are

normally clonally propagated (sugarcane and potato), planting material of these species are conserved at Field Gene Bank under *ex situ* conditions. Since the diversity of the genetic resources is abundant near the places of primary or secondary centres of origin or domestication, the species concerned are also adapted to the local agro-climatic conditions (like soil, water, temperature etc), field gene banks are also strategically established in these areas.

India is endowed with rich agro-biodiversity and many of the cultivated crops/ horticultural crops (e.g., mango, citrus, banana, tea, turmeric and ginger) have significant diversity. Hence, during XIth plan, PPV & FRA has identified 3 such centres in different agro-ecological regions, (i) Dr Balasaheb Swant Konkan Krishi Vidyapeeth, Dapoli and (ii) Birsa Agricultural University, Ranchi and (iii) Dr Y S Parmar University of Horticulture and Forestry (Regional Research Station at Mashobra).

Dr Balasaheb Sawant Konkan Krishi Vidyapeeth at Dapoli, is earmarked for establishment of a field gene bank for species suitable for western regions including konkan coast. The species earmarked are cashew, mango, ginger, small cardamom, black pepper, turmeric etc. Similarly, a field gene bank for commercially important horticultural, plantation, forestry species endemic to eastern region has been established at Birsa Agricultural University. Both these projects have completed 2 years of implementation. During March 2011, another project has been initiated at Regional Research station at mashobra of Dr Y S Parmar University of Horticulture and Forestry. It is mandated to establish a field gene bank for high altitude fruit and forest trees that are economically important for the hill states.

Both PPV & FRA and the respective institutions have a long term understanding to create necessary infrastructure facilities in the field under project mode. Since the field gene banks have legal implications where reference/examples varieties will be maintained hence the area (s) are properly fenced. The field gene banks facility will also be used as a repository of the varieties released (referral collection) from different geographical contexts having sub species/intra varietal variability and conserved at one place. Field gene banks will also maintain specimen plants of the varieties registered under the PPV & FR Act, 2001. Documentation regarding source, parentage, morphological/sexual/value for cultivation characteristics, digitalization and database management will help in discerning the distinctiveness during DUS test of applicants' varieties, help in resolving techno-legal issues and dispute settlement. The varieties are being collected from different niches, the mother planting materials are being characterized using IPGRI (now Bioversity International) descriptors. High density planting and modern method of horticultural management with optimum package of practices will be followed.

4.3.1 Field Gene Bank at Dr Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli:

The project entitled 'Collection, maintenance, evaluation and development of descriptors of

fruit and plantation crops and tree spices through live repository' is being implemented at Dr BS Konkan Krishi Vidyapeeth Dapoli. The site plan for reference varieties/DUS test block/ gene bank block has been laid out and land preparation for ginger, small cardamom, black pepper, turmeric etc have been completed.

The reference variety block for mango, citrus, turmeric, ginger and black pepper was established. In mango, 17 varieties were collected from 14 locations which are as follows. Alphonso (Vengurle, Dapoli, Deogad), Sindhu, Ratna (Rukhi), Neelum (Wakawali), Pairi, Niranjan (Aurangabad), Totapuri, Fernandina (Dicholi, Mhapsa, Sattari, Kodar), Mankurad, Goamankur, Rajapuri, Keshar (Junagad), Baramashi, Peddarasam (Adilabad), Chinnarasam (Medak), Banganpalli, Himayatpasand (Sangareddy). The characterization of mother plant was made for some DUS descriptors. The scion sticks were procured and conserved in reference variety block on common poly-embryonic rootstock, viz. 'Vellaikolamban' which is locally adapted. The nursery was established for grafting mango varieties on common polyembryonic rootstock. An 250 seedlings of 'Vellaikolamban' were raised in the nursery. The 150 vellaikolamban rootstock was established in gene bank at 3mx3m spacing.

Eight turmeric varieties viz. 'Krishna' (Sangli), 'Phule swarupa', 'Rajapuri', 'Tekurpetha', 'Selam' (Wai, Satara), 'Waigaon', 'Waigaon selection' (Akola) and 'Kaddappa' (Vasmat) were collected from 5 locations. Five ginger varieties, i.e. 'Mahim' (Kannad), 'Godra' (Nagthane), 'Maran' (Atit), 'Aurangabadi' (Bhatmarali) and 'Satari' were also collected from 5 locations. These turmeric and ginger varieties were planted in reference variety block under coconut plantation. The 15 black pepper varieties namely 'Panniyur 1-7', 'Sreekara', 'Panchami', 'Subhakara', 'Pournami', 'Girimunda', 'Malabar local', 'Sakthi', 'Thevam' were collected from Pepper Research Station, Panniyur and the Indian Institute of Spices Research Farm at Peruvannamuzhi in Kerala and planted in reference variety block. The 9 cardamom varieties, namely 'MHC 1', 'RRI', 'NKE 12', 'CCS 1', 'ICRI 1', 'ICRI 2', 'ICRI 3', 'ICRI 5', 'ICRI 7' collected from Cardamom Research Station at Appangala and the Indian Cardamom Research Institute at Myladumpara were collected for planting in reference variety block.

The citrus varieties, viz. 'Nagpur mandarin', 'Mosambi', 'Kagzi lime' and 'Seedless lemon' were collected from Nagpur and Dapoli and planted in reference variety block. To establish reference variety and field gene bank block, land was cleaned, the counter terracing was done, layout was made and plants were planted in respective block. The irrigation system has

been established through pitcher and drip irrigation. Necessary fencing has also been done and the construction work for field laboratory building has been started.

4.3.2 ***Field gene bank at Birsa Agricultural University (BAU), Ranchi:*** The project entitled *Maintenance of live repository for fruit trees and medicinal plant varieties under in situ collection for Eastern India ecosystem* was started in 2009 at BAU, Ranchi. The mandated crops assigned for the centre being mango, *aonla*, pineapple, guava, bamboo, citrus and banana (eastern region) to evaluate the important varieties of eastern India by using DUS criteria for its morphological characterization and to establish and maintain a live repository of registered/ example/farmer's varieties besides development/ refinement of descriptors for regionally important fruit crops. In the initial year of the project the basic infrastructure facilities (land development, land leveling, fencing, creation of temporary water bodies etc.) were created. In addition, iron gates and watchman room with facilities to keep small farm equipment were also developed. The planting material relating to different fruit crops and their scion were collected from different centres. The success rate of mango grafting was very poor and reattempt will be made. The collections of citrus and banana species are doing well. Six seedless lime collections have been also included. The guava plantation will be done by July-August in 2011. The salient achievements are:

- As on date, 13 acre area has been earmarked for the field gene bank and more area can be acquired as per need. 8 acres area has been fenced for mango DUS block, field gene bank and reference block for banana and guava.
- 44 varieties of mango scion have been procured from BAC Sabour (RAU), Department of Horticulture, BAU, Bidhan Chandra Krishi Viswavidyala (West Bengal), Indian Agricultural Research Institute (New Delhi), Central Institute for Subtropical Horticulture (Lucknow), Field Research Station, Sangareddy and other places and grafted *in situ* for DUS testing.
- From National Research Centre for Citrus at Nagpur, 25 collections each of acid lime, sweet orange and nagpur mandarin have been procured and planted in DUS block of citrus.
- Thirty one khasi mandarin have been procured from Barapani, Shillong and planted in the DUS block.
- Thirty varieties of banana have been collected from Banana Research Centre, Hajipur and Department of Horticulture, BAU, Ranchi and planted in DUS block

5
Development of DUS Test Guidelines for New Crop Species

5.1 DUS test guidelines completed during 2010-11

DUS test guidelines of 2 spice crops, 8 vegetables, 2 floriculture crops, 9 oilseed crops and 1 fruit crop were developed and the crop species were notified for initiation of plant variety registration. DUS test guidelines were developed by crop specific Directorates/ Centres and reviewed by an Expert Committee. The Authority also developed DUS test guidelines of *Triticum durum*, *T. dicoccum* and *Triticum sp.* (other than *aestivum*, *durum* and *dicoccum*), coconut, periwinkle (*Catharanthus roseus*), brahmi (*Bacopa monneri*), gulab (*Rosa damascene*), isabgul (*Plantago ovata*) and pudina (*Mentha arvensis*) and proposal for notification of these crop species to make them eligible for registration was submitted to the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

5.2 Projects for Development of New DUS Test Guidelines

During 2009-10, the Authority published an open advertisement in the *Current Science* calling for project proposals for development and validation of DUS descriptors, guidelines for new crop species of economic importance, documentation of farmers' varieties and related issues. In response to this, the authority received several proposals and after examination, peer review and presentations before the Project Appraisal Committee under the chairmanship of Dr B L Jalali, a number of projects were initiated and financial supports were provided (*Annexure 4*). The institute wise progresses is given as under:

5.2.1 Institute of Forest Genetics and Tree Breeding (IFGTB, Coimbatore): The project *Validation of DUS Testing guidelines for Casuarinas and Eucalyptus* aims at developing DUS testing procedure for 2 forestry crops, viz. *casuarina* and *eucalyptus*. The first phase of the project resulted in the development of a draft list of descriptors for these species and proposed guidelines for DUS testing. Since both the crops are allogamous species, only vegetatively multiplied clonal collections available with IFGTB, Coimbatore were considered for developing descriptors. In the current phase as desired by the Authority, the draft descriptors are to be validated with clones held with other organizations in the country like paper Industries, universities, forest departments and research institutions.

About 100 clones of *Eucalyptus camaldulensis* and *E. tereticornis* collected from 18 different provenances planted in two environments were studied to develop stable DUS characters. Multi-locational clonal trials of *Eucalyptus* showed about 31 characters of leaf, bark, branch and reproductive parts as DUS descriptors. Leaf morphological

variations observed through image analyzer were subjected to stepwise canonical discriminant analysis showed about 89.1% of discrimination for 10 clones and 50% discrimination for 69 clones. The tree bark traits, like type of bark peeling, colour of bark and type of branch scare were studied across the locations and seasons. Except the colour of bark, all the other traits were observed to be stable. Among these, 12 descriptors were found to have high discrimination potential.

Variation of anther colour in Casuarina

In the case of *casuarina*, clonal collections held by the Andhra Pradesh Forest Department's research wing (Rajahmundry, AP), Karnataka Forest Department (Hosekote, Bangalore) and Tamil Nadu Newsprint and Paper Limited (Karur, TN) were validated for descriptors. The number of clones assessed so far is 120 for the two species, viz. *Casuarina equisetifolia* and *C. junghuhniana*. Since all clones do not flower at the same time, multiple site visits were necessary to assess both vegetative and reproductive characters. Some of the clones were found to be the ones already described in the draft guidelines but known with a different identity. Ensuring proper identity for the clones held by different organizations will be necessary to validate them correctly.

5.2.2 ***Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow:*** CIMAP, Lucknow is implementing a project entitled *Development of DUS guidelines and strengthening of DUS test centres for laboratories and field facilities, digitalization and training in medicinal, aromatic and seed spices*.

The centre has 5 mandated crop species, viz. menthol mint *(Mentha arvensis),* perwinkle *(Catharanthus roseus)*, ashawagandha *(Withania somnifera)*, damask rose *(Rosa damascena*) and brahmi *(Bacopa monnieri*). A list of varieties given below:

Table 5. List of varieties

Crop species	Name of the varieties
Menthol mint *(Mentha arvensis)*	'Kosi', 'MAS 1', 'Kalka', 'Shivalik', 'Gomti', 'Sambhav', 'Himalaya', 'Sakashm', 'Kushal', 'CIMAP Saryu'
Periwinkle *(Catharanthus roseus)*	'Dhawal', 'Nirmal', 'Prabal'
Brahmi *(Bacopa monnieri*)	'CIM-Jagriti', 'Subodhak'
Damask rose *(Rosa damascena*)	'Ranisahiba', 'Noorjahan', 'Aligarh', 'Kanouj'
Ashawagandha *(Withania somnifera)*	'Poshita', 'CWS 81'

Reference varieties of mandated crops are being maintained. Recording of DUS descriptor information has been carried out on field trials in *Mentha arvensis* during 2010-11. Thirteen descriptors were used for mentha, e.g., plant growth habit, plant height, stem anthocyanin pigmentation, leaf: stem fresh weight ratio, leaf blade length, leaf blade width, leaf hairiness(upper side), leaf intensity of green colour, leaf anthocyanin colouration of margins, leaf lamina margins and essential oil content(%).

Varieties of Mentha

5.2.3 Directorate of Medicinal and Aromatic Plants Research (DMAPR), Anand: In the DUS project, kalmegh (*Andrographis paniculata* (Burm.f.) Wall. ex. Ness) and guggal [*Commiphora wightii* (Arnott.) Bhandari] were taken for development of DUS descriptors and maintenance of reference varieties of isabgol (*Plantago ovata*). During the *kharif* 2010, kalmegh plants were grown and seven characters (plant growth pattern, leaf shape, leaf length breadth ratio, leaf colour, leaf type, branch angle, inflorescence type) were identified. In guggal, 73 accessions (47 from Gujarat & 26 from Rajasthan) maintained at DMAPR were used for the development of descriptors. There are 61 females, 9 males and 3 hermaphrodites. All the accessions from Rajasthan are females. Based on plant architecture, three main types were identified, *viz. e*rect, semi-erect, drooping (spreading). Accessions were also screened based on plant height, plant spread, number of secondary branches, diameter of secondary branches, number of spines/ secondary branch and number of fruits/m of branches.


Maintenance breeding plots of Isabgul

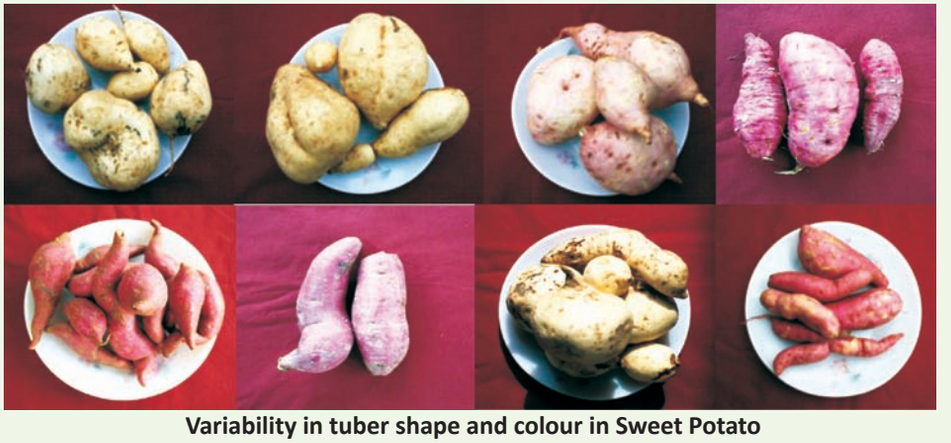
During the *rabi* 2010, 11 reference varieties in isabgul were maintained and characterized for nine DUS descriptors, viz. leaf colour, leaf pubescence, leaf breadth, plant growth habit, anther appearance, spike arrangements, spike peduncle, peduncle axis, spike flower arrangement.

5.2.4 National Research Centre for Seed Spices, Ajmer: During the period of reporting, seed samples of 24 coriander (*Coriandrum sativum* L.) varieties were collected from Haryana, Tamil Nadu, Uttarakhand, Uttar Pradesh, Bihar, Gujarat, Andhra Pradesh, Madhya Pradesh and Rajasthan. Following DUS descriptors were used for varietal characterization,

viz. days to germination, early plant vigour, leaf margin, leaf size, leaf colour, length of longest basal leaf including petiole (cm), number of basal leaves, habit of longest basal leaf, number of leaflets, leaf luster, number of days to stem initiation (count), streaks on stem, stem pubescence, stem colour, corolla colour, ratio of hermaphrodite flower to male flower, plant height, number of primary branches per plant, number of secondary branches, arrangement of umbellate on main umbel, number of umbel per plant, number of umbellate per plant, number of fruit/umbel, seed yield/plant (based on five plants), 1000 seed weight, seed colour, seed shape and seed size.

