QUANTIFICATION OF RELATION AMONG THE FACTORS AFFECTING ECONOMIC DEVELOPMENT OF RURAL AREAS IN INDIA

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Abstract- *Economic innovation and development are the driving forces for the economic growth of a place or region over the long period. The structural transformation of India is not possible by ignoring rural areas. Government and private bodies are putting their efforts for pacing out of economic development of India. As it is claimed that India is the fastest growing economy in the globe, thus it becomes more important to maintain this rate of growth. In order to speed it up the mainframe of focus must be identification and push the key characteristics of economy and just to push them. The aim of this work is to find out the relationship among the factors affecting economic growth of rural areas. It is also aimed to quantify this relationship among factors. To achieve long term sustainable growth of a scheme's implementation it is very crucial to find the factors and areas that need more attention. In the paper association rules have been calculated among the discussed factors; which supports the quantification of qualitative measurement of relationship. Generation of association rules is done with support and confidence value. Apriori algorithm is used to analyze the frequent itemsets. The work gives a direction towards finding the factors and paying more attention on them who share mutually strong relationship.*

Index-terms- Factors, Relationship, Association, Support, Confidence, Apriori.

I. INTRODUCTION

The world is witnessing the transformation in economy by methods for capricious vacillations in ordinary market incline. All the developing nations are storing their entire exertion to find themselves in better monetary position while developed are endeavoring to sustain their prominence. It is already acclaimed that India will turn into the best economy till 2030 by passing over china and japan [1]. Development and improvement is a constant procedure, development is a subjective element while growth is quantitative entity [2]. Blair has underlined that Economic advancement is the gain in the expectation for everyday comforts of a country's subjects from need to lavishness. If the quality of life is improving it is implicit that there is economic development. India is one of the quickest developing economies. There are various government and private bodies cooperating for across the board and multidimensional advancement of economy in India especially in rural areas. Rural area can be defined as area with low population density and predominant in primary sector. Initially economic development of rural area means development of agriculture and allied activities but this scenario has been changed. Since economic environment is changing rapidly only concerning in agriculture does not lead to economic development, we have to develop industries as well.

Undeniably India is a rural country. Thus its economy is agro-based, Farming is the key of country's economy and improvement. As per the Census in 2011 around 72% of workforce and 69% populace of aggregate nation's populace live in provincial regions. In Indian economy the contribution of rural economy is approx. 46 percent. Half of India's populace is relied upon to be in towns till 2050 [3].

It is already proclaimed that, there has been an expansion of around 18 lakh in individual salary imposes filers since November 2016. It was additionally stressed that, Karnataka, Maharashtra, Gujarat, Tamil Nadu and Telangana contribute for 70% of India's exports. In a financial report it has been emphasized that work, training and horticulture to be the center regions in medium term, says review [4].

In 2014 the education standard of India was poor. It expresses that approx. half understudies of fifth class standard are not brilliant enough to read the very basic sentence/ phrase. Among all these 70% are all things considered who can't perform division. A Census study expressed that on an absolute minimum over 40% of all family units hadn't any financial balance up until this point. There are some eager advances taken forward by Government of India as Pradhan Mantri Jan Dhan Yojana (PMJDY). In PMJDY approx. 255 Million ledgers with 456 Billion INR were opened till November 2016 [5].

There are various parameters for estimating the quantitative development of a nation or an area. These benchmark parameters are HDI, PCI, Social parameters identified with welfare and crucial impacting attributes. Indian monetary development isn't conceivable without the country financial advancement. There are a number of measurement by which the development can be

measured but it is a vital need of finding the quantity of the qualitative relationship among them. There are various factors which affect economic development these are natural resources, infrastructure, capital formation, technology etc. The essential factor which affects the development of an economy is the natural resources. Natural resources includes soil ,forest wealth , water resources , minerals etc. the existence of natural resources in abundance is substantive for the economic development But only existence of natural resources in abundance is not enough for economic development ,each and every available resources must be utilized optimally and discover new uses of resources for curtailing the wastage. Infrastructure is the road on which economic development wheels can run smoothly, infrastructure includes transport, communication, energy, financial institution and social infrastructure. Social infrastructure includes education system, health facility, and Sanitation. Infrastructure facilitates economic activity and reduces the cost of production. Capital formation is essential factor of economic development. Capital means stock of physical reproducible factor of production. Formation of capital means the part of savings which invested for further generation of money. Capital formation helps in providing employment to the rising labor force. Figure 1 elaborates empirical measurements of economic development.

