

(PROFORMA FOR SUBMISSION OF FINAL REPORT OF RESEARCH PROJECTS)**Part - I : General Information****800 Project Code : 57/2008**

8001 Institute Project Code No. : 57 (4) (part of L&CB (#4 under NAIP)

8002 ICAR Project Code No. :

801 Name of the Institute and Division :

8011 Name & Address of the Institute : NAARM, Hyderabad

8012 Name of the Division/Section : RSM Division

8013 Location of the Project : Hyderabad

802 Project Title :**Sub-Project under NAIP: Policy studies for promoting research and innovation in agricultural value chains****Research component-4:** IP management in public private partnerships - Agro-biodiversity, Geographical indications and Traditional Knowledge**803 Priority Area : Agricultural Research Management**2031 Research Approach : AppliedRes./ BasicRes./ Process Dev/ Tech. transfer
01 02 03 04**804 Specific Area : Intellectual Property Management****805 Duration of the Project :**

8051 Date of Start : April 2008

8052 Date of Completion : March 2014

806 Total Cost/Expenditure Incurred

(Give reasons for variation, if any, from the original estimated cost)

807 Executive Summary : the Strategic issues related to public-private partnership in the area of geographical indications and agrobiodiversity management were identified and suitable interventions suggested

808 Key Words: Agrobiodiversity, traditional knowledge, geographical indications, IP Management, agriculture

Part - II Investigator Profile

810 Principal Investigator :

8101 Name : Dr Sudhir Kumar Soam
 8102 Designation : Head, ICM Division
 8103 Division/Section : Earlier, Principal Scientist, RSM Division
 8104 Location : Hyderabad
 8105 Institute Address : NAARM, Hyderabad

811 Co-investigator :

8111 Name : Dr Kalpana Sastry
 8112 Designation : Head, RSM Division
 8113 Division/Section : RSM Division
 8114 Location : Hyderabad
 8115 Institute Address : NAARM, Hyderabad

812 Co-investigator :

8121 Name :
 8122 Designation :
 8123 Division/Section :
 8124 Location :
 8125 Institute Address :

813 Co-investigator :

8131 Name :

8132 Designation :

8133 Division/Section :

8134 Location :

8135 Institute Address :

Part - III : Technical Details**820 Introduction and objectives :**

8201 Project Objectives :

- To develop comprehensive understanding of GIs with respect to their availability and suitability to enhance the socio-economic conditions and livelihood security of the rural poor
- To understand and analyze the transfer, use, collection, and documentation of agro-biodiversity and associated knowledge in the light of latest national and global provisions
- To study the socio-economic impact of legal and administrative provisions of protection of GI, agro-biodiversity and traditional knowledge
- To provide policy support for development of the integrated mechanism that protect GI, agro-biodiversity and traditional knowledge, and also incorporate innovative interventions for the socio-economic upliftment of rural poor and farmers

The following were long term objectives;

- The long-term objective of the project is to build the capacity of the National Agricultural Research System (NARS) to address concerns relating to sustainable development of agriculture by integrating their applications into their

research, education and extension programmes.

- Institutionalizing a *learning organization* mode to sustain the organizational change in the long run.

8202 Background Information and Importance of the Project :

The biological resources associated with a particular geographical location and having specific characteristics and reputation owing to their geographical location or contributions from traditional knowledge are valuable internationally-traded assets and the intensely symbolic property of farming and rural communities. Such resources have a wide variety of existing economic and commercial applications that are of both direct and indirect benefits. These benefits are not only of immense value to national economies but are also often critical to the livelihoods of the communities that are the custodians or creators of the resource, knowledge or the tradition in question. In India, the process of protection of geographical indications was initiated with the inception of the legislative Act called “ The Geographical Indications (GI) of Goods (Registration and Protection) Act 1999”, that came into force since September 2003.

The diversity of biological resources (agro-biodiversity) is the foundation of the maintenance of the vitality of crops, the further development and improvement of crop varieties and animal breeds for direct and indirect use. The biodiversity among plants and animals can be of very high use in other trading of goods such as specific plant and animal products, rural niche including livelihood products, and miscellaneous products available in the nature or manufactured using the indigenous skills, etc. The collection, exchange and use of agro-biodiversity and associated knowledge is governed as per provisions of the Biological Diversity (BD) Act 2002.

There is no direct relationship between these two Acts, the major differences and issues of critical observations are that the basic objectives of both the Acts are different. While the GI Act tries to retain the basic components of GI through limiting its local content, the BD Act allows the exchange/transfer of biological resources as per

the provisions. Both the legislative Acts have various provisions, which facilitate protection of traditional knowledge.