5.2.5 Central Tuber Crops Research Institute (CTCRI), Trivandrum: *Developing DUS Testing Criteria and Varietal Gene Bank Establishment for the Tropical Tuber Crops cassava and sweet potato* is being implemented at CTCRI, Trivandrum and co nodal centre at Bhubaneshwar.

- In cassava, 16 varieties were characterised in a replicated trial involving 55 descriptors (34 morphological and 21 quantitative traits). Nine stem, 11 leaf, 5 floral, and 19 tuber traits were recorded. Besides, 11 special characters like biochemical traits and others were also recorded. The six characteristics for grouping of varieties includes predominant colour of stem, emerging leaf colour, petiole colour, tuber shape, tuber cortex colour and tuber flesh colour.
- In sweet potato, 35 cultivars were evaluated for 55 descriptors (32 morphological and 13 quantitative). Seventeen floral characters, 16 shoot characters, 16 tuber characters and 4 special characters were recorded.



Variability in tuber shape and colour in Sweet Potato

The characteristics identified for grouping of varieties included predominant vine colour, leaf shape, stigma exertion, shape of corolla, tuber skin colour and tuber flesh colour. Majority of the sweet potato cultivars are found to be spreading type while Gouri and Kanjangad has semi compact plant type.

5.2.6 Central Institute of Temperate Horticulture, Srinagar: The DUS project *Validation of DUS International Guidelines under Indian Condition for apple, pear, walnut, almond, apricot and cherry* are being implemented by the institute since 2009 with the following objective (s), (i) to standardize, validate and evaluate the DUS Test guidelines, (ii) to characterize the extent of variability and, (iii) to develop national data base on these fruits.

An 88 apple cultivars/ varieties/ germplasm/land races /selections/ root stocks are being evaluated and maintained in germplasm block. The data in respect to vegetative growth, tree habit, flowering fruit set characters, fruit related data and some quality parameter related traits are being recorded in apple. Ten rootstocks of apple and nine *Malus baccatta* accessions are being evaluated. Apple and pear descriptors are being evaluated under Srinagar condition. One year recorded data are being analyzed for the further grouping for preparation of descriptor of apple and pear. Apart from this, the centre is maintaining 204 apple varieties and 35 pear varieties.

More than 85 genotypes/varieties of walnut and all the almond varieties have also been characterized on molecular basis using RAPD (Rapid Amplified Polymorphic DNA) and SSR (Single Sequence Repeats) markers. Total of 54 apricot and 26 cherry varieties /germplasm/ land races were evaluated and maintained in germplasm block 40 descriptors for apricot and 21 descriptors for cherry as per the IPGRI (now Bioversity International) descriptor list are being utilized for varietal evaluation.

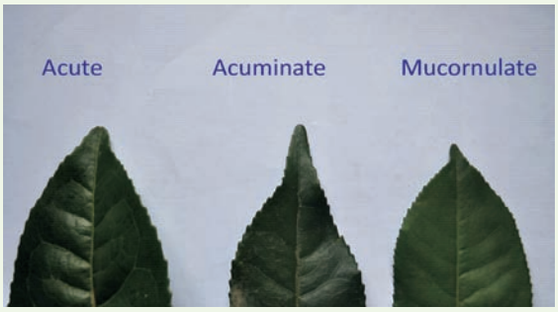
5.2.7 Indian Institute of Spices Research, Kozhikode: *Establishment of DUS Test Centre for Spices* is a DUS project being implemented at Indian Institute of Spices Research, Kozhikode and the coordinating centres are ICAR Research Complex for North Eastern Hills Region, Barapani (for ginger and turmeric) and Indian Cardamom Research Institute, Myladumpara; Cardamom Research Centre, Heravanad (for black pepper). The mandated crop species are ginger, turmeric, black pepper and small cardamom. The centres evaluated 28 reference varieties in ginger, 35 reference varieties in turmeric, 21 reference varieties in small cardamom and 15 reference varieties in black pepper. In ginger, varieties were characterized for 13 DUS descriptors and rhizome characters will be evaluated after the harvest. In turmeric, data were taken on 24 DUS descriptors.

5.2.8 National Research Centre (NRC) for Citrus, Nagpur: The DUS project entitled *Finalizing crop specific DUS Testing guidelines for citrus* (*Citrus reticulata, C. sinensis and C. aurantifolia*) is being implemented at NRC Citrus, Nagpur and the mandated crops are (i) Nagpur mandarin (*C. reticulata*), (ii) Coorg mandarin (*C. reticulata*), (iii) Khasi mandarin (*C. reticulata*), (iv) Mosambi (*C. sinensis*), (iv) Sathgudi (*C. sinensis*) and (v) Kagzi nimboo (*C. aurantifolia*). To finalize the DUS testing guidelines for citrus, observation on total 14 main characters (leaf size, absence/presence of petiole wings, flower type, number of stamens, fruiting season, fruit weight, fruit size, shape of fruit base, shape of fruit apex, fruit surface texture, albedo colour, juice content in endocarp, total solluble solids/acid ratio and cotyledon colour) were recorded in different seasons for six commercial citrus cultivars ('Nagpur mandarin', 'Khasi mandarin', 'Coorg mandarin', 'Sathgudi', 'Mosambi' and 'Kagzi nimboo').

5.2.9 National Research Centre for Orchids, Sikkim: In this project, 41 hybrids of *Cymbidium*, 14 hybrids of *Dendrobium* and 9 hybrids of *Vanda* are being evaluated for development of DUS test guidelines using common descriptors. In *Cymbidium*, out of 66 characteristics, pseudo-bulb size, inflorescence length, number of flowers, flower width, flower duration, flower predominant color,

lip ornamentation, blooming time; in *Dendrobium*, out of the 66 characteristics, plant height, inter-node length and number, inflorescence length, flower width, lip colour, and ornamentation and flowering time and in *Vanda*, out of the 73 characteristics, plant type, internode length, leaf type, spike length, flower number, inflorescence colour, sepal and petal ornamentation, lip shape, colour and ornamentation, spur length and flowering time were used for grouping of species and hybrids. Characterization and digitalization of the identified hybrids of *Cymbidium*, *Dendrobium* and *Vanda* orchids were also completed.

5.2.10 Indian Institute of Horticultural Research, Bengaluru: Establishment of National Repository is an important DUS project of the institute. One hundred and fifteen varieties inclusive of both exotic and Indian rose varieties were collected. Rose repository is being established in both open fields as well as under protected cultivation. The varieties are classified into 4 groups, viz. long stalk roses for protected cultivation, long stalk roses for open field cultivation, short stalk (loose flower) roses for open field cultivation and roses for garden display. Characterisation and digital database develop has been completed as per DUS testing guidelines for 45 varieties Digital repository consists of visuals of all characters of reference variety as well as comparative visual of states for each characters under observation.



5.2.11 TOKLAI Experimental Station, Jorhat, Assam: The project *Validation of Tea Descriptors for developing DUS Guidelines and Registration of Tea Varieties* to develop DUS descriptors and validate the tea (*Camellia sinensis* and *C. assamica*) varieties was initiated at Tocklai Experimental Station, Tea Research Association, Jorhat Assam.

An 31 varieties for plain and 27 varieties for Darjeeling hills have been developed and released by Tocklai Experimental Station, Jorhat for commercial plantation (table 6). For DUS study clones are marked at Tocklai Experimental Station, Jorhat and R & D Centre at Nagrakata, West Bengal. The varieties are being characterized for 14 morphological characters, e.g., mature leaf shape, leaf apex shape, leaf apex habitat, leaf venation, leaf surface waxiness, petiole colour, branch angle, leaf angle etc. Apart from these, some special morphological characters are also identified.

Table 6. The list of varieties characterized at both the stations

Sl No	Variety code	Name of the variety	Sl No	Variety code	Name of the variety
1	TV1	'Bannockburn 157'	17	TV17	'Tukdah 246'
2	TV2	'Bannockburn 668'	18	TV18	'Rungli Rungliot 4/5'
3	TV3	'Bannockburn 777'	19	TV19	'Lingia 12'
4	TV4	'Tukdah 78'	20	TV20	'Phoobsering 1404'
5	TV5	'Tukdah135'	21	TV21	'Kopati 1/1'
6	TV6	'Tukdah 383'	22	TV22	'Balasun 9/3/76'
7	TV7	'Phoobsering 312'	23	TV23	'Teesta Valley 1'
8	TV8	'Phoobsering 1258'	24	TV24	'Sikkim 1'
9	TV9	'Happy Valley 39'	25	TV25	'Badamtam 15/263'
10	TV10	'CP1'	26	TV26	'Thurbo 3'
11	TV11	'Rungli Rungliot 17/144'	27	TV27	'Thurbo 9'
12	TV12	'AV2'	28	TV28	
13	TV13	'Balasun 7/1A/76'	29	TV29	
14	TV14	'Sundaram B/5/63'	30	TV30	
15	TV15	'Tukdah 145'	31	TV31	
16	TV16	'Tukdah 253'			

5.2.12 Rain Forest Research Institute, Jorhat: During March 2011, a project entitled *Establishment of germplasm bank for variability* in *Dendrocalamus hamiltonii* and *Bambusa balcoa* was initiated and will be implemented at Rain Forest Research Institute, Jorhat, Assam.

5.2.13 Himalayan Forest Research Institute, Shimla: The project has a mandate to identify and define distinct traits in *Pinus roxburghii* and *Cedrus deodara* in respect of needle length and colour, bark, branching pattern, cone size and shape, crown form. The centre surveyed three populations of the deodar and chir-pine species and identified individuals with traits showing distinctness with respect to needle colour and size, bark colour and shape and crown form.

5.2.14 Central Institute for Arid Horticulture, Bikaner: The centre collected 11 released varieties of muskmelon ('Arka Jeet', 'Arka Rajhans', 'RM 43', 'RM 50', 'MHY 3', 'MHY 5', 'Durgapura Madhu', 'Kashi Madhu', 'Pusa Madhuras', 'Pusa Sharbati' and 'GMM 3') and 9 varieties of watermelon ('Charleston Grey', 'Durgapura Lal', 'RW 187-2', 'Asahi Yamato', 'Sugar Baby', 'Arka Manik', 'AHW 19', 'AHW 65' and 'Thar Manak') from different ICAR institutes/ SAUs. The seed of all the varieties has been distributed to all the cooperating centres. Seed of all the collected varieties was sown in February 2011. Up to March 2011 these varieties have been characterized for different morphological characters (seed and leaf characters) for DUS testing. The significant achievements are as follows:

- In muskmelon, seed colour was white ('Arka Jeet', 'Arka Rajhans', 'Kashi Madhu', 'Pusa Madhuras'), creamy yellow ('GMM 3', 'RM 43', 'Durgapura Madhu') and yellow ('Pusa Sharbati'). 100 seed weight varied from 1.75g in 'Arka Jeet' to 4.02g in 'RM 50'. The intensity of green colour of cotyledon was light ('MHY 3', 'RM 50'), medium ('Durgapura Madhu', 'Kashi Madhu', 'Pusa Sharbati') and dark ('Arka Jeet'). Length of cotyledon ranges from 2.49 cm in 'Arka Jeet' to 4.47 in 'RM 50'. The intensity of leaf blade colour varied from light ('RM 43'), medium ('Arka Jeet', 'Durgapura Madhu') and dark ('Kashi Madhu', 'Pusa Sharbati', 'Pusa Madhuras').

- In watermelon, seed colour of 'RW 187-2' was uniform white. Maximum seed length was observed in 'Charleston Grey' (1.25cm) and minimum in 'Arka Manik' (0.68cm). 100 seed weight varied from 3.77g in 'Arka Manik' to 10.44g in 'Thar Manak'. Length of cotyledon varied from 2.46cm in 'Durgapura Lal' to 4.71cm in 'Thar Manak'. Leaf shape was pentalobate in all varieties of watermelon except Durgapura Lal where the leaf shape was non-lobed.

5.2.15 National Research Centre for Banana (NRCB), Trichy: The project *Framing of Crop Specific DUS Guidelines for banana* (*Musa* spp.) was initiated in June 2010. Thirty reference accessions have been identified representing all genomic diversity existing among the commercial varieties of the Indian sub continent (AA, BB, AAA, AAB, ABB). The clones were extracted from virus free

(Banana Bunchy Top Virus, Banana Bract Mosaic Virus, Banana Streak Virus and Infectious chlorosis) mother plants for sucker multiplication. Planting was done during October 2010 at NRCB, Trichy and in January 2011 at collaborating centre, Horticultural Research Centre, Nagicherra at Tripura. Data were recorded for 121 characters as per the IPGRI (now Bioversity International) descriptors. An orientation and discussion programme on framing of crop specific DUS Guidelines for banana was conducted during 21-23 September 2010 to 23.09.10 at NRCB, Trichy.

5.2.16 Forest College and Research Institute, Metupallyam, Tamil Nadu Agricultural University: The salient achievement of the project *Developing DUS descriptors and test guidelines for tree species of Neem, Karanj and Jatropha* are being implemented as under:

- Pencil thick root stock is used to graft scion materials from mother trees/ candidate plus trees in cleft grafting method in Karanj.
- In *Jatropha curcus* , medium size cuttings of 20 cm length and diameter of 1.3 to 1.7 cm gives more than 90% rooting.
- In Karanj, 19 descriptors were developed and documented with photographic evidences for growth and reproductive traits.

- In Jatropha hybrids, 25 descriptors were developed for various growth and reproductive traits.
- In Neem, 12 descriptors were developed and documented.

5.2.17 Indian Institute of Vegetable Research, Varanasi and Indian Institute of Horticultural Research, Bengaluru: The project *Validating crop specific DUS testing guidelines for cucumber* (*Cucumis sativus*), *bottle gourd* (*Lagenaria sineraria), bitter gourd* (*Momordica chrantia*), *pumpkin* (*Cucurbita moschata) and pointed gourd* (*Trichosanthes dioca*) is being implemented at Indian Institute of Vegetable Research, Varanasi and Indian Institute of Horticultural Research, Bengaluru. In pumpkin, 15 varieties were raised using the recommended cultural practices with proper maintenance and selfing was done during summer 2010-11. In bottle gourd, seeds of 26 varieties were sown in three replications in the field during summer 2010-11 and again in February 2011. In pointed gourd, 10 varieties were tested during *rabi* 2010 with the distance of 2.0m x 2.0 m in three replications. In cucumber,

16 varieties were tested in three replications in the field in summer 2010-11 and again sown in February, 2011. In bitter gourd, 23 varieties were sown in three replications in the field during summer 2010-11 and again in March 2011. Data were recorded according to draft DUS guidelines for all the crops, seeds were extracted from selfed fruits of each variety and stored for next year use. The varietal details can be seen in Table 7.

