**Archiological Sites on Spatio- Temporal Scales**

**(A Case Study of Rajnandgaon-Kabirdham Districts, Chhattisgarh)**

Dr. Krishna Nandan Prasad \* and Dr. Shailendra Singh \*\*

***Abstract***

*Archaeological Sites contain magnificent manifestation of cultural landscape created by man in a particular geographical setting over a period of time in the remote past. This is the result of Man-Nature relationship in which man chooses amongst the possibilities provided by Nature in accordance with his needs, knowledge, institutions and technology. Keeping this in mind, this paper attempts to understand and analyze distribution patterns of archaeological sites on both the scales of space and time taking up adjoining Rajnandgaon and Kabirdham districts of Chhattisgarh. Data have been compiled from written records and literary sources. Use of cartographic method for spatial patterns and nearest neighbour techniques for finding out degree of proximity adds a new dimension of interpreting the data.*

*This study reveals that the area is really diversified in terms of archaeological sites which are highly concentrated in the mid-north; nearest neighbour analysis also displays their clustering. Archaeological sites of ancient human settlement site at Pachrahi dates back as old as 5th -6th century A.D. Contemporary Lord Shiva temple at Bhoramdeo and erotic sculpture in the Nagar style on the line of Khajuraho presents a fine blend of religion and art. Most of the sites are inaccessible from Rajnandgaon node being located beyond 50 km of distance. Thereafter, the ‘dark age’ of about 600 years indicates a huge missing link in its temporal hierarchy.*

**Key Words**

Archaeological Sites, cultural landscape, Man-Nature relationship, nearest neighbour index, dispersion, distribution patterns, clustering, human settlement, regional personality.

**Statement of the problem**

Man, being the most active agent on the earth, and therefore, is the master of possibilities presented by Nature. This new philosophy of possibilism developed by Vidal de Lablache in France opposed to environmental determinism of German School propagates that “Nature is never more than an advisor” (Mamoria, 1971:103). It was paradigm shift from ‘Naturalization of man to

‘humanization of Nature’. So, it gave a twist to Nature-man relationship. Man as a sequent occupant of space is constantly engaged in creating cultural landscape in order to fulfill his basic and luxurious necessities. He developed institutions and technology which played a vital role in enhancing his capabilities for desired transformation of wild Nature into humanized space. Archaeological site is one such place which has come into existence due to inter play of man and Nature. Thus, it is ostensibly the outcome of Man-Nature Relationship,

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\* Assistant Professor of Geography, Govt. Digvijay Auto. PG College, Rajnandgaon (Chhattisgarh)

\*\* Assistant Professor of History, Govt. Digvijay Auto. PG College, Rajnandgaon (Chhattisgarh)

a very dynamic process which, too, has undergone drastic changes in the long run of human history from simplicity to complexity, as human society itself. And in the process, it has provided distinct characteristics to a region. This is nothing but the production of space that has yielded in the formation of regional personality**1.** Carl Sauer opines, “Designation ‘personality of a region’ encompasses total functional relation of life and land developing on a particular part of the earth” (1941:53).

Carl Ritter’s *Erdkunde* in 19 volumes (1817 to 18590, Lablache’s ‘Pays’ (1889), Demangeon’s *Word Paging of British Isle* (1927), Niphen’s *Land and People* (1960), Buttimar’s *Personality and Pays* (1710), Indian scholars’ works ,such as C D Deshpande’s *Western India* (1948), S M Subbarao’s *Personality of India* (1956), K M Panikkar’s *Geographical Factors in Indian History* (1969), A B Mukerji’s *Socio-Economic Profile of Mewat* (1976), Jaipal Singh and Mumtaz Khan’s *Mythical Space, Cosmology and Landscape* (2002) all deal with cultural landscape, a product of human interaction with Nature in one way or other. Since, archaeological site is a remnant of past social, economic and cultural activities of man at a definite site, in a specific situation and within a certain geographical location and setting, its study using multidisciplinary approach of spatial and temporal scales is the need of the time. In view of this, “Archaeological Sites on Spatial and Temporal Scales (A Case of Rajnandgaon-Kabirdham districts, Chhattisgarh)” has been chosen for investigation.

**Objective**

One gets obvious excerpt about objective of the study from the above statement. However, there is need of its enlisting to avoid and confusion and also for its clarity. The following objective has been set for investigation at this juncture;

1. to show spatial and temporal distribution patterns of archaeological sites of the study area, and
2. to find out degree of accessibility to these sites.

**Hypothesis**

The study area has an elongated shape with its length stretching over 300 km. Its western part is hilly and forested, that bears low carrying capacity of land. Thus, it also hampers outside human interaction. It is, therefore, assumed that archaeological sites will be concentrated/ clustered at some places rather than dispersed in nature.

**Data-base and Methodology**

The present study draws facts and figures from the written records, literature, archives and district gazetteer. These facts have been transformed into numbers for presenting distribution patterns using cartographic technique. Marking of the sites over space has been done to find out nature of accessibility and nearest neighbour index to test the proposed hypothesis. The formula used is as follows:

|  |
| --- |
| http://geographyfieldwork.com/NearestNeighbourFormula_small.gif |

|  |  |
| --- | --- |
| **Here,** | |
| http://geographyfieldwork.com/NN2.gif | nearest neighbour value |
| http://geographyfieldwork.com/NN1.gif | mean observed nearest neighbour distance |
| http://geographyfieldwork.com/NN3.gif | area under study |
| http://geographyfieldwork.com/NN4.gif | total number of points |

The nearest neighbour formula will produce a result between 0 and 2.15, where o (zero) indicates clustering, as opposed to dispersed/regular distribution patterns shown by 2.15.

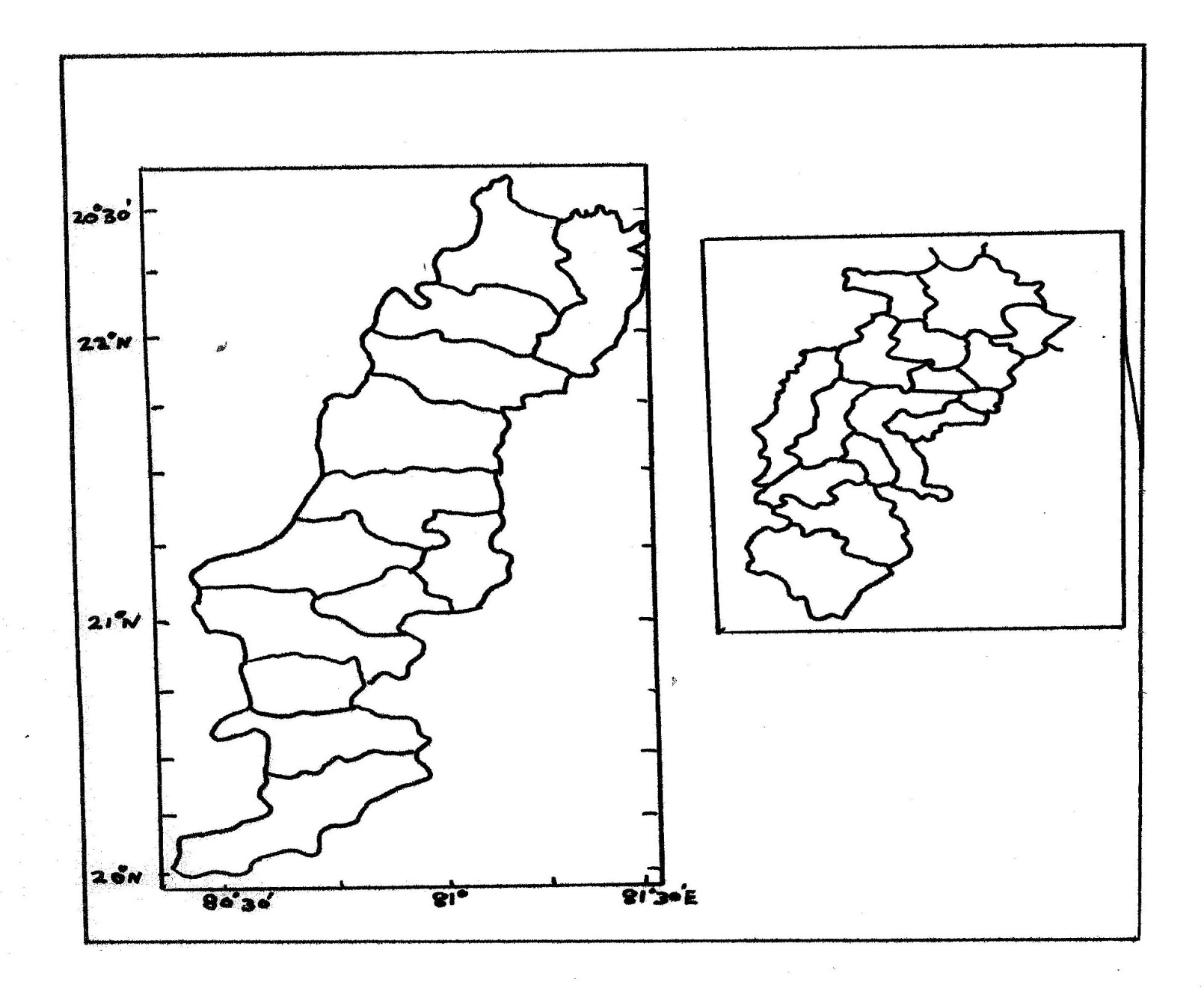
**Study Area**

Study area comprises of two contiguous political regions of Rajnandgaon and Kabirdham districts of Chhattisgarh state. This area forms western “Rim land” (Singh, 1971:366). It lies between190 58’and 220 28’ north latitudes and between800 23’and 810 48’east of longitudes (Fig.1). It, thus, presents a rectangular shape with its north-south length (350 km) and east-west width of about 80 km. It covers a total area of 10671.88 km**2**. Its latitudinal extension exhibits that it is a tropical land. It is surrounded by The Maikal Mt Range in west, Bilaspur district in north, Bemetra district in east and Balod & Kanker districts in south. It is, thus, a land locked country**2**.

The study area is a part of the ancient Gondwana land. Geologically, it is made up of hard granite, gneiss and schist rocks. So, it is traversed by plateau, hills and hillocks. It is drained by three river systems of the Mahanadi in east, the Godavari in south and the Narmada in north-west. Sheonath is the chief tributary of Mahanadi, which originates in the hill of Ambagarh Chowky. A medium multi-purpose dam has been constructed at Mongra. There is very thin layer of soil which is largely due to erosion in nature. Even then, eastern part of the study area has fertile soil in the presence of rich minerals. A total of 13 tahsils are unequally divided into Rajnandgaon (9) and Kabirdham (4) districts (**Fig. 1**). According to the Census of India, 2011, 23, 59,659 persons reside in the area; population density is 221 persons per km**2**; and sex-ratio is 1008 females per 1000 males.

*RAJNANDGAON – KABIRDHAM DISTRICTS*

ADMINISTRATIVE MAP

****

2

Bodla

1 Pandria

Chhattisgarh

4 Sahaspur Lohara

3 Kawardha

5 Chhuikhadan

6 Khairagarh

Study Area

8 Rajnandgaon

7 Dongargarh

10 Dongargaon

9 Chhuria

11 A. Chowky

12 mohla

20

0

20

13 Manpur

KMS

Fig. 1

**Analysis**

The whole analysis has been divided under 4 sub-heads, viz. Nature of Archaeological Sites, Spatial Distribution of Archaeological Sites, Physical Accessibility of Archaeological Sites and Hierarchical Ordering of Archaeological Sites on Temporal Scale. Analysis of facts and figures related to these areas would reveal some remarkable facts in understanding the past personality of this western Rim land of Mahanadi basin.

**Nature of Archaeological Sites**

Nature of archaeological sites pertains to vivid aspects of historical materials, such as remnants of human settlement, tools, utensils, pottery, coins, grains, idols of gods and goddesses, temples, palaces, tomb/stupa, and structure of valour.

**Table 1** reveals a high proportion of temples devoted to popular gods and goddesses of the first order namely Shiva, Ganesh, Vishnu, Radha-Krishna and Laxminarayan. One finds temples of second order devoted to goddesses Maa Bamleshwari, Maa Chhuria, and Maa Amba Devi at local level. This amply demonstrates that the area has been under the ***Research***

influence of various sects of the Hindus, e.g. Shaivite and vaishnavite, while there is absence of other religious groups in this area.

**Table 1** Typological Classification of Archaeological Sites: Rajnandgaon-Kabirdham Districts

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Types** | **Nos.** | **%** |
| **101** | **Remnants of early medieval human settlement** | **1** | **1.23** |
| **02** | **Palaces and Its remnants** | **9** | **11.11** |
| **03** | **Temples of gods and goddesses** | **28** | **34.57** |
| **04** | **Stupa** | **1** | **1.23** |
| **05** | **Structure of Valour** | **25** | **30.86** |
| **06** | **Caves** | **3** | **3.70** |
| **07** | **Scattered Idols and Statues** | **14** | **17.28** |
| **Total** | | **81** | **100.00** |

Source: compiled by the authors.

Presence of a large number of statues and structures of contemporary valour reflects that the society did salute person’s bravery and their sincere duty towards the society. That is why, people built memorial structure dedicated to their heroes. This act of theirs also indicates that these monuments used to give some sort of inspiration for the present and forthcoming generations.

It is also remarkable to find out a dozen idols and statues of gods and goddesses in a highly scattered manner here and there. Most of them are in bad shape in lack of proper care and maintenance. The presence of ancient human settlement as revealed from the excavation of a big mound at Pachrahi adds a quite new dimension in the study of archaeological site.

It shows a well settled human civilization which have had used Sun-dried bricks for constructing buildings and temples; had made vivid pots and pottery of soil and metals; had developed tools and instruments of iron; had created burial grounds; and had been engaged in producing crops. Although, Kabirdham district has scarce archaeological sites in number, inclusion of Pachrahi and Bhoramdeo in the list of Archaeological Survey of India sufficiently depicts its historicity. Furthermore, its site and situation clearly demonstrates that the study area rests at the foot of the Maikal that seems to have provided security from the west, but with a limited passage through the Chilpi valley. On the other hand, Mahanadi being navigable up to the confluence of its important tributary- Sheonath, might have provided access to the Bay of Bengal during the early medieval time. Some traces of river-side port near Sirpur supports this hypothesis.

The most beautifully decorated Hindu temple of Lord Shiva at Bhoramdeo, contemporary to Pachrahi, and erotic sculpture in the Nagar style on the line of Khajuraho, Chhattarpur, M. P. is another significant feature of archaeological sites in the study area. One finds a fine blend of religion and art developed by man settled in this part of tropical land.

**Spatial Distribution of Archaeological Sites**

**Table 2** apparently displays that Khairagarh tahsil occupies the first place with more than one-fifth in total archaeological sites so far traced in the study area. It is closely followed by Chhuikhadan. Dongargarh and Ambagarh Chowky find third and fourth position respectively. On the other hand, Bodla and Sahaspur Lohara draw nil in this respect. Remaining sites minimally share 1 to 6 per cent. Thus, tahsil -wise distribution of archaeological sites is much skewed in nature. Its average comes 6.23. The value of standard deviation (5.25) is also very close to its mean. Its co-efficient of variation is 84.27 per cent. This shows a very high variability in the distribution of archaeological sites at tahsil level, where some tahsils record much higher percentage (18 to 24 %) of archaeological sites in respect to some others

**Table 2** Tahsil-wise Distribution of Archaeological Sites in Rajnandgaon-Kabirdham Districts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No. | Name of District/Tahsil | Archaeological Sites | | Top Five Ranks |
| No. | % |
| 1. **Rajnandgaon** | | **73** | **90.12** |  |
| 01 | Chhuikhadan | 15 | 18.52 | Ii |
| 02 | Khairagarh | 18 | 22.22 | I |
| 03 | Dongargarh | 10 | 12.34 | III |
| 04 | Rajnandgaon | 7 | 8.64 | IV |
| 05 | Dongargaon | 5 | 6.17 |  |
| 06 | Chhuria | 4 | 4.94 |  |
| 07 | Ambagarh Chowky | 8 | 9.88 | V |
| 08 | Mohla | 2 | 2.47 |  |
| 09 | Manpur | 4 | 4.94 |  |
| **B. Kabirdham** | | **08** | **9.88** |  |
| 10 | Pandaria | 2 | 2.47 |  |
| 11 | Bodla | - | 00 |  |
| 12 | Kawardha | 6 | 7.41 |  |
| 13 | Sahaspur Lohara | - | 00 |  |
| **Total** | | 81 | 100.00 |  |
| **Mean = 6.23 S.D.=5.25 C.V.= 84.27** | | | | |

Source: compiled by the authors.

Which draw nil or close to zero.

Spatial distribution of these sites as shown in **Fig. 2** also exhibits a similar uneven pattern. There is a high concentration or agglomerated around the trade/transport routes crossings almost in the central part which is covered by three adjoining tahsils of Khairagarh, Chhuikhadan and Dongargarh. Otherwise, the whole area presets a sparse distribution of these sites. Geographical grouping of administrative units also display a noticeable pattern. Four northern tahsils are almost devoid of these sites in terms of its numerical strength; thereafter, one finds its high presence. But again its presence is dismal in the southern part.

Nearest Neighbour Index (NNI), a quantitative technique is a measure of the nature of concentration, or dispersion. Its application for measuring the nature of distribution of archaeological sites reveals that NNI value calculated for the purpose comes to 0.51. This also supports the visual pattern of clustering as observed in Fig.2. It, proves the hypothesis true.

**Physical Accessibility of Archaeological Sites**

Physical accessibility is expressed in terms of areal distance from the nodal centre-administrative headquarter or growth pole/growth centre in economic parlance. It acts as a resource centre that connects its hinterland. N this case, this accessibility has been calculated considering Rajnandgaon city as the focal centre situated on the G.E. Road named NH 6 and also at the Howrah-Mumbai Railway. The city also occupies central location in the study area.

**Table 3** Accessibility of Archaeological Sites in Rajnandgaon City

|  |  |  |  |
| --- | --- | --- | --- |
| Distance From  Rajnandgaon (km) | Level of Accessibility | Archaeological Sites | |
| No. | % |
| Below 16 | Very High | 5 | 6.17 |
| 16 - 32 | High | 8 | 9.88 |
| 32 - 48 | Medium | 26 | 32.10 |
| 48 - 60 | Low | 17 | 20.99 |
| 60 and above | Low Very | 25 | 30.86 |
| **Total** | | 81 | 100.00 |

Source: compiled by the authors.

**Table 3** adequately displays that the archaeological sites of this area have difficult accessibility by being located beyond 30 km from Rajnandgaon city. Only a few sites are highly accessible. However,

With the construction of ‘western state highway corridor’ (from Manpur in the south to

**DISTRIBUTION OF ARCHAEOLOGICAL SITES**

**2014**

**RAJNANDGAON – KABIRDHAM DISTRICT**

N

N



22030’

22030’

220

220

210

210

Scale

Scale

KM

20

20

20

20

0

0

200

|  |  |  |  |
| --- | --- | --- | --- |
| Distance From  Rajnandgaon (km) | Level of Accessibility | Archaeological Sites | |
| No. | % |
| Below 16 | Very High | 5 | 6.17 |
| 16 - 32 | High | 8 | 9.88 |
| 32 - 48 | Medium | 26 | 32.10 |
| 48 - 60 | Low | 17 | 20.99 |
| 60 and above | Low Very | 25 | 30.86 |
| **Total** | | 81 | 100.00 |

200

810

80030

81030’E

Kawardha in the north, and further extending up to Bilaspur) and implementation of Pradhan Mantri Gramin Sadak Yojana, geographical distance has declined rapidly; and henceforth, accessibility to the archaeological sites has also enhanced due to speed on a smooth ride. Had a chain of motels opened at least along the main routes, and security surveillance made more effective, most of the sites would have become easily accessible for the tourists.

Tourism as an invisible industry has great potential for inducing socio-economic development. Since archaeological sites attract large number of national and inter-national tourists, tourism features amongst top priority of Chhattisgarh Government. It is, therefore, expected that physical accessibility will get improved in coming years.

**Temporal Hierarchy of Archaeological Sites**

Temporal hierarchy of archaeological sites in the study area begins with Pachrahi, an ancient human settlement some time in 5th century A.D. interestingly, almost in the vicinity of Pachrahi site, the same period notices construction of beautiful Shiva temple and erotic sculpture on the outer walls of the temple. These two oldest sites are core of the hierarchy. Then, there is no trace of human imprints for about 600 years. The archaeological sites

reappear in 11th century A. D. after a drift of time. Such a long gestation period reminds one of nightmare of Dark Age in Europe**3**. Surprisingly, the pace of development of cultural landscape seemed to be quite sluggish in this area during the late medieval period. Nevertheless, the last phase of 19th-20th century witnessed an abrupt rise in the human manifestation there, which was later on reflected in the form of archaeological sites.

**Table 4** Temporal Hierarchy of Archaeological Sites in the Study Area

|  |  |  |
| --- | --- | --- |
| Time Periods  (A.D.) | Archaeological Sites | |
| Nos. | % |
| 5th-6th | 6 | 7.40 |
| 11th-12th | 1 | 1.23 |
| 13th-14th | 3 | 3.70 |
| 15th-16th | 2 | 2.47 |
| 17th-18th | 3 | 3.70 |
| 19th-20th | 66 | 81.48 |
| **Total 81** | | **100.00** |

Source: compiled by the authors.

**Conclusion**

The study reaches at some noticeable conclusions. One, the area is really diversified, as typological classification of archaeological sites reveals. Two, there are strong traces of ancient human settlement site at Pachrahi. Three, archaeological sites are largely concentrated in the mid-north along supposed caravan route; nearest neighbour analysis also displays their clustering. Four, most of the sites are inaccessible from Rajnandgaon node being located beyond 50 km of distance. Five, archaeological sites dates back as far as 5th -6th century A.D. Temple of Lord Shiva at Bhoramdeo and erotic sculpture in the Nagar style on the line of Khajuraho, Chhattarpur, M. P. , a fine blend of religion and art is another significant feature of archaeological sites in the study area. Thereafter, there is a ‘dark age’ of about 600 years that indicates the temporal hierarchy has a big missing link in this regard.

**Notes and References**

1. The term ‘personality’ was first of all used by Carl Ritter, a noted regional geographer of German School, quotes D. D. Kausik, 1981 *History of Geographical Thoughts*, Vasundhara Prakashan, Allahabad, p.226.
2. It refers to piece of land which is away from huge water body, i.e. sea or ocean.
3. The term "Dark Ages" in Europe, derives from the Latin [*saeculum obscurum*](http://en.wikipedia.org/wiki/Saeculum_obscurum)*,* originally used by [Caesar Baronius](http://en.wikipedia.org/wiki/Caesar_Baronius) in 1602. It denotes the entire period between the extinguishing ‘light of

Rome and the rise of Italian Renaissance, i.e. from 6th to 13th centuries, DARK AGE (Historiography), Wikipedia,

Deshpande, C D 1948 *Western India: A Regional Geography,* Dharwar,Students' Own Book

Depot.

Mamoria, C B 1971 *Human and Economic Geography* , Shivalal Agarwal , Agra.

Mukerji, A B 1976 *Socio-Economic Profile of Mewat*, Radha Publishers, New Delhi

Panikkar, K M 1969 *Geographical Factors in Indian History,* Bhartiya Vidya Bhawan, Bombay

Sauer, Carl 1941 *Recent Development in Cultural Geography*, Philadelphia Univ. Press,

Philadelphia.

Singh, Jaipal and Mumtaz Khan (Ed.) 2002 *Mythical Space, Cosmology and Landscape:Towards a Cultural Geography of India*. New Delhi, Manak.

Singh, R L 1971 *India: A Regional Geography*, Geographical Society of India, Varanasi.

Subbarao, S. M. 1956 *Personality of India, Baroda, MS University of Baroda.*

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**A Study on Factors Affecting the Gold Loan Financing**

(With special reference to Indore City)

**Apurva Shrivastava\* R.N. Singh\*\* Gyan Prakash\*\*\***

***Abstract***

*Gold loan is currently an emerging trend which is seen in the cities as it is available at much more cheaper rate of interest and with simplicity of getting it than the other financing options. So this research work is focussing on the determinant factors of the gold loan market in Indore city. It draws attention to the important factors of gold loan, which includes the brand name, customer service, financial factors, etc. The study infers that people of Indore city are very focussed on the type of lending institution, the interest rate charged on the loan taken, gold rate prevailing in the market, simplicity of procedures, etc.*

**Introduction**

In today’s world, banks are offering various kinds of loans to their customers so that they can afford their dreams. In the race of various kinds of loans like car loan, home loan, education loan, etc. gold loan is also emerging out as one of the most important type of loan.

Gold loan-understanding what gold loan is? The gold loan means the loan taken against gold. In this loan the customer keeps his or her gold (in the form of coins or jewelry) as security against the loan to be taken from the banks. When the loan is repaid back to the bank, the customer can take back the gold kept with them as the security. The loan amount given to the customers is just 60-65% of the gold kept as the security.

Most of the banks offer gold loan at an interest rate of 12-16% which is significantly lower than the other types of loans. This is the major advantage and main reason to opt for this loan. If person is not a salaried employer but still needs money for his or her any sort of requirement, then this loan is the best solution for the fellow. As for applying to this loan, the

Persons don't need any sort of income certificate or other documents. Only thing which is needed is the gold which will be kept by the bank in a safety locker till the fellow pays his or her amount of the loan.

Sanctioning of the gold loan does not require months or days instead it is

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\* M.B. A. Scholar, I.I.P.S. Devi. Ahilya . University, Indore

\*\* Principal, Digvijay Autonomous PG College, Rajnandgaon

\*\*\* Professor, School of Economics, Devi. Ahilya. University, Indore

sanctioned in few hours. The customer will be given an amount of up to 60-65% of

their gold amount either through check or will be deposited in their account as soon as the person will hand over their gold to the bank. Another thing which is responsible for the speedy sanctioning of the gold loan is that it does not require the hefty

formalities of too many documents. The bank has nothing to do with the customer’s credit history if they are filing an application for this loan. The only thing which matter to the bank is that while sanctioning a gold loan is the amount of gold the fellow possess.

It was noted previously that gold is treated as the most liquid asset which can get converted into cash very soon or it can be said as one of the most influential financial instruments in India. People are keeping it with them in the form of jewelry. In India it is most common to see people keeping gold in their lockers. Banks and NBFCs are actively providing loans to customers on their gold. Therefore, it became necessary to understand the perception of people of Indore city regarding the gold loan.

**Literature review**

The loan given against the gold is known as the gold loan. In India, many nationalized banks, private banks and other financial companies offer this loan at attractive rates. Some people go for taking loan against the gold for meeting their requirement.

Dr.N.Venkateswaran (2012) has studied the gold loan’s impression on Indian consumers and he has found that more than 75% of the gold loan market is still with the unorganized segment, the organized segment has a huge potential for the growth through cannibalization of the unorganized segment. A bigger, better and more efficient network of branches would help the organized segment target this growth area.

Muthoot Finance Corporation (2012) has studied about women’s perception towards the gold loan and reached to the conclusion that its popularity and success is dependent on the customers’ repayment confidence.

Since it is an emerging personal finance but not much more work has been done either by institutions or researchers. It is, therefore, relevant to make the study on this topic. Its outcomes will be helpful to banker’s policy makers and financial institutions to device a new strategy to make gold l The paper is organized as follows - Section 1 deals with Introduction, Section 2 presents Review of Literature, Section 3 discusses adopted Research Methods, Section 4 provides Empirics followed by Conclusion & Policy Implications in Section 5.

**Research Methodology**

The study has been conducted in Indore city. Total 100 respondents were selected from the city. These respondents were selected randomly for comprehensive study. The selected respondents were given questionnaire containing 19 statements and they were asked to respond on the basis of Likert scale- 5 points for Strongly Agree, 4 points for Agree, 3 for indifferent, 2 for Disagree and 1 for Strongly Disagree. .

**Statistical Analysis: Factor Analytic Approach**.

**General Attitude of Respondents toward Gold Loan Behaviour**

In order to find out the factors determining general attitude of respondents towards gold loan behaviour, 19 statements have been factor analyzed. The statements were measured on a five point Likert scale.

**Data For Factor Analysis**

Factor analysis was made to find out major factors of concern in gold loan taking decision making which is required to find GLTF (Gold Loan Taking Factor) Scale.

\*The correlation matrix was computed and examined. This reveals that there are enough correlation to go ahead with factor analysis.

\* Kaiser- Meyer – Olkin (KMO) measures sampling adequacy (MSA) and is an index used to examine the appropriateness of factor analysis. If value is high and ranges between 0.5 to 1, it indicates that factor analysis is appropriate, if value is less than 0.5, it implies that the factor analysis may not be done.

\*Communality is nothing. It reveals the amount of variance a variable shares with all the other variables being considered. In other words, communality reflects the amount of variance in each variable that is accounted for.

\*For Principal Component extraction, it is always equal to 1 for correlation analysis.

\* Barlett’s test of sphericity shows statistically significant number of correlations among the variables.

On the basis of above standards, data set is examined to find out whether it is fit for factor analysis or not. It has been found fit for factor analysis. Principal component analysis has been employed for extracting factors. Six factors have been extracted. Together it accounts for 64.71 % of the total variance.

| **Table- 1 Total Variance Explained** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Component | Initial Eigen values | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.079 | 26.729 | 26.729 | 5.079 | 26.729 | 26.729 | 2.564 | **13.495** | 13.495 |
| 2 | 2.135 | 11.238 | 37.967 | 2.135 | 11.238 | 37.967 | 2.398 | **12.620** | 26.114 |
| 3 | 1.434 | 7.546 | 45.513 | 1.434 | 7.546 | 45.513 | 2.332 | **12.273** | 38.388 |
|  |  |  |  |  |  |  |  |  |  |
| 4 | 1.319 | 6.940 | 52.453 | 1.319 | 6.940 | 52.453 | 1.857 | **9.772** | 48.159 |
| 5 | 1.232 | 6.482 | 58.935 | 1.232 | 6.482 | 58.935 | 1.661 | **8.742** | 56.901 |
| 6 | 1.097 | 5.772 | 64.707 | 1.097 | 5.772 | **64.707** | 1.483 | **7.807** | **64.707** |
| 7 | .976 | 5.138 | 69.845 |  |  |  |  |  |  |
| 8 | .950 | 5.000 | 74.846 |  |  |  |  |  |  |
| 9 | .715 | 3.764 | 78.609 |  |  |  |  |  |  |
| 10 | .691 | 3.636 | 82.245 |  |  |  |  |  |  |
| 11 | .629 | 3.308 | 85.553 |  |  |  |  |  |  |
| 12 | .508 | 2.672 | 88.225 |  |  |  |  |  |  |
| 13 | .467 | 2.459 | 90.684 |  |  |  |  |  |  |
| 14 | .423 | 2.225 | 92.909 |  |  |  |  |  |  |
| 15 | .360 | 1.894 | 94.803 |  |  |  |  |  |  |
| 16 | .307 | 1.615 | 96.418 |  |  |  |  |  |  |
| 17 | .292 | 1.538 | 97.956 |  |  |  |  |  |  |
| 18 | .239 | 1.260 | 99.216 |  |  |  |  |  |  |
| 19 | .149 | .784 | 100.000 |  |  |  |  |  |  |
| Extraction Method: Principal. | | | | Compone | nt | Analysis |  |  |  |

**Rotated Method**

The varimix rotation method was run. Further the factor correlation matrix revealed that the variables are correlated in the population and further data reduction was found necessary.

**EMPIRICS**

**Construction of GLTF Scale Using Factor Analysis**

Communalities are the row sum of squared factor loadings. They reflect the amount of variance in a variable that is accounted for by six factors taken together. The size of community is a useful index for assessing the amount of variance in a particular variable which is accounted for by the factor solution. Large communalities mean that a large amount of variance has been accounted for by the factor solution. Small communalities reflect that a major portion of the variance in a variable is unaccounted for by the factors. In other words, large communalities indicate that the extracted components represent the variable well. The extracted components account for nearly 64.71 % of the variability and rest 35.29 % components are unaccounted. The result shows that a model with six factors is satisfactory.

**Table -2 COMMUNALITIES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Initial | Extraction |  | Initial | Extraction |
| GLTF-1 | 1.000 | 0.644 | GLTF-11 | 1.000 | 0.606 |
| GLTF-2 | 1.000 | 0.680 | GLTF-12 | 1.000 | 0.654 |
| GLTF-3 | 1.000 | 0.735 | GLTF-13 | 1.000 | 0.578 |
| GLTF-4 | 1.000 | 0.703 | GLTF-14 | 1.000 | 0.707 |
| GLTF-5 | 1.000 | 0.806 | GLTF-15 | 1.000 | -0.430 |
| GLTF-6 | 1.000 | 0.593 | GLTF-16 | 1.000 | 0.660 |
| GLTF-7 | 1.000 | 0.568 | GLTF-17 | 1.000 | 0.597 |
| GLTF-8 | 1.000 | 0.727 | GLTF-18 | 1.000 | 0.651 |
| GLTF-9 | 1.000 | 0.664 | GLTF-19 | 1.000 | 0.638 |
| GLTF-10 | 1.000 | 0.651 |  |  |  |

Extraction method: Principal component

Bartlert’s test of sphericity has been found highly significant at 5 %t level. It reflects that the variables are correlated in the population so that further data reduction is necessary. Kaiser – Meyer Olkin (KMO) measures adequacy of sampling. It has been computed as 0.700 which is high. It indicates that factor analysis is appropriate.

| **Table -3 KMO and Bartlett's Test** | | |
| --- | --- | --- |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .700 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 641.991 |
| Df | 171 |
| Sig. | .000 |

**Naming of Factors**:

The last step in factor analysis is naming of the factors. The labeling is intuitively developed by the factor analysis depending upon its appropriateness for representing the underlying dimensions of a particular factor. According to Hair et. al. (1995), the process of naming factor is not very scientific and systematic. Only a factor loading represents the correlation between on original variable and its factor. The signs are interpreted just with any other correlation coefficient. On each factor ‘like sign’ of factor, loading means the variables are positively related and opposite sign reflects that the variables are negatively related. In orthogonal solution, the factors are independent of each other. Therefore the sign for a factor loading relates only to the factors that must not appear with other factors in the solution.

All six factors extracted have been given appropriate names. The naming of the factors, the statement label and factor loading has been summarized in the following table. The six factors shown in table have been discussed below

**Factor – 1 Organization and staff image**

The first factor affecting the gold loan finance is the **Organization and Staff Image**. The total variance explained (Table -3) has revealed that this factor has explained variance of 13.495% to the gold loan financing. Four variables (1, 2, 3 and 4) were loaded on this factor. The researcher has named this factor as Organization and Staff Image as it includes reputation of lending organization, friendly and amicable behaviour of the banking personnel. The knowledge and skill in disposing the cases are value added attributes of the organization. These attributes do not only attract the customers but also build up the image of organization and staff.

**Table 4 Naming of the factors**

**Factor Name of Dimension Label Statement (Factor Loading)**

|  |  |  |
| --- | --- | --- |
| **1. Organisation and Staff Image** | Q. 1 | Type of lending institution ( bank? NBFCs? Gold Loan Corporation) affect taking gold loan 0.704. |
|  | Q.2 | Reputation of lending institution affect taking gold loan 0.714 |
|  | Q.3 | Behaviour of staffs with customers affect decision of gold taking loan 0.793 |
|  | Q.4 | Knowledge and skill of staff affect decision of taking gold loan. 0.774 |
| **2.Procedural** | Q.7 | Simplicity of procedure affect taking gold loan 0.509 |
|  | Q.9 | The level of documentation affect decision of taking gold loan 0.739 |
|  | Q.10 | The percentage of amount as loan offered affect taking gold loan 0.751 |
|  | Q.11 | Offered payback period of gold loan affect taking gold loan 0..686 |
| **3. Penalty Charges** | Q.12 | Penalty charged by lending institution in case of delay affect taking gold loan 0.766 |
|  | Q.14 | Penality charged on fore closure affect taking gold loan 0.771 |
| **4.Financial and Market Forces** | Q.8 | The interest rate charged by the lending institution affect taking gold loan 0.528 |
|  | Q.18 | Availability of other financing option affect decision to take loan 0.718 |
|  | Q.19 | Prevailing gold rate affect decision to take gold 0.645 |
| **5. Physical** | Q.5 | Ambience of lending institution affect to take gold loan 0.872 |
|  | Q.6 | Location of lending institution affect decision of taking gold loan 0.654 |
| **6. Miscellaneous Issue** | Q.13 | The ease of foreclosure affect decision to take gold loan 0.458 |
|  | Q.15 | Flexibility to repay loan affect decision to take gold loan 0.503 |
|  | Q.16 | Track record of lending institution affect decision to take gold loan 0.739 |
|  | Q.17 | Purpose for money needed affect decision to take gold loan 0.705 |

**Factor-2 procedural factor**

It has been found that the second important factor has explained variance of 12.62% and four variables (7, 9 10 and 11) are loaded on this factor. As the variable related to the Procedure of lending gold loan like simplicity of procedures, level of documentation, amount offered as loan against gold and pay back are loaded on this factor, this factor is named as **Procedural factor.**

**Factor-3 Penalty charges**

Two variables (12 and 14) were loaded on this factor and together they accounted for 9.772% of the variance. Variables related to penalty charged by the lending institution in case of delay in payment and foreclosure of account affect the customers’ decision were loaded on this factor; this factor is named as the **Penalty Charges**.

**Factor -4 Financial and market forces.**

There are three variables (8, 18 and 19) loaded on this factor and together they account for 8.742% of the variance. It focuses on the parameters of the market and financial environment prevailing in the market. Variables related to interest charged by the lending institution, prevailing gold rate and availability of other financial institution which offer gold loan affect the customers’ decision, were loaded on this factor. This is termed as the **Financial and Market Forces**.

**Factor -5 Physical factors**

There are two variables (5 and 6) loaded on this factor and together they account for 7.807% of the variance. These are related to the ambience and location of the lending institutions. It is the sixth one factor termed as the **Physical Factors**

**Factor -6 MISCELLANEOUS ISSUES**

It accounts 12.273% of the variance of the gold loan financing and four variables ( 13, 15, 16 and 17) were loaded on this factor. As the variables related to foreclosure, flexibility to repay the loan, track record of the lending institution and purpose of loan given were loaded on this factor, The third factor is termed as the **Miscellaneous Issue.**

**Conclusion and Policy Implications**

The outcomes of the study reflect that customers are very choosy and keeping more concerned with the reputation of the lending institution and their personnel they prefer those organizations which have faster services, friendly behaviour of the staffs and amicable atmosphere. It is very obvious that customer have more inclination towards services of the lending institution such as behaviour of staff, knowledge and skill of staff, etc. The attributes like behaviour, skill, knowledge etc. of the staffs make value addition in building up the image of the organization Technology friendly organization always has an edge over the competitors

In the competitive era customers always try to assess the procedural formalities in getting the loan against gold. In the study they have given weightage to procedural factor such as simplicity of procedures, the level of documentation, etc. No doubt it is human instinct; nobody wants to indulge in unnecessary formalities and modalities of documentation. Simplified rules, regulation and transparent working they prefer. This is the reason they have given weightage to it.

There are miscellaneous issues like flexibility in repayment, easy in foreclosure of the account as well as purpose for which loan taken etc. In the market economy customers always try to seek loan with their own comfortable terms and conditions.

The next factor, Penalty charge affect customers’ decision in taking gold loan. Delay in repayment or foreclosure of loan account is subject to levy penalty becomes a liability on them. No doubt it is good for getting back money but sometimes it is executed in inhuman manner which discourages customers to take gold loan from any lending institutions.

The financial and market forces also play very important role in decision making process of customers. The outcomes of the study reflect that customers have not given much weightage but they try to seek the best alternative amongst the available option.

It is important to note that customers have shown their concern over the physical factor. I mean to say ambience and location of lending organization does not matter for them. It may be far from their native place or may be closer to their door.

From discussion and analysis, it can be inferred that lending institution must care about their image building of organization and also take care of their personnel behaviour.. Behaviour of staffs, Skill and knowledge also help in building image of the institution. These help in creating amicable and pleasant atmosphere in the organization. In other words, human touch should be given weightage in day to day routine work. In nutshell, customer relationship should be given weightage.

Thus, the lending institution should concentrate on customer services and simplicity of procedure of advancing gold loan to customer and repayment flexibility may give a new horizon to the institution. If penalty is relaxed then more and more customers may be attracted for getting loans against gold. This implies that institution should be more human rather than mechanical.

**Bibliography**

* Muthoot finance corporation Annual Report 2011-12, “In Public Interest”.
* Nargundkar Rajender (2005), Marketing Research: Text and Cases, Tata McGraw Hill, New Delhi.
* Venkateswaran, N. 2012, “Indian Consumers towards Gold Loan Market”, Indian Stream Research Journal-Volume2, Dec.
* <http://www.investmentpaths.com/resources/3903-Procedure-availing-gold-loan-with-benefits.aspx>
* <http://www.manappuram.com/goldloan/>
* <http://www.muthootfinance.com/services/gold-loan.html>
* RBI, Draft Revisions to the Guidelines on Securitization Transactions
* <http://www.managementcanvas.iimindore.in/icanvas/index.php?option=com_content&view=article&id=137:arivazhagan-g-d&catid=41:new-business-opportunities&Itemid=57>
* <http://www.vitt.in/loans/gold.html>
* <http://www.census2011.co.in/census/city/299-indore.html>
* <http://en.wikipedia.org/wiki/Loan>

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**PUBLIC PRIVATE PARTNERSHIPSIN INDIA - CURRENT SCENARIO**

**(With reference to Infrastructure Sector)**

Dr. VidyaTelang\*

Dr. Vishakha Kutumbale\*\*

***Abstract***

*The Public Private Partnerships (PPPs) have emerged as a very feasible, viable, and growing mode of creating infrastructure for our country. Though public sector will continue to play a dominant role in building of infrastructure, the PPPs have enabled us to channelize private sector investment in infrastructure. Keeping in mind that our country is still starved of adequate infrastructure required for high level development, the opportunities for the growth of joint venture between both the sectors are huge and desirable. The anticipated percentage participation of the private sector in the twelfth plan is much higher than the eleventh plan. The Indian PPP scenario as it stands today presents an optimistic picture. However several bottlenecks and challenges have been encountered in PPP model development. Some of the major challenges also relate to regulation and availability of finance for the private sector. The Government of India on its part has been fully aware of the benefits that such partnerships can offer to our country and has been taking steps to remove some of these problems.The present study is an attempt to peek into the scope, future growth and risks that such partnerships may hold for our country.*

**Keywords**: PPP, Public sector, private sector, infrastructure, economic growth

**Introduction**

According to the National Public Private Partnership Policy 2011, a Public Private Partnership(PPP) means an arrangement between the government/statutory entity/government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being

made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the public entity and the private entity receives performance linked payments that conform (or are benchmarked) to specified and pre-determined performance standards, measurable by the public entity or its representative.   
The above definition broadly indicates that it is a limited period arrangement where a private sector entity provides a public asset or a public service which is traditionally provided by the government in return of some performance based payment.The focus is on a strong element of service delivery aspect and compliance to pre-determined and measurable standards to be specified by the Sponsoring Authority.

\*Dr. VidyaTelang is Assistant Professor for Finance at School of Economics, Devi Ahilya University, Indore, Madhya Pradesh.

\*\*Dr. Vishakha Kutumbale is also Assistant Professor in the area of Econometrics, Business Forecastingin the same University Teaching Department.

Address: School of Economics, Devi Ahilya University, Takshashila Campus, Khandwa Road, Indore, Madhya Pradesh, 452001

The liberalization and globalization of the economy in the 1990s boosted up our rate of economicgrowthasneverbefore.Thedecadesof1990sand 2000s saw us competing at a global level. However sustaining ourselves at a global level was and will always be a daunting task in as much that provision of adequate and essential infrastructure almost becomes indispensable to the economy. Also the rising industrial and tertiary sector activity exerted further pressure on the already insubstantial infrastructure.Hitherto considered an exclusive domain of the public sector it was soon recognized and acknowledged that due to the heavy investment (though it may have been within the reach of the public sector), long gestation periods and slow progress, the involvement of private sector was imperative and quintessential to build up the infrastructure deficit of our country.

With respect to the above introductory narration the paper aims to review the current situation of public private partnerships in the country with special reference to economic infrastructure which predominantly includes roads railways, power, ports, urban infrastructure and social infrastructure. An attempt has been made to study the growth, problems and opportunities available to the private sector to make further investments in this joint venture with the government.

