

# Land and Water Resource Management System in Ancient India



**Editor**  
**Dr. Mohan Lal Chadhar**

**Land and Water Resource  
Management System in Ancient India**

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Management System  
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**Recent Researches in History, Culture And  
Archaeology of Ancient India**

**Editor**

**Dr. Mohan Lal Chadhar**

**Vidya Career Research Foundations  
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## Foreword

Land and Water resources are fundamental for beginning and sustainability of any civilization. Increasing population has limited the availability of these precious resources. Conservation, management and wise-use of soil and water are now related with the existence of the planet. Environmental pollution and diminishing natural resource has raised the question of survival towards humanity.

Educating people regarding conservation and management of these vital resources is also a significant venture in the direction of protecting our planet. This book is an endeavor to aware people for the safeguarding of treasured reserves of earth. The renewed interest aroused the curiosity of academicians as well as general readers in history of natural resources. This book covers many articles on the ancient efforts of conservation and management of water and land. Spiritual and material needs of a civilization and thought and life of its people through the ages are reflected in the contents.

Dr. Mohan Lal Chadhar has done a splendid job in collecting articles on this pertinent issue of our time. I hope and trust that this book will help to open people's eyes to the urgent need for systematic use, recycling and managing of nature's gifts-Land and Water. The present volume is a modest effort to meet this growing fascination with the early beginnings of the field. The book elucidates long history of human efforts to conserve natural resources with indigenous techniques. Contribution of early dwellers and tribals is highlighted in the book. Articles also provide an opportunity to develop a new

conceptual framework for practitioners, policy makers and governments. Scholars as well as general readers will find this book useful.

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Amarkantak  
 1 August 2015

## Preface

The history of Man-Land-Water relationship begins with the origin of human being on the earth. At the early stage man was totally depended upon his surrounding environment. From Neolithic period man started exploiting the land resources and water bodies for various purposes. At least from the Pre-Harappan period Man started to control the natural resources- Land and Water. Thus Land and Water resource management are two significant aspects for the development of Man and the State.

The Land resource management would have started from the period when settled agriculture was started. The early literature of India, archaeological sources do indicate that for state formation Land resource management played a very important role. The Dynastic history of central India, including that of Mauryas, Saka, Satavahanas, Panduvanshis, Sarvapurias, Katuries, Paramaras, Pratiharas, Chanelas, Kachhapghatas and others (from early times to 13<sup>th</sup> century) provide various references about land system, land revenue and different types of land of the state. No doubt, the land system gave rise to feudatory system in early medieval history of India. In the medieval period various regional states ruled in different parts of central India. In this aspect mentioned may be made of Bhopal state of Nawab, Gwalir state of Schindia, Holkars of Indore, Bhonsle of Nagpur and a number of small states. These regional states introduced new system of land resource management. With the coming of the British rule, the colonial master had their own system of land management which was accepted to provide to them maximum land revenue. The Ryotwari, Mahalwari and Zamindari system took its root in this period. The tribes of the region such as, the Baiga, the Gonds, the Kamars, The Bhilsetc residing in Bastar, Jagdalpur, Sarguja, Mandla, Chhinwara have their indigenous land revenue system. After independence, the Indian state has introduced land resource management through various legislations, policies, programmes.