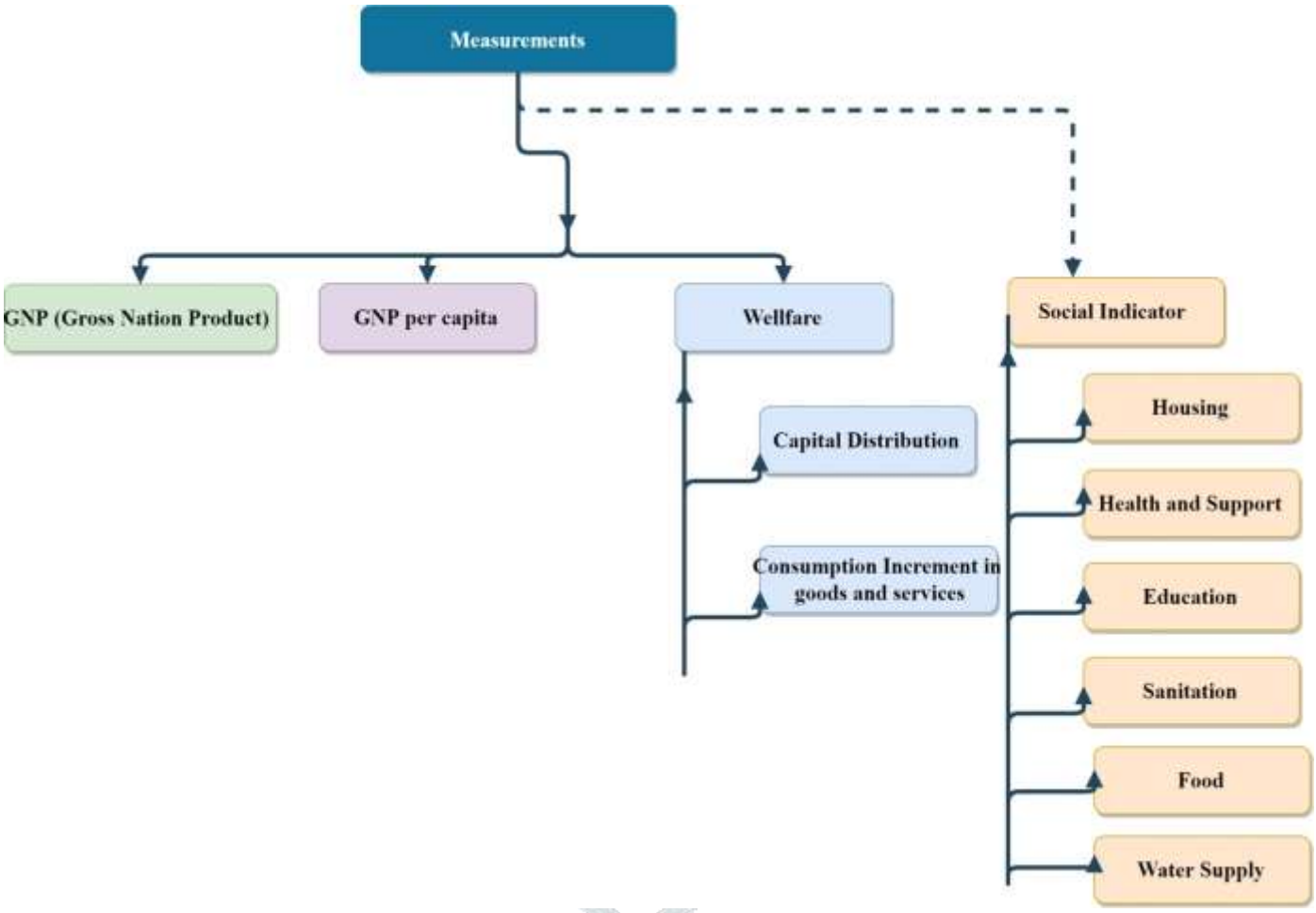

Figure 1. Factors affecting economic development

Section II gives an explanation for the literatures reviewed to identify the research gap. Section III discusses about the methodology followed, section IV flourished with the results and analysis while section V is the conclusion part.