**Literature Review**

According to*KarunendraPratap Singh* (2011) infrastructure modernization and development is said to be the key driver of all the growth and economic activity. The public sector itself is unable to meet the required funds and technology for the projects. This made the Government decide to collaborate with the private sector which could fulfil this requirement. Thus PPP emerged as a joint collaboration of the public and private sectors. Today the Indian infrastructure sector is at an inflection point and there are immense opportunities for the private sector. According to *Harun Khan* (2012) as Government faces a tight budget constraint inthe context of a rule based fiscal policy framework, it was important to encourage the private sector to invest more in the infrastructure sector. Resultantly, the Government started encouraging Public-Private Partnership (PPP) projects in the infrastructure sector. PPP mechanism provides built in credit enhancement for improving project viability by way of buyback guarantee, escrow arrangement, substitution rights for the lenders, etc. government has taken several initiatives, especially to standardize the documents and process for structuring and award of PPP projects. This has improved transparency in relation to the issues involved in setting up PPP projects. According to *Deloitte* (2013) private sector participation is seen as a bridge to funding the gap in a tight fiscal environment.

**The global PPP experience**

The PPP experience across the world has been largely successful. In United Kingdom the PPP movement gained momentum since the 1980’s and its major projects on a joint basis pertain to the field of education, health, defence, public housing, IT and transport. Till 2009 UK witnessed a success rate of 65% with the projects being completed in time and within the budgeted cost. In Australia the PPP projects are mainly centred around social infrastructure particularly health and education and based on their social needs they are expected to diversify further into water and energy. By the year 2016 the Australian infrastructure market is projected to procure investments to the tune of 101 billion US dollars from the private sector. In Brazil the PPP mode of creating infrastructure has existed for a very long time and most of its highways and railways have been constructed through the public private joint efforts. Moving towards the eastern countries Philippines also boasts about using the PPP mode of investment for creating infrastructure. Since 1987 the country has been able to successfully create traditional infrastructure like power, transportation and water as well as non-traditional infrastructure like information and technology, health and property etc. with the help of private investments. In all these countries the PPP mode of creating infrastructure is strongly and favourably supported by the country’s government through enactment of various Acts and establishment of regulatory and legal framework.

**Objectives**

The presence of strong and robust infrastructure is of utmost importance for the development of any country. The Indian economy since the advent of New Economic Policy in 1991 has been on a growth trajectory and it was absolutely essential to have supportive infrastructure to maintain and boost the pace of this growth. On the background of global PPP scenario and its acceptance as a successful model for building vital infrastructure the research study has tried to focus on the current status of Public Private Partnerships in India in the field of infrastructure. It is exploratory and descriptive in nature and makes an attempt at fact finding regarding the current status, growth and scope of public private partnership in India. No system, model or policy is without drawbacks. Thus the study also endeavours to locate the main problems faced by this model in India.

**Basis of Public Private Partnerships**

Some of the essential conditions to mark a public private arrangement are envisaged in the definition by the National policy on PPPs. Though each PPP contract is a unique one depending on the circumstances of the case, still each one of them is based on some inherent characteristics common to such contracts. However a few other conditions which are also desirable in a good and fair PPP are related to specifications about risk assumption, mode of payment, whether the payment would be through cash flows from the public sector based on performance or whether it would be charged from the consumers using the service, incentive and penalty based structures in the arrangement so as to ensure that the private sector is benchmarked against service delivery, identification of minimum technical specifications without affecting the possibility of innovation and specified time period for either transfer of the project or its implementation by the private sector entity.

**PPP and the current enabling environment in India**

Though the private participation can be related to some stray examples during the British era and early post-independence era the real PPP movement understood in today’s parlance commenced during the 1990s when electricity generation was thrown open to the private sector, licenses were granted to eight mobile circular telephone service operators followed by a significant amendment in 1995 in National Highways Act 1956to allow for private participation. But it was in 1997 when the Infrastructure Development Finance Company was set up that the movement got a fillip and also signaled the government’s seriousness to tap the private sector capital, management and expertise in the country’s infrastructure development.According to *VinayakChatterjee (2012)[[1]](#footnote-2),* today China’s economy may be four times that of India but India’s PPP market is ten times larger than China. In fact it could be the world’s largest PPP market.

The credit for these achievements should also be given to a right kind of enabling environment that was created in our country. Besides the above examples many new legislations were enacted post 1990 which made the environment in our country very conducive to public private participation. Various Acts like Electricity Act, 2003; the amended National Highways Authority of India Act, 1995; the Special Economic Zone Act, 2005; and the Land Acquisition Bill were passed and many new institutions like regulatory authorities in telecom, power and airports, implementing authorities like the National Highways Authority of India (NHAI), and financial institutions like the Infrastructure Development Finance Company, the India Infrastructure Finance Company etc. were also established. A number of innovative financial interventions like viability gap funding (VGF), annuity models and stimulation for availability of debt further encouraged the private sector to go in for infra investments via the PPP projects. The Planning Commission, the Department of Economic Affairs in the Ministry of Finance and the Prime Minister’s Office at the Centre and the significant capacity building by several states like Punjab, Gujarat, Maharashtra, Delhi, Karnataka and Tamil Nadu also played a very supportive and stellar role in “making PPP happen”.

**Impact of enabling environment on growth ofPPP projects**

The impact of the above mentioned enabling environment was soon visible on the Indian economic scenario with increased number of PPP projects and increased amount of investment in infrastructure projects. In fact during the last few years the country has been witnessing a galloping growth in the figures.

**Table 1: Growth in PPP projects and investment**

**Figures in INR Billion**

|  |  |  |  |
| --- | --- | --- | --- |
| Period | Approximate Infrastructure investments | PPP infrastructure investment | Estimated PPP % |
| 10th Plan | 9061 | 2252 | 25 |
| 11th Plan (Revised) | 20542 | 7429 | 36 |
| 12th Plan (Projected) | 40992 | 20496 | 50 |

***Source: Planning Commission projections of Investment in infrastructure during the Twelfth Five Year Plan***

Table 1 reveals the huge increase in the amount of investment under PPP projects in India during the period of 10th, 11th and 12th plan. From 25% during the 10th plan it has risen to revised estimate of 36% during the 11th plan and to projected 50% during the 12th plan. This shows that the efforts taken for creating an environment conducive for PPP in India have borne fruits and manifested themselves in terms of increasing private sector participation in infrastructure development.

**State wise Analysis**

**Table 2** State-wise Picture

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | As on 31st July, 2011 (Rs. in crores) | | | | | | |
| S.No. | State | Total No of Projects | Based on 100 crore | Between 100 to 250 crore | Between 251 to 500 crore | More than 500 crore | Value of Contracts |
| 1 | Andhra Pradesh | 96 | 1,484.6 | 2,197.8 | 7,062.3 | 56,173.7 | 66,918.3 |
| 2 | Assam | 4 | 54.0 | 337.2 | - | - | 391.2 |
| 3 | Bihar | 6 | 77.6 | - | 769.6 | 1,246.7 | 2,093.8 |
| 4 | Chandigarh | 2 | 75.0 | - | - | - | 75.0 |
| 5 | Chhattisgarh | 4 | 70.0 | 304.0 | 464.0 | - | 838.0 |
| 6 | Delhi | 13 | 95.0 | 109.4 | 738.2 | 10,374.0 | 11,316.6 |
| 7 | Goa | 2 | 30.0 | 220.0 | - | - | 250.0 |
| 8 | Gujarat | 63 | 304.1 | 2,013.2 | 4,138.9 | 33,181.0 | 39,637.2 |
| 9 | Haryana | 10 | 125.0 | 180.0 | 270.0 | 10,588.1 | 11,163.1 |
| 10 | J and K | 3 | - | - | - | 6,319.8 | 6,319.8 |
| 11 | Jharkhand | 9 | 131.0 | 550.0 | 398.0 | 625.1 | 1,704.1 |
| 12 | Karnataka | 104 | 1,080.4 | 1,942.6 | 13,136.3 | 28,499.6 | 44,658.9 |
| 13 | Kerala | 32 | 338.7 | 206.3 | 1,235.0 | 20,501.5 | 22,281.5 |
| 14 | M P | 86 | 1,977.6 | 3,930.3 | 3,397.2 | 5,678.3 | 14,983.4 |
| 15 | Maharashtra | 78 | 742.3 | 2,988.4 | 2,433.7 | 39,427.6 | 45,592.0 |
| 16 | Meghalaya | 2 | - | 226.1 | - | 536.0 | 762.1 |
| 17 | Orissa | 27 | 235.1 | 211.0 | 1,473.0 | 11,430.6 | 13,349.7 |
| 18 | Puducherry | 2 | - | - | 419.0 | 2,947.8 | 3,366.8 |
| 19 | Punjab | 29 | 732.8 | 1,552.7 | 572.0 | 705.0 | 3,562.5 |
| 20 | Rajasthan | 59 | 633.9 | 783.8 | 1,100.8 | 12,508.8 | 15,027.3 |
| 21 | Sikkim | 24 | 175.6 | 558.0 | 2,669.0 | 13,708.0 | 17,110.6 |
| 22 | Tamil Nadu | 43 | 267.9 | 355.6 | 8,905.2 | 9,100.0 | 18,628.6 |
| 23 | Uttar Pradesh | 14 | - | - | 1,458.6 | 25,137.2 | 26,595.8 |
| 24 | Uttarakhand | 2 | 43.0 | - | 478.0 | - | 521.0 |
| 25 | West Bengal | 30 | 638.0 | 965.7 | 1,714.4 | 3,299.1 | 6,617.1 |
| 26 | Inter State | 14 | 160.5 | 195.0 | 2,474.4 | 6,738.0 | 9,567.8 |
|  | Total | 758 | 9,471.9 | 19,826.9 | 55,307.5 | 298,725.8 | 383,332.1 |

***Source:*** [*http://www.pppindiadatabase.com*](http://www.pppindiadatabase.com/)*, P P P, India database, Dept of Economic Affairs, Ministry of Finance, Govt of India*

From the above Table2 we can see that at the end of July 2011, the total number of PPP projects being undertaken in the country is 758. The state of Karnataka is leading with the maximum number of 104 PPP projects followed by Andhra Pradesh 96, Madhya Pradesh 86, Maharashtra 78, Gujarat 63 and Rajasthan 59 and Tamil Nadu 43. On the whole the South Indian states have undertaken more PPP projects than other parts of India.

With reference to the value of contracts, it is Andhra Pradesh which has the highest amount of contracts followed by Maharashtra, Karnataka and Gujarat. Though the number of projects in MP is high their total value is comparatively lesser than other leading states. According to Table 2 the top leading states and their respective ranking is as follows:

**Table 3 Leading States in PPP and their ranks**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S.No. | State | Total No.of projects | % Number of projects | Rank | Value of projects | % in Total Value | Rank |
| 1 | Karnataka | 104 | 13.72 | 1 | 44,658.90 | 11.65 | 3 |
| 2 | Andhra Pradesh | 96 | 12.66 | 2 | 66,918.30 | 17.46 | 1 |
| 3 | Madhya Pradesh | 86 | 11.35 | 3 | 14,983.40 | 3.91 | 9 |
| 4 | Maharashtra | 78 | 10.29 | 4 | 45,592.00 | 11.89 | 2 |
| 5 | Gujarat | 63 | 8.31 | 5 | 39,637.20 | 10.34 | 4 |
| 6 | Rajasthan | 59 | 7.78 | 6 | 15,027.30 | 3.92 | 8 |
| 7 | Tamil Nadu | 43 | 5.67 | 7 | 18,628.60 | 4.86 | 7 |
| 8 | Kerala | 32 | 4.22 | 8 | 22,281.50 | 5.81 | 6 |
| 9 | Uttar Pradesh | 14 | 1.85 | 9 | 26,595.80 | 6.94 | 5 |

***Source: Self-generated***

Table 3 indicates that there is an asymmetry between the number and value of projects in all the states. Though Karnataka is leading in the total number of PPP projects at rank 1 followed by Andhra Pradesh at rank 2, in terms of value it is Andhra Pradesh at rank 1 which is leading followed by Maharashtra at rank 2. Even though Uttar Pradesh is ranked at number 9 in terms of number of contracts but it is at rank 5 in terms of value. Similarly in terms of number of contracts, Madhya Pradesh is ranked at number three but it is at rank 3 in terms of value. On the whole all the four states of South India are into PPP projects.

Keeping in view the need for infrastructure development as a key to real economic development many states have taken initiating efforts to boost up the infrastructure development climate in their respective states. They have come up with specific incentives and concessions for private sector investments related to infrastructure. Karnataka aims to establish itself as a role model as far as infrastructure development is concerned. Therefore it has undertaken many projects related to township development, waste management, tourism, energy, industrial infrastructure, agricultural infrastructure, education, healthcare, etc.

**State-wise % Number of projects**

**State-wise % value of contracts**

Madhya Pradesh has a large number of PPP projects for road development mainly. Its other projects include development of special economic zones (SEZs), water supply, city bypass, mobile medical units, bus stands, etc. Similarly the regulatory measures

**Sector wise Analysis**

**Table-4 Sector-wise Picture (Rs. in crores), as on 31st July, 2011**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sector-wise | Total Number of Projects | Based on 100 crore | Between 100 to 250 crore | Between 251 to 500 crore | More than 500 crore | Value of Contracts |
| Airports | 5 | - | - | 303.0 | 18,808.0 | 19,111.0 |
| Education | 17 | 424.2 | 365.5 | 460.0 | 600.0 | 1,849.7 |
| Energy | 56 | 337.6 | 934.0 | 3,083.0 | 62,890.0 | 67,244.6 |
| Health Care | 8 | 315.0 | 343.0 | 275.0 | 900.0 | 1,833.0 |
| Ports | 61 | 86.0 | 1,745.3 | 4,304.8 | 74,902.1 | 81,038.2 |
| Railways | 4 | - | 102.2 | 873.0 | 594.3 | 1,569.6 |
| Roads | 405 | 4,364.6 | 11,696.5 | 38,520.5 | 122,143.3 | 176,724.9 |
| Tourism | 50 | 1,132.6 | 1,503.5 | 800.0 | 1,050.0 | 4,486.1 |
| Urban Development | 152 | 2,812.0 | 3,136.9 | 6,688.2 | 16,838.0 | 29,475.0 |
| Total | 758 | 9,471.9 | 19,826.9 | 55,307.5 | 298,725.8 | 383,332.1 |

***Source:*** [*http://www.pppindiadatabase.com*](http://www.pppindiadatabase.com/)*, PPP, India database, Dept of Economic Affairs,Ministry of Finance, Government of India*

**Table 5 Sector-wise share in Total Number of Projects and Total value of Projects**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sector-wise | Total Number of Projects | % of Total projects | Rank | Value of Contracts | % of Total Value of Contracts | Rank |
| Airports | 5 | 0.66 | 8 | 19,111.00 | 4.99 | 5 |
| Education | 17 | 2.24 | 6 | 1,849.70 | 0.48 | 7 |
| Energy | 56 | 7.39 | 4 | 67,244.60 | 17.54 | 3 |
| Health Care | 8 | 1.06 | 7 | 1,833.00 | 0.48 | 7 |
| Ports | 61 | 8.05 | 3 | 81,038.20 | 21.14 | 2 |
| Railways | 4 | 0.53 | 9 | 1,569.60 | 0.41 | 9 |
| Roads | 405 | 53.43 | 1 | 1,76,724.90 | 46.10 | 1 |
| Tourism | 50 | 6.60 | 5 | 4,486.10 | 1.17 | 6 |
| Urban Development | 152 | 20.05 | 2 | 29,475.00 | 7.69 | 4 |
| Total | 758 |  |  | 3,83,332.10 |  |  |

***Source: Self-generated***

and operational aspects of PPP model were well designed and executed in Gujarat which has led to its success in PPP sector.

**Sector-wise % of Total projects**

**Sector-wise % of Total Value of projects**

The sector wise figures of PPP projects reveal that the maximum numbers of projects are in the Road construction sector followed by Urban Development projects, Ports and Energy. The Roads construction sector accounts for 53.43% of the total projects and has rank 1 in terms of total number of projects and value whereas Urban Development Projects have 20.05% share with rank 2 in number of projects and 4th rank in terms of value. Eight Percent (8%) share of number of projects goes to Ports Construction and 7.39% to Energy sector. In terms of total value the share of Roads and Ports sector is 46% and 21% respectively with Energy and Urban development at 17.54% and 7.69% respectively. The sector-wise table 5 clearly indicates that the ranking in terms of number of projects and value is very different. One can see that the major share of projects belongs to the economic infrastructure. In terms of main types of PPP contracts, almost all contracts have been of the Build Operate Transfer (BOT)/Build Own Operate Transfer (BOOT) type (either toll or annuity payment models) or close variants.

**Opportunities**

It is evident from the figures and available data that the PPP sector in India is on a high growth trajectory. The success of this sector is also amplified by the interest taken by the government to boost such partnerships. Since the global recession of 2008 coupled with rising inflation in India the mammoth amount of investment required in infrastructure projects has often put it out of bounds for any sector to operate alone. Besides the efficiency and management expertise provided by the private sector and the dearth of funds faced by the public sector, at times the latter also looks upon the private sector for investment input. As such opportunities for such projects are galore.

**Roads and Highways:**

India has a very wide network of 3.3 million kilometers of roads ranking second in the world. These roads carry 61% of freight and 85% of passenger traffic. The highways and expressways together amount to only 2% of the entire road network whereas they carry 40% of the road traffic. The Indian Government has been reported to spend around Rs.18000 crores on roads. The targets set for further investments in roads relate to developing 1000 km of expressways, developing 8,737 km of roads including 3,846 km of national highways in the North East, four-laning 20,000 km of national highways, four-laning 6,736 km on North-South and East-West corridors, six-laning of 6,500 km of the Golden Quadrilateral and selected national highways and widening 20,000 km of national highways to two lanes.

The National Highway Authority of India (NHAI) is the apex government body for implementation of National Highway projects in India which grants projects on the basis of competitive bidding through BOT mode. 100% foreign direct investment is allowed (FDI) under the automatic route in India with 100% income tax exemption for 10 years. Road construction is considered absolutely essential for India’s socio-economic development and serves the cause of national integration as well. The passenger traffic and the cargo traffic are both expected to increase at a rate of 12-15% and 15-18% annually. With such growth prospects plans are already in the pipeline to improve the road infrastructure and the sector is soon expected to embark on huge investments. The figures clearly point towards the huge opportunities available in the sector.

**Railways**

The Indian Railways is a completely transformed picture today. From a loss making entity it has been converted to a profit making entity. PPP projects in India are either taken up on the basis of domestic competitive bidding or on negotiated MOUs. However the projects under Railways are so huge that they can only serve as a supplement or as an extension to the already existing railway network. The rapid rise in international trade and domestic cargo has placed a great strain on the Delhi-Mumbai and Delhi-Kolkata rail track. With increasing containerization of cargo, the demand for its movement by rail has grown rapidly. Also so far, container movement by rail was the monopoly of a public sector entity, CONCOR. Today, the container movement has been thrown open to competition and private sector entities have been made eligible for running container trains.

As reported the Indian Railways is planning an investment of Rs.5.2 trillion during the Twelfth Plan (2012-17) out of which The Indian Railways Corporation is planning to invest Rs. 1 trillion. The remaining is expected to come either from internal generation or from PPP participation. The Railway Ministry is currently working out strategies for design and award of PPP projects and to obtain funding for the same. It has plans for awarding projects for setting up a locomotive and coach factory, construction of a special corridor for high speed rails, dedicated freight corridor and multi-modal Logistics hubs.

**Power**

Several efforts have been taken by the government to promote private sector participation in power and energy generation. Till now 56 projects amounting to 18% of total value of all PPP projects belong to the Power sector. The share of the Centre and the States in power generation in India is to the extent of 46% and 31% respectively. The remaining 23% is in the hands of the private sector. The involvement of the private sector is more related to thermal power generation through Build Operate Own (BOO) and BOOT projects.

Due to rise in population, increasing manufacturing activity and housing construction a very wide gap between the demand and supply of power is expected in the future. As per available database the total demand for electricity is expected to be more than 950 GW in India. With a projection of an investment of Rs. 171 billion in the power sector by the Planning Commission of India Rs. 60 billion is expected to come from the private sector. The future requirement for investment in power is around Rs. 300 billion[[2]](#footnote-3). For this purpose foreign direct investment under the automatic route is also being sought.

**Urban Infrastructure**

The creation of urban infrastructure is related to construction of urban roads, urban transport, water supply, sewerage, solid waste management, traffic support infrastructure, renewal and redevelopment of slums etc. The local municipal administration in cities and urban areas are in constant need of funds for carrying out these activities. The changing dynamics of Indian population and its migration towards and concentration in the urban areas has created a never ending demand for roads, water, proper sanitation, solid waste and garbage management and other civic amenities. The peculiar feature of urban infrastructure projects is that they are huge in number but comparatively smaller in value and which is why they are fancied by the PPP model. The government has already launched a scheme known as Jawaharlal Nehru National Urban Renewal Mission (JNNURM) for creating an enabling environment and providing incentives to the urban areas to engage in PPP projects. A PPP infrastructure fund is also proposed to be set up by the government to encourage PPP participation in urban infrastructure creation. However until now it has been felt that the key stakeholders do not have the capacity or knowledge to carry out such projects. In spite of this the scope of public private partnership contracts for urban development is tremendous.

**Ports**

The activity at ports was majorly dominated by the government in the past**.**With 12 major ports and 187 minor ports, the 7517 km long Indian coastline plays a pivotal role in the maritime transport helping in the international trade.The ports in India offer tremendous scope for international maritime transport both for passenger and cargo handling. The growth in merchandise exports is projected at 13% p.a. This underlines the need for large investments in the ports sector. During the next 7 years an estimated investment of Rs.60750 crores would be required under the National Maritime Development Programme (NMDP). The government has identified 276 projects for development of major ports and 64% of the proposed investment is envisaged from the private sector. The GOI plans to double the cargo handling capacity to 1.5 billion metric tonnes by 2012 which is again sought to be achieved through PPP model. The proposed plans include construction of jetties and berths, procurement and up gradation of port equipment, improvements in port connectivity etc. Large opportunities are also available for development of Minor ports too. Thus the prospects and potential of indulging in PPP contracts are huge.

**Airports**

There is a heavy demand for investment in the aviation infrastructure. Both passenger traffic and cargo traffic are expected to grow at a Compound Annual Growth rate (CAGR) of 15% and 20% respectively during the next few years. Currently the Indian private airlines like Sahara, Jet Airways, Spice jet and Kingfisher account for around 60% of domestic passenger traffic and to meet the international standards the government is focused on development and modernization of airports in the near future. Besides the big metro cities of Chennai, Kolkata and Trivandrum where a huge amount of investment would be dedicated, greenfield airport projects are also planned in resort destinations and emerging metros such as Goa, Pune, Navi Mumbai, Greater Noida and Kannur. Favorable demographics and rapid economic growth point to a continued boom in domestic passenger traffic and international outbound traffic. Moreover the flourishing tourism industry is also expected to give the much desired fillip to the aviation industry. The government through the ‘open sky policy’ and other such enabling measures is also trying to create a favourable environment for PPP investment in this sector.

**Building of Social Infrastructure**

While the building of economic infrastructure has been quite successful in public private partnerships, the same cannot be said about the social infrastructure. Therefore in these sectors particularly related to education and health, there is still a lot of scope for such partnerships. The figures given in the Table 4 and 5 clearly indicate that both in the number of projects and their value, education and health sector together have only 25 projects out of 758 projects with a combined percentage share of 0.96% in value and are therefore lagging behind with a place at the bottom end of the ladder in PPP participation.

**Problems, Challenges and Risks in PPPs**

The PPP sector in India is still new and recent. To gauge the effects and impact of any economic phenomenon, a passage of a minimum time period is imperative. Only then and then can meaningful conclusions be drawn. As said earlier the public private partnerships in India are only 12 to 15 years old (or new) and a major part of activity on those grounds has actually taken place during the last 7 to 10 years. Apparently the reports and reviews which have come out about the PPP sector in India point towards the positive stance taken by the economy towards such partnerships.The enabling environment created by the central and the state governments to harness the private sector investments in such projects hasgenerated a very conducive environment for such partnerships.Yet there are some instances and cases where the PPPs have not been an outright success. The literature and the particular case studies on the subject reflect that most of the problems that have been encountered and experienced in these have emerged along the way and the fact remains that these problems could not be envisaged or imagined by both the parties at the time of entering into the contract. PPPs are long term in nature and this fact makes it more vulnerable to bottlenecks. It is because more the time involved, greater is the probability of a problem cropping up.

The formulation of every PPP contract is unique. No two PPP contracts are the same. It is thus ***difficult to standardize*** a PPP format. This is due to the fact that the parameters used in structuring of PPP cannot be the same every time and therefore a PPP can differ on various grounds such as the nature and type of infrastructure required, the sector involved, the model adopted etc. The stake of the Central and State governments and the revenue, responsibility and risk sharing in the project are circumstantial and are likely to vary from one contract to another. Thus apart from sharing of the construction of the infrastructure by the public and the private sector which can be on technical and financial grounds nothing else can be standardized for such partnerships.

According to a research article ‘How to improve PPP projects in India: learning from the past’[[3]](#footnote-4), any PPP project has to mainly pass through four main phases of project preparation, project procurement, project development and operations. Careful handling, planning and clear cut demarcating lines of work are required at every stage. The framing of contracts can define only the formal mechanism of fulfilling the contract. However it is difficult to incorporate steps and solutions to circumstantial issues which may crop up while the project is underway in a PPP contract.

Currently there is no ***PPP regulation*** in India. Since the whole concept of public private partnership is quite new in our country, enough thought has probably not been given to this aspect. However the National PPP Policy 2011 draft has been put up for further suggestions and comments. The above problem of non-standardization of PPP contracts can to some extent be taken care of by creating an independent regulatory PPP body. This may lead to a better and more robust participation by the private sector and also attract more international funding.

It has been felt that with regards to PPP projects the ***tendered projects are oftenunviable***. This has been particularly felt in the national highways sub-sector. The unviability arises because of project planning beyond the scope of the bidders, insufficient viability gap funding and increased risk to the provider because of certain terms in the concession agreement.

One of the most discussed problems related to PPPs is the ***lack of transparency***. Though a lot of effort has been made to increase transparency during the bidding process and award of contracts, people in general seem to nurse this grouse of non-transparency in PPPs which is certainly not without reason. The entire process of creating a PPP arrangement is very long and ridden with a lot of formalities. There have been many cases where the private party has gained undue political favours from their public sector counterpart making the whole process seem dubious. The problem of lack of transparency is also extendable to user based projects in which case the entire contract smells of some sort of underhand nexus or collusion between the government and private sector. This is mainly true in case of user charged projects such as road construction. In such projects the toll tax is charged from the users of the road and the public at large is kept in the dark as to the date of commencement of the charge, date of expiry for such charges, the right amount to be charged, the date of handing over the project to the government etc. This is because no such information is available at the toll tax points.Since the travelers are more or less in ahurry and the amount charged is also not unduly large, these problems go unreported and at times conveniently unnoticed. Though the magnitudeof the problem is not very huge, one does feel the pinch of the tax. Thus this kind of a problem is not just restricted to being a PPP contract problem but would also fall in the jurisdiction of the Consumer’s Act as the toll tax is ultimately being borne by the user of road services. In particular context of India, this lack of transparency has often resulted into violence in some states like Maharashtra.

A problem which has come to the forefront is regarding project preparation. Many projects ***lack diligent studies and technical research***. Project plans are of poor quality and lack attention to details. This creates problems related to scope changes and variations during project execution. Actually what may appear feasible on the paper in black and blue may practically be ridden with lots of problems at the time of actual launch and progressof the project. Many a times due to improper and wrong estimations, the project gets delayed ***causing cost and time overrun***. Usually the tasks related to ***land acquisition and other mandatory clearances*** lie with the government. This is because the government due to its authority and position is able to accomplish these things better. On the other hand the technical and operational part of the project is handled by the private sector. Case studies reveal that delays are caused mainly due to problems encountered in acquiring land and making it available to the private sector. This delay causes further time and costoverrun making the project unviable as far as revenue generation is concerned. Global best practices suggest that land acquisition should be complete before the project is tendered and awarded. However in India figures suggest in most of the cases that only 30% of the land is actually acquired when the project is awarded. The delay in land acquisition is held as the single largest factor responsible for dismal faring of PPP projects in some cases and the most prominent reasons for this are the undervaluation of land price, dependence on the government authority and ambiguous definition of unencumbered land.[[4]](#footnote-5)

Coupled with the above delays several other kinds of approvals from External Finance Committee, Public Investment Board and Cabinet Committee for Economic Affairs etc.are also required for PPPs. These relate to the administrative and ministerial levels of the government. However in India the government agencies suffer deeply from the concept of ***timelessness.*** Also no one on an individual basis is ever held accountable for any lapse.In case of PPPs, efficiency in performance and sticking to time schedule should be made the joint responsibility and accountability of the government as well as the private sector.

Another problem which is encountered has been the non-adherence to the ***moral code of conduct.*** It should be remembered all the time that for the public sector creation of infrastructure whether economic or social is a priority for the government with a social welfare motive also. While for the private sector it is just another business proposition. Even if the social objective is implied it will follow only after its primary objective of generating returns has been achieved and it can and never will be the other way round.

To make long things short, problems and bottlenecks are felt at almost every stage of PPPs right from conceptualization, planning, execution and implementation. Finding solutions to these problems is again a very time consuming process as the sectors involved are themselves characterized by their very divergent objectives of revenue maximization and social benefit. Moreover ***vested interests and non-compromising attitudes of bureaucrats, administrators and local politicians*** create further man-made obstacles causing the projects to languish.

It has been lately felt that ***funding of PPP projects*** is going to appear as a major problem in the future. Private sector is largely dependent upon the commercial banks for funding and debt and most of these banks have already reached their sectorial exposure limits. The infrastructure project companies are already in a highly leveraged condition in India and as such further availability of finance would not be easy.

From the above table it can be seen that there has been a huge increase in the funding of infrastructure PPP projects in India. From 1128 INR billion in 2006 it has risen up to INR 5266 billion in 2011. The average growth in funding during this period is around 35.70%. Most of the financing for infrastructure is in the sectors of

**Table: 5 Commercial lending by Banks in India**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Financing Amount (Rs. in billion) | Increase | % Increase |
| 2006 | 1128 |  |  |
| 2007 | 1433 | 305 | 27.04 |
| 2008 | 2051 | 618 | 43.13 |
| 2009 | 2699 | 648 | 31.59 |
| 2010 | 3798 | 1099 | 40.72 |
| 2011 | 5266 | 1468 | 38.65 |

***Source: Self-generated (Figures of financing taken from Handbook of Statistics, RBI 2010-11)***

Power, Telecommunication and Roads and Ports.According to RBI Annual Report 2010-2011, the share of infrastructure lending as a percentage of gross bank credit has increased from 2.2% in 2001 to 13.4% in 2011. However with significant number of infrastructure projects in the pipeline banks are finding it increasingly difficult to finance such projects.

Another off shoot of the financing problem is related to ***the asset liability mismatch***. This means that long duration infrastructure loans need to be financed by hort duration deposits. The infra loans have maturity and repayment schedules ranging up to even 15 years where as the deposits and borrowings of banks which are used to finance the same have much shorter maturities. This hiatus between the two creates an asset liability mismatch which if left unattended can result in liquidity problems. The above problems related to financing and funding will manifest themselves in the coming years and a fear is expressed that we may not be able to maintain the same pace of growth in PPP as we have achieved till now.

**Conclusion**

The rapid strides taken by India towards achieving economic growth have placed a lot of stress on its already limited infrastructure. The government of our country has become aware about this stark reality and has been striving to create an enabling environment for investments in infrastructure building in our country. The public private partnerships (PPP) have emerged as a very viable and possibly sustainable mode of creating the much needed infrastructure for our country. PPPs have been able to redefine the role of public sector as a facilitator and enabler whereas the private sector plays the role of a financier, builder and also the operator of the service or the facility. PPPs if implemented successfully can be rightly called an epitome of operational efficiency, innovative technologies, managerial effectiveness and access to additional finances. Rather they help to combine and draw upon the best features of public and private sector to render services of international standards.However the picture is thornier than it appears. In spite of the success which the PPP model has met with in our country much is left to be desired. Along with the advantages of the PPP projects, the negativities have also surfaced in the forms of various bottlenecks and challenges. These need to be resolved with more focused attention and policy formulation by introducing more transparency, development of national sense and rising above vested interests.

**References:**

1. Ashwin Mahalingam, (2008) ‘PPP Experiences in Indian States: Bottlenecks, Enablers and Key Issues’ ASCE Journal of Construction Engineering and Management.
2. Clive Harris (March 2008), ‘India leads developing nations in private sector investment’ Gridlines-Note No.30
3. Delloite ASSOCHEM India (2013) ‘Funding the Infrastructure Investment Gap’.
4. FICCI (2012) ‘Accelerating Public Private Partnerships in India’ Earnst and Youngs
5. Harun R. Khan (2012) ‘Infrastructure Financing in India – Progress & Prospects’RBI (Speeches)Address -Indian Institute of Technology, Kharagpur on December 29, 2011)
6. India Infrastructure Report (ADB) (December 2008), ‘Criticality of Legal Issues and Contracts for Public Private partnerships’ Government of India, Ministry of Finance, Department of Economic Affairs, Position Papers and Workshop reports.
7. KarunendraPratap Singh (2011), ‘Issues and Prospects Of Public Private Partnership In India’ Zenith International Journal Of Multidisciplinary Research Vol.1 Issue 5, September 2011, ISSN 2231 5780
8. McKinsey & Company, Inc. (August 2009) ‘Building India - Accelerating Infrastructure Projects’
9. Mid-Term Appraisal, Eleventh Five Year Plan (2007-2012)**,** Planning Commission, Government of India

**Web References:**

1. [www.pppindiadatabase.com](http://www.pppindiadatabase.com/)
2. <http://www.ibef.org/download/India_Infrastructure.pdf>
3. articles.timesofindia.indiatimes.com
4. [www.dnb.co.in/infrastructure2008](http://www.dnb.co.in/infrastructure2008)
5. [www.mbaskool.com/businessarticles](http://www.mbaskool.com/businessarticles)
6. academiceventplanner.com/LEAD2009
7. [www.projectsmonitor.com](http://www.projectsmonitor.com)
8. www.zenithresearch.org.in 244
9. www.deloitte.com/in

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**The Problem of Higher Education in India: Solving it through Engaging the Corporate Sector**

Dr. R.P. Singh\*

*Abstract*

*The higher education system of India today faces a kind of trilemma of reconciling the issues of expansion, its cost and the required level of quality. A NUEPA study says that the target of increasing the enrolment rate to 30% by 2020 ( from the current rate of 14%) would need an annual investment of around five lakh crore rupees—about five times the current expenditures. The Govt of India on its part has, over the last decade or so, taken some steps to increase the number of higher educational institutions. New IITs and other technical institutes of national level have been created. Some new central universities have come into existence, while some state universities have been upgraded to the central level. But the problem of inadequate level of financing is being increasingly felt as an impediment in the work of developing proper infrastructure, both physical and human.*

*To meet the rising demand for higher education in the country, a large number of private higher educational institutions have sprung up over the years. They have caused concern among the academicians and other stakeholders of Indian higher education, as most of these “self financing” private institutions are grossly below the mark of credible places of quality teaching and learning.*

*To tide over the problem of under-funding, some government-formed committees have come up with their views. The Narayana Murthy Committee, constituted under the chairmanship of N.R. Narayana Murthy, the founder of Infosys Technologies (which submitted its report in January 2012) has favoured roping in the Indian corporate sector as partners in the various vital initiatives to be taken in the field of higher education. Although one can’t suggest a mechanical copying of the American system, it would be worthwhile to look at what the US has achieved through the voluntary financial contributions from the corporates there.*

**Keywords**: Higher, Education, Expansion, Quality, Cost, Corporate.

**Introduction**

It has now become a clichéd consensus to repeat and hear at every conceivable forum that India urgently needs to take effective steps in the direction of solving the burgeoning problems of higher education. In fact, no one can disagree over the fact that we have to do much more to add to the number of higher educational institutions, enhance and ensure access to higher education and improve its quality. But this consensus becomes very contentious when one begins to seriously ponder over the problem of how to reconcile the scale of the required expansion, its costs and the quality of education that will be achieved.

This problem presents, in actual terms, a fundamental *trilemma* in which the government has the realistic autonomy to choose only two of the three goals, and the third immediately begins to stare in its face as a

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Asstt. Professor of English, Govt Nehru PG College, Dongargarh, Rajnandgaon -491 445 (Chhattisgarh) e-mail: [rp.singh310@gmail.com](mailto:rp.singh310@gmail.com)

bigger problem. To straighten the issue, if it proposes to keep a check on costs and improve quality, then it cannot expand at the required rate of rapidity;if,on the other hand, it wants to

expand the coverage and control costs, then quality will suffer. And if the goals of expanding the coverage and improving quality are acted upon, costs will threaten to hit up through the roof leading to the ‘mundane’ but critical question: *from where* *will come the money*? In today’s world almost all governments are face to face with this problem; but in the case of our country it is more acute because of the very rapid and uneven expansion of the higher education system (to fulfil the rising demand for higher education) and the existing quality of this education. The National University of Educational Planning and Administration (NUEPA), on the basis of its study in this regard, has suggested that the target of increasing the enrolment rate to 30% by the year 2020 from the current rate of 14% (or from 2.06 crore to around 4.15 crore students) would need an annual investment of about five lakh crore rupees---approximately five times the current expenditures. The net conclusion is ‘that just 20% of the expansion in technical education and 50% in general higher education would be in the government sector, while the remaining 80% in technical education and 50%in general education would be done by private players’( Kapoor : 2 ).

**Objective**

This paper tries to argue that the difficult heads of the above- suggested *trilemma* of higher education in our country, i.e., the scale, costs and quality cannot be satisfactorily reconciled except through a well calibrated participation of the private providers of higher education. It critically examines the prevalent mode of such participation and suggests that the ‘American model’ should guide us on this path.

To give the argument a contextual grounding, it would be germane to have a brief look at the prevailing situation of demand expansion and the consequent supply response in the field of higher education in the country.

**Discussion**

There are some visible drivers of the rapid expansion of Indian higher education. More than 30% of our population is below the age of 15 and the annual entry to the age group of 15-24 years is of more than five million people. The implication of this huge demographic momentum for higher education is that the number of seekers of higher education is, and will be, on a spiral. This demographic bulge has seen the expected explosion in the growth of primary education getting boost partly from the Sarva Shiksha Abhiyan and partly from the mushrooming private schools. Equally expectedly, this explosion is moving ‘downstream’ to the secondary level and the tertiary level. The sheer growth of the Indian economy, with its sharply rising demand for people with knowledge and skills, is in itself a factor which drives the expansion of Indian higher education. The demographic and economic factors have caused major changes in the aspirational make-up of the Indian population, and these changes have massively triggered the demand for higher education.

We witness the related supply response at both the government and the private levels. The Govt of India made the commendable effort to expand the supply of national level higher education institutions through its two bills introduced in parliament in 2008---The Institutes of Technology Bill, and The National Institutes of Technology (Amendment) Bill. Through these the country got eight new IITs (plus the conversion of IT-BHU to an IIT) and five new Indian Institutes of Science Education and Research (IISER) as institutions of national importance. It is another matter that these new IITs have not yet been able to acquire the requisite infrastructure, physical and human, to properly pass the test people expect it to pass. We recently read in newspapers that one of these (IIT Bhubaneswar) operates from eight different locations. More than 750 IIT-JEE qualified candidates refused to join their allotted institutes, its prime reason being ‘the palpable lack of confidence in the new IITs’ (TOI, Mumbai, 11.07.2013). With the same concern to increase the number of higher education institutions, the central government opened some new central universities and upgraded some state ones to the level of central universities. The lack of infrastructure and funds in these institutions also is a visible cause of concern and sadness. To act at the supply front in an admirably inclusive way, the government introduced a scheme to set up model colleges in 374 educationally backward districts where the GER (Gross Enrolment Ratio) for higher education is less than the national average. Here the central government would incur one third of the capital investment, or one half in respect of special category states. This scheme has not fructified upto the desired level of satisfaction.

Another very important legislation to address the supply shortage of good institutions for higher education was The Foreign Educational Institutions (Regulation of Entry and Operations) Bill 2010. It has not yet got the parliamentary nod, and has generated much heated debate among the various stake holders of higher education. As the situation obtains now in this regard in the country, foreign universities have not the permission to directly offer their own degree programmes.But they collaborate with Indian institutions through various mechanisms. One estimate says that around 140 Indian institutions and 156 foreign ones were engaged in 225 academic collaborations at the beginning of 2010. The quantum-wise distribution of such collaborations was about a quarter in management and business administration, 22% in engineering and 20% in hotel management. These are largely with the non-affiliated private institutions located in Maharashtra, Delhi and Tamil Nadu, and most of the foreign providers are from the UK and US (Business Standard, Mumbai, Feb, 25, 2010).

It is obvious from the hectic legislative actions of recent years that the government is cognizant of the need of expanding higher education institutional network. It can be said to the credit of the government that the charge of not doing anything is untenable because unfounded on facts. Some policy and legislative steps have borne fruit; some others are stuck in procedural quagmires. What is heartening is that every government action has raised vigorous debates among academicians, students and the concerned citizenry. We have seen a spurt of ruthless, but quite necessary, wholesome and salutary, analyses of the government’s proposed regulatory frameworks like the National Council of Higher Education and Research (NCHER) and the proposed legislative plan to bring in foreign universities.

The government does not suffer from any scheme paralysis, but it definitely suffers from funds crunch. In this respect, unfortunately, the education sector is jinxed right from the beginning of our journey as an independent nation. In one of his statements of reply in the Lok Sabha (June 16, 1952) Maulana Abul Kalam Azad, our first union minister for education, described the problem of lack of adequate finance for education as *asli girah* (the biggest knot) that did not allow the yarn of the government’s well thought-out educational schemes to spread out on the plains of actual implementation. A portion of his poignant statement, given in his inimitable *Hindustani*, is worth- quoting in this discussion of the problem of finance for higher education in India:

Jab tamaam schemein taiyar ho gaeen to maloom hua ki aage kadam badhaane ka rasta band hai. Kyon rasta band hai ? isliye ki har scheme ko amal mein lane ke liye rupye ki jaroorat hai aur rupya nikal nahin sakta (Narang:211).

(When we finished the job of preparing all the schemes, we came to know that the way forward for their implementation was closed. Why? Because the implementation of every scheme needed money, and we had no money).His point was that the available revenues in the country were small. After providing for the public investments in agriculture, industry, infrastructure, defence and administration, the government had meager funds left to spend on education.

Over the last decade or so the government of India formed some committees as its efforts to cut this *asli girah*. The first such committee was constituted by the Prime Minister’s Council on Trade and Industry whose “Report on Policy Framework for Reforms in Education” (popularly known as the Ambani-Birla Report, as it was prepared by the committee headed by the industrialists Mukesh Ambani and Kumarmangalam Birla) was much discussed and criticized for its recommendations towards the introduction of the ‘user- pay’ principle and the establishment of private universities. The report’s strong inclination towards the privatization of higher education had its intended effect. Coupled with the economic reforms, a number of factors over some last years have come together to take the Indian higher education system toward some major shifts whose dominant tenor is privatization of this system. There has been tremendous growth in the number of higher educational institutions. Taking cue from the policy-level efforts of the central government, many state governments of the country went for granting permissions to start such universities. This growth has raised the concern of many academicians because only a few of such universities prove themselves up to the mark of credible institutions engaged in the serious business of teaching and learning. A large number of them are rightly decried for being notorious in their lack of physical and human infrastructure. The case in this regard of Chhattisgarh was, a couple of years ago, an illustrative topic of national discussion. Here, within a short span of time, about one hundred private universities started their academic ‘business’, but after a Supreme Court of India judgment had to pack off. After the undeserving were weeded out, at present only two private universities--- MATS University, Raipur and Dr. C.V. Raman University, Kota, Bilaspur are functioning in this state. In India as a whole, during 2006-11, the number of private universities went up from 73 to 101 (GOI2012: 94). By way of a generalised comment on the higher education scenario that prevails in our country, we can sum it up through the remark that the system which was in the recent past predominantly public has now become a mixed public-private system. The balance tilts toward the private because such institutions account for 58.5% of enrolments in the country (ibid: 100). In India we find that private higher education is provided by a variegated array of bodies/trusts and individuals--- from corporate companies and religious organizations to politicians, hoteliers, realtors and liquor barons (Subramanian2010).The cause of concern is that the reach and distribution of the private higher educational institutions across the country are not evenly balanced , as most of them are concentrated in urban areas and access for the education-seekers with low income level is a naggingly serious issue. What makes the concern all the more serious is the fact that a majority of such institutions subscribe to the logic of ‘education as an industry’ and their prime goal is to make profit. A very perceptive and widely read commentator in this regard remarks, ‘While there has been a huge influx of private higher educational institutions, few impart skills and training of any quality. The supply of higher quality skills and training by private providers is occurring not within private colleges but rather within firms…A Nasscom-Evalueserve analysis shows that, on average, IT-ITeS companies spend $1.2billion on training with the top five Tier-1 vendors spending nearly $450million (around Rs. 2080 crore) to train 130,000 engineers hired in 2008-09. India’s largest IT services like TCS and Infosys have set up campuses investing more than any single investment by the Indian government in an institution of higher learning.(Kapoor: 3)

The moot point is---Will the entry of more and more private education providers into the Indian higher education system ensure the solution of our twin problem of equity and quality? For the present, the answer is discouraging. A very recent report (TOI,Mumbai, June24,2013) of an employability survey done by an employability solutions company, The National Employability Report by Aspiring Minds, is a barometer of what our higher education system produces. The company conducted a computer adaptive test on 60,000 Indian graduates, assessing them on communication skills in English, computer knowledge, analytical-cognitive skills and basic knowledge of accounting. Their field-wise employability percentage was : sales and customer services—16%,IT services and IT operations—13% and 16% respectively, corporate communication or content development—just 2 %, analysis and accounting—only 3% and 2% respectively, teaching—15% ;and the highest score (just over one third of the surveyed lot) was in clerical jobs—36% . We must ensure an encouraging answer for the future; but that would not be an easy task if we refuse to change drastically our present style of the growth of private higher educational institutions. Nor can the question be brushed under the carpet. It is too pressing to be ignored. We know that the demand for higher education in the country is estimated to go up at a compounded rate of 11-12 per cent till 2022. This would entail the creation of an additional capacity of two crore six lakh seats over the next decade, needing obviously, more institutions. One can easily imagine about the problem of enhancement of the quality of higher education we shall have to face in the near future which is actually a part of our not so assuring present.

