



## RESEARCH ARTICLE

## Reason for India Not Producing a Single Nobel Laureate in Science Category during the Past 93 Years – A Scientist's Interpretation

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ARTICLE INFO	ABSTRACT
Received: Apr 24, 2024 Accepted: Jun 24, 2024	During the last 30 years of my stay at two premier Indian Central Government Funded Research Laboratories (ICGFRLs), namely i) Indian Institute of Chemical Technology (IICT), Hyderabad (an R&D institute of Council of Scientific and Industrial Research (CSIR)), and ii) International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad (an autonomous R&D centre of Department of Science & Technology (DST)), as a Ph.D. scholar and as an R&D scientist, made me to come to this conclusion that the discretionary powers of the head(s) of the government funded research institutions in India, and the lack of clear cut research directions from the Government of India to these institutions are the main reasons for the complete sinking of the actual need of the hour research, and for not winning a single Nobel prize in science category from India during the last 93 years after one won by Sir C.V. Raman in Physics in the year 1930 despite spending billions of rupees on R&D by Indian government. Other than space (ISRO) and defense (DRDO) departments, none of these ICGFRLs invented any-product that has benefitted the common man in Indian in any really considerable way. At least, the author of this article did not use any product during the past 50 years that was invented by any of these ICGFRLs in day-to-day life. In this article, i) what is the driving motto of these ICGFRLs, ii) how the research is carried out in these institutions, iii) what these institutions can actually do, and iv) what shall be the main motto of these institutions have been briefly discussed. In legal terms, Discretionary powers are the powers to exercise discretion over which the court cannot intervene. This is the actual problem of these ICGFRLs.
<b>Keywords</b> Discretionary powers Indian Central Government Funded Research Laboratories Science & Technology Research & Development Common man of Indian Society	
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### INTRODUCTION

According to this author's observation (1-34) and his interpretation of the facts, and based on the fact revealed by other scientists, the *discretionary powers* of the head(s) of the *Indian Central Government Funded Research Laboratories (ICGFRLs)* is responsible for complete dying of innovative research and for not winning even a single *Nobel prize* in Science category during the past 93 years after Sir *C.V. Raman* won one in Physics in the year 1930 for discovering the *Scattering of Light*. These *discretionary powers* is also one of the main reasons for not able to find even a single remarkable invention that could immensely contributed to the living standards of Indian society. The products in day-to-day life used by the current Indian society are either produced in India by using technologies developed by foreign countries, or are being imported from other countries. Although the inventions / contribution made by the heads of these *ICGFRLs* do not contribute to the betterment of Indian society and to the advancement of the science in any way, in most of the cases (there can be very few exceptions and they can be attributed to the rational thinking of those individual head(s)) the *discretionary power* given to them is used only to improve their personal careers along with other few individuals who work for their careers growth so that they can win certain coveted government recognitions including the *Padma* award such as, *Padma Shri*, *Padma Bhushan*, *Padma Vibhushan*, *Bharat Ratna* or any other recognition so that they can work even after retirement for some more years in those *ICGFRLs* (35-39). They get all those recognitions just for spending the public money on the name of R&D without generating anything substantial that really contributes for the betterment

of society in any of the ways to the society. This is possible because they got authority to distribute several crores of Indian rupees to do R&D in these *ICGFRLs*.

A closer look at the publications of majority of heads of these *ICGFRLs* clearly indicates that many of those heads do not possess their own papers written by themselves as a single author on any of the topics first introduced by themselves for the first time in entire world (1-34). Some times 90% of their publications are contributed by others and their names comes simply because they are the heads of these institutes and they have the power to distribute the fund to carry out the research. Of course, those papers come as a part of just spending the government money on the name of R&D without having any aim to solve the problems of the hour. Since, funding to carry out the research to address the problem really faced by the society do not come purely based on the merit of the proposed research problem in the proposal, all the scientists try work just for their survival. That means to get only promotions, positions, awards, etc., by making >99% just number sake publications, and those publications do not help anybody on this planet other than writing in their curriculum vitae (CV) or bio-data (35-39). Owing to these financial reasons, although they are capable of doing, most of the scientists working in these *ICGFRLs* do not take-up research to solve the real problems faced by a common man in day-to-day life of Indian society. Furthermore, in most of the cases, these scientists initiate research on topics in which they get training during their Ph.D. course instead of the actual problems to be solved by these scientists. Besides, the research topics in which they get training during their Ph.D. courses are those already tried and failed by those working in countries like USA, European Union, etc.. They cannot get any breakthrough results in those topics/technologies simply because if any such breakthrough results are possible to attain, they would have attained by those who initially invented those processes or technologies. Since, the inventors of those processes could not generate any breakthrough results in those processes to help solve the problems faced by the society, these Indian scientists also will definitely fail. There is not even a single evidence to disprove this claim. In fact, these research topics consumes billions of Indian rupees of public money but yield only number sake publications simply to improve the number of publications of the scientists to get promotions and other higher positions (1-34).