In the present scenario of these legislative provisions and other prevalent national and international conventions and agreements, significant changes are likely to occur in the area of rural livelihoods, access to agro-biodiversity and benefit sharing arising out of its use. In this context, the present study is proposed with the following objectives.

821 Project Technical Profile :

8211 Technical Programme :

(Indicate briefly plan of procedure, techniques, instruments and special materials, organisms, special environments, etc.)

The policy analysis was done through analysis of earlier case studies, analysis of secondary data of registered GIs and other literature. The primary data for makhana was collected through personal interviews and meeting with key stakeholders.

The policy analysis of technology valuation was done through use of methodology called as Analytic Hierarchy Process (AHP) the respondents were trainees of various capacity building programs at NAARM.

The application of Geographical Information System (GIS) was done for the complete portfolio analysis of 'Guntur Sanam Chilli' a registered geographical indication. For the analysis, the primary data was collected and secondary data was also collected through various sources. Use of Arcinfo, Arcview and open source softwares like Q-GIS was done in the study.

The book has been written through involving the network of NAARM trainees and peer group at various centers of excellence in the country and abroad.

8212 Total Man-months Involvement of Component Project Workers :

822 Final Report on the Project :

Detailed report containing all relevant data with a summary of results (Not exceeding 2-5 pages)

8221 Achievements in Terms of Targets Fixed for Each Activity :

FY- 2008-09

- Collecting literature for development of format of questionnaires and format of data collection for developing the case studies.
- Identification of agriculturally important GIs in Northern and North-Eastern India & South India
- Developed the questionnaires for the two case studies
- Prioritized list of GI products for the case study

FY- 2009-10

- Case study from critical analysis of Registered GI products i.e. Pokkali rice, Navara rice and Allahabad surkha completed
- To strengthen the L&CB component a comparative analysis was made of IP systems in various countries and book is published.
- A workshop of technology management and commercialization conducted

FY 2010-11

For valuation of agro-biodiversity, criteria, indicators and methodology identified, working paper titled '**Economic Valuation and Benefit Sharing of Agro-Biodiversity**' developed with following salient features;

Demonstrating the value of biodiversity is a fundamental step in conservation. Food security and livelihood security depend on the sustained management of various biological resources that are important for food and agriculture. Agro-biodiversity is the result of the interaction between the environment, genetic resources and management systems and practices used by culturally diverse peoples, and therefore land and water resources are used for production in different ways.

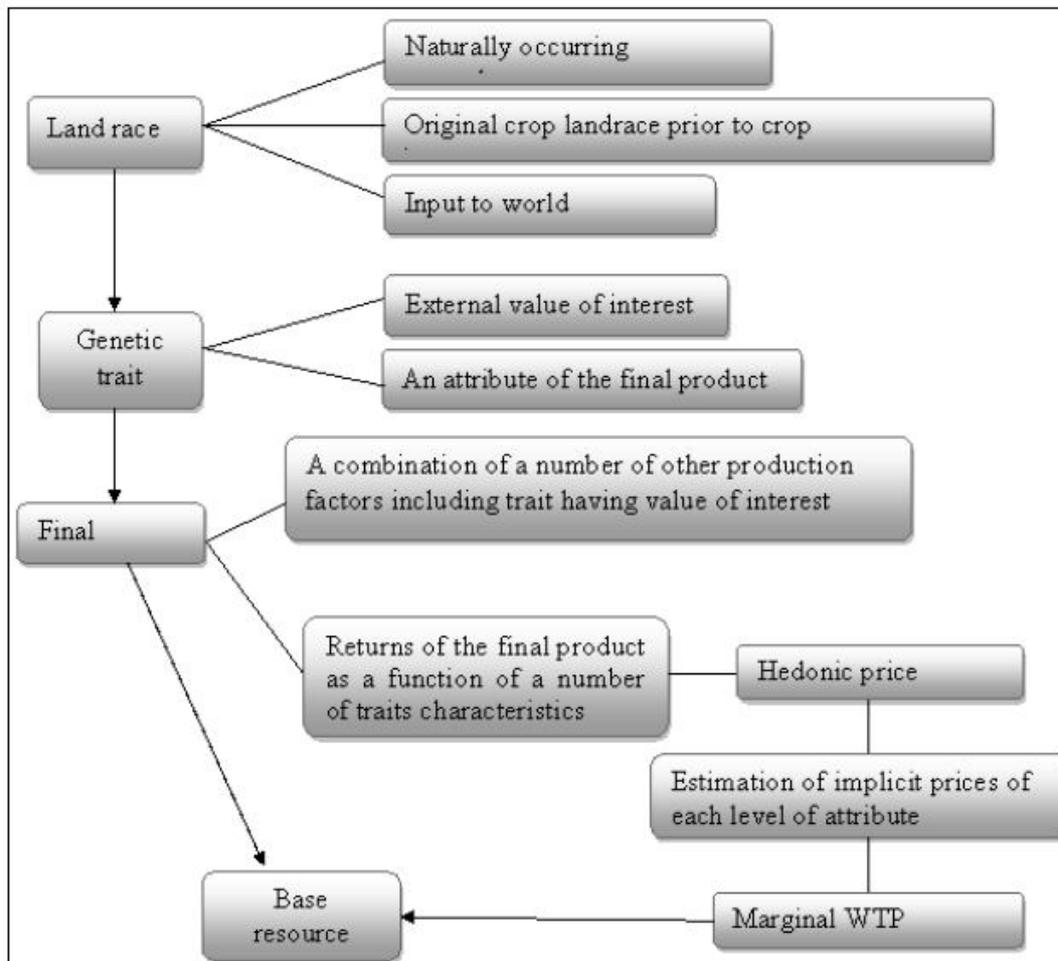
Agro-biodiversity conservation strategies: The choice of conservation strategy depends mainly on the nature of the material to be conserved i.e. the life cycle, mode of reproduction, size and the ecological status (OCED, 1999). Two major approaches for crop diversity conservation are: (i) *In-situ* and (ii) *Ex-situ*.