The Indian government, in its wisdom, has proposed some major policy changes and actions emanating therefrom to meet this colossal challenge. The proposals for higher education in the draft of the 12th Five-Year Plan (which was placed before the National Development Council in its meeting held on December 27, 2012) envision the corporate sector as an integral part of the higher education system of the country. We find in the draft document a clear recommendation for allowing for-profit institutions in the field of higher education, of course with the provision of necessary regulatory arrangements. Some other related far-reaching proposals in this regard are: to tax the for-profit institutions and utilize the collected tax revenue for large-scale scholarship programmes; to allow the institutions to raise funds from bonds or shares; to allow new private institutions to be established under Section 25 of the Companies Act; and to extend ‘infrastructure status to the higher education sector with the implied financial and tax treatment (GOI 2012:100). These are radical proposals if viewed against the situation obtaining until a few years ago in which educational institutions in our country could be established only by trusts, societies and charitable organizations. This rule was changed last year to allow the companies coming under Section 25 of the Companies Act to run professional programmes. Thus, a small legal opening has been done to make running an ‘operate and manage’ model legally acceptable. The larger acceptable idea hovering in the policy and planning atmosphere is to expand this model into the entire spectrum of the higher education system of India.

The above proposals in the draft of the 12th Five-Year Plan are the result of the recommendations contained in the report on Corporate Sector Participation in Higher Education given by the committee which was constituted in January 2012 under the chairmanship of N.R. Narayana Murthy, the founder of Infosys Technologies. The committee, in recognition of the urgency of the issue and the seriousness of its mandate, gave its report in nearly five months. It said in a no-nonsense manner that the sustenance of the economic growth momentum of the country needed world-class higher education which will ensure its future competitiveness vis-a vis the other leading economies of the world. Upon identifying this key prerequisite for our future economic strength, the Narayana Murthy committee argues quite convincingly that we have been unable over the years to address the key issues of faculty shortage, weak physical infrastructure, unaccountable and unaccredited higher educational institutions, very poor academic standards resulting into a severe quantity-employability mismatch, etc. Echoing the NUEPA estimate about the cost to be incurred on the various higher education initiatives demanded by the expansion of the higher educational network, the committee notes that

- ‘(a) the government cannot meet such large higher education demand with the limited public resources, and (b) the government must find innovative and newer avenues for funding, promoting research and upgrading quality’ (GOI 2012: ii). The focus of this committee’s recommendations is on three core areas--- how to create and sustain an enabling environment to attract investments, how to get corporate support for research and faculty development, and how to bring in corporate investment for existing institutions and for creation of new institutions and knowledge clusters. It will not be relevant for the purpose of this article to go into the details of the recommendations about each of these core areas. But two facts must be mentioned here. One, this committee was not dominated by the corporate or privatization-of-higher education enthusiasts in the government and academia. It had twenty one members who were individuals from a wide range of organizations like the Planning Commission, government departments, Indian Institute of Science (IISc), Bangalore, Indian Institute of Technology (IIT), Indian Institute of Management (IIM), Oil and Natural Gas Commission (ONGC), National Thermal Power Corporation (NTPC), National Association of Software and Services Companies (Nasscom), National Innovation Council, Tata Sons, and Azim Premji Foundation. Secondly, after its acceptance by the government and its official release by the Planning Commission on May 8, 2012, the first steps on the path of the implementation of its recommendations have already been taken with the constitution in July 2012 of a task force under the chairmanship of Narendra Jadhav, Member,

Planning Commission

The NMC recommendations are a solidly calibrated road-map for making the corporate sector an integral partner in the pursuit of the all-important national goal of ‘excellence with equity’ in higher education. But again the moot point is---will the Indian corporate sector, especially the privately owned companies, come forward equipped with the proper level of seriousness and commitment to the objectives elaborated admirably in these recommendations, This question has its importance of relevance considering our present context of the commercial model of the private sector participation in higher education through “self-financing” institutions. It is certain now that the post-NMC report higher education landscape of India will see an increase in the role of business houses; but, to give the benefit of doubt to the private sector, one yearns for the clarity about how the proposed changes will not end up making the new higher educational institutions ‘business ventures’ like the present day self-financing ones. This lurking fear is context-born because, as we see, most of the private institutions ‘adopt undesirable practices and they are illegally born to do legal activities, and/or legally born to do illegal activities’ (Singh 1983, quoted in Tilak and Varghese 1991).It is no surprise that the proposal for an increase in the private sector participation in higher education raises the concerns of many scholars and policymakers.

It is undeniable that the above-referred to trilemma of the Indian higher education system can be resolved through the increased participation in it of the corporate and business houses as suggested by the Narayana Murthy Committee. But the condition is that they enter into the system with ethical and social obligations. In other words, a revolutionary way out from the present context of profit-driven private investment can be found through the actual implementation of the idea of Corporate Philanthropy which can be simply understood as the action of voluntarily donating by a corporation a portion of its resources to a societal cause, in this case higher education. In this connection, we are a country with an inspiring past but a depressing present. In the pre-independence period the big Indian business houses like the Tatas, Birlas and Thapars took splendid philanthropic initiatives to establish prestigious higher educational and research institutions. The Indian Institute of Science (IISc), Bangalore, the Tata Institute of Fundamental Research (TIFR), Mumbai, and the Tata Institute of Social Sciences (TISS), Mumbai were established by the Tatas. The Birlas gave us the Birla Institute of Technology and Science, Pilani, and the Thapar group advanced the cause of Indian higher education through establishing the Thapar University at Patiala.It was through voluntary donations that the institutions like the Aligarh Muslim Univesity, Banaras Hindu University,Jamia Millia Islamia and Annamalai University were established during that period. In the year 1950 the net share of the private philanthropy in the public higher educational institutions of India stood at as high a level as 17% (Kapoor and Mehta 2004 :26). Viewed against such splendour of the pre-independence era, it looks very surprising that the Indian higher education sector has been able to receive minimal philanthropic attention from the large corporate houses in the post-independence period. It is true that in recent years we have seen an increase in such philanthropy (Azim Premji University and Shiv Nadar University are notable examples), the culture of corporate philanthropy is still weak in the country. It has resulted into a situation in which a large number of private entrants have shown their ‘edu-preneurship’ in the area of establishing self -financing institutions where high tuition fees are charged. Such institutions are not socially conscious as they do not have seats for the economically challenged sections of our society.

Two or three years back, there was much debate and discussion among Indian academicians when some of India’s business elites voluntarily donated large amounts of money to foreign institutions. Ratan Tata gave $50 million to the Harvard Business School, Anand Mahindra contributed $10 million towards his sponsorship of study of the Humanities at Harvard, and Narayan Murthy donated $5 million to the Clay Sanskrit Library at Harvard. Tata’s gift was acknowledged as ‘the largest international donation in the university’s 102 year history’. The topic of the debate was why the foreign universities benefit from Indian generosity while the Indian universities remain under- funded. One hopes that after the government goes with the right spirit in the direction of creating and sustaining an enabling environment for corporate involvement in higher education, a bright future will dawn upon our universities and research institutions.

The United States of America has remarkable examples of corporate participation in the expansion, and upgradation and maintenance of standard of higher education there, which can work as an answer to some of the problems faced by our higher education. A mechanical reproduction of the American practices into the Indian system will not necessarily be fruitful for us; but we must have a serious look at what have been achieved there through the active corporate involvement in higher education. What has been achieved there in terms of enrolment ratio, spending on higher education, university rankings,etc is for all to see. In these achievements the major role of the voluntary donors and contributors is frequently underlined by the observers of the American higher education and research. According to one estimate, the US has around fifty nine thousand grant-providing foundations with a combined asset of $399 billion (Clotfelter 2006:213).These foundations keep the universities and research institutions in a financially sound health, the purpose, achieved to a very large extent, being to make them academically vibrant, progressive and innovative. Establishment of new institutions and of new institutes within the existing private and public institutions of higher education, commissioning of study programmes in various areas of human knowledge and entrepreneurship, and provision of grants for institutional support are some of the tasks that the American corporate donors love to perform. India with over 30 companies with annual revenues of over $5 billion and 48 billionaires has great potential for corporate participation in finding the solution of the problem of under-funding of its higher education.

**Conclusion**

The need of qualitative expansion of our higher education sector cannot be overemphasized, but it is not easy to mop up the required cost at the government level. We have to urgently find a way out of this logjam. If it is not done, the crude and ruthless economic dynamics will have the field for its free play. Its ugly glimpses are visible. Simply stated, the dual pressure generated by the rising demand for education and the profit-seeking exploitative supply response to this demand will play havoc with our present and future as a nation and society. It is time now to go for ‘Americanizing’ the Indian Higher Education system in a calibrated manner.

**References**

1. Clotfelter, C.T. ‘Patron or Bully: The Role of Foundations in Higher Education’ in Ray Bachetti and Thomas Enrlich (ed.) *Reconnecting Education and Foundations: Turning Good* *Intentions into Educational Capital*. New York: John Wiley and Sons Inc, 2006.
2. GOI (2012) ‘Twelfth Five-Year Plan 2012-17 (Draft), New Delhi: Planning Commission.
3. Kapoor, Devesh. ‘Addressing the Trilemma of Higher education’, *Seminar* 617, January 2011
4. Kapoor, Devesh and Pratap Bhanu Mehta. ‘Indian Higher Education Reform: From Half-Baked Socialism to Half-baked Capitalism’,CID Working Paper no. 108, September 2004, Centre for International Development, Harvard University.
5. Narang, Gopichand. ‘Lok Sabha mein Maulana Azad ka bayaan’in *Urdu: Readings in* *Literary Urdu Prose*. Delhi: NCPUL, 2007.
6. Singh, Nirmal. *Education under Siege*. Delhi: Concept, 1983.
7. Subramanian, T.S. (2010), Engineering First’ Frontline, 27,www.frontlineonnet.com
8. Tilak, Jandhyala BG and N.V. Varghese. ‘Financing Higher Education in India’, *Higher Education*, 21(1):83-101, 1991.

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**India’s Planning Experience: Unraveling the Truth of Sustainable Development**

**Dr. Arun Prakash\***

***Abstract***

*Third World in general and India in particular is facing multiple and intensifying crises of development and environment. The process of development has immensely damaged our environment. Makers of modern India visualized a developed nation through implementation of Five Year Plan. Evening out of regional disparities in development was its major objective. Increasing agricultural output, laying foundation of industry, providing social infrastructure and eradication of poverty were the area of focus. But today the mood in the country is of great disenchantment. Social crisis has deepened, inequalities have increased, and unemployment has become chronic. Time has come when sustainability in development has to enter in our planning process.*

*Chhattisgarh has emerged as an important industrial state. Iron and steel, thermal power, aluminium and cement contribute quite impressive in the national total. However, industrial development has led to massive air, water and land pollution causing numerous environmental problem and health challenges at local level. Industrial pollution has become a matter of grave concern in a very short span of time. Consequences of industrial development are rapid increase in the demand of water to the plants, displacement of native communities, emergence of shanty areas in towns, haphazard mining and destruction of natural vegetation, dumping of solid waste at open space and disposal of toxic fluids into water bodies and fields etc. which collectively cause grave damage to the environment. Present paper is an endeavour to evaluate the consequences of industrial development on the environment of Chhattisgarh.*

**Key Words :** Five Year Plan, BIMARU state, development and growth, [carrying capacity](http://en.wikipedia.org/wiki/Carrying_capacity), manufacturing, rural poverty, ecological catastrophe.

**Introduction**

Third World in general and India in particular is facing multiple crises of development and environment and seemingly, both the crises are intensifying. As against the wishes of makers of modern India, there is no end of the problems of persistent inequality, poverty and unemployment. Mounting concern of deteriorating environment has made scenario of development further gloomy. Many environmental problems, especially related to air and water pollution have become less severe in industrialized nations because of the introduction of highly capital-intensive pollution control technologies, but these problems have continued to grow and become critical in the developing countries. No doubt, the process of development has immensely damaged our environment.

The term 'sustainable development' became significant in 1987 when it was used in the

[*Brundtland Commission*](http://en.wikipedia.org/wiki/Brundtland_Commission) report entitled ‘[Our Common Future](http://en.wikipedia.org/wiki/Our_Common_Future)’. The commission defined sustainable development as ‘development that meets the needs of the present without

Assistant Professor of Geography, Govt. K H College, Abhanpur

compromising the ability of future generations to meet their own *needs*.’ It is concerned with the [carrying capacity](http://en.wikipedia.org/wiki/Carrying_capacity) of [natural systems](http://en.wikipedia.org/wiki/Systems_ecology) affecting the social and economic challenges faced by modern humanity. The UN’s 2005 world summit outcome document referred economic and social development and environmental protection as interdependent and mutually reinforcing pillars of sustainable development.

Sustainability is used to describe as equilibrium with ecological support systems. Experts generally accept the principle of [*The Limits to Growth*](http://en.wikipedia.org/wiki/The_Limits_to_Growth) and [*steady state economy*](http://en.wikipedia.org/wiki/Steady_state_economy) to address concerns over the impacts of expanding human development or anthropogenic activities. The concept of sustainable development has three domains: environmental [sustainability](http://en.wikipedia.org/wiki/Sustainability), [economic sustainability](http://en.wikipedia.org/w/index.php?title=Economic_sustainability&action=edit&redlink=1) and [social](http://en.wikipedia.org/wiki/Society) sustainability. Now cultural and institutional sustainability or [good governance](http://en.wikipedia.org/wiki/Good_governance) is also accepted as the vital sign for sustainable development.

**Planning in India**

Independent India inherited a fragmented, backward and stagnant economy deeply rooted in medieval economic system and painfully, oblivion of its own traditional wisdom. Makers of modern India visualized a developed nation through implementation of ambitious Five Year Plan. Poverty was the biggest challenge and smoke was considered as a sign of prosperity. FYP was an attempt of the managers of political economy of free India to achieve economic development within the framework of liberal parliamentary democracy. Evening out of regional disparities in development within the Indian Union was one of the main socio-economic objectives of the FYPs. Increasing agricultural output, laying foundation of industry, providing social infrastructure and eradication of poverty were the area of focus. However, disparity cropped up quickly. In the yearly years of implementation of the plan, A.T.A. Learmonth observed that in practice the trend has been for the developed areas to become more developed and the backward area fall farther behind1. As a matter of fact, globally this trend has been similar or stronger under a free enterprise economy. The aims of FYPs have proved so far little more than a pious hope. After the execution of eleven FYPs serious debate has begun about its pros and cons and its achievement so far and the new Modi government is planning to revamp it in the form of somewhat a think tank.

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D.K. Rangnekar, a noted commentator on economy noticed a radical shift in the focus of political discussion and ambivalence on economic matters in early 1970s. He has written in his book *Politics of poverty* that ‘Inequalities have increased, unemployment has become chronic and the gain of years of sacrifice and investment has been cornered by ill-deserving power-hungry groups and elements which had no integrity and sense of social responsibility’.Manufacturing in particular gave way to real estate, finance, banking, defense, administration, hotels, transport and communication, all representing the lifestyle of the elite classes. Industry and services contribute today more two-third the national income as compared with a mere 5 per cent or so before Independence in 1947 which shows marginalization of primary activity and concerned people.

The increased poverty of a larger proportion of population is an important manifestation of the complex dualism between the growing importance of the commercial sector and the lingering poverty of the farm sector. The system operates in favor of the landlords, traders, moneylenders and the political managers. Today the mood in the country is of great disenchantment. Social crisis has deepened, inequalities have increased, and unemployment has become chronic. Recent report of IDFC Foundation states that rural poverty has increased in the northern and eastern states. It is increasing in Jharkhand, Bihar, Assam, Odessa, Chhattisgarh, MP and UP, says the report2.In 1993-94, nearly 50 per cent of India's rural poor lived in these states. This figure rose to 63 per cent in 2009-10 and 65 per cent in 2011-12, says the report, adding that the states with higher cases of rural poverty also have higher cases of severe poverty. It says that the poverty is markedly high among SC and ST in the rural areas. More than half of the ST in Madhya Pradesh, Maharashtra and Jharkhand, and nearly 70 percent in Bihar and Chhattisgarh are poor. Several studies, including those by the UN, showed that the performance of the *BIMARU* states affected the GDP growth rate of India. Some of these states are also a part of so called Red Corridor. Ashish Bose says that mere GDP growth is not enough. He insists that Development is a continuous process; sustained effort is required on so many fronts3

**Sustainable Development**

The post-independence political debate in India has centered on two major issues: equity and growth. The environmental concern has added the third dimension of sustainability. India’s biggest challenge today is to identify and implement a development process that will lead to greater equity, growth and sustainability. In the process of development a lot of environmental problems cropped up in India posing serious question mark on it. In late 1970s sustainable development became such a major issue in India that in 1986 the president of Indian Science Congress said that time has come when sustainability in development has to enter in our planning process as one of the basic and permanent objective.4 The urgency led to the establishment of National Council of Environmental Planning and Coordination in 1972 and the ministry of Environment and Forest in 1985. Scores of rules and regulation were formulated by the ministry encompassing almost all environmental issues but their implementation remained unfulfilled due to lack of political will. As a matter of fact environmental issues were never included in the manifesto of political parties. Pollution- air, water, land and noise-is more than obvious through the country. Construction work on ecologically sensitive zone is going on unabated despite objections from experts and local communities.

Recent tragedy of Uttarakhand was one such catastrophic example of reckless development work where dams are synonymous with development. The [National Institute of Disaster Management (NIDM), in one of its first reports on the Uttarakhand floods](http://www.indiaenvironmentportal.org.in/reports-documents/report-visit-alaknanda-valley-uttarakhand-himalaya), has blamed climatic conditions combined with haphazard human intervention in the hills for the disaster.5According to the famous environmentalist Anil Agrawal, there is a major problem with this entire range of activities and concerns: it does not appear to be based on a holistic understanding of the relationship between environment and the development process in this country. The programmes are ad hoc, without clear priorities, and there is too much of a policeman’s attitude. There is little effort to modify the development process itself in a manner that will bring it into greater harmony with the needs of the people and with the need to maintain ecological balance, while increasing the productivity of our land, water and forest resources.

**Industrial Development Of Chhattisgarh And Reduction In Agricultural Land**

Traditionally Chhattisgarh was known as the 'rice bowl’ of Madhya Pradesh but now it is emerging as an industrial state as it is endowed with vital mineral resources. Process of industrialization has initiated reduction in agricultural land rapidly. Official statistics reveal that reduction in agricultural land is 3.5 lakh ha. and in forest land it is 25000 ha. after the formation of this state in Nov. 2000. As a matter of fact, about 80 per cent people of this state depend on cultivation of which 76 per cent are marginal and small farmers. There are 37.46 lakh agricultural household of which 21.93 per cent are marginal and 8.31 per cent are small in nature. The number of family under the category of landless agricultural labour has now increased to 50 lakh. Land acquisition has been 94030.99 ha. for major industries,182380 ha. for small industries, 2000 ha. for industrial areas and 5602ha for New Raipur. Land has been acquired even where three crops are cultivated. For examination, in Jajgir- Champa district more than 7000 ha. land was acquired to construct a power plant. There is proposal to acquire795ha. land in Dagori (Bilaspur), 1730 ha. in Tilda and 1465 ha. in Lara(Raigarh). Compensation and rehabilitation programme of the state government has so far been under criticism.Government has modified land revenue act in favour of farmers. Industrialization is desirable as it provides employment, revenue and over all regional development. However, the transition is painful for the cultivators and residents who live near the plants.

Bhilai and Korba were famous industrial locations even before the formation of this new state but after that severalnew industrial centers have come up. Now Raipur and Raigarh are major industrial centers and Rajnandgaon, Bilaspur, Jagdalpur, Bhatapara, Tilda, Janjgiretc. are small centers. A big iron and steel plant is being set up at Nagarnar by Tata, in the vicinity of Jagdalpur. The major share of regional industry consists of iron and steel, thermal power, aluminum and cement whose contribution in the national total is quite impressive. State government has formulated new industrial and mineral development policies also. However, industrial development has always led to massive air, water and land pollution causing numerous environmental problem and health challenges to local community. Industrial pollution has become a matter of grave concern in a very short span of time. Consequences of industrial development are rapid increase in the demand of water by the plants, displacement of native communities, emergence of shanty areas in and around the towns, haphazard mining and destruction of natural vegetation, dumping of solid waste at open space and disposal of toxic fluids into water bodies and agricultural fields etc. which

collectively cause grave damage to the environment. Raipur, Korba, Raigarh and twin city of Durg- Bhilai are facing massive pollution.

**River Pollution and Problem of Fly Ash**

Rivers and water bodies are the lifeline of local people. But its sell to private industries is such repercussion industrial development that affects common man by encroaching common property resource. Rogdadam is one such example. Upcoming Nagarnar steel plant of Jagdalpur needs 6000 cusec meter water every day during its construction and in operation itwill consume 147120 cusec meter water every day. Water will be supplied from Indravati and Sabri rivers of Bastar. It will certainly affect local community adversely. Indravati is the lifeline of Jagdalpur as people depends on its water for potable and domestic uses. Water of Kelo river of Raigarh has been polluted due to dumping of fly ash. Hardly any power plants treat fly ash and local people are cursed to use polluted water in domestic uses. ESP (electro static precipitator) has been installed is all thermal plants and sponge iron factory but generally they avoid use of the sophisticated ESP in order to save expenses. Bhatagaon colliery of SECL discharges acidic water into Waak river. A strange and unfortunate norm of the CEPCB is to check level of pollutiononlytwice in a year if it is a big industry and four times if it is small..

Politicians and officials proudly projectChhattisgarhas the power hub of Indiaas the state produces 15000 MW electricity. Nonetheless, it produces 24 million tones of fly ash annually as a byproduct. Major power plants include NTPC (2600mw), CSEB West (1349mw), CBSE East (920mw), Lenco (600 mw), BALCO (810mw), NTPC Seepat (3000 mw), Jindal Power Plant (1000mw), GMR (1000mw) etc. There are 16 power plants in Raigarh district alone which collectively produce 48 lakh metric tons of fly ash. Huge heap of fly ash can be seen around the fallow land of Raipur, Korba, Raigarh etc. Only a little amount of it is used in making bricks. A very little amount is used in road construction and in dumping in abandoned mines. In a recent study Green Peace of India found that there are 21 power plants of above 1000 MW capacity in India’s 16 states which emits fatal fly ash causing death to 1.25 lakh people every year. Containing CO2, CO, SO2, N2O, led etc. the fly ash acts as a silent killer. The only solution is to use it in making bricks, cement and using it in road construction and promote geopolimer industry.

Local industries like sponge iron also produce it. Korba, Raigarh, Janjgir and Raipur are worst affected area in Chhattisgarh where heaps of fly ash is more than conspicuous. The data of CEA (Central Energy Authority) reveals that out of 175 million tones only 56.6 per cent fly ash is used in India. The ratio is still lower in Chhattisgarh where only about 27 per cent amount of it is used. NTPC had proposed the SECL (South East Coal fields Limited) to allow dumping of fly ash in its hollow and abandoned open cast mines which has been accepted now after a long delay. In fact autonomy and bureaucracy of such mighty company also poses problem in cooperation and solution. Now state government has asked PWD to use fly ash in the construction of roads and buildings. Unfortunately private builders cannot be asked to follow such regulations for which suitable law should be brought. Obviously, large amount of it is not used in our state which is a big challenge. Recently a proposal was mooted to build solar and wind mills on the artificial hills of fly ash in Korba.

Air pollution is a big problem in cities like Raipur, Durg-Bhilai, Korba, Bilaspur etc. CEPCB (central environment pollution control board) has found 11.5 times increase in the air pollution of Ambikapur which is still very little industrialized.

**SWOT analysis** or SWOT Matrix is a structured [planning](http://en.wikipedia.org/wiki/Plan) method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a [project](http://en.wikipedia.org/wiki/Project) or in a [business](http://en.wikipedia.org/wiki/Business) venture. A SWOT analysis can be carried out for a place (micro, meso, and macro), product, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve those objectives. The technique is credited to [Albert Humphrey](http://en.wikipedia.org/wiki/Albert_S._Humphrey), of Stanford Research Institute ([SRI International](http://en.wikipedia.org/wiki/SRI_International)) in the 1960s and 1970s using data from [Fortune 500](http://en.wikipedia.org/wiki/Fortune_500) companies. The degree to which the internal environment of the firm matches with the external environment is expressed by the concept of [strategic fit](http://en.wikipedia.org/wiki/Strategic_fit). Setting the objective should be done after the SWOT analysis which would allow achievable goals or objectives to be set for the organization or space. Strengths represent the characteristics of the business or project that give it an advantage over others. Weaknesses represent characteristics that place the team at a disadvantage relative to others. Opportunities represent elements that the project could exploit to its advantage. Threats represent elements in the environment that could cause trouble for the business or project.

**SWOT ANALYSIS OF CHHATTISGARH –**

**Strength**

Rich mineral wealth, natural vegetation and biodiversity, rich in thermal power, strong agricultural foundation, low population density and demographic dividend, low cost of land, connectivity to important centers of India, traditional handicrafts;

**Weakness**Poor economic and social infrastructure, illiteracy, unskilled manpower, poor healthcare scenario, people’s contentment, lack of ambition, career consciousness and awareness (local, national global trend), poor internal connectivity, landlocked terrain, less harnessing of agri and dairy sector, traditional customs and superstitions, poor entrepreneurship.

**Opportunity**

Potential power hub, tourism: unique natural landscape, habitat and community, traditional handicrafts and artifacts;

**THREAT**

Naxalism, dependency on freebies, son of soil concept, parochial perception for change, low level skill, unfavorable political economy, pseudo groupismbased oncaste

**Conclusion**

There are two major pressure on natural resource. The first is generated by population growth leading to increased household demand for biomass resources for whichlocal poor community is always blamed. Second set of pressure is generated by the process of modernization, industrialization and penetration of the global cash economy which is seldom talked about. Industrialization is extremely destructive of the environment in its search for cheap biomass-based raw materials and in its search for cheap opportunities for waste disposal. Secondly, it is transforming the very character of nature. Commoditization of nature is not a hypothetical situation now. Nothing could be more important for planners and politicians today than to rebuild the nature. SWOT analysis of Chhattisgarh state offers immense opportunity of her sustainable development. Apart from having rich mineral resource (2nd position in India) and thermal power, its rich biodiversity and natural vegetation (44 per cent), strong agricultural foundation, low population density and demographic dividend, low cost of land connectivity, marvelous handicrafts etc. provides an inbuilt strength for robust development. Proper training of human resource, changed politico- economic perception and involvement of local community will make a new success story.

**References**

1. Learmonth , A. T. A. 1960, Regional Planning in India: Now or Never, *The Economic Weekly,* Jan,

2. Rural poverty increasing in some states, 2013. The Week, Thursday, September 26,

3. Saxena, Shobhan 2010, GDP growth is not enough, Nov 28, 2010, Times of India, Nov. 20,

3. Khoshoo,T.N., 1986, Environmental Priorities in India and Sustainable Development, Indian Science Congress Association, New Delhi, p.vii

4. Basu,[S.](http://www.downtoearth.org.in/author/2085), 1986, Uttarakhand disaster was result of extreme rains and haphazard development: report, Down to Earth, Jul. 15, 2013, p. 12.

5. Amanpath, Raipur, Aug., 18, 2014.

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**Ichthyo-Fauna Diversity in Mongra Barrage, Rajnangaon (CG) India**

Sanjay Thiske\*, Sunil Mondal\*\*

*Abstract*

*Study of Ichthyo-faunal diversity is related with variety of fish which is the chief source of protein. It is found in both fresh water and saline water. Mongra Barrage, Rajnandgaon District (C.G.), chosen for the study is fresh man-made lake which has been constructed on the river Sheonath, a tributary of Mahanadi. Survey was conducted in 2012. Result reveals that there are 32 Species of fishes belonging to 5 orders, 12 families and 24 genera. Of them, Cyprinidae is the most dominant group represented by 16 species. Other groups found are Siluridae with 2 species, Ophiocephalidae with 3 species, Bagridae 3 species, Mestacemballidae with 2 species, Saccobranchidae 1 species, Claridae 1 species, Centropomidae 1 species, Anabantidae 1 species, Gobiidae 1 species and Cichlidae 1 species. This study would be valuable to explore the fish fauna of Mongra Barrage and surrounding areas of the region.*

**Keywords**: Ichthyo-fauna, Mongra Barrage, Sheonath River.

**Introduction**

Water is essential for existence of all living organisms including of human beings. Among the all aquatic animals, fishes provide palatable protenious food for mankind. They constitute half of the total number of vertebrates in the world. They live in almost all conceivable aquatic habitats. Till today, 21,723 living species of fish have been recorded. Out of these, 8,411 are fresh water species and 11,650 are marine. In India there are 2500 species of fishes of which 930 live in fresh water and 1570 live are of marine origin.

Chhattisgarh is a land- locked country. Despite that, one finds a lot of fish varieties. This is because the presence of a big river likes Mahanadi that falls in to the Bay of Bengal. It has a number of tributaries; Sheonath River is one of them. All the fish variety of the state is of fresh water origin. In urban fish market, only a few major carps like *labeo rohit , catla-catla , cirrihinus mrigala, clarius batrachus, notopteurs , channa pouctatus , wallago attu, , tilapia, silver carps and grass carps* are seen . But in the markets located in the tribal areas, a lot of unknown fish varieties have been reported. But no record/literature is found on this aspect. This amply indicates that there is an urgent need to have a systematic study of fish verities found in this area. Keeping this in mind, the present study has been taken up.

**Objective**

Introduction states about objective the study. But it needs its listing. This keeps the study centralized around a definite theme. This study sets the following objectives

* To know family-wise fish composition in the study area.
* To find out the level of fish diversification.

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\* Asst. Professor of Zoology, Govt. Digvijay Auto. PG College, Rajnandgaon.

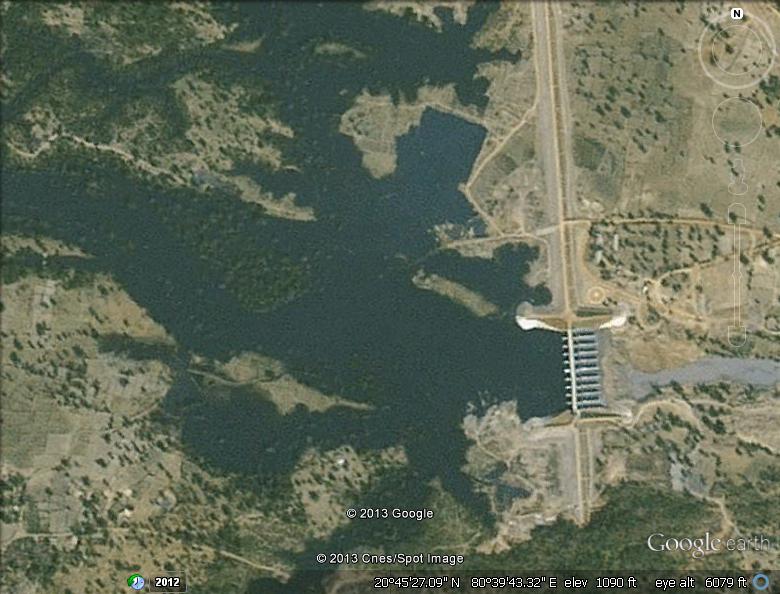
\*\*Lecturer, Panchayat, Govt. H.S. School Chilhati, Rajnandgaon, C.G.

**Material and Method**

Fishes were collected from storage water of Mongra Barrage for a period of one year (from Jan 2012-Dec 2012).They were collected by hand-nets and cast- nets with the help of local fishermen. Collected fish samples were preserved in 4 per cent formalin and identified Fishes of India by Day, F**.[1]**1958 and Talwar**[17]**(1991) and Jhingran**[6](**1983), Jayaram**[5**](1999). Present work has been conducted on four sampling sites of Mongra Barrage for the estimation of its fish diversity. Site 1 was fixed at near the Mongra village, site 2 near the village Munjal, site 3 was near Khadkhadi village and site 4 was fixed near Salhe village.

**Study Area**

Mongra Barrage is a fresh water reservoir. It is made on sheonath rivers and situated at a distance of 60 km south of Rajnandgaon city. It lies on Korchatola road about 10 km southwest of Ambagarh Chowki, from the tahsil headquarter. Geographically, it is located at 200 N. latitude and 800 39’ E of longitude. It is thus a tropical land which enjoys monsoon type of climate. The reservoir receives more than 80% rainfall during the south-west from june to September. it is surrounded by hills from two sides-north and south. Area of the reservoir covers 697 hectors of land. It is a multipurpose barrage; the local population depend on this water body for the two main purpose, irrigation and fish cultivation. Being located close to state highway Rajnandgaon- Chandrapur, it is easily reachable in all seasons.

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**Satellite Image of Mongra Barrage**

Mongra Barrage is situated in Ambagarh Chowki Tehsil of Rajnandgaon district. it has been made on Sheonath River near Mongra village.

The district has rich fish fauna and there is need to contemplate measures to protect the genetic resources. The main threat for the decline of various fish fauna may be due to indiscrimination fishing of juvenile, destruction of natural environment further deteriorating the situation and finally water pollution. Study henceforth has been contemplated to verify the fish Resources of Mongra Barrage.

Studies have been done on Ichthyofaunal diversity of various fresh water bodies in India during the last few decades Das S.K. **[2]** (2003), Sen**[15]**(1995), Sharma**[16]**(2007), shrivastva**[17]**(1991), (Jayaram**[4]** (1981), Jhingran**[6]** 1983, , Mishra**[9]** *et al*, 2003). However, scanty information is available from this region of India. Day**[1]** (1875), Muddana**[10]** (1971), Rajgopal**[14]***et al*. (1978), Mathew *etal* **[8].** (1979), Jayaram **[4]** (1981, 1999), Menon**[10]** (1999) Jhingran**[6]**(1983), Talwar**[17]** *et al*.,(1991), Kumar**[7]** (2001) 002), Goswami**[3]**(2006), Nanded. Kulkarni**[20]** *et al* (2008) studied fish and fisheries of Derala tank, dist.Nanded, Maharashtra. Rohankar (2009) studied biodiversity of fishes in Aheri Lake of Maharashtra. Ravindar**[21]** (2010) studied biodiversity of fishes in Dharmasagar reservoir, Warangal District, Andhra Pradesh. In the present study, the basic object to evaluate the freshwater fish fauna in the Mongra Barrage of Rajnandgaon District, Chhattisgarh.

**Composition of Species:**

The study reveals that a total of 33 species of primary freshwater fishes belonging to 12 families and 24 genera are found at the study sites(Table 1). Family cyprinidae of cypriniformes order constitutes about 50 per cent of the total fish species found during the study. It thus appears as the most dominant group in this area.

On the second place comes Bagridae and Ophiocephalidae of cypriniformes and Ophiocephaliformes which occupy a sizable percentage of 9.09 per cent each. Siluridae family of order cyprinifores also constitutes a little over 6 per cent, and thus is placed on fourth position. The remaining five fish species margenally share in the total fish population. Comparatively the study on fish diversity of North East India by umesh C. Goswami *et.a.l* **[19]** (2012) recorded 422 species belonging to 39 families. Ram Krishan Negi and Vishal Rajput**[13]** (2012) also studied on fish diversity of lake Bhimtal and Nanital during the observation respectively he recorded 15 species belonging to 10 genera, 3 families and 2 orders and total of 9 species belonging to 6 genera, 2 families and 2 orders. The fish diversity of Mongra barrage comparatively moderate condition.

**Table – 1: Family wise species composition**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Order** | **Family** | **No. of Fish Species** | **Species Composition %** |
| 1 | Clupeiformes | Notopeteridae | 1 | 3.03% |
| 2 | Cypriniformes | Cyprinidae  Siluridae  Bagridae  Saccobranchidae  Clariidae | 16  2  3  1  1 | 48.48%  6.06%  9.09%  3.03%  3.03% |
| 3 | Ophiocephaliformes | Ophiocephalidae | 3 | 9.09% |
| 4 | Perciformes | Centropomidae  Anabantidae  Gobiidae  Cichlidae | 1  1  1  1 | 3.03%  3.03%  3.03%  3.03% |
| 5 | Mastacembeleformes | Mastacembelidae | 2 | 6.06% |

Source: data collected by the author.

**Diversity of Fishes:**

Table 2 revels that about three dozen Fish varieties are found in the mongra barrage, a fresh water man- made reservoir. All these varieties have been grouped into four categories viz, abundance common, moderate and rare, based on the local fishermen’s netting observations. Of the four categories, the category of common species found in the barrage covers the largest share of 39.39%, i.e. two- fifths. The abundance category occupies the second position with 24.24%, which is closely followed by the rare category. Surprisingly, the least number of species are seen in the moderate category.

So far as the diversity of fish is concerned, table 2 amply demonstrates that mongra Barrage is rich in fish diversity. This diversity is more pronounced in terms of order of species in the rare category, while it is least diversified in the abundance category. Diversity of fish in terms of family more or less follows the similar pattern.

**Table – 2 Mongra Barrage: Diversity of Fishes**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Nature of abundance** | **IUCN Status** | **Order** | **Family** | | | **No. and Names of Genus & Species** | |
| 1. | A | LC | Perciformes | Centropomidae | | | *1* | *Chanda nama* |
| 2. | A | LC | Cypriniformes | Cyprinidae | | | *5* | *Catla catla (*Katla*),Labeo rohita(*Rohu*),*  *Puntius sarana(*Kotra*),Puntius sophore (*Jarhi kotri*),*  *Puntius ticto (*Jarhi kotri*)* |
| Siluridae | | | *2* | *Ompok bimaculatus (*Botia*), Wallago attu(*Padhan*)* |
| ***8*** | | | | | | | | |
| 4. | C | LC | Cypriniformes | Cyprinidae | | *6* | | *Cirrhinus mrigala (*Mrigal*), Garra gotyla(*Butuwa*),*  *Labeo bata(*Bata*), Labeo calbasu(*Kamach*),*  *Osteobrama cotio(*Chilati*), Oxygaster bacaila(*Sirangi*),*  *Rasbora daniconius(*Dadhai*)* |
| Bagridae | | *2* | | *Mystus vittatus(*Tengna*), Mystus oar(*Singi*)* |
| Clupeiformes | Notopteridae | | *1* | | *Notopterus notopeterus (*Patola*)* |
| Ophiocephali-formes | Ophiocephalidae | | *2* | | *Channa gachua (*Bijalwa/Bijru*),*  *Channa punctatus (*Khoksi*)* |
| Mastacembele-formes | Mastacembelidae | | *2* | | *Macrognathu aculeatus (*Jat bami*),*  *Mastacembelus pancalus (*bami*)* |
| ***13*** | | | | | | | | |
| 6. | M | VU | Cypriniformes | Cyprinidae | | | *2* | *Cyprinus carpio (*Komal carp*),*  *Ctenopharungodon idella(*Grass carp*)* |
| Perciformes | Anabantidae | | | *1* | *Anabas testudineus(*Koi*)* |
| Gobioidae | | | *1* | *Glossogobius giuris(*Khasadda*)* |
| 7. | M | LRnt | Cypriniformes | Clariidae | | | *1* | *Clarias batrachus (*Mongri*)* |
| ***5*** | | | | | | | | |
| 8. | R | VU | Cypriniformes | | Cyprinidae | | *2* | *Cirrhinus reba (*Borai*)*  *Hypophthamicthys molitrix(*Silver carp*)* |
| 9. | R | DD | Cypriniformes | | Bagridae | | *2* | *Mystus cavasius(Tengna), Mystus vittatus(Tengna)* |
| 10 | R | LRnt | Cypriniformes | | Saccobranchidae | | *1* | *Heteropneustes fossilis (*Singhi*)* |
| 11. | R | DD | Ophiocephali-formes | | Ophiocephalidae | | *1* | *Channa striatus (*Bhunda |
| 12. | R | DD | Perciformes | | Cichlidae | | *1* | *Oreochromis mossambicus(*Tilapia*)* |
| ***7*** | | | | | | | | |
| Total species | | | | | | | ***33*** |  |

Abbreviation: **A**: Abundant; **C**: Common; **M**: Moderate; **R**: Rare; **LC**- Least Concern, **DD**- Data Deficient, **VU**- Vulnerable, **LRnt**- Lower Risk Near

Source: Primary Data collected during January to December 2012

**Fig -1**

**Conclusion:**

The recent study resulted in recording of some important fish species threatened like Clarius bratacus and Heteropneustus fossilis. Fish diversity observation provide first is firs ever documentation of Ichthyofauna in the Mongra Bairaj in Rajnandgaon District, C.G. This study should open a new ways for incoming Ichthyofaunal research. It has recorded some important fish species which existence is threatened like Clarius bratacus and Heteropneustus fossilis.

**References**

1. Day, F. (1958): The fishes of India, being a natural history of the fishes known to inhabit the sea and freshwater of India, Burmaand Ceylon.,Test and atlas, 4 port London.
2. Das, S.K and Chand B.k (2003): Limnology and biodiversity of ichthyofauna a pond of Southern Orissa J.Ecotoxic. Environ. Monit. 13(2); 97-102.
3. Goswmi, T.K and M.M. Goswami (2006): Icthyofauna diversity and catch statics of Jasmalis method in Kamrup district of Assam, India.
4. Jayaram K.C (1981): “The Fresh water fishes of India’’ ZSI 1-438.
5. Jayaram, K.C.(1999): The fresh water Fishes of India, Hindustan publising corporation(India), Dehli.
6. Jhingran V.G: Fish and fisheries of India 1st Edn. Hindustan Publishing corporation, New Delhi. P. 660 (1983).
7. Kumar, D: Fish productivity of ecologically different ponds with references to carps and air breathing fishes. J. Inland Fish. Soc. India, 33, 8-16 (2001)
8. Mathew, P.M., B.K. Singh and D.P. Chakrobortthy: Stocking of fry in composite fish culture. In: symposium on Inland Aqaculture, CIFRI, Barrackpore.pp. 1-44 (1979).
9. Mishra, S., Pradham, P., Kar, S. and Chakraborthy, S.K. (2003): Ichthyofauna diversity of Midnapore, Bankura and Hooghly districts of South West Bengal. Rec. Zool. Surv. India. Occ. Paper 2220 : 1-66
10. Muddana, V: Fresh water fishes of Mysore state, their vernacular name , distribution, growth, breeding and fishery. Univ. Agric. Sci., Res. Series, Bangalore, India (1971).
11. Menon, A.G.K.(1999): Checklist of freshwater fishes of india. Z.S.I. Kolkata.
12. Mishra, K.S (1962): An aid to the identification of the common commercial fishes of India and Pakistan. Rec. India Mus.
13. Negi and Rajput / Research Journal of Biology (2012), Vol. 02, Issue 05, pp. 157-161 ISSN 2049-1727
14. Rajgopal K.V., Joseph , M.M. and James , P.S.R.B., 1978m. *A list of fishes of Karnataka, UAS Tech Series No. 18*, University of Agriculture Sciences, Bangalore, p. 50
15. Sen T.K., Fauna of Indravati Tiger Reserve, conservation area series. Zoological Survey of India, 6, 61-70 (1995)
16. Sharma H.S., Fresh water Fishes, In Fauna of Madhyapradesh, State fauna series, 15(10, 147-244 (2007)
17. Shrivastav G.J.,Fishes of Easter Uttar Pradesh, Vishwavidyalaya Prakashan, Varanasi (1991)
18. Talwar P.K and Jhinngran K.C., Indland fishes of India and adjacent countries, 3(1and 2) Oxford and IBH Co.Pvt. Ltd, New Dehli (1991)
19. Umesh C, Goswami , Sudip K. Basistha, Dilip Bora, KOnthoujam Shyamkumark, Bishnupriya Saikia and Kimneilam Changsan,. Fish diversity of North East India, inclusive of the Himalayan and Indo Burma biodiversity hotspots zones: A checklist on their taxonomic status, economic importance, geographical distribution, present status and prevailing threats international Journal of Biodiversity and Conservation Vol. 4(15), pp. 592-613, December, 2012
20. Kulkarni, M.Y., Kulkarni, A.N. and Somvamshi V.S (2008): A Study on some aspects of R
21. Ravindar.B. (2010): “Studies on the ecology and fish fauna of fresh water bodies in Warangal District” Ph.D., Thesis, Kakatiya University, Warangal, Andhra Pradesh

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**Cellulolytic Potentiality of Some Microorganisms**

**(A Case Study of Rice Mill Waste Water, Rajnandgaon (C. G.), India**

Dr. Pramod Kumar Mahish\*

***Abstract***

*Rice mills generate agro-industrial waste rich in organic compounds. Organic compounds present in waste water provide microbes to survive on it by degrading organic substances using secreted enzymes. In present work microorganisms were isolated from Rice mill effluent. Morphological growth characteristics of organisms were studied. Bacterium was studied for shape, gram, motility, pathogenicity and Endospore characteristics. Microbes were then studied for cellulolytic potency using agar plate method. During study microorganisms were found degrading the cellulose present in medium plate. The study concluded Rice mill effluent containing agro wastes are habitat for living of such microbes degrading cellulose in effluent. The microbes may utilize for quantitative estimation of cellulase enzyme and the microbes may reach the present industrial demand.*

**Key Words** – Rice Mill, Cellulolytic potency, Rajnandgaon, Industrial waste water

**Introduction**

Chhattisgarh is known as rice bowl of India due to high production of rice. Many Rice mills are working in Chhattisgarh to make rice to be edible. Rice milling is a process of removing husk and part of the bran from paddy in order to produce edible rice.

