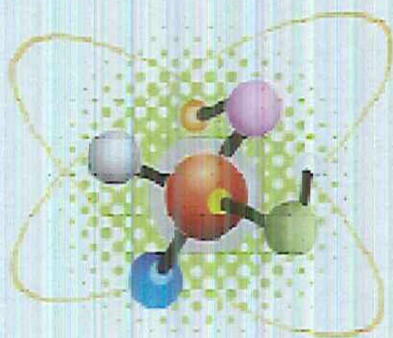


PROFILE OF INDIAN SCIENTISTS IN MAJOR SCIENTIFIC AGENCIES



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Preface

Department of Science & Technology (DST) has been providing data on financial and human resources deployed on S & T activities at the national level. Individual scientific organisations have also been generating data for their own use on manpower. But there is no data available centrally on the age structure of S & T Personnel, their academic qualifications, experience, overseas exposure, patents developed and contributions made.

Keeping this in view, the Department assigned a study to the Group for Economics & Social Studies (GESS), New Delhi to collect, compile data and create a website on scientists working in Group 'A' i.e. Scientist 'B' and above in six leading scientific agencies namely Department of Science & Technology, Council of Scientific and Industrial Research, Indian Council of Medical Research, Department of Biotechnology, Ministry of Earth Sciences and Indian Council of Agricultural Research.

The data bank contains information in respect of 2007 scientists as on 30th September 2008 who responded to GESS questionnaire. Out of this, there are 1389 scientists with Ph.D degree. The ratio of male and female scientists differs from institute to institute, for example in DBT it is 33.3%, DST 20.8%, CSIR 16.1%, ICMR 27.4%, and MOES 15.8% and in ICAR 11.3%. The trend of age profile of scientists indicates that the majority of scientists fall in the age group of 51-60 (34% nearly). 6.5 % of the scientists fall in the category of beyond 60 years of age.

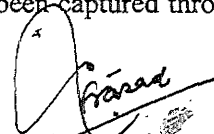
The Project has been executed by GESS with the guidance of local project advisory Committee. Shri Rakesh Chetal, Scientist 'G' was the coordinating officer in DST who advised the scientific agencies from time to time to provide the requisite information.

The DST is thankful to all the six scientific agencies for providing necessary data for compilation and creation of the website.

An exclusive website titled www.indianscientist.in has been created containing data bank on scientists covered in the Project. This website covers database of scientists on nine counts, namely Institutional Information, Personal Profile, Academic and Professional Qualification, Professional Experience, Areas of Specialization, Awards, Overseas Exposure, Details of Research Papers / Publications / Patents and Total Professional Experience in years.

The website also contains an inbuilt system of updating the data on a continuous basis. This data bank will be useful to government, scientific agencies, R&D Institutes, Academic Institutions and the Industry for its requirement of R&D professionals.

We would welcome the Scientists to enter their data in the website www.indianscientist.in on line or through the hard copy of the questionnaire which can be sent to them on request. This will help us to complete the huge missing gap in the information that has been captured through the project.



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Advisor & Head (NSTMIS)
Department of Science & Technology
Technology Bhawan, New

February 2009
Delhi

Acknowledgements

The Project titled "Profile of Indian Scientists in Major Scientific Agencies" was sponsored by the Department of Science & Technology under the NSTMIS programme. GESS acknowledges the support provided by DST in particular Shri Rakesh Chetel for advising the identified major scientific agencies and R&D institutes under them to provide data of scientists working in the respective scientific agencies. We are also grateful to the Dr. Laxman Prasad, Adviser & Head, for his support and guidance in completing the project.

We express our gratitude to various heads of institutions and coordinators of R&D institutes and labs who are designated across the country who have responded to our questionnaires and provided information about the scientist. We are also thankful to each scientist who filled in the questionnaires and returned them to us for compilation and inclusion in the website.

We are particularly grateful to Dr. Naresh Kumar, Head, R&D, Planning Division, CSIR, New Delhi who agreed to chair the LPAC and guide the study project. We are also grateful the members of LPAC namely Dr. K.K. Singh, Head Division of MPD, ICMR, New Delhi, Dr. (Mrs.) Suman Govil, Advisor, DBT, New Delhi and other member of LPAC.

I would like to place on record my sincere thanks to Shri Arup Das, Ms. Jagriti Yadav Gaurav Agarwal and Stuti Agawal for their efforts and analyzing the data and bringing the website to fruition.

I would like to place on record my sincere gratitude and thanks to Prof. Abid Hussain, Chairman, GESS for his guidance and encouragement for undertaking the Study till its successful completion. I am also grateful to the members of GESS for their guidance in completion of the Project.

I am thankful to my Project staff and all those associated with creation of website. I acknowledge their sincere help in completing the Study. I would like to express my gratitude to those who may have contributed in the completion of the Study, even if, anonymously.

I would like to mention that every effort has been made to give credit where due for the research material used in this Project. I seek the apology for any inadvertent failure in giving credit to those where it was due.



Dr. S.N. Yadav
February 2009

Executive Summary

1. A data bank of a large pool of Indian scientists would benefit the country and act as a powerful tool for showcasing India's scientific and research capabilities at a time when nations are integrating intellectual capital. This study is a step in that direction.
2. At the instance of Department of Science & Technology (DST), National Science and Technology Management Information System (NSTMIS) Division; a research project titled "Profile of Indian Scientists in Major Scientific Agencies" was undertaken by the Group for Economic & Social Studies (GESS).
3. The scientific agencies covered in the project include Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), Indian Council of Medical Research (ICMR), Ministry of Earth Sciences (MoES), Department of Biotechnology (DBT) and Indian Council of Agricultural Research (ICAR).
4. The information has been collected through specially designed questionnaire, desk research, personal visits, emails, telephone calls and fax Messages from scientists holding position of grade 'B' and above and employed in the six major scientific agencies covered in this project.
5. The responses from scientists on overseas experience/exposure indicate that very few scientists had the opportunity of going abroad for higher studies or to attend conferences or training.
6. This trend however varies from institute to institute. 368 Scientists are Ph.D. in Biology followed by 180 in agricultural and Veterinary Science, 160 with Chemistry, 154 with Physics and so on.
7. From the replies received it has been found that the pool of scientists engaged in basic research, product development, patents filed, patents sealed, industrial management, publication of research papers and scientific books, consultancy, R&D Management, planning etc. is small except in the case of senior scientists. The trend also differs from institute to institute.
8. The ratio of scientists between female & male varies from institute to institute. It is 11.31% in ICAR where as percentage of female scientists is 33.33% in DBT.
9. The age profile of scientists is also not commensurate with the increasing demand of scientists in the wake of globalisation of Indian economy. An Analysis of age profile of scientists based on questionnaires received indicate that majority of scientists covered under the project fall in the age group of between 41-50 and 51-60. ICMR respondents indicate a trend of higher age group while DBT respondents show a trend of early age group.
10. As per responses received, majority of scientists (77 per cent) have indicated preference for health check at the age of 60 years only a small percentage of scientists are in favour of critical performance review for working beyond the retirement age.

11. The objective of the study was to create a data bank through a web enabled software program - *website* which will have security features to protect the confidentiality and keep the data secured and provide a built in search engine within the software. This program can be accessed with secured login and password with the agency nominated or appointed by DST.
12. Keeping in view the objectives of the project, a web-enabled software/*website* titled www.indianscientist.in has been created. This *website* contains data of 2007 scientists covered in the project.
13. Accordingly, an exclusive *website*, with the domain name www.indianscientist.in has been registered. The site has inbuilt features for addition, deletion, up-gradation and other changes as and when required. The *website* contains data of 2007 scientists of six major scientific agencies who responded to GESS and filled the questionnaire.
14. The *website* contains data bank of individual scientists - their age structure, institutional information, personal profile, academic qualifications, professional experience, areas of specialization, awards, overseas experience/ exposure, details of research/ papers/ publication/ patents and total experience.
15. The *website* www.indianscientist.in is different from other *websites* of institutions and labs as it has additional features over other *websites* with scope for continuous changes and up-gradation. A scientist will be able to update his/her profile automatically through a designated mode, which will be made available by DST or GESS on request.
16. The *website* has been designed in such a way as to give access to information to government organizations to enable them to plug the gap in demand and supply of senior scientific manpower (which may result in part from across the board ban on recruitment imposed by the Government for the last several years).
17. The *website*, having data at one place, can help in plugging the gap in demand and supply for teaching staff in colleges and universities imparting higher education even after the retirement of scientists. It is important to note that Government has allowed the academic institutes to employ experienced and skilled personnel up to the age of 65 years and even up to 70 years on case-to-case basis.
18. An organization/ industry/ R&D institutes/labs will be able to out source their requirement of scientists according to their needs and requirements in formulating future manpower policy.
19. The *website* contains personal and professional data of scientists. The data available for public view is limited to the brief profile as agreed by the LPAC team based on the primary, secondary and tertiary data classification.
20. Basic features of the website include easy to use search capability, search engine, new registration, editing the existing profile and change of password in addition to the security of data bank.

21. The *website* would require future enhancements for optimal use of the data by the government industry and academic institutions. Classification of data by designation, age group, qualification and specialization has been arrived at by collecting data from individual scientists.

Chapter 1 - Introduction & Background

1.1. Introduction

The National Science & Technology Management Information System, a division of Department of Science & Technology, conceived the project. It was given to GESS in sponsored mode with a view to have a data bank of scientific personnel employed in Scientific Agencies at one place. The availability of a big pool of scientists is a great asset to India. However, there is no centralized source of information on this resource pool.

It was strongly felt that the country needs a data bank on India's scientific talent for creating a national level repository of their rich experience and skills for utilization in formulation of the future manpower policy by the government.

Due recognition was given to the fact that there is no data available at one place, even on renowned and highly skilled scientists who have contributed significantly over the years in different fields of science.

It was also realized that a stage may come when there may be a big gap of availability of scientists in view of ban on new recruitment imposed by the government across the board.

Due to economic prosperity in the country, rising standard of living and the availability of advanced medical care, the life expectancy of the Indian population in general has been rising. The rich experience of retired scientists can be utilized in R&D Institutions, Universities and Educational Institutions even after their retirement. The data bank will also provide a platform for industry to utilize the available scientific manpower in their R&D work to ensure the overall growth of Indian economy.

1.2. Objectives

The objectives of the Study were:

1. To create a databank of Indian Scientists (Scientists working in Grade B and above) employed with scientific agencies under the Union Government. This would include the following information:

Name, Gender, Date of Birth, Qualification, Date of Appointment, Location, Positions held / holding in permanent capacity or on deputation from other departments, area(s) of specialization etc.

2. To identify and compile the areas of research and specialization of the scientists.
3. To provide a platform for industry to utilize the available scientific manpower in their R&D efforts to ensure the overall growth of Indian economy.
4. To develop a web enabled software program or *website*, which will have security features to protect the confidentiality and keep the data secured. This program can be accessed with secured login and password with the agency nominated or appointed by Government of India.
5. To make available a reporting tool built in with the software, which can help in planning of scientific manpower in different streams by Government of India.
6. To help industry out-source its requirements to scientists and R&D personnel.

1.3. Methodology

The data were collected through desk research and mailing of structured questionnaire specially designed for the project.