The history of Water resource management goes back to prehistoric period. The small dams constructed during Pre-Harappan period and the findings of various irrigation canals, ponds, tanks etc. reveal the system of water, management during Harappan period. In the early historical period there are various references regarding the construction of tanks, wells, ponds and dams on small rivers and streams along with irrigation canals as known from epigraphs and excavated sites. The benevolent rulers made every possible effort for the management of water resources particularly in those areas where there were scanty rainfall. As a result in part of Rajasthan, Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, and Chhattisgarh the dynasty rulers introduced a number of innovative methods to conserve water. The regional state of central India also contributed in this regard for example, the Nawab of Bhopal and Raja Bhoj of Parmar dynasty made elaborate arrangement for conservation of water. The Britishers in India had their own water resource management as revealed from various irrigation canals-cum- small dams and reservoirs constructed during the period as reflected in various archival documents of the periods. After independence, the state of India has initiated various steps for water resource management and conservation of water by constructing big and small dams, irrigation canals etc through various policies and programmes. The construction of big dams is a debatable issue. The construction of Narmada sagar dam, Indira sagarpariyojna in Madhya Pradesh has created a lot of resentments among the local people who are protesting for the issue of displacement. The unique type of *satyagrahi.e. Jalsatragraha* is still continuing at Khandwah in Madhya Pradesh by men and women. Even the tribes of central India are managing their surrounding land and water resources by their own traditional methods and techniques.

I am also grateful Thanks for Support of *Prof. T. V. Kattimani*, Vice- Chancellor Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh.

I shall never be able to find adequate word in May life to express my deep sense of gratitude to my very respectfully Prof. (Dr.) Alok Shrotriya.

Many Thanks are due to Dr. Vinay Kumar of Department of Ancient Indian History, Culture and Archaeology, IGNTU, Amarkantak. I am also grateful to Prof. C.D. Singh ex. Vice-

Chancellor IGNTU, Amarkantak (M.P.) Prof. V.D. Jha, Former Head, Department of Ancient Indian History, Culture and Archaeology, Dr. H. S. Gour University, Sagar (M.P.), Dr. Nagesh Dubey, Presently, Head Department of Department of Ancient Indian History, Culture and Archaeology, Dr. H. S. Gour University, Sagar (M.P.),

I owe my sincerest thanks to my teachers Prof. Rahman Ali, Prof. M.N.P. Tiwari, Prof. S.R. Dubey, Prof. C.S. Gupta, Prof. J.N. Pal, Prof. R.P. Pandey for their blessings.

I also express my deepest appreciation and gratefulness to the encouragement and moral support of my all friends.

I am greatly indebted to my Mother Late. Smt. Ram Bai Chadhar and My Father Shri Rajaram Chadhar for being constant source of inspiration since childhood. I am also grateful to my parents- in laws Mr. Dharam Das Bunker and Smt Laxmi Devi for their warmth support and encouragement.

I am special gratitude to my wife Mrs. Radha for her continuous encouragement throughout this arduous venture, with our son and Daughter Shreyansh and Vedanshi.

We are extremely thankful to all the thirty One contributors for contributing their research papers on time. The views and contents of the papers are scholar's own. It is hoped that the volume would be helpful in understanding aspects of Land and water resource management of Ancient India and will be appreciated by the students in particular and researchers working on history and culture of Ancient India in general. We are grateful to, publisher of Radha Prakashan who readily agreed to publish the volume and worked hard to bring out in such an excellent manner.

**Dr. Mohan Lal Chadhar**

Guru Purnima  
31 July, 2015

## Contents

<b>1</b>	<b>Water Resources And Their Impact On Chandella Art And Architecture</b> <i>Professor S. K. Sulerrey</i>	<b>1</b>
<b>2</b>	<b>Land Use And Water Resource Management During Prehistoric Period In Chhattisgarh</b> <i>Prof. R.P. Pandey</i>	<b>20</b>
<b>3</b>	<b>The Techniques of Water Management System In Medieval Malwa</b> <i>Dr. Vinay Shrivastava</i>	<b>28</b>
<b>4</b>	<b>Critical Review of Engineering Aspects of Bhimkund Reservoir And Upper Lake Constructed By Raja Bhoj</b> <i>Dr. K.G. Vyas</i>	<b>36</b>
<b>5</b>	<b>Transformation And Apotheosis of Rivers In Indian Art And Culture</b> <i>Dr. Vinay Kumar</i>	<b>50</b>
<b>6</b>	<b>Documentation And Development of Golden Triangle At Chhattisgarh (A Study Based On The River Zones At Tala-ratanpur-malhar )</b> <i>Ar. Shivi Joshi</i>	<b>58</b>
<b>7</b>	<b>Need of Policy of Cleaning For River Bad's In Case of Arpa River</b> <i>Dr. Praveen Upadhyay</i>	<b>67</b>
<b>8</b>	<b>Water Resources Management System At And Around Ellora</b> <i>Dr. Manoj Kumar Kurmi</i>	<b>79</b>
<b>9</b>	<b>Archaeological Remains of Kharun River, Chhattisgarh (With Special Reference To Patan)</b> <i>Dr. Atula Kumar Pradhan</i>	<b>85</b>