Parboiled rice production generally requires a large amount of water for soaking of the paddy. After soaking, the water is drained out. If this water is not properly treated could result in high levels of organic material present in rice mill effluent waste water (Amala and Ramanathan, 2013 and Manogari *et al.*, 2008). Due

to presence of high organic component it

is good habitat for surviving of microorganism. The microbes degrade organic compounds; it includes starch, cellulase and lignin also.

Cellulose is a linear polysaccharide of glucose residues with β-1, 4-glycosidic linkages. Abundant availability of cellulose makes it an attractive raw material for producing many industrially important commodity products. It utilizes in Fermentation, textile, food, biofuel, paper, medicine, laundry, composting (Sivaramanan, 2014). Cellulase enzyme system comprises three classes of soluble extracellular enzymes: 1, 4-β-endoglucanase, 1, 4-β-exoglucanase, and β-glucosidase. Endoglucanase is responsible for random cleavage of β-1, 4-glycosidic bonds along a

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**\*** Asst. Professor, Department of Biotechnology, Govt. Digvijay PG College Rajnandgaon

cellulose chain. Exoglucanase is necessary for cleavage of the nonreducing end of a cellulose chain and splitting of the elementary fibrils from the crystalline cellulose, and β-1, 4-glucosidase hydrolyses cellobiose and water-soluble cellodextrin to glucose (Shewale, 1982; Woodward and Wiseman, 1983). Microorganisms having the ability to degrade cellulosic compounds are of great importance from different biological and ecological point of view. The cellulose degrading ability of fungal and bacterial species has provided a broad platform for research in determining the physico-biochemical properties of these microorganisms as well as their use in different biotechnological processes.

The main objective of this work is to find out the celluloytic potential microorganisms from rice mill waste water of Rajnandgaon.

**Materials and Methods**

Rajnandgaon situated at 20.07" North to 22.29" North latitude and 80.2" East to 81.24" East longitudes is rapidly developing town of central India. The main economy is based on agriculture. Rice, soybean, sunflower are main crop. More than 10 rice mills are working in town and its surrounding. The climate condition of Rajnandgaon is almost same in town and surrounding and the procedure adopted by millers is also same in all rice mills, so one rice mill is selected for present study. The rice mill is located 06 Km from research center.

The effluent was collected in air tight sterile plastic bottle. PDA medium was used to isolate the fungi while NAM medium was used for bacteria. The slants of same medium were used to preserve the microbial culture at 4°C for further use. Peptone agar medium containing Carboxymethyl cellulose was used for study of cellulolytic potentiality of microorganisms,

The effluent was serially dilute to isolate microbes and pure culture was maintained in slant at 4°C for further use. The isolated bacteria was studied for shape using simple staining with Methelene blue, Gram staining, Motility using hanging drop, Pathogenecity using acid fast staining and Endospore staining with Malachite Green. The fungi were studied for its growth form, elevation, front and back color and margin. The microscopic observation was done by preparation of slide using Lactophenol cotton blue.

The isolated microorganisms were applied for ability of cellulase degradation using plate method as described in our previous work (Mahish *et al*. 2014). In brief, Peptone –agar medium was prepared with supplement of 0.5% Carboxymethyl cellulase (CMC). A bacterium was steak and fungi were grown at center of medium. A bacterium was incubated for 24hr at 370C and fungi were incubated for 7 days at 270C. After incubation period iodine solution (3.0% KI and 0.3% Iodine) was flooded on medium. A zone around microorganism confirms the cellulase degradation supplemented in growth medium.

**Results and Discussion**

The results of the present work focus to two areas, the characteristics of isolated microorganisms and observation of cellulolytic potentiality of microbes.

**Characteristics of Microorganisms**

The isolated bacterium was found coccus in shape, gram negative and non-motile. The bacterium was also found non pathogenic and non Endospore forming (Table 1). The fungus *Penicillium* sp. 1 was circular in growth form, moderate in growth rate, rough in surface and green front color. Similarly *Penicillium* sp. 2 was found filamentous in growth form, slow in growth rate, cottony surface and in light green color (Table 2).

**Cellulolytic potency of Microorganisms**

The isolated microorganisms were studied for ability to produce cellulase. The all organism were degrading cellulose present in medium. Bacterial sp. 1 and *Penicillium* sp. 1 shown high cellulolytic activity while *Penicillium* sp. 2 shown moderate cellulolytic activities (Table 3 figure 1).

The microbes isolated from industrial effluent may adopt on it for living by degradation of organic waste. The adaptation of microorganism and degradation of organic waste was done by secretion of some important enzyme by microbes; it includes amylase and cellulase (Mahish *et al.,* 2014). Cellulase play key role in degradation of organic waste pollutant produce by industrial waste water (Shaikh *et al*., 2013 and Khokhar *et al*., 2012). Agriculture wastes were also found to a good habitat for presence of microbes producing cellulase for degradation of waste (Sharma et al 2013, Naveenkumar and Thippeswamy, 2013)

Table 1 : Characteristics of Bacterium isolated from Rice mill Effluent

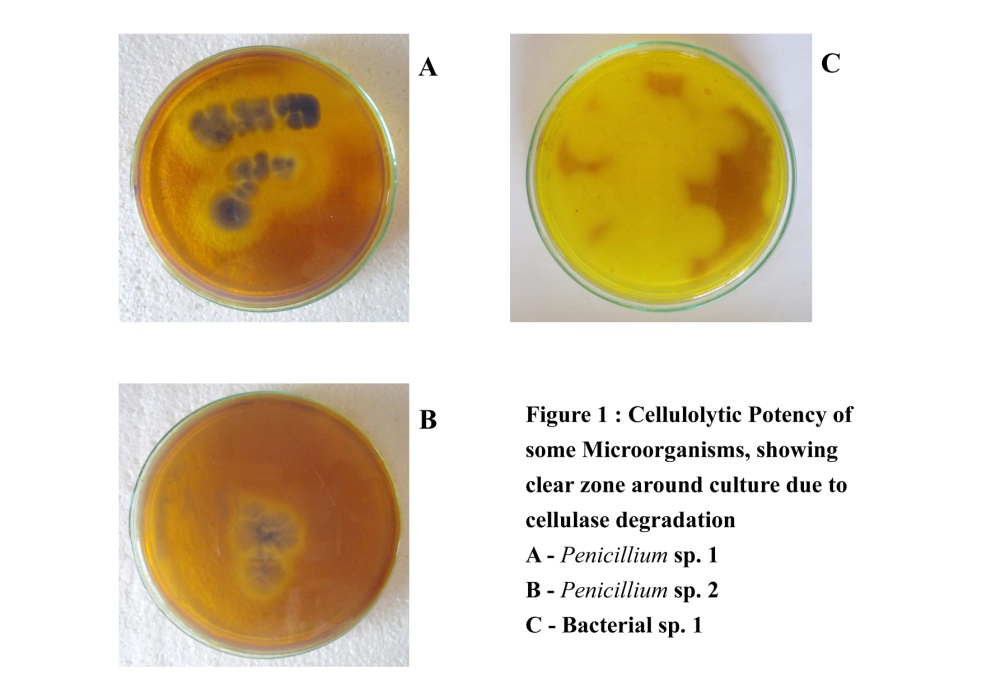
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.**  **No.** | **Organism** | **Shape** | **Gram staining** | **Motility** | **Pathogenicity** | **Endospore**  **formation** |
| 1 | Bacterial sp. 1 | Coccus | Negative | Non-Motile | Non Pathogenic | Non Endospore Forming |

Table 2 : Characteristics of some fungi isolated from Rice mill Effluent

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Organism** | **Form** | **Elevation** | **Front Color** | **Back color** | **Margin** | **Surface** | **Growth Rate** |
| 1 | *Penicillium* Sp. 1 | Circular | Raised | Green | Yellow | Entire | Rough | Moderate |
| 2 | *Penicillium* Sp. 2 | Filamentous | flat | Light Green | Light Yellow | Filiform | Cottony | Slow |

Table 3 : Cellulolytic potency of some Microorganism isolated from Rice mill Effluent

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Organism** | **Cellulolytic Potency** |
| 1 | Bacterial sp. 1 | +++++ |
| 2 | *Penicillium* Sp. 1 | +++++ |
| 3 | *Penicillium* Sp. 2 | ++ |

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**Conclusion**

The cellulase is industrial important enzyme used for various purposes like bioconversion and biodegradation. The microbial based production of enzyme is easy, cheap and ecofriendly approach. The isolation of such microbes is first step toward industrial practices. The microbes isolated in present work from rice mill effluent are cellulolytic potential. The microbes may utilize for quantitative estimation of cellulase and may reach the industrial demand of present need.

**References**

Amala, K. and Ramanathan, N. (2013), Formulation of Cost Effective Rice Mill Effluent Medium for the Mass Production of Single Cell Protein (SCP), *Indian Streams Research Journal,* 2 (12): 1-7.

Khokhar, I., Saleem Haider, M., Mushtaq, S., Mukhtar, I. (2012), Isolation and Screening of Highly Cellulolytic Filamentous Fungi, *J. Appl. Sci. Environ. Manage.,* 16 (3): 223 – 226.

Mahish, P. K., Tiwari, K. L. and Jadhav, S. K. (2014), Physiochemical and Microbial Studies of Paper Mill Effluent, Raipur (Chhattisgarh), India, *Banat’s Journal of Biotechnology*, 5 (9): 57-62.

Manogari, R., Daniel, D. and Krastanov, A. (2008), Biodegradation of Rice Mill Effluent by Immobilised *Pseudomonas* Sp. Cells, *Ecological engineering and environment protection,* 1 : 30-35.

Naveenkumar, K. J. and Thippeswamy, B. (2013), Isolation and screening of potential cellulolytic fungi from Areca nut husk waste, *Int. J. Curr. Sci*., 8: 125-132.

Sivaramanan, S. (2014), Isolation of Cellulolytic Fungi and their Degradation on Cellulosic Agricultural Wastes, *Journal of Academia and Industrial Research,* 2 (8): 458-463.

Sharma, H. K., Burnwal P. K., Dubey L. and Rao R. J. (2013), Optimization and Production of Cellulase from Agricultural Waste, *Research Journal of Agriculture and Forestry Sciences,* 1(7): 18-20.

Shaikh, N. M., Patel, A. A., Mehta, S.A., Patel, N.D. (2013), Isolation and Screening of Cellulolytic Bacteria Inhabiting Different Environment and Optimization of Cellulase Production, *Universal Journal of Environmental Research and Technology*, 3 (1): 39-49.

Shewale J. G. (1982), Glucosidase: its role in cellulase synthesis and hydrolysis of cellulose*, International Journal of Biochemistry*, 14 (6): 435–443.

Woodward and Wiseman, A. (1983), Fungal and other β-d-glucosidases: their properties and applications, *Enzyme and Microbial Technology*, 4 (2): 73–79.

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**Analyzing Human Activities Using Orange Computing**

**For Emotional Awareness**

Mohammed Bakhtawar Ahmed\* and Dr.Mohammed Imtiaz Ahmed\*\*

.***Abstract***

*Healthy mind has become an important factor along with the growth of country and technology. However, latest movements, such as green technologies, place more importance on environmental issue than on mental care. Therefore, this study presents a promising technology “orange computing” for mental care. Orange computing refers to health, happiness, and physio-psychological care computing, which emphasizes on designing algorithms and systems for improving body and mind coordination. The color of orange computing is derived from a harmonic combination of zeal, love, joy, and warmth. The system proposed can sense emotional states of users by analyzing their facial expressions, emotional speech, and laughter in an omnipresent environment. In addition, the system can provide equivalent feedback to users in accordance to the results. Experimental results prove that the system can attain an accurate audiovisual recognition rate of 81.8% on average, thereby signifying the practicability of the system. Compared with customary questionnaire-based methods, the proposed system can put forward real-time study of emotional status more efficiently.*

**Introduction**

During the past 200 years, the industrial revolution has caused a considerable effect on human lifestyles [1, 2]. A number of changes occurred [3] with the rapid growth of the economy and technology, including the information revolution [3], the second industrial revolution [4], and biotechnology development. Although such evolution was considerably beneficial to humans, it has caused a number of problems, such as capitalism, utilitarianism, poverty gap, global warming, and an aging population [1, 2]. Because of recent changes, a number of people recognized these crises and appealed for effective solutions [5], for example, the green movement [6], which successfully creates awareness of environmental protection and leads to the development of green technology or green computing. However, the green movement does not concentrate on body and mind balance. Therefore, a solution that is feasible for shortening the discrepancy between technology and humanity is of utmost concern.

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\*M.Tech. , Computer Science, MATS University, Raipur, Chhattisgarh, 492 001. E-mail: [Bakhtawar229@gmail.com](mailto:Bakhtawar229@gmail.com) ,

\*\*Deputy Librarian Pt.RavishankarShukla University, Raipur, Chhattisgarh, 492 010 ,

098932 70311 E-Mail: [imtiazexplores@gmail.com](mailto:imtiazexplores@gmail.com)

In 1972, the King of Bhutan proposed a new concept that used gross national happiness (GNH) [7] to describe the standard of living of a country, instead of using gross domestic product (GDP). The GNH has attracted considerable attention because it measured the mental health of people. Similar ideas were also proposed in other works. For example, Andrew Oswald advocated Happiness Economics [8] by combining economics with other research fields, such as psychology and sociology. Moreover, a book entitled “Well-Being” [9], which was written by Daniel Kahneman (a Nobel Prize winner in Economic Sciences in 2002) explained the fundamentals of happy psychology. The common objective of those theories is to upgrade the living quality of humans and to bring more happiness into our daily lives. Recently, the IEEE launched the humanitarian technology challenge (HTC) project (http://www.ieeehtc.org/) [10] by sponsoring resource-constrained areas to build reliable electricity and medical facilities. Such an action also highlights the importance of humanistic care. Similar to the HTC project, Intel has supported a center for aging services technologies (CAST) (http://www.agingtech.org/), and its objective is to accelerate development of innovative healthcare technologies. Several academic institutes responded to the trend and subsequently initiated medical care research, such as the “Code Blue” project at Harvard University [11] and “Computers in the Human Interaction Loop” (CHIL) at Carnegie Mellon University [12]. Inspired by those related concepts [1, 2, 6, 8–12], this study devised a research project for studying the new interdisciplinary “Orange Technology” to promote health, happiness, and humanistic care.

Instead of emphasizing the relations between environments and humans, as proposed by green technology, the objective of the orange computing project is to bring more care or happiness to human and to promote mental wellness for the well-being of the society.Orange computing is an interdisciplinary field that includes computer science, electrical engineering, biomedical engineering, psychology, physiology, cognitive science, and social science. The research scope of orange computing contains the following.(1)Health and security care for the elderly, children, and infants.(2)Care and disaster relief for people in disaster-stricken areas.(3)Care for low-income families.(4)Body-mind care for people with physiological and psychological problems.(5)Happiness indicator measurement and happiness enhancement.

To demonstrate the concept of orange computing, a case study on a human-machine interactive and assistive system for emotion care was investigated in this study. The proposed system is capable of recognizing human emotions by analyzing facial expressions and speech. When the detected emotion status exceeds a threshold, an alarm will be send to a doctor or a nurse for further diagnosis and treatment.

The remainder of this paper is organized as follows: Section 2 introduces the orange computing models; Section 3 presents a discussion of a case study on the emotion recognition system for care services; Section 4 summarizes the performance of the proposed method and the analysis results; lastly, Section 5 offers conclusions.

**Related Work and Orange Computing Concept**

Orange computing originates from health informatics, and it contains two research topics: one is physiological care and the other psychological care. Both of the two topics focus on enhancing humans’ physical and mental health, enriching positive emotions and finally bring more happiness to others [13, 14]. The physiological and psychological care models of orange computing are similar to the health model in medical expert systems [15, 16], which have been well developed and commonly used in health informatics over several decades.

In a medical expert system, when a user inputs a query through the interface, the system can automatically search predefined knowledge databases and consult with relevant experts or doctors. After querying databases or merging opinions of experts, the system subsequently replies to the user with an appropriate response. In traditional medical expert systems, database querying and feedback usually involve semantic understanding techniques and delicate interface design [17–19], so that users do not feel inconvenient during the process. However, in some telemedical care systems, such as [20], knowledge databases and feedback mechanisms are replaced with caregivers for better interactivity. Recently, expert systems have gradually integrated knowledge-based information management systems with pervasive computing [21]. Although such systems have been prototyped and modeled in several studies [22, 23], they have not been deployed. However, the abovementioned ideas have spurred the development of orange computing.

Happiness informatics, or the happiness model, is the key characteristic of orange computing. Similar to the health model, the happiness model also requires a user input and a predefined database. The input is commonly measured from the bio-signals or behavior of a user, for example, facial expressions, emotional speech, laughter, body gestures, gaits, blood pressure, heartbeat rates, electroencephalograms (EEGs), electrocardiograms (ECGs), and electro-myograms (EMGs) [24, 25]. With such information, the happiness model can help users evaluate their emotional status in various applications. Nevertheless, it is quite challenging to determine the manner in which to combine those data and determine emotional status [26–28].

**Case Study**

This section demonstrates a technological application for daily humanistic care in home environments. The system uses contactless multimodal recognition techniques to measure positive emotion degree of users. The recognition results can be logged into the database and sent to analysts for further processing. As shown in Figure 1, the ambient devices of the proposed system include multiple audiovisual sensors, a service robot, and a smart TV. The robot is a self-propelled machine with four wheels and serves as a remote agent between users and the server. It is equipped with audiovisual sensors, loudspeakers, and a touch screen to interact with users. Similarly, TV is also used for this interacting.

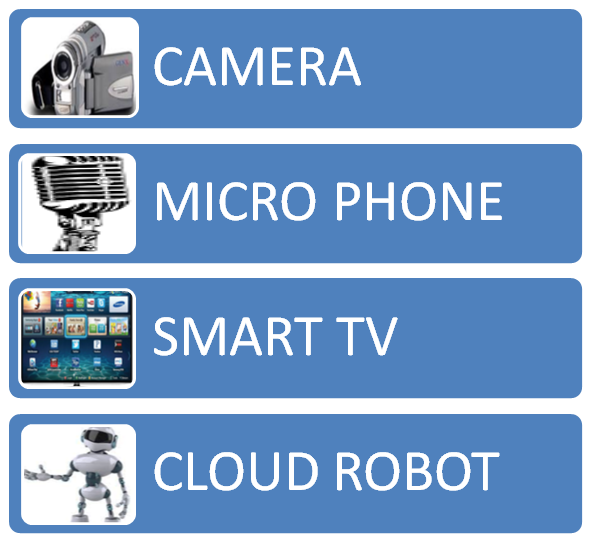
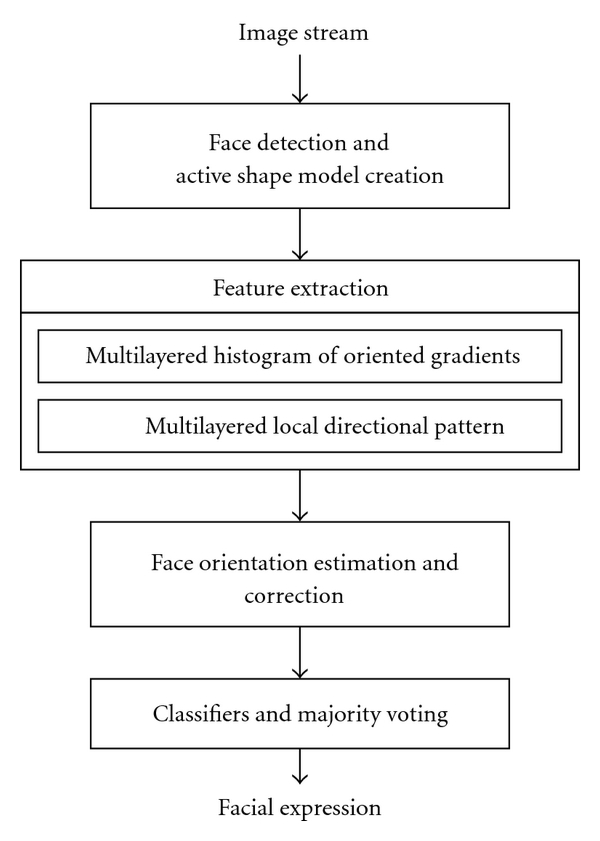


Fig. 1: Framework of the system.

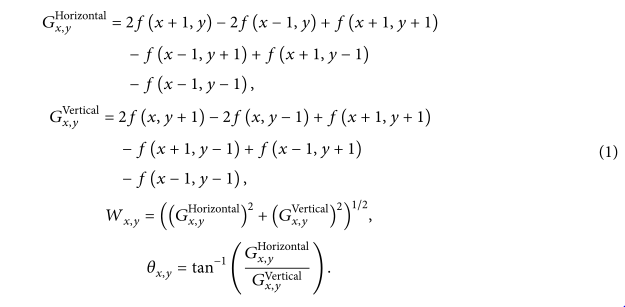
After the ambient sensors receive signals from users, data are subsequently sent to a processing server through a cloud network. The workflow of the data processing procedures comprises three stages, as follows: the first and second stages are the audiovisual recognition, and the last stage is the feedback stage. The detail of each stage is described as follows.

**Visual Recognition**

At the image processing stage, as shown in Figure 2, after video streams are captured by the camera, Haar-like features [29] are extracted and sent to AdaBoost classifiers [29] to detect user faces. Subsequently, the system uses the Active Shape Model, which was proposed by Cootes et al. [30], to model facial regions. Thus, facial regions can be represented by a set of points using the point distribution model.

Fig. 2: Workflow of the image processing stage.

A novel feature called “Multilayered Histogram of Oriented Gradients” (MLHOGs) is proposed in this study to generate reliable characteristics for estimating facial expressions. The MLHOGs are derived from Histograms of Oriented Gradients (HOGs) [31] and Pyramid Histograms of Oriented Gradients (PHOGs) [32]. Let represent the pixel of coordinate and , denote gradients, refer to the weight of a coordinate, and be edge directions. The histogram of oriented gradients can be expressed as follows:



After gradients are computed, a histogram of edge directions is subsequently created to collect the number of pixels that belongs to a direction. Unlike pyramid histogram of oriented gradients, which concentrates on fixed rectangular shapes inside an image, the proposed MLHOGs are modeled by object-based regions of interest (ROIs), such as eyes, mouths, noses, and combinations of ROIs. Furthermore, each objected-based ROI has a dedicated classifier for recognizing the same type of ROIs. A concept example of multilayered histogram of oriented gradients and multilayered local directional patterns is illustrated in Fig. 3.

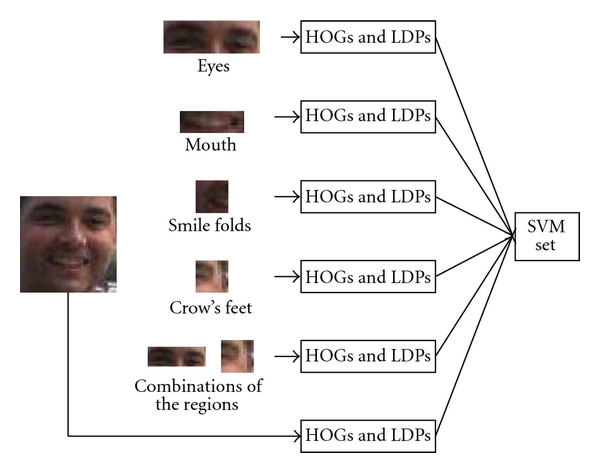
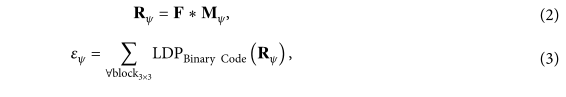


Fig.3: Concept of multilayered histogram of oriented gradients and multilayered local

directional patterns (the facial image is extracted from the MPLab GENKI database).

Similar to the proposed MLHOGs, our study also develops a new texture descriptor called “Multilayered Local Directional Pattern” for enhancing recognition rates. Such multilayered directional patterns are computed according to “edge responses” of pixels, which are based on the same concept of Jabid’s feature, “Local Directional Patterns (LDPs)” [33].



The difference is that the proposed method focuses on patterns at various ROI levels. Computation of multilayered local directional patterns is listed as follows: where**F** is the input image, **M** means eight-directional Kirsch edge masks like Sobel operators, **R**stands for edge responses of , represents eight directions, and is the number of edge responses in a designated direction. Before the system accumulates the edge responses of using (3), an LDP binary operation [33] is imposed on to generate an invariant code. A one-by-eight histogram is adopted to collect the edge responses in the eight directions. In the proposed multilayered local directional patterns, only edge responses in objects of interest are collected, so that the histogram differs from ROIs to ROIs.

In addition to upright and full frontal faces, this work also supports roll/yaw angle estimation and correction. The active shape model can label facial regions. Relative positions, proportions of facial regions, and orientations of non-frontal faces can be measured properly with the use of spatial geometry. Once the direction is determined, corresponding transformation matrices are applied to the non-frontal faces for pose correction.

At the end of the image processing stage, multiple Support Vector Machines (SVMs) are used to classify facial expressions. Each of the SVMs is trained to recognize a specific facial region. The classification result is generated by majority voting.

**Audio Recognition**

Audio signals and visual data have a considerable effect on deciphering human emotions. Therefore, the audio processing stage focuses on detecting emotional speech and laughter to extract emotional cues from acoustic signals. The workflow at this stage is illustrated in Figure 4.

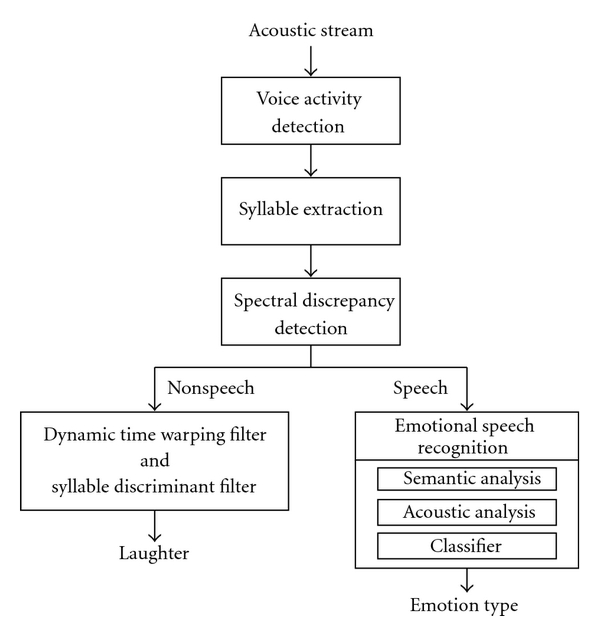
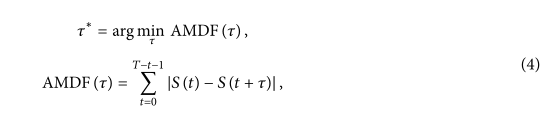
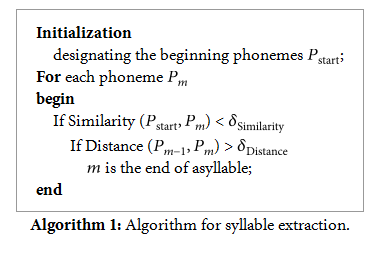


Fig. 4: Workflow of the audio processing stage.

First, silence segments in audio streams are removed by using voice activity detection (VAD) algorithm. Subsequently, an autocorrelation method called “Average Magnitude Difference Function” (AMDF) [34] is used to extract phoneme information from acoustic data. The AMDF can effectively estimate periodical signals, which are the main characteristics of speech, laughter, and other vowel-based non-speech sounds. The AMDF is derived as follows:



Where **S** represents one of the segments in the acoustic signal, is the length of , denotes the time index, and is the shifting length. After AMDF() reaches the minimum, a phoneme can be acquired by extracting indices from to . Algorithm 1 expresses the process of syllable extraction when phonemes of a signal are determined.

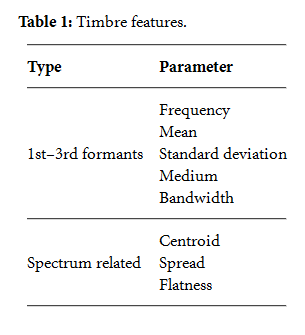


In the next step, to classify signals into their respective categories, energy and frequency changes are used as the first criteria to separate speech from vowel-based non-speech because spectral discrepancy of speech is relatively smaller in most cases.

Compared with other vowel-based non-speech, the temporal pattern of laughter usually exhibits repetitiveness. To detect such patterns, this study uses cascade filters, which consist of a Dynamic Time Warping (DTW) filter [35] and a syllable discriminant filter, to compute similarities of the input data. With the use of Mel-frequency cepstral coefficients (MFCCs), the Dynamic Time Warping filter can find out desired signals by matching them with the samples in the database. The signals that successfully pass through the first filter are subsequently input to the second filter. The syllable discriminant filter compares each input sequence with predefined patterns by using the inner product operation. When the score of an input is higher than a threshold, the input is labeled as laughter.

For emotional speech recognition, this study follows previous works [36–38] and extracts prosodic and timbre features from speech to recognize emotional information in voices. Tables 1 and 2 show the acoustic features used in this system.

In addition to the acoustic features, this study also uses the keyword spotting technique to detect predefined keywords in speech because textual data offer more emotion clues than acoustic data. After detecting predefined keywords in utterances, the system iteratively computes the association degree between the detected keyword and each emotion category.



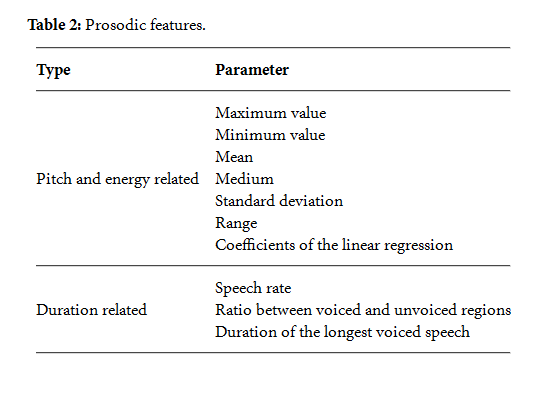
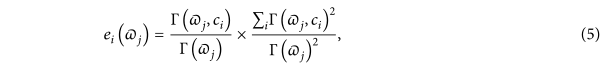


Table 2: Prosodic features.

Let represent the index of the emotion categories; denote the index of the detected keyword in the sentence corpus; refer to the detected keyword; represent the occurrence of in category; denote the number of sentences containing.

The association degree can be defined as:



Where the first part of the equation is the weighting score, and the second part is the confidence score of (see [39] for detailed information). The textual feature vector is subsequently combined with the acoustic feature vector and sent into a classifier (AdaBoost) for training and recognition.

**Feedback Mechanism**

After completion of the audiovisual recognition stage, the system generates three results along with their classification scores. One of the three results is the detected facial expression, another is the detected vocal emotion type, and the other is laughter. The classification scores are linearly combined with the recognition rates of the corresponding classifiers and finally output to users. Additionally, the recognition result is logged in the database 24 hours a day. A user can browse the curve of emotion changes by viewing the display. The system is also equipped with a tele-healthcare module. Personal emotion status can be sent to family psychologists or psychiatrists for mental care. The service robot can serve as an agent between the cloud system and users, providing a remote interactive interface.

**Experimental Results**

This study conducted an experiment to test audiovisual emotion recognition to assess the performance of our system. Only positive emotions, including smiling faces, laughter, and joyful voices, were tested in the experiment.

At the evaluation of the facial expression stage, 500 facial images containing smiles and non-smiles were manually selected from the MPLab GENKI database (http://mplab.ucsd.edu/). The kernel function of the SVM was the radial basis function, and the penalty constant was empirically set to one. Furthermore, 50% of the dataset was used for training, and 50% was used for testing. During the evaluation of laughter recognition, a database consisting of 84 sound clips was created by recording the utterances of six people. Eighteen samples from these 84 clips were the sound of people laughing. After removing silence parts from all of the clips, the entire dataset was subsequently sent into the system for recognition. For emotional speech recognition, this research used the same database as that in our previous work [39]. The speech containing joyful and non-joyful emotions was manually chosen and parsed to obtain their literal information and acoustic features. Finally, these features were inputted into an AdaBoost classifier for training and testing. Figure 5 shows a summary of the experimental results of our system, in which the vertical axis denotes accuracy rates, and the horizontal axis represents recognition modules. As shown in the figure, the accuracy rate of smile detection can reach 82.5%. The performance of laughter recognition can also achieve an accuracy rate as high as 88.2%. Compared with smile and laughter recognition, although the result of emotional speech recognition reached 74.6%, such performance is comparable to those of related emotional speech recognition systems. When combined with the test result of emotional speech recognition, the overall accuracy rate can reach an average of 81.8%.

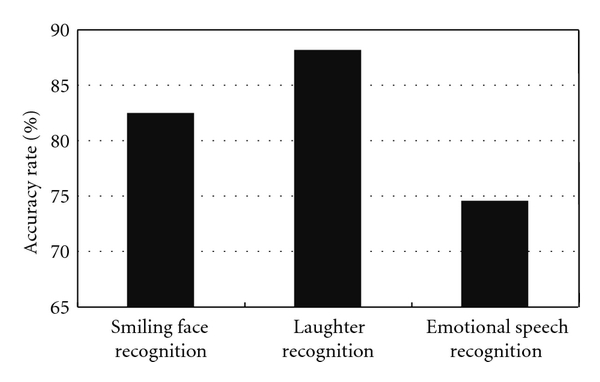
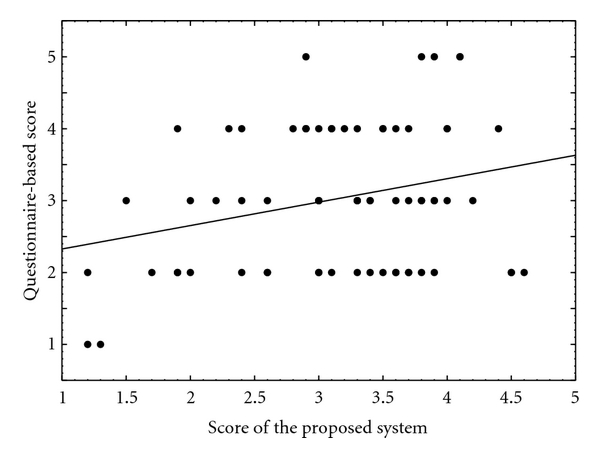


Fig. 5: Accuracy rates of the audiovisual recognition.

The following experiment tests whether the proposed system can help testees remind and evaluate their emotional health status as caregivers do. During the experiment, total ten persons were selected from the sanatorium and the hospital to test the system for a week. The age of the participants ranges from 40 to 70 years old. The audiovisual sensors were installed in their living space, so that the emotional data can be acquired and analyzed in real time. For privacy, the sensors captured behavior only during 10:00 to 16:00. To avoid generating biased data, each testee was not aware of the locations of the sensors and the testing details of the experiment. Furthermore, after the system analyzed the data, the medical doctors and nurses helped testees complete questionnaires. The questionnaire contained total ten questions, nine of which were irrelevant to this experiment. The remaining question was the key criterion that allowed the testees to give a score (one (unhappy)–five (happy)) to their daily moods. The questionnaire scores are subsequently compared with the estimated emotional status of the proposed system. To obtain the estimated emotional score, the proposed method firstly calculates the duration of smiling face expressions, joyful speech, and laughter of the testees. Next, a ratio can be computed by converting the duration into a one-to-five rating scale based on the test period.

The correlation test in Figure 6 shows performance of the questionnaire approach and the proposed system. The vertical axis represents the questionnaire result, whereas the score of the proposed system is listed on the horizontal axis. All the samples are collected from the testees. Closely examining the scatterness in this figure reveals that Pearson’s correlation coefficient reaches as high as 0.27. This implies that our method is analogous with the questionnaire-based approach. Moreover, two groups of the scores in the linear regression analysis reflect a linear rate of 0.33. Above findings indicate that the proposed method can allow computers to monitor users’ emotional health, subsequently assisting caregivers in reminding users’ psychological status and saving more human resources.

 Fig. 6: Correlation test of the scores between the questionnaire approach and the proposed system. The horizontal axis represents the evaluation result of the proposed system, whereas the vertical axis means the result of the questionnaire. The slope of the regression line is 0.33, and Pearson’s correlation co-efficient is 0.27.

**Conclusion**

This paper presents a new concept called orange computing for health, happiness, and humanistic care. To demonstrate the concept, a case study on the audiovisual emotion recognition system for care services is also conducted. The system uses multimodal recognition techniques, including facial expression, laughter, and emotional speech recognition to capture human behavior.

At the facial expression recognition stage, multilayered histograms of oriented gradients and multilayered local directional patterns are proposed to model facial features. To detect patterns of laughing sound, two cascade filters consisting of a Dynamic Time Warping filter and a syllable discriminant filter are used in the acoustic processing phase. Furthermore, when classifying emotional speech, the system combines textual, timbre, and prosodic features to calculate association degree to predefined emotion classes. Three analyses are conducted for evaluating recognition performance of the proposed methods. Experimental results show that our system can reach an average accuracy rate of 81.8%. Concerning the feedback mechanism, data from the real-life test indicate that our method is comparable to the questionnaire-based approach. Additionally, correlation degree between two methods is as high as 0.27. The above results demonstrate that the proposed system is capable of recognizing users’ emotional health and thereby providing an in-time reminder for them.

In summary, orange computing hopes to arouse awareness of the importance of mental wellness (health, happiness, and warming care), subsequently leading more people to join the movement, to share happiness with others, and finally to enhance the well-being of society.