The following methods of data collection were adopted:

- i. Desk Research: Collection of Data and information from the individual scientists through identified scientific agencies covered in the project.
- ii. A letter was sent by DST to the secretary of each Ministry / Organization to nominate a person to be member of the Local Project Advisory Committee to guide the execution of the project.
- iii. A Local Project Advisory Committee (LPAC) was constituted under the Chairmanship of Dr. Naresh Kumar, Scientist, Head-R&D, Planning Division of CSIR.
- iv. The members of LPAC representing the scientific agencies were advised to write a letter to the respective Directors of each lab/institute to nominate a scientist / officer to act as a nodal scientist/person who could be contacted to get the questionnaire filled in.
- v. Keeping in view the suggestions of LPAC members the questionnaires were sent through respective director/nodal person of R&D centre/laboratory for quick and timely response. In this effort, assistance and guidance from Human Resources and personnel department of six scientific agencies were also taken.
- vi. The information collected in various steps was compiled tabulated, analyzed and draft report prepared. This was presented through power point to the LPAC members in the meetings for their comments and suggestions.

1.4. Local Project Advisory Committee

A local Project Advisory Committee (LPAC) was set up to advise and guide GESS from time to time during the execution of the study. The details of the team are given below:

LPAC Team:

1. Dr. Naresh Kumar, Chairman, Head R&D, Planning Division, Council of Scientific and Industrial Research (CSIR), New Delhi, who acted as the Chairman of the LPAC.
2. Dr. Rakesh Chetal, Member, Adviser, NSTMIS Division, Department of Science & Technology (DST), New Delhi.
3. Dr. K.K. Singh, Member, Head, Division of MPD, Indian Council of Medical Research (ICMR), New Delhi.
4. Dr. Suman Govil, Member, Adviser, Department of Biotechnology (DBT), New Delhi.
5. Dr. B.S. Bisht*, Additional Director General (HRD), Indian Council of Agriculture Research
6. Dr. S.K. Das*, Adviser, Ministry of Earth Sciences, New Delhi.
7. Dr. S.N. Yadav, Principal Investigator (PI), President (GESS),
8. Ms. Jagriti Yadav, Consultant, (GESS Nominee)
9. Two more consultants, namely Shri Arup Das and Shri Gaurav Agarwal attended the LPAC meetings as special invitees for website designing.

*They could not attend the meetings due to their preoccupation.

1.5. Limitations of the study

1. All the scientists of the six scientific agencies approached did not respond and return their questionnaires duly filled in, in spite of the best efforts and repeated reminders, phone calls, emails and fax Messages.
2. In most cases the scientists were not in a position to fill the questionnaire due to their pre-occupation or being out of their headquarters.
3. Most of the scientists approached were reluctant to fill the questionnaire for one or the other reason and pointed out that they receive questionnaires from different organizations, which require them to devote a lot of their time for filling up.
4. Lack of uniformity and dissimilarity in their level, nomenclature of grade, designation occupation and experience particularly in respect of scientists from ICAR has taken extra effort in compiling the data and align them uniformly for the purpose of *website*.

5. Analysis of data for *website* has taken long time since a number of scientists did not fill the questionnaire as required. It has therefore; taken additional efforts and time to get the data compiled and bring about uniformity.
6. Response even from labs and R&D institutes was not forthcoming in spite of advice from the parent agencies to nominate a nodal scientist/officer except in respect of DST where the response was quite good.
7. The data bank contains information-received up to 1st July, 2008. Changes in their professional experience, overseas exposure/ publication of research papers etc will need up gradation.
8. As per the project objective, the data bank of scientists was to be created for scientists of level 'B' and above. Since designations of scientists are not uniform across various scientific agencies, it is not possible to establish equivalence of grades.
9. Representatives of ICAR and Ministry of Earth Sciences nominated for the LPAC by their department could not attend any LPAC meeting and could not provide any advice due to their pre-occupation.

Chapter 2 - Major Scientific Agencies

2.1. Classification by Scientific Agencies

India's scientific agencies such as Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), Department of Biotechnology (DBT), Indian Council of Medical Research (ICMR), Ministry of Earth Sciences (MoES), Indian Council of Agricultural Research (ICAR) etc. are helping to build India's brand image in the scientific community as a whole. It is hoped that in order to strengthen our scientific prestige in the international fraternity, the scientific organizations in the country should come forward and build a common platform. The planned platform to share information on scientists will help the scientific vendors, customers, students and research aspirants to work towards creation of an integrated model of information on scientists. This would go a long way in the easy access of scientific information in India and take brand India's rich scientific fraternity to the world.

The work undertaken by the scientific agencies in the fields of science and technology can help Indian entrepreneurs. The entrepreneurs can adopt such technology and build a better product.

Under each agency, there are number of R&D institutes and laboratories. As the pool of data of all scientists in these organizations would be quite large, it was decided to compile the profiles of scientists only in grade B and above.

2.2. Classification of Questionnaires received from Scientific Agencies

Scientific Agencies	Responses
DST	389
CSIR	655
ICMR	171
DBT	21
MoES	214
ICAR	557
Total	2007

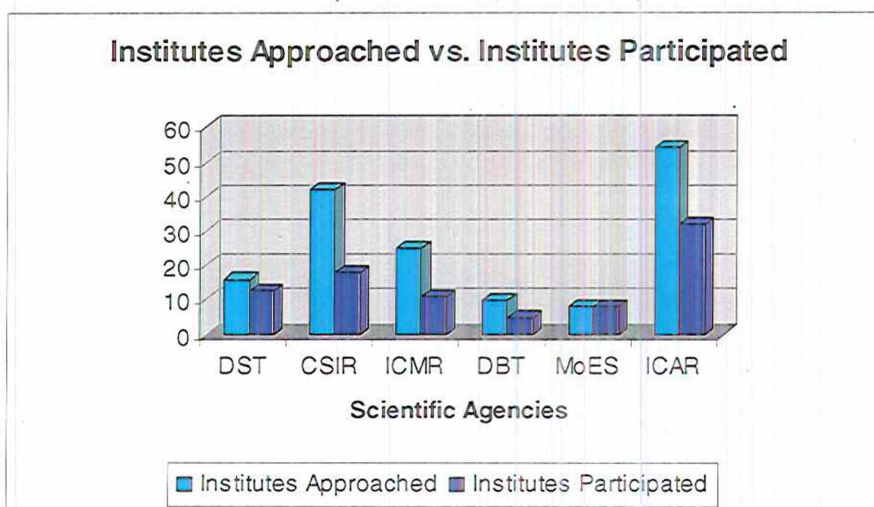
Trend: A total number of 2007 scientists responded from six scientific agencies.

2.3. Classification by Institutes

Scientific Agencies	No of Institutes approached	No of Institutes Participated
DST	16	16
CSIR	42	18
ICMR	25	11
DBT	10	5
MoES	8	8
ICAR	54	32
Total	155	87

Note:

- DST: Out of 16 institutes 3 institutes responded but do not have any scientist
- ICMR: 5 Regional research centers have been considered as one
- MoES: All IMD branches are considered as one
- ICAR: 54 institutes (Institutes=49, Bureaus=5)



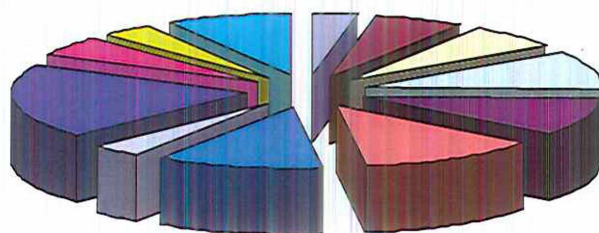
2.4. Classification by Designation/Levels

2.4.1. DST – Classification by Designation/Levels

DST	
Director/ HOD	12
Scientist G	24
Scientist F	24
Scientist E	39
Scientist D	39
Scientist C	49
Scientist B	44
Engineer	13
Professor	77
Reader	20
Technical Officer I to IV	14
Others	34
Total	389

The Classification of Designation/Level is based on as per Questionnaires filled in by each scientist.

DST - Classification by Designation/Levels



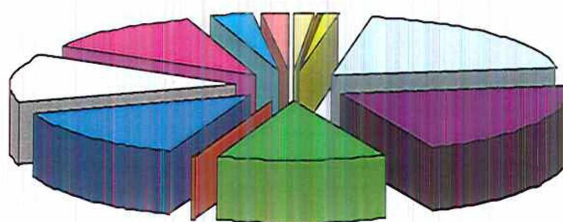
Director/ HOD	Scientist G	Scientist F
Scientist E	Scientist D	Scientist C
Scientist B	Engineer	Professor
Reader	Technical Officer I to IV	Others

2.4.2. CSIR – Classification by Designation/Levels

CSIR Respondents	
Director/ HOD	10
Scientist H	1
Scientist G	8
Scientist F	130
Scientist E II	134
Scientist E (E, E1)	81
Scientist D	1
Scientist C	95
Scientist B	87
Scientist Gr IV (1 to 6)	75
Technical Officer (B, C, E)	21
Others	12
Total	655

The Level and Designation of scientists has been classified as per Questionnaires received from R&D Institutes and Laboratories under CSIR.

CSIR - Classification by Designation/Levels



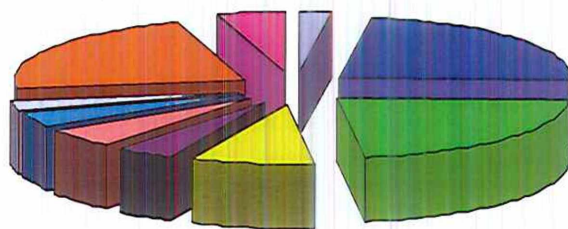
□ Director/ HOD	■ Scientist H	■ Scientist G
□ Scientist F	■ Scientist E II	■ Scientist E (E, E1)
■ Scientist D	■ Scientist C	□ Scientist B
■ Scientist Gr IV (1 to 6)	■ Technical Officer (B, C, E)	■ Others

2.4.3. ICMR – Classification by Designation/Levels

ICMR	
Director	4
Dy. Director	40
Assistant Director	38
Scientist F	15
Scientist E	7
Scientist D	9
Scientist C	7
Scientist B	4
Research Officer	39
Technical Officer	8
Total	171

The Classification of Level and Designation is based on the individual scientists indicated in their filled in Questionnaires.

ICMR- Classification by Designation/Levels



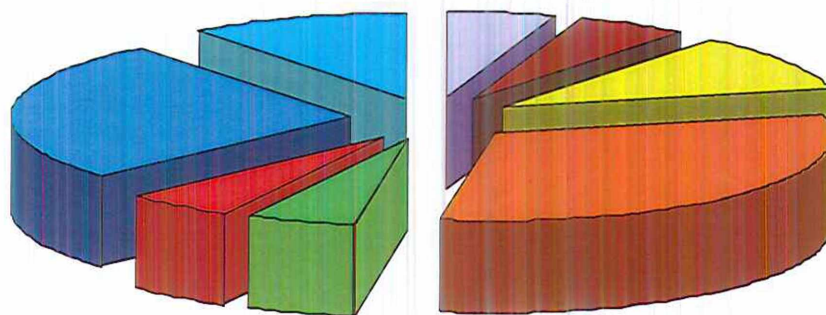
Director	Dy. Director	Assistant Director
Scientist F	Scientist E	Scientist D
Scientist C	Scientist B	Research Officer
Technical Officer		

2.4.4. DBT – Classification by Designation/Levels

DBT	
Director/ HOD	1
Scientist G	1
Scientist E	2
Scientist B	6
Scientist VI	1
Scientist V	1
Scientist IV	5
Scientist III	2
Asst. Prof	2
Total	21

The Classification of Level and Designation is based on as per Questionnaires received.