When any of the scientists in these *ICGFRLs* do not work for the personal growth of the heads of these *ICGFRLs*, a situation can be created by the heads of these labs where that particular scientist undergoes a mental trauma and he/she will be exposed to a maximum possible harassment and forcibly commit some mistakes or simply sit like a dead body with the help of their discretionary powers, and that scientist's career will be finished and he/she will be completely sidelined or socially boycotted in that organization by using the *discretionary powers* of those heads. Whoever works for the personal growth of the heads of these *ICGFRLs*, he/she will be given all very-fast promotions and he will be allowed to enjoy a royal life in these organizations. Owing to these kinds of research atmosphere in these *ICGFRLs*, even those top students coming from top Indian premier institutions like IITs, IISc., etc., also just pass time and acts as per the tunes of his/her boss and take the salary and go home and rest. They are never allowed to do the best research needed for the nation but to the only interests of the heads of these *ICGFRLs* (35-39).

Furthermore, if for some vested reasons of the heads of these *ICGFRLs*, by mistake any scientist with inferior research credentials and temperaments was made as the head of any of the departments of these *ICGFRLs*, until his retirement he will be the boss (or head) of that particular department and whoever best scientists come as his/her subordinate, he/she will be forever his/her subordinate irrespective of what he/she contribute to the organization, and he/she has to work to build the personal career (i.e., to build the CV) of the heads of these *ICGFRLs* only. Even if the head does not understand the subject he will not listen to his/her subordinate. There is a say in these *ICGFRLs* that there are only two rules to follow in these organizations. First rule is the boss (i.e., the heads of these *ICGFRLs*) is always correct (35-39). The second rule is if these bosses are wrong in any of the understandings, again go back to the rule number one, i.e., boss is always correct. If any scientist honestly works for the betterment of society when he/she feels that he/she is paid from public money in the form of salary without sharing the credit of that work with the head of these institutions, he/she will be declared as an enemy of the entire organization by using the discretionary powers of the head of the *ICGFRLs*. It is a sad reality. In this connection, the *discretionary powers* of the heads of

these *ICGFRLs* shall be removed to save these organizations, which are actually the backbone of Indian science and technology to prosper and to develop the technologies that can really solve the problems faced by the public in India (35-39).

In fact to avoid the blame of the failures of these *ICGFRLs*, the heads of these institutes claim that they have developed several technologies and they are working for DRDO (defense) and ISRO (space). In fact, these claims cannot be validated as nobody can go there and verify whether their claims are really true or not. DRDO and ISRO doing wonders but they are using technologies by those scientists working these *ICGFRLs* are not sure as they are considered to be secret. In some instants, the technologies transferred by these *ICGFRLs* work in those defense and space programs but those technologies are mostly imported from foreign countries. Such technologies are actually required for India for the security purposes and the production of components by using those imported technologies and machines/equipment can be made by any trained engineers. Those technologies really do not need highly qualified R&D scientists as there is only duplication of already existing technologies already developed by someone else (1-39). The teething problems associated with those technologies while duplicating them in India can be simply solved by using the common sense of the engineers involved in it. They do not need any such a great research involvement in them. In most of the cases, scientists working in these *ICGFRLs* are arranging technologies instead of developing technologies. The scientists working in these *ICGFRLs* while developing technologies for such DRDO and ISRO programs are simply writing their names on those foreign technologies and products made by using those technologies. When the technologies developed by the scientists of these *ICGFRLs* are really working for the defense (DRDO) and space (ISRO) programs as claimed by the heads of these *ICGFRLs*, why they are not working for the civil society. One can easily verify those claims simply checking how many products invented in these *ICGFRLs* are being used in day-to-day life of our Indian society (35-39).