**References**

1. Y. Veneris, “Modeling the transition from the industrial to the informational revolution,” Environment & Planning A, vol. 21, no. 3, pp. 399–416, 1990. View at Scopus
2. J. Hull, “The second industrial revolution: the history of a concept,” Storia Della Storiografia, vol. 36, pp. 81–90, 1999.
3. P. Ashworth, “High technology and humanity for intensive care,” Intensive Care Nursing, vol. 6, no. 3, pp. 150–160, 1990. View at Scopus
4. P. Gilk, Green Politics is Eutopian, Lutterworth Press, Cambridge, UK, 2009.
5. S. B. F. Hargens, “Integral development—taking the middle path towards gross national happiness,” Journal of Bhutan Studies, vol. 6, pp. 24–87, 2002.
   1. J. Oswald, “Happiness and economic performance,” Economic Journal, vol. 107, no. 445, pp. 1815–1831, 1997. View at Scopus
6. D. Kahneman, E. Diener, and N. Schwarz, Well-Being : The Foundations of Hedonic Psychology, Russell Sage Foundation Publications, New York, NY, USA, 1998.
7. K. Passino, “World-wide education for the humanitarian technology challenge,” IEEE Technology and Society Magazine, vol. 29, no. 2, p. 4, 2010. View at Publisher · View at Google Scholar · View at Scopus
8. K. Lorincz, D. J. Malan, T. R. F. Fulford-Jones et al., “Sensor networks for emergency response: Challenges and opportunities,” IEEE Pervasive Computing, vol. 3, no. 4, pp. 16–23, 2004. View at Publisher · View at Google Scholar · View at Scopus
9. Waibel, “Speech processing in support of human-human communication,” in Proceedings of the 2nd International Symposium on Universal Communication (ISUC '08), p. 11, Osaka, Japan, December 2008. View at Publisher · View at Google Scholar · View at Scopus
10. J.-F. Wang, B.-W. Chen, Y.-Y. Chen, and Y.-C. Chen, “Orange computing: challenges and opportunities for affective signal processing,” in Proceedings of the International Conference on Signal Processing, Communications and Computing, pp. 1–4, Xian, China, September 2011.
11. J.-F. Wang and B.-W. Chen, “Orange computing: challenges and opportunities for awareness science and technology,” in Proceedings of the 3rd International Conference on Awareness Science and Technology, pp. 538–540, Dalian, China, September 2011.
12. Y. Hata, S. Kobashi, and H. Nakajima, “Human health care system of systems,” IEEE Systems Journal, vol. 3, no. 2, pp. 231–238, 2009. View at Publisher · View at Google Scholar · View at Scopus
13. K. Siau, “Health care informatics,” IEEE Transactions on Information Technology in Biomedicine, vol. 7, no. 1, pp. 1–7, 2003. View at Publisher · View at Google Scholar · View at Scopus