DBT- Classification by Designation/Levels

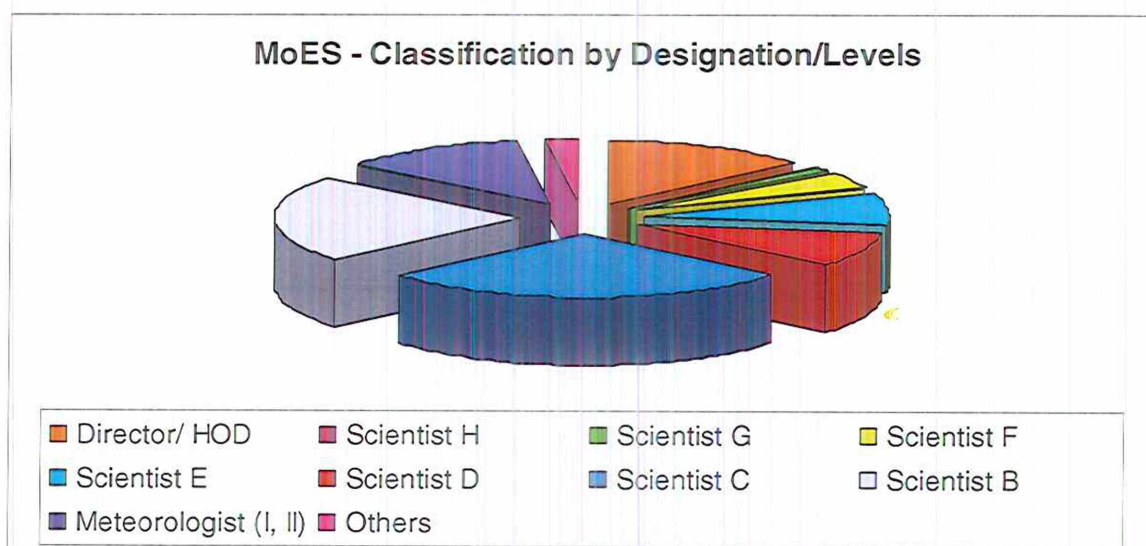


Director/ HOD	Scientist G	Scientist E	Scientist B
Scientist VI	Scientist V	Scientist IV	Scientist III

2.4.5. MoES – Classification by Designation/Levels

MoES	
Director/ HOD	29
Scientist H	1
Scientist G	2
Scientist F	9
Scientist E	17
Scientist D	19
Scientist C	59
Scientist B	47
Meteorologist (I, II)	26
Others	5
Total	214

The Level / Designation of MoES respondents is based on filled in Questionnaire by each scientist.

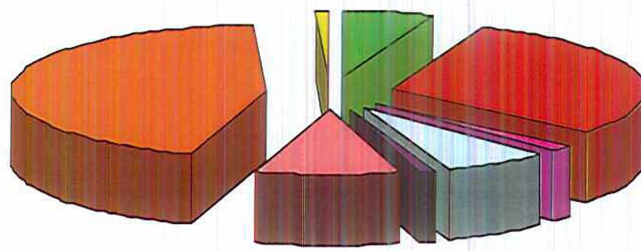


2.4.6. ICAR – Classification by Designation/Levels

ICAR	
Director/ HOD	33
Principal Scientist	168
Professor	10
Scientist	36
Scientist SG	7
Scientist SS	51
Senior Scientist	247
Others	5
Total	557

The Classification is based on the Questionnaires filled in by the respondents.

ICAR- Classification by Designation/Levels



■ Director/ HOD	■ Principal Scientist	■ Professor	□ Scientist
■ Scientist SG	■ Scientist SS	■ Senior Scientist	■ Others

Chapter 3 - Indian Scientists Profile - An Analysis

The corporate world is also exploring new opportunities of transforming concepts into markets, forging new alliances with best of the R&D labs and networking opportunities. People related to the field of science can update themselves on the new breakthroughs and groundbreaking research. The budding scientists of India can take clue from this platform and join the never-ending stream of knowledge.

3.1. *Individual Profile*

The Profile of a scientist includes the following information in the Website:-

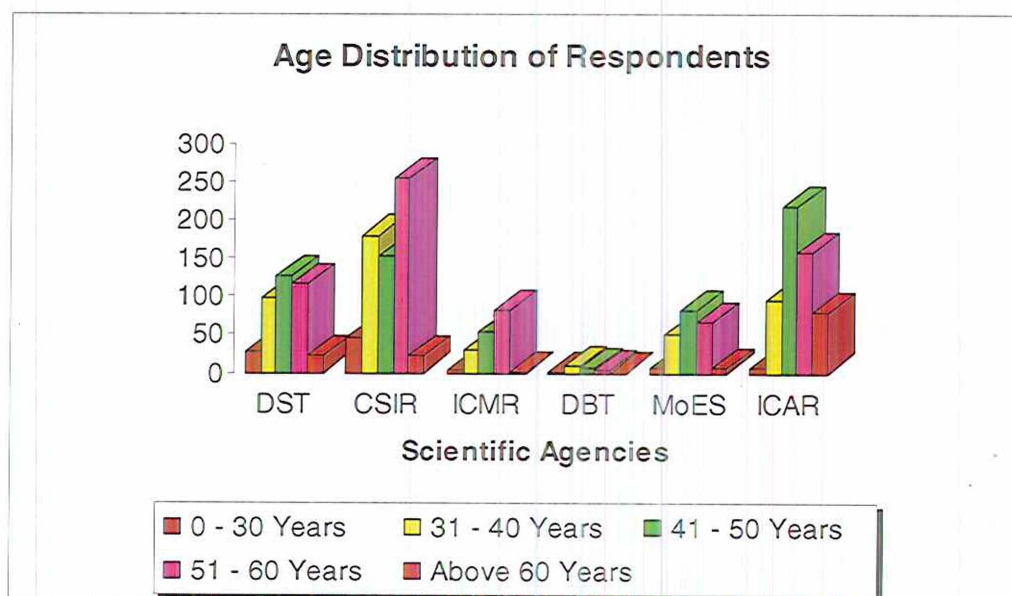
- 3.1 Institutional Profile
 - 3.1.1.Name of Organization
 - 3.1.2.Address
 - 3.1.3.Phone (s)
 - 3.1.4.Fax
 - 3.1.5.E-mail
 - 3.1.6.Web-site
 - 3.2 Personal Profile
 - 3.2.1.Name
 - 3.2.2.Date of Birth
 - 3.2.3.Designation
 - 3.2.4.Gender
 - 3.2.5.Phone
 - 3.2.6.E-mail
 - 3.2.7.Permanent Address
 - 3.3 Academic & Professional Qualification
 - 3.4 Professional Experience.
 - 3.5 Area (s) specialization
 - 3.6 Awards
 - 3.7 Overseas Experience/Exposure
 - 3.8 Details of Research Papers/ Publication/ Patents
- 3.9 Total Professional Experience (in years)

3.2. Age Profile of Scientists

An Analysis of age profile of scientists based on questionnaires received indicate the following trend:-

Scientific Agencies	0 - 30 Years	31 - 40 Years	41 - 50 Years	51 - 60 Years	Above 60 Years
DST	27	98	126	117	21
CSIR	46	180	153	254	22
ICMR	5	29	54	81	2
DBT	1	10	7	3	0
MoES	6	52	82	67	7
ICAR	7	95	219	157	79
Total	92	464	641	679	131
Grand Total	2007				

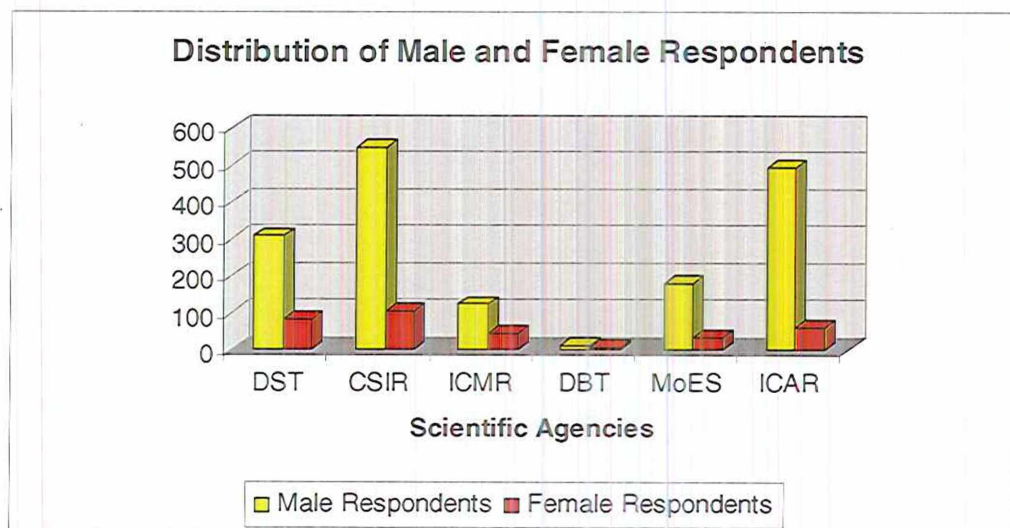
Trend: It emerges that majority of scientists covered under the project fall in the age group of 41 – 50 and 51 – 60. It is emerging that CSIR has more respondents in the older age groups while DBT respondents indicate a trend of scientists in younger age group.



3.3. Gender Distribution

Scientific Agencies	Male Respondents	Female Respondents	% of Female
DST	308	81	20.82
CSIR	549	106	16.18
ICMR	124	47	27.49
DBT	14	7	33.33
MoES	180	34	15.89
ICAR	494	63	11.31
Total	1669	338	16.84

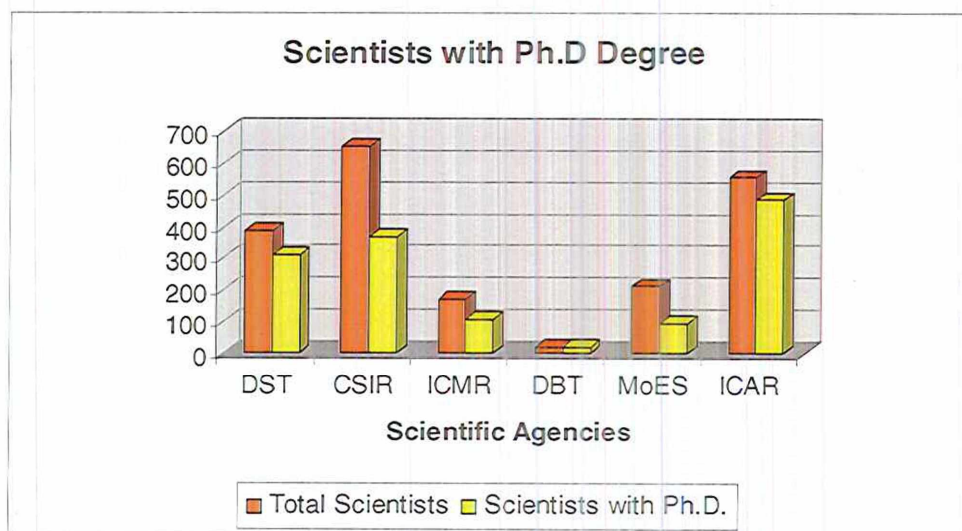
Trend: As per the response received, the ratio of scientists between female & male varies from institute to institute. It is 11.31% in ICAR where as percentage of female scientists is to 33.33% in DBT as per data received from individual scientists.