10	<b>Besnagar And Bhon : Two Paradigms of Ancient Canal Structure</b> <i>Dr. Rajeev Ranjan</i>	90
11	<b>Ancient Hydraulic Structures of Kalachuris of Ratanpur (A Brief Discussion On Basis of Epigraphic And Archaeological Sources)</b> <i>Dr. Vishi Upadhyay</i>	95
12	<b>Management And Conservation of Natural Resource And Culture In Tribal Areas of Madhya Pradesh Through Panchayat Raj Institution : Legal And Practical Perspective</b> <i>Dr. Uday Singh Rajput</i>	110
13	<b>Management of Drinking And Domestic Water Supply In Coastal Odisha</b> <i>Dr. N. Panigrahi</i>	119
14	<b>Geographical And Socio Economic Concepts of Land And Water In Central India</b> <i>Dr. D. Jayasree</i>	148
15	<b>Importance of Water Sources And Its Management With Reference Pre-historic To Historic Period</b> <i>Dr. Pradeep Kumar Shukla</i>	153
16	<b>Socio-Cultural Practices In Utilization And Conservation of Land And Water Resources Among The Tribes of Central India</b> <i>Dr. D.V. Prasad</i>	161
17	<b>Tarighat: An Early Urban River Bank Settlement In Chhattisgarh</b> <i>J.R.Bhagat/A.K.Pradhan</i>	163
18	e/; Hkkjr ea ty L=krka dk iæU/ku <i>Åks foodnr &gt;k</i>	177
19	okdkVddkyhu ty&iæa/ku <i>i ka pUnzks[kj xdr</i>	183
20	I kxj ftys ds ty L=kr ,oa ty çca/ku% <i>, d , frglfl d v/; ; u</i>	191

21	e/; &Hkkjr ea ty iæU/ku <i>MkW etgu yky p&lt;kj</i>	204
22	Xokfy; j nqz ds fodkl ea ty L=krka dh Hkkfedk <i>MkW "kkfUrno fl l kfn; k@yYysk dækj</i>	215
23	vfHkys[k ij vk/kkfjr iæU&e/; dkyhu mYkj&e/; Hkkjr ea fl pkbz ds l d k/ku <i>MkW czt'sk jkor</i>	226
24	i ; kbj.k vksj ty pØ <i>MkW Hkjr l kgw</i>	231
25	NRrhI x<+ea Lekj dka ds l ehi fLFkr ty l d k/kuka dk v/; ; u <i>MkW dkerk i d kn oekz</i>	235
26	bã k dh i kj fEHkd 'krkCnh ea , j p ea ty&l j {k.k % vkfHkys[kh; l anHkz <i>MkW vke izdk'k yky JhokLro</i>	252
27	xks kfz nqz dk ty iæU/ku <i>MkW xkfouh ckfke</i>	258
28	nf{k.k dks y ds dypfj ujs kka dk Hkfe , oa ty iæU/ku %i Fohno f}rh; ds jruij l s i klr vfHkys[kka ds fo'k'sk l UnHkz ea <i>MkW vk'kr'sk pkjs</i>	270
29	ujoj ds ikphu tyl d k/ku <i>MkW v'kh'k pkpkfn; k</i>	275
30	NRrhI x<+dh LFkki R; dyk ea xty{eh i frekvka dk vadu <i>MkW ds ih oekz</i>	280
31	cUnsy [k.M ea pany 'kkl dka dk ty iæa/ku <i>MkW ftuUnz dækj t&amp;</i>	287