Table 7. List of varieties of five crops

Pumpkin	'Kashi Harit', 'VRPK-222-2-1', 'Arka Chandan', 'VRPK-07-01', 'KPS-1', 'Pusa Vishwash', 'CM 350', 'Narendra Amrit', 'Arka Suryamukhi', 'Pusa Vikash', 'Saras', 'Narendra Agrim', 'Co 2', 'VRPK 62', 'Anand Pumpkin 1'
Bottle gourd	'Kashi Ganga', 'VRBG 136', 'Narendra Jyoti', 'Arka Bahar', 'Pusa Sandesh', 'Pusa Samridhi', 'Pant Lauki 1', 'Narendra Dharidar', 'Pusa Santusthi', 'VRBG 7', 'Pusa Naveen', 'VR 2', 'Kalyanpur Long Green', 'VR 1', 'KBGR 12', 'Punjab Long', 'Narendra Rashmi', 'GH 22', 'ABG 1', 'Punjab Komal', 'C0 1', 'NDBG 619', 'NDBG 132', 'Jora Botta', 'DR 1'(Cut leaf), 'Rajendra Chamatkar'
Bitter gourd	'Pusa Do Mausami', 'Hirkani', 'M C 84', 'Phule Ujawala', 'Kalyanpur Sona', 'Sel 1', 'Kashi Urvashi', 'Kalyanpur Baramashi', 'Punjab 14', 'HABG 21', 'HABG 1', 'NDBT 9', 'VR 1', 'VR 333', 'Meghna 2', 'Preethi', 'NDBT 7', 'habg 22', 'Sel 5', 'CO 1', 'Solan Hara', 'Arka harit', 'Pusa Vishesh'
Cucumber	'Sarna Ageti', 'Phule Shubangi', 'Sel 97-7', 'CH 20', 'Gujarat Cucumber 1', 'Peb Kmal', 'Japanese Long Green', 'CO 1', 'PCUC 28', 'Punjab Navneet', 'Pant Khira 1', 'K 75', 'Swarna Sheetal', 'Kalyanpur Green', 'Swarna Poorna', 'K 90'
Pointed gourd	'Parwal 1', 'Parwal General', 'IIVR-PG-4', 'Parwal 2', 'Parwal 3', 'Parwal Male', 'IIVR-PG 1', 'IIVR-PG 2', 'IIVR-PG 3', 'Male'

5.2.18 Central Institute of Subtropical Horticulture, Lucknow: *DUS testing in mango and validation of guava, litchi and papaya descriptors under different environmental conditions for developing DUS guidelines* is a multi-institutional project having nodal centre at Central Institute for Subtropical Horticulture (CISH), Lucknow. Other co-nodal centres are Indian Institute of Horticultural Research (IIHR), Bangaluru; Regional Fruit Research Station, Vengurle; Horticulture and Agro-forestry Research Programme (HARP), Plandu, Ranchi and G.B. Pant University of Agriculture and Technology, Pantnagar. Characterization of mango varieties was done at CISH, Lucknow (100), IIHR (60) from DUS test point of view. During this period, fruit characterization data were collected and images were digitalized at CISH. At IIHR, vegetative and flowering characters were documented. For developing DUS guidelines for guava and litchi, descriptors available from IPGRI (now Bioversity International) and other sources were used for developing tentative guidelines. Characterization data on flowering has been started at HARP, Ranchi

and GBPUA&T, Pantnagar. The developed guidelines will be validated in fruiting season of 2011. Information on farmers' varieties (50) in mango was collected for documentation.

5.2.19 Sardarkrushinagar Agricultural University, Sardarkrushinagar: DUS project entitled, *Maintenance Breeding and purification of existing varieties of pulses* are being implemented since September 2009. This project was initiated mainly to study the maintenance breeding techniques which can be adopted for reference and example varieties of pulses and other crops for a period of two years and being conducted at the Centre for Excellence for Pulses Research at the Sardarkrushinagar Agricultural University. The major achievement (s) are as follows:

- Released varieties of pigeon pea ('GT 101', 'GT 100', 'GT 1', 'Banas', 'ICPL 87', 'T 15-15', 'Asha', 'AGT 2', 'Vaishali', 'UPAS 120', 'BDN 2', 'GTR 11', 'GT 288 B' were maintained in plant-to-row fashion under insect proof mobile net house.

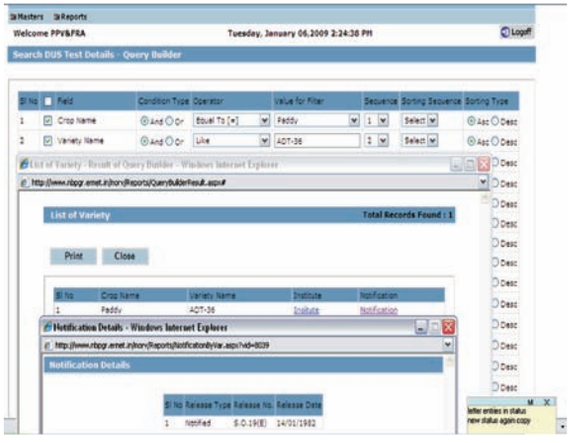
- Released varieties and promising material of green gram ('K 851', 'GM 4', 'Meha', 'Tharad Local', 'SML 668', 'Pusa Vishal', 'GM 2'), black gram ('T 9', 'GU 1', 'TPU 4', 'TAU 1', 'GBG 593', 'RBU 38'), 'Cowpea' ('GC 3', 'GC 4', 'GC 5'), horse gram ('AK 21', 'AK 42'), Mothbean ('GMO 1', 'GMO 2', 'CZM 1', 'CZM 2') and cluster bean ('GG1', 'GG 2', 'PNB', 'GHG 5', 'HG 75', 'HG 365', 'HG 563', 'HG 2-20') were maintained in plant-to-row fashion ('NSS 1') and seed harvested. Varieties of green gram ('K 851', 'GM 4'), black gram ('T 9', 'GU 1'), cowpea ('GC 3', 'GC 4', 'GC 5'), horse gram ('AK 21', 'AK 42'), moth bean ('GMO 1', 'GMO 2') and cluster bean ('GG1', 'GG 2', 'PNB') were maintained and multiplied in row to plot fashion (NSS 2).

- Old varieties, like K 851 and T 9 that have changed its genetic identity during long period of cultivation were also acquired from NBPGR and were grown for its maintenance. Diverse genetic material comprising 116 CGMS based A/B lines, 81 diversified R lines and germplasm were maintained under insect proof mobile net house. 111 accessions of twelve wild species of pigeon pea were maintained in *Cajanus* garden.

6
Development of Database, IINDUS & Website

The software *Indian Information System as per DUS Guidelines (IINDUS)* and *Notified and Released Varieties of India (NORV)* for the documentation of the extant varieties

notified under the Seeds Act, 1966 were developed. The content of the software include data for National Register of Plant Varieties, Form 1 and 2, Technical Questionnaire (TQ), data of extant varieties as per DUS guidelines, report of DNA fingerprinting and molecular biology information, digital herbarium, details of gene bank and e-journal. The above details of the applications received in the Plant varieties Registry for registration in different categories are being entered in the IINDUS version 08.1.



The Authority maintains its own website *www.plantauthority.gov.in* in both Hindi and English and hosted it on NIC (National Informatics Centre) server. The website contains information regarding the chairperson and members of the Authority; overview of the PPV & FR Act, 2001; details of DUS centre, publications, list of crop species eligible for plant variety registrations; DUS guidelines; status of applications etc.

7
Legal Cell

7.1 Right To Information (RTI)

The PPV & FR Authority has already nominated Assistant Central Public Information Officer, Central Public Information Officer and First Appellate Authority for effective disposal of information sought in the public interest under the Right to Information Act, 2005. The details of the designated officers are available on Authority's website under the heading RTI. During the period, the Authority received 11 applications either directly or through transfer from other departments seeking different information under the RTI Act, 2005 and the information sought was made available within the prescribed time. One case of appeal under Central Information Commission was also effectively disposed of. Most of the applications pertain to the registry section of PPV & FR Authority.

7.2 Legal Matters

Legal cell of the PPV & FR Authority comprised of two full time qualified and experienced Legal Advisors who discharge several functions, like drafting sub-ordinate legislations, drafting reply to court cases filed against the Plant Varieties Registry, rendering legal advise and inputs to proceedings before the Authority and Registrar, advice on international matters/ treaties. The legal cell has also defended the Authority in all cases before the various Courts. egal inputs were given in various issues relating to registration of plant varieties and also on International matters relating to plant variety protection. Legal opinion was also furnished in judicial proceedings before the Authority.

The notification of oil seeds and vegetable crop species were published in The Gazette of India on 30 April 2010 and 2 December 2010. Amendment was also made in the Rules to accommodate on-site DUS testing for trees and vines which was published in gazette on

3 October 2010. [Plant Variety Protection Appellate Tribunal (Applications and Appeals) Rules, 2010- vide G.S.R. 772(E), dated 21 September 2010.] The decisions of the Registrar has been reported in law journals viz., 2010 (44) PTC 328 and 2010 (44) PTC 341. Some of the important judgements given by the Registrar are given below:

I. ***In re Suo motu order dated 11-2-2011:*** Rule 24-Time limit for registration of extant varieties to be computed from date of notification under section 29 (2) or from date of notification of DUS criteria

Held- Time limit for registration of extant varieties to be computed from date of notification of DUS criteria, if DUS criteria is notified subsequent to notification of crops under section 29 (2).

II. ***In re A.No. Reg/2008/372 dated 11.2.2011.:*** **Held**-Rule 30(3)-Details of GEAC clearance is mandatory to be published in PVJ. Contents of advertisement in PVJ is inclusive in nature and not exhaustive. Registrar has power to withdraw the acceptance and re-advertise the application.

III. ***Nuziveedu -vs- Mahyco:*** [Form PV-5 dated 25.10.2010 in opposition against registration of C 5193] dated 3.12.2010]

Held-petition seeking extension of time for filing evidence can also be filed even after expiry of time limit if sufficient cause is shown. Opportunity forfeited by Rule 32 can be extended by order Rule 33 (6).

IV. ***Mahyco -vs- Prabhat Agribiotech Ltd., [2010 44 PTC 341]***: Rule 8 (2)(d)- Date on which entire fee is paid is the date of filing of application

Held – Rule 8(2)(d) cannot be applied when fees were not prescribed. Rule can be applied only from the date when fees were prescribed.

V. ***Nuziveedu -vs- Mahyco [2010 (44) PTC 328]:*** Head note of Rule 33 provides for extending time limit for filing notice of opposition – Rule 33 does not provide for extending time-limit for filing notice of opposition- heading prefixed to section may explain ambiguous words

Held-time-limit for filing notice of opposition can extended if sufficient cause is shown.

7.3 Parliamentary Questions

Authority received 4 questions from Rajya Sabha secretariat and 6 questions from Lok Sabha Secretariat and responses were sent to the nodal department at Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

8
Activities related to Farmers' Rights

The Government of India, through PPV & FR Act, 2001 provides an excellent opportunity to farmers and farming community including tribal community engaged in conservation and protection of genetic resources, particularly the areas identified as agro-biodiversity hot-spot for recognition and award to the concerned community. Farmers' varieties have got maximum attention under the PPV & FR Act 2001 due to its adaptability to varied climatic condition and soil. The farmers' varieties, as specified in the Act, are entitled for registration without any charges and fees. Thus, the farmers' are encouraged for registration of their varieties developed or evolved by them. It is important that awareness among farmers' about farmers' rights, registration of farmers' varieties, Plant Genome Savior Community Award in recognition of their contribution in conservation and preservation of plant genetic resources are required to be initiated. Several programmes were organized to generate awareness among farmers, plant breeders, researchers and also for general public about different provisions laid in the PPV & FR Act through State Agricultural Universities, ICAR research institutes, academia, societies, KVKs and NGOs etc with financial assistance from the Authority.

The Authority has also constituted a standing committee to advice on farmers' rights. In the current year the applications were invited by advertising in national dailies for *Plant Genome Savior Community Award*. The awards for 2009-10 were announced after a very rigorous screening process.

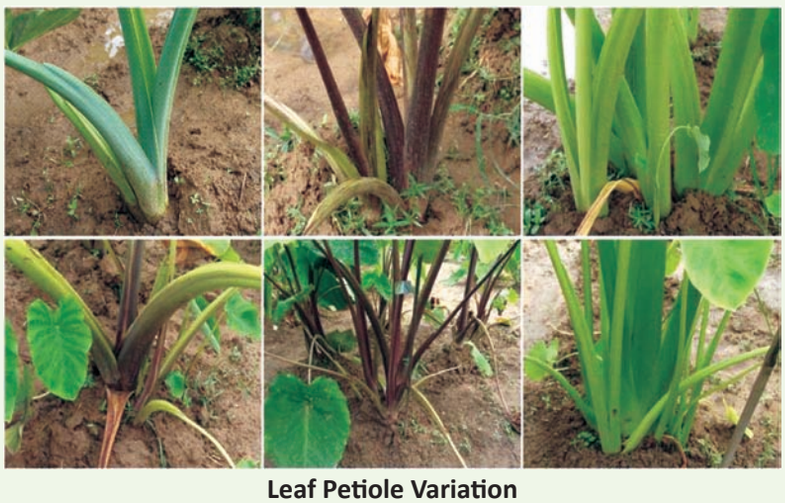
8.1 DUS Projects on Farmers' Varieties/Rights

8.1.1 Rice biodiversity conservation and training on Farmers' Rights in Jharkhand and Meghalaya by Gene Campaign, New Delhi: In this project, seed samples of traditional varieties of paddy have been collected from Orissa (34) and Jharkhand (16). The seeds are processed, dried and conserved in the seed gene bank. Twenty six varieties were cultivated by the

communities in low land, 17 in mid land, while remaining 7 were cultivated in the uplands. Mid land and low land varieties are suitable for transplanted ecologies while upland varieties are suitable for dry land ecologies.

One seed bank was established during this period that contains 104 traditional varieties. Among these varieties, 43 were suitable for cultivation in the lowland, 43 for mid land and 9 for upland. Six varieties are suitable for midland and lowland while 3 are for mid land and upland. A management committee was constituted in consultation and with choice of the villages for smooth management and maintenance of the seed bank. The committee comprises of 5 members who are imparted training on book keeping, and record maintenance of germplasm availability, supply to farmers and recollecting, seed cleaning, seed drying.

8.1.2 Collection, characterization and conservation of indigenous landraces of colocasia (C. esculenta) from North Eastern Hills by ICAR NEH, Medziphema centre, Nagaland: The project has mandate (s) like, (i) to survey and collection of indigenous landraces/cultivars of colocasia, (ii) to study morphological variation and evaluation of *ex situ* collection for traits relevant for use in germplasm enhancement, (iii) to evaluate and characterize collected land races/cultivars as per the standard descriptor, (iv) to prepare the descriptor of colocasia, documentation and conservation of indigenous landraces and (v) creation of awareness and training on line protection and farmers' rights.



Leaf Petiole Variation

The survey was conducted during 2010 -11 to collect the local landraces of colocasia in 4 districts of Nagaland, *viz.* Kohima, Mon, Wokha and Dimapur and adjoining areas of Assam. In total, 22 accessions were collected from these places, of which, 8 accessions from Wokha district, 3 from Kohima district, 3 from Mon district, 4 from Dimapur district and 4 from Golghat district of Assam.

The lines collected from the various places were evaluated for morphological characters as per the International Plant Genetic Resource Institute (Bioversity International) list. For the descriptors, the following is being taken up, leaf shape (apex down, apex up, cup shape, horizontal); leaf blade (undulate, entire, sinuate); leaf blade colour (green, dark- green), leaf blade variegation (present, absent); colour of leaf blade margin (green, yellow, purple); petiole junction pattern (small, medium, absent); petiole junction colour (purple, yellow, colour absent); leaf vein colour (light-green, green & purple); plant height (dwarf, medium tall); plant span (narrow, broad, wide); and other characters like no of suckers per plant, no of leaves per plant, leaf length, leaf width, petiole length, no of corms per plant, no of cormels, total corm weight, total cormel weight etc.