Economic Valuation of Agro-biodiversity: The preservation of agro-biodiversity has an opportunity cost. This may be in terms of human welfare forgone or it may mean that whilst there is a greater diversity of flora and fauna, the total number of individuals in the species represented is reduced. One definition of an optimal agro-biodiversity policy is one which yields the highest present discounted expected value of diversity. A major problem for such a definition occurs in specifying the benefits of agro-biodiversity. Levels of agro-biodiversity influence vital ecosystem services and thus play an important role in the maintenance of many fundamental systems and process. It is not clear, however, what levels of agro-biodiversity are necessary to maintain these functions. Certain indications of the importance of biodiversity exist.

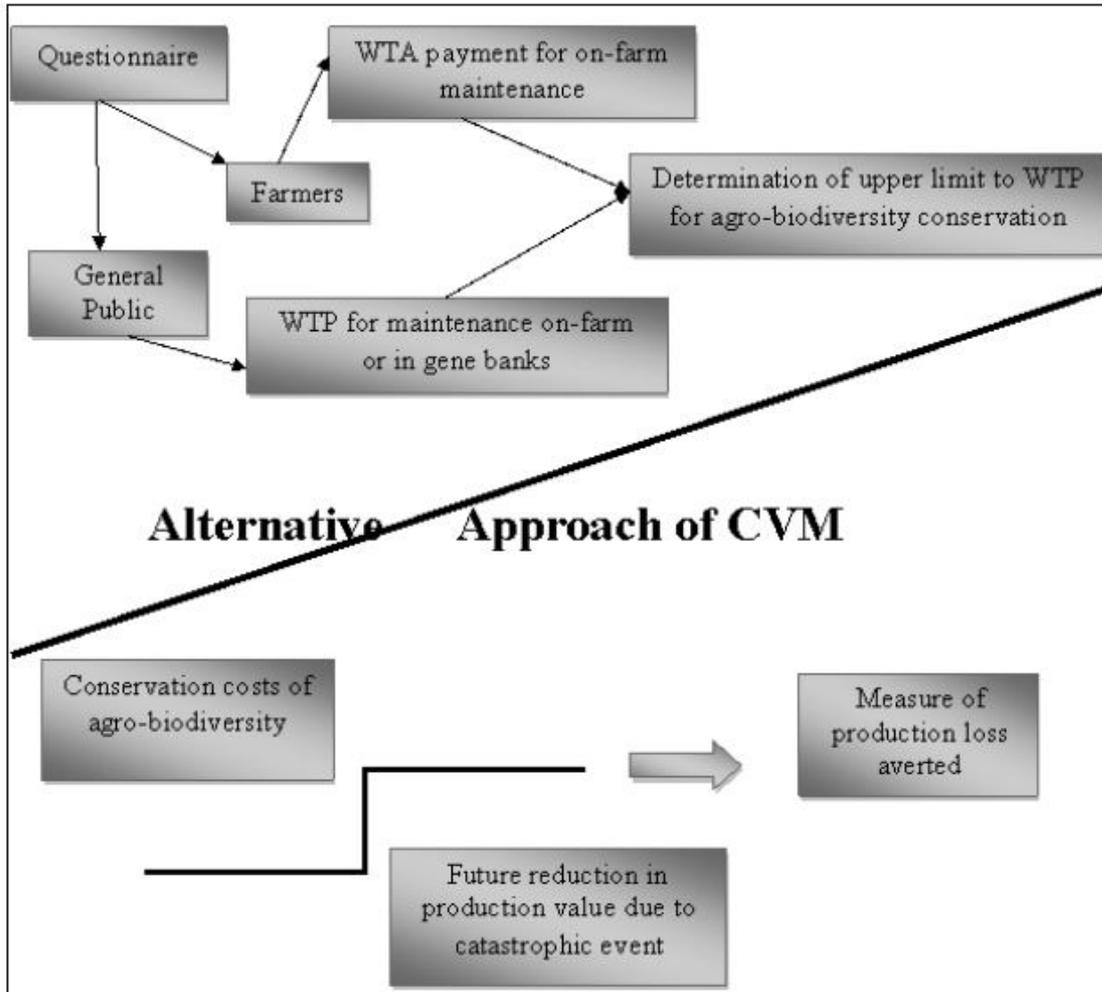
FY 2011-12

A-3-1: For valuation of agro-biodiversity, criteria, indicators and methodology identified, a book chapter titled '**Economic Valuation of Agro-Biodiversity**' was published in a book from BHU. Emphasis was given to following two models:

a. Hedonic pricing model:



b. Contingent valuation model:



A-3-2: For valuation of agricultural technologies, the Analytic Hierarchy Process (AHP) tool was tested for ranking the criteria. The data from around 300 trainees at NAARM has been collected and the analysis is going on.

A-3-3: The GIS mapping of Geographical Indications has been done partly

A-3-4: For niche area analysis- Common Property Resources (CPR) GI products

A case study titled 'GI Portfolio Analysis for Enhanced Income of Makhana Producers in Bihar' has been completed.

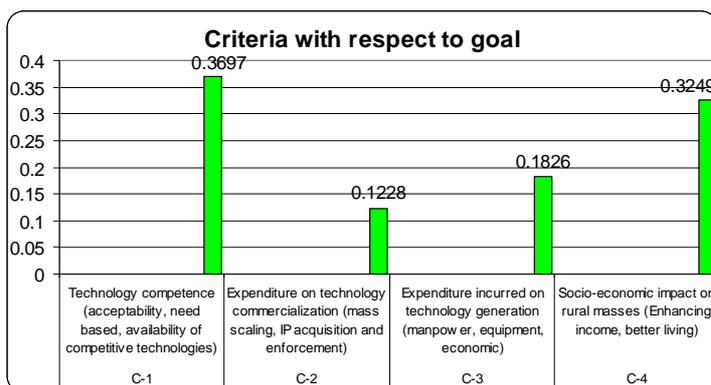