1

## Water Resources and Their Impact on Chandella Art and Architecture

**\*Professor S. K. Sulerrey**

Before studying the water resources of Chandella period, we must know the region over which the temples and monuments were constructed during the time of Chandellas. The boundaries of the Chandella kingdom varied from time to time but the area of Jajakabhukti roughly corresponds to what is now known to Bundelkhand region of Uttar Pradesh and Madhya Pradesh. At the height of Chandella power in eleventh century this region was bounded on all the four sides by four rivers in the north by Yamuna, in the south by Narmada, in the east by the Tamas and in the west by The Chambal.<sup>1</sup> The Khajuraho inscription of A.D. 954 gives an account of the extent of Dhang's empire. It refers that Dhang was ruling the earth "playfully acquired by the action of his long and strong arms, as far as Kalanjara and as far as Bhasvat situated on the bank of the river Malava from here to the river Kalindi and from here also to the frontiers of Chedi country and even as far as that mountain called Gopa (Gopadri) which is unique abode of marvels<sup>2</sup> Thus rivers and mountains provide the geographical boundaries of the Chandella kingdom. The boundaries of the Chandella dominion of course, changed from time to time. But is always including Mahoba, Kalanjar, Khajuraho and Ajaygarh, all of which are situated in the central segment of Bundelkhand.<sup>3</sup> These four places Khajuraho, Kalanjara, Mahoba and Ajaygarh comprised the vital center of the Chandella kingdom<sup>4</sup>. The region was known during the sixth century as Chedi<sup>5</sup>

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during the **Chandella times as Jajakabhkti**<sup>6</sup>, and since fourteen century as bundelkhand.<sup>7</sup>

We can divide the water resource of Chandella period in two parts:

1. Natural water resources
2. Excavated and constructed water resources .

**1. Natural Water Resources** - Jajakabhuti has a large number of rivers, many rivulets and Beautiful waterfalls which in hence the scenic beauty of this region. The small streams are usually tributaries and branches of big rivers. Sometimes, after rising from the mountain the stream empty their water into a big river in lower course. There are numerous north bound perennial Rivers fall paying tribute to Yamuna river like Betwa, Dhasana , Ken, Bhagein, paisuni and their tributaries. The puranas<sup>8</sup> often enumerate the rivers as rising from the various mountain ranges. of these rivers, the following may be located in the present Bundelkhand:

**Yamuna:-** Yamuna is the famous river of India. It forms the north boundary of the Chandella Kingdom. The Yamuna is regarded as one of the most sacred river of India. The devoties place it next to the Ganga. The Yamuna river is closely associated with Krisna. Ganga and Yamuna as river deities came into existence during the Gupta period in the temple architecture. The two ends of temple's door lintel are adorned with the images of the river goddesses, Ganga and Yamuna standing on their respective vehicles, the alligator and tortoise. This was a specially attractive feature which originated in the Gupta period and for many centuries afterwards was accepted as the best decorative and religious pattern of a temple doorways.<sup>9</sup> It is most remarkable that Kalidas with his unusual power of observing contemporary art and life records the presence of the twin river goddesses Ganga and Yamuna as being attendance upon the deity.<sup>10</sup> The literary description truly support the architectural tradition.<sup>11</sup> This tradition of depicting Ganga and Yamuna in the temple also followed by the Chandellas. The Khajuraho inscription of A.D. 954 refers Yamuna by its other name as Kalindi.<sup>12</sup>

**Betwa:-** Betwa is also known as Vetravati. The river Vetravati has been mentioned by kalidas in Meghaduta<sup>13</sup> and also by Varahmihira.<sup>14</sup> Literally , Vetravati means containing canes. It has been identified with the Betwa joining the Yamuna near Hamirpur,