8.1.3. Characterisation and registration of traditionally cultivated rice varieties along coastal belt and Cauvery delta of Tamil Nadu, Vaanghai, Nagapattinam, Tamilnadu: The project focused on characterization of traditional rice varieties from coastal belt and cauvery delta of Tamil Nadu. VAANGHAI has collected 69 rice varieties from Kanyakumari, Tutikorin, Ramad, Pudukottai, Tanjore, Thiruvarur, Cuddalore and Nagapattinam Districts of Tamil Nadu. The seeds, crop details and farming practices were also collected from farmers' field and documented in a scientific questionnaire. Fifty rice varieties were selected and grown for detailed characterization and subsequent progeny selection for distribution among farmers. The varieties are of short (70-100 days), medium (120-135 days) and long (140-180 days) duration crops. Sowing was done for 50 rice varieties in late *samba* season (according to the duration) and transplanted on single line with 10 inches spacing. The nursery beds were prepared in an area of 270m^2 and organic manure as basal done was given and with plant based/ herbal foliar spray in the nursery. These varieties were harvested and kept for drying. The seeds were stored in the seed bank established by VAANGHAI.

8.1.4 Institute of Environment and Eco Development, Patna: The project entitled *Exploration, documentation, indexing and characterization of farmers' varieties of arhar (Cajanus cajan) and bakla (Vicia faba) in Bihar* is being implemented by Institute of Environment and Eco Development, Patna since May 2010. The institute formulated and prepared a questionnaire for survey of

the participatory approaches of farmer for collecting information on personal, social, educational, technological and agricultural status of participatory farmers. An 166 farmers growing *arhar* and 232 farmers growing *bakla* in 6 districts of Bihar were surveyed.

Descriptors for *arhar* and bakla have been prepared for documentation of characteristics and registration of these two crops. For the information regarding farmer's variety of *arhar* and bakla, personal contact and interview are being conducted with officials from Govt. of Bihar, scientists from ICAR institutes and faculty members from Rajendra Agricultural University, Pusa.

For survey and observation, field visits have been conducted at Muzaffarpur, Vaishali, Bhojpur, Danapur, Buxar, Darbhanga and Samastipur districts where growers of traditional varieties of *arhar* and bakla are prevalent. The institute also organized one day training programme on 31 March 2011 at State Institute of Health and Family Welfare, Sheikhpura Patna.

8.1.5 M S Swaminathan Research Foundation (MSSRF), Chennai: A three year project on *DUS Characterization and evaluation of farmer's varieties of rice in the community gene bank of MSSRF* is under implementation by MSSRF.

Seed samples of farmers' varieties in community gene bank of MSSRF

MSSRF has facilitated farmers' groups both at Wayanad and Jeypore to file application for registration for the following rice varieties based on the DUS testing conducted at MSSRF. The varieties are, (i) at Wyanad, Kerala : 'Chennellu', 'Chomala', 'Jeeragasala', 'Gandakasala', 'Thondi' and 'Veliyan'; and (ii) at Jeypore, Orissa: 'Gothia', 'Haldichudi', 'Kalajeera', 'Machkanta', 'Umeriachudi'. After field evaluation, 210 varieties of seed materials has been forwarded to National Bureau of Plant Genetic Resources located at New Delhi. In addition, seed samples have been stored at the MSSRF Community Gene Bank at the foundation.

8.2 National Gene Fund

The National Gene Fund is constituted by the Government of India through the PPV & FR Act 2001. The PPV & FR Authority is operating and maintaining it separately. The

contribution in the National Gene Fund include: (i) benefit sharing received from the breeder of a variety or an essentially derived variety registered under the PPV & FR Act, 2001, (ii) annual fee received by PPV & FR Authority, (iii) compensation deposited and (iv) contribution by National and International organization.

As per the Act, the National Gene Fund shall be applied for meeting: (i) any amount payable by way of benefit sharing, (ii) compensation payable, (iii) the expenditure for supporting the conservation and sustainable use of genetic resources including *in situ* and *ex situ* collections and for strengthening the capability of the Panchayat in carrying out such conservation and sustainable use and (iv) the expenditure of the schemes relating to benefit sharing.

8.2.1 Plant Genome Savior Community Award 2009-10 : The Act provides that the Gene Fund will be utilized to support and reward farmers, community of farmers particularly the tribal, rural communities engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives particularly in areas identified as agro-biodiversity hot spots. In pursuance to award the farmers/ community of farmers, a Task Force was constituted to identify the agro-biodiversity hot spots. The task force has identified 22 agro-bio-diversity hot spots distributed over seven agro-geographical zones of India. The recommendations of the task force were published in two volumes which were adopted by the PPV & FR Authority.

Following this, after a series of meetings with experts, the Authority in consultation with Government of India has finalised the modalities and criteria for *Plant Genome Savior Community Award*. A maximum of five awards/year was constituted and it was decided that for 2009-10, two awards would be granted. The award consists of ₹10 lakhs in cash, a citation and a memento. The Authority advertised in major newspapers including vernacular languages for seeking applications/nominations for the Award. A committee was constituted to examine and recommend suitable communities engaged in agro-biodiversity conservation.

9
Training and Awareness Generation

For the benefit of different stakeholders, farmers, plant breeders and general public, PPV & FR Authority supports conduct of training cum awareness programmes all over India. Many such programmes are organized at ICAR institutes, State Agricultural Universities, research organizations and non-governmental organizations. Some of the programmes are highlighted below:

9.1 Training and awareness programmes

9.1.1 Training programme at Indian Institute of Horticultural Research, Bengaluru: Two awareness cum training programme were held at IIHR, Bangalore, on 27 December 2010 for scientists and plant breeders and another on 28 March 2011 for innovative and progressive growers respectively. In the first programme, 47 scientists and plant breeders participated. In the other programme, several legal experts, plant breeders, social scientists and representatives of State Horticultural Department including 82 farmers were participated. Dr Niranjan Murthy, who has translated the PPV & FR Act, 2001 in kannada, made an elaborate presentation, explained to the farmers about the genesis of the act and the benefits of plant variety registrations. Director, IIHR urged that the farmers may come forward and IIHR will facilitate registration of farmers' varieties. The programme was also covered by Doordarshan Kendra, Bangalore and subsequently telecasted in Krishi Darshan programme.

9.1.2 Awareness programme at Central Tuber Crops Research Institute, Trivandrum: The awareness programme held on 15 December 2010 was inaugurated by Shri M Ratnakaran, Hon'ble Minister for Agriculture (Kerela) and 150 participants including a large no of farmers from southern Kerala were participated. He mentioned about the biodiversity hotspots and the diverse biodiversity, culture, customs and traditions related to agriculture, food etc. A key note address was also given by Dr R V Varma, Chairman, Kerala State Biodiversity Board. All the subsequent lectures given by Dr P K Singh, Registrar (PPV & FRA), Dr C R Elsy

(Kerala Agricultural University), Dr K Abraham (Central Tuber Crops Research Institute) and Dr S Rajasekhran (TBGRI) on topics related to farmers' rights, Geographical Indications, access and benefit sharing etc were also translated in Malayalam.

9.1.3 Training cum awareness programmes organized by Chandra Sekhar Azad University of Agriculture & Technology (CSAUA&T)***, Kanpur:*** CSAUA&T organized 4 training programme as follows; 3 training programme on 29 March 2011 at Regional Research sub-station, Mainpuri, Hazratpur and Kalai and another on 30 March 2011 at Regional Research Station, Banda. Several issues, like seed legislation and plant variety protection issues, farmers' rights were discussed and discussions were made.

9.1.4 Training cum awareness programmes organized by Tamil Nadu Agricultural University (TNAU), Coimbatore: The programmes were organized at 9 locations in Tamil Nadu. Appox 100 participants from farming community, seed marketing industry, scientists from TNAU, agri-clinic personnel, state agricultural officers and students participated in the programme held on 10 February 2011 at Department of Plant Breeding and Genetics, Agricultural College and Research Station, Madurai. Lectures were given on wide ranging topics of international treaties and national legislations on plant varieties, registration of plant varieties, farmers' rights, geographical indications, DUS testing etc. An exhibition of different crop landraces was also organized. Apart from the lectures delivered in local languages, a training manual and a video CD were also distributed among the participants. One training programme was organized on 01 March 2011 at Horticultural College and Research Institutes, Periyakulam. Issues like DUS testing, seed requirement, protection and conservation of plant varieties under Act, farmers' rights were discussed and a small booklet containing all lectures was distributed among 100 participants. On 22 March 2011 another programme was organized at Regional Research Station, Payur and 103 participants from state agricultural departments, farmers from krishnagiri, scientists from KVK and Regional Research Station were attended. Discussions were held on trade and intellectual property issues, genesis of the Act and its implications, procedures of plant variety registrations, DUS testing and importance of conservation of wild relatives, land races and unique germplasm. A video film on the gene bank at TNAU was also screened to show how germplasm accessions are preserved. The participants were also taken around the research fields and various activities at the centre were explained.

9.1.5 Training programmes organized by Central Research Institute for Jute and Allied Fibers (CRIJAF), WB: As per the guidelines of the Authority, one day "Training-

cum-Awareness Programme on PPV and FRA" was organized on 9 October 2010 at CRIJAF, Barrackpore. The objective was to generate awareness among participants about intellectual property rights, protection of jute varieties and farmers' rights. About 51 farmers from all over the West Bengal, 9 scientists from different centres of AINPJAF, representatives from seed companies and research scholars participated in this programme. In his address Dr S Nagarajan described the role of farmers as conserver of genetic diversity, recognized their immense importance as breeder of new and improved varieties with biotic and abiotic stress resistance and also inspired the female farmers to participate in this type of awareness generating programme. In technical sessions, six lectures were given on PPV & FR Act, implications in breeding and research planning, DUS test guidelines for jute, reference collection of jute and its maintenance, filling up of application forms for protection of new varieties, development of molecular markers for identification of commercial varieties of Jute and present status of jute DUS testing. Another programme was conducted on 29 March 2011 where 50 farmers from baduria, north 24 parganas, balagarh, hooghly, purulia, tarakeshwar, barrackpore also participated.

9.1.6 Training programme at NRC for Agro Forestry, Jhansi: The training was conducted on 10 February to create awareness of provisions of National Gene Fund and activities of the Authority. About 100 participants were registered for the training including plant breeders, scientists, technical staff and research scholars of NRCAF and Indian Grassland & Fodder Research Institute, Jhansi and concerned scientists of CSWCRTI, Datia and KVKs and officers from the Directorate of Agriculture and Horticulture of the Jhansi division. Lectures and presentations were made to educate various provisions of the Act, and the questions raised by the audience were also answered satisfactorily.

9.1.7 Training at Chaudhary Sarawan Kumar Himachal Pradesh Krishi Vishwa Vidyalaya, Palampur: During the period 2010-11, funds were provided for organization of two training cum awareness programme at Banjaura, Kullu and Dhaula Kuan to bring awareness about the activities of the Authority and various provisions of the PPV & FR Act, 2001 among the scientists, officers of the state agriculture and horticulture department and farmers, NGOs, seed companies.

9.1.8 Training at Central Tuber Crops Research Institute (CTCRI), Thiruvanathapuram, Kerala: The institute organized one training cum awareness programme of PPV & FRA on 15 December 2010 at Thiruvanathapuram.

Besides, the ICAR Research Complex for Eastern Region at Patna also conducted 1 day training cum awareness programme on PPV & FRA for the eastern region with financial assistance from PPV & FRA to educate the farmers, farming communities, NGOs, small and medium farmers to improve their livelihood security as well as the sustainable agriculture. Session was devoted for presentations and lectures highlighting the objectives of the PPV & FR Act, 2001 and activities of the Authority.

9.1.9 Training for Hill States: With a view to create awareness about the PPV & FR Act in the North Eastern hill states, fourteen awareness programmes were organized in different states through ICAR Regional Centre for NEH Region, Barapani and Assam Agricultural University, Jorhat, B.N. College of Agriculture, Sonitpur, Jorhat for which funds were made available by the Authority.

9.1.10 Training at Central Rice Research Institute (CRRI), Cuttack: One day training-cum-awareness programme on *Protection of Plant varieties and Farmers' Rights Act-2001* with special reference to paddy was organized at CRRI, Cuttack on 11 October 2010. Dr T K Adhya, Director, CRRI inaugurated the training programme. More than 100 progressive farmers from Cuttack and neighboring districts participated in this training. Different aspects of PPV & FR Act, plant variety protection and seed laws of India, procedure for registration of plant varieties with special reference to farmers' varieties, farmers' rights and strategy/plan of action for registration of the farmers' varieties were deliberated by the resource persons from CRRI. By the end of the training programme about 100 farmers' varieties were identified which are being grown by these group of farmers. This initiated the procedure for submission of the applications for farmers' varieties of rice for registration with the PPV & FR Authority from the state of Odisha and it is pertinent to mention that Department of Agriculture and Food Production, Government of Odisha has taken a very proactive role in collecting, documenting and registration of farmer's varieties in Rice.

9.1.11 Awareness Programme: The awareness programme organised by various institutes of ICAR, like Directorate of Rapeseed & Mustard Research, Bharatpur; Central Soil Salinity Research Institute (CSSRI), Karnal; Directorate of Wheat Research (DWR), Karnal; Directorate of Maize Research, New Delhi, Directorate of Sorghum Research, Hyderabad; NRC for Seed Spices (NRCSS), Ajmer, were successful events during the year 2010-11.

9.1.12 Training Programme at SDAU, Sardarkrushinagar: The university conducted two training programmes, the first on 'Maintenance Breeding in Pulses' was conducted at the Centre during 7-8 September 2010. Second training on 'Maintenance Breeding in pigeon pea, castor and seed spices' was conducted during 9-10 November 2010. In total 62 scientists/researchers participated in these trainings. A technical Bulletin on "Maintenance Breeding in Pigeon pea" was also released during the Training on Maintenance Breeding on Pigeon pea, Castor and Seed Spices on 9 November 2010.

9.1.13 Awareness Drive: Several awareness drives were taken-up by various NGOs, like Tamil Nadu Scientific Research Organization, Puddukottai District, (Tamil Nadu), Foundation for Agricultural Resources and Environmental Remediation, New Delhi (FARMER), Bhagwati Education Society, Tamil Nadu, Centre for Ecology and Research Natarajapuram, South District Thanjavur, Tamil Nadu etc. Virtual Action on Agriculture by Nature Way Growing and Husbandry of Animals India (VAANGHAI) Nagapattinam conducted 9 training cum awareness workshops to sensitize the farmers and the common people about the objectives of the PPV & FR Act, in the Tamil Nadu. Trainings cum awareness programme during the 2010-11 was also organized by Voluntary Action for Research Development and Networking (VARDAN), New Delhi with the financial assistance from PPV & FRA in the states of Bihar, Jharkhand, UP, Haryana and Delhi.

9.2 Seminar Organised by PPV & FRA

National Consultative Seminar on Section *41 of PPV and FR Act, 2001: Rights of Communities* organized by PPV and FR Authority and held at Seminar Hall, National Academy of Agricultural Sciences Complex, New Delhi during 25-26 May 2010.

Major recommendations:

- As the issue of Section 41 of the PPV & FR Act, 2001, involves technical as well as legal frame work, the proceedings of this National Consultation may be once again thoroughly discussed in the second National Consultation to accommodate all the suggestions from the different stakeholders.
- An Expert Committee may be constituted to finalize the maximum limit of compensation.

- Some selected KVKs located at different agro-biodiversity hot spots may be identified as the centres where the applicants can file the claims and these KVKs may be trained for the verification of claims (in consultation with the SAUs and ICAR institutions.
- Provisions may be made for one time payment and settlement of claims for compensation. Benefit sharing may be decided on case to case basis.