The data reveals that 46% producers are landless labourers and 33% are small farmers. More than 65% producers are engaged in this activity as it is traditional family job but 32% see it as profit making venture. The activities of male and female in Makhana production system are clearly demarcated. As perceived, the makhana production system is not mostly organic about 86% producers use pesticides for controlling weed or insect pests. More than 70% producers felt the need of anew variety.



Major

recommendations are;

- ❖ Registration of product as Geographical Indication
- ❖ Community based strategy to access water-bodies through institutional mechanism such as Self Help Group or cooperatives.
- ❖ Reduce the technological gap, improve value chain by various interventions.
- ❖ Adoption of Makhana-Rice crop intensification approach especially in districts like Madhubani and Darbhanga.
- ❖ Mechanization of harvesting, post harvesting and processing
- ❖ Promoting the concept of e-Auctioning initiated by MSTC
- ❖ The Agri- Export Zone Hazipur, could be widened to include export promotion of Makhana products as well under partnership of makhana growers/processors.



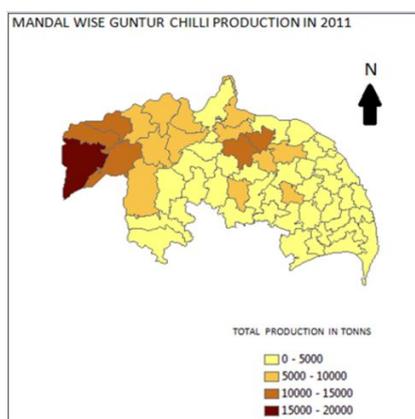
A-3-5: Involved in different programs as capacity building efforts and facilitation of GIs registration for banganpalle mango and Sona Masuri (BPT-3291) and Samba Masuri (BPT-5204).

FY 2012-13

This year's major objectives were to develop a case study for technology valuation and application of

Geographical Information System (GIS) in case of one GI product for appropriate policy intervention to strengthen the public private partnership (PPP) for enhancing the socio economic status of rural poor.