The heads of these *ICGFRLs* claim that they have developed and transferred hundreds of technologies to the industry. In many of the cases, those technology transfer are just for eye-wash purpose. They want just certificates to show to the government of India to get the further funding from the government to carry out research in next coming years. But in reality, those products do not actually work to solve any of the real problems facing by the general public in their day-to-day life. In many cases, such technology transfers only fetch the heads of these *ICGFRLs* to get some recognitions mainly the post retirement further service for additional two to five years (1-39).

If at all, any scientist is seriously trying to develop something really useful for the Indian society without involving the heads of these *ICGFRLs*, by using their *discretionary powers* they ensures that no output comes out of that research by stopping funding and manpower to those research programs as they can do so. The heads of these *ICGFRLs* simply says that those technologies do not work even though they do not possesses any required knowledge on those subjects. Generally, the scientists who possess big name sake *curriculum vitae (CV)* are selected as heads of these *ICGFRLs* but those CVs are not their own. None of the publications listed in their CVs are written by themselves alone by using their own knowledge or by doing their own work. Most of those papers are written by the scientists working with them. They simple claim others work as their own by ensuring their names in those publications. In more than 99% of cases, it is a reality. In fact, until they become the heads of these *ICGFRLs*, their publications are less in numbers but once they become the heads within no time the number increase to several hundreds. Of course, as previously mentioned, those publications are just for number sake ones and to just improve their CVs and bio-data of those scientists but not to help anyone living on this planet. Sometimes those publications receive good number of citations as well, but all those citations come from the similar kinds of publications written by other similar scientists for the same purpose of increasing number of publications in the CV and bio-data (1-39). None of these publications contribute anything for the advancement of either science or society other than advancing the bio-data of those involved scientists, and to get some degrees and some promotions required for their career advancement. For example, many publications dealing with photocatalytic research for example which receive highest number of citations can be simply considered as a literature of no worth. Today there are more than 25000 publications on

photochemical reactions, which can be considered as a literature garbage given their utility to the society (1-39).

Generally, to keep their reputation of certain foreign universities mostly in USA, European countries and Japan to attract the students from developing countries like India and China mostly, those professors give co-authorship to all those students who are working in their labs irrespective their contributions whatever they publish by just altering the position of the names of the authors depending on their contribution. Sometimes, they get even certain high-impact factor journals publications as well (1-39). The Indian students who get such kind of high-impact factor journal publications while they are working in those foreign universities under the guidance of well-reputed professors as Ph.D. students or as post-doctoral students, sometimes they come back to India (in many cases) occupy scientist positions by showing those high-impact factor journal publications in these *ICGFRLs*. Since these foreign returned scientists possess some high-impact factor journal articles and some working experience on some advanced techniques, by showing them they become heads of these *ICGFRLs* eventually. In fact, if they are really possess such a high-talent they would have become faculty in those foreign universities as several Indian students became faculty in those universities. Since those foreign returned scientists have become the heads of these *ICGFRLs* without their own publications and publications made on their own inventions, and as they have never worked so hard by using so much intelligence to invent any really needed technologies to solve the problems faced by the society, as the head of these *ICGFRLs* as well, they do not ensure the development of any really needed technologies in these *ICGFRLs* as well. Since they got the habit of getting some free publications from others, they also expect the same when they become the heads of these *ICGFRLs* as well. In fact, it is one-way of corruption. In order to avoid such a corruption, it is to be monitored the number of publications they are getting in their CVs when compared with those present in their CVs prior to they become the heads of these *ICGFRLs*, and comparatively how many single author papers they have in their CVs. *Prof. Richard R. Schrock* (born January 4, 1945) is an American chemist and Nobel laureate recognized for his contributions to the olefin metathesis reaction used in organic chemistry has more than 50 single-author papers in very high-impact factor journals including science and nature out of his 350 publications (1-34). In India, some of the heads of these *ICGFRLs* possess more than 500 publications and sometimes up to 1000 publications but not even 10 single author papers in those 500 or 1000 publications (35-39).

