



“Responsible Research and Innovation” bringing the diversity to think together for Emerging India”

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ABSTRACT

RRI in layman's understanding is an attempt to overcome the difficulties and disasters natural or manmade, social or economic through research and innovation in science to develop strategies and plans which would benefit the whole community. RRI cannot be understudied as a standalone concept but a tool which will be between different cultures, institutes and technology and science. Main area which the RRI aims at is fulfilling the need of the common citizen the society. In this concept the sole motive of industries and organisations must change from what from profit to what need, developing and manufacturing products and services with the help of new technology and science with primary motive of fulfilling need and then profit. RRI looks for concerns such as climate change, rapidly growing demand for energy, limited resources, growing demand for food and clothing to name a few of the global concerns. We need the researchers from various fields may it be students or university scholars to know the new science and technologies and to then use this science more effectively in tackling these global concerns.

KEYWORDS : Research, Technology, Innovation, Responsibility, Citizen, Global Concerns.

INTRODUCTION:

The aim of this research paper is to find out the different possible ways of implementing Responsible research and innovation (RRI) in India which would empower as a tool for the future growth and sustainability of the country keeping in mind the society, environment and economic growth with the engagement of all societal actors such as researchers, industry policy makers and civil bodies which together can draft or work together to provide the best of knowledge and information management for building up the great nation.

Bringing Responsible Research and Innovation (RRI) in India is a crucial step for the growth of the country in all respects and the scope of effectiveness increases especially in country like India where the right output and results can be achieved through the wonderful favourable factors such as religion, language, history and geography which are the basic core factors through which we can find amazing researchers, scientist, teachers, scholars and government which will defiantly help in recognizing the social concerns and problems which we have to fight through RRI.

REVIEW OF LITERATURE:

Responsible Research and Innovation is an emerging concept which has been of great importance to the European Union and its implementation and research is an ongoing task the very people related to the foundation explain RRI as a still developing and vastly growing concept which definition is still evolving(l).

RRI deals with the science and technology-based research and innovation, in particular on emerging technologies - notably nanotechnologies, genomics, synthetic biology and geoenengineering. However, the use of the word 'innovation' is easily used to describe the application of any type of invention which significantly improves products, systems or services.

There are a number of factors which has led to the evolution of RRI such as to motive the use of new technologies for social benefit Innovations in medicines, energy, electronics, materials and computing are becoming more complex, more disruptive and global in their reach and impact. But their promise to help solve some of the most pressing problems we face appears more significant and more urgent(l). To avoid losing out on another technological advance. The total ban on genetically modified organisms, many believe, has been a significant competitive disadvantage, preventing Europe reaping some of the benefits of this powerful technology, not just commercial benefits, but for people and the environment. As a direct response to this, among other reasons, both the European Commission and member states have sought to engage citizens in evidence based discussions

relatively early in the development of new technologies, particularly nanotechnology and synthetic biology, explicitly to build the knowledge and confidence of citizens(l). To prevent another disaster like the genuinely catastrophic effects of, for example, asbestos, CFCs, some put GM crops in this category, has focused the concern of politicians, businesses, civil society groups and the public on how to prevent such disasters occurring yet again.

In India if we want to implement this and want to see a change in the positive direction we must ensure that the people the scholars are educated and awareness about this particular concept is familiarized with the industrialist, scientist and innovators. The common man also needs to be made fully aware that anything which the government or Industrialist do is in favour of them and sustainability of the country and not just for their profit motive! Then only we can bring in the masses and help to research in the right direction to innovate technology for the benefit of common.

The students at school and graduate level must be made available with all the information about the science and technology and measures must be made so that this information or findings or research is available to them openly and as soon as it can be. The concept is simple we make information or research of any kind open for the students and involve more minds into it. There is no questioning that new brilliant ideas and innovation can be brought down by these young minds where they can apply this research in more than one way and can possibly find that research into an innovation which can help in making the life easy for the society. For example if some information is available openly and can be accessed by a student he might use it in his project or may further indulge in that finding a result which might be different from another student and can prove to be a great invention.

India is a great country with various resources and people of different field and profession. Many great scientists and mathematicians or aeronauts have been born in India and worked for India or some other country not just for money but they wanted to research and advance their self's which was not happening in the country. Today if we realise this and provide the people and these great minds with information and them make them join the rest of the population with sharing the information in the field of science and technology we can advance and make great innovations in the field of medicines, civil engineering and Technology, which will help in the sustainability of the country and make self-dependent.

Responsibility is a sense which we need to introduce into the core starting from the students to teachers and every great mind which can help and research with a common motive of innovation for the sustainability and making the life of people easier. We need to make

them aware of the already depleting resources and danger of over wastage and scarcity of all resources, now is the time when common people, government and corporate industries came together and share their research in a fashion that the information is open and available to everyone so as to find new ideas and walk towards a common goal of utilizing the best of science and technology in the growth of country.