The methodology named as Analytic Hierarchy Process (AHP) has been used for identifying and prioritizing the criteria for technology valuation. Data so collected from 300 respondents clearly indicate that most scientists have given priority to bring transparency in valuation process and aim the valuation process towards socioeconomic upliftment of farmers, the variation in decision making from various groups have also been evaluated.



A book cited 'Soam S.K., P.D. Sreekanth and N.H. Rao (Eds). Geospatial Technologies for Natural Resources Management, New India Publishing Agency, New Delhi, 488 pages, 2013, ISBN 978-93-81450-80-2' was also published.

For the GIS application, a registered Geographical Indication i.e. Guntur Sanam Chilli was identified to develop a case study. The Guntur chilli is produced in five districts of AP but the most significant is Guntur district, therefore extensive study was taken up for this district. The preliminary studies reveal that most of the Guntur chilli is being produced by the medium and large farmers, and areas from marginal and small farmers are contributing the least production. Using the GIS, appropriate PPP interventions are being probed in the project, the most innovative is to link 'Adhar Card' with GIS based decision support

system.

FY 2013-14

Conducted a national workshop, where 145 participants attended, the proceedings are published as cited below;

S.K.Soam and M.Balakrishnan. (2013). Proceedings, National Conference on Agro biodiversity Management for Sustainable Rural Development, 14-15 October 2013. 148 pp. National Academy of Agricultural Research Management, Hyderabad . ISBN 978-81-909983-5-45

A edited book on agrobiodiversity has been written, waiting for publisher for publishing the book.

8222 Questions - Answered :

- Policy questions reflecting amendments in the rules of GI protection legal provisions
- Public-private partnership for the commercialization of technologies

- Policy questions reflecting valuation of biodiversity and agricultural technologies
- Public-private partnership issues for the commercialization of Makhana as GI
- Through application of Geospatial technologies identified the potential interventions for Public-Private Partnership issues for the socioeconomic upliftment of Guntur Chilli producers

8223 Process/Product/Technology/Developed :

- Identified more than 400 products and comprehensive list made as GIs
- Identified more than 300 GI products for off farm employment
- Identified more than 100 GI products in north eastern India for off farm employment
- Identification of valuation criteria for agro-biodiversity and testing of AHP methodology for valuation of agricultural technologies
- Understanding the uniqueness and specialty criteria of the registered GIs
- Facilitation of Banganpalle mango for GI registration
- Standardisation of valuation criteria for agro-biodiversity and testing of AHP methodology for valuation of agricultural technologies
- Understanding the strategic issues to develop 'Makhana' as GI and less important crop like grain amaranth to commercialize as special product
- Facilitation of Banganpalle mango and sona masuri rice for GI registration
- Application of AHP for prioritizing the technology valuation approaches

- Application of GIS for understanding the strategic issues to PPP for enhancing income of rural poor engaged in Guntur Sanam chilli production
- Facilitation of Banganpalle mango for GI registration, the Horticultural Development Agency, Horticultural Department, Govt. of Andhra Pradesh has put the application for registration as GI. The statement of case by the GI registry, Chennai was put up to inspection body on 18th Feb 2013.

8224 Practical Utility :
(Not more than 150 words)

The identified GI products can be taken up for registration by several organizations.

Strategic policy knowledge dissemination and capacity building through various means and platforms. As the peer group recognition of SK Soam as GI expert and sharing knowledge generated through NAIP (L&CB) project opportunities.

8225 Constraints, if any :

823 Publications and Material Development :
(One copy each to be supplied with this Proforma)

8231 Research Papers :

Soam, S.K.; M. Hussain and R. Kalpana Sastry (2010). The Socioeconomic status of producers of Geographical Indications of India. Souvenir 'Marching towards food-nutrition secure India' of **National Symposium on Genomics and Crop Improvement: Relevant and Reservations** (February 25-27, 2010), Organized by ANGRAU, Hyderabad, page 152-156.

Saravanan M. and **S.K. Soam** (2010). Exploitation of minor millets genetic resources for poverty alleviation in India. Proceedings of **National conference on 'biodiversity, development and poverty alleviation'** held at UP State Biodiversity Board, Lucknow, 22nd May 2010, 110-111.

S.K. Soam and M. Hussain (2011). Commercialization of Indigenous Health Drinks as Geographical Indications. **Journal of Intellectual Property Rights**, Vol 16, March 2011: 170-175.