9.3 Publications in Hindi and other activities

The Plant Variety Journal of India is published monthly by the Authority in Hindi and English. Two brochures in Hindi were published by the Authority. Awareness creation brochures and posters were also prepared and published by the Authority in hindi language. The Authority maintains its website in bilingual mode i.e. in Hindi and English. DUS test guidelines have been published in Hindi and English. Additionally, the Authority published its Annual Report in Hindi and English language. Letters and official communication received in Hindi were replied to in Hindi. The officers of the Authority delivered lectures in Hindi and English as per need.

9.4 Library

The Authority has been maintaining a small library for the reference of the staff/employees it has 396 books as on 31 March 2001 on various subjects including general agriculture, horticulture, intellectual property rights, plant breeding, biodiversity conservation, genetics, seed science and technology, literature, rules and regulations for central govt. employees, legal matters etc. The library also subscribes to the following journals: *The Economist, The Indian Journal of Agricultural Sciences, Indian Horticulture, Plant Science, Trends in Plant Science, Functional Ecology, The Indian Journal of Genetics and Plant Breeding, The Journal of World Intellectual Property.*

10
Activities Related to PPV & FR Authority

10.1 Branch Offices

Under Section 12 (2) of the PPV & FR Act, 2001, the Authority during the eleventh plan has established two Branch Offices one each at Ranchi and Guwahati. These Branch Offices are being made functional with the joining of the staff.

10.2 Meetings of PPV & FR Authority

The PPV & FR Authority conducted three meetings during 2010-11 as under:

Meeting	Date	Venue
10th Regular meeting	10 May 2010	Committee Room, College of Veterinary Sciences & Animal Husbandry, Aizawl, Mizoram
11 th Meeting : Special meeting Convened for adoption of audit report of the Authority for financial year 2009-10	19 October 2010	Committee Room III, NAAS, NASC complex, New Delhi
12 th regular meeting	18 February 2010	Committee Room, NAAS, NASC complex, New Delhi

Some of the important decisions taken by the Authority in these meetings include:

- Constitution of a three member committee to determine and decide the cases of benefit sharing and compensation
- Amendments in the PPV & FR Rules, 2003[(rule 29(1)(c)], for providing *On-site inspection of Varieties of Trees and Vines*
- Institution of Plant Genome Savior Community Award which carries a cash reward of Rs 10 lakh along with a memento and a citation
- Approval of the Annual fee return form
- Fixation of DUS test fees of new varieties of black pepper, small cardamom, ginger, turmeric, potato, tomato, brinjal, okra, cabbage, cauliflower, onion, garlic, rose, chrysanthemum and mango
- DUS test guidelines for additional crop species (durum wheat, dicoccum wheat and other *Triticum* species, coconut, periwinkle, *brahmi*, damask rose, *mentha*) for the purpose of registration

- Adoption of *Guidelines for Storage and Maintenance of Registered Plant Varieties in the National Gene Bank* and *Agro-Biodiversity Hotspots in India: Conservation and Benefit Sharing, Vol I & II*
- Time limit for registration of extant varieties notified under Section 5 of the Seeds Act, 1966
- Acceptance of the new pension scheme for the employees under direct recruitment at PPV & FRA

10.3 Meetings of the Project Appraisal Committee

The Project Appraisal Committee held its meeting on 14 September 2010 to appraise and finalize the projects for funding from PPV & FRA, which have been received in response to open advertisement in the *Current Science* and those submitted in response to decisions taken in the various meetings/ seminars organised by the PPV & FRA at different institutions. The projects were presented by the respective Project Investigators (PI)/ Co-PIs through the power point presentation and were discussed among the committee members and the officials of PPV & FRA. The progress of on-going 14 projects was also reviewed made the following general recommendation (s),

- The final reports of the projects should be submitted in detail and these reports should be maintained in the Authority library for future reference and records.
- Along with the annual review of the projects, field monitoring should also be done.
- A project on bar coding of the registered varieties may be initiated.
- Projects on Legal Issues need to be developed and funded on competitive grant basis.
- Farmers' varieties of rice from all over India need to be registered for which help from different organizations like KVKs, SAUs, ICAR institutes may be sought.

10.4 Foreign Visits

Dr P L Gautam, Chairperson, PPV & FRA participated in the Ministerial Conference on Biodiversity, Food Security and Climate Change and the Fourth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), Bali, Indonesia, during 11 – 18 March 2011. This conference adopted the Bali Ministerial Declaration on the ITPGR, in which participants engaged themselves to further enhancing the implementation of the Treaty to help meet the challenges of agricultural biodiversity erosion, food insecurity, extreme poverty and the effects of climate change; and called upon parties and relevant stakeholders to prioritize activities relevant to the Multi Lateral System (MLS), Standard Material Transfer Agreement (SMTA), sustainable use of plant genetic

resources, and farmers' rights, and to mobilize more effective and timely contributions to the implementation of the funding strategy and benefit-sharing fund. Dr P L Gautam has been elected as member (Asian Region) of the Bureau of the Fifth Governing Body of the Treaty.

Dr A K Malhotra, Registrar-General, PPV & FRA, participated in the Advance Patent Programme organized by Global Intellectual Property Academy of US Patent and Trademark Office at Alexandria, Virginia, United States of America during 13-16 July 2010. The programme focussed on (i) promoting innovation, (ii) US Patent and Trademark Law, (iii) IP and Innovations: an economic perspective, (v) Patent examination process, (vi) advanced claim & novelty analysis (vii) issues in biotechnology/pharmaceutical patent practices, and (viii) patent litigation systems in US etc.

10.5 Construction of the Campus of the Authority

The Competent Authority has allotted land measuring 10,480 m^2 to the Authority in IARI campus adjoining to Harbhajan Enclave, New Delhi for the construction of the campus of the Authority. The Authority, invited *Expression of Interest (EoI)* from Government/Public Sector organisation (s) for construction on turnkey basis of an office complex by an open advertisement in the leading national dailies, detaining the scope of work and requirement of the authority. After a competitive bidding process and evaluation of the technical and financial bids, Uttar Pradesh Rajikiya Nirman Nigam (UPRNN) Ltd., was awarded the contract to work as Project Management Consultant (PMC). At the time of reporting, the modalities of the agreement between the PMC and the Authority are being finalized. The work is expected to start in 2011-12.

11
Financial Statement

The accounts of the Authority were maintained on the conventional single entry system up to the financial year 2007-08. For the last three years, the accounts of the Authority are being maintained on accrual basis of accounting. The balance sheet, income and expenditure account and receipt and payment account along with supporting schedules and annexure (s) thereof were prepared in the formats prescribed by Controller General of Accounts (CGA) and Accounting Policies formulated based on applicable accounting standards as issued by Institute of Chartered Accountants of India.

A copy of the Balance Sheet, Income & Expenditure account and Receipts & Payments account are placed at *Annexure 12*.

In compliance of section 62(2) of PPV & FR Act, 2001, the accounts of the Authority were submitted to Comptroller and Auditor General. The audited accounts along with audit report and management reply shall be sent to the Ministry separately for placing before both the houses of the Parliament.

The Authority received ₹ 9.28 crore during 2010-11. Out of this grant, and the unutilized funds of ₹ 0.15 crore from the previous year, the Authority utilized ₹ 9.50 crores on cash basis. The additional expenditure was met from other sources of income.

12
Visitors

- Three member delegation represented by Mr Andy La Vigne, President of American Seed Trade Association, Ms Bernice Slutsky, Vice-President (Science & International Affairs) and Ms Lisa Nichols, Director (International Programs) visited on 9 April 2010 to discuss proposal on seed learning centre and to explore the prospects of governments collaboration
- Dutch Delegation consisting of Mr Theo Ruys, Board Member of Plantum, Ms Sandra Poot, Senior Strategy Manager of Plantum, Mr Arie Westmass of HZPC and Mr Anand Krishnan, Senior Policy Advisor of Embassy of Netherlands visited the Authority on 5 July 2010 to discuss various issues of plant variety protection in India
- Meeting with Mr Henk Van Duijin, Agricultural Counsellor of Embassy of Netherlands along with Mr Emar Gemmeke, Veterinary Phytosanitary Counsellor in China regarding strengthening relationship with India and Netherlands in the field of horticulture was held on 1 December 2010

- Meeting with delegation from Germany consisting of Mr Padraig O Scannlain, Mr Szelle, Mr Beyer and Mr Seitz on sharing of experience on registration of plant varieties and farmers' rights, 17 February 2011
- Meeting with officials of USDA, Mr David Leishman, Senior Agricultural Attache and Dr Santosh Singh, Agricultural Specialist on capacity building in implementation of PPV & FR Act, was organised on 22 March 2011.

13
Seminars/Workshops/Conferences

13.1 Participation by Dr P L Gautam, Chairperson

- Participated in the inaugural session as Expert Panelist and addressed the participants of Krishi Vigyan Kendra Conference on 22 December 2010 at Maharana Pratap University of Agriculture and Technology at Udaipur, Rajasthan.
- Addressed the participants in the Regional Workshop on Benefit Sharing Fund of the ITPGRFA on 6 January 2011 at M S Swaminathan Research Foundation, Chennai.
- Presided over the Plenary Session on Biodiversity-Focus on Fragile Costal Ecosystems on 7 January 2011 at Indian Science Congress, Chennai.
- Chief Guest of the closing session of International Conference on Preparing Agriculture for Climate Change held on 8 February 2011 organized by Punjab Agricultural University at Ludhiana.
- Participated in Stakeholder The Consultation on Economics of Ecosystems and Biodiversity in India held on 9 February 2011 at New Delhi.
- Chaired the 13th Research Advisory Committee Meeting of Central Plantation Crops Research Institute held on 14 February 2011 at Kasaragod, Kerela.
- Chaired the Technical Session on Government Policy and New Legislation: Impact on Seed Industry' during Indian Seed Congress, held on 22 February 2011 at Hyderabad.
- Chaired the Interface meeting of National Seed Association of India with PPV & FRA: on Implementation of Protection of Plant Varieties and Farmers' Rights Act, 2001.

13.2 Participation by PPV & FRA officials

- Dr Manoj Srivastava, Registrar and Dr Ajay Kumar Singh, STO, participated in the First Indian Biodiversity Congress 2010, National Seminar held during 28-30 December 2010 at Thiruvananthapuram, Kerala.

- Mr Dipal Roy Choudhury, Joint Registrar participated and delivered one lecture on Role of women in Biodiversity in different agro ecosystem (Rural women : food providers and producers) in the National Seminar on Gender and Biodiversity held at Directorate of Research on Women in Agriculture, Bhubaneswar on 29 December 2010.
- Dr Ajay Kumar Singh, STO participated in the National Seed Congress held at College of Agriculture, Pune during January 29-31, 2011.
- Dr P K Singh, Registrar participated in the Tenth Agricultural Science Congress on Soil, Plant and Animal Health for Enhanced and Sustained Agricultural Productivity held at NBFGR, Lucknow during 10-12 February, 2011.
- Dr P K Singh, Registrar participated in the Training-cum-Awareness programme on Protection of Plant Varieties and Farmers' Rights Act, 2001 held at ICAR Research Complex at Goa on 1st March, 2011.

14
Staff & News

- Career Advancement of the Staff: Recruitment rules for the various posts existing in the Authority have been revised making provisions for promotion from one grade to another
- Medical facilities to the staff: For providing medical facilities on CGHS to the staff of the Authority, several hospitals/labs in and around Delhi have been recognized.
- Dr S Nagarajan, Chairperson of PPV & FRA relinquished charge for the post of Chairperson on 13 October 2010.
- Dr P L Gautam joined as Chairperson of PPV & FR Authority on 3 November 2010.
- Mr R K Trivedi, Registrar PPV & FRA was relieved from the post on completion of his deputation on 13 November 2010.
- Mr D S Mishra, joined as Joint Registrar on deputation on 13 December 2010.
- Dr Ramesh Kumar, Sr. Technical Officer selected as Sr. Scientist in ICAR and relieved from PPV & FRA on 20 December 2010.
- Mr Ameer Ulla Siddiqui resigned and relieved from the post of Computer Assistant on 4 May 2010.
- Mr Nitesh Kumar Verma, Computer Assistant joined Director General of Foreign Trade as Console Operator on deputation on 7 December 2010.
- Ms Jyoti Sapra joined as Computer Assistant in the Authority on 2 February 2011.

15
Papers and Presentations

(i) S Nagarajan, R K Trivedi, D S Raj Ganesh and A K Singh. 2010. India registers plant varieties under PPV & FR Act, 2001. (In) *Current Science*, Vol. 99, No. 6, 25 September 2010, pp 723-725.

(ii) P K Singh, Manoj Srivastava, Ajay Kumar Singh, S P Yadav and P L Gautam. 2010. *Role of women in biodiversity in different agro eco-system*. (In) *National Seminar on Gender and Biodiversity,* held during 28-29 December 2010 at Directorate of Research on Women in Agriculture, Bhubaneswar, Orissa. Souvenir: pp 55-60.

(iii) Manoj Srivastava, Singh P K, Ajay Kumar Singh and P L Gautam. 2010. *Agro-biodiversity Hotspots: Identification* and *Recognition* of *Farmers'/Farming/Tribal Communities under the provisions of PPV & FR Act, 2001*. (In) First Indian Biodiversity Congress IBC 2010, held during 28-30 December 2010 at Thiruvananthapuram, Kerala. Souvenir: pp 166.

(iv) A K Singh, P K Singh, Manoj Srivastava and D S Misra. 2011. *Implementation of PPV & FR Act, 2001 in India*. (In) National Seed Congress held during 29-31 January 2011 at College of Agriculture, Pune. Souvenir: pp 154-158.

(v) P K Singh, Ajay Kumar Singh and Susheel Kumar. 2011. Implementation of Protection of Plant Varieties and Farmers' Rights Act, 2001: *Conserving Plant Agro-biodiversity of India*. (In) Tenth Agricultural Science Congress on Soil, Plant and Animal Health for Enhanced and Sustained Agricultural Productivity held during 10-12 February, 2011 at NBFGR, Lucknow. Souvenir: pp 130-134.

(vi) P K Singh, Ajay Kumar Singh and Susheel Kumar. 2011. Implementation of Protection of Plant Varieties and Farmers' Rights Act, 2001: Conserving Plant Agro-biodiversity of India. (In) Training-cum-Awareness programme on Protection of Plant Varieties and Farmers' Rights Act, 2001 held on 1st March, 2011 at ICAR Research Complex, Goa. Souvenir: pp 1-9.

16
Citizen's Charter

Vision

Establishment of effective system for protection of plant varieties, the rights of farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources and plant breeders and to encourage the development of new varieties of plants.

Mission

Contribute to accelerated agricultural development in the country to stimulate investment for research and development both in the public and private sector for the development of new plant varieties thus facilitating the growth of the seed industry in the country to ensure the availability of high quality seeds and planting material to the farmers.

Mandate

(a) The registration of new extant plant varieties subject to such terms and conditions and in the manner as may be prescribed.

(b) The developing characterization and documentation of varieties registered under this Act

(c) Documentation, indexing and cataloguing of farmers' varieties

(d) Compulsory cataloguing facilities for all varieties of plants

(e) Ensuring that seeds of the varieties registered under this Act are available to farmers and providing for compulsory licensing of such varieties if the breeder of such varieties or any other person entitled to produce such variety under this Act does not arrange for production and sale of the seed in the manner as may be prescribed

(f) Collecting statistics with regard to plant varieties, including the contribution of any person at any time in the evolution or development of any plant variety, in India or in any other country, for compilation and publication

(g) Ensuring the maintenance of the Register

Stakeholders

Protection of Plant Varieties and Farmers' Rights is a unique subject involving diverse activities, initiatives and stake holders. The stake holders in protection of Plant Varieties and

Farmers' Rights are Central Government., State Governments, Union Territories, Research organizations including Agricultural Universities, Seed Industries, NGOs and above all the farmers including tribal farming communities.