3.4. Scientists with Ph.D. Degree

Scientific Agencies	Total Scientists	Scientists with Ph.D.	% of Ph.D
DST	389	311	79.95
CSIR	655	370	56.49
ICMR	171	109	63.74
DBT	21	18	85.71
MOES	214	95	44.39
ICAR	557	486	87.25
Total	2007	1389	69.2

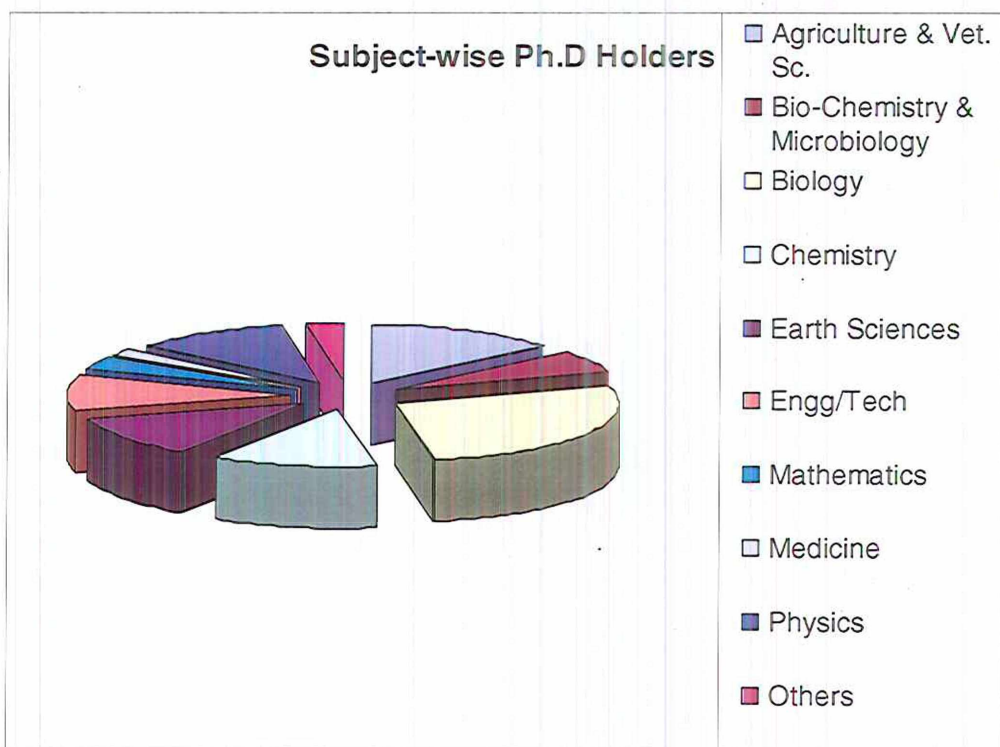
Trend: As per data analysis scientists with Ph.D. degree constitute 69.2 per cent of the total respondents. However, this trend varies from institute to institute as indicated above.



3.5. Subject-wise Ph. D. holders

Subject-wise PHD Holders	
Agriculture & Vet. Sc.	188
Bio-Chemistry & Microbiology	81
Biology	368
Chemistry	160
Earth Sciences	152
Engg/Tech	133
Mathematics	45
Medicine	27
Physics	154
Others	37

Trend: Based on data analyzed 368 scientists are Ph.D in Biology followed by 188 in Agriculture & Veterinary science, 160 with Chemistry, 154 with Physics and so on as indicated above.



3.6. Research Work/ Publications/ Patents/ Books

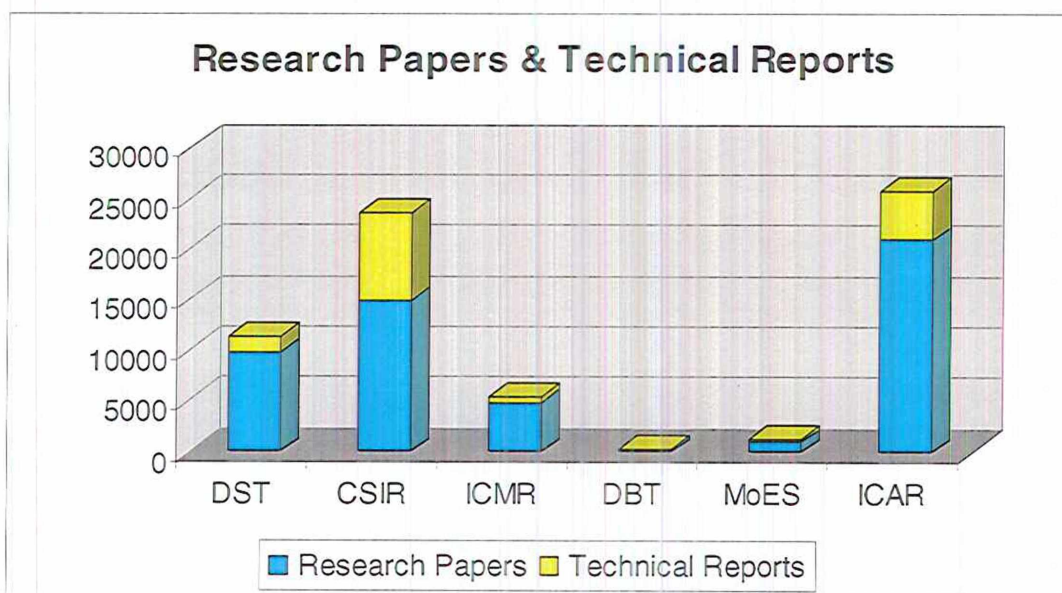
3.6.1. Research Papers & Technical Reports

Research Papers and Technical Reports

	Research Papers	Technical Reports
DST	9718	1659
CSIR	14936	8632
ICMR	4867	599
DBT	355	21
MOES	987	274
ICAR	20904	4779

Trend: As per data analysis scientists from CSIR, DST, ICAR and ICMR have made significant contribution by bringing out research papers and technical reports as indicated above.

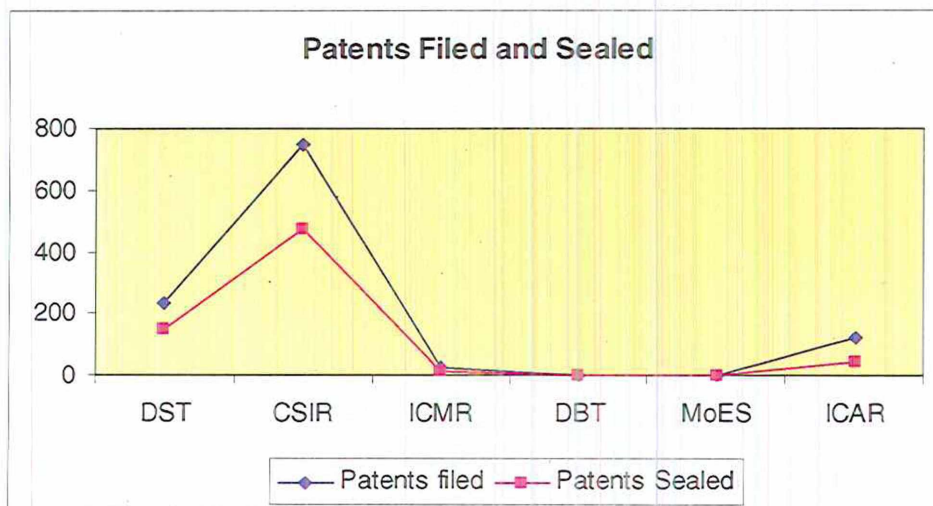
These figures cannot be compared because the response of scientists to questionnaire for each agency is different and is not homogeneous. However this gives some indication of output of research.



3.6.2. Patents Filed and Sealed

	Patents filed	Patents Sealed
DST	237	149
CSIR	750	474
ICMR	24	12
DBT	3	2
MOES	0	0
ICAR	122	43

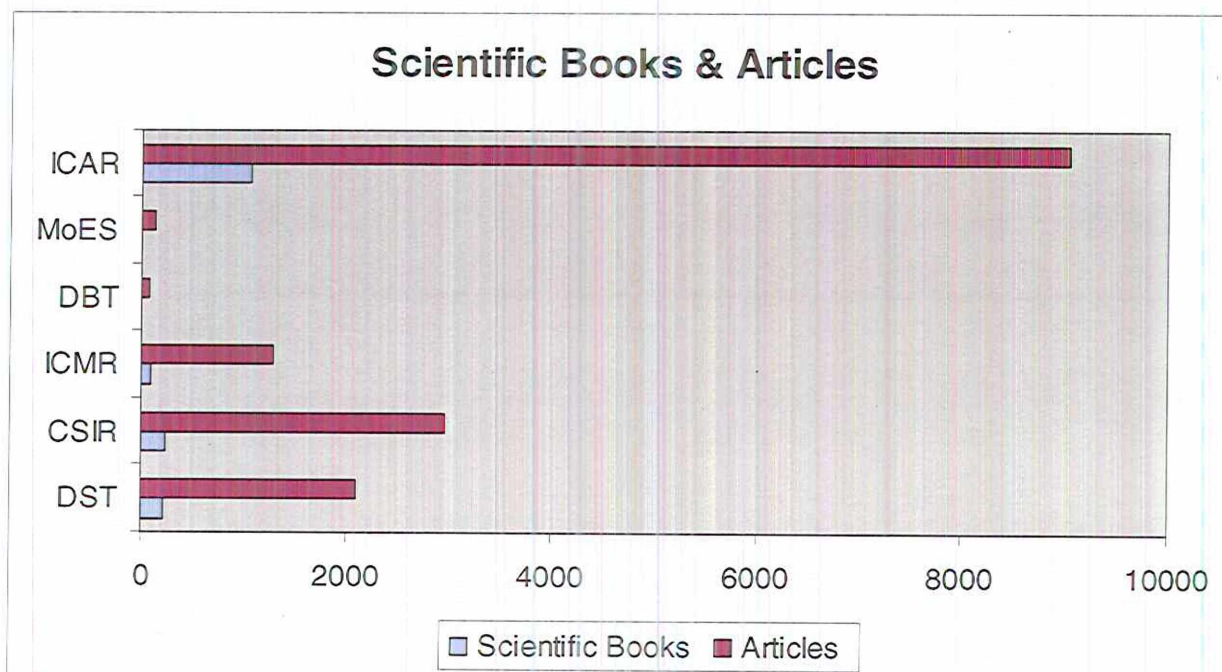
Trend: Number of applications filled for Patents and Sealed by scientists from six agencies covered are indicated as above. The numbers indicates a good number of patents have got sealed.