M. Balakrishnan, Grinson-George, P. Krishnan, M. Kaliyamoorthy, Titus-Immanuel and **S.K. Soam** (2013). Interactive digital database on coral biodiversity of Andaman – an ICT initiative to digitize and manage an ecologically sensitive resource due to climate change. **Journal of Agrometeorology**, Vol 15 (Special Issue I): 205-208. NAAS 2013 rating: J023/ 6.6

8232 Popular Articles/ Book Chapters :

Soam S.K. and R. Kalpana Sastry (2009). Krishi ke kshetra me mukhya bodhik sampada (in Hindi), Krishi Prabhandhan Ke Naye Ayam, *Ank (4)*, Septmeber, 2009, 106-120, NAARM, Hyderabad.

Soam S.K. and Mujjarrab Hussain (2010). Pokali chaval evam Navara chawal ke vyavsayaek mahatwa ko badhane me bhogolic updarshan panjikan ka mahatva (**in Hindi**), Krishi Prabhandhan Ke Naye Ayam, *ank(5)*, September, 2010, 34-38, NAARM, Hyderabad.

Minturam Meena and **Soam S.K.** (2010). Podha kism aur krishak adhikar adhineeyam 2001 ek anokha evam sashakt vidhan (**in Hindi**), Krishi Prabhandhan Ke Naye Ayam, *ank(5)*, September, 2010, 12-18, NAARM, Hyderabad.

Soam, S.K.; M. Hussain and R. Kalpana Sastry (2010). The Socioeconomic status of producers of Geographical Indications of India. Souvenir 'Marching towards food-nutrition secure India' of **National Symposium on Genomics and Crop Improvement: Relevant and Reservations** (February 25-27, 2010), Organized by Institute of Biotechnology, ANGRAU, Hyderabad, page 152-156.

Saravanan M. and **S.K. Soam** (2010). Exploitation of minor millets genetic resources for poverty alleviation in India. Proceedings of **National conference on 'biodiversity, development and poverty alleviation'** held at UP State Biodiversity Board, Lucknow, 22nd May 2010, 110-111.

Soam SK (2011). Geographical Indications: Enhancing Competitiveness in Livestock Sector. Training compendium for the NAIP sponsored 'National Training on IPR for Animal Scientists 9-18 March 2011' (*Eds KP Ramesha et al*), Southern Regional Station of **NDRI, Bangalore**, pages 141-153.

Soam SK and Kalpana Sastry (2011). **Studies on Pokali and Navara rice and listing of other lesser known GIs of India under NAIP (L&CB) project**. Training and awareness program on IPR sponsored by PPV&FR Authority, New Delhi. Organized by Farm and Rural Science Foundation, Hyderabad during 27-29 January 2011. Training compendium on IPR, FRSF, pages 114-135

Soam S.K. and Hussain M. (2010). Commercialization of Indigenous Health Drinks through Protecting Community Intellectual Property Rights. Abstract number 4 WAC/PO-33, **4th World Ayurveda Congress** Organized by Dept of Ayush, Ministry of H&FW, Govt of India during 9-13 December, 2010 at Bangalore. 4th WAC Abstracts, globalizing Ayurveda and IPR section, pages 253-254.

Jyothi Badri and S.K. Soam (2012). Economic Valuation of Agro-Biodiversity, In Modern Trends in Microbial Biodiversity of Natural Ecosystem, Asha Sinha, B.K. Sharma and Manisha Srivastava (Eds). Chapter 11, 173-185, BIOTECH BOOKS, New Delhi. ISBN 978-81-7622-

Shephalika Amrapali and S.K. Soam (2012). Grain Amaranth: An Underutilized Crop with Tremendous Potential, In Modern Trends in Microbial Biodiversity of Natural Ecosystem, Asha Sinha, B.K. Sharma and Manisha Srivastava (Eds). Chapter 24, 381-389, BIOTECH BOOKS, New Delhi. ISBN 978-81-7622-

Soam SK (2011). Geographical Indications: Enhancing Competitiveness in Livestock Sector. Training compendium for the NAIP sponsored 'National Training on IPR for Animal Scientists 9-18 March 2011' (Eds KP Ramesha et al), Southern Regional Station of NDRI, Bangalore, pages 141-153.

Soam S.K. and Kalpana Sastry (2011). **Studies on Pokali and Navara rice and listing of other lesser known GIs of India under NAIP (L&CB) project.** Training and awareness program on IPR sponsored by PPV&FR Authority, New Delhi. Organized by Farm and Rural Science Foundation, Hyderabad during 27-29 January 2011. Training compendium on IPR, FRSF, pages 114-135

Soam S.K. and M. Hussain (2012). Lesser Known Horticultural Products as Geographical Indications in India. In: Shiela Mavis Nyatlo, Catherina Caballero and M.A.M. Fernando (Eds) Intellectual Property Management in Developing Countries, Centre for Science & Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre), ISBN- 81-7035-780-3, pp167-177.