Services offered

(i) Providing IPR protection to plant varieties bred by farmers, researchers / plant breeders in the form of plant variety registration

(ii) Maintaining National Register of Plant varieties wherein details of plant varieties and the rights of respective breeders are mentioned

(iii) To provide compensation to the farmers in case a registered variety does not perform as per the claim made by the breeders.

(iv) Benefit sharing to the communities / farmers for the contribution / sharing of plant genetic resources.

(v) To create awareness and capacity building for the rights of plant breeders and farmers towards implementation of PPV & FR Act.

(vi) Providing plant varieties data base to stake holders.

(vii) To support and reward farmers, community of farmers, particularly the tribal and rural communities engaged in conservation, improvement and preservation of genetic resources.

Grievances redressal mechanism

Registrar-General, PPV and FRA is the designated officer for redressal of Public Grievances and can be addressed to:

Registrar-General
Protection of Plant Varieties and Farmers' Right Authority
S-2, A Block, NASC Complex, Opp. Todapur Village
New Delhi -110012.
Ph: 011-25843316. Fax: 011-25840478.
E mail: ppv&fra-agri@nic.in
www.plantauthority.gov.in

Expectation from the citizens / clients

To abide by the provision of PPV & FRA Act 2001 and Rules and Regulation made thereunder for registration of plant varieties and protection of farmers rights.

Annexure I

Members of PPV & FR Authority
(As on 31.3.2011)

Chairperson	
	Dr S Nagarajan (upto 13 October 2010) Dr PL Gautam (w.e.f. 3 November 2010)
Ex officio members	
1.	Dr Gurbachan Singh, Agriculture Commissioner, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, Krishi Bhawan, New Delhi – 110 114
2.	Dr Swapan Kumar Dutta, Deputy Director General (Crop Science), ICAR, Krishi Bhawan, New Delhi – 110 114
3.	Mr Anindo Majumder, Joint Secretary (Seeds), Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, Krishi Bhawan, New Delhi 110 014
4.	Dr Gorakh Singh, Horticulture Commissioner, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, Krishi Bhawan, New Delhi 110 014
5.	Dr K C Bansal, Director, National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi 110 012.
6.	Dr S Natesh, Adviser Grade-I, Government of India, Department of Biotechnology, CGO Complex, Lodhi Road, New Delhi 110 003
7.	Mr Satish Chandra, Joint Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India, Shastri Bhawan, New Delhi 110 001.
8.	Mr Hem Pande, Joint Secretary (dealing with Biosafety), Government of India, Ministry of Environment and Forests, Paryawaran Bhawan, CGO Complex, Lodhi Rd, New Delhi 110 003.
9.	Ms Rachel Chatterjee, IAS, Principal Secretary (Agriculture), Government of Andhra Pradesh, D Block, 1st Fl, Room No 273, Secretariat Office, Hyderabad
10.	Dr S N Puri, Vice Chancellor, Central Agricultural University, Manipur, Imphal 795001

11.	Mr Roshan Lal, IAS, Finance Commissioner & Principal Secretary (Agriculture), Room No 430, 4th Floor, Sector 17, New Haryana Secretariat Building, Chandigarh 160 017
Nominated members	
12.	Mr Raju Barwale, Managing Director (as Seed Industry representative), Maharashtra Hybrid Seeds Company Ltd. (Mahyco), Dawalwadi, PO Box 76, Jalna (MS) 431 203
13.	Mr A C Zonunmawia, Coordinator & Chairman(as Tribal organisation representative), Centre for Environment Protection (CEP), B-27/1, Tuikual South, Aizawl- 796 001(Mizoram)
14.	Mr P Narayanan Unny (as Farmers' organisation representative), Navara Eco Farm, Karukamani Kalam, Chittor College PO, Dist. Pallakad, Kerala 678 104
15.	Dr (Mrs) Vanaja Ramprasad, Managing Trustee (Women's organization representative), Green Foundation, 570/1, Padmavati Nilaya, 4th Cross, 3rd Main, N.S. Palya, BTM 2nd Stage, Bangaluru 560 076
Member Secretary (ex officio)	
16.	Dr A K Malhotra, Registrar-General, PPV & FR Authority

Annexure 2A

Sanctioned Posts of the Authority

Head Office (New Delhi)	
Name of the post with pay scale	**Posts sanctioned**
Chairperson ₹ 80,000/- fixed	1
Registrar General ₹ 67000-79000/-	1
Registrar ₹ 37000-67000/- with grade pay of ₹ 8700/-	3
Financial Adviser ₹ 37000-67000/- with grade pay of ₹ 8700/-	1
Joint Registrar ₹ 15600-39100/- with grade pay of ₹ 7600/-	2
Deputy Registrar ₹ 15600-39100/- with grade pay of ₹ 6600/-	1
Legal Adviser ₹ 15600-39100/- with grade pay of ₹ 6600/-	2
Senior Accounts Officer ₹ 15600-39100/- with grade pay of ₹ 6600/-	1
Senior Technical Officer ₹ 9300-34800/- with grade pay of ₹ 4600	3
Technical Assistant ₹ 9300-34800/- with grade pay of ₹ 4200/-	1
Computer Assistant ₹ 9300-34800/- with grade pay of ₹ 4200/-	6
Sub total	**20**
Branch Office (at Ranchi & Guwahati)	
Deputy Registrar ₹ 15600-39100/- with grade pay of ₹ 6600/-	2
Plant Variety Examiner ₹ 15600-39100/- with grade pay of ₹ 5400/-	2
Sr Technical Officer ₹ 9300-38400/- with grade pay of ₹ 4600/-	2
Executive Assistant ₹ 9300-34800/- with grade pay of ₹ 4200/-	2
Sub total	**8**
Total	**28**

Annexure 2 B

Details of Human Resources

Name of the post	Filled posts	Vacant posts
Dr S Nagarajan (Former Chairperson) upto 13.10.2010 Dr P L Gautam, Chairperson w.e.f. 03.11.2010	1	-
Registrar General Dr A K Malhotra	1	-
Registrar Mr R K Trivedi upto 13.11.2010 Dr Manoj Srivastava Dr P K Singh	3	1
Financial Adviser Mr J P Singh	1	-
Joint Registrar Mr D R Choudhury Mr D S Misra w.e.f. December 13, 2010	2	-
Deputy Registrar Mr Uma Kant Dubey	2	-
Legal Adviser Mr D S Rajganesh Mr R R Pradhan	2	-
Senior Accounts Officer Mr Rajeev Talwar	1	-
Senior Technical Officer Dr Ramesh Kumar upto Dec 20, 2010 Dr A K Singh Dr Susheel Kumar	3	1
Technical Assistant Dr D S Pilania	1	-
Computer Assistant Mr Arvind Kumar Rai Mr Sanjay Kumar Gupta Mr Ameer Ulla Siddiqui upto 4 May 2010 Mr Nitesh Kumar Verma w.e.f. 7 Dec 2010 Ms Shipra Mathur Ms Jyoti Sapra	6	1

Annexure 3

Financial Support provided by the Authority to the existing DUS Centres

(₹ in Lakhs)

	Name of DUS Centre	Crops	Budget for 2010-11	Funds released
1.	Indian Institute of Vegetable Research, Varanasi	Cabbage, cauliflower, okra , brinjal, tomato, pea (vegetable), kidney bean	7.50	5.00
2.	Indian Institute of Horticulture Research, Bangalore (i) Division of Ornamental Crops (ii) Division of Vegetable Crops	 (i) Rose, chrysanthemum, (ii) Okra, brinjal, pea, tomato	6.00	3.22
3.	Chaudhary Charan Singh Haryana Agricultural University, Hisar	Cotton, chickpea, sorghum	4.00	7.87
4.	Chandra Shekhar Azad University of Agriculture and Technology, Kanpur	Rapeseed and mustard, wheat, linseed	1.00	2.28
5.	Jawahar Lal Nehru Krishi Vishwa Vidhalya, Jabalpur	Linseed, lentil, field pea	2.00	2.00
6.	Indian Institute for Pulses Research, Kanpur (PC Chickpea, Pigeon pea and MULLRaP)	Chickpea, pigeon pea, lentil, green gram, black gram, field pea (pulse type), kidney bean	8.00	7.76
7. 8.	Tamil Nadu Agricultural University, Coimbatore	Paddy, pearl millet, black gram	2.50	4.55
9.	Directorate of Oilseed Research, Hyderabad	Sunflower, safflower, castor	5.00	5.00
10.	Acharya N.G. Ranga Agricultural University, Hyderabad	Green gram, maize, black gram	5.00	7.15
11.	Mahatma Phule Krishi Vidyapeeth, Rahuri	Chickpea, pearl millet, sorghum	4.00	4.85
12.	Directorate of Maize Research, New Delhi	Maize	7.50	7.40
13.	Indian Agricutlural Research Institute, New Delhi Division of Floriculture and Landscaping, New Delhi Regional Station Karnal Regional Station, Indore Regional Station, Katrain	 Rose and *chrysanthemum* Rice Wheat Cauliflower & cabbage	11.00	11.56

	Name of DUS Centre	Crops	Budget for 2010-11	Funds released
14.	National Research Centre for Onion and Garlic, Rajgurunagar, Pune	Onion, garlic	3.00	1.50
15.	Central Potato Research Institute, Shimla (also take care of CPRI, Modipuram)	Potato	4.00	3.21
16.	Indian Institute of Sugarcane Research, Lucknow	Sugarcane	4.00	5.18
17.	Sugarcane Breeding Institute, Coimbatore	Sugarcane	4.00	2.32
	SBI, Reginal Station, Agalli		1.00	1.00
18.	Sugarcane Breeding Institute (Regional Station), Karnal	Sugarcane	1.00	1.00
19.	Central Research Institute for Jute and Allied Fibres, Barrackpore	Jute	6.00	6.43
20.	University of Agricultural Sciences, Dharwad	Cotton, soybean, bread wheat, rice, maize	5.00	4.68
21.	Central Rice Research Institute, Cuttack	Rice	5.00	5.48
22.	Directorate of Rice Research, Hyderabad	Rice	7.50	8.87
23.	Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora, Uttrakhand	Maize, kidney bean, soybean	4.00	4.62
24.	Govind Ballabh Pant University of Agriculture and Technology, Pant Nagar	Sorghum	1.00	1.00
25.	Directorate of Sorghum Research, Hyderabad	Sorghum	7.50	7.50
26.	Directorate of Soybean Research , Indore	Soybean	4.00	2.59
27.	Directorate of Rapeseed and Mustard Research, Bharatpur	Rapeseed and mustard, *taramera*	4.00	3.70
28.	Directorate of Wheat Research, Karnal	Bread wheat	7.50	5.77
29.	Dr. Punjab Rao Deshmukh Krishi Vidyapeeth, Akola	Pigeon pea, safflower	2.00	5.82

	Name of DUS Centre	Crops	Budget for 2010-11	Funds released
30.	Project Coordinator (Pearl Millet), AICPMIP, Rajasthan Agricultural University Research Station, Mandore, Jodhpur	Pearl millet	7.50	6.25
31.	Project Coordinator, Central Institute of Cotton Research, Coimbatore	Cotton	7.50	7.41
32.	Central Institute of Cotton Research, Nagpur	Cotton	5.00	4.90
33.	Punjab Agricultural University, Ludhiana	Cotton, wheat	5.00	4.94
34.	Directorate of Groundnut Research, Junagarh	Ground nut	3.00	8.61
35.	National Research Central for Orchids, Sikkim	Orchids	2.50	1.50
36.	Project Coordinator (Linseed), CSAUA&T, Kanpur	Linseed	2.00	2.39
37.	Assam Agricultural University, Jorhat	Rice	2.00	3.66
38.	Indian Institute of Spices Research, Kozhikode	Turmeric, ginger, black pepper and cardamom	3.00	2.03
39.	Jamnagar Agricultural University, Junagadh	Castor	2.50	1.66
40.	Project Coordinator (Sesame and Niger), JNKVV, Jabalpur, MP	Sesame and niger	2.00	0.00
41.	Central Institute of Medicinal and Aromatic Plants, Lucknow	*Mentha*, damask rose, periwinkle, *aswagandha* and *brahmi*	7.50	4.00
	Total		**183.5**	**186.66**

Annexure 4

Financial Support Provided by the Authority to the Projects

(₹ in Lakhs)

	Name of Centre	Project	Duration (years)	Total Cost of project	Fund Released
1.	Birsa Agricultural University (BAU), Ranchi	Maintenance of Live Repository for Fruit Trees and Medicinal Plant varieties under *in situ* collection for Eastern India eco system	3	72.00	10.09
2.	M. S. Swaminathan Research Foundation (MSSRF), Chennai	DUS Characterization and evaluation of Farmers' Varieties of Rice in the Community Gene Bank of MSSRF	3	23.00	7.1
3.	Dr. Balasaheb Swant Konkan Krishi Vidyapeeth, Dapoli	Collection maintenance evaluation and development of descriptors of fruit and plantation crops and tree species through live repository	3	143.00	14.18
4.	S.D. Agricultural University, Sardarkrushinagar	Maintenance Breeding and purification of existing varieties of pulses	3	25.03	0.00
5.	Institute of Forest Genetics and Tree Breeding, Coimbatore	Validation of DUS Testing guidelines for Casuarinas and Eucalyptus	2	22.68	0.00
6.	Indian Institute of Spices Research, Kozhikode, Kerala	Establishment of DUS Test Centre for Spices	2	14.30	5.00
7.	Central Institute of Temperate Horticulture (ICAR), Srinagar (J&K)	Validation of DUS International Guidelines under Indian conditions for apple and pear	3	19.60	5.67
8.	- do -	Validation of DUS International Guidelines under Indian conditions for walnut and almond	3	33.00	
9.	- do -	Validation of DUS International Guidelines under Indian conditions for apricot and cherry	3	19.60	
10.	National Research Centre for Citrus, Nagpur	Finalizing crop specific DUS Testing guidelines for Citrus (*Citrus reticulata, C. sinensis and C. aurantifolia*)	3	45.356	8.23

	Name of Centre	Project	Duration (years)	Total Cost of project	Fund Released
11.	Gene Campaign, J-235/A, Lane, W-15C, Sainik Farms, Khanpur, New Delhi-110 062	Rice biodiversity Conservation and Training on Farmers' Rights in Jharkhand and Meghalaya	3	28.90	4.30
12.	Indian Institute of Horticultural Research, Bangalore	Strengthening of DUS Test Centre and Rose Repository at IIHR	2	32.518	22.63
13.	National Research Centre for Seed Spices, Ajmer	Development of DUS guidelines and strengthening of DUS Test Centres for laboratory and field facilities, digitalization and training in medicinal, aromatic and seed spice crops	3	25.70	6.66
14.	National Bureau of Plant Genetic Resources, New Delhi	Establishment of the National Plant Variety repository for storage of seeds of varieties protected under the PPV & FRA Act, 2001	5	9.0	8.49
15.	Directorate of Medicinal and Aromatic Plants Research, Anand	Development of DUS guidelines and strengthening of DUS Test Centres for laboratory and field facilities, digitalization and training in medicinal, aromatic and seed spice crops	3	25.70	3.73
16.	Forest College and Research Institute, TNAU Coimbatore	Developing DUS descriptors and test guidelines for tree species of neem, karanj and jatropha	3	27.60	12.06
17.	Indian Institute of Vegetable Research, Varanasi	Development of Green House Facility (under DUS Centre) & Validating crop specific DUS testing guidelines for cucumber, bottle gourd, bitter gourd, pumpkin & pointed gourd	1 3	12.42 51.76	10.15
18.	Punjab Agricultural University, Ludhiana	Sensitization of the farmers of North Zone about Protection of Plant Varieties and Farmers' Right Act	3	11.26	0.00
19.	Central Tuber Crops Research Institute, Thiruvanthapuram	Developing DUS testing criteria and varietal gene bank establishment for the tropical tuber crops: cassava and sweet potato	3	66.00	10.62