3.6.3. Scientific Books and Articles

	Scientific Books	Articles
DST	219	2097
CSIR	239	2972
ICMR	86	1292
DBT	10	80
MOES	20	138
ICAR	1074	9035
Total	1648	15614

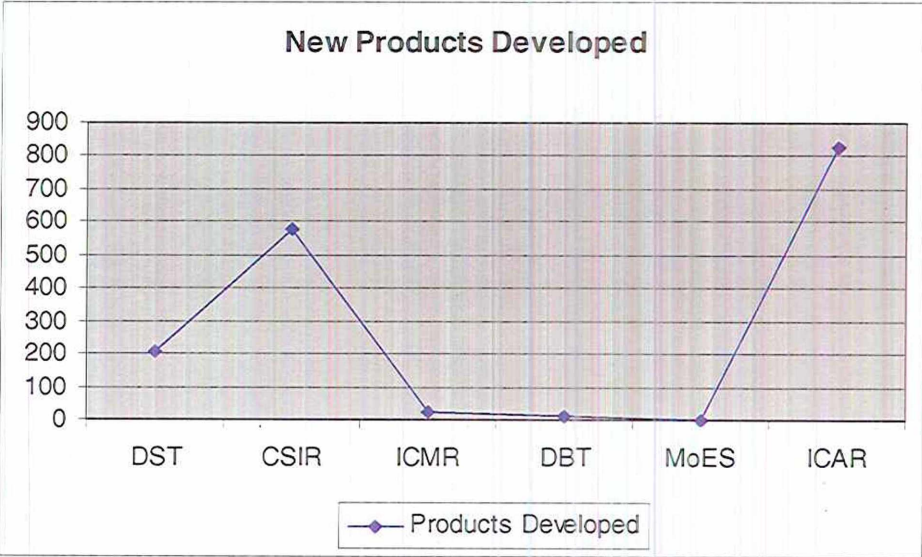
Scientific books and Articles published by scientists from six agencies covered in the project are indicated institute wise as above.



3.6.4. New Product Development

	Products Developed
DST	207
CSIR	578
ICMR	24
DBT	12
MOES	3
ICAR	824
Total	1648

Trend: As per data analysis, scientists from six agencies developed 1648 new products. ICAR with 824 followed by CSIR with 578, DST with 207 and so on.



3.7. Professional Experience

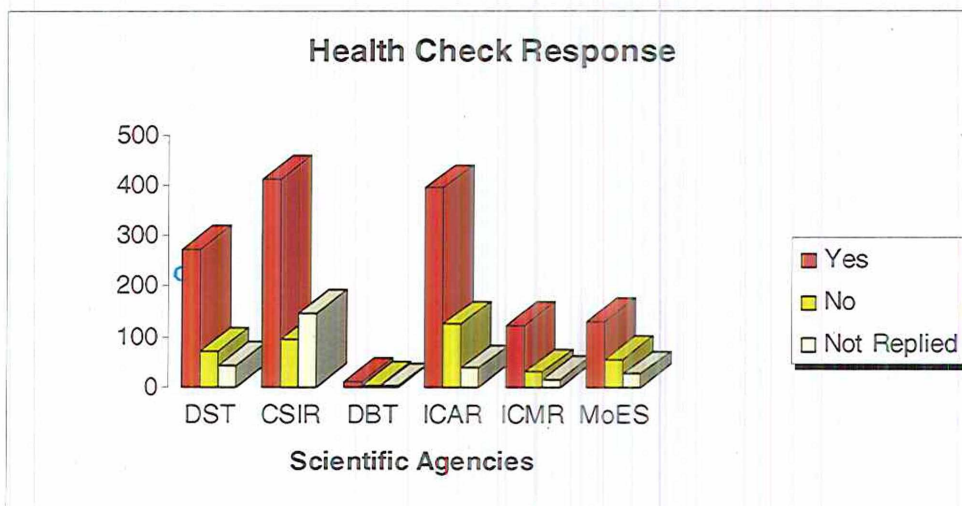
One of the questions in the questionnaire seeks the break-up of the total years of a scientist's experience under 21 different heads. However we have received the replies in various forms such as - yes or no, combined number of years for various heads, greater than, less than, NIL, some years and so on instead of specific number of years against the relevant heads. The summation of number of years under any head was not possible hence we have only summarized the number of scientists under each head. This indicates the number of scientists under each organization having experience under these heads.

<i>Professional Experience</i>	Number of Scientists					
	<i>DST</i>	<i>CSIR</i>	<i>ICMR</i>	<i>DBT</i>	<i>MoES</i>	<i>ICAR</i>
Administration	98	67	85	4	28	149
Applied Research	133	391	92	7	27	402
Basic Research	285	388	108	18	51	0
Computer Processing	44	59	30	1	27	44
Consultancy	42	153	23	1	7	0
Design	31	140	14	0	3	21
Extension	16	20	9	3	2	177
Industrial Management	11	15	0	0	1	4
Operation	14	37	12	0	21	12
Others	21	66	20	1	11	29
Pilot Plant	21	50	0	1	1	13
Planning	68	107	50	1	13	92
Production	0	32	0	0	2	42
Quality Control	40	84	20	1	8	42
R&D Management	118	170	41	5	17	101
Sales/Marketing	8	18	0	0	0	9
Survey Of Natural Resources	29	29	8	3	11	120
Teaching	108	139	62	8	25	271
Technical Development	62	95	11	0	9	55
Techno-economic surveys	19	30	2	0	4	57
Technology Transfer	52	84	16	2	2	200
Testing	61	203	34	1	4	64

3.8. Health Check Response

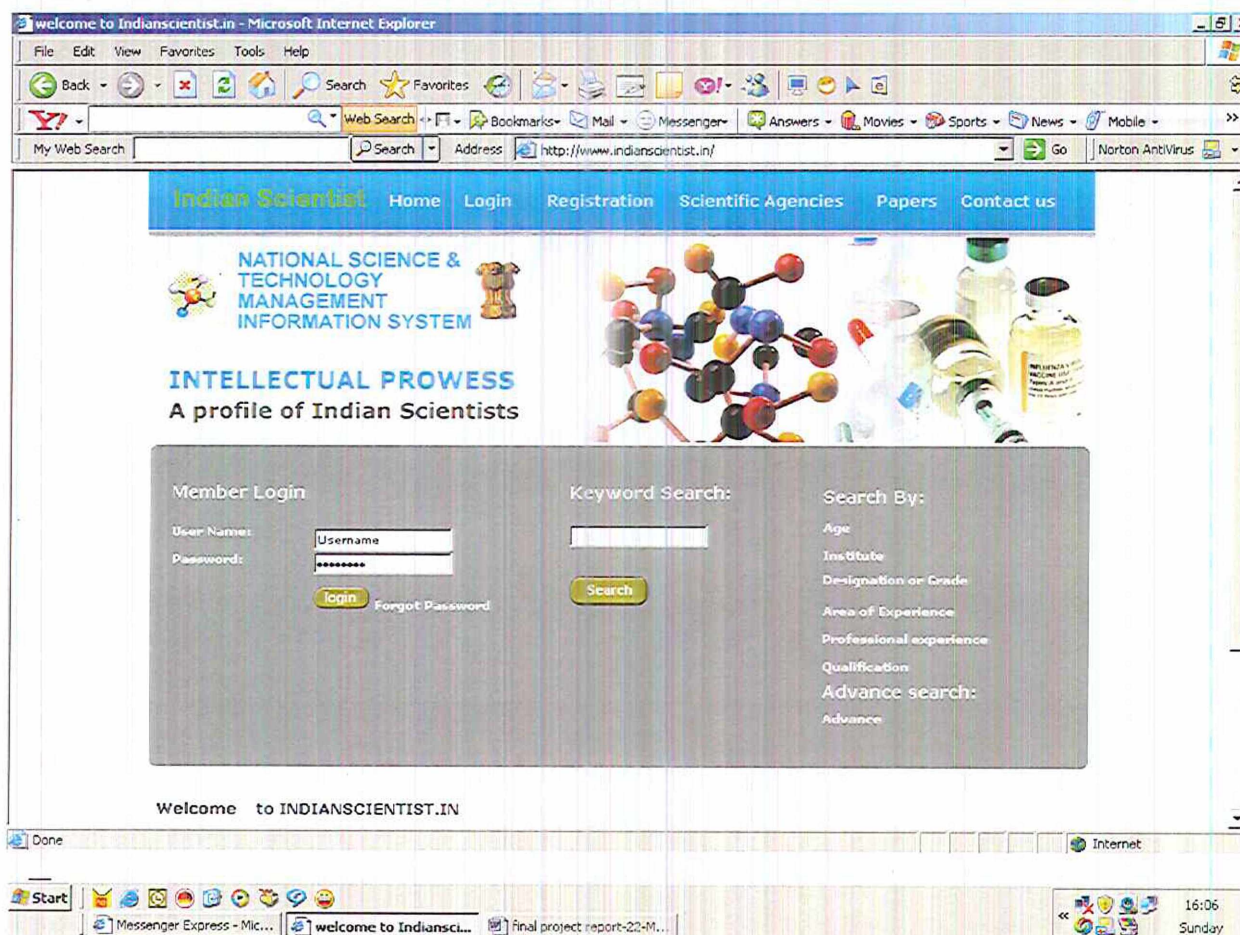
	Yes	No	Not Replied
DST	273	71	45
CSIR	413	96	146
DBT	13	5	3
ICAR	394	125	38
ICMR	124	31	16
MOES	131	56	27
Total	1348	384	275

Trend: Out of 2007 scientists 1348, representing over 77%, have indicated their preference for health check at the age 60. 384 scientists have indicated their preference for critical performance. 275 scientists have not indicated any preference.



Chapter 4 - Interactive Website

4.1. Overview of the website – www.indianscientist.in



4.1.1. Basic features

1. Easy to use
2. Scalability
3. Search capabilities
4. User access
5. Online directory with brief profile

4.1.2. Search Engine

A complete portal which provides a powerful search engine and a platform for all information related to the scientists profile.

- The *website* will act as a repository of information on scientist's profile.
- The *websites* includes institutions of six major scientific agencies as suggested by DST.
- Scientists who have not been able participate in the study can file online there Profile.

- Scientists can change/add/delete their data profile with their own user credentials as and when required.