Ravinder Kumar, **S.K. Soam** and Brajendra (2012). Plant Growth Promoting Rhizobacteria (PGPR) in Management of Plant Diseases. In: Vaibhav K. Singh, Yogendra Singh and Akhilesh Singh (Eds) Eco-Friendly Innovative Approaches in Plant Disease Management, International Book Distributors, Dehradun, ISBN 9 7 8 8 1 7 0 8 9 3 7 5 2, pp 207-240.

Soam S.K. (2013). Protection of GIS Products under Indian Copyright Act. In: S.K. Soam, P.D. Sreekanth and N.H. Rao (Eds) Geospatial Technologies for Natural Resources Management, New India Publishing Agency, New Delhi, ISBN 978-93-81450-80-2, pp 461-472.

Soam S.K. (2014). Lesser-known Natural Goods as Geographical Indications in Indian Rural Economy. In: Tapan Kumar Rout and Bidyadhar Majhi (Eds) WTO, TRIPS and Geographical Indications, New Century Publications, New Delhi, ISBN 978- 81-7708-371-2, pp162-190 .

8233 Reports/Books:

S.K. Soam and S.M. Ilyas (2008). Participatory Socio-economic Analysis of Geographical Indications in India: Case studies of Palakkadan matta rice, Kurnool rice, Basmati rice, Pahari aloo, Bannur sheep. NAARM, Hyderabad, 278 pages

Soam, S.K., B. Hanumanth Rao and Victoria Henson-Apollonio (Eds). **A Snapshot Guide to Intellectual Property Systems: A Compendium of Information from Developing Countries of Asia, Africa and Latin America.** NAARM, Hyderabad and CGIAR CAS-IP, Rome, 290 pages, 2009. ISBN 978 -81-909983-0-7.

Soam S.K., P.D. Sreekanth and N.H. Rao (Eds). Geospatial Technologies for Natural Resources Management, New India Publishing Agency, New Delhi, 488 pages, 2013, ISBN 978-93-81450-80-2.

Subarayudu, B., J.S. Mishra, A. Kalaisekar, P. Sanjana Reddy, J.V. Patil, G.R.K. Murthy and **S.K. Soam** (2012). *Kharif Vari Polallo Rabi Jonna Saguku Upayogapade Sankethika Parignanam* (Rabi Sorghum cultivation in rice- fallows). **E-book in Telugu language**, published by Directorate of Sorghum Research, Hyderabad, 55 pages. Available at <http://www.sorghum.res.in/>

8234 Seminars, Conferences and Workshops (Relevant to the Project) in which the Scientists have Participated :

(List abstracts forwarded)

1. Attended 'Graduate course in IP management and technology transfer' organized by society for technology management (STEM) at Hotel Sullivan Court, **Ooty** during 13-16 April 2008. The name was nominated by ICAR headquarters vide DO No. 21(20)/2006-IPR dated 27 Feb 2008.
2. Attended seminar on 'understanding SPS and TBT agreements and market access on environmental goods and services, organized by Dept of Commerce, New Delhi at Hotel Kakitya, **Hyderabad** on 21.03.2009.
3. Workshop on IPR and PCT, conducted by ASCI, Hyderabad during 8-9 May, 2008.
4. As a member of National Partners Initiative (NPI) of CGIAR- Central Advisory Service on Intellectual Property (CAS-IP) attended 2nd meeting held at Bioversity International, Rome during 2-5 July 2008 (CAO office order- 3-337/2000/Per dated 30 June 2008).
5. Attended 'Building Communication Skills Workshop and Interim National Partners Initiative Meeting' held at Sarova Whitesands Beach Hotel, Mombasa, Kenya during **January 12-17, 2009**. The workshop-cum-meeting was organized by International Livestock Research Institute (ILRI) as an activity of CGIAR Central Advisory Service on Intellectual Property (CAS-IP) hosted by Bioversity, Rome, Italy
6. Attended three day special module on agripreneurship: managing agricultural innovation and enterprise development held at NAARM during August 24-26, 2009.
7. Participated in The CGIAR Central Advisory Service on Intellectual Property (CAS-IP) Annual Meeting of the National Partners Initiative held at Hotel Novotel, Den Hague (Netherlands), 1-5 Sept, 2009.
8. Participated in 'Building Negotiation skills Workshop and Interim National Partners Initiative Meeting. Organized by The CGIAR Central Advisory Service on Intellectual Property (CAS-IP), Rome, Italy at Hotel Sanur Beach, Bali, Indonesia, 17-23 January 2010..
9. Participated in The CGIAR Central Advisory Service on Intellectual Property (CAS-IP) Annual Meeting of the National Partners Initiative held at Venable LLR, Washington DC, 13-19 June, 2010. DARE/ICAR sanction order no. 12-96/2010/ICCG dated 2nd June 2010.
10. Study visit under NAIP on 'Intellectual Property Management and Technology Commercialization', Washington State University, Pullman, USA during 30.03.2010 to 29.04.2010. ICAR/NAIP sanction no. 1(16)/2009/CT/NAIP/O&M/C-1/6-4/271 dated 8.3.10.
11. Attended 4th World Ayurveda Congress and presented a paper 'Commercialization of Indigenous Health Drinks through Protecting Community Intellectual Property Rights'. Organized by Dept of Ayush, Ministry of H&FW, Govt of India during 9-13 December, 2010 at Bangalore.
12. Attended International conference on 'Environmental knowledge for disaster risk management' 10-11 May 2011, Vigyan Bhavan, New Delhi. Organized by National Institute of Disaster Management, New Delhi.
13. As invited expert attended 'Asian regional workshop in preparation of COP-MOP 6' during 13-14 September 2012, organized by International Service for the Acquisition of Agribiotech Applications (ISAAA), IFPRI and ICRISAT jointly at ISTA hotel, Hyderabad.
14. National Seminar of Plant Physiology on 'Physiological and Molecular Approaches for Development of Climate Resilient Crops, 12-14 December 2012, ANGRAU, Hyderabad. The Poster titled 'Intellectual Property Protection of 'Banaganapalle Mango' of Andhra Pradesh,