II. LITERATURE REVIEW

The study emphasizes the alterations in rural economy for duration of 1970 to 2011. The growth rate was inverse with respect to NDP. Which presents that the growth rate was positive despite of decrement in NDP. 4 decades have witnessed a mammoth growth of Indian economy 33938 billion INR from 229 billion INR to 34167 billion INR; while a growth of 17908 billion INR has been observed for the duration of 2004 to 2011 and raising in employment has been noticed with 145 million increment. In labor force there was a negative inclination noticed i.e. of 7 million in the duration of 2004 to 2011 with respect to total rural population. As far as observation in secondary and above education is to be concern from 2004 to 2011, it was a growth of approx. 7.5% has been observed i.e. 14.9 to 22.3. The growth in manufacturing sector has been noticed as 0.67 percent and for the service sector it was 1.4% for the same duration.

In [4] a survey has been performed on a population set of India that contributes a sizable portion in Indian economy. Report also discussed that In rural areas food was found as principal key of CPI inflation. In 2017-18 most of the Indian states have witnessed sharp CPI inflation. It was approx. four percentages in seventeen states. Micro small and medium enterprises (MSMEs)

have played a critical role in for providing hefty scale employment scopes. The government has launched Pradhanmantri Mudra Yojana for refinancing and supporting the MSMEs in the benchmark year 2017-18. In telecommunication are Bharat Net has given surprising results by achieving the subscribers number up to 1207.04 subscribers approx. In this 41.58 percentage subscribers are from rural areas; this also has been concluded by survey. This has been also mentioned that under MGNREGA 4.6 crore households were provided employment that tends approx. 1778 lakh person days in benchmark year 2017-18. The report has claimed that sanitation coverage in rural India increases substantially from 39% in 2014 to 76% in January, 2018.

In [5] a report of OECD it is proposed that; Policy reforms at the state and municipal levels could boost productivity and reduce spatial disparities in India. In this analysis India was ranked in fourth position among top 11 economies in the world. Indian achieved 0.25 GINI Index. The survey also claims that rates of poverty are high to core domain of public service. The productivity of farms are poor with disintegrated holdings of land, improper management of inputs and unavailability of market [5]. Surveys concluded that infrastructural improvement pushes non-farm activities. A beam of light has been focused on population growth rate, by forecasting that from 2010-50 India will be the country with highest population growth rate i.e. approx. 12 million people. In Indian Dadar and Nagar Haweli is the poorest state with 62% poor people from total population of state. Tendulkar's methodology has been followed for the poverty calculation using monthly per capita income. In the study it was found that India is growing fast but the private sectors' investment is not good [5].

Ramphul Ohlan (2016) measures the pattern and extent of rural transformation in India using a comprehensive assessment which is based on three multidimensional indices these are rural development index, rural transformation index and urban rural coordination index. During the Decade of Sharpe economic growth, Rural transformation index has shown that rural india has undergone a very fast transformation .The transformation that occurred in India by which an improvement held in rural development level. In rural transformation there are regional disparities .To overcome those disparities it argued that policies should be region-specific rural transformation type which could be an effective solution to fill the gap between rural and urban areas of the country [6].

Papori Baruah and Yasung Millo studied the factors responsible for the lack of development in Arunanchal Pradesh through people's perception in this context , So that the discrepancies in the development process are brought into light ,on the basis of important findings respondents perceived about lack of development in Arunanchal Pradesh are corruption , lack of awareness of the no. of government schemes and problem related to their implementation Development leads lo long and healthy lives , to be knowledgeable ,for a good standard of living accessibility of the resources are necessary and to participate in the life of the community Arunanchal Pradesh has abundance resources but unfortunately that potential never been utilized optimally .by the study it is found that in necessary sectors like education and rural development should front march down of the development. Result of this study able to understand the discrepancies in the development process we can give priority to the areas which could be focused upon with a view to achieve the state development [7].

