Executive Summary

Socio-economic development of rural India is sustainable development regulated by basic facilities; health facilities; schools; transport and road connectivity; good sanitation and pure water; and many more. To assess, the impact of all the amenities as to how the facilities are helping the needy and common masses of rural India in improving their quality of life; it becomes essential to understand how much research and development (R&D) has been carried out. The study of R&D impact on socio-economic development of rural India is limited and much has not been done as Doctoral or Master Degrees.

Opportunities of development such as proper education, appropriate health facilities; facilities for awareness; electricity; approach roads; amenities; use of ICT Technologies; the sense of equality; gender equality; girl education; environment protection; helps to contribute to the larger benefits to the society. Indicators of the growth may involve the facilities provided or improved in rural areas as health centers; physicians and diagnostic centers. Education – primary, upper primary and high schools in all the villages with a sufficient number of teachers and training facilities extended to girls and women empowerment. Furthermore, the higher education system must be encouraged such as undergraduate, postgraduate and research degrees here, the use of technology in agriculture and farming, environment protection, ICT enabled services and tools for computing with Internet facilities. The financial services to be also offered by establishing the banking services to grow themselves. Employment was created for the villagers both in the public and private sectors. The awareness against Child marriage and dowry system; social change, respect for all irrespective of caste or religion etc.

The current project report aims to highlight the role of research and development (R&D) and its impact on the socio-economic development of rural India (SEDORI).The real growth of any nation is evaluated by the all-around development of all the masses irrespective of caste, creed, sex, religion etc. The amenities and opportunities in urban and suburban areas are considered as advantageous for the demography who resides in this area and thus the opportunity of growth is relatively more in the urban areas as compared to rural areas. The larger percentage of masses lives in rural areas, especially in nations like India and thus the overall development of the country has to be inclusive with satisfactory development of the people of villages. It is rightly said that India lives in villages and thus the focus needs to be made on the development of the rural population living in villages.

We have explored numerous literatures on various aspects of socio-economic development, sustainable development and holistic growth of the rural population of India and the world. The focus of the review of literature is on the study of R&D impact on SEDORI and therefore we tried to concentrate majorly on R&D impact and policies for rural development where the people from villages can lead a happy and healthy life with food security, health facilities, good approach road, clean drinking water, proper sanitation, electricity, schools, skill development opportunities etc. We also explored how much work has been carried out as doctoral and master's research on the topic of the implemented project work. Unfortunately, the literature on the topic is limited and the amount of research work on the topic is not attempted much. The literature available focused on main rural economy,

sustainable development, agriculture productivity etc. and the study of R&D impact on these factors of development of society living in villages has not been carried out adequately. However, similar studies reported various factors, indicators of growth, policies and reports provide guidelines for mitigating the challenges and emphasizing key indicators so that socio-economic development can truly be achieved in rural India.

The major indicators are Education and Awareness, Health Amenities, Drinking Water and Sanitation, Approach Roads, Addressing Social Evils, Gender Equality and Female Education, Employment Opportunities and Employed youth, Understanding of ICT (information and communication technologies) tools and technologies, for youth as well as farmers, Agriculture productivity and marketability, Small scale industries nearby Villages, Small scale Trades, Women empowerment, and Skill Development Opportunities.

Data were captured for analysis via the online medium in the form of questions and answers. The questions are generated for different aspects considered for rural information gathering for R & D. The typical design for the MIS system for socio-economic is shown in figure1. Here, identified some key areas and indicators related to study the impact of socio-economic status of rural areas limited to Telangana State. There are different aspects by which the impacts can be measured they are represented in figure2.
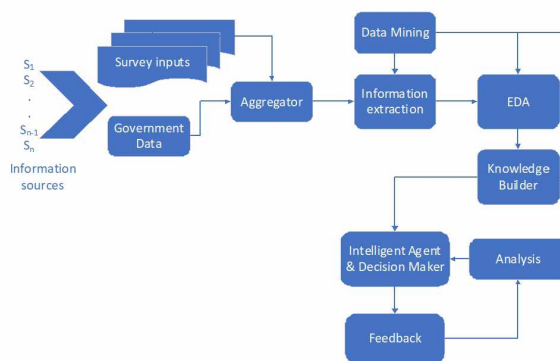