India through Registration as a Geographical Indication' was presented in collaboration with scientists from Dr. Y. S. R. Horticultural University (Dr.YSRHU), Andhra Pradesh Technology Development and Promotion Center (APTDC) and Institute of Biotechnology, ANGRAU.

15. Participated and contributed to FAO e-Conference on "Ensuring the full participation of family farmers in agricultural innovation systems: Key issues and case studies" during 4 June to 1 July 2012. Background Document to the conference is available on the web at <http://www.fao.org/docrep/015/an906e/an906e00.pdf>

824 Infrastructural Facilities Developed :
(Details of field, laboratory, notebooks and final material and their location)

825 Comments/Suggestions of Project Leader regarding possible future line of work that may be taken up arising out of this Project :

Part - IV : Project Expenditure
(Summary)
Year _____

830 Total Recurring Expenditure :

8301	Salaries : (Designation with pay scale)	<u>Estimated</u>	<u>Actual</u>
	i) Scientific		
	ii) Technical		
	iii) Supporting		
	iv) Wages		
	Sub-total	-----	-----
8302	Consumables :		
	i) Chemicals		
	ii) Glasswares		
	iii) Others		
	Sub-total	-----	-----

8303	Travel :	
8304	Miscellaneous : (Other costs)	-----
8305	Sub-total (Recurring)	-----
831	Non-recurring Expenditure : (Equipment and works)	
	i)	
	ii)	
	iii)	-----
832	Total (830 and 831)	-----

Part - V : DECLARATION

This is to certify that the final report of the Project has been submitted in full consultation with the Project Workers as per the approved objectives and technical programme and the relevant records, notebooks and materials are available for the same.

Signature of the Project Investigator :

Co-investigators : 1

2

3

**Signature & Comments of the Head
of the Division/Section :**

**Signature & Comments of the
Joint Director (Research) :**

**Signature & Comments of the
Director :**

ii) Glasswares

iii) Others

Sub-total

Travel :

Miscellaneous :
(Other costs)

Sub-total
(Recurring)

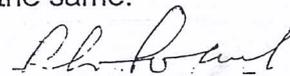
Non-recurring Expenditure :
(Equipment and works)

- i)
- ii)
- iii)

Total
(830 and 831)

Part - V : DECLARATION

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Signature of the Project Investigator :

Investigators : 1

2

3

Signature & Comments of the Head
of the Division/Section :

Project completed

Signature & Comments of the
Joint Director (Research) :



डॉ. आर. कल्पना शास्त्री
Dr. R. Kalpana Sastry
संयुक्त निदेशक/Joint Director
राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
National Academy of Agricultural Research Management
राजेन्द्रनगर/Rajendranagar, हैदराबाद, Hyderabad-500 030.

Signature & Comments of the
Director :

डॉ. एस.एल. गोस्वामी
Dr. S.L. GOSWAMI

निदेशक/DIRECTOR
राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी (भा.कृ.अ.प.)
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राजेन्द्रनगर/Rajendranagar, हैदराबाद/Hyderabad-500 407, A.P.