4.1.3. Audience of the website

- Scientific Agencies & Institutes
- Universities, Science laboratories
- Private Research Institutions
- Students
- Research Aspirants
- Vendors
- Industry

4.2. Data Bank

1. The Website includes Institutional Profile in addition to individual scientists' profile
 - 1.1. Institutional Information
 - 1.1.1. Name of Organization
 - 1.1.2. Address
 - 1.1.3. Phone (s)
 - 1.1.4. Fax
 - 1.1.5. E-mail
 - 1.1.6. Web-site
 - 1.2. Name
 - 1.3. Date of Birth
 - 1.4. Designation
 - 1.5. Gender
 - 1.6. Phone
 - 1.7. E-mail
 - 1.8. Permanent Address
2. Academic & Professional Qualification
3. Area (s) specialization
4. Awards

4.3. Searches

1. Scientist Profile:
 - a. Age

- b. Institute
 - c. Designation or Grade
 - d. Areas of Experience
 - e. Professional Experience
 - f. Qualification
- 2. Scientist Advance Search
 - 3. Institute Listing

4.4. *Features*

- Member
 - New Registration
 - Edit the existing profile
 - Personal Profile
 - Qualifications
 - Professional Experience
 - Area of experience
 - Bifurcation of Experience
 - Awards
 - Overseas Experience
 - Change password
- Admin
 - Change scientist data
- Reports (Administrator Rights)

4.5. How to use the website?

How to register online?

Fill Up The Below Information :Login

User Name* :

Password* :

INSTITUTIONAL INFORMATION:

Name of Organisation :

Name of Institute :

Address :

Phone(s) :

Fax :

E-Mail :

Web- Site :

PERSONAL PROFILE:

Name :

Date of Birth :

Designation :

Gender :

Phone :

Email :

Step 1. Click on Registration on top menu bar

Step 2. Please look for the lower half of the page to provide the registration details

Step 3. Provide login credentials User name and Password

Step 4. Once you select the institute name under the Organization field, the system will automatically show the institute address and other information

Step 5. Under the Personal Profile, please remember to provide your personal email ID

Step 6. Under Academic and Professional Qualification, please start from recent till graduation

Step 7. Under Professional Experience, please club your overall experience under five groups starting from the most recent

Step 8. Under Specialization, please mention your major specializations.

Step 9. Under Awards, please mention the state, national level awards starting from the most recent

Step 10. Under Overseas Experience, please mention your overseas visits starting from the most recent

Step 11. Under Research Work please specify in numbers, your research papers, technical books and other contributions under the relevant heads

Step 12. Under Professional Experience, please provide the break up of your total experience in years

Step 13. Click on Submit

Step 14. This will create your login

How to Login?

Step 1: Please locate Member Login section

Step 2: Please provide the user name and password

Step 3: Click on Login button

Note: If you had filled a hard copy of the questionnaire, your name as per the questionnaire is your user name and password. Kindly change your password once you log in.

How to search Scientists in the website?

The screenshot shows a Microsoft Internet Explorer browser window displaying the website 'Indian Scientist'. The browser's address bar shows the URL 'http://www.indianscientist.in/searchbyage.php'. The website's navigation menu includes 'Home', 'Login', 'Registration', 'Scientific Agencies', 'Papers', and 'Contact us'. The main content area features the logo for 'NATIONAL SCIENCE & TECHNOLOGY MANAGEMENT INFORMATION SYSTEM' and the tagline 'INTELLECTUAL PROWESS A profile of Indian Scientists'. Below this, there are search options: 'Search By:' with a list of criteria (Age, Institute, Designation or Grade, Area of Experience, Professional experience, Qualification) and 'Advance search: Advance'. To the right, there is a 'Search By Age' section with a dropdown menu and a 'Submit' button, and a 'Keyword Search:' section with a text input field and a 'Search' button. The footer contains copyright information: '©2008. INDIANSCIENTIST.IN All Rights Reserved.' and navigation links: 'Home | Login | Registration | Admin | Help | Contact Us'. The Windows taskbar at the bottom shows the Start button, several application icons, and the system tray with the time '16:10 Sunday'.

Age, Institute, Designation, Area of Experience, Professional Experience, Qualification

Step 1: Locate Search By on home page on the right hand side of the Search Panel.

Step 2: Click on the specific link like Age, Institute and Designation etc

Step 3: The link will take you to the search page

Step 4: The middle section of the search panel will provide the drop down list

Step 5: Select the appropriate value from the drop down in the middle section of the search panel

Step 6: Click on Submit

Step 7: The search will give the list of Scientists Name

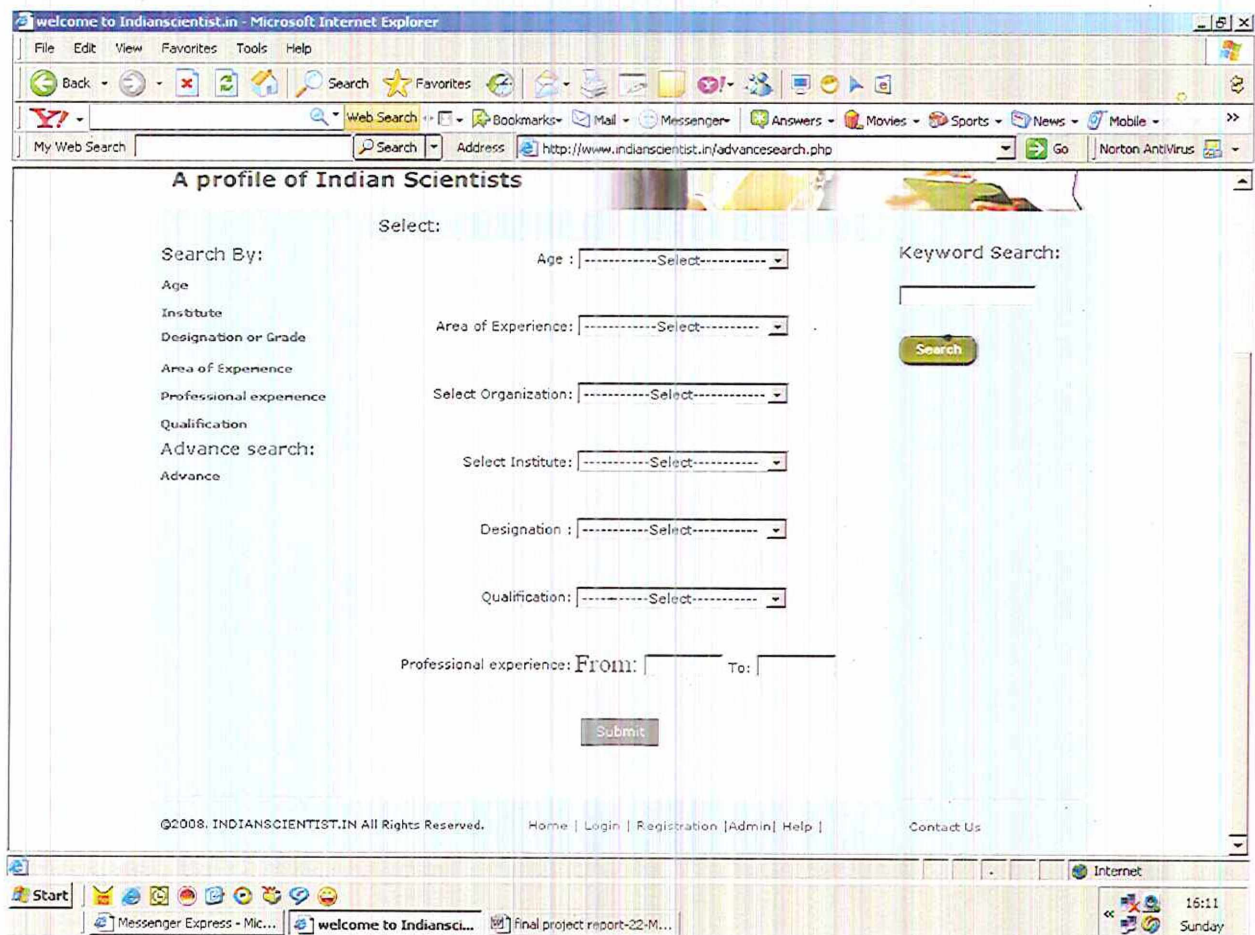
Step 8: Click on the Scientists Name

Step 9: The link will take you to the Brief Profile of the scientist

Note: If you want to change the search option click on the appropriate search option on the LHS of the Search panel and follow the above steps.

How to use the advanced search of Scientists?

Age, Institute, Designation, Area of Experience, Professional Experience, Qualification



Step 1: Locate Advance Search on home page on the right hand side of the Search Panel

Step 2: Click Advance

Step 3: The link will take you to the search page

Step 4: The middle section of the search panel will provide the options of all the above

Step 5: Choose appropriately the combination as required

Step 6: Click on Submit

Step 7: The search will give the list of Scientists Name

Step 8: Click on the Scientists Name

Step 9: The link will take you to the Brief Profile of the scientist

Chapter 5 - Administration & Maintenance of the *Website*

The *website* will require an on going administrator for the up time and un-interrupted services to the audience. The *website* should be maintained regularly by an agency. The new registration of scientists and changing data by the existing scientist will be an on going activity. The website has an ADMIN functionality which gives the ability to change data if requested by any scientist or for future data uniformity and standardization. The *website* is based on data input and out put in the form of search engine and admin reporting. In light of the intensive data entry and cleaning effort along with the phased improvement of the *website* there will be a basic need of data entry and cleaning resources and web site programmer. The *website* is hosted on a server of a shared service provider. Any up-gradation at the server level on database or operating system will require checks at the application level. This will call for testing to ensure if any environment changes has affected on the application and appropriate changes and correction will have to be undertaken at the application level.

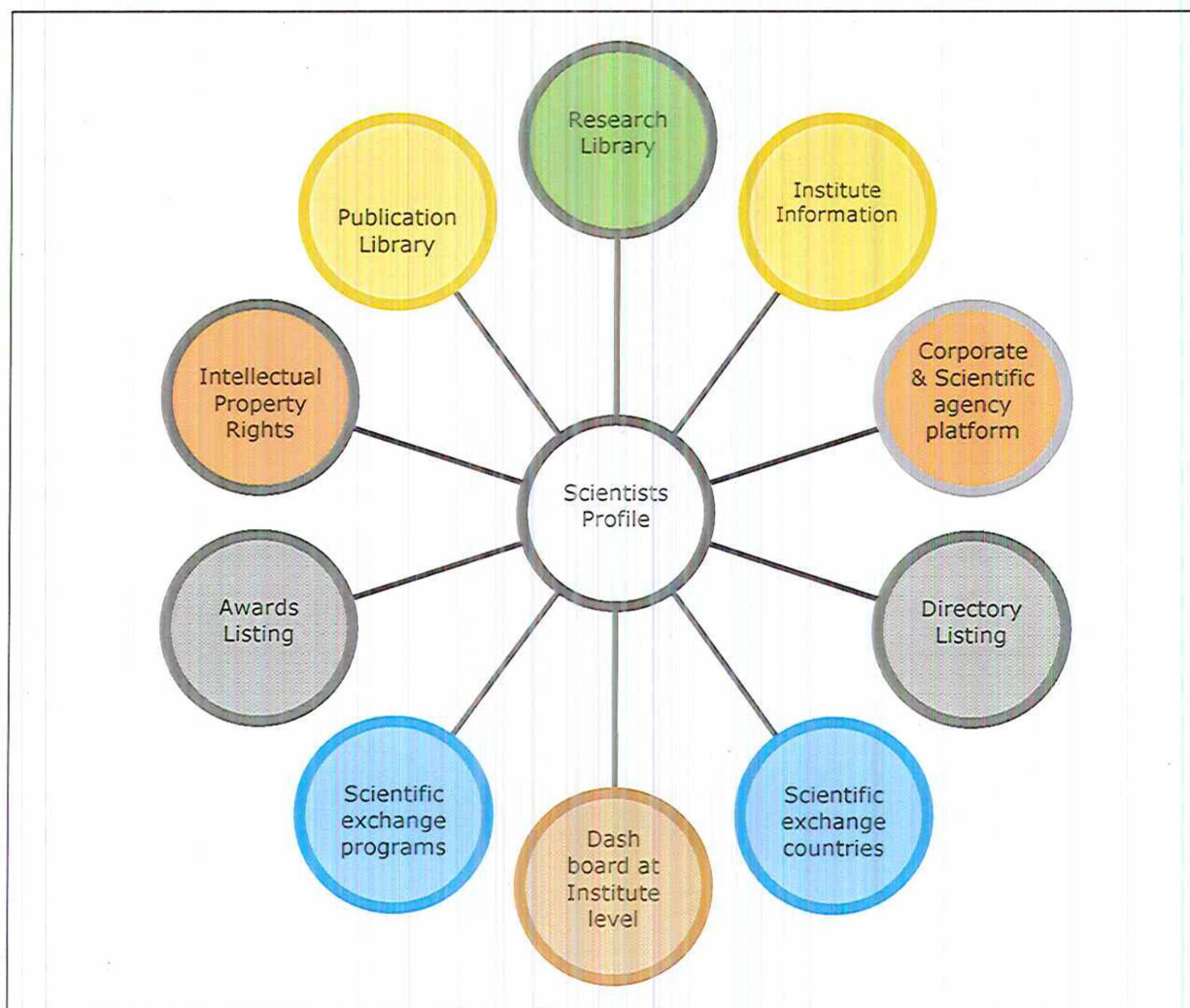
The appointment of an agency will be required to achieve the maximization of the participation of the scientists from the major scientific agencies. Though the scientists can do an online registration but still the maintenance of the master data and data cleaning will be an ongoing activity.