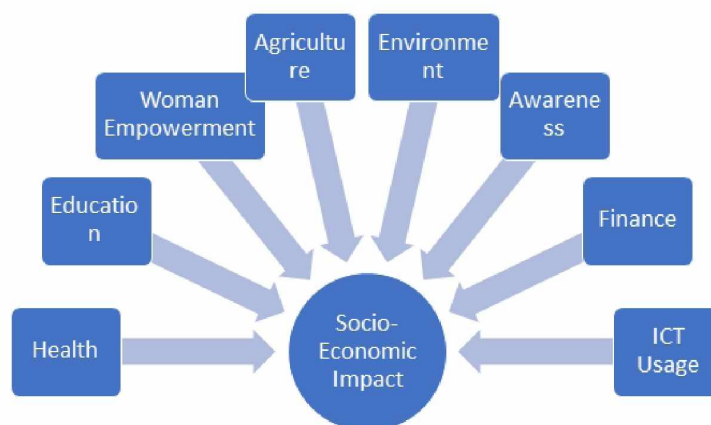Figure1: The system design for Socio-economic MIS

Figure2: Key Areas of Impact Measurement

The data is an important aspect to measure socio-economical growth. There are different means by which data can be captured shown below in figure3 like government reports,

independent studies, research projects or independent agencies. As Telangana is a new state the data is merely available for independence from Andhra Pradesh. The district expansion was also updated recently for the state. Hence new data is needed to be captured. As objectives stated to generate an MIS system, data analysis is a pre-requisites and intern data is needed. The new scenario demands new capturing of data for different domains for socio-economic study.
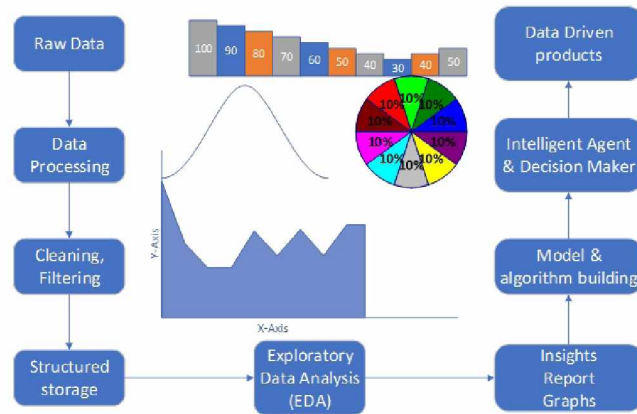

Figure3: The process of Exploratory Data Analysis

Different statistical methods are applied for data analysis captured by questioners discussed in the methodology. Results are shown in these sub-sections. These results are analyzed with expert's opinions and some observations are provided below.

The correlation matrix below figure4 explains the relationship between data and feature weight. It is taken here with a probabilistic dependency matrix, that is with a conditional probability value. In short major is probability value those features are dependent on each other, having any type of relationship with the data. Availability of - Primary School, Secondary School, Intermediate School, Degree College, Hospital, Health centres, Clinics, Police Location, Library, Markets, Post office.
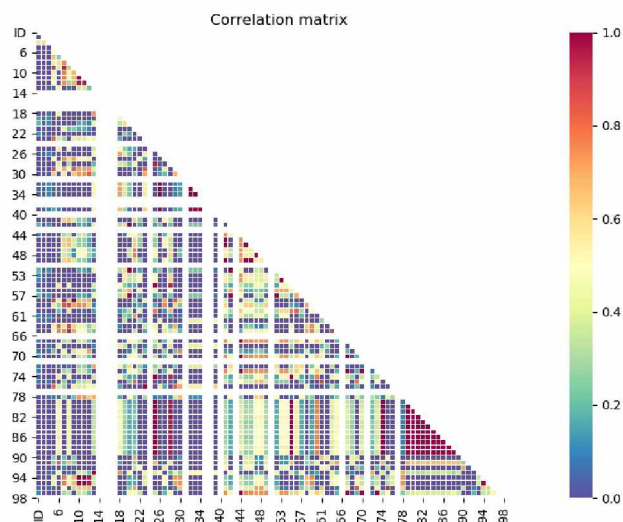
Figure4:The overall Correlation Matrix

Research indicates that improvement in lifestyle due to research and development in India and outside world improved lifestyle of women, education and health with different parametric. There is still a need for improvements in social culture especially for a woman like a dowry and other cultural issues. As diversified India and Telangana peer to peer association can major within the family which needed to be a different task. As Telangana is recently again divided into 33 districts, more segregation in data and peer analysis can improve in local policymaking and targeted development.