Tauffiqu Ahmad & Jitendra Kumar Pandey (2015) believed that For the expansion of economic activities Industrial development has really great potential and it will leads to development of rural assets Through income generation , development of infrastructure ,raising Standard of living and per capita income of rural people. Industrialization in rural areas is an instrument for both, creating capacity to absorb labor power and able to diversify the market which is require at the higher stages of economic development .In their paper they analyzed the need of industrialization and Industrial sector and its role in the development of rural areas in India. Lastly they concluded that there are many dimensions for the development of rural areas through industrialization, yet these entire dimensions able to make sketch only with the help of more government assistant [8].

Rural sector is crucial for the society because most of the resources available for the development come from rural sector. This paper analyzed the conditions of rural economy and studied the problems and challenges of the villages. And also attempt to frame a strategic framework for the development of the rural economy. The economic development of rural sector can be done only if design and implementation of government policies are according to changes going on in the rural economic environment [9].

Azer and Pavel Sorokin (2013) critically analyzed the cotemporary studies of social organization as a factor of rural economic growth. New theoretical models and empirical tools covering fundamental characteristics of rural social organization should be introduced. The empirical tools which has been using for measuring characteristics of rural communities should be revised. There are two main approaches of rural development industrial recruitment and self-development. Industrial recruitment brings enterprises (large companies) from outside to locate in community and creating new jobs. Self-development stimulates entrepreneurial activity. The researchers mostly concerned about institutional surrounding of the community. In researchers view the effectiveness of practical policies largely influenced by the social organization's characteristics. One must seriously consider the factor of social organization and level of maturity, before introducing practical initiatives for improving rural economic growth in developing countries [10]. From the literatures study came in the contrast that the works done so far are supporting to find a mechanism to quantify the relationship among factors affecting economic development.

III. METHODOLOGY

Association rules are the numerical presentation of similarity and relation among two items. This approach is very much used in analysis and data mining [11]. Before moving to the core process some introductory and definitive discussion is done below.

Table 1 has a set of transaction T1 to T4, with some itemsets A, B,C, D, E and F. Here are some basic terminology along with their formulation and examples.

-Item Set- It is a collection of one or more item of transaction. Example- {A,B,C}, {A,B}

Table 1. Transaction- Itemsets table

Transaction	Item Sets
T1	A,B,C
T2	A,C
T3	A,D
T4	B,E,F

-Support Count (σ) – It is the sum of occurrences of an Item set.
Example S({A,C}) = 2 in T1 and T2

-Support (S): It is just the ration between number of transaction in which the itemset has been occurred and number of all transaction.

S (A,C) = 2 / 4 = 0.5

-Frequent Itemset – Item-set having the greater values for support than the minimum support threshold value.

-Association Rule – An implication expression of the form P →Q, where P and Q are itemsets.
Example: {A, C} → {B}

• Association Rule Evaluation

– **Support (s)** • Fraction of transactions that contain both P and Q.
Calculated by formula

$$\mathbf{s}(P,Q) = \frac{\sigma(P,Q)\ or\ Ocuurance\ of\ P\ and\ Q\ together}{Total\ transactions}$$

– **Confidence (c)** • Measures how often Q appear in transactions that contain P itself.

$$\mathbf{c}\ (\mathbf{P} \rightarrow \mathbf{Q}) = \frac{\sigma(P,Q)\ or\ Occurance\ of\ P\ and\ Q\ together}{Occurance\ of\ P}$$

Here from table 1, we can find all these values
Let required minimum support is 50% and minimum confidence is 50%.
Required frequency or frequency value of minimum support will be calculated by formula
$\{\frac{Minimum\ support}{100} * Total\ transactions\ \}$ for us here it is $\frac{50}{100} * 4 = 2$.
Now it is to be finding the optimal items for the further analysis. Hence in table 2 there are all possible single items with frequency.

Table 2. C1 First Optimal frequency table

Itemset	Support
{A}	3
{B}	2
{C}	2
{D}	1
{E}	1
{F}	1

Since 4 transactions are there thus minimum frequency will be 4. Thus here D,E,F are going to be ignored since these itemsets have frequency (support) less than minimum support values; So revised table will be as table 3.

Table 3. L1 Revised optimal frequency table

Itemset	Support
{A}	3
{B}	2
{C}	2

Now find the pairs for finding the association rules. Hence again a table is on demand where frequency of pair will be added, only for the items taken part in the table 2.