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| **Hkkstiqjh lkfgR; esa O;aX; fo/kk dk fodkl**  MkW- “kadj eqfu jk;\*  izLrkouk  *fgUnh Hkk’kk vkSj lkfgR; dks ftu Hkkjrh; cksfy;ksa us le`) fd;k gS] muesa Hkkstiqjh Hkk’kk vkSj laLd`fr dk egRoiw.kZ ;ksxnku jgk gSA fgUnh {ks= dh tks izeq[k cksfy;ka Hkk’kk dh fnokj ls vkxs fudy dj viuh lkfgfR;d nqfu;k dk foLrkj dj jgh gSa] muesa Hkkstiqjh dh xfr vis{kkd`r T;knk rst utj vk jgh gSA fgUnh ds lekukUrj Hkkstiqjh lkfgR; esa O;aX; fo/kk ds mRl dh ryk”k izLrqr “kks/ki= dk izeq[k mn~ns”; gSA blh ifjizs{; esa fgUnh vkSj Hkkstiqjh ds O;aX; ys[ku dh ijaijk dh ,sfrgkfld iM+rky djrs gq, tks lk{; fey jgs gSa] muds vk/kkj ij laHkkouk ;g curh gS fd Hkkstiqjh lkfgR; esa O;aX; ys[ku dh izo`fRr fgUnh dh vis{kk igys “kq: gks pqdh FkhA*  Hkkstiqjh lkfgR; esa O;aX; vFkok O;ax ds fo/kkRed Lo:i vkSj foLrkj ij fopkj djus ds izlax esa bldh LokHkkfod izd`fr ds ckjs esa bruk dguk vfuok;Z yx jgk gS fd LoHkko vFkok Lo:i ds Lrj ij O;aX; dsoy O;aX; gh ugha gksrkA ;g ,d fo/kk Hkh gS vkSj “kSyh HkhA fo/kk ds :i esa O;aX; flQZ O;aX; gksrk gS tcfd “kSyh ds :i esa og viuk foLrkj djrk gSA ;gh dkj.k gS fd lkfgR; dh leLr fo/kkvksa esa O;aX; dh ?kqliSB ns[kh tkrh gSA O;aX; tgka ?kqliSB ugha djrk] ogka mldk Lora= Lo:i mHkjrk gS] ftls O;aX;&fo/kk dgk tkrk gSA  fo/kk ds :i esa O;aX; dh izd`fr x|kRed gS] tcfd “kSyh ds :i esa ;g vU; fo/kkvksa esa fo”ks’k.k ds :i esa iz;qDr gksrk gSA tSls&O;aX; dfork] O;aX; dgkuh] O;aX; fuca/k vkfnA  /;kRO; gS fd O;aX; dh ltZuk x| ds xHkZ ls gqbZ gS] ysfdu vc bldk tks ekud Lo:i fu/kkZfjr gS] mlds vuqlkj mlus dfork] dgkuh vkSj fuca/k vkfn dk laLdkj NksM+ dj viuk Lora= fo/kkRed :i /kkj.k dj fy;k gSA O;aX; vius fo/kkRed :i esa fo/oalkRed Hkh gksrk gS vkSj l`tukRed Hkh] pqVhyk Hkh gksrk gS vkSj rh[kk HkhA ijarq izR;sd fLFkfr esa bldk mn~ns”; uol`tu vkSj ifj’dkj dk gksrk gSA fo/oal vFkok lagkj dh izo`fRr O;aX; esa ugha gksrhA O;aX;dkj jksrk Hkh gS rks mlls laxhr dk Loj fudyrk gSA mlesa oDr dh igpku vkSj le; dh xfr dh ij[k dh lw{e {kerk gksrh gSA  Hkkstiqjh esa O;aX; fo/kk dk lekjaaHk fgUnh O;aX; dh rjg liZ xfr ls ugha gqvk gSA vFkkZr~ fgUnh dk O;aX; ftl izdkj mUuhloha lnh ds mRrjk)Z esa HkkjrsUnq lkfgR; ls izkjaHk gqvk vkSj chloha lnh ds NBosa n”kd esa viuk Lora= ekxZ cuk;k] oSlk Hkkstiqjh esa ugh gqvk gSA  Hkkstiqjh dk O;aX; chloh lnh ds ikaposa n”kd vFkkZr~ Lora=rk izkfIr ds izkjafHkd n”kd esa gh vius ?kqVus ds cy pyuk izkjaHk dj fn;k Fkk rFkk nks&rhu n”kdksa esa gh blus xfr idM+ yhA Hkkstiqjh O;aX; dk vk”p;Ztud ,sfrgkfld i`’B ;g gS fd bldh mRifRr Hkkstiqjh dh leLr  fo/kkvksa ds lekgkj ls u gksdj lh/ks i=”kSyh ls gqbZ gSA vk”p;Z ;g Hkh gS fd ftl le; fgUnh txr esa i= dks fo/kk dk ntkZ x<+k tk jgk Fkk] ml le; Hkkstiqjh i=”kSyh esa O;aX; dk cht&oiu gks jgk FkkA vkSj ;g lkjk dk;Z dsoy ,d O;fDr dj jgk Fkk] ftldk uke  ----------------------------------------------------------------------------------------------------------------------------------------------------------------------------  \* lgk;d izk/;kid ,oa “kks/k funsZ”kd] fgUnh] “kkldh; fnfXot; egkfo|ky; jktukanxkao N- x-  Fkk&eqDrs”oj frokjh ^cslq/k\* vFkkZr~ prqjh pkpkA Hkkstiqjh O;aX; lkfgR; ds bfrgkl esa prqjh pkpk ds fy, ^ehy dk iRFkj\* “kCn dk iz;ksx NksVk dgk tk ldrk gSA bls Hkkstiqjh txr dk lkSHkkX; dgk tkuk pkfg, fd ftl le; lEiw.kZ fgUnh txr esa Lora=rk dk bfrgkl jpk tk jgk Fkk] rc prqjh pkpk us yksdthou dks viuk l`tu {ks= cuk;k rFkk i=”kSyh esa fgUnh v[kckj ^vkt\* okjk.klh esa viuk fu;fer LraHk LFkkfir dj fy;kA mYys[kuh; gS fd vki dfork esa viuk uke ^cslq/k\* rFkk x| esa prqjh pkpk fy[kk djrs FksA 1953 esa gh vkius ^vkt\* esa ^prqjh pkpk dh fpV~Bh\* uked lkIrkfgd LraHk fy[kuk izkjaHk fd;k FkkA bl LraHk dh yksdfiz;rk dk vankt blh ckr ls yxk;k tk ldrk gS fd budh izeq[k fpfV~B;ksa dk laxzg ^prqjh pkpk dh pViVh fpfV~B;ka\* ds uke ls “kekZ czn”kZ] 132&ywdjxat] bykgkckn us 1957 esa igyk Hkkx rFkk 1958 es nwljk Hkkx izdkf”kr dj dkQh xkSjokfUor gqvkA izFke Hkkx esa dqy 293 rFkk f}rh; [kaM esa 239 i`’B gSaA  prqjh pkpk dh fpfV~B;ksa dks i<+us ls yxrk gS fd xzkeh.k laLd`fr ds izfr mudk vVwV laca/k mUgs fy[kus dh ÅtkZ iznku dj jgk FkkA xzkeh.k ifjos”k dh /kM+du ls tqM+s bl lkfgR;dkj us xzkekapy ds ljl vkSj NyNan jfgr thou dk fp= vkapfyd Hkk’kk esa ftl dykRedrk ds lkFk izLrqr fd;k gS] oSlk mnkgj.k vU;= nqyZHk gSA ukxjh thou ls dqfRlr gksrs xkao dh jktuhfr] pqukoh pjpk] xaok:&xaobZ xqVcanh rFkk lkekftd izFkk,a] tSls& cky&fcokg] o`)&fcokg vkSj fo/kok leL;k dks fo’k; cukdj vkius tks i= jps gSa] os u dsoy Hkkstiqjh ds fy,] cfYd lEiw.kZ Hkkjrh; xzkeh.k laLd`fr ds fy, vkbZus ds leku gSA bu fpfV~B;ksa dh fo”ks’krk dsoy Hkkoi{k rd gh lhfer ugha gSA mudh Hkk’kk esa tks jkspdrk] e/kqjrk] lgtrk] izokg] eqgkojsnkjh rFkk pqVdhckth gS] ogh mldh jh<+ dgh tk ldrh gSA ,d uewuk ns[ksa&  ^^ukÅ ds cfj;krh&lc Bkdqjs&Bkdqj---geds tukby fd muqdj [khfl gejk Hkxyk ds ckn Mksfd;s ij mrjy] lmrh ds [khfl taokbZ ij---lkspyha iwNyk ls douks Q,nk ub[ksA [kkyh >xjk Hkj c<+h] ebZy ywxk nwcj nsag] dqdqj dVys dou lusgA1 ( Hkkx&1 i`’B&94&95 )  prqjh pkpk dh O;aX; “kSyh dh iz[kjrk dks mn~?kkfVr djrs gq, MkW- d`’.knso mik/;k; us mUgsa ^^Hkkstiqjh dk ckyeqdqan xqIr\*\* dgk gSA mYys[kuh; gS fd fgUnh esa O;aX; LraHk dk “kqHkkjaHk ^f”ko”kaHkq ds fpV~Bs\* ls ekuk tkrk gSA ;g LraHk 1904 esa ^izrki\* if=dk esa “kq: gqvk FkkA pwafd fgUnh O;aX; lkfgR; ls Hkkstiqjh O;aX; lkfgR; dh fj”rsnkjh vuk;kl tqM+ tk jgh gS] blfy, Li’V djuk gS fd fgUnh esa O;aX; dk izos”k gfj”panzh lkfgR; esa gh gks x;k FkkA tcfd ^f”ko”kaHkq ds fpV~Bs\* tSlk LraHk HkkjrsUnq dh e`R;q ds yxHkx Ms<+ n”kd ckn “kq: gqvk FkkA fdUrq Hkkstiqjh lkfgR; esa O;aX; dk fo/kkRed Lo:i ogha ls izkjaHk gks x;k] tgka ls prqjh pkpk us “kq: fd;kA vc bl ckr esa lansg ugha fd Hkkstiqjh esa i=&fo/kk vkSj O;aX;&fo/kk dk fodkl lekukUrj gqvk gSA bl izdkj prqjh pkpk ds ckjs esa MkW- mik/;k; ds dFku ds lekukUrj eSa dguk pkgrk gwa fd prqjh pkpk Hkkstiqjh lkfgR; ds HkkjrsUnq vkSj O;aX; fo/kk ds ckyeqdqan xqIr gSA prqjh pkpk ds ckn Hkkstiqjh esa bl fo/kk dks vkxs c<+kus dk ljkguh; dk;Z ik.Ms; jkes”oj izlkn us fd;k gSA vki lhoku ls izdkf”kr ^ekVh ds xed\* esa ^NksVsyky th dh fpV~Bh\* uke ls O;aX; LraHk fy[krs FksA  Hkkstiqjh O;aX; fo/kk dh ,d egRoiw.kZ fo”ks’krk ;g gS fd bldk iYyou fgUnh i=dkfjrk ds vkapy esa gqvk gSA lp dgk tk, rks Hkkstiqjh O;aX; dks Hkkstiqjh i=dkfjrk dh vis{kk fgUnh i=dkfjrk us T;knk izksRlkgu fn;k gSA bldk dkj.k ;g gS fd Hkkstiqjh i=dkfjrk dh tks xfr vc rd jgh gS] og LFkkf;Ro ugha izkIr dj ldh gSA Lora=rk izkfIr ds ckn Hkkstiqjh esa tks i=dkjh; dk;Z gq, gSa] mudh lhek ;g gS fd os lkIrkfgd] ikf{kd] ekfld] =Sekfld rFkk v)Zokf’kZd&okf’kZd dh ifjf/k ls ckgj ugha fudy ikbZ gSA ns[kk x;k gS fd vkfFkZd vkSj jktuhfrd laj{k.k ds vHkko esa Hkkstiqjh if=dk;sa izk;% dkydofyr gksrh jgh gSaA “kk;n blhfy, Hkkstiqjh O;Xa;dkjksa us Hkkstiqjh i=dkfjrk ls vius eqag eksM+ fy;s vkSj fgUnh dks viuh ÅtkZ lefiZr djus yxsA  lkB ds n”kd esa ftu Hkkstiqjh if=dkvksa us Hkkstiqjh O;aX; dks izzeq[krk ls laj{k.k fn;k] muesa ^Hkkstiqjh dgkfu;ka\* vkSj ^Hkkstiqjh lkfgR;\* dk uke dze”k% dfu’Bk vkSj vukfedk maxyh ij vkrk gSA fdUrq lPpkbZ ;g gS fd bu nksuks if=dkvksa us O;aX; dks dfork] dgkuh] ukVd rFkk fucaU/k dh nhokj ls fudkyus ds iz;kl ugha fd;sA izlaxo”k ;g crkuk mfpr yx jgk gS fd fot; cfy;kfVd] foosdh jk;] th- ih- JhokLro] cs<c cukjlh] prqjh pkpk] bZ”ojpanz flUgk] jketh ik.Ms; ^vdsyk\*] dqynhi ukjk;.k jk; ^>M+i\*] ckysUnq “ks[kj frokjh] csdkj Hkkstiqjh vkfn jpukdkjksa dh fxurh mu fnukssa ^Hkkstiqjh dgkfu;ka\* esa O;aX; jpukdkj ds :i esa gqvk djrh FkhA ysfdu budh jpukvksa ij leh{kkRed n`f’V Mkyus ij irk pyrk gS fd ;s lc Lora= O;aX; dksfV dh u gksdj “kSyhxr O;aX; dh jpuk,a gSaA vFkkZr~ ;s lc O;aX;&fuca/k] O;aX;&ukVd] gkL;&O;aX; dFkk&dgkuh rFkk ukVd dh rjg gSaA Li’V djuk gS fd ^Hkkstiqjh dgkfu;ka\* ds ekpZ 1966 vad tks gkL; fo”ks’kkad gS] esa izdkf”kr&clhdj.k dk tarj&cs<c cukjlh] ps;jeSuh ds pquko&bZ”ojpan flUgk] Hkwy&Hkqyb;k&th- ih- JhokLro] dmok dku ysys tkyk&foosdh jk;] HkmtkbZ jke&csdkj Hkkstiqjh vkfn jpukvksa esa O;aX; dk fo/kkRed Lo:i ugha gSA  njvly Hkkstiqjh O;aX; dks O;aX; ds :i esa LFkkfir djus dk tks ldkjkRed iz;kl Hkkstiqjh txr esa gqvk] mldh vis{kk fgUnh v[kckjksa us T;knk dke fd;kA foxr rhu&pkj n”kdksa esa Hkkstiqjh O;aX; dks ftu fgUnh v[kckjksa us T;knk izJ; fn;k gS] muesa jkaph ,Dlizsl&jkaph] izHkkr [kcj&jkaph] tulRrk&eqacbZ] uoHkkjr VkbEl&fnYyh] fgUnqLrku&iVuk] vkokt&/kuckn] [mfnrok.kh](http://mfnrok.kh/)&te”ksniqj] lUekxZ&dksydRrk] lsafVuy&vlke vkfn ds uke izeq[krk ls fxuk;s tk ldrs gSaA  bl izlax esa fo”ks’k /;krO; gS fd cukjl ds ^vkt\* ds ckn ^jkaph ,Dlizsl\* gh og nSfud v[kckj gS] ftlus Hkkstiqjh&O;aX; dks vius jfookjh; vad esa fu;fer LFkku fn;kA blesa MkW- izHkqukFk flag us ledkyhu ?kVukvksa ij tks O;aX;kRed vkys[k fy[ks] muesa dqN rks fuca/k ds rtZ ij Fks] ij vf/kdka”k vkys[k Lora= O;aX;ijd FksA bUgha O;aX;kys[kksa esa ls pqudj 1988 esa ^xka/khth ds cdjh\* uke ls tks ,d laxzg Nik gS] mls prqjh pkpk dh fpfV~;ksaa ds ckn Hkkstiqjh dk nwljk iqLrdkdkj O;aX;&laxzg dgk tk ldrk gSA ;g laxzg iqLrd lg;ksx] Mh- ,u] nkl ysu] iVuk ls izdkf”kr gSA dqy mUpkl i`’Bksa ds bl vkSlrkdkj iqLrd esa jpukvksa dk dze bl izdkj gS&[kqyk fo”ofo|ky;] dqlhZ ds egkre] tsy py cfguh jk”ku caVkrk] ns”k ds uct] fo{kq/k] yo vk vkSMj] gsy ckaM+k gsy] tura= cpkvksa lEesyu] ijh{kk esa dnkpkj] ekbZ jke ,rus esa] Hkkst] xaobZ vk “kgjh eu] ekpZ esa ekpZ] ,Mgfd;k MkWDVj] lM+d] dfj;k /ku] ubdh f”k{kk uhfr] nwj n`f’V iDdk bjknk] lqjkt] ikoj] vyh fe;ka rFkk vafre gS&xka/khth ds cdjhA  xka/khth ds cdjh vFkkZr~ vafre jpuk esa O;aX;dkj us ,d Lora=rk lsukuh dh mu ijs”kkfu;ksa dk ftdz fd;k gS] tks xk/khth ds ^Hkkjr NksM+ks\* vkanksyu esa Hkkx ysdj tsy x;k gSA lsoknkl uked og pfj= tc tsy ls NwVus ds ckn vius xkao ykSVrk gS] rc ogka mls jgus rd dh txg ugha jgrh gSA D;ksafd mldh lkjh tk;nkn xkao ds gh tEehnkj }kjk gM+i yh xbZ gSA bruk gh ugha lsoknkl lsukuh isa”ku ikus ls Hkh oafpr gks tkrk gS] D;ksafd mldk vlyh uke f”koizlkn flag Fkk] tcfd tsy esa og viuk Nn~e uke lsoknkl ntZ djk;k FkkA bl jpuk esa vktkn ns”k ds ckjs esa lsoknkl dh fVIi.kh bl izdkj gS&  ^^ccqvk] yM+kbZ dk eSnku esa QkSt yM+sys vk jktikV jktk djsykA dqlhZ mgs ck] ifgys vksij vaxjst yksx cbBr jgs vk vkt vksgh yksx ds xqeLrkA-----geuh Lora=rk lsukuh yksx ds r vkt ds usrok lc xka/khth ds cdjh dgds fp<+ko rkjslA ckr Hkh Bhds ck geuh vaxjsth jkt esa Hkh dVbuh vk vkt Hkh dVkr ckuhA\*\*2  v[kckj ds blh vad esa Ckkn esa MkW- f=iqjkfj “kj.k JhokLro vkSj xkSre fo’.kq flokuh us fu;fer fy[kdj Hkkstiqjh ikBdksa esa v[kckj dh dkQh yksdfiz;rk c<+kbZA vc Li’V djuk pkgrk gwa fd MkW- f=iqjkfj “kj.k JhokLro dk O;aX; fo”kq) :i ls Hkkstiqjh O;aX; dk uewuk dgk tk ldrk gSA vkius ledkyhu fo’k;ksa ij tks O;aX; fy[ks gSa] mldk Hkko&Hkk’kk rFkk vfHkO;fDr dkS”ky dh n`f’V ls bruk egRo gS fd mUgsa izFe Js.kh dh O;aX; jpuk dh dksfV esa j[kk tk ldrk gSA jkaph ds gh ^izHkkr [kcj\* esa Hkkstiqjh O;aX; LraHk ^xkao tokj\* esa i=dkj vkseizdk”k ^v”d\* us Lrjh; O;aX; fy[ksA v”dth dh Hkk’kk ds ckjs esa dguk gS fd vkius BsB Hkkstiqjh dks vaxzsth “kCnksa ds lkFk feykdj dkQh jkspd jpuk,a dh gSA  dydRrk ds fgUnh nSfud ^lUekxZ\* esa ^yLVe&iLVe\* esa vt; rksej ds O;aX; vkSj dydRrk ds gh ^fo”okfe=\* esa ^jerk tksxh\* LraHk ds ys[kd ujsUnz jLrksxh ^e”kjd\* ds O;aX; dkQh ,sfrgkfld egRo j[krs gSaA Hkkstiqjh O;aX; fo/kk ds vk/kkjHkwr O;aX;dkjksaaaa dh lwph rFkk mudh jpukvksa ds uewus fnYyh ls izdkf”kr esjs “kks/kxzaFk&^Hkkstiqjh lkfgR; esa gkL;&O;aX;\* esa ns[ks tk ldrs gSaA  Hkkstiqjh O;aX; fo/kk dk rhljk laxzg ^eap ds ijiap\* uke ls o’kZ 2012 esa te”ksniqj ls izdkf”kr gqvk gSA bldk yksdkiZ.k 20 ebZ 2012 dks te”ksniqj esa MkW- ckysUnq “ks[kj frokjh }kjk fd;k x;kA bl laxzg ds jpukdkj gSa czteksgu jk; ^nsgkrh\*A nsgkrhth ds bl laxzg esa Lora= O;aX; vkSj i=koyh&O;aX; dks lesVk x;k gSA ^jko.k ds ikrh\* vkSj ^lqius[kk ds ikrh\* esa vkius ledkyhu jktuhfr dk [kkSQukd fp= [khpk gSA lHkh O;aX; le;&le; ij v[kckjksa vkSj if=dkvksa esa Nis gq, gSaA laxzg esa O;aX; jpukvksa ds jpuk dky dk Hkh mYys[k fd;k x;k gSA blesa dqy vBkjg jpuk;sa gSA laxzg dh jpukvksaa dh Hkk’kk dh ckr djsa rks ;s LokHkkfod crdgh dh gSaA ,d mnkgj.k nz’VO; gS&  ^^nky xyks dbls\ nky esa nky gks[ks rc uwa\ Hkyk vkadM+ xysyk\ nky] pwM+k] pkoy esa vkadM+A nw/k] ngh] ?kho esa feykoV] [kkbZa vk isV>jh >syhaA vc vknfe;ksa >wB feyr ckM+sA eqag ij phdu crdghA ihB&ihNs [kkbZa esa <dsys ds tksxkM+A dsdjk dikjs fy[ky ckA fy[kyk ds dk fo”okl\ dc chp /kkjs uko esa Nsn djds dqlhZ n[ky naxy thrs esa v>qjk tbgsaA eqag esa dfj[kk iksrbyk ds cknks] csgb;siu ij fot; ikos ds iz;klA\*\*3  te”ksniqj Hkkstiqjh lkfgR; ifj’kn }kjk izdkf”kr bl laxzg ds ckjs esa izfl) O;aX;dkj MkW- ckysUnq “ks[kj frokjh us vius ^ijiap ls ifgys\* “kh’kZd O;aX;dkjh “kqHkdkeuk lans”k esa fy[kk gS&  ^^jko.k ds ikrh\* nsgkrhth ds vkiu O;aX; iz;ksx gA ,g cgkus mgka dk ^lqius[kk ds ikrh\* Hkh fy[kys ckuhA feFkd ds laxs O;aX; [ksyokM+ djs esa muqdk egkjr gkfly ckA muqdk O;aX;u esa turk ds lsod okrkuqdwfyr dkj esa pysyu vk laln ds fN;kysnj v[kkM+k gA \*eap ds ijiap\* ds O;aX;u esa O;aX;dkj czteksgu jk; nsgkrh ds gfFk;kju ds /kkj dsgw ds csdjkj dj ldsykA ,gh ls gekj vkLFkk nsgkrhth ds dye esa c<+r xby ckA\*\* 4  iVuk ls izdkf”kr ^Hkkstiqjh okRrkZ\* esa fouksn dqekj ^nso\* ?kj /kweuflag ds uke ls ^galeykbZ\* dkWye esa dkQh ljkguh; O;aX; fy[krs FksA vc ;g if=dk can gks xbZ gSA blh izdkj cDlj ls izdkf”kr ^txje\* es fot;kuUn frokjh ds Hkkstiqjh O;aX; [kksydnkl ds uke ls Nirs jgs gSaA MkW+ tokgj yky ^csdl\* ds lEiknu esa x<+uks[kk] fcgkj ls izdkf”kr ^iu?kV\* if=dk esa ^odzksfDr\* LraHk esa cjeslj flag }kjk fyf[kr i=dkjh; O;aX; vkSj te”ksniqj ls izdkf”kr ^fuHkhZd lans”k\* esa lqjs”k dkaVd dh ^dqVqdh\* Lrjh; Hkkstiqjh O;aX; ys[ku dh fn”kk esa izfr’Bk izkIr dj jgh gSaA fnYyh ls MkW- jek”kadj JhokLro fgUnh ds lkFk&lkFk Hkkstiqjh if=dkvksa esa Hkkstiqjh&O;aX; fy[kusokys izkS<+ jpukdkj gSaA  **“kks/k fu’d’kZ**  izLrqr “kks/ki= dk lkjka”k bl ckr dh iqf’V djrk gS fd  fgUnh dk O;aX; ftl izdkj mUuhloha lnh ds mRrjk)Z esa gfj”panzh lkfgR; ls izkjaHk gqvk vkSj chloha lnh ds NBosa n”kd esa viuk Lora= ekxZ cuk;k] oSlk Hkkstiqjh esa ugh gqvk gSA Hkkstiqjh dk O;aX; chloh lnh ds ikaposa n”kd vFkkZr~ Lora=rk izkfIr ds izkjafHkd n”kd esa gh vius ?kqVus ds cy pyuk izkjaHk dj fn;k FkkA bruk gh ugha nks&rhu n”kdksa esa gh blus xfr idM+ yhA Hkkstiqjh O;aX; dk vk”p;Ztud ,sfrgkfld i`’B ;g gS fd bldh mRifRr Hkkstiqjh dh leLr fo/kkvksa ds lekgkj ls u gksdj lh/ks i=”kSyh ls gqbZ gSA vk”p;Z ;g Hkh gS fd ftl le; fgUnh txr esa i= dks fo/kk dk ntkZ x<+k tk jgk Fkk] ml le; Hkkstiqjh i=”kSyh esa O;aX; dk cht&oiu gks jgk FkkA vkSj ;g lkjk dk;Z dsoy ,d O;fDr dj jgk Fkk] ftldk uke Fkk&eqDrs”oj frokjh ^cslq/k\* vFkkZr~ prqjh pkpkA  tc lEiw.kZ fgUnh txr Lora=rk dk bfrgkl jpus esa O;Lr Fkk] rc prqjh pkpk i=”kSyh esa fgUnh v[kckj ^vkt\* okjk.klh esa viuk fu;fer LraHk LFkkfir dj pqds FksA 1953 esa gh vkius ^vkt\* esa ^prqjh pkpk dh fpV~Bh\* uked lkIrkfgd LraHk fy[kuk izkjaHk fd;k FkkA bl LraHk dh yksdfiz;rk dk vankt blh ckr ls yxk;k tk ldrk gS fd budh izeq[k fpfV~B;ksa dk laxzg ^prqjh pkpk dh pViVh fpfV~B;ka\* ds uke ls “kekZ czn”kZ] 132&ywdjxat] bykgkckn us 1957 esa igyk Hkkx rFkk 1958 es nwljk Hkkx izdkf”kr dj dkQh xkSjokfUor gqvk FkkA  lanHkZ&  1      ^prqjh pkpk dh pViVh fpfV~B;ka\* Hkkx&1 i`’B&94&95 izdk”kd&“kekZ czn”kZ]     132&ywdjxat]  bykgkckn&1957  2      Xkak/khth ds cdjh izHkqukFk flag] izdk”kd&iqLrd lg;ksx] Mh,u nkl ysu  iVuk&1998]  i`’B&29  3      eaap ds ijiap&czteksgu jk; ^nsgkrh\* izdk”kd&te”ksniqj Hkkstiqjh lkfgR; ifj’kn  i`’B&47&48  4   eap ds ijiap&i`’B&11  \*\*\*  **MkW- cynso izlkn feJ % ;qx psruk ds laokgd dfo**  **yksds'k dqekj 'kekZ\***  ***'kks/k lkjka'k***  *;qx dfo MkW- cynso izlkn feJ fgUnh lkfgR; ds ,sls dfo gSa ftudk ;Fks"V ewY;kadu vkt i;Zar visf{kr gSA lkfgR; dh izk;% lHkh fo/kkvksa dks viuh ys[kuh ls le`) djus okys ,sls ;'kLoh jpukdkj ij vkykspdksa dh n`f"V D;ksa ugha xbZ] ;g Hkh vUos"k.k dk fo"k; gSA izLrqr 'kks/k&i= ds ek/;e ls MkW- feJ ds dkO; esa laO;kIr ;qxhu lanHkZ o cks/k dks mn~?kkfVr djrs gq, mudh ;qx psruk ij izdk'k Mkyus dk iz;kl fd;k x;k gSA ;gk¡ ij mYys[k djuk izklafxd gksxk fd fgUnh egkdkO; dh ijaijk esa MkW- feJ ds rhu egkdkO; Øe'k% \*dks'ky fd'kksj\*] \*lkdsr lar\*] \*jkejkT;\* gSaA mi;qZDr egkdkO;ksa ij Hkh i;kZIr vUos"k.k dh vko';drk gSA*  *MkW- feJ dk tUe 12 flracj lu~ 1898 dks lkfgR; dyk vkSj [ksy dh uxjh jktukanxkao esa gqvk FkkA izfrf"Br ifjokj esa tUes MkW- feJ dks /kkfeZd laLdkj ckY;koLFkk ls gh izkIr gq,A mudh dkO; izfrHkk dk fodkl Hkh ifjokj ds lkfgfR;d okrkoj.k esa nqzrxfr ls gqvkA bl fo"k; esa MkW- feJ us fy[kk gS & \*\*firkth esa lkfgR; izse Fkk gh vkSj mUgksaus cztHkk"kk ds dqN dfo Hkh vius ;gk¡ j[k NksM+s FksA eq>s viuh ikB'kkyk esa Hkh dqN lkfgR;izseh f'k{kdksa vkSj lgikfB;ksa dk lkFk feykA\*\*1 MkW- feJ us \*dks'ky fd'kksj\*] \*lkdsr lar\* vkSj \*jkejkT;\* rhu egkdkO; fy[ksA vU; egŸoiw.kZ dkO; d`fr;ksa esa \*thou laxhr\*] \*gekjh jk"Vªh;rk\*] \*mnkŸk laxhr\*] o [k.MdkO; \*xka/kh xkFkk\* gSaA lu~ 1939 esa ukxiqj fo'ofon~;ky; }kjk mUgsa \*rqylh n'kZu\* uked 'kks/k izca/k ij f'k{kk {ks= dh loksZPp mikf/k Mh-fyV~- iznku dh xbZA*   |  | | --- | | *leh{kkRed xzaFkksa esa \*lkfgR; ygjh\*] \*tho foKku\*] \*Hkkjrh; laLd`fr\*] \*ekul esa jkedFkk\*] \*ekul ek/kqjh\* vkfn fgUnh lkfgR; Hk.Mkj dh vfHko`f) dj jgs gSaA ekul O;kl MkW- feJ dh d`fr;ksa esa muds ;qxlanHkZ vkSj rn~tfur psruk dk fogaxkoyksdu fd;k tk ldrk gSA ,d lkfgR;dkj vius ;qx dh l`f"V vkSj lz"Vk nksuksa gksrk gSA ;qxhu ifjfLFkfr;k¡ mls izHkkfor djrh gSaA lkFk gh izsj.kk iznku djrh gqbZ lkfgR; l`tu ds fy, vk/kkjHkwfe rS;kj djrh gSaA MkW- feJ viuh ;qxhu ifjfLFkfr;ksa ds lkis{k jgs vkSj mudh d`fr;ksa esa ;qx dh psruk o n'kZu izfrfcafcr gq,A \*gfjvkS/k vkSj mudk fiz; izokl\* esa MkW- m"kk ;kno fy[krh gSa fd&* |   *\*\*vk/kqfud ;qx esa le;&le; ij tSlh fopkj/kkjkvksa dh ygj pyh] tSlh lekt dh fLFkfr gqbZ mlds vuq:i lkfgR;dkjksa us viuh ys[kuh pykbZA\*\*2 MkW- feJ dh d`fr;ksa esa muds ;qx dh ifjfLFkfr;ksa dk izHkko Li"V ifjyf{kr gksrk gSA jk"Vªh; o izknsf'kd Lrj ij muds ;qx dh jktuhfrd] /kkfeZd] lkaLd`frd o lkekftd ifjfLFkfr;k¡ dSlh Fkha \ mu ifjfLFkfr;ksa us feJ th dh l`tu izfrHkk dks dgk¡ rd izHkkfor fd;k \ tSls iz'uksa ij n`f"Vikr djuk vfuok;Z gks tkrk gSA blh ls muds ;qxhu lanHkksZa o psruk dks tkuus esa lgk;rk feysxhA*  *----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------*  **\****'kks/kkFkhZ 'kks/k dsUnz% 'kkldh; fnfXot; egkfon~;ky; jktukanxkao*  **jktuhfrd ifjizs{;**&         \*\*bZLV bf.M;k dEiuh ds 'kkludky ds varxZr ,d vksj Hkkjr esa dEiuh ds jkT; izlkj dks rFkk nwljh vksj turk esa dEiuh ds fo:) O;kid vlarks"k dh Hkkouk dks izksRlkgu feykA ------ var esa blus lu~ 1857 esa ,d jktuhfrd Økafr dk Lo:i /kkj.k dj fy;kA\*\*3 ;g tuØkafr yksdekul esa ,d O;kid jk"Vªh; fonzksg ds :i esa LFkkbZ cu xbZA lu~ 1854 bZ- ls Hkkjr ds LorU= gksus rd NRrhlx<+ eas fczfV'k lRrk jghA 1857 dh Økafr NRrhlx<+ ds vj.;kpy esa Hkh QSyhA bl vapy esa jk"Vªh; vkanksyuksa dk izpkj&izlkj lkfgR; ds ek/;e ls Hkh gqvkA Lons'kh izpkj o izlkj] cax&Hkax o ekpZ 1919 esa jksysV ,DV dks ysdj O;kid vkanksyu gq,A \*\*lu~ 1920 ds jk"Vªh; vkanksyu dk izHkko MkW- feJ ij Hkh iM+k vkSj Bkdqj I;kjsyky flag ds lg;ksx ls mUgksaus ;gk¡ ij ,d jk"Vªh; ek/;fed 'kkyk pykbZA\*\*4 lu~ 1920 ds vlg;ksx vkanksyu dh lekfIr ds i'pkr~ Lora=rk izkfIr rd NRrhlx<+ esa vkSj Hkh dbZ vfgald vkanksyu gq,A \*\*22 uoacj 1933 ls 28 uoacj 1933 rd xka/khth vius gfjtu m)kj dk;ZØe ds flyflys esa NRrhlx<+ esa jgsA mudh bl ;k=k ls bl vapy ij cgqr izHkko iM+kA\*\*5 vLi`';rk fuokj.k vkanksyu ds i'pkr~ Hkkjr NksM+ks vkanksyu ds ukjksa ls ;g vapy x¡wt mBkA 14&15 vxLr dh e/;jkf= esa frjaxk >.Mk Qgjk;k x;kA  **lkekftd ifjfLFkfr**&         dksbZ Hkh lkfgR;dkj viuh lkekftd ifjfLFkfr;ksa ls fujis{k ugha jg ldrk gSA \*\*lkfgR;dkj ds O;fDrRo] mlds fparu vkSj n'kZu fuekZ.k esa ftruk ;ksx mldh O;fDrxr ifjfLFkfr;ksa vkSj mlds Lo;a ds thou dk gksrk gS mruk gh mldh ;qxhu ifjfLFkfr;ksa vkSj lkekftd okrkoj.k dk HkhA\*\*6 rRdkyhu lekt ukjh f'k{kk] inkZ izFkk] vNwrks)kj] fgUnw eqfLye oSeuL;] tkfr izFkk vkfn fdruh gh leL;kvksa ls xzLr FkkA NRrhlx<+ ds ifjizs{; esa vaxzst ;gk¡ ds lekt dks izHkkfor ugha dj ik;sA \*\*/kekZU/krk lekt esa O;kIr Fkh o vLi`';rk dks izksRlkgu feyk gqvk FkkA\*\*7 /kekZU/krk o gfjtuks)kj ds fy, bl vapy esa jk"Vªh; vkanksyuksa ds lekukUrj dbZ egRoiw.kZ dk;Z gq,A xka/khth ds vkºoku ij ia- lqUnjyky 'kekZ us bl fn'kk esa izsj.kkLin dk;Z fd;sA  **/kkfeZd n'kk**&         fczfV'k 'kklu ds le; Hkkjr dh /kkfeZd ifjfLFkfr dk vuq'khyu djus ls Kkr gksrk gS fd vaxzst Hkkjrh;ksa esa Lo/keZ ,oa lekt ds izfr for`".kk ds Hkko Hkj jgs FksA fgUnw /keZ dh 'kfDr vkSj n`<+rk ls ifjfpr gksrs gq, vaxzst fgUnw /keZ ds ewy ij izgkj djus yxsA /kekZarj.k dks ysdj vaxzstksa us bZlkbZ fe'kufj;ksa ds ek/;e ls cgqr mBk&iVd dh fdUrq lewps Hkkjr esa bldk rhoz fojks/k gqvkA ;g izfrfØ;k vkanksyu dk :i xzg.k dj NRrhlx<+ esa Hkh O;kIr gks x;hA rc ;gk¡ ds fopkjdksa ,oa lekt lq/kkjdksa us ,M+h&pksVh dk tksj yxk fn;kA \*\*MkW- cynso izlkn feJ us Hkh fons'kh fe'kufj;ksa ds f'kdats ls yksxksa dks cpkus esa viuk egŸoiw.kZ ;ksxnku fn;kA rc MkW- feJ dk dk;Z{ks= jk;x<+ fj;klr FkkA\*\*8 /kekZU/krk fojks/kh ;qx dk izHkko rRdkyhu lkfgR;dkjksa ij Hkh iM+k QyLo:i muesa /kkfeZd psruk dk fodkl gqvkA MkW- feJ dh d`fr;ksa esa mudh bl psruk dk loZ= fnXn'kZu gksrk gSA  **lkaLd`frd i`"BHkwfe**&         rRdkyhu le; esa jktuhfrd Lrj ij vaxzstksa ds fo:) yM+kbZ yM+h tk jgh Fkh ftlds pyrs Hkkjrh; jktuhfr dk Lo:i cnykA blh rjg lkekftd] /kkfeZd ,oa lkaLd`frd {ks=ksa esa Hkh O;kid ifjorZu gq,A bl ifjorZu esa LoLFk ijEijk;sa dk;e jgha fdUrq :f<+;k¡] dqjhfr;k¡] va/kfo'okl tSlh dqizFkkvksa ds ewy ij izgkj fd;k x;kA fczfV'k jkt ds le; ns'k dh lkaLd`frd ifjfLFkfr ij Hkh dqBkjk?kkr fd;k x;k FkkA \*vius LokFkksZa dh iwfrZ ds fy, xkSjkax izHkqvksa us jktuhfrd ,oa vkfFkZd gh ugha] 'kS{kf.kd] /kkfeZd] lkekftd ,oa lkaLd`frd {ks=ksa esa Hkh dwVuhfr ls dke fy;k FkkA ------------ mUuhloha 'krkCnh ds mŸkjk/kZ esa vk;Z lekt] czEg lekt] fFk;kslksfQdy lkslkbVh rFkk bf.M;u us'kuy dkaxzsl dh LFkkiuk ds QyLo:i Hkkjrh; lH;rk] laLd`fr] /keZ vkSj lekt ds iqu:RFkku dh izfØ;k vkjaHk gks pqdh FkhA\*\*9 NRrhlx<+ ds ifjizs{; esa fczfV'k 'kkludky esa ;gk¡ dh lkaLd`frd ifjfLFkfr;k¡ izHkkfor ugha gqbZaA MkW- feJ us bl laca/k esa fy[kk gS fd \*\*ejkBksa ds 'kklu ds igys ftu jktoa'kksa us ;gk¡ 'kklu fd;k mUgksaus dksbZ fons'kh ;k tkrh; izFkk ugha yk;h os Lo;a blh Hkwfe ds gksdj jgsA izkphu vk;ksaZ ,oa vuk;ksZa dh 'kklu O;oLFkk gh ;gk¡ izpfyr jgha vkSj muds vo'ks"k ;gk¡ vkt Hkh n`f"Vxr gksrs gSaA vr% ;g izkar vk;Z vkSj vuk;Z laLd`fr dk laxe LFky gSA budh xgjh tM+sa vaxszth 'kkludky dh ijk/khurk esa Hkh mUewfyr u dh tk ldhaA\*\*10 fofHkUu ;qxkas esa vusd tkfr;ksa ,oa iztkfr;ksa ds yksx ;gk¡ vk, vkSj mudh ikjEifjd lkaLd`frd /kkjk,¡ ;gk¡ dh LFkkuh; laLd`fr ls feydj mldk gh vax cu x;hA         MkW- feJ ij mijksDr ;qxhu ifjfLFkfr;ksa dk izHkko iM+kA bUgha ifjfLFkfr;ksa ls MkW- feJ dh psruk ds fofo/k vk;ke mn~?kkfVr gksrs gSaA mudh dkO; d`fr;ksa esa /kkfeZd] lkaLd`frd] jk"Vªh;] lkekftd] vkfFkZd ,oa nk'kZfud psruk ds Loj izHkkoh <ax ls eq[kfjr gq, gSaA  **jk"Vªh; psruk &**         MkW- feJ dh dkO; d`fr;k¡ jk"Vªh; Hkkouk ls vksr&izksr gSaA mUgksaus vius ;qx dh jktuhfrd ifjfLFkfr;ksa ls izsj.kk xzg.k djrs gq, lekt dks ubZ n`f"V iznku dhA \*\*dks'ky fd'kksj\*\* egkdkO; ds prqnZ'k lxZ esa y{e.k vkSj ij'kqjke laokn ds ek/;e ls MkW- feJ viuh jk"Vªh; psruk dk ifjp; nsrs gq, fy[krs gSa &  *\*\*;fn ikS:"k Fkk rks nSR; yksx*  *D;ksa Hkkjr esa lq[k jgs Hkksx \\*\*11*  nz"V m)j.k esa MkW- feJ us ns'k ds 'kfDr laiUu ekuo lalk/ku dk vkºoku fd;k gS] rkfd Hkfo"; esa ;g ns'k nSR; vFkkZr~ fons'kh 'kklu ls eqDr jgsA         MkW- feJ vius egkdkO; \*lkdsr lar\* ds f}rh; lxZ esa Hkjr ds ekek ;q/kkftr ds ek/;e ls rkRdkyhu vaxzst 'kkldksa dh fopkj.kk dks mn~?kkfVr djrs gSaA nsf[k;s ;g mnkgj.k&  *\*\*'kkld og D;k] ftldk Hk; f=Hkqou esa dai u HkjnsA*  *ftlds uSuksa dh Tokyk] vkrafdr txr u djnsAA*  *$            $            $*  *'kkld gS fu"Bqj ekyh] dkVs NkaVs euekukA\*\*12*         blh egkdkO; ds =;ksn'k lxZ esa Hkjr dks vk'khokZn nsrs gq, jketh v[k.M Hkkjr ds izfr Hkfo";[ok.kh](http://ok.kh/) djrs gSaA bu iafDr;ksa esa feJ th dh jk"Vªh; psruk eq[kj gqbZ gSA nsf[k;s &  *\*\*gksxk ,d v[kafMr vuqie] vx tx dh vka[kksa dk rkjkA*  *dky&pØ dh dbZ vk¡f/k;ka] ml ij vk;saxh tk;saxhA*  *mldh thou&T;ksfr] fdlh Hkh Hkkafr u fdUrq cq>k ik;saxhAA\*\*13*  **/kkfeZd psruk &**         MkW- feJ dkyhu /kkfeZd ifjfLFkfr;ka ladh.kZrk ds fo:) loZ&/keZ&leHkko dk izpkj djus okyh FkhaA muds lkfgR; ij bldk izHkko Li"V ifjyf{kr gksrk gSA vius egkdkO; \*\*jkejkT;\*\* ds lIre lxZ esa Jh jke }kjk 'kcjh dks iznRr uo/kk HkfDr dh O;k[;k feJ th us vius <ax ls dh gSA ;g feJ th dh /kkfeZd psruk dk ,d vuqie mnkgj.k gSA n`"VO; gS  *\*\*izhfr izkd`r /keZ] ;fn ijes'k esa yx tk;*  *rks mls gh HkfDr le>ks] ogh thou vk;A*  *fo'o ;g ijes'k dk gh :i ,d yyke*  *yksd lsok bZ'k lsok] ,d iFk nks ukeAA\*\*14*         \*\*gekjh jk"Vªh;rk\*\* 'kh"kZd dkO; d`fr esa MkW- feJ dh /kkfeZd psruk ds jax dqN bl Hkkafr n`"VO; gSa &  *\*\*dksbZ Hkh iaFk ;k /keZ ;k dksbZ gks lqlk/kukA*  *vHkh"V ;g gS iw.kZ ijLij lfg".kq gksaA*  *$            $            $*  *R;kT; gksos Hkys gh tks lkEiznkf;d /keZ gSaA*  */keZ ekuo dk R;kT; gksxk dSls Hkyk dghaAA\*\*15*  \*thou laxhr\* esa MkW- feJ dh /kkfeZd psruk dqN bl :i esa mn~Hkwr gqbZ gS &  *\*\*D;k /keZ deZ dh ckrsa \ /kkjd gh /keZ dgk;k(*  *thou dk /keZ ogh gS thou ftlls jg ik;kA\*\*16*         mi;qZDr iafDr;ksa esa MkW- feJ dh ifj"d`r /kkfeZd psruk dk Lo:i ifjyf{kr gksrk gSA ;gka feJ th thou dk /keZ vkSjksa ds thou dh [kq'kgkyh o le`f) dks ekurs gSaA  **lkekftd psruk &**         rRdkyhu lkekftd ifjfLFkfr;ksa ls MkW- feJ dk izHkkfor gksuk iw.kZr% LokHkkfod FkkA Lora=rk iwoZ Hkkjrh; lekt esa NqvkNwr dh dqizFkk FkhA feJ th us vLi`';rk fuokj.k vkanksyu esa egrh Hkwfedk fuHkkbZA mudh blh psruk ds n'kZu gesa \*\*dks'ky fd'kksj\*\* egkdkO; ds v"Ve lxZ esa vfgY;ks)kj dh bu iafDr;ksa esa gksrs gSaA nsf[k;s &  *\*iM+h gqbZ ;g ekSu dkSu bldh lqurk gS*  *gk¡( vo'; r: yrk iqat fut flj /kqurk gSA*  *fdUrq u ekuo ;gk¡ Hkwy dksbZ gS vkrk*  *fu"Bqj cuk lekt u dqN Hkh n;k fn[kkrkAA*  *$            $            $*  *tUe vki dk gqvk nhu ghuksa ds dkj.k*  *dfj;s jke! lg"kZ nfyr&vkifRr&fuokj.kA*  *fucZy ds cy cusa vkrZfiz; vki dgkosa*  *ifrr vikou iq.; 'kj.k pj.kksa esa ikosaAA\*\*17*  vius egkdkO; \*jke jkT;\* esa ekuo lekt ds izfr vius ljksdkj dks vfHkO;Dr djrs gq, MkW- feJ fy[krs gSa &  *\*\*D;ksa esjk cU/kqRo vo/k dh lhek esa vkc) jgs]*  *D;ksa u fo'o dk ekuo] [kx&e`x rd] eq>dks fut ca/kq dgsA*  *$            $            $*  *,d izk.k gks Hkkjr tuuh] ,d jk"Vª Hkkjroklh*  *jk"Vª lw= gks ekuork esa tks fd fnO;rk lq[kjklhA*  *izfr ekuo esa izHkq jgrk gS] mls lizse txk;sa ge*  *Hkwek Hkko Hkwfe ij Nk;sa] lq[k ckaVs] lq[k ik;sa geAA\*\*18*  eqDrd dkO; \*thou laxhr\* esa feJ th dh lkekftd psruk esa oSf'odrk dh >yd fn[kkbZ nsrh gS &  *\*\*gj dke fo'o esa vPNk*  *lc esa tx dk LiUnu gS(*  *fey dj c<+uk gS xkuk]*  *vM+ dj fxjuk ØUnu gSA\*\*19*  **lkaLd`frd psruk** &         MkW- feJ dh dkO; d`fr;ksa esa vius ;qx dh lkaLd`frd ifjfLFkfr;ksa ls mith lkaLd`frd psruk izeq[krk ds lkFk fon~;eku gSA mudh dkO; izfrHkk ds lkFk lkaLd`frd psruk lai`Dr jgh gSA \*\*jkejkT;\*\* egkdkO; dh bu iafDr;ksa esa mudh bl psruk dk ;g mnkRr Lo:i nsf[k;s &  *\*\*jked`".k pj.kksa ij vkfJr laLd`fr] lRlkfgR; dyk,¡]*  *lw;Z pUnz ls fQj D;ksa tw>sa] ubZ meaxsa] ubZ ?kVk,¡A\*\*20*         MkW- feJ dh lkaLd`frd psruk ds fnXn'kZu muds egkdkO; \*dks'ky fd'kksj\* o \*lkdsr lar\* esa Hkh gksrs gSaA n`"VO; gS &  *\*\*ugha pkgrs ge fd c<+s lkezkT; gekjk*  *dkE; ;gh gS c<+s f'kon laLd`fr dh /kkjkA*  *xksjs dkys yky fd ihys tx ds oklh*  *le>sa pkrqoZ.;Z vkSj gks ysa lq[k jklhA\*\*21*  *\*\*Hkkjrh; gh ugha] iwoZ if'peh fons'kh*  *dksbZ Hkh gks lds ugha muds fo}s"khA*  *ru ls eu ls lk/kq] uhfr esa lk/kq l;kus(*  *ml 'kklu esa lq[kh jgs lc gh euekusA\*\*22*         laLd`r ds vuq"Vqi Nanksa esa jfpr \*gekjh jk"Vªh;rk\* 'kh"kZd dkO; d`fr esa MkW- feJ viuh lkaLd`frd psruk dk ifjp; dqN bl rjg nsrs gSa &  *\*\*tuksa esa tkfr;ksa esa gSa fHkUu laLd`fr;k¡ HkjhaA*  *,d jk"Vªh;rk gsrq ,d laLd`fr Hkh cusAA*  *$            $            $*  *fut laLd`fr dk xoZ gesa gksuk vHkh"V gSA*  *bl laLd`fr us nh gS psruk fo'othr dksAA*  *fo'o dY;k.k ds gsrq vko';d vr% ;ghA*  *;s laLd`fr ft;s tkxs c<+s Qwy Qys lnkAA\*\*23*         Hkkjrh;rk gh gekjh laLd`fr dh igpku gSA gekjh laLd`fr esa fo'o 'kkafr ds Loj gSaA mlesa fo'oca/kqRo dh Hkkouk gSA viuh blh fof'k"V laLd`fr dk xq.kxku djrs gq, MkW- feJ vius egkdkO; \*lkdsr lar\* ds miØe esa fy[krs gSa &  *\*\*'kkfUr rt ØkfUr dk cVksgh cuk fo'o tc]*  *rkelh rfelzk esa fcdy fcyykrk gSA*  *rc Hkkouk esa Hkkjrh;rk dk HkO; :i]*  *Hkj dj Hkkjr Hkjr&xq.k xkrk gSAA\*\*24*  **nk'kZfud psruk** &         feJ th dh nk'kZfud psruk muds dkO; xzaFkksa esa ;=&r= fon~;eku gSaA n'kZu ds tfVy rF;ksa dks mUgksaus cgqr ljy <ax ls LFkkfir fd;k gSA ;gh dkj.k gS fd mudh nk'kZfud psruk muds Hkkoksa dks xfr iznku djrh gSA \*lkdsr lar\* dh fuEu iafDr;k¡ n`"VO; gSa&  *\*\*iq:"k dqN ugha] le; cyoku]*  *le; ds gkFk QykQy nkuA*  *jRu cu x;s /kwy ds <sj]*  *u D;k dj ldk le; dk QsjA\*\*25*         blh egkdkO; ds iape lxZ esa n'kjFk ds e`r nsg dh vaR;sf"V fØ;k ds laca/k esa eqfu of'k"B Hkjr&'k=q?u lfgr mudh ekrkvksa dks le>krs gq, dgrs gSa &  *\*\*u'oj ru gS {kf.kd iap rRoksa dk esyk]*  *ftldks ikdj tho ,d nks iy dqN [ksykA*  *ftl {k.k vk;k dky mlh {k.k esyk VwVk]*  *,d ,d ijek.kq vifjfpr lk gks NwVkAA\*\*26*  fn;s x;s mnkgj.k ls feJ th dh nk'kZfud psruk dks ljyrk ls le>k tk ldrk gSA         \*jke jkT;\* egkdkO; ds n'ke lxZ esa feJ th fy[krs gSa fd]  *\*\*jko.k gS izfro"kZ] rHkh ls ekjk tkrk*  *fdUrq [ksn gS ej dj Hkh og fQj th tkrkA*  *izfr mj gksrk ;q)] jke&jko.k dk Hkkjh*  *d`rh ogha ftlus fd jke dh fot; l¡okjhA\*\*27*          MkW- feJ ds nk'kZfud O;fDrRo dk voyksdu mudh d`fr \*thou laxhr\* esa cgqr vklkuh ls fd;k tk ldrk gSA bl d`fr esa mudh nk'kZfud psruk ds cgqfo/k jax fc[kjs iM+s gSaA n`"VO; gS&  *\*\*nks pkj cqycqys ns[ks] mldks gh lkxj tkuk(*  *thou dh O;kidrk dks fdlus dc gS ifgpkuk \\*\*28*  *\*\*lkxj vFkkg gS uhps] cqncqn Åij eLrkuk(*  *D;k gok yxh gS bldks ftlls bruk nhokuk \\*\*29*  *\*\*ru dgrk gS lq[k esjs] eu dgrk gS eSa ukeh(*  *nksuksa dh lhekvksa ij g¡lrk gS vUr;kZehA\*\*30*   MkW- feJ dh nk'kZfud psruk esa v}Srokn dh xgjh Nki gSA tho ¼vkRek½ vkSj f'ko ¼ijekRek½ esa mUgksaus vHksn LFkkfir fd;k gSA  viuh iqjLd`r d`fr \*mnkŸk laxhr\* esa MkW- feJ th fy[krs gSa fd &  *\*\*eSa rc rd Fkk tc rd u fn;s rwus n'kZu*  *eSa mM+k fd T;ksa gh rwus esjs vax Nq,A*  *ge rqe nksuksa dqN nsj f[kaps vkd"kZ.k esa*  *fQj D;k tkus dc nks ls feydj ,d gq,AA\*\*31*  mijksDr vuq'khyu ls Li"V gS fd MkW- feJ dh jpukvksa esa muds ;qx ds lanHkZ iwjh rjg O;k[;kf;r gq, gSaA rRdkyhu ifjfLFkfr;ksa ls mudh psruk ds fofo/k vk;ke izLQqfVr gksrs pys x,A mUgksaus vius ;qx dh lPpkbZ dks ftl :i esa ns[kk mls izlaxkuq:i cukrs gq, viuh d`fr;ksa esa mrkjrs pys x,A MkW- feJ lPps vFkksaZ esa ;qx psruk ds laokgd dfo FksA mudh jpuk,a ;qxhu lanHkksaZ dk lVhd fp=.k vkSj fo'ys"k.k djrh gSaA mUgksaus vius ;qx dh loZekU; psruk dks viuh d`fr;ksa esa lQyrkiwoZd vfHkO;Dr fd;k gSA xn~; o in~; nksuksa fo/kkvksa esa mudh jpuk/kfeZrk vck/k jgh gSA MkW- feJ us lkdsr lar dh Hkkafr lkfgR; dh vgfuZ'k lsok dh rFkkfi muds vonkuksa dk lE;d ewY;kadu vkt i;ZUr ugha gks ik;k gSA Hkfo"; ;g vo'; Lohdkj djsxk fd MkW- feJ chloha 'krkCnh ds loZJs"B lkfgR;dkj FksA  **lanHkZ***%&*  1     MkW- feJ vfHkuanu xzaFk] 1963] izFke laLdj.k] MkW- feJ vfHkuanu lfefr] jktukanxkao ¼e-iz-½] i`"B 17  2-    gfjvkS/k vkSj mudk fiz; izokl] MkW- m"kk ;kno] 1971] izFke laLdj.k] izdk'ku dsUnz] lhrkiqj jksM] y[kuÅ] i`"B 03  3-    Hkkjrh; jk"Vªh; vkanksyu ,oa Hkkjrh; lafo/kku dk fodkl] egkohj flag R;kxh] 1992] X;kjgoka laLdj.k] jktho izdk'ku] esjB] m-iz-] i`"B 03  4-    MkW- feJ vfHkuanu xzaFk] i`"B 01  5-    NRrhlx<+ dk jktuSfrd bfrgkl ,oa jk"Vªh; vkanksyu] MkW- jesUnzukFk feJ] 1991&92] uohu la'kksf/kr laLdj.k] nhf{kr cznlZ] ekSngkikjk] jk;iqj ¼e-iz-½] i`"B 123  6-    fujkyk lkfgR; esa thou n'kZu] MkW- fouksfnuh JhokLro] 1988] izFke laLdj.k] lqyHk izdk'ku] v'kksd ekxZ] y[kuÅ] i`"B 33  7-    NRrhlx<+ dk bfrgkl] lh-ds-frokjh] 1992] izFke laLdj.k] ikB~;Øe izdk'ku] jk;iqj ¼e-iz-½] i`"B 22  8-    MkW- feJ vfHkuanu xzaFk] i`"B 15  9-    fgUnh lkfgR; dk bfrgkl] MkW- uxsUnz] 1993] iw.kZr;k la'kksf/kr ,oa ifjof/kZr laLdj.k] e;wj isij cSDl] uks,Mk] i`"B 487&488  10-   NRrhlx<+ dk bfrgkl] i`"B 21  11-   dks'ky fd'kksj] MkW- cynso izlkn feJ] 1934] izFke laLdj.k] lkfgR; Hkou fyfeVsM] bykgkckn] i`"B 219  12-   lkdsr lar] MkW- cynso izlkn feJ] 1946] izFke laLdj.k] fon~;k eafnj fyfeVsM] ubZ fnYyh] i`"B 34  13-   ogh] i`"B 182  14-   jke jkT;] MkW- cynso izlkn feJ] i`"B 77  15-   Hkkjrh; laLd`fr] MkW- cynso izlkn feJ] 1968] f}rh; laLdj.k] jkeukjk;.kyky csuhek/ko] bykgkckn] i`"B 177  16-   thou laxhr] MkW- cynso izlkn feJ] 1951] r`rh; laLdj.k] vRrjpan diwj ,.M lUl] dk'ehjh xsV] fnYyh] i`"B 22  17-   dks'ky fd'kksj] i`"B 110  18-   jke jkT;] i`"B 23  19-   thou laxhr] i`"B 29  20-   jke jkT;] i`"B 12  21-   ogh] i`"B 60  22-   ogh] i`"B 115  23-   Hkkjrh; laLd`fr] i`"B 175  24-   lkdsr lar] i`"B 17  25-   ogh] i`"B 60  26-   ogh] i`"B 66  27-   jke jkT;] i`"B 118  28-   thou laxhr] i`"B 01  29-   ogh] i`"B 04  30-   ogh] i`"B 40  31-   mnkŸk laxhr] MkW- cynso izlkn feJ] i`"B 52  \*\*\*    **fxfj”k iadt ds miU;klksa esa lkekftd ljksdkj**  fot; dqekj  MkW- Jherh “khyk “kekZ  fxjh”k iadt dk tUe 1 tuojh 1957 bZ- dks okjk.klh esa gqvk] fdUrq mudk ykyu&ikyu NRrhlx<+ ds eusUnzx<+ esa gqvk A fxjh”kth us ch-ts- ¼i=dkfjrk½ esa izkoh.; lwph esa izFke LFkku izkIr fd;k vkSj jk;iqj rFkk fcykliqj ds dbZ i=&if=dkvksa esa dke fd;kA ysfdu mUgsa dksbZ Hkh txg taWaaph ugha blfy, mUgksusa ys[ku esa gh vius vki dks iw.kZr% lefiZr dj fn;k AfofHkUu ns”kksa dh ;k= djus okyss rFkk lsokJh lEeku ,oa pfpZr vV~Vkgkl lEeku ls lEekfur iadt dh 6 miU;klksa lfgr yxHkx 40 iqLrdas vc rd izdkf”kr gks pqdh gSa A  ledkyhu dfork] O;aX;] dgkuh] miU;kl ,oa L=h lkfgR; rFkk xty tSlh fo/kkvksa ij fujUrj viuh ys[kuh pykus okys fxjh”kth ofj’B i=dkj ,oa lkfgR;dkj lefiZr ys[kd gSa A euq’; ,d lkekftd [izk.kh](http://izk.kh/) gS vkSj lekt lsa vyx euq’; ds vfLrRo dh dYiuk djuk O;FkZ gS A lekt esa ?kVus okyh ?kVukvkas dks euq’; izHkkfor djrk gS vkSj ?kVuk,Wa euq’; dks Hkh izHkkfor djrh gSaA cnyrs le; ds lkFk&lkFk lekt esa Hkh fofHkUu ifjorZu ifjyf{kr gksrs gSa A ifjorZu ldkjkRed vkSj udkjkRed nksuksa gks ldrs gSa A ftlls lkfgR;dkj vo”; izHkkfor gksrk gS viuh lw{e n`f’V ls ifjorZu dks ns[krs gq, viuh ys[kuh ls thoar #i iznku djrk gS A lkfgR;dkj dh laosnu”khyrk lekt ds lkekU; O;fDr;ksa ls vf/kd gksrh gS A  bl laca/k esa ealwj lS¸;n th dgrs gSa& ^^O;fDr dk ;qxhu rFkk HkkSxksfyd ifjos”k mlds O;fDrRo dks izHkkfor djrk gS A lkfgR;dkj vke vkneh ls vf/kd laosnu”khy vkSj fparu”khy gksus ds dkj.k ;g izHkko ,d izsj.kk ds #i esa xzg.k djrk gS A lkfgR;dkj lekt dk lnL; gksrk gS A Lo;a lacaf/kr ns”kdkyxr Hkhrjh ,oa ckgjh ifjfLFkfr;ksa dk og HkksDrk ,oa n`’Vk gksrk gSA\*\*1    miU;kl ,d ,slh fo/kk gS] ftlesa ys[kd vius xgu ls xgu vkSj lw{e ls lw{e fopkjksa dks] viuh laosnukvksa dks ckfjdh ls O;Dr dj ldrk gS A orZeku le; esa miU;kl fo/kk vf/kd yksdfiz; gks pqdh gS vkSj miU;kl esa ys[kd viuh fofHkUUk Hkkoukvksa dks vius fdlh ik= ds ek/;e ls vklkuh ls dg nsrk gS] NksVh&NksVh ?kVukvksa dk Hkh foLr`r vkSj lqUnj fp=kadu miU;kldkj viuh jpuk esa dj ldrk gS A MkW- fdj.k ckyk tktw th dgrh gSa fd  **^^**miU;kl ,d ,slh fo/kk gS] ftlesa ekuo dk lkxj tSlk fo”kky thou pan ?kaVksa esa gh ge vkSj lqUnj fp=kadu miU;kldkj viuh jpuk esa dj ldrk gS A MkW- fdj.k ckyk tktw th dgrh gSa fd  **^^**miU;kl ,d ,slh fo/kk gS] ftlesa ekuo dk lkxj tSlk fo”kky thou pan ?kaVksa esa gh ge lqanj “kCnksa esa i<+rs gSa vkSj thou ds lHkh lq[k&nq[kksa dks gqcgw vuqHko Hkh djrs gSa ekuks oks lq[k&nq[k ge gh Hkksx jgs gksa A\*\*2    fxjh”k iadt us vius thou dh Hkksxh gq, ?kVukvksa vkSj {k.kksa dks vo”; gh vius lkfgR; e vkSj lqUnj fp=kadu miU;kldkj viuh jpuk esa dj ldrk gS A MkW- fdj.k ckyk tktw th dgrh gSa fd  **^^**miU;kl ,d ,slh fo/kk gS] ftlesa ekuo dk lkxj tSlk fo”kky thou pan ?kaVksa esa gh ge  ---------------------------------------------------------------------------------------------------------------------------------------------------------------------  “kks/k Nk= “kk- Ogh-ok;-Vh-Luk-egk- nqxZ  izk/;kid ,oa foHkkxk/;{k ¼fgUnh½ “kkl- uohu egk- [kq”khZikj] fHkykbZuxj nqxZ  lqanj “kCnksa esa i<+rs gSa vkSj thou ds lHkh lq[k&nq[kksa dks gqcgw vuqHko Hkh djrs gSa ekuks oks lq[k&nq[k ge gh Hkksx jgs gksa A\*\*2    fxjh”k iadt us vius thou dh Hkksxh gq, ?kVukvksa vkSj {k.kksa dks vo”; gh vius lkfgR; esa  LFkku fn;k gS A lekt esa ?kfVr gksus okyh ?kVukvksa ij ges”kk viuh izfrfØ;k djus okys ltx lkfgR;dkj lekt esa gksus okys lkekftd ifjorZu ij vo”; viuh fogaxe n`f’V Mkyrk gS vkSj mls viuh dye ls fijksdj lkfgR; ds #i esa iqu% lekt dks gh lefiZr djrk gSA ;g dyk fxjh”k iadt dh jpukvksa esa ns[kus dks feyrh gS A    fxjh”k iadt us lekt esa ?kfVr gksus okyh ?kVukvksa vkSj lkekftd leL;kvksa dks vius miU;klksa dk ewy fo’k; cuk;k gS vkSj viuh lw{e n`f’V ls fofHkUu igywvkas ij izdk”k Mkyk gS A vkt ;fn iwjs fo”o dh nwjh fleVdj jg x;h gS vkSj lwpuk ds vknku iznku esa tks rsth ns[kh tk jgh gS] mlesa ehfM;k dk lcls cM+k gkFk utj vkrk gS A i=dkfjrk orZeku le; dh lokZf/kd egRoiw.kZ {ks= cu pqdk gS A lkFk gh i=dkfjrk dks vFkZ&vtZu djus dk ,d lk/ku ekuus okys yksx Hkh bl lekt esa gSa vius miU;kl ^^feBycjk dh vkRedFkk\*\*esa fxjh”k iadt us i=dkfjrk dks dsUnz esa j[kdj jpuk dh gSA ^^vkt ls chl&iPphl lky igys tc eSa ljk;iqj vk;k Fkk] rks esjs ikl dqN Hkh ugha Fkk A flok; ,d nqtZu **^**vkyfiu**\***vkSj [kqjkQkrksa ls Hkjs fnekx ds A---- ftl v[kckj esa eSa dke djrk Fkk mldk ekfyd i=dkfjrk dks ^fe”ku**\***ekurk Fkk vkSj eSa i=dkfjrk dks deh”ku ds #i esa rCnhy dj nsuk pkgrk Fkk A**\*\***3  lkekftd ifjos”k ,slh gks pqdh gS] fd bZekunkj gksus dk eryc gS yksxksa ds fojks/k vkSj “k=qrk dks fcu cqyk;s esgeku dh rjg Lokxr djuk D;ksafd bZekunkj O;fDr [kqjkQkrh fdLe ds csbZeku vkSj Hkz’V yksxksa ds jkLrs dk jksM+k lkfcr gksrk gS vkSj vkWa[kksa dk dkWaVk A Hkz’Vkpkj dks tgkW lkekftd f”k’Vkpkj dh rjg Lohd`fr feyrh tk jgh gS] ogha bZekunkj vkSj f”k’V cudj jguk fiNM+siu vkSj Mjiksd vkSj Hkh:rk dh fu”kkuh le>h tkus yxh gS A bl rF; dks fxjh”k iadt us vius ekfQ;k uked miU;kl esa mfpr LFkku fn;k gS& **^**KkusUnz ds lkFk ehfM;k us tks vU;k; fd;k gS] mls ;kn dj mldk fny Hkj vk;k A og ;gh lksprk jgk fd tks yksx iwjh bZekunkjh ds lkFk viuk dke dj jgs gSa] mudks ,slh izrkM+uk D;ksa >syuh iM+rh gS \ vkt ,slh rkdrsa lekt esa ppkZ esa D;ksa jgrh gSa] tks yk;d ugha gSa A\*4  **^**vjs thrs th vxj izfrHkkvksa dh dnz u dj ik;s rks ejus ds ckn egku crkdj] xq.kxku djus ls D;k Qk;nk A\*5  lkfgR; ds {ks= esa Hkh Hkz’V yksxksa us viuh iSB tekuh “kq# dj nh gS] ,d rjQ tgkWa lkfgR; ds lPps lk/kd dks mlds iwjs thou Hkj lkfgR; lsok djus vkSj la?k’kZ djus ds ckn Hkh mldk gd ugha fey ikrk gS vkSj og vHkkoksa dk thou thus ds fy, etcwj gksrk gS A ogha dksbZ vQlj ;k cM+k usrk dqN Hkh mYVh&lh/kh ckrsa fy[k ns rks muds foekspu esa HkO; lekjksg j[ks tkrs gSa] lEeku lekjksgksa dk vk;kstu fd;k tkrk gS A lsfVaXl ds cnkSyr ukeh vkykspdksa ds }kjk v;ksX; O;fDr dks Hkh lkfgR; ds “kh’kZ esa igqWapkus dk dk;Z fd;k tkrk gS A fxjh”k iadt th vius ekfQ;k esa fy[krs gSa &  **^**egRo jkf”k dk ugha] lEeku dk gS A ckRk lEeku dh Hkh ugha gSa ekufldrk dh gS A**^**KkusUnz us dgk dysDVj dks lEeku feyrk gS rks izeq[krk ls Nkik tkrk gS vkSj ;fn fdlh lkekU; ys[kd dks mlls Hkh cM+k lEeku feyrk gS] rks Hkh [kcj gh ugha Nirh A\*6  **^**,slk vFkZ rks mUgksusa dHkh lius esa Hkh ugha lkspk Fkk A oks rks ,d ckj cxhps esa cSBs Fks] iRuh ds lkFk vkSj dqN Qwy uhsps fxj jgs Fks A yky&yky Qwy vPNs yxs rks mls tl dk rl dfork esa mrkj fn;k A iRFkj ij Qwy fxj jgs gSa ---- ckj&ckj ---- ysfdu /kU; gks vkykspd ¼jk?kosUnz th½A  lkekU; lh iafDr;ksa dh vlk/kkj.k O;k[;k dj Mkyh A ;gh gS ledkyhu egku vkykspuk A ikB esa ls vius vuqlkj vFkZ dh ryk”k A jsr ls rsy fudkyus dh izfØ;k dks vkykspuk dgrs gSa vkSj tks iRFkj dks Hkh lksuk lkfcr dj ns ogha lPpk vkykspd gS A**\***7  L=h&foe”kZ lkfgR; dh ,d fof”k’V /kkjk cu pqdk gS] efgykvkas ij gks jgs vR;kpkj vkSj vU;k; dk fp=.k lkfgR; dk fo’k; gS ogha efgykvksa dk mRrj vk/kqfud fopkj/kkjk dk fodkl v”yhy oL=ksa ,oa O;ogkjksa dks QS”ku dk uke fn;k tkuk rFkk Hkkjrh; laLd`fr ,oa O;ogkj dk g~~~kl Hkh lkfgfR;d ppkZ ¼o.kZu½ dk egRoiw.kZ fo’k; cu pqdk gS A Hkkjrh; laLd`fr og ldq”ky ikfjokfjd nkf;Roksa dks fuokZg djus okyh] deZ”khy] la?k”kZ”khy] yTtk vkSj lEeku ls foHkwf’kr ukjh vkt ds vk/kqfudrk ds nkSM+ esa dgha foyqIr gksrh tk jgh gS A bl va/ks nkSM+ eas ukjh us viuh vfLerk dks Hkh nkWao esa yxkdj HkkSfrd lq[k izkIr djus dk le>kSrk djus lnSo rS;kj utj vk tkrh gS] bl i{k dks fxjh”k iadt us fuEu iafDr;ksa esa HkyhHkkaWafr mdsjus dk iz;kl fd;k gS &  **^**lwth dks le> esa gh ugha vk jgk Fkk fd og eNyh cu pqdh gS A ;k fQj le> esa Hkh vk x;k gks A vktdy rks cgqr lh yM+fd;kWa ;g Hkh lkspus yxh gSa fd eafty dks ikus ds fy, [kqn dks eNyh Hkh cukuk iM+s rks dksbZ uqdlku ugha A^  **^**ikWyhoqM ls ckWyhoqM rd vkxs c<+us ds fy, ;gh ,d jkLrk] lqanj vkSj fVdkÅ rjhdk cp x;k gS A**\***8  fxjh”k iadt us vius miU;klksa esa lekt ds mu i{kksa dks Hkh mdsjk gS ftl vksj yksxksa dk /;ku cM+h eqf”dy ls tkrk gS] fo”o ds egkure /keksZ esa viuk iwtuh; LFkku izkIr djus okyh ekrk dh in~oh izkIr xk; dh tks vkt nqnZ”kk gks jgh gS] xk; ds lkFk ,d rjQ iwtk dk fn[kkok vkSj nwljh rjQ n;uh; thou dk migkj fn;k tk jgk gS bl vksj iadt us gekjk /;ku vius miU;kl **^**xk; dh vkRedFkk\*ds ek/;e ls [khapk gS vkSj xk; ds ckjs esa lkspus ds fy, izsfjr fd;k gS A  ehfM;k vkSj izsl esa gks jgs insZ ds ihNs ds [ksy dks mtkxj djus ds fy, cM+s lkgl vkSj fgEer dh vko”;drk gksrh gS vkSj ,slk gh lkgfld dk;Z dk vPNk mnkgj.k ehfM;k; ue% esa djus dk Js’Bre iz;kl yf{kr gksrk gS A lekt esa gks jgs fofHkUUk ifjorZu] ldkjkRed ,oa udkjkRed cnyko dh fn”kk ij viuh lw{e n`f’V Mkyrs gq, fofHkUu {ks=ksa ij viuh n`f’V dk fp=.k djrs gq, viuh lkekftd le> dks Li’V djrs gq, lkfgfR;d #i iznku djus dk mRd`’V dk;Z fd;k gS A  fxjh”k iadt ds lkfgR; esa fpf=r ?kVuk,Wa gekjs vkl&ikl ds ifjos”k esa vklkuh ls utj vk tkrh gSa A miU;klksa esa mdsjs x;s fp= dksjh dYiuk ek= u gksdj okLrfod thou esa ?kfVr gksus okyh ?kVuk;sa gh gSa A pkgs og **^**feBycjk\*dh vkRedFkk] esa fpf=r feBycjk uked ik= dk pfj= gks ;k **^**ekfQ;k\*esa of.kZr lkfgR;dkj vkSj i=dkj ds n;uh; thou dk n`”; A lHkh ?kVuk;sa ge vius lekt esa vius ifjos”k esa vklkuh ls ns[k ldrs gSa A  i=&if=dkvksa esa Nius okyh ?kVuk;sa i=dkjkas ds fdu d`R;ksa dk ifj.kke gSa] tSlk o.kZu lkfgR;dkj us vius miU;klksa esa fd;k gSa] ,sls <ksaxh i=dkj Hkh gesa vius lkekftd thou esa fey tkrs gSa A  varr% rks eSa ;gh dguk pkgwWaxk dh lkfgR;dkj us vius lkfgR; dh jpuk dsoy euksjatu ;k fo}rk ds izn”kZu ;k uke dekus ds fy, ugha vfirq lekt ds nnZ dks vius “kCnksa esa latksus lekt dh ,sls ?kVuk,a ftl vksj gekjh utj ugha tkrh mls lkeus ykus] vkSj viuh laosnukvksa dks lkfgR; ds #i esa gekjs lkeus j[kdj gekjs ân; ifjorZu dk ,d Js’B iz;kl fd;k gS vkSj vkxs Hkh iz;kljr gSa A  **lanHkZ xzaFk %&**  1- ekpos] izHkkdj ds miU;klksa esa lkekftd ljksdkj lS¸;n elwn] i`’B 13  2- xxZ] e`nqyk ds lkfgR; esa fpf=r lekt MkW fdj.k ckyk tktw i`’B 21  3- iadt] fxjh”k feBycjk dh vkRedFkk & i`’B 11&12  4- fxjh”k] iadt ekfQ;k i`’B  5- ogh] i`’B 166  6- ogh] i`’B 165  7- ogh] i`’B 39  8- iadt] fxjh”k ikWyhoqM dh vIljk] i`’B 116 A  vU; xzaFk ,oa i= if=dk,Wa  1- “kks/k izdYi 2- loZuke    \*\*\*  **orZeku ifjn`’; esa O;aX; dh n”kk vkSj fn”kk**  Jherh lquhrk lksuh\* MkW- Jherh **”k**hyk “kekZ\*\*    orZeku ifjfLFkfr fo”kerkvksa ls Hkjh gS] tgk¡ iq= firk dh ckr ugha lqurk e;kZnk vkSj uSfrdrk tSls “kCnksa dk g~kl gksrs tk jgk gS A euq’; ds ikl lc dqN gS] oDr ugha gS A dksbZ fdlh dh ckr ugha lqurk tgkWa cPpk eksckby vkSj yS¶Vki ds ;qx esa th jgk gS A ogkWa yksxksa dks tkx`r djus dk ,d loksZijh ek/;e O;aX; gS tks de “kCn o de le; esa gesa gekjk okLrfod vkbZuk fn[kkrk gS A pwafd lkfgR; lekt dk niZ.k gksrk gSA gj ;qx esa lkfgR; dh viuh vge Hkwfedk gSA vkt O;aX; ,d l”kDr fo/kk ds #i esa viuh ped fc[ksjrs tk jgk gS A    O;aX; ys[ku ds izkjfEHkd dky esa O;aX; dks fo/kk ugha ekuk tkrk FkkA fQj Hkh izkphu dky ls O;aX; ys[ku dk;Z pyrk jgk A dchj dh ^lk[kh\* O;aX; dk loksZRre uewuk gS A blds i”pkr~ vk/kqfud ;qx ds izorZd HkkjrsUnq gfj”panz ds ek/kqjh] ^Hkkjr nqnZ’kk\*] ^va/ksj uxjh\* tSlh Js’B d`fr;ksa esaa O;aX; dk Li’V #i ifjyf{kr gksrk gS A rr~i”pkr~ vusdkusd lkfgR;dkjksa us dk;Z fd;k mlesa gfj”kadj ijlkbZ dk uke vknj ds lkFk fy;k tkrk gSA ijlkbZ th dh jpuk us O;aX; dks u;k vk;ke fn;k vkt orZeku esa O;aX; dks ,d Lora= fo/kk ds #i esa Lohdkj fd;k x;k gSA    orZeku esa vusd lkfgR;dkjksa us O;aX; dks ,d fo/kk ds #i esa iz;ksx dj dfork] dgkuh] ukVd fy[ks gSa budh ys[kuh dh ped us nqfu;k dks ,d u;k vk;ke fn;k gS A yksx O;aX; dks xk.Mho ls fudyk gqvk rhj dgrs gS dqN yksx u”rj dgrs gS] dqN yksx vkWa[kksa esa yxk gqvk vatu dgrs gSa dqN rks vkS’kf/k gS okLro esa O;aX; ,d ,slk veks/k vL= gS tks fcuk izgkj djs O;fDr dks ?kk;y dj nsrk gS A blfy, vkt ys[ku dh ,d l”kDr fo/kk ds #i esa ;g loksZPp LFkku ij gS A bl fo/kk ds jpukdkj ds :I esa gfj”kadj ijlkbZ dk uke vknj ds lkFk fy;k tkrk gS ijlkbZ th dh jpuk us O;aX; dks u;k vk;ke fn;kA vkt orZeku esa O;aX; dks ,d Lora= fo/kk ds #i esa Lohdkj fd;k x;k gSA    dbZ ys[kd vius vki dks O;aX;dkj dgus esa xoZ eglwl djrs gSa] D;ksafd O;aX; lh/kk ml fn”kk esa dk;Z djrk gS ftlesa ekuork dk dY;k.k fufgr jgrk gS A  O;aX; HkVds gq, jkgxhj dk jkg gS] chekj dh vkS’kf/k gS] va/kdkj ;qDr thou ds fy, izdk”k iqat gS] blfy, orZeku esa O;aX; fo/kk Qy&Qwy jgh gSA **O;aX; dh n”kk**&vkt euq’; iSls ds fy, viuk bZeku&/kje lc dqN csp nsrs gaS A ,sls gh #i;s dks vkneh ls T;knk egRo nsus okysa yksxkas ij HkkjrsUnq gfj”kpanz us O;aX; fd;k gS tks vkt Hkh izklafxd gS &  ^^,d Vdk nks ge vHkh viuh tkr csprs gSa A  Vds ds okLrs] ckg~e.k ls /kksch gks tk,   -----------------------------------------------------------------------------------------------------------------------------------------------------------  \* “kks/k Nk=k “kk- Ogh-ok;-Vh-Luk-egk- nqxZ  \*\*izk/;kid ,oa foHkkxk/;{k  fgUnh  “kkl- uohu egk- [kq”khZikj] fHkykbZuxj nqxZ ¼N-x-½  vkSj /kksch dks ckg~e.k dj nas] Vds ds okLrs  tSlh dgks oSlh O;oLFkk ns A    Vds ds okLrs /keZ vkSj izfr’Bk nksuksa cspsa]  Vds ds okLrs >wBh xokgh nsa A\*\*1  Bhd blh izdkj dh ckr xkk¡/khoknh dfo Hkokuh izlkn feJ dh pfpZr O;aX;kRed dfork ^xhr Qjks”k\* es esa gS A  ^^th gk¡ gqtwj eSa] xhr csprk gw¡  fdfle&fdfle ds xhr csprk gw¡A  eSa rjg&rjg ds xhr csprk gw¡ A  tks eky nsf[k, nke crkÅ¡xk  csdke ugha gS dke crkÅ¡xk  dqN fy[ksa gSa eLrh esa eSusa  ;g xhr l[r ljnnZ Hkqyk,xk  ;g xhr fi;k dks ikl cqyk,xk  th vkiu gks lqudj T;knk bZeku  eSa lksp le>dj vkf[kj vius xhr csprk gw¡ A\*\*2  O;aX;dkj dchj dh dfork dh rjg ,d loZJs’B fuand gksrk gS] tks viuh ckrksa ds }kjk O;fDr dk lPpk iFk izn”kZu djrk gS] ftl izdkj fuank djus okyk fcuk ikuh vkSj lkcqu ds gekjs “kjhj dks LoPN o fueZy dj nsrk gS] Bhd mlh izdkj ,d loZJs’B O;aX;dkj viuh d`fr ds ek/;e ls lekt o lRrk esa O;kIr cqjkb;ksa dks QSyus ls jksdus dk dk;Z djrk gS] ml ij vadq”k yxkrk gS A blhfy, vkt O;aX; dh n”kk lekt esa viuk fo”ks’k LFkku j[krh gS A lR;] tks”k] lkSgknZ ls Hkjk O;aX; ,d xksyh dh rjg gSa] tks lekt esa O;kIr gj rjg dh chekjh dk lewy uk”k djrh gSA     blfy, O;aX; ,d Lora= fo/kk ds #i eas viuk viuk LFkku cukdj ;FkkZFkksUeq[k fn”kk dh vksj vxzlj gS A  **O;aX; dh fn”kk**& thou esa fojks/kksa ds c<+us ds dkj.k folaxfr;k¡ iui jgh gSaA thou esa ruko] vyxko] vtuchiu rFkk dqaBk izos”k dj x;k gS A vc O;fDr ds ikl yksxksa ds lq[k&nq[k dks tkuus ds fy, mlesa “kkfey gksus ds fy, le; ugha gS A miHkksDrkoknh lekt esa thou] vFkZ iz/kku gks x;k A nqfu;k ekuork] bZekunkjh] ijksidkj] R;kx] dRrZO; rFkk n;k vkfn Hkkoksa ls eqDr gksrk tk jgk gSA d`f=erk] QS”ku] u”kkckth] gR;k] ywVikV] Hkz’Vkpkj f”k{kk dk O;olk;hdj.k] vijk/k] v”yhyrk fnu&izfrfnu c<+rh tk jgh gSA  u;h ih<+h flQZ cksyrh gS] lquuk ugha pkgrh A vkt csVk vius ekrk&firk dh ckr rd ugha ekurk A tekuk cny x;k gS A baVjusV dk ;qx gS blh fo’k; ij MkW- lqjsUnz nqcs th fy[krs gSa & mnkgj.k nsf[k, &  ^^xwxy esa lpZ djrk gS  Hkkouk dh lkbZV  mls ftanxh jaxhu yxrh gS  vkSj ekWa cki  CySd ,aM OgkbV A\*\*3  igys cqtqxZ yksx dgrs Fks ftruh pknj gS mruk gh iSj QSYkkvksa ugha rks lalkj esa galh ds ik= gks tkoksxs A m/kkj djds dqN u djks bTtr pyh tk;sxh vkSj dHkh dtZ ysuk Hkh iM+rk Fkk rks flj >qdkdj dtZ ysrk FkkA vc fn”kk cny x;h gS A MkW- lqjsUnz nqcs }kjk jfpr dfork dk mnk- nsf[k,  &  ^^igys vkneh flj  >qdkdj dtZ ysrk Fkk  vc Nkrh Bkasddj ysrk gS  igys gkFk QSykrk Fkk  vc gkFk feykrk gS  yksu esa caxyk yksu esa dkj  yksu esa “kknh  yksu esa R;ksgkj A\*\*4  iapk;rh jkt O;oLFkk esa efgyk ljiap dh fu;qfDr D;ksafd in efgyk vkjf{kr gS ij fLFkfr  bruh cqjh gqbZ dh efgyk ljiap mldk ifr ljiap ifr gj dke mlh ds gkFkksa mnk- nsf[k, &  ^^ckg js iapk;rh jkt  [kLlw [ktjh vmnkn  ckbZ gs efgyk ljiap  xkslb;k y fey A\*\*5  ik”pkR; lH;rk dk va/kkuqdj.k vkSj laLd`fr ds g~kl dks n”kkZrs gq, nqcs th fy[krs gS fd&  ^^QS”ku us lc dqN cny fn;k  vkWa[ks cnyh  ckrs cnyh  fj”rksa dks Hkh cny fn;k  vf/kdkjksa dh ekWax lgh  ij diM+s brus de  dSls lhrk lkfo=h dh  ckr djsaxs ge A\*\*6  vk/kqfudrk ds uke ij uSfrd ewY;ksa dk iru gks jgk gSA orZeku esa lkaLd`frd jhfrfjoktksa  dks rkd ij j[k fn;k x;k gSA izse vkSj vkxzg ls cSBkdj Hkkstu djkus dh izFkk [kRe gksrh tk jgh gSA vc drkj eas [kM+ks gksdj cuke ^cQs flLVe\* dks ^cQsyks flLVe^ ftls fxn~n Hkkstu Hkh dg ldrs gSa A bu lHkh O;oLFkkvksa ds f[kykQ yksxksa dk /;ku vkdf’kZr djuk O;aX;dkj dk y{; curs tk jgk gS A  bl izdkj O;aX; l`tu dh fn”kk pjeksZRd’kZ ij gS A orZeku le; esa lkekftd vkSj jktuhfrd ifjfLFkfr;ksa us vlaxfr;ksa ds fy, moZjd dk dk;Z fd;k A c<+rh gqbZ eagxkbZ] djksa ¼VSDl½ dk vkf/kD;] m|ksxksa dk BIi gksuk] tula[;k dh foLQksVd o`f)] fons”kh ljdkj ls \_.k ysus dh etcwjh] v.kq foLQksV dk;ZØe] xsV le>kSrk] [kqyh cktkj O;oLFkk] fons”kh dEifu;ksa dk Hkkjrh; ekdsZV esa vkuk] ued rd fons”kh dEifu;ksa ds vf/kdkj esa pyk tkuk] iatkc] d”ehj] vle] vka/kz o >hej ?kkVh dk vkradoknh geyk] oksVksa dh [kjhn Qjks[r] feyhtqyh ljdkjsa] vfLFkj laln] fons”kh ncko vkfn us O;aX; ys[ku dks izHkkfor fd;k A O;aX; ys[ku dk ikBdh; vkSj vkykspdh; ekU;rk feyh A ljdkjh] xSjljdkjh ehfM;k Hkh vc O;aX; izlkj.k ds fy, mRlqd jgus yxk gS A th lkgc] dDdkth dfgu esa v”kksd pØ/kj us jktuhfrd folaxfr;ksa dks flusek okyksa ds ek/;e ls u;h O;aX;kRed iz.kkyh fodflr dh A dfo lEesyuksa esa] fQYeksa esa O;aX; dk cksyckyk gks x;k A orZeku esa O;aX; dh lgh igpku mHkj dj lkeus vkus yxh A bl rjg o’kksZ ls misf{kr O;aX; dk #i cnyus yxk tgkWa rhoz izgkj o rh[kk pksV djrk Fkk ogkWa vc O;aX; fouksn “kSyh esa tuekul dks izHkkfor djus yxk A O;aX;dkj fxjh”k iadt }kjk jfpr mnk- nsf[k,&  ^^peps laca/k Hkqukrs gSa ------  i=dkj v[kckj Hkqukrs gSa -------  usrk volkn Hkqukrs gSa --------  ik[kaMh izopudrkZ yksxksa dh /kkfeZd vkLFkkvksa dks Hkqukrs gSa A  ekSds dk Qk;nk mBkdj yksx [kksVs flDds ;k udyh uksV Hkqukrs jgs gSa A\*\*7  fu’d’kZ ds :i esa ;g fl) gS fd O;aX; dh n”kk orZeku :i esa fodflr gqbZ gS rFkk O;aX; ys[ku ds fy, ubZ fn”kk feyh gSA O;aX; dk orZeku ifjn`”; fofo/k fo’k;kas ls Hkjk iM+k gSA ;s ifjfLFkfr;kWa O;aX; ys[ku ds fy,] lkekftd lkfgfR;d fLFkfr;ksa dks le>us ds fy, dkjxj Hkwfedk rS;kj dj ik;saxh vkSj Js’B O;aX; ys[kd Hkh rS;kj gks ldsaxsA  **lanHkZ xazFk** &  1- gfj”kpanz HkkjrsUnq ] va/ksj uxjh] i`’B 45  2- feJ Hkokuh izlkn] xhr Qjks”k] i`’B 182  3- nqcs lqjsUnz] loky gh loky gS] i`’B 49  4- nqcs lqjsUnz] loky gh loky gS] i`’B 16  5- nqcs lqjsUnz] eksj iaMok xokWa xs] i`’B 36  6- nqcs lqjsUnz] feFkd eaFku] i`’B 43  7- fefM;k; ue%] iadt fxjh”k] i`’B 71  \*\*\*          **;kstuk ds varxZr miyC/k efgyk jkstxkj dk vkfFkZd l”kfDrdj.k ij izHkko**  **¼NRrhlx<+ ds jktukanxkao fodkl[kaM ds fo”ks’k lanHkZ esa½**  MkW- ,- ,u- ek[khtk\* ,oa MkW0 ¼Jherh½ fueZyk mejs\*\*  **”kks/k lkjka”k**  *Hkkjr esa loZizFke xzkeh.k {ks=ksa esa jkstxkj lqfu”fpr djds xjhch mUewyu ds fy, jk’Vªh; xzkeh.k jkstxkj fcy ikfjr dj jkstxkj dks dkuwuh ekU;rk nh xbZ gS] QyLo:Ik egkRek xka/kh jk’Vªh; xzkeh.k jkstxkj xkj.Vh ;kstuk] xkao esa fo|eku xjhch ,oa csjkstxkjh mUewyu dh fn”kk esa egRoiw.kZ dne gSA ;g ;kstuk jkstxkj miyC/krk ,oa v/kkslajpuk fuekZ.k ds y{; dks izkIr djus esa lQy jgh gSA izLrqr “kks/ki= esa NRrhlx<+ dss jktukanxkao ftys ds jktukanxkao fodkl[k.M esa eujsxk jkstxkj dk vkfFkZd l”kfDrdj.k dk izHkko dk v/;;u fd;k x;k gSA v/;;u {ks= ds 120 Jfedksa dks nSo funZ”ku i)fr ls pqudj vuqlwph ds ek/;e ls ,df=r vkadM+ksa dk fo”ys’k.k djus ls ;g ckr Li’V :Ik ls mHkj dj lkeus vkbZ fd eujsxk ;kstuk ds varxZr miyC/k jkstxkj ls efgyk,a vkfFkZd :Ik ls l”kDr gqbZ gSaA jktukanxkao ftyk ns”k ds 10*[*vxz.kh*](http://vxz.kh/)*ftyksa esa ls ,d gS] tgka bl ;kstuk esa efgykvksa dh lgHkkfxrk 70 izfr”kr ls Hkh vf/kd gSA*  **ifjp; %&**  ^dsUnz ljdkj dh egRokdka{kh ;kstuk] \*jk’Vªh; jkstxkj xkjaVh ;kstuk\* dh “kq:vkr o’kZ 2005 esa gqbZ] ftlesa dsUnz ljdkj }kjk vf/klwfpr xzkeh.k {ks=ksa esa jkT; ljdkj ds ek/;e ls ,d foRrh; o’kZ esa izR;sd xzkeh.k ifjokj ds o;Ld lnL; dks 100 fnu ¼orZeku esa 150 fnu½ jkstxkj miyC/k djkrh gS] ftldk izR;{k laca/k muds }kjk fd, tkus okys “kkjhfjd Je ls gksrk gSA^12 vDVwcj] 2009 dks \*xka/kh t;arh ds volj ij dsUnz ljdkj us ;g fu.kZ; fy;k fd bl vf/kfu;e dks \*egkRek xka/kh\* ds uke ls tksM+k tk,A vr% ;g \*egkRek xka/kh jk’Vªh; xzkeh.k jkstxkj xkjaVh vf/kfu;e\* ds uke ls tkuk tkus yxkA igys pj.k esa bls ns”k ds 200 ftyksa esa ykxw fd;k x;k FkkA ysfdu 2009 esa ;wih, dh lRrk okilh ds ckn bls ns”k Hkj esa ykxw fd;k x;kA bl “kkjhfjd Je ds izfrQy esa mls “kklu }kjk fu/kkZfjr etnwjh nj ds vk/kkj ij fu;r vof/k ds Hkhrj leqfpr ikfjJfed fn;k tkrk gSA ^foRrh; o’kZ \*2013&14 esa Hkkjr ds 644 ftyksa esa eujsxk ;kstuk lapkfyr gS] ftlesa 28-6 djksM+ Jfedksa dks \*tkWc dkMZ\* tkjh fd;k x;k gSA blds varxZr iwjs ns”k esa 113-2 yk[k dk;Z izxfr ij gSaA^2  \*eujsxk\* dqN ,sls fcUnqvksa ij cy nsrk gS] tks dke ds vf/kdkj dks O;kid Lrj ij pfjrkFkZ djrk gSA blds varxZr ,sls “kkjhfjd Je;qDr dk;ksZa dks lfEefyr fd;k x;k gS] ftls dksbZ Ok;Ld iq:’k ;k efgyk fdlh dkS”ky ;k izf”k{k.k ds fcuk Hkh djus esa leFkZ gksA eujsxk ;kstuk ds vk/kkjHkwr fo”ks’k izko/kkuksa esa Bsdsnkjksa dh fu;qfDr oftZr gS] dk;Z lapkyu esa e”khuksa ds iz;ksx ij jksd] L=h o iq:’k dks leku etnwjh o csjkstxkjh HkRrs dk izko/kku gSA eujsxk ;kstuk esa efgykvksa dks de ls de 33 izfr”kr “kkjhfjd Je ;qDr jkstxkj ikus dk vf/kdkj gSA^3 fdarq ^bl ;kstuk ds tfj, dke ikus okyh efgykvksa dh Hkkxhnkjh 33 izfr”kr ds U;wure Lrj dks ikj  ---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------  \**lgk;d izk/;kid ¼okf.kT;½ “kkldh; fnfXot; LukrdksRrj egkfo|ky;]* jktukanxkao ¼NRrhlx<+½  \*\*lgk;d izk/;kid ¼vFkZ”kkL=½ “kkldh; f”koukFk foKku egkfo|ky;] jktukanxkao ¼NRrhlx<+½  dj xbZ gSA ,slk dsoy fdlh ,d o’kZ esa ugha] cfYd ;kstuk ds “kq:vkrh o’kksZa ls gh efgykvksa dh Hkkxhnkjh 50 Qhlnh ls vf/kd jgh gSA bl la[;k esa vuqlwfpr tkfr ,oa ^eujsxk ;kstuk ds varxZr LohÑr dk;ksZa dh iw.kZrk ds ckjs esa NRrhlx<+ jkT; dk jktukanxkao ftyk ns”k ds vxz.kh 10 ftyksa esa “kkfey gSA ftys esa bl ;kstuk ds rgr LohÑr dk;ksZa dh iw.kZrk 94 izfr”kr gSA |  | |  |  | | --- | --- | |  |  | |  | |  | |

tcfd izns”k Lrj ij ;g dsoy 83 izfr”kr gSA bl ;kstuk ds varxZr pkyw foRrh; o’kZ esa tuojh] 2014 rd 77 yk[k ekuo fnol dk l`tu fd;k tk pqdk gSA orZeku esa bl ;kstuk esa 1 yk[k ls vf/kd Jfedksa dks ftys esa jkstxkj miyC/k djk;k tk jgk gS] ftlesa 70 izfr”kr ls vf/kd efgyk,sa gSaA^5 vke rkSj ij ,slk ns[kk tkrk gS fd “kkldh; ;kstuk,sa uDly izHkkfor bykdksa esa lQy ugha gks ikrh] ysfdu jktukanxkao ftys esa \*eujsxk ds ckjs esa ,slk ns[kus dks ugha feyk gSA ljdkj blds ekStwnk Lo:Ik esa yphykiu ykus dh dksf”k”k esa yxh gS rkfd blds nk;js dks vkSj O;kid cuk;k tk ldsA