You go and ask any scientist in these *ICGFRLs* who has more than 200 or 300 publications, what technologies you have really developed to solve the problems facing by the Indian society by doing research out of which you have generated so many publications, he will tell either all lies or simply he will fire on you to ensure that you will never ask him again such a question. The heads of these *ICGFRLs* with these kinds of fake CVs are mostly responsible for the complete death of research atmosphere in these organizations. Hence, the discretionary powers of the heads of these *ICGFRLs* shall be immediately and completely be removed if anybody wishes to see the real growth of India on par with any developed nation. Not just rich should become rich but every individual living in India shall become rich. Science and nature never discriminates anybody on any basis, hence, every individual of India shall lead a better and happier life. Furthermore, to completely eradicate the poverty and unemployment from India, the real research is needed to be carried out in these *ICGFRLs* (1-39).

If any scientist invents anything on his own, he will compulsorily publishes single-author papers. If there is no real invention of anything new, scientists in these *ICGFRLs* gets hundreds of publications when they can manage hundreds of students with government funding they can get publications even up to 1000 numbers but those multiple author papers do not contribute to anybody's benefit other than writing in their CVs. Many scientists in these *ICGFRLs* spend time just to make some number sake publications required for their promotions and to get some higher positions in these *ICGFRLs* by using students come with JRF fellowships by seeing their number of publications. This kind of students' exploitation shall be completely avoided by clearly giving the guidelines to those scientists working in these *ICGFRLs* by the Government of India to safeguard these institutions and to ensure them doing some real research by inventing really new technologies to solve the problems really

faced by the public in India as their using those public money for their living. Only in such cases, Nobel prizes can be win in science category by the scientists working in these *ICGFRLs* as well (35-39).

The scientists in these *ICGFRLs* shall not work just to spend the public money on the name of R&D without developing any real useful technologies needed to solve the problems really faced by the public in India as there is a compulsion for the heads of these *ICGFRLs* to spend all the money allotted for that particular institute for a particular academic/financial year and submit all the bills and vouchers to get the same funding again in the next financial year. At present, the Indian government is bother just whether the given money is spent or not but not what development is really made by spending such an amount of public money is not bothered. Money allotted to these *ICGFRLs* is not just for giving salaries but also to develop the technologies needed to solve the problems faced by the society (1-39). Today, in these *ICGFRLs* money is spent as a formality with just a name sake vision or mission. It seems today money is spent just to show that some R&D is being carried out in these *ICGFRLs* and not to develop any needed technologies. Nobody is checking in India what progress has been made after spending so many thousands of crores of Indian public money during past so many years or after independence by involving so many scientists living with salaries generated out of the public money. The scientists working in these *ICGFRLs* seems thinking that since they have earned so much higher degrees, it is the duty of the Indian government to feed them by giving so much big salaries even though they do not contribute anything substantial to the betterment of the Indian society (1-34).

As mentioned in previous sections, in most of the cases (in more than 99%) what the heads of these *ICGFRLs* progress or claim on technologies are not actually true. For example, France is like one of the state of the India in area wise and even population wise. India started research in DRDO for last more than 50 years. Still India need Rafale fighter jets to participate when a situation arises, as India could not develop such fighter jets by Indian scientists by spending so much money for these many years (40,41). This indicates what kind of research is going on in these *ICGFRLs*, and what kind of environment is prevalent in them to develop such a world class technologies (34-41).

It is not required to be a genius to come to this simple conclusion that it is impossible to develop any new technology while duplicating a technology it is already developed by multinational companies by involving several hundreds to thousands of well-trained scientists by spending billions of US dollars for so many years working time. When it is only duplication on the name of indigenization of already existing technologies, which is a compulsion for defense and space sectors, those technologies can be indigenized in India by using the components manufactured by those multinational companies. However, in other civilian sectors, the duplication of products or indigenization of technologies equivalent to those already developed by the multinational foreign companies by the scientists working in the *ICGFRLs* is not at all advisable because it is not possible to match with those technologies as we spend lesser money and involve lesser number of scientists to develop those technologies (1-34). If that is the case, by this time India would have win considerable Nobel prizes in science category (i.e., in chemistry, physics, and medicine). It indicates that nobody is bothering from government of India while allotting funding to these *ICGFRLs* or making policies to these institutions effect. Hence, these *ICGFRLs* shall be instructed to focus on research that deals with subjects needed of the hour (34-41).