Table 4. C2: First pair itemset optimal frequency table

Itemset	Support
{A,B}	1
{A,C}	2

{B,C}	1

Here again frequency (support) should be 2, which is only for {A,C}. Thus {A,B} and {B,C} will be ignored. Hence L2 table (Table 5) has only 1 vale now.

Table 5. L2 Revised optimal frequency table

Itemset	Support
{A,C}	2

Now association rules will be calculated in the table 6.
Here in column 1 indicate the name of association rule. First Row tells the Association rule A implies to C, while second row tell Association rule C implies to A. Both have same support from table 5, thus second column has value 2 in both the rows. For confidence A → C we have frequency of A as 3 thus it comes 0.66 and for C → A confidence is 1 as C has frequency 2. Hence we get 2 rules.

Table 6. Association rule with confidence percent

Association Rule	**Support(s)**	**Confidence (c)**	**Confidence %**
A → C	2	2/3 = 0.66	66
C → A	2	2/2 = 1	100

Here we get 2 confidence percent and both are more than 50% as per our assumption in the beginning. Thus 2 association rules became final rules as: A → C and C → A.
In this study, we have collected the data from a survey by giving a questioner. The questioner was of in Hindi as well as English and has been hosted in google-form and surveyplanet web platforms. A set of questions were asked those are discussed below. The questions are treated as items during analysis, which are listed below from I1 to I11.
I1: Education is mandatory for economic development of rural areas?
I2: Natural Resources are mandatory for economic development of rural areas?
I3: Population affects the economic development of rural areas?
I4: Technological reach affects economic development of rural areas?
I5: Infrastructure affects economic development of rural areas?
I6: Promotion of farming and agriculture is mandatory for economic development of rural areas?
I7: Market availability affects economic development of rural areas?
I8: Health care supports economic development of rural areas?
I9: Sanitation affects economic development of rural areas?
I10: Promotion of small cottage industry promotes economic development of rural areas?
I11: Awareness towards saved money mobility (Capital formation) promotes economic development of rural areas?
We collected the responses of participants and preprocessed the data. In the study we took heterogeneous groups. In which there were 77.3% Students (Masters 32.07%, 45.23% Bachelor), 11% Professionals and 7% Farmers and other sphere of society. The whole mechanism is written below.

1. Select every 1 and replace it with 0. Do the same for 2 and 3. Now select every 4 and five and replace them by 1.
2. In first column which is now Item 1 i.e. I1 select every 1 and replace this by I1.
3. Repeat the step 1 for column number 2,3,4,5...11 and replace them by I2, I3, I4,I5....I11 respectively.
4. Now replace every 0 by a blank and save the file as text delimited format.
5. Here for the analysis a tool is used which is open source named as Apriori tool for association rule generation.
6. It takes text delimited format of file as input and gives a file with calculating number of association rules among the Items.
7. For the analysis the base minimum support is assumed as 75% and minimum confidence is 80%.

After applying the apriori tool association rules were generated. Table 7 is giving the brief idea about the number of rules generated for a particular set of values of confidence and support.

Table 7. number of association rules for a set of support and confidence value

Support	**Confidence**	**Association Rules**		**Support**	**Confidence**	**Association Rules**
100	90	22		90	100	1
100	85	47		90	99	1
100	80	81		90	98	3
99	90	5		85	100	1
99	85	5		85	99	1
99	80	9		85	98	3
97	90	5		80	100	1
97	85	11		80	99	1
97	80	21		80	98	3
96	100	1		75	100	1

96	99	3		75	99	1
96	98	8		75	98	3
96	90	2		75	97	1
96	85	2		75	96	1
96	80	2		75	95	3
95	100	1		75	90	1
95	99	3		75	85	1
95	98	8		75	80	3

Here from table 1 it is clear that 81 which is the maximum number of association rules are generated for support 100% and confidence 80%. 22 rules are for 100% support and 90% confidence these are self-relation based association rules. The value of confidence were passed are 80,85,90,95,96,97,98,99,100 and confidence values were 80,85, 90,95,96,97,98,99,100. The values of support and confidence that are not in table have had 0 association rules.