5.1.Maintenance of Website:

- Periodic update of Scientist data
- Include new institutes who did not participate in the study
- Removing redundant information
- Regular back up of the *website* and data

Chapter 6 - Future Enhancements and Roadmap

As discussed in the earlier chapters the basic assumptions and need for the initial design of the platform to attract more data without any dependency will need improvement once the basic objective is achieved. The design should incorporate master data and standardization. This will improve the search engine capability. The master data definition should include scientific agencies and its institutes and branches, awards list and categorization of state, national and international, qualifications and universities in India and abroad. The standardization should be done for the



designation and grade for all the agencies, classification of the professional experience and the post doctorate experience and the research experience. The data bank should enhance and have a separate wing for online research and publication library, which will give visibility of the research done, and the result achieved. The link should be created with the areas of research and the actual work done in the related area. The research work, which can have a commercial benefit, can be displayed online. The more the enhancements done will need a secured data search and data encryption.

6.1. Future Enhancements

6.1.1. Functional Enhancements

- Virtual Library
 - Research Library
 - Publication Library
- Platform
 - For retired scientists
 - To display the scientist capabilities
 - To display the research undertaken and the benefits that the nation and world can get form this intellectual work
 - Display the commercial benefits of the research work
 - Display of Awards
 - Capture list of patents filed in India and US
 - Public access to research work
- Scientific exchange program with the existing countries
- Online features
 - Bulletin Board
 - Discussion forum
 - Ask me services on scientific agencies and scientists
 - Upgrade http to https
 - PDF output of the scientist profile
- Dashboard on the data of
 - Scientific agencies &
 - Scientists
- Linkages to agencies as approved directory listing
- Act as Ombudsman for the entire scientific fraternity
- Institute level information

6.1.2. Technical up-gradation

- Design & layout
- Optimization of search engine
- Database

6.2. Roadmap

A three-year roadmap is suggested to maintain the continuity after the closure of this project. The immediate next year is required to increase the participation of the scientists and declare the *website* as the official directory listing of the six scientific agencies. The next year is suggested to upgrade and enhance the *website* with both functional and technical features and functionalities with an enhancement survey.



Chapter 7 - Ongoing Support from DST

DST as the sponsor of this project has authorized GESS to undertake this project and develop a portal with the data collected from this study. The portal of the scientists profile is a unique platform and needs continued maintenance and up-gradations to make it more useful and broad based with financial support.

The LPAC team has suggested that this project should be continued looking at the vast benefit of the data that can bring all direct and indirect scientific research partners on one platform.

As this project is considered as the break through and beginning of the repository its continuation will bring better results. The cost towards the maintenance and up-gradation can be worked out separately.

The maintenance cost will be required to meet the resource cost for data entry – correction of the existing agencies cover in the *website* and addition of other scientific agencies not covered so far.

The LPAC has suggested for providing an initial two year financial support to GESS for **maintenance** of this *website*. The LPAC further recommended for issuing another set of letters to all the institutes so that the scientists can edit their information on the *website* and those who had not participated earlier can register online.

Chapter 8 - Recommendations

1. This kind of data is not usually available at one place. This exercise being the first attempt did not get the requisite response from the Indian scientists approached through their organizations. This requires continuous effort to make the data bank more exhaustive and useful in formulating future manpower policy of the Government for scientific personnel.
2. A structured and broad-based *website* has now been created containing profile of a large pool of manpower - Indian scientists in grade B and above representing different branches and key scientific organizations of the country. This should not remain as a one time exercise as it requires updating according to the professional experience, patents developed, overseas experience of scientists and their achievements while in service. The LPAC has therefore recommended that the *website* should be maintained and updated on a continuing basis and GESS may be allowed to carry on this exercise with financial support from DST.
3. Six key major scientific agencies may advise their scientists who have not been covered due to the non-submission of questionnaire to GESS for inclusion in the *website* to send their information online in the designated mode for addition of their profile in the *website* titled www.indianscientist.in.
4. In view of the fact that promotions, awards, patents developed, number of years of experience of a scientist keep on changing, it is essential that the data base in the *website* should also be updated. Each scientist will be given a password on request. It is recommended that DST may advise the concerned agencies to inform their scientists to upgrade their profile as and when needed.
5. It is recommended that in addition to the existing major scientific agencies included in the *website* more scientific agencies which are not sensitive may be approached to send profiles of their scientists for inclusion in the *website* so as to make it more broad based and comprehensive for the benefit of the Government, industry, R&D institutions and educational bodies.

6. Wide publicity should be given regarding availability of an information pool of Indias manpower/scientists to enhance awareness among users and encourage utilization of their rich experience for out sourcing and re-employment even after their retirement.
7. The *website* may also be improved depending on the feedback and continuous interaction with scientific agencies according to the ever-changing requirements of Indian economy and industry. This would also be useful to other countries who recognize Indias cost effective talent and knowledge power for outsourcing.
8. Indias highly technical and scientific manpower is a big asset and recognized world wide. In view of the longevity of life and good health, their talent and knowledge, the Government may consider suitably extending the retirement age of scientists.
9. The trend of good health and longevity of Indian scientists shows the need for extending retirement age suitable.
 - 9.1. The scientific agencies should encourage employment of more females scientists to join countrys R&D institutes and labs.
 - 9.2. The designations and grades should be standardized across all scientific agencies in consonance with the new pay scales.
 - 9.3. The scientific agencies should promote and provide incentives for more product developments and patents filing.
 - 9.4. The scientific agencies should have a common dash board to monitor the health of the Indian Scientific fraternity.
 - 9.5. The scientific agencies should invite private participation for new product development.
 - 9.6. The research work done by the scientists can be showcased better so that the commercial value can be derived better.

- 9.7. All scientific agencies should be advised to use this *website* as there official directory listing
- 9.8. The directory listing can be outsourced to GESS and GESS will update the *website* (based on one time annual data upgradation) and provide a directory to the scientific agencies as per there requirements.
- 9.9. DST should extent financial support to GESS to meet the maintenance cost and enhancement of this *website*.

Annexures

- I. Institute wise Questionnaires received
- II. Questionnaire

Annexure I

Institute wise Questionnaires received

DST		
S. No.	Name of Institutes	Questionnaires
1	Agharkar Research Institute, Gopal Ganesh Agarkar Road, Pune	40
2	Aryabhata Research Institute of Observational Sciences, Aries, Manora Peak, Nainital, Uttarakhand	15
3	Bose Institute 93/1, A.P.C. Road, Kolkata	23
5	Centre for Liquid Crystal Research P.B. No. 1329, Prof. U.R. Rao Road, Jalahalli, Bangalore	5
6	Department of Science & Technology, Technology Bhawan, New Mehrauli Road, New Delhi-16	73
7	Indian Association for the Cultivation of Science (ICAS), Jadavpur, Kolkata	17
8	Indian Institute of Geomagnetism, Kalamboli Highway, New Panvel, Navi Mumbai - 410 218	44
9	Indian National Science Academy, Bhadur Shah Zafar Marg, New Delhi	No Scientists
10	International Advanced Research Centre for Powder Metallurgy & New Materials Balapur Opp. Bolapur Village, R.R. District, Hyderabad	52
11	Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur P.O., Bangalore	14
12	Raman Research Institute, C.V. Raman Avenue, Sadashiv Nagar, Bangalore	19
13	Satyendra Nath Bose National Centre for Basic Sciences, Block - JD, Sector - III Salt Lake, Kolkata - 700 098	7
14	Sree Chitra Tirunal Institute for Medical Sciences & Technology Bio Medical Technology Wing, Poojappura, Thiruvananthapuram	62
15	Technology Information Forecasting and Assessment Council, Viswakarma Bhawan, Shaheed Jeet Singh Marg, New Delhi	18
16	The Indian Academy of Sciences, P.B. No. 8005, C.V. Raman Avenue, Bangalore - 560 080	NO SCIENTISTS
17	The National Academy of Sciences, 5, Lajpatrai Road, New Katra, Allahabad	No SCIENTISTS
	Total	389

CSIR		
S. No.	Name of Institutes	Questionnaires
1	Advanced Materials and Processes Research Institute (AMPRI) Hoshangabad Road Near Naka, Bhopal-462026	16
2	Central Building Research Institute, Roorkee , Uttarakhand -247 667	84
3	Central Electronics Engineering Research Institute, Pilani, Rajsthan	45
4	Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur West Bengal - 713209	12
5	Central Road Research Institute, Mathura Road, New Delhi 110020	111
6	CSIR, Centre for Mathematical Modelling & Computer Simulation (C-MMACS), NAL Belur Campus, Bangalore- 560037	16
7	DSIR, Technology Bhawan, New Mehrauli Road, New Delhi - 110 016	1
8	Headquarter, Council of Scientific & Industrial Research (CSIR), Anusandhan Bhawan, 2 Rafi Marg, N.D.-110001	11
9	Indian Institute of Chemical Biology, 4-Raja SC Mullick Road, Kolkata – 700 032	43
10	Industrial Liaison & Planning Division, Central Drug Research Institute (CDRI) Chattar Manzil, PO Box – 173, Lucknow -226001.	63
11	Institute of Genomics & Integrative Biology, Delhi University Campus, Near Jubilee Hall, Mall Road, Delhi-110007	15
12	National Aerospace, Laboratories, Post Bag No. 1779, Airport, Bangalore-560 017	113
13	National Botanical Research Institute, Rana Pratap Marg P.B. No. 436, Lucknow- 226001	25
14	National Chemical Laboratory, Dr. Homi Bhabha Road, Pune-411008	19
15	National Institute of Science Communication and Information Resources, Dr. K.S. Krishnan Marg, (Near Pusa Gate), New Delhi -110012	12
16	National Institute of Science, Technology and Development Studies (NISTADS), Pusa Gate, K.S. Krishnan Marg, New Delhi 110012	7
17	North-East Institute of Science & Technology (formely Regional Research Laboratory, Jorhat, Assam 785006	57
18	Research Planning and Business Development, Industrial Toxicology Research Centre, Mahatma Gandhi Marg, Post Box No.80, Lucknow -226001	5
	TOTAL	655