In fact, these *ICGFRLs* purchase certificates from the private companies may be paying government funds to show that they have developed technologies needed for the Indian society and transferred to the industry. In these *ICGFRLs*, money is spent simply for sake of doing research. Only likes of Sir CV Raman did good science in those days in these *ICGFRLs*. The conditions prevalent today in those *ICGFRLs* with the discretionary powers of the heads of these institutions, no research worth winning Nobel prize (i.e., the technology which can show great impact on the society like Lithium Ion Batteries, LED bulbs, etc., have shown) can be developed (1-39).

If research has to be survived in these *ICGFRLs*, immediately, it shall be ensured that all the discretionary powers of the head(s) must be removed with immediate effect. One good thing recently done by the present BJP government in India is they have removed so many prizes and awards, which

are being shared by a certain group of scientists working in these *ICGFRLs* by claiming that they are doing great inventions and changed the society to a great extent (1-41). In fact, in India, whoever scientist manages to waste the highest amount of government money by bringing government funds through his/her contacts in the Government funding agencies he/she is treated as greatest scientist. These are the kind of situations prevalent today in these *ICGFRLs*.

It is to be seen that whether anybody will come and save our nation by saving these *ICGFRLs*. For example, finally the Covid-19 vaccine was developed in private research labs in India. None of the government labs without the help of any private labs have invented these vaccines. If these vaccines were developed by the scientists working in these *ICGFRLs*, government would have not spend that much less money to buy these vaccines from private organizations to save the common man in Indian society from Covid-19 deaths. It is left to those who are running the India government today whether they really want to see the developed India in all sectors or not. Indian citizens shall lead a life like any citizen leading in American, and in all other developed countries. To achieve such a feat, *ICGFRLs* must function like they are supposed to be functioned but definitely not like they have been functioning at least for the last 75 years (1-41).

If any scientist submits any research proposals to the funding institutions such as, SERB-DST, Govt. of India, he or she will never get any funding as it requires the pushing from the head of those *ICGFRLs*. The funds of government research funding agencies are simply distributed among those heads of these *ICGFRLs* just to spend on the name of R&D. Even a proposal dealing with a literature garbage generating work, it will be funded, if the principal investigator knows anybody in those funding agencies or if he is a relative of those working in those funding organization. They never see what worthy work is proposed, they will just see who the principal investigator is and for whom he/she works. Sometimes it appears that only research projects that just spend the millions of rupees of money without generating any really useful research output needed for the nation are funded. If any proposal deals with a very important work needed for the nation, that project will not be funded. Because they think that he/she will get name and fame by doing such kind of high level research useful for the humanity (1-41). By giving some lame excuses, they simply reject those research proposals. If all the novel ideas needed to execute to that proposed research is not mentioned in the proposal with a fear of that the expert who evaluates or reviewers the project proposals will have some hands on experience and they may take these ideas and use in their research to get their own benefits, by showing that reason that proposal will be rejected by these government research funding agencies. In some of the cases, these proposals are evaluated by those who does not have any required knowledge in those subject(s). Since the evaluator does not understand the subject presented in that proposal in some cases or for any other reason, those proposals are simply rejected by giving some lame excuses by the evaluators of the proposals. If evaluator does not understand the subject presented in a research proposal, it does not mean that the proposed research is not worth for funding (1-41).

## **CONCLUSIONS:**

To safe guard the *Indian Central Government Funded Research Laboratories (ICGFRLs)* in India, which are backbones for the development of India's growth on par with any of the developed and super power countries of today's world, and to get Nobel prizes in science category by those scientists working in these *ICGFRLs* the *discretionary powers* of the heads of these institutions must be completely removed with immediate effect.

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