IV. RESULT AND DISCUSSION

Economic development is a qualitative entity. That is affected by numerous factors, depending upon the geographical position of the area of analysis and some other refined factors. Measuring the relationship among the factors was an objective of this paper together with the quantitative valuation of the relationship. Quantitative measurement of relation among the factors affecting economic growth of rural area was a blank question. Here in the study so far methodology explains about the approach followed in order to get the association rules among the factors. The rules generation was fully dependent on the values of support and confidence passed in the apriori tool. As it is mentioned in the methodology the base minimum support was 75% and confidence was 80%. Table 8 is giving the brief about the association rules among the itemsets. In 'Association Rule's' column the we have entries in as

$$Ix \leftarrow Iy\ (P,Q)$$

It implies that Association between Ix and Iy with support value P and Confidence value Q. Somewhere Iy is absent which means self-relation of Ix with itself. In the analysis self-relations entries of are ignored since they don't give relations of two distinct factors.

Table 8. Association rules among items

S. No	Association Rules	S. No	Association Rules	S. No	Association Rules
1	I11 ← I9 I1 (75.4717, 82.5)	**28**	I1 ← I2 (77.3585, 95.122)	**55**	I8 ← I9 I1 (75.4717, 95)
2	I11 ← I9 (77.3585, 80.4878)	**29**	I9 ← I4 I1 (75.4717, 85)	**56**	I9 ← I8 I1 (79.2453, 90.4762)
3	I11 ← I6 I1 (77.358, 82.9268)	**30**	I4 ← I9 I1 (75.4717, 85)	**57**	I8 ← I9 (77.3585, 95.122)
4	I11 ← I6 (79.2453, 80.9524)	**31**	I9 ← I4 (77.3585, 85.3659)	**58**	I9 ← I8 (81.1321, 90.6977)
5	I11 ← I10 I1 (79.245, 80.952)	**32**	I4 ← I9 (77.3585, 85.3659)	**59**	I1 ← I9 (77.3585, 97.561)
6	I7 ← I4 I1 (75.4717, 80)	**33**	I6 ← I4 I1 (75.4717, 90)	**60**	I9 ← I1 (92.4528, 81.6327)
7	I7 ← I9 I1 (75.4717, 82.5)	**34**	I4 ← I6 I1 (77.3585, 87.8049)	**61**	I10 ← I6 I1 (77.3585, 90.2439)
8	I7 ← I9 (77.3585, 80.4878)	**35**	I6 ← I4 (77.3585, 87.8049)	**62**	I6 ← I10 I1 (79.2453, 88.0952)
9	I7 ← I6 I1 (77.3585, 82.9268)	**36**	I4 ← I6 (79.2453, 85.7143)	**63**	I10 ← I6 (79.2453, 88.0952)
10	I7 ← I6 (79.2453, 83.3333)	**37**	I10 ← I4 I1 (75.4717, 87.5)	**64**	I6 ← I10 (81.1321, 86.0465)
11	I7 ← I8 I1 (79.2453, 83.3333)	**38**	I4 ← I10 I1 (79.24, 83.3333)	**65**	I8 ← I6 I1 (77.3585, 95.122)
12	I7 ← I8 (81.1321, 81.3953)	**39**	I10 ← I4 (77.3585, 87.8049)	**66**	I6 ← I8 I1 (79.2453, 92.8571)
13	I2 ← I4 I1 (75.4717, 80)	**40**	I4 ← I10 (81.1321, 83.7209)	**67**	I8 ← I6 (79.2453, 92.8571)
14	I4 ← I2 (77.3585, 80.4878)	**41**	I8 ← I4 I1 (75.4717, 92.5)	**68**	I6 ← I8 (81.1321, 90.6977)
15	I2 ← I4 (77.3585, 80.4878)	**42**	I4 ← I8 I1 (79.2453, 88.0952)	**69**	I1 ← I6 (79.2453, 97.619)
16	I2 ← I9 I1 (75.4717, 82.5)	**43**	I8 ← I4 (77.3585, 92.6829)	**70**	I6 ← I1 (92.4528, 83.6735)
17	I9 ← I2 (77.3585, 82.9268)	**44**	I4 ← I8 (81.1321, 88.3721)	**71**	I8 ← I10 I1 (79.2453, 88.0952)
18	I2 ← I9 (77.3585, 82.9268)	**45**	I1 ← I4 (77.3585, 97.561)	**72**	I10 ← I8 I1 (79.2453, 88.0952)
19	I2 ← I6 I1 (77.3585, 80.4878)	**46**	I4 ← I1 (92.4528, 81.6327)	**73**	I8 ← I10 (81.1321, 88.3721)
20	I6 ← I2 (77.3585, 82.9268)	**47**	I6 ← I9 I1 (75.4717, 92.5)	**74**	I10 ← I8 (81.1321, 88.3721)
21	I2 ← I6 (79.2453, 80.9524)	**48**	I9 ← I6 I1 (77.3585, 90.2439)	**75**	I1 ← I10 (81.1321, 97.6744)
22	I2 ← I10 I1 (79.245, 80.9524)	**49**	I6 ← I9 (77.3585, 90.2439)	**76**	I10 ← I1 (92.4528, 85.7143)
23	I10 ← I2 (77.3585, 85.3659)	**50**	I9 ← I6 (79.2453, 88.0952)	**77**	I10 ← (100, 81.1321)
24	I2 ← I10 (81.1321, 81.3953)	**51**	I10 ← I9 I1 (75.4717, 87.5)	**78**	I1 ← I8 (81.1321, 97.6744)
25	I2 ← I8 I1 (79.2453, 80.9524)	**52**	I9 ← I10 I1 (79.245, 83.3333)	**79**	I8 ← I1 (92.4528, 85.7143)
26	I8 ← I2 (77.3585, 85.3659)	**53**	I10 ← I9 (77.3585, 87.8049)	**80**	I8 ← (100, 81.1321)
27	I2 ← I8 (81.1321, 81.3953)	**54**	I9 ← I10 (81.1321, 83.7209)	**81**	I1 ← (100, 92.4528)