Survey and statistical models indicate that women education is key for woman empowerment. Well educated mother always helps young generation to grow the socio-the economic status of the family. Women education helps in the social, economical and cultural development of the family which helps in the development of the village and in society too. Statistical results show that women impacts in cultivating values related to equality, woman empowerment and also changing tradition obvious male support are equally needed. The health facility gives major satisfaction to people if they have basic to advance private or governmental facilities. Statistically, health services like private and government clinics (PHCs) are available in all villages from which data is collected. If villages havean ambulance, vaccination felicities, in addition, satisfaction for villagers are 100%. The commond is eases observed are mostly viral, diabetes, and blood pressure which is one of the national problems. This intern indicates that people are needing a higher level of health services even it may come up with the cost. Also, in the case of sanitization rural Indian sanitization is moderately equipped with services available especially drinkable water and water waste management.

Most of rural India was already knows the importance of these services since ancient times. Transport services are majorly dependent on road services available which connect to places for economic and other domain development. Because of schemes like Pradanmatri Gram Sadak Yojana, all the villages data represent the availability of road, which is a good indicator, but satisfaction to road quality is almost 70%. Education is another sector where most of the villages have primary and secondary schools, but missing advanced education system like college or intermediate schools, for that student needed to travel to nearest facilities. Similarly, basic village services like a police station, library, market place availabilities are, 60%, 45%, 75% respectively. While all villages are having post office services. Almost 40% of villages are having some socio-economic problems like dowry, child marriage etc.

People are still lacking with information about government facilities, which are these facilities, how to avail benefits for development, but they are well equipped with pair support available in rural places. The schemes like LPG Gas have been advertised very well and got100% usage represented in collected data. Similarly, services and information sources used by almost 100% of people are through telephone or internet facilities. If they know these government schemes, they are very much pleased and will surely avail themselves of these benefits.

Current welfare schemes and their distribution is 0 if statistically its compared. Most of the rural area has facilities of economic support by having baking and other support at the

village or nearby village facilities. These services will surely help in development in small scale and agriculture-based industries present in the area.

The agricultural land is shrinking with population growth. This is one of the main concerns, most of all are suffering from these challenges. As India is an agricultural country, this will be a future challenge but as the population growth curve indicates it may be solved with government schemes and facilities. ICT is another area of concern; most people are unaware of government schemes. Overall, it is indicating out of eight domains considered for the survey, six are having progressive development while some of them need more attention. Relation among them impacts socio-economical indexing. The schemes like Swacha Bharat, Every Person Bank Account, LPG Gas availability, etc. are advertised well enough as well as they implemented yearly by the government and they made a huge impact in development. Similar efforts are needed for other ICT schemes and development.

Some of the relative observations from data

    a. There is separation in departmental activities, and development happens 360 degrees but some areas like the road are typically lacking in the development

    b. Some of the data in the relevant department, could not contribute at this stage of analysis, the deep analysis will improve Classical methods are practiced for data collection as well as analysis, some of the non-classical unsupervised analysis will also contribute to the analysis

New Observations / Short fall if any.

Observations:

1. Clear indications of Urbanization on specific indicators like Agriculture, Education, Facilities in both positive and negative.
2. SHG are there but with less no of members.
3. Lack of knowledge in obtaining the information and help on various government schemes.

Shortfall:

1. We have to continue the survey to get more samples.
2. Telangana is now divided into 33 Districts.
3. To create an MIS, we need to increase the number of districts to be covered and a greater number of sample studies so that we can get a clear impact after the new state formation.

Research indicates that improvement in lifestyle due to research and development in India and outside world improved lifestyle of women, education and health with different parametric. There is still a need for improvements in social culture especially for a woman like a dowry and other cultural issues. As diversified India and Telangana peer to peer association can major within the family which needed to be a different task. As Telangana is recently again divided into 33 districts, more segregation in data and peer analysis can improve in local policymaking and targeted development.