	Name of Centre	Project	Duration (years)	Total Cost of project	Fund Released
20.	Virtual Action of Agriculture by Nature Way Growing and Husbandry of Animals India (VAANGHAI), Nagapattinam, Tamilnadu	Characterization and registration of traditionally cultivated rice varieties along coastal belt and Cauvery delta of Tamilnadu	2	13.85	7.22
21.	Tocklai Experimentation Research Station, Jorhat	Validation of Tea descriptors for developing DUS guidelines and registration of Tea varieties	3	38.43	16.72
22.	Institute of Environment and Eco-development, Patna	Exploration, documentation, indexing and characterization of farmers' varieties of *arhar* (*Cajanus cajan*) and *bakla (Vicia faba)*	2	15.36	8.73
23.	Himalayan Forest Research Institute, Shimla	Identification of distinct traits for DUS for conifers	2	11,31	3.25
24.	National Research Centre for Banana, Trichy	Framing crop specific guidelines for banana (*Musa spp.)*	3	52.64	13.62
25.	Dr Y S Parmar University of Horticulture and Forestry, Solan	Establishment of Field gene bank of temperate fruits	3	90.12	53.26
26.	ICAR Research Complex for NEH, Medziphema, Nagaland	Collection, characterization and conservation of indigenous landraces of colocasia from north eastern hills	3	15.7	3.53
27.	Rain Forest Research Institute, Jorhat	Establishment of germplasm bank for variability in *Dendrocalamus hamiltonii* and *Bambusa balcoa*	3	32.83	10.59
28.	Central Institute for Arid Horticulture, Bikaner	Validation of DUS testing guidelines for cucurbits (watermelon & muskmelon)	3	47,98	20.41
29.	Central Institute of Subtropical Horticulture, Lucknow	DUS testing in mango and validation of guava, *litchi* and papaya descriptors under different environmental conditions for developing DUS guidelines	3	79.55	11.44
				Total	**277.68**

Annexure 5

Standing Committee for Farmers' Rights

Presiding Member & Chairman	
1.	Prof R B Singh, D1/1291, Vasant Kunj, New Delhi – 110 070
Members	
1.	Dr K R Dhiman, Vice chancellor, Dr Y S Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh-173 230
2.	Dr K C Bansal, Director, National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi – 110 012
3.	Dr N Parasuram, M S Swaminathan Research Foundation, 3rd Cross Street, Taramani Institutional Area, Chennai, Tamil Nadu – 600 113
4.	Dr Ravindra Nirwal, Farmer and Social Worker, Dist. Shamli, Muzzaffarnagar, U.P.
Member Secretary	
5.	Dr P K Singh, Registrar, PPV & FRA

Annexure 6

Programme, Planning and Policy Committee

Chairperson	
1.	Ms Radha Singh, Former Secretary, Department of Agriculture and Cooperation, C-2/32, Tilak Lane, New Delhi 110 001
Member	
2.	Mr S K Roongta, Chairman cum MD, National Seeds Corporation Ltd., Beej Bhawan, Pusa Campus, New Delhi 110 012
3.	Dr S R Rao, Advisor, Department of Biotechnology, Ministry of Science and Technology, Block-2, CGO Complex, Lodhi Road, New Delhi 110 003
4.	Dr T Ramakrishna, Professor of Law and Coordinator Centre for Intellectual Property Rights, Research and Advocacy, IPR Chair, National Law School of India University, Nagarbhavi, P.B. 7201, Bangalore 560 072

5.	Dr R K Gupta, Head, Intellectual Property Management Division, Council of Scientific and Industrial Research, NISCAIR Building, 3rd Floor, 14, Satsang Vihar Marg, Special Institutional Area, New Delhi 110 067
6.	Dr Nazeer Ahmed, Director, Central Institute of Temperate Horticulture, K.D. Farm, Old Air Field, Rangreth, Srinagar 190 007 (J&K)
7.	Director, IFGTB, P.B. No. 10, 61, Forest Campus, R S Puram, Coimbatore 641 002
8.	Dr D P Ray, Vice Chancellor, Orissa University of Agriculture and Technology, Bhubanseshwar, Odisha 751 003
9.	Mr Anindo Majumdar, Joint Secretary (Seeds), Department of Agriculture and Cooperation, Ministry of Agriculture, Krishi Bhawan, New Delhi 110 014
10.	Mr Hem Pande, Joint Secretary, Ministry of Environment and Forests, Lodhi Road, CGO Complex, New Delhi 110 003
11.	Dr S S Banga, National Professor, Department of Plant Breeding and Genetics, Punjab Agricultural University, Ludhiana 141 004
12.	Dr Ramesh Chand, Director, NCAP, New Delhi 110 012
13.	Dr K C Bansal, Director, NBPGR, Pusa Campus, New Delhi 110 012
14.	Dr B P Singh, Director, Central Potato Research Institute, Shimla, Himachal Pradesh 170 001
15.	Dr N K Dadlani, Director, National Seed Association of India, 909, Surya Kiran Building, 19, Kasturba Gandhi Marg, New Delhi 110 001
Member Secretary	
16.	Dr Manoj Srivastava, Registrar, PPV & FRA, New Delhi

Annexure 7

Extant Variety Recommendation Committee

Chairman	
1.	Dr D P Ray, Vice Chancellor, Orissa University of Agriculture and Technology, Bhubaneshwar
Member	
2.	Dr S K Sharma, Vice Chancellor, CSK Himachal Pradesh Krishi Viswavidyalaya, Palampur, HP
3.	Dr S Acharya, Research Scientist, Main Pulses Research Station, Sardarkrushinagar Agricultural University, Sardarkrushinagar, Gujarat
4.	Sh G Muralidharan, Member Tamilnadu Kisan Sangh, Aryapuram, Malliyam Post, Nagapattinam, TN
5.	Dr S K Tripathi, Vice President (Vegetable Business Unit), Nuziveedu Seeds Ltd, Barakhamba Rd, New Delhi
Member Secretary	
7.	Dr Manoj Srivastava, Registrar, PPV & FRA

Annexure 8

Project Appraisal Committee

Chairman	
1.	Dr B L Jalali, Former Director of Research, CCS Haryana Agricultural University, 601, Neelkant, Sector – 21/C, Part III, Faridabad 121001
Member	
2.	Dr S Mauria, ADG (IPR & Policy), Indian Council of Agricultural Research, Krishi Bhawan, New Delhi
3.	Dr V A Parthasarathy, Director, Indian Institute of Spices Research, Marikunnu P.O., Calicut 673012, Kerala
4.	Dr Rajbir Yadav, Principal Scientist, Division of Genetics , IARI, New Delhi
Member Secretary	
5.	Dr P K Singh, Registrar III, PPV & FR Authority, New Delhi 110012

Annexure 9

List of Registration Certificates Issued by the PPV & FR Authority

	Registration No. and date	Denomination	Crop	Applicant	Applicant's address
1.	1 of 2010 /20.10.2010	'ML 818'	Greengram (*Vigna radiata* L. Wilczek)	Indian Council of Agricultural Research (ICAR)	Krishi Bhawan, Dr. Rajendra Prasad Road, New Delhi 110 114
2.	2 of 2010 /20.10.2010	'HM 4'	Maize (Zea mays L.)	-do-	-do-
3.	3 of 2010 /20.10.2010	'HQPM 1'	Maize (*Zea mays* L.)	-do-	-do-
4.	4 of 2010 /20.10.2010	'Narmada Moti' (IC 9001)	Maize (*Zea mays* L.)	-do-	-do-
5.	5 of 2010 /20.10.2010	'Vivek Maize Hybrid 27' (FH 3288)	Maize (*Zea mays* L.)	-do-	-do-
6.	6 of 2010 /20.10.2010	'Vivek Maize Hybrid 25' (FH 3248)	Maize (*Zea mays* L.)	-do-	-do-
7.	7 of 2010 /20.10.2010	'Amar' (D 941)	Maize (*Zea mays* L.)	-do-	-do-
8.	8 of 2010 /20.10.2010	'HHM-2' (HKH 1071)	Maize (*Zea mays* L.)	-do-	-do-
9.	9 of 2010 /20.10.2010	'Vivek Maize Hybrid 9' (FH 3077)	Maize (*Zea mays* L.)	-do-	-do-
10.	10 of 2010 /20.10.2010	'COH(M) 4'	Maize (*Zea mays* L.)	-do-	-do-
11.	11 of 2010 /20.10.2010	'Vivek Hybrid 4' (FH-3049)	Maize (*Zea mays* L.)	-do-	-do-
12.	12 of 2010 /20.10.2010	'Him 129' (EHF 1121)	Maize (*Zea mays* L.)	-do-	-do-
13.	13 of 2010 /20.10.2010	'Pusa Early' 'Hybrid Makka 2' (EH 203492)	Maize (*Zea mays* L.)	-do-	-do-

	Registration No. and date	Denomination	Crop	Applicant	Applicant's address
14.	14 of 2010 /20.10.2010	'COH (M) 5'	Maize (*Zea mays* L.)	-do-	-do-
15.	15 of 2010 /20.10.2010	'Vivek Hybrid 5'	Maize (*Zea mays* L.)	-do-	-do-
16.	16 of 2010 /20.10.2010	'Vivek Maize Hybrid 17' (FH 3186)	Maize (*Zea mays* L.)	-do-	-do-
17.	17 of 2010 /20.10.2010	'DMH-2'	Maize (*Zea mays* L.)	-do-	-do-
18.	18 of 2010 /20.10.2010	'COBC 1'	Maize (*Zea mays* L.)	-do-	-do-
19.	19 of 2010 /20.10.2010	'VL Baby Corn 1' (VL 78)	Maize (*Zea mays* L.)	-do-	-do-
20.	20 of 2010 /20.10.2010	'Sakthiman-2'	Maize (*Zea mays* L.)	-do-	-do-
21.	21of 2010 /20.10.2010	'Win Orange Sweet Corn'	Maize (*Zea mays* L.)	-do-	-do-
22.	22 of 2010 /20.10.2010	'Priya Sweetcorn'	Maize (*Zea mays* L.)	-do-	-do-
23.	23 of 2010 /20.10.2010	'Shalimar KG Maize 1'	Maize (*Zea mays* L.)	-do-	-do-
24.	24 of 2010 /20.10.2010	'Shaktiman 1'	Maize (*Zea mays* L.)	-do-	-do-
25.	25 of 2010 /20.10.2010	'VL Masoor 103'	Lentil (*Lens culinaris* Medik)	-do-	-do-
26.	26 of 2010 /20.10.2010	'VL Masoor 507' (VL 507)	Lentil (*Lens culinaris* Medik)	-do-	-do-
27.	27 of 2010 /20.10.2010	'Ambika' (IM 9102)	Field pea (*Pisum sativum* L.)	-do-	-do-
28.	28 of 2010 /20.10.2010	'Swati' (KFPD 24)	Field pea (*Pisum sativum* L.)	-do-	-do-
29.	29 of 2010 /20.10.2010	'Shubhra' (IM 9101)	Field pea (*Pisum sativum* L.)	-do-	-do-
30.	30 of 2010 /20.10.2010	'Pant pea 14' (Pant P 14)	Field pea (*Pisum sativum* L.)	-do-	-do-

	Registration No. and date	Denomination	Crop	Applicant	Applicant's address
31.	31 of 2010 /20.10.2010	'Shekhar 3' (KU 309)	Black gram [*Vigna mungo* L.Hepper]	-do-	-do-
32.	32 of 2010 /20.10.2010	'VL Matar 42' (VL 42)	Field pea (Pisum sativum L.)	-do-	-do-
33.	33 of 2010 /20.10.2010	'Shalimar Moong 1'	Green gram [*Vigna radiata* (L.) Wilczek]	-do-	-do-
34.	34 of 2010 /20.10.2010	'Shalimar Masoor 1'	Lentil (*Lens culinaris* Medik)	-do-	-do-
35.	35 of 2010 /20.10.2010	'Shalimar Rajmash 1'	Kidney bean (*Phaseolus vulgaris* L.)	-do-	-do-
36.	36 of 2010 /20.10.2010	'Shaktiman 3'	Maize (*Zea mays* L.)	-do-	-do-
37.	37 of 2010 /20.10.2010	'Shaktiman 4'	Maize (*Zea mays* L.)	-do-	-do-
38.	38 of 2010 /20.10.2010	'Haryana Chari 308'	Sorghum [*Sorghum bicolor* (L.) Moench]	-do-	-do-
39.	39 of 2010 /20.10.2010	'Arka Suvidha' (IIHR 909)	French bean (*Phaseolus vulgaris* L.)	-do-	-do-
40.	40 of 2010 /20.10.2010	'Arka Ajit' (FC 1)	Garden pea (*Pisum sativum* L.)	-do-	-do-
41.	41 of 2010 /20.10.2010	'Pusa 547' (BGM 547)	Chickpea (*Cicer arietinum* L.)	-do-	-do-
42.	42 of 2010 /20.10.2010	'Jagabandhu ' (OR 1206 25 1) (IET 14100)	Rice (*Oryza sativa* L.)	Orissa University of Agriculture and Technology	Bhubaneswar Odisha
43.	43 of 2010 /20.10.2010	'Prachi' (IET 12786)	Rice (*Oryza sativa* L.)	-do-	-do-
44.	44 of 2010 /20.10.2010	'Ramachandi' (IET 13354)	Rice (*Oryza sativa* L.)	-do-	-do-
45.	45 of 2010 /20.10.2010	'Mahanadi' (IET 13356)	Rice (*Oryza sativa* L.)	-do-	-do-
46.	46 of 2010 /20.10.2010	'Indrabati' (IET 13396)	Rice (*Oryza sativa* L.)	-do-	-do-