Table 8 gives the idea for finding the strongest relations among the factors. Here by observing table 8 it can be observed that:

1. I10 ← I1 (92.4528, 85.7143) and I8 ← I1 (92.4528, 85.7143) has the strongest relation among all 11 items, i.e. The items of Itemsets { I10,I1} and {I1, I8} are having strongest relation as
   I10 ← I1 and I8 ← I1. It is so because that is the highest value of support and confidence for which there exists any item.
2. Then I6 ← I1 (92.4528, 83.6735) have third strongest relationship between and it is between I6 and I7. While I9 ← I1 (92.4528, 81.6327) and I4 ← I1 (92.4528, 81.6327) share fourth strongest association between corresponding present item sets.
3. I1 ← I10 (81.1321, 97.6744) , I1 ← I8 (81.1321, 97.6744), I10 ← I8 (81.1321, 88.3721), I8 ← I10 (81.1321, 88.3721), I6 ← I8 (81.1321, 90.6977), I6 ← I10 (81.1321, 86.0465), I9 ← I8 (81.1321, 90.6977), I9 ← I10 (81.1321, 83.7209), I4 ← I8 (81.1321, 88.3721), I4 ← I10 (81.1321, 83.7209), I2 ← I8 (81.1321, 81.3953), I2 ← I10 (81.1321, 81.3953) and I7 ← I8 (81.1321, 81.3953) are falls in average association in which support lies in between 81 to 82 and confidence lies (80, 92).
4. The rules in which conditions 74< support <80 and 80< confidence <100 are true, are treated as poor relations.

V. CONCLUSION

India is a country of villages. Thus economic development of country is much more depends upon the economic development of rural areas. A plenty of variables play vital role in economic development of any area. These parameters are sometimes place specific and environment oriented. The aim of study was to find the relationship among the factors affecting economic development of rural areas and also the quantifying the relationships. This purpose has been achieved on applying association rules generation concept. Support and Confidence were two crucial elements needed to find the relationship. Hence the relations ship will be proportional to the joint value of Support and Confidence. Higher the joint value of Support and Confidence means stronger relationship among itemsets.

Table 8 shows that I10 and I1 have the strongest relation so are I8 and I1 with support of 92.4528% and confidence of 85.7143%. On replacing I1, I8 and I10 with original values, it can be concluded that Promotion of Small cottage and micro industry factor is strongly related with education, similarly health and support is also strongly connected with Education. While the relation between other factors as between Natural resources and Promotion of micro industries, between market availability and health support, between technological reach and health support etc. are not strong.

The paper gives a direction to choose the factors that must be taken care while planning for any scheme especially in rural areas. The work also has a huge scope of extension in future in order to take more parameters and include them for the association rules generation.

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