‘kks/k ds mns~’;%&

1. jktukanxkao fodkl[k.M esa foxr rhu o’kksZa esa eujsxk ;kstukUrxZr efgykvksa dh fLFkfr dk ijh{k.k djukA
2. fodkl[k.M esa eujsxk ;kstuk ls miyC/k efgyk jkstxkj dh fLFkfr tkuukA
3. jktukanxkao fodkl[k.M esa eujsxk ;kstukUrxZr lEikfnr dk;ksZa dk irk yxkukA
4. fodkl[k.M esa miyC/k jkstxkj dk efgykvksa ds l”kfDrdj.k ds izHkkoksa dks tkuukA
5. Ekujsxk ;kstuk ds varxZr {ks=h; leL;kvksa dh [kkst djukA
6. Ekusjxk ;kstuk ds ekStwnk Lo:Ik dks vf/kd ikjn”khZ ,oa yphyk cukus ds fy, mi;qDr lq>ko nsukA

**“kks/k** dh ifjdYiuk,sa %&

1. fodkl[k.M esa eujsxk efgyk jkstxkj dh n`f’V ls izHkko”kkyh ;kstuk gksxhA
2. fodkl[k.M esa efgykvksa dks eujsxk ;kstukUrxZr miyC/k jkstxkj ls os vkfFkZd :Ik ls l”kDr gksaxhA

**“kks/k izfof/k %**&

Ekujsxk ;kstuk dh miyfC/k;ksa dh n`f’V ls ns”k ds vxz.kh ftyksa esa ls ,d] NRrhlx<+ dk jktukanxkao ftyk ds 9 fodkl[k.Mksa esa ls ,d] jktukanxkao fodkl[k.M esa eujsxk ;kstukUrxZr miyC/k efgyk jkstxkj dk vkfFkZd l”kfDrdj.k ij izHkkoksa ds ijh{k.k ds fy, izLrqr “kks/ki= esa izkFkfed ,oa f}rh;d laedksa dk mi;ksx fd;k x;k gSA jktukanxkao fodkl[k.M esa eujsxk ;kstuk esa iathd`r ifjokj ,oa jkstxkj dh fLFkfr lEca/kh vkadMs+ dk;kZy;] tuin iapk;r] jktukanxkao ,oa fodkl[k.M lEca/kh HkkSxksfyd ,oa tukafddh; vkadM+ksa gsrq ftyk lkaf[;dh iqfLrdk] 2013 dk mi;ksx fd;k x;k gSA eujsxk ;kstukUrxZr miyC/k jkstxkj ,oa mlds izHkkoksa ds v/;;u ds fy, jktukanxkao fodkl[k.M ds uD”ks dks 4 Hkkxksa esa foHkkftr dj izR;sd Hkkx esa ls nSo fun”kZu i)fr ds vk/kkj ij 20&45 o’kZ vk;q oxZ dh 30&30 efgyk Jfedksa dk p;u fd;k x;k gSA p;fur efgyk Jfedksa ls O;fDrxr laidZ dj vuqlwph ds ek/;e ls tkudkfj;ka ,df=r dh xbZ gSaA izkIr vkadM+ksa dks js[kkfp= ds ek/;e ls iznf”kZr fd;k x;k gS] rkfd vklkuh ls le>k tk ldsA lkaf[;dh; midj.kksa ds varxZr ek/; dk iz;ksx gqvk gSA vkadM+ksa ds rqyukRed v/;;u ds fy, izfr”kr dk mi;ksx fd;k x;k gSA l”kfDrdj.k ds ekiu ds fy, vkfFkZd l”kfDrdj.k dss ?kVdksa esa izR;sd ?kVd dk vad iznku dj] funsZ”kkad dh jpuk dh xbZ gSA blh funsZ”kkad dks vk/kkj ekudj l”kfDrj.k ds Lrj dk ekiu fd;k x;k gSA

**“kks/k** {ks= %&

NRrhlx<+ jkT; ds 27 ftyksa esa ls ,d jktukanxkao ftyk] nqxZ laEHkkx ds varxZr “kkfey gSA jktukanxkao ftyk esa 9 fodkl[k.M gSaA buesa jktukanxkao fodkl[k.M dks v/;;u {ks= ds :Ik esa p;fur fd;k gSA ekpZ 2013 ds vuqlkj jktukanxkao fodkl[k.M dk dqy HkkSxksfyd {ks=Qy 742-65 oxZ fdyksehVj gSA blesa vkckn 162 xzke gSa] tks 96 xzke iapk;r] 1 tuin iapk;r ,oa 1 uxj fuxe esa “kkfey gSaA tux.kuk 2011 ds vuqlkj] ;gka dh dqy tula[;k 3]63]352 gSA dqy tula[;k es 1]82]141 iq:’k rFkk 1]81]211 efgyk,a gSA ;gka izfr oXkZ fdyksehVj tula[;k dk ?kuRo 630 gS vkSj fyaxkuqikr 995 gSA fodkl[k.M esa dqy tula[;k dk 55-12 izfr”kr xzkeh.k tula[;k rFkk “ks’k uxjh; tula[;k gSA dqy xzkeh.k tula[;k esa yxHkx vk/kh efgykvksa dh la[;k gSA xzkeh.k fyaxkuqikr 990 gSA fodkl[k.M esa dqy efgyk tula[;k dk 12-75 izfr”kr vuqlwfpr tkfr] 6-36 izfr”kr vuqlwfpr tutkfr dh efgyk,a gSaA fodkl[k.M esa eq[; dk;Z”khy tula[;k 1]37]839 gS] ftlesa ,d&frgkbZ ls vf/kd dk;Z”khy efgyk tula[;k gSA dqy dk;Z”khy efgyk tula[;k esa 32 izfr”kr d`f’k dk;Z 35-7 izfr”kr [ksrhgj etnwj] 1-6 izfr”kr ikfjokfjd m|ksx rFkk 32-66 izfr”kr efgyk,a fofo?k dk;ksZa esa layXu gSaA blds vykok fodkl[k.M esa dqy lhekar dk;Z”khy tula[;k 25 25]040 gS] ftlessa 64-4 izfr”kr efgyk,a gSaA tkudkjh ds vuqlkj] fodkl[k.M esa dqy 1]19]093 efgyk,a xSj dk;Z”khy tula[;k dh Js.kh esa vkrh gSaA ;gh dkj.k gS fd fodkl[k.M esa lapkfyr ^eujsxk^ ;kstuk ds varxZr efgykvksa dh lgHkkfxrk 70 izfr”kr ls vf/kd gSA

**eujsxk ;kstuk%&**

\*xka/kh th us ,d ,slh xzkeh.k vFkZO;oLFkk dks LFkkfir djuk pkgk tgka dk vk/kkj ogka dh esgurh turk ij vk/kkfjr gks] os Je ds vFkZO;oLFkk ds fodkl esa vf/kd egRo nsrs FksA muds vuqlkj Hkkjr o’kZ ds xkao izk.k dsUnz gSaA\* mudk er Fkk fd xzke thou dks mTtofyr djds gh u, Hkkjr dk mn; gksxkA oLrqr% Hkkjr mlds 7 yk[k xkaoksa esa clrk gS] vr% Hkkjr ds mTtoy Hkfo’; gsrq ;g vko”;d gS fd bu 7 yk[k xkaoksa dks fodflr fd;k tk,A xka/khth dh blh fopkj/kkjk dks /;ku esa j[krs gq, dsUnz ljdkj us ^eujsxk^ ;kstuk vkjEHk dh gSA^6 bl ;kstuk ds varxZr jkstxkj miyC/k djkuk] lkeqnkf;d laifRr dk fuekZ.k djuk vkSj xzke iapk;r dks vkSj l”kDr cukuk eq[; mn~ns”; gSA

\*eujsxk esa dsUnz ljdkj o jkT; ljdkj ds funsZ”ku esa dk;Z laikfnr gksrk gSA blds fy, dsUnz vkSj gj jkT; esa ,d \*jkstxkj xkjaVh ifj’kn\* xfBr dh xbZ gS] tks eujsxk ds rgr pyus okys dk;ZØeksa vkSj mldh O;oLFkk dh ns[kjs[k djrh gSA tehuh Lrj ij eujsxk ds dk;ZØeksa dk fØ;kUou iapk;rh jkt laLFkkvksa ds ek/;e ls gksrk gSA bl ;kstuk ds rgr xzke Lrj ij tgka xzke lHkk fd, tkus okys dk;ksZa dk pquko] p;fur dk;ksZa ds laiknu fØ;k ij fuxjkuh o lkekftd vkfMV dk dke djrh gSa] ogha xzke iapk;r dk;ksZa dh ;kstuk rS;kj djuk] ifjokjksa dk iathdj.k djuk] jkstxkj dkMZ tkjh djuk] de ls de 50 izfr”kr dkeksa dks ykxw djuk] dke ds fy, vkosnu Lohdkj djuk] fjdkMZ j[kuk ,oa jkstxkj vkcafVr djuk] tSls egRoiw.kZ nkf;Roksa dk fuokZg djrh gSA\*7

^eujsxk ;kstuk ds rgr lkekU;r% vkosndksa dks vius fuokl LFkku dh 5 fd-eh- ds ifjf/k esa dke miyC/k djkus dk izko/kku gS] tks efgykvksa ds fy, cgqr lqfo/kktud gSA ;fn 5 fd-eh- dh ifjf/k ds ckgj dk;Z djk;k tkrk gS rks etnwjh] dk 10 izfr”kr vfrfjDr etnwjh ifjogu HkRrs ds :Ik esa fn;s tkus dh O;oLFkk gSA lkFk gh dk;ZLFky ij LoPN is;ty] foJke dh vof/k ds fy, “ksM] pksV vkfn yxus ij izkFkfed mipkj gsrq \*QLVZ ,M ckDl\* rFkk ;fn fdlh dk;ZLFky ij 6 o’kZ ls de vk;q ds cPpksa dh la[;k 5 ;k mlls vf/kd gS] rks mudh ns[kHkky ds fy, muesa ls ,d efgyk dks fu;qDr fd;k tk,xkA dk;Z LFky ij cPps dh e`R;q dh fu”kDrrk dh n”kk esa jkT; ljdkj }kjk vo/kkfjr {kfriwfrZ izkIr gksxhA^8

^eujsxk esa dk;Zjr etnwj dh dk;Z ds nkSjku nq?kZVuk ;k dksbZ “kkjhfjd {kfr gksrh gS] rks og fu%”kqYd fpfdRlk mipkj ds fy, vLirky esa HkrhZ gksus] mipkj esa nok,a rFkk nSfud etnwjh dh vk/kh jkf”k ikus dk Hkh gdnkj gSA ;fn Jfed dk;ZLFky ij fdlh xaHkhj nq?kZVuk ls viax gks tkrk gS ;k mldh e`R;q gks tkrh gS rks ,sls O;fDr dks 25000 :Ik;s ;k dksbZ ,slh jkf”k] tks dsUnzh; ljdkj }kjk r; dh xbZ gks] ,sls fu%”kDr etnwj ;k mRrjkf/kdkfj;ksa dks nh tk,xhA^9

jktukanxkao ftys esa dqy 9 fodkl[kaM gSa] ftlesa 692 xzke iapk;rsa “kkfey gSaA eujsxk ;kstuk ds ek/;e ls ftys ds jktukanxkao fodkl[kaM esa jkstxkj miyC/krk ds lkFk O;kid Lrj ij fodkl dk;Z fd, x, gSaA fo”ks’k :Ik ls efgyk Jfedksa dks jkstxkj miyC/krk lqfuf”pr gqbZ gSA blls mudh vkfFkZd fLFkfr esa cgqr lq/kkj ns[kus dks feykA bl ;kstuk ls jkstxkj miyC/krk ds lkFk muds lkekftd thou Lrj esa Hkh lq/kkj gqvk gSA jktukanxkao fodkl[kaM esa ;fn eujsxk ;kstuk dh fLFkfr dk vkadyu fd;k tk, rks xr rhu o’kksZa ds vkadMs+ bl izdkj gSa&

**rkfydk &**

1 jktukanxkao fodkl[kaM esa eujsxk ;kstuk esa iathÑr ifjokj ,oa jkstxkj miyC/krk dh fLFkfr

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ø- | fooj.k | 2010&11 | 2011&12 | 2012&13 |
| 1- | **dqy iathÑr ifjokj** | **32200** | **35760** | **36985** |
| 2- | **dqy Jfed la[;k**  **efgyk**  **iq:’k**  **dqy** | **18340**  **8340**  **26680** | **25760**  **12880**  **38550** | **26934**  **13960**  **40894** |
| 3- | **dk;Z djus okys iathÑr ifjokj**  **efgyk**  **iq:’k**  **dqy** | **16240**  **7350**  **23590** | **23426**  **10985**  **34411** | **24558**  **11927**  **26485** |
| 5- | **l`ftr ekuo fnol**  **efgyk**  **iq:’k**  **dqy** | **1559040**  **705600**  **2264640** | **2295748**  **1076530**  **3972278** | **2382126**  **1156919**  **3539045** |
| 6- | **foRrh; o’kZ esa vkSlr dk;Z fnol** | **96** | **98** | **97** |
| 7- | **foRrh; o’kZ esa etnwjh** | **100@&** | **122@&** | **132@&** |

L=ksr%& dk;kZy;] tuin iapk;r] jktukanxkao

mi;qZDr rkfydk esa eujsxk ;kstuk laca/kh izkIr vkadM+ksa esa ls dsoy efgykvksa ls lacaf/kr vkadM+ksa dk fo”ys’k.k djus ls ;g irk pyrk gS fd dqy Jfed la[;k] dk;Z djus okys Jfedksa esa nks&frgkbZ ls vf/kd efgyk,sa gSaA blh izdkj dqy l`ftr ekuo fnolksa esa iq:’kksa dh rqyuk esa nqxus ls Hkh vf/kd efgyk,sa gSaA xr 3 o’kksZa esa bl ;kstuk ds varxZr efgykvksa dh lgHkkfxrk fujarj c<+ jgh gSA

jktukanxkao fodkl[k.M esa eujsxk ;kstukUrxZr efgykvksa dh fLFkfr%&

nSo fun”kZu i)fr }kjk p;fur \*eujsxk\* ;kstukUrxZr dk;Zjr efgyk Jfedksa ls vuqlwph ds ek/;e ls izkIr vk;q laca/kh vkadM+ksa dk fo”ys’k.k djus ls ;g irk pyrk gS fd efgyk Jfedksa dh U;wure vk;q 23 o’kZ o vf/kdre vk;q 45 o’kZ gS] tcfd vkSlr vk;q 32-13 o’kZ gSA vk;q dk oxkZuqlkj fo”ys’k.k djus ij ik;k x;k fd 20&25 o’kZ o 41&45 o’kZ dh vk;q oxZ dh efgyk,sa lokZf/kd U;wu] 10 izfr”kr gSa] tcfd blds foijhr 26&30 o’kZ dh vk;q oxZ dh efgykvksa dh lokZf/kd 36-67 izfr”kr lgHkkfxrk gSA 31&35 o’kZ dh vk;q oxZ dh efgyk,sa 23-33 izfr”kr rFkk 36&40 o’kZ vk;q oxZ dh efgyk,sa 20 izfr”kr gSaA

js[kkfp= &1

eujsxk ;kstuk ls tqM+h efgykvksa ls ;kstuk iwoZ dk;Zdykiksa ds ckjs esa tkudkjh ysus ij ;g ik;k x;k fd 43-33 izfr”kr efgyk,sa fo”kq) :Ik ls ?kjsyw dk;Z ls tqM+h FkhaA 33-33 izfr”kr efgyk,sa Jfed ds :i esa dk;Z dj jgha Fkha] 20 izfr”kr efgyk,sa ifjokj dh Ñf’k Hkwfe ij Ñf’k dk;Z dj jgh Fkha] tcfd dsoy 3-33 izfr”kr efgyk,sa mi;qZDr dk;Zdykiksa ds vykok vU; dk;Z }kjk etnwjh vftZr dj jgha FkhA bldk vFkZ ;g gS fd ?kjsyw dk;Z esa layXu 43-33 efgyk,a

js[kkfp= &2

ujsxk ;kstuk esa dk;Z djus igyh ckj dke djus ?kj ds pkS[kV ls ckgj fudyh] ;g vkfFkZd l”kfDrdj.k dh vksj mudk egRoiw.kZ dne jgkA os efgyk,a] tks Jfed ds :Ik esa dk;Z djrs gq, etnwjh ds :i es cgqr gh de jkf”k izkIr djrh Fkha] eujsxk ds varxZr lEekutud jkf”k izkIr djus yxh gSA

funZf”kr efgykvksa ls eujsxk ;kstuk laca/kh iz”uksa ds mRrj ls ;g irk pyrk gS fd ;kstuk dh iw.kZ tkudkjh] 5 fd-eh- dh ifjf/k esa izkIr jkstxkj ,oa i;Zos{k.k laca/kh iz”uksa ds tokc esa “kr&izfr”kr efgykvksa us budh tkudkjh gksus laca/kh tkudkjh nhA

etnwjh ds fu;r le; ij Hkqxrku laca/kh iz”u ds mRrj esa 80 izfr”kr efgyk Jfedksa us ekuk fd etnwjh dk Hkqxrku fu/kkZfjr le; esa gh fd;k tkrk gS] “ks’k 20 izfr”kr efgyk Jfedksa dks etnwjh nsj ls izkIr gqbZA eujsxk ;kstuk fodkl[kaM esa 2005 ls izkjaHk gqbZ gSA bl ;kstuk ls ykHkkfUor vof/k laca/kh iz”u ds mRrj esa 30 izfr”kr efgyk,sa foxr 5 o’kksZa ls vf/kd vof/k ls] 40 izfr”kr efgyk,sa 4 o’kZ] 26-67 izfr”kr efgyk,sa 3 o’kZ rFkk dsoy 3-33 izfr”kr efgyk,sa 2 o’kZ ls ykHkkfUor gks jgh gSaA

eujsxk ;kstukUrxZr iwoZ esa 100 fnuksa ds jkstxkj dk izca/k FkkA orZeku esa fnuksa dh la[;k c<+kdj 150 gks pqdh gSA funf”kZr efgykvksa esa “kr&izfr”kr efgykvksa us tkudkjh nh fd mUgsa 50&100 fnuksa rd gh bl ;kstuk ls dke feyrk gSA

eujsxk ,oa efgyk vkfFkZd l’kfDrdj.k%&

lekt o iq:’kksa ds utfj, esa cnyko ykus ds lkFk efgykvksa esa vkfFkZd lEiUurk dk vkuk cgqr vko”;d gSA ;g vkfFkZd lEiUurk gh muds lkekftd o jktuSfrd l”kfDrdj.k dk fu/kkZj.k djsxhA ^efgyk l”kfDrdj.k dk vFkZ gS] efgykvksa dks “kfDrlEiUu cuukA fdlh Hkh lH; lekt dh okLofod fLFkfr tkuus dk ,d rjhdk ;g Hkh gS fd ge ;g tkusa fd ml lekt esa efgykvksa dh fLFkfr dSlh gS] muds vf/kdkj D;k&D;k gSa\ mudh ewyHkwr lalk/kuksa rd fdruh igaqp gS vkSj mudh lkekftd Hkkxhnkjh fdruh gS\^10 efgyk l”kfDrdj.k dk vFkZ gS] efgykvksa dks Hkh fodkl djus ds leku volj nsuk] mUgsa Hkh eupkgh f”k{kk izkIr djus dk vf/kdkj nsuk o ?kj&ifjokj o lekt ds ckjs esa Lora= fu.kZ; ysus dk gd nsukA efgykvksa ds l”kfDrdj.k ds fy, vko”;d gSa fd efgyk,sa Lo;a gh vius o ifjokj ds ekeyksa esa fu.kZ; ysa] vius QSlyksa dks vey esa yk,sa o mUgsa lkekftd LohÑfr Hkh feysA

efgyk l”kfDrdj.k ds fy, vko”;d gS fd mUgsa thou ds gj {ks= esa lekurk dk vf/kdkj fn;k tk, o mlds vfLrRo dks lPps eu ls Lohdkj fd;k tk,A l”kfDrdj.k vkSj fodkl dk ,d lh/kk laca/k gSA l”kfDrdj.k ds fcuk lekt dk dksbZ Hkh oxZ fodkl ugha dj ldrk gSa D;ksafd l”kfDrdj.k ls efgykvksa dks vf/kdkj feyrs gSa vkSj bu vf/kdkjksa dk bLRkseky djds os Lo;a fu.kZ; ys ldrh gSA tc ge efgyk l”kfDrdj.k dh ckr djrs gSa rks gekjk rkRi;Z iq:’kksa dh cjkcjh djuk u gksdj efgykvksa dks l”kDr djus ls gS] vkfFkZd] lkekftd jktuhfrd ,oa lkaLÑfrd {ks= esa izR;sd Lrj ij dk;Z esa efgykvksa dh l”kDr Hkkxhnkjh ls gSA

efgyk Jfedksa ls vkfFkZd l”kfDrdj.k laca/kh iz”uksa esa ls vftZr etnwjh ij iw.kkZf/kdkj laca/kh iz”u ds mRrj esa 73-33 izfr”kr efgykvksa us ekuk fd mUgsa ifjokj ds fdlh lnL; dks vftZr etnwjh vfuok;Z :Ik ls ugha nsuh gksrh] tcfd “ks’k 26-67 izfr”kr efgykvksa us vftZr etnwjh dks firk@ifr HkkbZ ;k vU; laca/kh dks nsuk Lohdkj fd;kA

iq:’k iz/kku lekt gksus ds dkj.k lkekU;r% ifjokj ds foRrh; ekeyksa esa efgykvksa dks “kkfey ugha fd;k tkrk] rRlaca/kh iz”u ds tokc esa 46-67 izfr”kr efgykvksa us ekuk fd foRrh; ekeyksa esa mudh lykg Hkh egRoiw.kZ gksrh gSA blds foijhr vk/ks ls vf/kd ¼53-33 izfr”kr½ efgykvksa us crk;k fd foRrh; ekeyksa mUgsa n[ky dk vf/kdkj ugha gSA Lo&vftZr etnwjh dks cpr ds :Ik esa tek j[kus ds iz”u ij dsoy 12-67 izfr”kr efgyk Jfedks us Lohdkj fd;k] “ks’k efgyk Jfedksa us crk;k fd os viuh etnwjh dks cpr ds :Ik esa j[kus esa vleFkZ gksrs gSaA

vkfFkZd l”kfDrdj.k laca/kh ,d vU; iz”u ds mRrj esa 93-33 izfr”kr efgykvksa us Lo&vftZr etnwjh dks ?kjsyw dk;ksZa ij gh O;; fd;kA bldk eq[; dkj.k ;g gS fd Jfed ds :Ik esa dk;Z djus okyh efgykvksa dh vkfFkZd fLFkfr detksj gS] QyLo:Ik vftZr etnwjh dks ?kjsyw dk;ksZa esa O;; djuk mudh etcwjh gSA dsoy 6-67 izfr”kr efgykvksa us Lo&vftZr etnwjh dks Lo;a ds diM+ksa vkfn ij O;; djuk Lohdkj fd;kA eujsxk ;kstuk ds izR;sd efgyk Jfed dk cSad esa [kkrk vfuok;Z gS] fdarq [kkrs ds ifjpkyu dh tkudkjh ,oa cSfdax izfdz;k dh lkekU; tkudkjh ds lEca/k esa iwNs x;s iz”u ds tokc esa dsoy 27-47 izfr”kr efgykvksa us Lohdkj fd;k fd mUgs cSafdax izfdz;k ,oa [kkrs ds ifjpkyu ds lEca/k esa lkekU; tkudkjh gS] “ks’k efgykvksa ds bl lEca/k esa udkjkRed tokc fn;kA

eujsxk ;kstuk dk eq[; mn~ns”; jkstxkj miyC/k djokuk] v/kkslajpuk fuekZ.k ,oa xzke iapk;rksa dks l”kDr cukuk gSA ;g ;kstuk jkstxkj ,oa v/kkslajpuk fuekZ.k ds y{; dks izkIr djus esa lQy jgh gSA v/;;u ds nkSjku ;g ik;k x;k fd jktukanxkao fodkl[kaM esa jkstxkj ds lkFk v/kkslajpuk fuekZ.k dk;ksZa esa dPph@iDdh lM+d fuekZ.k] Hkwfe lq/kkj] rkykc xgjhdj.k] “kkSpky; ,oa vkaxuckM+h Hkou fuekZ.k dk;Z bl ;kstuk ds varxZr eq[; :Ik ls fd, x, gSaA

**vkfFkZd l”kfDrj.k funsZ’kkad&**

vkfFkZd l”kfDrj.k funsZ”kkad dh jpuk ds fy, l”kfDrdj.k lEca/kh iz”uksa esa ls izR;sd iz”u ds fy, laYkXu efgyk Jfed fn, x, izR;sd ldkjkRed mRrj ds fy, 1 vad iznku fd;k x;kA l”kfDrdj.k ds ijh{k.k gsrq fd, x, iz”uksa esa] vftZr etnwjh ij vf/kdkj] ikfjokfjd foRrh; ekeyksa esa ijke”kZ] vftZr etnwjh dk Lo;a dh bPNk ij O;;] cSafdax yssunsu izfdz;k dk Kku “kkfey gSA jktukanxkao fodkl[k.M esa eujsxk ;kstuk varxZr efgyk Jfedksa dk vkfFkZd l”kfDrdj.k funsZ”kkad fuEukuqlkj gS& 120 efgyk Jfedksa esa ls lokZf/kd 39-17 izfr”kr efgyk Jfedksa us vkfFkZd l”kfDrj.k lEc/kh rhu iz”uksa dk ldkjkRed mRrj fn;kA pkj iz”uksa dk ldkjkRed mRrj fnus okyh efgyk Jfed 18-33 izfr”kr gSa rFkk “kr&izfr”kr iz”uksa dk ldkjkRed mRrj ]6-67 izfr”kr efgykvksa us fn;kA rRlEca/kh vkadM+ksa dk fo”ys’k.k djus ij ;g fu’d’kZ fudyrk gS fd jktukanxkao fodkl[k.M esa eujsxk ;kstuk varxZr dk;Z djus okyh efgyk Jfed esa ls 35-83 izfr”kr efgykvksa dk NksM+dj “ks’k efgyk,a bl ;kstuk ds ek/;e ls vkfFkZd :Ik ls l”kDr gqbZ gSaA

rkfydk &2 vkfFkZd l’kfDrdj.k funsZ’kkad

|  |  |  |
| --- | --- | --- |
| vkfFkZd l”kfDrdj.k ds vad | mRrjnkrk Jfedksa dh la[;k | izfr”kr |
| 1 | **19** | **15-83** |
| 2 | **24** | **20-00** |
| 3 | **47** | **39-17** |
| 4 | **22** | **18-33** |
| 5 | **08** | **6-67** |
| ;ksx | **120** | **100** |

rkfydk 2 ds vk/kkj ij gh funZf”kr efgyk Jfedksa ds vkfFkZd l”kfDrdj.k Lrj dh tkap dh xbZ gSA eujsxk ;kstukUrxZr efgyk Jfedksa ds vkfFkZd l”kfDrdj.k Lrj dks fuEu] e/;e ,o mPp Lrj esa ckaVk x;k gSA rRlEca/kh rkfydk fuEukuqlkj gS&

rkfydk &3 vkfFkZd l’kfDrdj.k Lrj

|  |  |  |
| --- | --- | --- |
| vkfFkZd l”kfDrdj.k Lrj | efgyk Jfedksa dh la[;k | izfr”kr |
| fuEu | **43** | **35-83** |
| e/;e | **47** | **39-17** |
| mPp | **30** | **25-00** |

Rkkfydk -&3 ;g iznf”kZr djrh gS fd fodkl[k.M es eujsxk ;kstuk ls tqM+h ,d&frgkbZ ls vf/kd] vFkkZr 35-83 izfr”kr efgyk Jfedksa dk vkfFkZd l”kfDrj.k Lrj fuEuLrjh;] 39-17 izfr”kr efgyk Jfedksa dk e/;Lrjh; ,oa “ks’k 25-00 izfr”kr efgyk Jfedksa dk mPpLRkjh; gSA blls ;g izekf.kr gksrk gS fd jktukanxkao fodkl[k.M esa eujsxk ;kstuk xzkeh.k efgyk Jfedksa ds vkfFkZd l”kfDrj.k esa mi;ksxh fl) gks jgh gSA

pqukSfr;k a%&eujsxk ;kstukUrxZr miyfC/k;ksa dh n`f’V ls jktukanxkao ftyk ns”k ds pqfuank 10 ftyksa esa ls ,d gS] fdarq v/;;u ds nkSjku fodkl[kaM esa ;kstuk laca/kh fuEufyf[kr pqukSfr;ka fparktud ,oa bl ;kstuk ds fodkl esa gSa&

¼1½ osru dk nsj ls Hkqxrku

¼2½ xSj etnwjksa ds uke ij osru Hkqxrku

¼3½ csjkstxkjh HkRrs dk nsj ls Hkqxrku

¼4½ iathdj.k etnwjh vFkok csjkstxkjh HkRrs ds cnys iSls ekaxuk

¼5½ c<+k&p<+k dj ;k xyr rduhdh vkadyu rS;kj djukA

¼6½ Åaph njksa ij t:jr ls vf/kd dPph lkexzh dh ekax djukA

¼7½ dke dk r; ekudksa ;k “krksZa ds vuq:Ik u gksukA

¼8½ LohÑr lkexzh ls de vFkok ?kfV;k lkexzh dh vkiwfrZ

¼9½ fd, x, dk;Z dh xyr eki

¼10½ dk;ZØe ds fofHkUu igyqvksa dh leh{kk ds fy, O;fDrxr ;k xzke lHkk ds Lrj ij voljksa dk vHkko

¼11½ vYi izkFkfedrk okys ;k vuko”;d dk;ksZa dk pquko

¼12½ ,sls dk;ksZa dk pquko dj ysuk ftlls fdlh O;fDr fo”ks’k dks futh ykHk gksus okyk gksA

¼13½ xyr dk;Z LFky dk pqukoA

¼14½ eujsxk ;kstukUrxZr la;Dr ifjokj dks ,d ekurs gq, ?kj ds ,d gh lnL; dks jkstxkj fn, tkus ls ijs”kkuhA

¼15½ \*eujsxk\* ;kstuk dh lQyrk ls fodkl[kaM esa efgyk Lo;a lgk;rk lewgksa ds xBu ,oa fØ;k”khyrk esa dehA

**Lkq>ko%&**

eujsxk ;kstuk ls efgyk jkstxkj ds lkFk {ks=h; fodkl dks xfr feyh gS] fQj Hkh vHkh Hkh cgqr dqN fd;k tkuk ckdh gSA bl ;kstuk dks vkSj vf/kd lqn`<+ vkSj ikjn”kkhZ cukus ds fy, fuEufyf[kr lq>ko fn;s tk ldrs gSa] blls u dsoy efgyk l”kfDrdj.k dks c<+kok feysxk] vfirq {ks=h; fodkl dks Hkh cy feysxk&

¼1½ iathdj.k dh izfØ;k ikjn”khZ gksuk pkfg,A iathdj.k ds ;ksX; lHkh ifjokjksa o muds Ok;Ld lnL;ksa dh lwph rS;kj djus gsrq xzke iapk;r Lrj ij losZ{k.k fd;k tkuk pkfg,A

¼2½ iathdj.k ds fy, fu/kkZfjr QkeZ fdlh Hkh fygkt ls v/kwjk gksus ij mls iwjs djus@djokus dh ftEesnkjh lacaf/kr deZpkjh dh gksuh pkfg,A

¼3½ iathÑr ifjokjksa ,oa O;fDr;ksa dh vafre lwph xzke iapk;r dk;kZy; esa fdlh ,sls LFkku ij yxk nsuh pkfg,] tgka vklkuh ls ns[kk tk ldsA bl lwph dks gj 3 ekg esa v|ru fd;k tkuk pkfg,A

¼4½ xzke lHkk dks izklafxdrk ,oa izkFkfedrk ds vk/kkj ij dk;ksZa@ifj;kstukvksa dh lwph dh tkap djuk pkfg,A

¼5½ rduhdh vkadyu rS;kj djus dh izfØ;k esa LFkkuh; yksxksa dh lgHkkfxrk ds lkFk ,sls izk:i esa gksuk pkfg,] rkfd vke yksx Hkh mls vklkuh ls le> ldsaA

¼6½ dk;Z ;kstuk dk fooj.k] dke dh vko”;drkvksa ds ckjs esa lHkh lacaf/kr i{kksa dks tkudkjh gsrq laHkkfor etnwjksa ds lkFk ,d [kqyh \*ifj;kstuk cSBd\* gksuh pkfg,A blh cSBd esa fuxjkuh lfefr ds lnL;ksa dk Hkh pquko fd;k tkuk pkfg,A

¼7½ ikjnf”kZrk gsrq turk dks mifLFkfr jftLVj] tc pkgs ns[kus dk vf/kdkj gksuk pkfg,A

¼8½ csjkstxkjh HkRrs dk Hkqxrku fu;r fnuksa esa fdlh lkoZtfud LFky ij gksuk pkfg, rkfd fdlh rjg ds Hkze ;k “kd dh xqatkb”k u jgsA

¼9½ lkeqnkf;d laifRr;ksa ds fuekZ.k ds varxZr vfrfjDr NwV nsdj ty laxzg.k ,oa o`{kkjksi.k dk;ksZa ij tksj fn;k tkuk pkfg,A

¼10½ ;kstukUrxZr dk;Z ds iwjk djus ,oa blds j[k&j[kko dks vfuok;Z cuk;k tkuk pkfg,A

¼11½ ;kstuk esa fodkl dk;ksZa ds fy, fu/kkZfjr nj ls vf/kd izhfe;e etnwjh dk Hkqxrku fd;k tkuk pkfg,A

¼12½ ;kstuk dks vf/kd izHkko”khy cukus ds fy, xzke iapk;r dks vko”;d deZpkjh o jkf”k miyC/k djk;k tkuk pkfg,A

xzkeh.k vFkZO;oLFkk dh rLohj cnyus esa vge Hkwfedk fuHkkus okys \*eujsxk\* ;kstuk dh iz”kalk djus okyksa esa ukscy iqjLdkj fotsrk veR;Z lsu Hkh gSaA muds vuqlkj bl ;kstuk ds ek/;e ls yksxksa rd igqapdj mUgsa vk; dk lk/ku fn;k tk jgk gS] ftlls muds vkRelEeku esa o`f) ds lkFk lekt esa Hkkxhnkjh Hkh c<+h gSA blds vykok fo”o cSad] us Hkh xzkeh.k fodkl {ks= esa bls \*”kkunkj ;kstuk\* dk uke fn;kA fo”o cSad dh oYMZ MsoyesaV fjiksVZ] 2014 esa xzkeh.k fodkl ds {ks= esa eujsxk dks Js’B mnkgj.k ds :Ik esa izLrqr fd;k x;k gS] ftlds ek/;e ls ykHkkfFkZ;ksa dks lh/ks rkSj ij Mkd vFkok cSad [kkrs ds tfj, mudh etnwjh igqapkbZ tk jgh gSA

o’kZ 2008 esa eujsxk ds ek/;e ls yxHkx 4-5 djksM+ :Ik;s dk Hkqxrku xzkeh.k {ks= ds xjhcksa dks fd;k x;kA fo”o cSad us bls \*fjoksY;w”ku bu :jy bafM;k\* djkj fn;k gSA ogha 2009 dh fjiksVZ esa blh fo”o cSad us bls \*ikWfylh cSfj;j\* dh laKk nsrs gq, dgk fd ;g vkfFkZd fodkl o xjhch mUewyu dks izHkkfor djus okyk gSA o’kZ 2013&14 ds nkSjku vHkh rd bl ;kstuk ij 24135 djksM+ :Ik;s [kpZ gks pqds gSaA ;g ;kstuk ns”k ds 644 ftyksa esa ykxw gSA bl ;kstuk ds ykap gksus ds ckn xzkeh.k bykdksa ls iyk;u esa deh vkbZ gSA bl ;kstuk dh ,d mYys[kuh; miyfC/k ;g Hkh gS fd ;kstuk ds tfj, dke ikus okyh efgykvksa dh Hkkxhnkjh 33 izfr”kr ds U;wure Lrj dks ikj dj xbZ gSA ,slk dsoy fdlh ,d o’kZ esa ugha cfYd ;kstuk ds “kq:vkrh o’kksZa ls gh efgykvksa dh Hkkxhnkjh vk/ks ls vf/kd jgh gSA fu%lansg bl ;kstuk ls efgykvksa vkfFkZd :Ik ls l”kDr gqbZ gSa] mudk lkekftd :rck Hkh c<+k gS vkSj xkao ds pagqeq[kh fodkl esa Hkh enn feyh gSA

**lanHkZ xzaFk%&**

¼1½ lsfr;k lqHkk’k ¼2014½]^xkaoksa es dk;kiyV dk dzkafrdkjh dne&eujsxk^ dq:{ks=] Qjojh o’kZ 60 vad04] i`’B dzekad&34

¼2½ \*ujsxk us cnyh xkao dh rLohj\* fctusl HkkLdj] 9 tuojh 2014 i`’B&8

¼3½ tSu vydk ,oa “kekZ vpZuk ¼2013½]^xkao esa jkstxkj dk lqyHk lk/ku&eujsxk^ dq:{ks=] Qjojh o’kZ 59 vad 04] i`’B dzekad& 13&14

¼4½ \*ujsxk us cnyh xkao dh rLohj\* fctusl HkkLdj] 9 tuojh 2014 i`’B&8

¼5½ \*eujsxk ;kstuk lapkyu esa ns”k ds vxz.kh ftyksa esa jktukanxkao ftyk] nSfud gfjHkwfe] 13 tuojh 2014 i`’B Øekad&3

¼6½ \*ujsxk us cnyh xkao dh rLohj\* fctusl HkkLdj] 9 tuojh 2014 i`’B&8

¼7½ \*jk’Vªh; xzkeh.k jkstxkj xkjaVh vf/kfu;e&2005 fn”kk funsZ”k] \*iapk;r ,oa xzkeh.k fodkl foHkkx NRrhlx<+ “kklu&2007] i`’B Øekad&1&7

¼8½ lsfr;k lqHkk’k ¼2014½]^xkaoksa es dk;kiyV dk dzkafrdkjh dne&eujsxk^ dq:{ks=] Qjojh o’kZ 60 vad04] i`’B dzekad&35

¼9½ \*jk’Vªh; xzkeh.k jkstxkj xkjaVh vf/kfu;e&2005 fn”kk funsZ”k] \*iapk;r ,oa xzkeh.k fodkl foHkkx NRrhlx<+ “kklu&2007] i`’B Øekad&9

¼10½ JhokLro e;ad ¼2013½]^efgyk l”kfDrdj.k lkekftd cnyko ds fy, vko”;d^] dq:{ks= vxLr] o’kZ 59] vad 10] i`’B dzekad& 16

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**cSxk tutkfr es 'kS{kf.kd Lrj dk iztuurk ij izHkko % ,d HkkSxksfyd fo’ys"k.k**