In the coming time any country can only stand in the situations ahead if they plan now and understand the importance of the responsible research innovation. The concept is very vast and brings a lot of possibilities with it as we compare the application of this in India as to the European Union (I) we have more of problems to solve and changes to bring for environment and economical sustainability but the positive lies in the resources India already have, We have a large number of youths and scholars as compared to any other country which means there is a number of young and innovative minds which can work and bring a change by working together in their respective field by just sharing and making information available to everyone in different field and with responsible utilisation of that information we can produce more results in best possible effective manner and leap ahead in saving the environment and caring for the people with the great innovations.

Involving the public in generation of responsible research is very important and already many governments, research organisations, businesses and civil society groups are seeking new and innovative ways of involving the public and other stakeholders to contribute to the assessment and prioritisation of research and innovation. As the EU specifically mentions that 'The provision of information on their processes and products to citizens by government and business is a key component of transparency and accountability and though it is likely to be categorised as 'informing' it is essential to effective RRI.'

Though the RRI basically looks at the technological part of innovation but in India we can implement by bringing some change in the concept and make it more diversified by getting in to various other fields as the basic motive for the same is to impart responsible research and by that for anything we can get better results and ideas which will further turn into innovations (IX). In India we face a lot of problems as compared to the EU and not only the points considers by the EU is enough for the proper effectiveness of RRI in our country, we need to look out for many other various aspects of the same and solve the core and more important problems that competing with the world. RRI stands for creating a value life and save the environment and for making better health opportunities for the masses. I do not oppose the implementation but a change and moderation in the basic setup of the concept is mandatory to prove beneficial for our country, with the great people at disposal the right education and making people involved in the concept will definitely bring out an excellent pace of results.

We need to setup the process and bring in the RRI from the university and school level which can be done by the govt. policies and make proper interaction and data sharing techniques with the corporates and industries in the common goal of achieving the best product for the betterment of society. The general public is needed to make understand that any new policy or plans which the govt. may bring in are for their betterment only and support is needed and there must not be the feeling that the govt. and corporates are just working in their self-motive of earning by making new policies and this can only be achieved when proper arrangement and the concept is cleared in the minds of public and students from an early stage (VIII). This can only be done through years of preparation we need to setup a base from where this whole concept can penetrate in the system and every person working should have the belongingness to the society and thinks of researching in the common interest of betterment of society, people and environment.

The companies and manufacturers must be motivated to use green energy sources and innovate new ways of using and building up of technological products and try to ditch the environment harmful substances which are the biggest cause of danger in the environment. It should not be taken as there has been no social responsibility or the companies have been irresponsible but only more progress and research is needed to find out the ways to substitute the components which result in making the surroundings hazardous. Platforms like Bio technology, robotics and Nano technology are already on a steady path of developing for the society and to make a change in the existing world technologies. Use of safer nuclear power and substitute materials biofuels have been the innovations which are needed in the current and future times to aid sustainability of any nation.

Involvement of public is one important and essential part of the RRI without which no change can be brought into reality as the people are the one for and by which this whole concept is made around. Innovation can only be brought in if someone wants it and is prepared for the same, there should be public acceptance for any kind of change and must be informed about the paths to prosperity by the government. This becomes moral responsibility for the govt. bodies as it concerns the taxpayer's money which the citizens have contributed towards the development and use of these resources must be kept open and opinions must be viewed for the democratic process (VII). Unlike the present time where the govt. hardly shares the matters with the citizen in India about the budget allocation in detail and what all is carried out with the taxes collected now there has to be clear transparency about the goals and mission the govt. aims at achieving.

A process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest is Responsible Innovation and this is what is required to be conveyed to the citizens. Responsible Innovation creates spaces and processes to explore these aspects of innovation in an open, inclusive and timely way (III). This is a collective responsibility, where funders, researchers, stakeholders and the public all have an important role to play (VI).

RESEARCH METHODOLOGY:

To better understand the implementation benefits exploratory research methodology had been used to study the very new and vast application of Responsible Research and Innovation concept as a lot is needed to understand and find various methods and application in the nation and how exactly it can be proven beneficially as it has for the European nations through the medium of available writings on the topic.

FINDINGS & CONCLUSION:

As far as bringing in the Responsible Research and Innovation concept in India is concerned it is a future plan which will take years or decade to bring in any change at all and make the society aware of this. Since it is an ongoing practice in EU and is still seeing slow acceptance which is how it will penetrate into any nation, it becomes important for the Indian government to start thinking about the same and setup researchers and committees to investigate the proposition and find out the best possible ways to introduce into the country and benefit from it. This must not be taken as a negative aspect as this will take a lot of time and change of mind-set of the society to successfully bring in the change, this concept demands researchers and thinkers to move in one directions and results can only be anticipated with time and more understanding of the same.

We can see growth towards the environmental sustainability and Social growth of the nation in the far future with the motivation and need of understanding among the society, corporates and govt. policy makers. It will be safe to say that this is the only concept for a better future planning, saving the ever depleting natural resources and reducing the health hazards which are a concern for the society.

Better technology and medicines aiding in the betterment of the society with researchers and people with responsibility towards the environment this is all possible with the introduction of RRI. A lot of research is still needed to study the aspect and reach of RRI in India and this is the right time to rise up with the time and start the quest in achieving a better life, conserving the environment and bring economic stability.

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