	Registration No. and date	Denomination	Crop	Applicant	Applicant's address
47.	47 of 2010 /20.10.2010	'Sumangala' (CWROK 165)	Cotton [*Gossypium hirsutum* L.]	Indian Council of Agricultural Research (ICAR)	Krishi Bhawan, Dr. Rajendra Prasad Road, New Delhi-110 114
48.	48 of 2010 /20.10.2010	'Surabhi' (VRS 7)	Cotton [*Gossypium hirsutum* L.]	-do-	-do-
49.	49 of 2010 /20.10.2010	'Tarm 18'	Green gram (*Vigna radiata* L. Wilczek)	Dr Panjabrao Deshmukh Krishi Vidyapeeth	Krishinagar, P.O. Akola-444104
50.	1of 2011 /07.03.11	'Kaushambi' (HW 2045)	Bread wheat (*Triticum aestivum* L.)	Indian Council of Agricultural Research (ICAR)	Krishi Bhawan, Dr. Rajendra Prasad Road, New Delhi-110 114
51.	2 of 2011 /07.03.11	'NIAW-301' (Trimbak)	Bread wheat (*Triticum aestivum* L.)	-do-	-do-
52.	3 of 2011 /07.03.11	'Amar' (HW 2004)	Bread wheat (*Triticum aestivum* L.)	-do-	-do-
53.	4 of 2011 /07.03.11	'Bhavani' (HW-1085)	Bread wheat (*Triticum aestivum* L.)	-do-	-do-
54.	5 of 2011 /07.03.11	'Narendra wheat 1012'	Bread wheat (*Triticum aestivum* L.)	-do-	-do-
55.	6 of 2011 /07.03.11	'Vivek maize Hybrid 21' (FH-3211)	Maize (*Zea mays* L.)	-do-	-do-
56.	7 of 2011 /07.03.11	'Pratap Makka 4' (EC-1108)	Maize (*Zea mays* L.)	-do-	-do-
57.	8 of 2011 /07.03.11	'Pratap Makka 3' (EC-3108)	Maize (*Zea mays* L.)	-do-	-do-
58.	9 of 2011 /07.03.11	'NAC 6004'	Maize (*Zea mays* L.)	-do-	-do-
59.	10 of 2011 /07.03.11	'NAC-6002'	Maize (*Zea mays* L.)	-do-	-do-
60.	11 of 2011 /07.03.11	'30 B 07' (X-1280 M)	Maize (*Zea mays* L.)	Pioneer Overseas Corporation – India Branch Office	3rd and 4th Floor, Babukans' Millennium Centre, 6-3-1099/1100, Raj Bhavan road, Somajiguda, Hyderabad-500082, A.P., India

Annexure 10

List of organisations and details of funds provided to organize Training and Awareness Programmes

Name of Organisation	₹ Lakhs
Assam Agricultural University, Jorhat	3.60
Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	0.60
Jawahalal Nehru Krishi Vishwa Vidyalaya, Jabalpur	4.80
M S Swaminathan Researh Foundation, Chennai	6.00
Vivekanad Parvatiya Krishi Anusandhan Sansthan, Almorah, Uttrakhand	0.60
Tamilnadu Scientific Research Organisation	2.60
Orissa University of Agriculture and Technology, Bhubaneswar	1.71
Tamil Nadu Agricultural University, Coimbatore	6.00
Chaudhary Charan Singh Haryana Agricultural University, Hisar	0.30
Govind Balabh Pant University of Agriculture and Technology, Pantnagar	1.17
ICAR Research Complex for North Eastern Hills, Barapani, Shillong	3.60
Bhagabati Education Society	0.60
National Academy Agricultural Research Manangement, Hyderabad	0.70
Centre for Ecology & Research, Thanjaur	0.60
FARMER, New Delhi	0.60
VAANGHAI, Nagapattinam, Tamilnadu	0.60
Directorate of Rice Research, Hyderabad	0.30
Swami Keshwanand Rajasthan Agricultural University, Bikaner	0.60
IARI, New Delhi	5.03
NRC for Banana, Tamil Nadu	0.60
NRC of Agroforestry, Jhansi	0.60
Directorate of Rapeseed & Mustard Research, Bharatpur	0.60
Central Research Institute for Jute and Allied Fibres, Barackpore	1.20
Central Rice Research Institute, Cuttack	0.60
Central Soil Salinity Research Institute, Karnal	0.60
Directorate of Maize Research, Delhi	1.20

Name of Organisation	₹ Lakhs
Directorate of Wheat Research, Karnal	0.60
Indian Institute of Horticultural Research, Bangaluru	0.60
Directorate of Sorghum Research, Hyderabad	0.60
Birsa Agricultural University, Ranchi	0.60
ICAR Research Complex, Goa	0.60
Central Tuber Crops Research Institute, Trivandrum, Kerala	0.60
Central Agricultural Research Institute, Port Blair	0.60
Sardarkrushinagar Dantewada Agricultural University, Gujarat	0.60
NRC of Orchids, Sikkim	0.60
B.N.College of Agriculture (Assam Agricultural University), Sonitpur	1.20
NRC of Seed Spices, Ajmer	0.60
International Conference on Parthenium, 2010, New Delhi	1.50
Manekswari Rural Development Society, Sundergarh	0.60
Farm and Rural Development Foundation, Hyderabad	2.40
University of Agricultural Sciences (3rd IGM), Dharwad	2.00
98th Indian Science Congress, Chennai (PoI Expo)	1.10
Centre for Innovation in Science and Social Action, IBC/IBE, 2010, KAV, Kerala	0.25
Navara Foundation, Palakkad	0.60
Chaudhary Sarawan Kumar Himachal Pradesh Krishi Viswavidyalaya, Palampur	3.00
Indian Society of Genetics and Plant Breeding, New Delhi (VAS, GKVK, Bangaluru)	2.02
Voluntary Action for Research Development and Networking, New Delhi	1.80
ICAR Research Complex Eastern Region, Patna (Bihar)	0.60
Rajendra Agricultural University, Pusa, Samstipur Bihar	0.60
Dr Y S Parmar University of Horticulture and Forestry, Nauni, Solan, (H.P.)	0.60
Total	**69.68**

Annexure 11

Crop Wise Monitoring of DUS Tests

	Crop	Location	Monitoring Team	Visit of the Monitoring Team
1.	Bread Wheat	DWR, Karnal IARI(RS), Indore	Dr Sohan Pal	29.03.2011 10.03.2011
2.	Rice	DRR, Hyderabad CRRI, Cuttack TNAU, Coimbatore AAU, Jorhat	Dr E A Siddiq and Dr L V Subba Rao	25.10 & 19.11.2010 5-6.10.2010 12.12.2010 2-3.12.2010
3.	Cotton	PAU, Ludhiana CCS HAU, Hisar CICR, Nagpur CICR, Coimbatore UAS, Dharwad	Dr K Kodalingam	9.09.2010 8.09.2010 26.102010 15.12.2010 28.10.2010
4.	Maize	DMR, New Delhi ANGRAU, Hyderabad	Dr Sain Dass	1.10.2010 7.10.2010
5.	Sorghum	DSR, Hyderabad MPKV, Rahuri	Dr E A Siddiq	21.09.2010 1.10.2010
6.	Pearl Millet	AICRP, Jodhpur MPKV, Rahuri	Dr Sain Dass	15.09.2010 17.09.2010
7.	Jute	CRIJAF, Barackpore Bud bud	Dr H S Sen Dr M Hossain	2.09.2010 & 10.02.2011 4.09.2010 & 11.02.2011
8.	Field Pea	IIVR, Varanasi IIPR, Kanpur	Dr Brahma Singh	7-10.02.2011

Annexure 12

Financial Statements

Balance Sheet as on 31st March, 2011

(Amount in ₹)

Corpus / Capital Fund and Liabilities	Current Year	Previous Year
Corpus / Capital Fund	66,079,819.96	45,782,375.05
Reserves and Surplus	-	-
Earmarked/Endowment Funds	-	-
Secured Loans and Borrowings	-	-
Unsecured Loans and Borrowings	-	-
Deferred Credit Liabilities	-	-
Current Liabilities and Provisions	10,970,026.03	7,525,181.00
Total	**77,049,845.99**	**53,307,556.05**
Assets		
Fixed Assets	16,132,222.00	13,857,975.00
Less: Accumulated Depreciation	(11,761,619.82)	(8,359,243.65)
Net Fixed Assets	4,370,602.18	5,498,731.35
Investments-From Earmarked / Endowment Funds	-	-
Investments-Others	-	-
Current Assets, Loans Advances etc.	72,679,243.81	47,808,824.70
Miscellaneous Expenditure	-	-
(To the extent not written off or adjusted)		
Total	**77,049,845.99**	**53,307,556.05**
Significant Accounting Policies		
Contingent Liabilities and Notes on Accounts		

Income and Expenditure Account
for the year ended 31st March, 2011

(Amount in ₹)

Income	Current Year	Previous Year
Income from Sales/ Services	-	-
Grants/Subsides	90,525,753.00	53,600,000.00
Fees/Subscriptions	6,740,840.00	2,320,200.00
Income from Investments	-	-
Income from Royalty, Publication etc.	-	-
Interest Earned	1,136,603.08	177,502.00
Other Income	365,601.00	445,295.00
Increase/(Decrease) in stock of Finished goods and works in progress	-	-
Deferred Income (Depreciation on fixed asset)	3,402,376.17	-
Total (A)	**102,171,173.25**	**56,542,997.00**
Expenditure		
Establishment Expenses	22,429,965.00	16,827,003.00
Other Administrative Expenses etc.	13,081,945.00	11,832,172.00
Expenditure on Grants, Subsidies etc.	33,551,802.00	23,077,253.00
Interest	6,040.00	12,526.00
Depreciation including Impairment Loss (Net Total at the year-end-corresponding to Schedule 8)	3,402,376.17	5,862,108.65
Prior period Adjustment A/c (ANN-A)	10,208,891.35	2,189,935.00
Total (B)	**82,681,019.52**	**59,800,997.65**
Balance being excess of Income over Expenditure (A-B)	-	-
Authority Fund 18972956.73	-	-
Gene Fund 517197.00	**19,490,153.73**	**(3,258,000.65)**
Transfer to special Reserve (Specify each)	-	-
Transfer to /from General Reserve	-	-
Balance Being Surplus (Deficit) Carried to Corpus/Capital Fund	**19,490,153.73**	**(3,258,000.65)**
Significant Accounting Policies Contingent Liabilities and Notes on Accounts		

Receipts and Payments Account for the year ended 31st March, 2011

(Amount in ₹)

RECEIPTS		Current Year	Previous Year	PAYMENTS		Current Year	Previous Year
1. Opening Balances				**1. Expenses**			
a) Cash in Hand	5,300.00		5,300.00	a) Establishment Expenses	15,321,749.00		
b) Bank Balances				b) Administrative Expenses	10,529,465.00	25,851,214.00	24,684,849.00
Gene Fund	27,524.00						
Authority Fund	6,714,406.70	6,747,230.70	23,836,623.70				
2. Grants received				**2. Payments made against funds**			28,218,738.00
a) From Government of India		92,800,000.00	53,600,000.00	**for various DUS Centers & projects**		46,434,139.00	
b) From State Government		-	-				
c) From Other Sources		-	-				
3. Income on Investment from				**3. Investments and deposits made**			
a) Earmarked / Endowment Funds		-	-	a) Out of Earmarked/ Endowment Fund		-	-
b) Own Funds (Other Investments)		-	-	b) Out of Own Funds (Investment-Others)		-	-
4. Interest Received				**4. Expenditure on fixed Assets**			
a) On Bank deposits	39,335.08		-	**and Capital Work in Progress**			
b) Loans, Advances etc.				a) Purchase of Fixed Assets		791,039.00	2,477,265.00
Gene Fund	-						
Authority Fund	-	39,335.08	1,100.00	b) Expenditure on Capital Work-in-Progress		-	-

RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
5. Advance Received	548,074.00	94,974.00	**5. Refund of Surplus money / Loans**		
			a) To the Government of india	-	-
			b) To the State Government	-	-
			c) To Other Providers of Funds	-	-
6. Refund of Income Tax	23,370.00	-			
			6. Advance to Outsiders	7,152,630.00	3,838,436.00
7. Recovery of Advance to Outsiders	91,016.00	76,609.00	**7. Advance Against DUS Test fees**	532,000.00	651,000.00
8. Fees / Subscriptions Other Income			**8. Refilling of Franking Machine**	175,000.00	175,000.00
Application/ Registration Fee Received	6,476,000.00	2,229,400.00			
PVJ Fees	49,890.00	57,800.00	**9. Refundable to DOC**	1,268,390.00	4,522,738.00
Fees for Notice of Opposition	153,000.00	43,500.00			
Annual Fees - Gene Fund	72,000.00	18,000.00	**10. Contribution to Organisation/ institutions**	1,579,041.00	1,745,102.00
Sale of Old Newspapers,Scrap	2,595.00	500.00			
DUS Test Fee Received	1,915,000.00	1,960,000.00	**11. Wrongly Debited By bank**	-	16,753.00
Other Fees Received	6,604.00	2,844.00			
			12. Advance to Staff	1,856,801.00	1,350,394.00

RECEIPTS	Current Year	Previous Year	PAYMENTS		Current Year	Previous Year
9. Refundable to DOC	185.00	5,791,128.00	**13. Finance Charges (Interest)**		6,040.00	12,526.00
10. Recovery of Advance to Staff	719,605.00	414,668.00	**14. Payments against advance received**		10,000.00	87,058.00
			15. CPF Deposit Account		371,204.00	
11. Opening Difference in Bank	-	78,938.00	**15. Fixed Deposit(Gene Bank)**		5,000,000.00	10,593,574.00
12. Reversal of Stale Cheques	4,204.00	-				
13. Discount received from GPO	5,975.00	1,818.00	**16. Statutory Liabilities Paid**		6,080,172.00	3,102,539.00
14. Wrongly Debited by Bank now reversed	16,753.00	10,000.00	**17. Closing Balances**			
			a) Cash in Hand	5,300.00		5,300.00
			b) Bank Balances		12,563,166.78	6,741,930.70
		-	State Bank of India(Incl.MOD Account)	9,930,185.70		
			Syndicate Bank	2,506,758.08		
			Gene Fund	120923.00		
TOTAL	**109,670,836.78**	**88,223,202.70**	**TOTAL**		**109,670,836.78**	**88,223,202.70**

Annexure 13

Abbreviations

AICRP	All India Coordinated Research Project
BAU	Birsa Agricultural University
CSWCRTI	Central Soil and Water Conservation Research & Training Institute
DoAC	Department of Agriculture and Co-operation
DUS	Distinctiveness, Uniformity and Stability
EVRC	Extant Variety Recommendation Committee
GATT	General Agreement on Tariffs and Trade
GEAC	Genetic Engineering Appraisal Committee
IARI	Indian Agriculture Research Institute
ICAR	Indian Council of Agricultural Research
IINDUS	Indian Information System as per DUS guidelines
IPGRI	Bioversity International
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
KVK	Krishi Vigyan Kendra
NARS	National Agricultural Research System
NASC	National Agricultural Science Centre
NBPGR	National Bureau of Plant Genetic Resources
NBFGR	National Bureau of Fish Genetic Resources
NCF	National Commission for Farmers
NEH	North Eastern Hills
NORV	Notified and Released Varieties of India
PPV & FR	Protection of Plant Varieties and Farmers' Rights

PVIS	Plant Variety Information System
PVJ	Plant Variety Journal of India
R&D	Research & Development
RTI	Right To Information
SAU	State Agricultural Universities
TBGRI	Tropical Botanical Garden & Research Institute, Thiruvananthapuram
TRIPS	Trade Related Aspects of Intellectual Property Rights
USDA	United States Department of Agriculture
VCK	Variety of Common Knowledge
WTO	World Trade Organisation

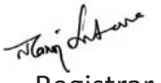
Acknowledgement

The Authority expresses its appreciation to the Office of the Principal Director of Audit (Economic & Services Ministries) for furnishing the separate audit report on time.

The Authority cherishes the partnership that PPV & FR Authority built over time with the DUS Centres at various ICAR institutes /SAus / Research Organisations.

The Authority sincerely acknowledges the contributions of Sh. Dipal Roy Choudhury, Dr Ajit Kumar Malhotra, Dr P K Singh, Dr Tejbir Singh, Mr D S Mishra, Mr J P Singh, Mr Sodhi Singh, Mr D S Rajganesh, Mr Rajiv Talwar, Mr T D Tiwari, Dr Susheel Kumar, Mr Bertie Alexander towards compilation, Mr V K Bharti for insights in improving the contents and Mr C S Viswanath for editing this report.

The Authority expresses its warmest regards and gratitude to the Chairperson of the Authority for his valuable advice and unflinching support in the preparation and submission of the Annual Report 2010-11.



Registrar
On behalf of the Authority