ICMR		
S. No.	Name of Institutes	Questionnaires
1	Indian Council of Medical Research (ICMR) Ansari Nagar, New Delhi - 110029	45
2	Institute of Cytology and Preventive Oncology, I-7, Sector-39, Near Degree College Opposite City Centre Noida- 201 301	11
3	Institute of Immunohaematology, 13th Floor New Multistoryed Building KEM Hospital Campus, Parel, Mumbai- 400012	1
4	Institute of Pathology, Safdarjang Hospital Campus, Post Box No. 4909, New Delhi -110 029	5
5	Malaria Research Centre, 22, Sham Nath Marg, Delhi - 110054	27
6	National AIDS Research Institute, P.B. No. 1895 : 73, F Bhosari Ind. Estate Pune - 411026	4
7	National Institute of Medical Statistics (Indian Council of Medical Research) Ansari Nagar, New Delhi - 110029	8
8	Rajendra Memorial Research Institute of Medical Sciences Agamkuan, Patna -7	15
9	Regional Medical Research Centre for Tribals Medical College Campus Nagpur Road P.O. Garha, Jabalpur- 482003,	12
10	Regional Medical Research Centre Nehrunagar National Highway No.4, Belgaum- 590010	2
11	Regional Medical Research Centre, Nandankanan Road P.O. Chandrasekharpur, Bhubneswar -751005	13
12	Regional Medical Research Centre, Post Bag No. 13, Dollygunj, Port Blair – 744101	8
13	Vector Control Research Centre, Medical Complex Indira Nagar, Gorimedu Pondicherry -605006	20
	TOTAL	171

DBT		
S. No.	Name of Institutes	Questionnaires
1	Department of Biotechnology, Block -2, CGO Complex, Lodhi Road, New Delhi - 110 003	1
2	Centre for DNA Finger Printing & Diagnostics, Ecil Road, Nacharam Hyderabad-500 076	3
3	National Brain Research Cente, NH-8, Manesar, Gurgaon Distt., Haryana-122 050	8
4	Institute of Bioresources & Sustainable Development (ISBD), Takyelpat, Imphal, Manipur – 795001	8
5	National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi -110 067	1
	TOTAL	21

MoES

S. No.	Name of Institutes	Questionnaires
2	India Meteorological Department, Mausam Bhawan, Lodhi Road New Delhi-110003	61
3	National Centre for Medium Range Weather Forecasting Ministry of Earth Sciences, A-50, Institutional Area, Phase – II, Sector – 62, Noida-201 307	4
4	National Centre for Antarctic & Ocean Research, Headland Sada, Vasco da Gama, Goa-403 804	15
5	Integrated Coastal & Marine Area Management, NIOT Campus, Vell Cherry - Thambaram Road, Pallikaranai Village, Chennai -601302	8
6	Central Marine Living Resources & Ecology, 6th Floor, Block C, Kendriya Bhavan, P.O. Kochi Economic Zone, Kochi - 682037	3
7	Indian National Centre for Ocean Information Services “Ocean Valley”, PB N. 2, IDA Jeedimetla P.O., Hyderabad-500055	17
9	Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, Pashan, Pune	106
	TOTAL	214

ICAR

S. No.	Name of Institutes	Questionnaires
1	Agricultural Economics & Policy Research, IASRI Campus, Library Avenue, Pusa Road, New Delhi-110 012	1
2	Central Agricultural Research Institute, Andaman Nicobar & Lakshwadeep Group of Islands, Port Blair -744101	12
3	Central Avian Research Institute, Izzatnagar-243 122	1
4	Central Institute for Research on Buffaloes Sirsa Road, Hissar, Haryana (NABHA, PUNJAB)-125001	2
5	Central Institute of Agricultural Engineering, Nabibagh, Berasai Road, Bhopal MadhyaPradesh-462018	7
6	Central Institute of Fisheries Education Seven Bungalows, Jaiprakash Road, Versova, Mumbai-400061	17
7	Central Institute of Research for Cotton Technology, Adenwala Road, Mutunga, Mumbai - 400019	12
8	Central Potato Research Institute, Shimla-171001, Himachal Pradesh	12
9	Central Research Institute for Dryland Agriculture, Santoshnagar, PO Saidabad, Hyderabad -500659	27
10	Central Sheep & Wool Research Institute, Avikanagar Tehsilnagar Malpura Tonk Rajasthan - 304501	32
11	Central Soil & Water Conservation Research & Training Institute, (CSWCRTO) Research Centre, Datia – 475 661 Madhya Pradesh	1
12	Central Soil & Water Conservation Research & Training Institute, 218 Kaulagarh Road, Dehradun-248195	16
13	Central Soil & Water Conservation Research & Training Insitute, Research Centre, Rees Corner, P.O. Fernhill, Udhagamandalam, The Nilgiris-643004	7
14	Central Soil & Water Conservation Research & Training Insitute, Research Centre, Vasad (W. Rly), Gujarat-388306	2
15	Central Soil & Water Conservation Research & Training Institute, Research Centre, Bellary, Karnataka -583104	7
16	Central Soil Salinity Research Institute (CSSRI), Zafira Farm, Kachwa Road, Karnal, Haryana -132001	29
17	Central Soil Salinity Research Institute (CSSRI, Regional Research) Station, 21/467, ICCMRT Ring Road, Indra Nagar, Lucknow- 226016	6
18	Centre for Protected Cultivation Technology Indian Agricultural Research Institute (IARI)Pusa, New Delhi-110 012	1
19	Director, Central Institute of Fisheries Education, Rohtak Centre, Lahli, Rohtak - 124 411	2
20	Director, Indian Institute of Horticultural, Research, Hassaraghatta, Lake Post, Bangalore-560089, Karnataka	2
21	Indian Agricultural Research Institute, Pusa, Dr. Krishnan Marg, New Delhi - 110012	123
22	Indian Institute of Soil Sciences, Nabi Bagh, Berasia Road, Bhopal, M.P. -462038	21

23	Indian Institute of Spices Research, PE No. 1701, Marikunnu PO, Kozhikode-Kerala - 673012	21
24	Indian Institute of Sugarcane Research Dilkusha, Lucknow -226 002	39
25	Indian Veterinary Research Institute, Izzatnagar, Uttar Pradesh-243122	61
26	National Bureau of Fish Genetic Resources, 351/28, Radha Swami Bhawan, Duriyapur, P.O. Canal Ring Road, Rajendranagar, Lucknow-226002,	16
27	National Bureau of Plant Genetic Resources, Pusa Campus, NBPGR, Inderpuri, New Delhi-110012	12
28	National Bureau of Soil Survey & Land Use Planning Regional Centre, Hebbal, Bangalore-560024	11
29	National Bureau of Soil Survey & Land Use Planning, Regional Centre, Nagpur, Maharashtra -440010	21
30	National Centre for Integrated Pest Management, L.B.S. Building, Wing L-1 & M - 1, Block F, IARI Pusa Campus, New Delhi - 110012	5
31	National Research Centre for DNA Finger Printing, NBPGR, Pusa Campus, New Delhi -110012	7
32	National Research Centre on Plant Biotechnology, L.B.S Building Pusa Campus (IARI) New Delhi-110012	6
33	Rice Breeding and Genetics Research Centre (IARI) Aduthurai -612101 (Tamil Nadu)	1
34	Sugar Breeding Institute, Coimbatore-641007, Tamilnadu	12
35	Vivekanand Parvatiya, Krishi Anusandan Sansthan, Almora-263601, Uttaranchal	5
	TOTAL	557

Profile of Indian Scientists In Major Scientific Agencies

(Scientists working at Level B and above)

QUESTIONNAIRE

Project Sponsored By
Department of Science & Technology
Social Studies
Ministry of Science & Technology
Government of India

Project Carried Out By
Group for Economic &
(GESS)
New Delhi

PROFILE OF INDIAN SCIENTISTS IN MAJOR SCIENTIFIC AGENCIES

(Scientists working at Level B and above)

1. INSTITUTIONAL INFORMATION

Name of the Organisation	
Address	
Phone(s)	
Fax	
E-Mail	
Web-site	

2. PERSONAL PROFILE

Name				
Date of Birth (dd-mm-yyyy)			<u>Designation (Current)</u>	
Gender (Please tick)	M <input type="checkbox"/>	F <input type="checkbox"/>	Phone	Email
Permanent Address				

3. ACADEMIC & PROFESSIONAL QUALIFICATIONS

Degree/Diploma Name	Main Subject	University/Institution	Year of Passing

4. PROFESSIONAL EXPERIENCE
(Please indicate different positions held in the same organisation separately)

Designation	Organisation Name & Address	Positions held	From	To

5. Area(s) of specialization (academic & professional in order of competence)

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

6. AWARDS

Name of the Award	Awarded by	Awarded for	Year of the Award

7. OVERSEAS EXPERIENCE/EXPOSURE

Names of Countries Visited	Purpose of Visit (eg. Posting/ Deputation/Seminar/Workshop/ Conference/ Training/Study)	Duration of Visit	
		From	To

**8 DETAILS OF RESEARCH PAPERS / PUBLICATIONS / PATENTS
(indicate numbers only)**

Research Papers	<input type="checkbox"/>	Technical Reports	<input type="checkbox"/>	Scientific Books	<input type="checkbox"/>
Articles	<input type="checkbox"/>	Patents sealed	<input type="checkbox"/>	Patents filed	<input type="checkbox"/>
Products developed	<input type="checkbox"/>	Others (Please Specify)			

9. TOTAL PROFESSIONAL EXPERIENCE (in years)

	YRS		YRS		YRS		YRS
Basic Research		Testing		Technology Transfer		Applied Research	
Quality Control		Sales/Marketing		Design		Production	
Administration		Technical Development		Industrial Management		Computer Processing	
Pilot Plant		Teaching		Extension		Consultancy	
Survey of Natural Resources		R&D Management		Operation		Techno-economic surveys	
Planning		Others (Please Specify)					

10. Should there be health check at the age of 60 years or critical performance review?

Yes

No

* Note - Please attach separate sheets if required .

You are requested to return the completed Questionnaire to

Dr. S.N. Yadav

President

Group for Economic & Social Studies (GESS)

M-9, Green Park Extension

New Delhi 110 016

Phone: 26191319/26192290

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Email: gess@vsnl.net