**¼dchj /kke ftys ds cksM+yk fodkl[k.M ds fo’ks"k lanHkZ esa½**

MkW- vfuy dqekj feJk\* ,oa th-ih- ikBd\*\*

**lkjka'k**

lkekU;r% iztuurk ,oa 'kS{kf.kd Lrj esa foijhr lEcU/k gksrk gSA 'kS{kf.kd Lrj iztuurk dks izHkkfor djus okyk lokZf/kd egRoiw.kZ dkjd gSA fookg dh vk;q] cky eR;Zrk] vfn dks f’k{kk vizR;{k :Ik ls izHkkfor djrh gSA 'kS{kf.kd Lrj esa o`f) ds lky iztuurk nj esa deh vkrh gSA v/;;u {ks= dh cSxk tutkfr ifr dh f’k{kk dh rqyuk esa efgyk dh f’k{kk dk iztuurk ij vf/kd izHkko ifjyf{kr gksrk gSA cSxk tutkfr dh f’kf{kr efgykvksa esa rhu ;k rhu ls de cPPks okyh efgyk,a vf/kd gS] tcfd fuj{kj efgykvksa esa rhu ls vf/kd cPPks okyh efgykvksa dk izfr’kr vf/kd gSA ;|fi 'kS{kf.kd Lrj dh n`f"V ls cSxk tutkfr dh efgyk,a vf/kdre ek/;fed Lrj dh gh f’kf{kr gS] fdUrq 'kS{kf.kd Lrj dk iztuurk ij izHkko Li"V ifjyf{kr gksrk gSA

**izLrkouk**

f’k{kk fdlh ns’k ds fodkl dk vk/kkj LrEHk gksrh gSA lk{kjrk vk/kqfudhdj.k dh fn’kk esa ekuo dh mUufr dk ,d egRoiw.kZ ekid gS ¼Msfol] 1951½A tukafDdhfonksa dh /kkj.kk gS fd 'kS{kf.kd Lrj ds o`f) ds lkFk&lkFk 'kkjhfjd] ekufld] lkekftd] vfkFkZd rFkk tukafDdh; ifjorZu gks tkrs gSa ifj.kkeLo:Ik tUenj esa fuf’pr :Ik ls deh vkrh gSA T;ksa&T;kas f’k{kk dk Lrj c<+rk tkrk gSa R;ksa&R;ksa iztuurk ?kVrh tkrh gSaA vr% 'kS{kf.kd Lrj ,oa iztuurk ds e/; foijhr laca/k gksrk gS ¼Mªkboj] 1963] tSu] 1973½A Lisalj ¼1868½ dk fopkj gS fd tks O;fDr vius O;fDrRo ds fodkl ds izfr ftruk vf/kd tkx:d gksxk mldh iztuurk mruh gh de gskxhA f’k{kk ,ao O;fDrRo ds fodkl ls iztuurk ?kV tkus dh laHkkouk jgrh gSA ^^ftu ns’kks esa iztuurk de gks pqdh gS mu ns’kks esa iztuurk de gskus ds dkj.kksa esa f’k{kk lcls egRoiw.kZ gS^^ ¼iar] 1992½A vk/kqfud ;qx esa f’k{kk fufoZokn :Ik ls O;fDr] lekt] {ks= ,oa jk"Vª lHkh Lrjks ij lkekftd ,oa vfFkZd fodkl dk ewy vk/kkj gSA,d lekt fdruk lE; vkSj lqlaLd`r gS rFkk u;s fopkjksa dks fdruh 'kh?kzrk ls xzg.k djus esa l{ke gS ] ;g mudh f’k{kk rFkk 'kS{kf.kd Lrj

ij fuHkZj gSA f’k{kk] iztuurk dks izHkkfor djus okyk egRoiw.kZ dkjd gSA iztuurk ls rkRi;Z fdlh L=h vFkok muds fdlh lewg }kjk fdlh fof’k"V le;kof/k esa dqy ltho tUesa cPPkksa dh okLrkfod la[;k ls gSA

**v/;;u dk mís’;**

v/;;u dk mís’; cSxk tutkfr esa 'kS{kf.kd Lrj dk iztuurk ij izHkko dk fo’ys"k.k djuk gSA

**ifjdYiuk**

'kS{kf.kd Lrj esa o`f) ds lkFk iztuurk nj ?kVrh gSA

\* lgk;d izk/;kid Hkwxksy] 'kkldh; LukrdksÙkj egkfo|ky; txnyiqj ¼N-x-½

\*\* lgk;d izk/;kid Hkwxksy] 'kkldh; egkfo|ky;] vtqZUnk] nqxZ ¼N-x-½

**v/;;u {ks=**

;g v/;;u NRrhlx<+ jkT; ds dchj/kke ftys ds cksM+yk fodkl[k.M esa fuokljr cSxk tutkfr dh iztuurk ls lacaf/kr gSA dchj/kke ftyk 21032’ mRrjh v{kka’k ls 22028’ mRrjh v{kka’k

rFkk 80048’ iwohZ ns’kkarj ls 81048’ iwohZ ns’kkarj ds e/; 4447-05 oxZ fdyksehVj {ks= esa foLr`r gSA ftys dk mRrjh ,oa if’peh Hkkx lriqM+k ioZr ds eSdy ioZr J`a[kykvksa ls f?kjk gqvk gSA bl {ks= esa dslenkZ igkM+h ¼925 ehVj½ dh ÅapkbZ lokZf/kd gS] tcfd U;wure Å¡pkbZ 320 ehVj rd gSA ftys dk e/; iwoZ ,oa nf{k.kh Hkkx eSnkuh gSA

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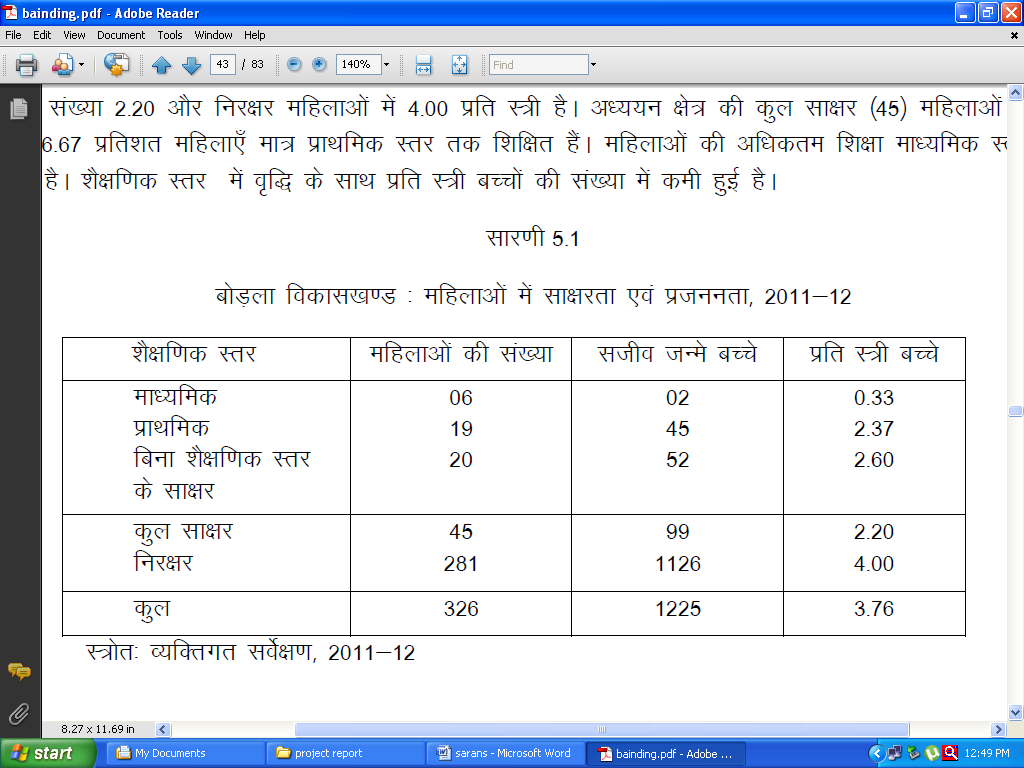
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**efgykvksa dk 'kS{kf.kd Lrj vkSj iztuurk**

lkekU;r;k iztuurk nj mu efgykvksa esa lcls de gksrh gS ftudk 'kS{kf.kd Lrj mPp gksrk gSA f’k{kk efgykvksa ds lkekftd&vkfFkZd Lrj dk izfr:i ,oa vk/kqfudhdj.k dk ekin.M gksrk gS ¼fycsULVkbu] 1975½A

loZsf{kr ifjokj dh ek= 13-8 izfr’kr fookfgr efgyk,a lk{kj gSaA lk{kj efgykvkas dh rqyuk esa fuj{kj efgykvkas esa iztuurk vf/kd gksrh gSA cksM+yk fodkl[k.M ds lk{kj efgykvksa esa izfr L=h cPpkas dh la[;k 2-20 vkSj fuj{kj efgykvksa esa 4-00 izfr L=h gSA v/;;u {ks= dh dqy lk{kj ¼45½ efgykvksa esa ls 86-67 izfr’kr efgyk,¡ ek= izkFkfed Lrj rd f’kf{kr gSaA efgykvksa dh vf/kdre f’k{kk ek/;fed Lrj rd gSA 'kS{kf.kd Lrj esa o`f) ds lkFk izfr L=h cPpkas dh la[;k esa deh gqbZ gS ¼lkj.kh 1½

**lkj.kh 1 cksM+yk fodkl[k.M % efgykvksa esa lk{kjrk ,oa iztuurk] 2011&12**



**'kS{kf.kd Lrj vkSj lekurk**

lkekU;r% 'kS{kf.kd Lrj eas o`f) ds lkFk lekurk okyh efgykvksa ds izfr’kr esa deh gksrh gS] fdUrq 'kS{kf.kd Lrj esa o`f) ds lkFk nks vFkok nks ls de cPps okyh efgykvksa dh la[;k esa o`f) vkSj rhu ,oa mlls vf/kd cPpksa okyh efgykvkas dsA

**Bodla Block Educational Levels Of Women And Fertility In Baiga Tribe,**

**2011-12**

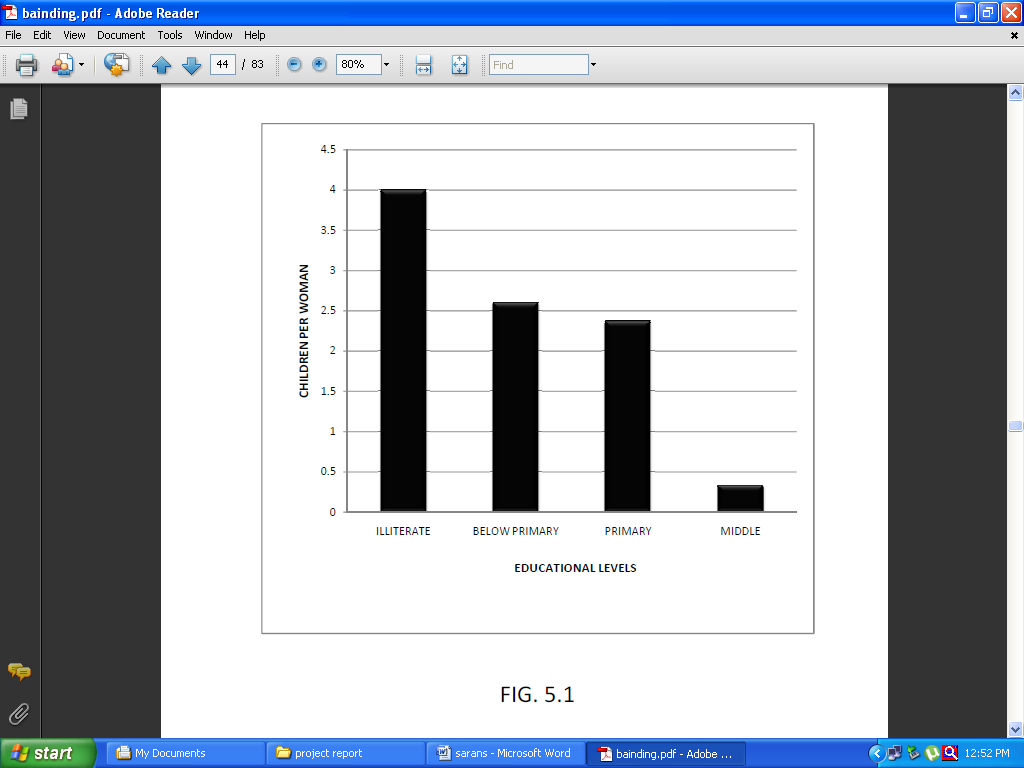


Fig.1

izfr’kr esa deh gksrh gSA cksM+yk fodkl[k.M esa ,d cPps okyh fuj{kj efgykvksa ¼11-74%½ dh rqyuk esa izkFkfed Lrj rd f’kf{kr efgykvksa ¼21-05%½ dk izfr’kr yxHkx nks xquk gSA blh rjg nks cPps okyh fuj{kj efgykvksa dk izfr’kr 13-88 gS] tcfd izkFkfed Lrj rd f’kf{kr efgykvkas esa ;g izfr’kr c<+dj ¼31-58%½ nks xqus ls Hkh vf/kd gSA

**lkj.kh 2 cksM+yk fodkl[k.M % 'kS{kf.kd Lrj ,oa lekurk] 2011&12**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **'kS{kf.kd Lrj** | **Lkekurk** | | | | | | **efgykvksa dh la[;k** |
| **0** | **1** | **2** | **3** | **4** | **≥ 5** |
| **Ekk/;fed**  **¼Ikzfr’kr½** | **4**  **¼66-67½** | **2**  **¼33-33½** | **&** | **&** | **&** | **&** | **06**  **¼100-0½** |
| **izkFkfed**  **¼izfr’kr½** | **3**  **¼15-79½** | **4**  **¼21-05½** | **6**  **¼31-58½** | **3**  **¼15-79½** | **3**  **¼15-79½** | **&** | **19**  **¼100-0½** |
| **fcuk 'kS{kf.kd**  **Lrj ds lk{kj**  **¼Ikzfr’kr½** | **1**  **¼5-0½** | **2**  **¼10-0½** | **3**  **¼15-0½** | **5**  **¼25-0½** | **6**  **¼30-00½** | **3**  **¼15-0½** | **20**  **¼100-0½** |
| **fuj{kj**  **¼izfr’kr½** | **26**  **¼9-25½** | **33**  **¼11-74½** | **39**  **¼13-88½** | **54**  **¼19-22½** | **61**  **¼21-71½** | **68**  **¼24-20½** | **281**  **¼100-0½** |
| **dqy**  **¼izfr’kr½** | **34**  **¼10-43½** | **41**  **¼12-58½** | **48**  **¼14-72½** | **62**  **¼19-01½** | **70**  **¼21-47½** | **71**  **¼21-79½** | **326**  **¼100-0½** |

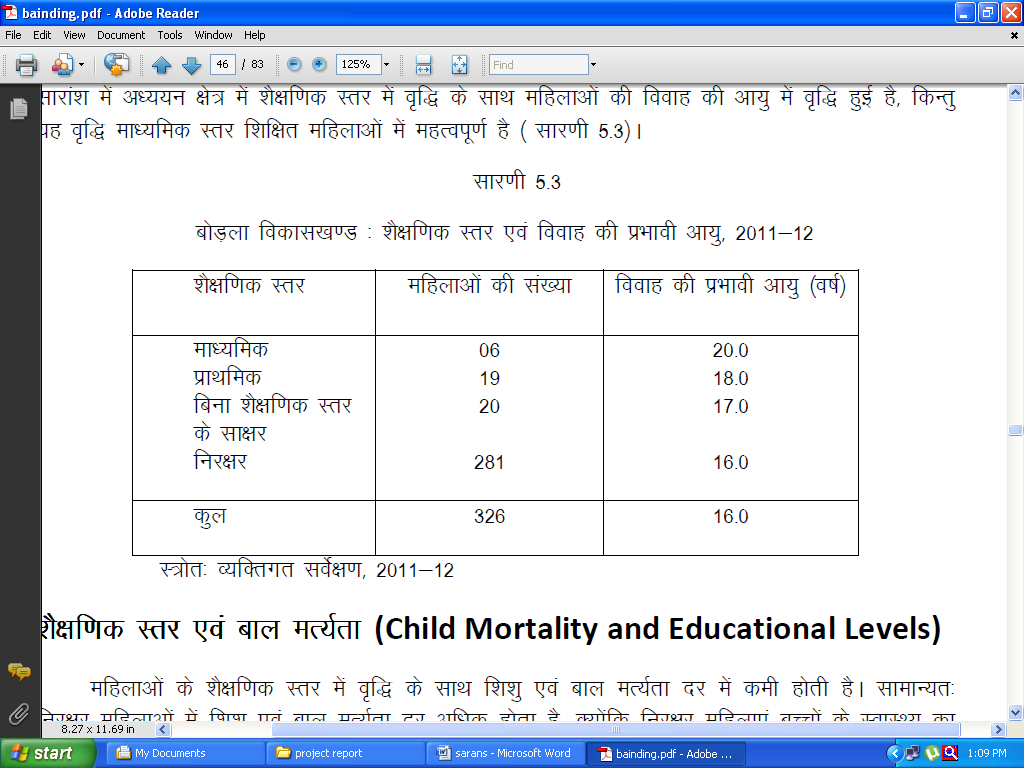
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**'kS{kf.kd Lrj ,oa fookg dh izHkkoh vk;q**

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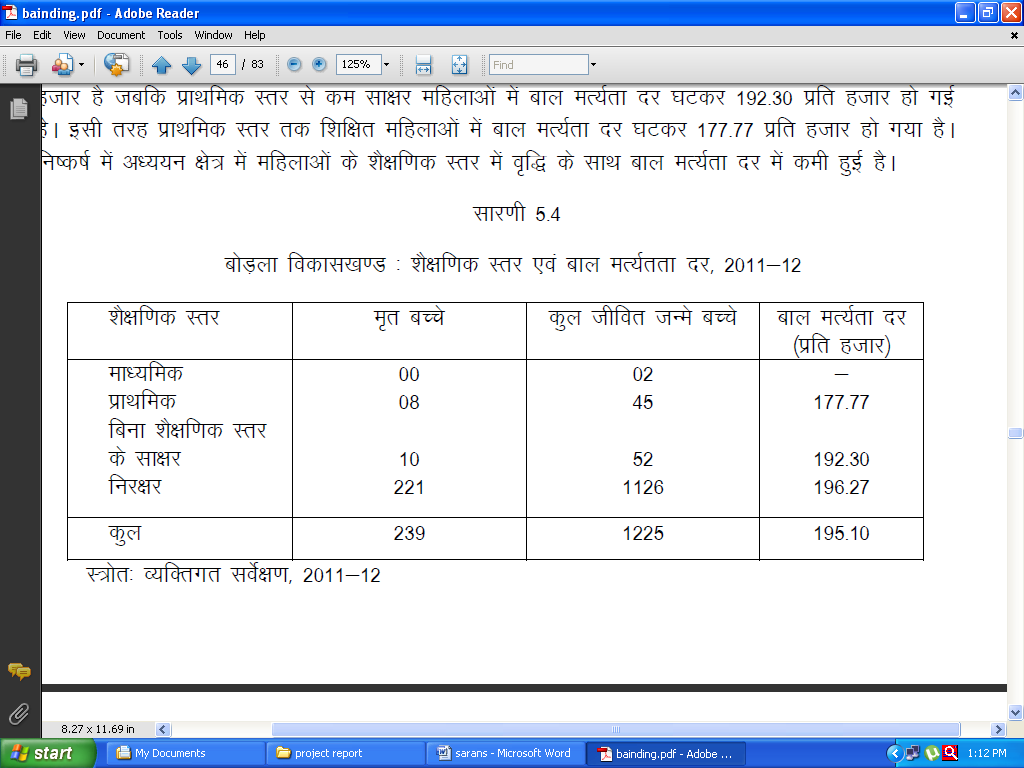
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**'kS{kf.kd Lrj ,oa cky eR;Zrk**

efgykvksa ds 'kS{kf.kd Lrj esa o`f) ds lkFk f’k’kq ,oa cky eR;Zrk nj esa deh gksrh gSA lkekU;r% fuj{kj efgykvksa esa f’k’kq ,oa cky eR;Zrk nj vf/kd gksrk gS] D;ksafd fuj{kj efgyk,a cPpksa ds LokLF; dk ns[kHkky Bhd ls ugha dj ikrh gaS vkSj cky eR;Zrk vf/kd gksus ls iztuurk nj vf/kd gksrh gSA cksM+yk fodkl[k.M esa cky eR;Zrk nj 195-10 izfr gtkj gSA fuj{kj efgykvksa esa cky eR;Zrk nj 196-27 izfr gtkj gS tcfd izkFkfed Lrj ls de lk{kj efgykvksa esa cky eR;Zrk nj ?kVdj 192-30 izfr gtkj gks xbZ gSA blh rjg izkFkfed Lrj rd f’kf{kr efgykvksa esa cky eR;Zrk nj ?kVdj 177-77 izfr gtkj gks x;k gSA

fu"d"kZ esa v/;;u {ks= esa efgykvkas ds 'kS{kf.kd Lrj esa o`f) ds LkkFk cky eR;Zrk nj esa deh gqbZ gSA

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Bodla Block : Educational Levels And Age At Marriage In Baiga Tribe, 2011-12

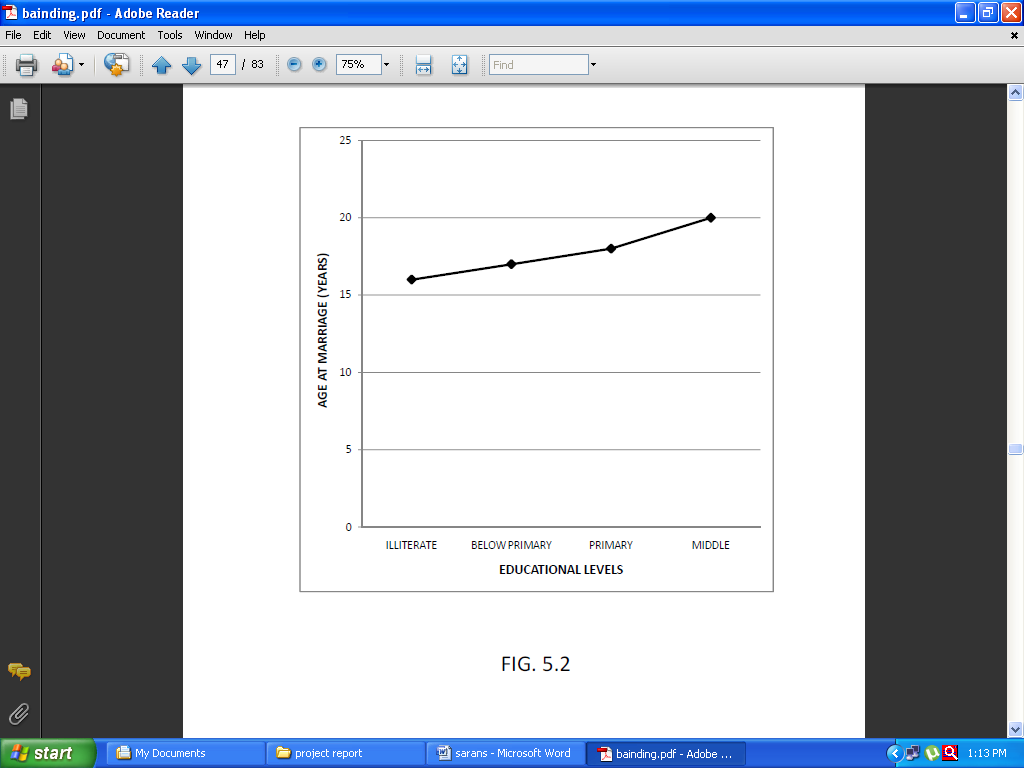


Fig. 2

Bodla Block : Educational Levels And Child Mortality In Baiga Tribe, 2011-12

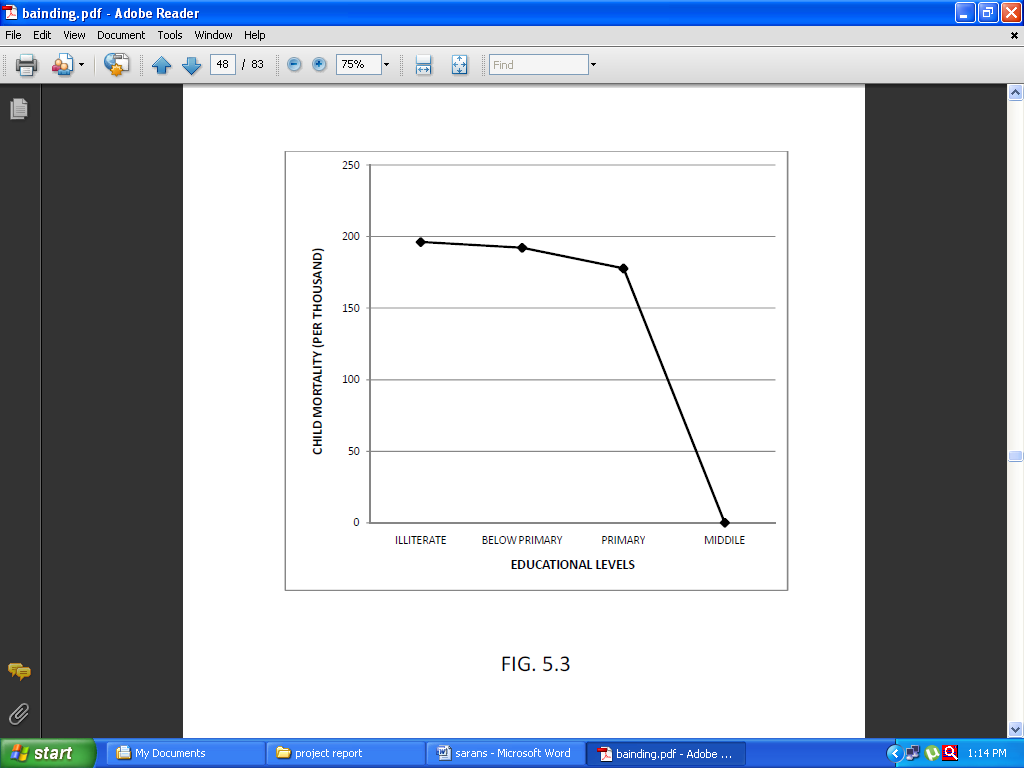
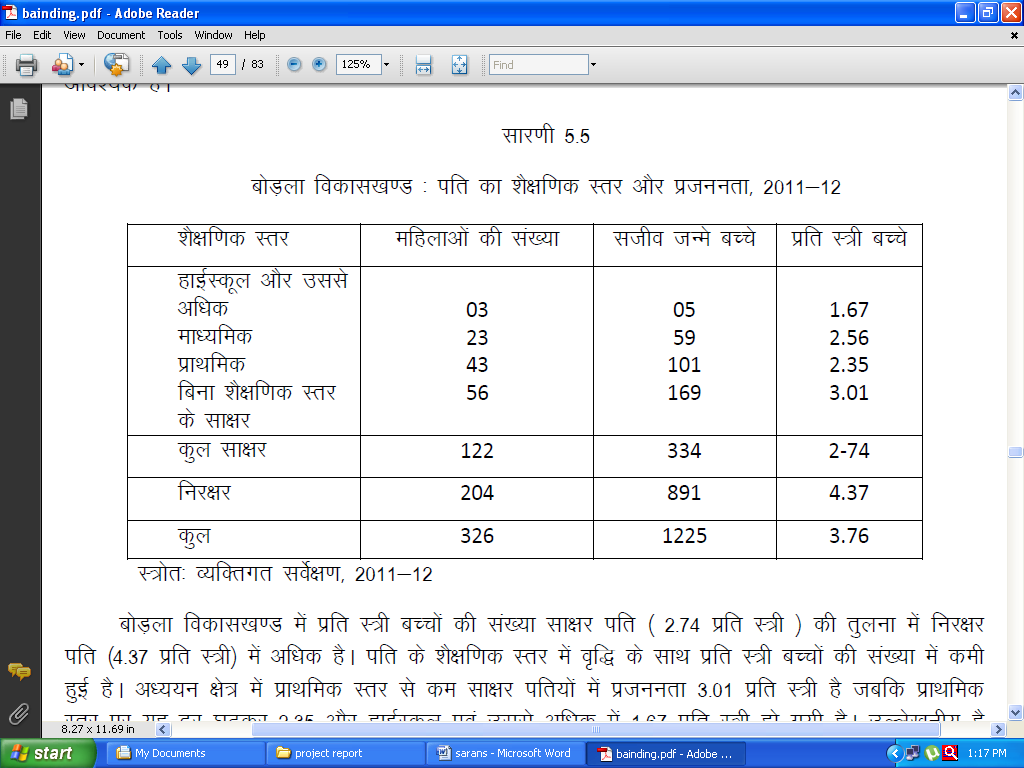


Fig. 3

**ifr dk 'kS{kf.kd Lrj vkSj iztuurk**

ifr dh f’k{kk] iztuurk dks izHkkfor djus okyk ,d egRoiw.kZ dkjd gSA lk{kj ifr dh rqyuk esa fuj{kj ifr dh ifRu;ksa esa iztuurk nj vf/kd gksrh gSA cksM+yk fodkl[k.M esa fuokljr cSxk tutkfr ds iq:"kksa esa lk{kjrk ek= 37-42 izfr’kr gSA lk{kjrk dh rqyuk esa 'kS{kf.kd Lrj dk iztuurk nj ij vf/kd izHkko fn[kk;h nsrk gSA 'kS{kf.kd Lrj esa o`f) ds lkFk iztuurk nj esa deh gksrh gSA cksM+yk fodkl[k.M esa ek= 7-97 izfr’kr ifr ek/;fed Lrj vkSj mlls vf/kd f’k{kk izkIr gSa tcfd izkFkfed Lrj ij 13-19 izfr’kr o fcuk 'kS{kf.kd Lrj ds lk{kj 17-12 izfr’kr gSaA fuj{kj ifr;ksa dk izfr’kr ¼62-58%½ lokZf/kd gS] tks bl ckr dh vksj ladsr djrk gS fd cSxk tutkfr;ksa esa izxfr ds fy, f’k{kk ij vf/kd /;ku nsuk vko’;d gSA

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cksM+yk fodkl[k.M esa izfr L=h cPpksa dh la[;k lk{kj ifr ¼ 2-74 izfr L=h ½ dh rqyuk eas fuj{kj ifr ¼4-37 izfr L=h½ esa vf/kd gSA ifr ds 'kS{kf.kd Lrj esa o`f) ds lkFk izfr L=h cPpksa dh la[;k esa deh gqbZ gSA v/;;u {ks= esa izkFkfed Lrj ls de lk{kj ifr;ksa esa iztuurk 3-01 izfr L=h gS tcfd izkFkfed Lrj ij ;g nj ?kVdj 2-35 vkSj gkbZLdwy ,oa mlls vf/kd esa 1-67 izfr L=h gks x;h gSA mYys[kuh; gS fd efgykvksa dh rqyuk esa lk{kj ,oa fuj{kj ifr;ksa esa izfr L=h cPpksa dh la[;k esa varj vis{kkd`r de gSA

Bodla Block: Educational Levels of Husbands And Fertility In Baiga Tribe, 2011-12

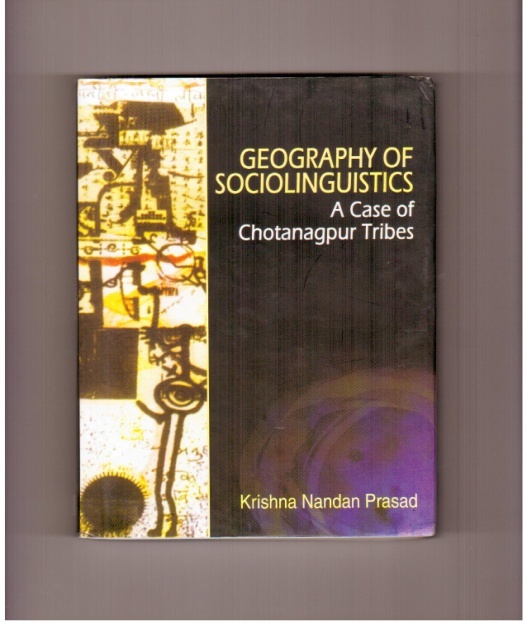
**Fig.4**

**lanHkZ xzaFk lwph**

|  |  |  |
| --- | --- | --- |
| **Benjamin, Barnard (1968)** | **:** | *Demographic Analysis,* George Allen and Unwin, London. |
| **Chandna, R.C. and M.S. Sidhu (1980)** | **:** | *Introduction to Population Geography,* Kalyani Publishes, New Delhi |
| **Davis, k. (1951)** | **:** | *The Population of India and Pakistan,* Princeton University Press, Princeton. |
| **Driver, Edwin D. (1963)** | **:** | *Differential Fertility in Central India,* Princeton University Press, Princeton. |
| **Elwin, Verrier (1939)** | **:** | *The Baigas,* Wyman, London. |
| **Gosal, G.S. (1967)** | **:** | “Regional Aspects of Rural Literacy in India” *Transaction Institute of India Geographers,* Vol.4 |
| **Jain, S.P. (1973)** | **:** | *Demography : “A Status Study on Population Research in India,* Tata Mc Graw Hill Publishing Co., New Delhi |
| **Leibenstein, Harvey (1957)** | **:** | *Economic Backwardness and Economic Growth,* John Wiley and sons, New Delhi. |
| **Pant , J.C. (1992)** |  | : "Educating Females for Controlling Population" *The Indian Journal of Public Administration,* Vol. xxx viii, No. 3, pp. 121-128. |
| **dqekj] lqthr ¼2007½** | **%** | ^^eÅ tuin esa 'kSf{kd fodkl dk Lrj^^ *mÙkj Hkkjr Hkwxksy if=dk]* vad 43] la[;k 1 ,oa 2 i`- 15&17- |
| **Pkanuk] vkj- lh- ¼1987½** | **%** | *Tkla[;k Hkwxksy]* dY;k.kh ifCyds’kUl] ubZ fnYyhA |
| **iar] thou panz ¼1990½** | **%** | *Tkukafddh]* xks;y ifCyf’kax gkÅl] esjBA |
| **Ck?ksy] ,- ,oa ;ksxs’ojh lkgw ¼2002½** | **%** | ^^/kerjh ftys esa iztuurk ds fu/kkZjdksa dk fo’ys"k.k^^ *mÙkj Hkkjr Hkwxksy if=dk]* vad 38] la[;k&1] ,oa 2 i`- 83&92 |
| **oS".ko] Vh- ds- ¼2008½** | **%** | *NRRkhlx<+ dh vkfne tutkfr;k¡]* vkfne tkfr vuqla/kku ,oa izf’k{k.k laLFkku] NRrhlx<+] jk;iqjA |

**\*\*\***

***Book Review***



***“*Geography *of Sociolinguistics: A Case of Chotanagpur Tribes”***

by

Krishna Nandan Prasad

**Adhyayan Publishers & Distributors, New Delhi, 2013, xvii+272 pages. Price: Rs.750.**

*The book under review is an outstanding contribution in the grossly neglected field of geography of languages in India. An extremely fine display of incorporating the sensitivity of primary data collection methods of socio-linguistics and rigours of methodological kit of geography is the hallmark of this fascinating book which would definitely have an enlightening impact on both the disciplines.*

*The book contains nine chapters which surprisingly includes both introduction and summary of conclusions. In the introductory chapter the author succinctly puts forward the problem, main objectives, theoretical framework, research questions, sources of data, method including sample design and statistical techniques, overview of literature and the brief sketch of the study area. Chapter second outlines the linguistic diversity in the region. In the third chapter bilingualism among the tribes is analysed. Chapter four highlights the language shift among the tribes. In the fifth chapter impact of socio-economic development on bilingualism and language shift has been thoroughly examined. In the last chapter a summary of conclusions has been presented. The book closes with an exhaustive bibliography incorporating interdisciplinary publications (23 pages), including published books, research articles and unpublished materials, coupled with fruitful appendices (21 pages). However, an unhelpfully short index (only four pages) prepared by the publisher is a poor addition.*

*The book has a number of characteristics which make it an enlightening attempt. Firstly, it is based on the in-depth study of exhaustive literature in various fields of language/ dialects, linguistics, anthropology, sociology, geography etc. Secondly, it puts forward a logically sound conceptual framework to tackle the problem. Thirdly, the sample design based on appropriate research procedure and the utilisation of most appropriate techniques in all the substantive chapters make it distinct. Fourthly, it finely blends the analysis based on the secondary data with those arrived on the basis of primary data collected in the field. In fact, these field evidences are more worthy contributions of the study. Lastly, the greatest contribution of the book is the exemplary analysis of Sadri/ Khortha, which has emerged as a new link language among the tribal and non-tribal groups. Perhaps for the first time the characteristics of this new ‘pidgin’ language have been analysed employing both the spatial and apparent time perspectives.*

*Of course, the book suffers from a number of shortcomings. While some of them could have been easily avoided others need a plausible explanation. In this context, the glaring time-lag between the completion of the research and its publication is noticeable. It has definitely impacted the diffusion of this rare genre of research conducted in the field of geography of language in India. However, the ground reality cannot be understood by those who somehow or other get teaching positions in Central and State universities. Teaching in mofussil rural or small town colleges has its own peculiar problems where even finding a good typist is a miracle what to talk of computer facilities. Moreover, the problem becomes compounded for a person like the author of the book who, despite being overburdened by the non-teaching activities of the college administration, takes teaching as a mission, a trait fast disappearing in Indian academia. This fact may be one of the major causes of this embarrassing delay in publication.*

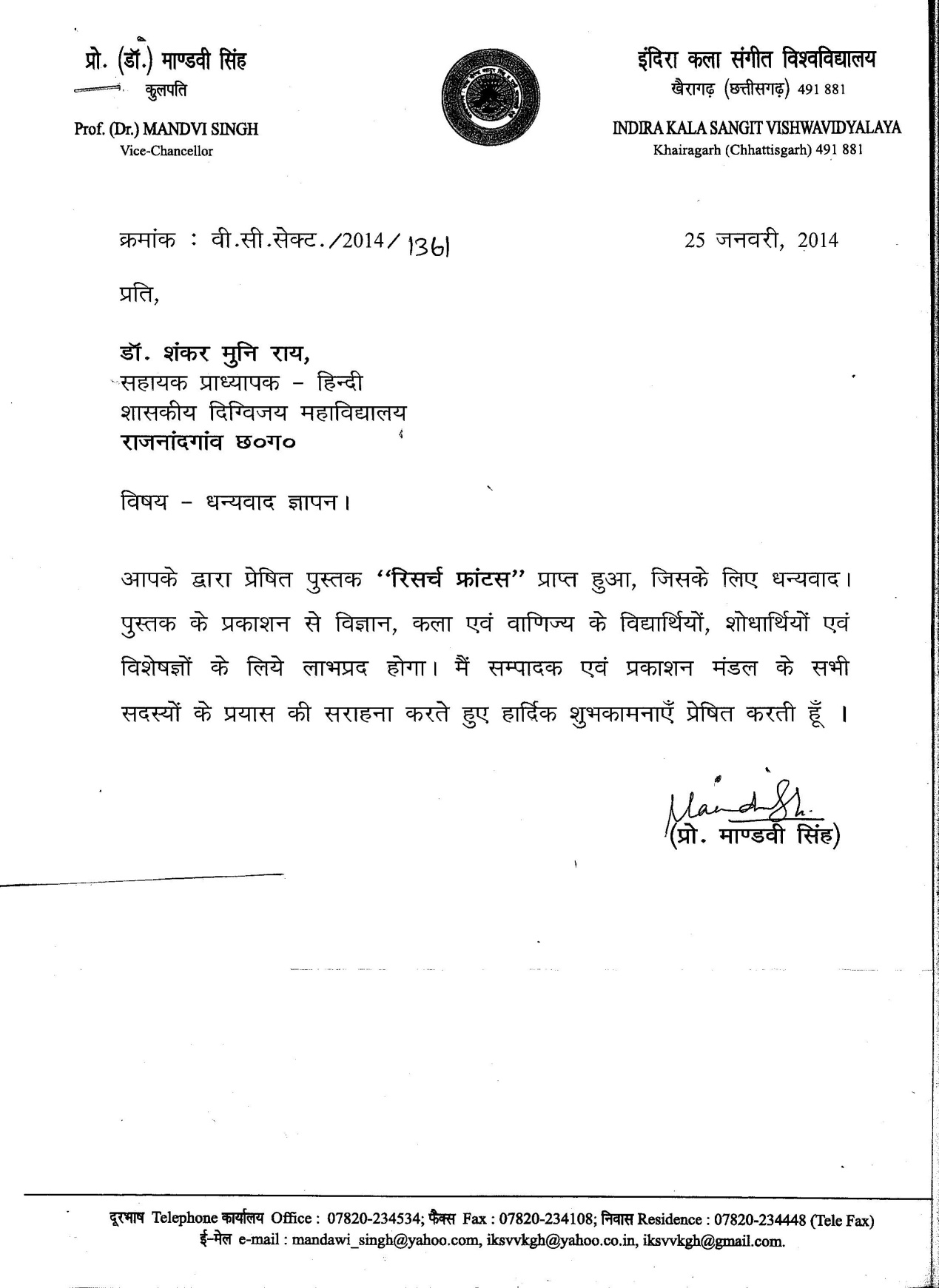
*Admittedly, fallout of the above is the use of data that is quite dated. Of course, it may invite harsh comments from the critics who clamour for the recent data. In this context, it needs emphasis that, unlike the flood of remotely sensed data, the primary data collection in this field demands much patience, perseverance and intellect. Besides the availability of secondary data only at the decadal level, it would have been almost impossible to collect primary data again. On the other hand, one cannot condone the weakness of not including the recent research publication in the field.*

*One of the major weaknesses of the book for which the author cannot be exonerated is the abundance of typographical errors to irritate a serious reader. Furthermore, it is all the more surprising that a Delhi based publisher, sitting in the hub of publishing houses can be so callous to his profession, that in the time of computer software one hardly finds any page without typographical errors. By neither taking the services of a copy editor, nor showing the final proofs to the author himself, the publisher has not only spoiled the final outcome of such an accomplished research publication but also diminished his own business prospects. Besides it, the quality of publication more specifically reproduction of maps in a number of cases is not at all satisfactory. I am sure the next edition of the book would be devoid of these errors and also incorporate more recent research publications*

*Despite these shortcomings this remarkable publication constitutes one of the finest contributions to the geographical studies of language in India. Having entered into an almost uncharted territory, the author has left remarkable traces in this field. The study may be of great applied value to the politicians, policy makers, academic, administrators, planners, civil society, social activists, media etc., in pursuing their own desired goals. Moreover, it would definitely encourage other inquisitive researchers to undertake similar studies in other tribal areas. Further, it would be remarkable if the author himself, having more experience, knowledge and literature, revisit the same area to detect the newer changes. That would definitely enhance the frontiers of research in this field. In fine, having gone through the book one is amply rewarded to have a deeper understanding of the complex system of continuity and change in the bewildering complex linguistic pattern of tribes of Chotanagpur. Undoubtedly, the book on the basis of high quality of research is a must for every library and serious scholars working in the fields of geography of language, sociolinguistics, tribal language and tribal areas.*

***Mumtaz Khan***

*Former Associate Professor of Geography, Jamia Millia Islamia, New Delhi.*



Editor's Note:

I feel immense pleasure in placing the 4th volume of Research Fronts in your hand. It is in true multidisciplinary colour given by the scholars working in the fields of history, geography, economics, commerce, zoology, biotechnology, computer science and humanities. Keeping the medium of presentation in mind, all the 14 research papers have been grouped into three sections viz. arts, science and arts & humanities.

Of the five papers included in the 'Arts' section, first two are micro level study related to spatio-temporal distribution of archaeological sites and gold coin financing. The next three papers are macro level analysis carried out at all India level. These papers take up the issues of status of PPP, involvement of corporate sector in solving the problem of higher education and truth of sustainable development in Indian planning.

In the science section, a total of three papers have been contributed. First two coming from zoology and biotechnology, are based on field data, whereas the third one is a theoretical paper in computer science.

The last section is comprised of five research papers. Three of them are on different areas of Hindi literature. The remaining two are field based study; one is the impact of MNREGA on women empowerment, while second is the impact of educational level on fertility among the Baiga tribes.

I get this opportunity to thank all the contributors who sent their works for publication in this journal. I also pay my sincere thanks to our peers who took unbearable pain while going through the manuscript for review in time. Naveen Sahkari Samiti also deserve special thank for its printing.

Krishna Nandan Prasad

Chief Editor

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**Book Review**

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1. [↑](#footnote-ref-2)
2. [↑](#footnote-ref-3)
3. [↑](#footnote-ref-4)
4. . [↑](#footnote-ref-5)