Utter Pradesh. It rise at the Village Kumari in the Bhopal Division and flows in a north easternly direction passing by the ancient city of Vidisa (ancient Besnagar).<sup>15</sup>

The rivers Bes and Dhasan are among the important tributaries of Betawa. According to a tradition the Pandavas fought with the king of Vidisa on the bank of the Vetravati.<sup>16</sup> The Kadambari of Banabhatta associate Malava ladies with Vetravati, Surrounding Vidisa.

**Dasarna:-** The river Dasarna is regarded as the same as present Dhasana flowing past Sagar between the Betwa and Ken. The river Dasarna was evidently named after the Dasarna Kingdom mentioned in many works including the Mahabharata<sup>17</sup> and the Meghaduta<sup>18</sup> of Kalidas. Dasarna has been identified with East Malwa with its capital at Vidisa.<sup>19</sup> The Kurma Purana, Matsya Purana, Brahmanda Purana, Vaman Puran and Vayu Puanas mention that the Riksha range is the source of the Dasarna.<sup>20</sup> From the Markendeya Purana<sup>21</sup> it appears that the river which has the source in the Bhopal rigion empties it self in the Betwa river. A Kalanjara inscription gives the the title of Dasarnadinatha to Chandella king Paramardideva.<sup>22</sup>

**Chambal:-** It is mentioned in the ancient Indian literature as Charmanvati. Panini refers<sup>23</sup> to one Charmanvati river, the location of which is not certain. V.S. Agrawal, however, identifies it with the Chambal.<sup>24</sup> The Mahabharata<sup>25</sup> explain the name Charmanvati, as the rivulet which was originated from the Skin (Charman) of the scarified cows, i.e. from blood coming from the skins of the cows. A large number of cows are said to have been slaughtered at the Yajana of Rantideva. The Mahabharata informs us that the river formed the southern boundary of the Panchal territory.<sup>26</sup>

It has also been referred to in the Meghaduta.<sup>27</sup> The river rises in an elevated point of the Vindhya. N.L. Dey<sup>28</sup> points out that the hill has tree co-equal sources from the same cluster, viz., the Chambala, and the Gambhira range, and enter Rajasthan at a point, 193 miles from its source. Charmanavati is fed by a large number of tributaries, both large and small. Among these, the Kalisindh joins it from the south, and the Mej and Banas from the west. Later on the river passes through Utter Pradesh where it ultimately joins the Yamuna. It forms the western boundaries of Chandella kingdom.

**Sindhu:-** The river Sindhu is generally believed to be identical with the river Kalisindhu, a tributary of the Chambal. The Mahabharata<sup>29</sup> possibly refers to it as the Dakshina- Sindhu, and the Meghaduta<sup>30</sup> simply as sindhu as the river is called in the Puranas. Evidently, at a later period the Sindhu came to be known as Kali Sindhu which does not appear in literature. It takes its rise from a tank situated in the village of Nain was in the Sironj in Vidisha District of Madhya Pradesh. It flows in a north easterly direction for about 150 miles through the Malwa region till it enters Utter Pradesh, and joins the Yamuna.

**Tamas:-** It is identified with the modern tons flowing into the Ganga below Allahabad. The Ramyana mentions two Tamasa rivers, one of which flows about 10 miles to the west of the Sarayu. It was on the bank that Valmiki dwell.<sup>31</sup> The other has been placed in the Rewa region, and it falls into the Gnaga near Allahabad.<sup>32</sup> The Puranas obviously refers to the latter as rising from Riksha Mountain. The imperial Gazetteer of India points to it as the Southern Tons.<sup>33</sup> It rises in the Kaimur range from a source known as Tamasa Kunda, near Maihar.<sup>34</sup> From here the river follows a north-easterly course for about 120 miles and after traversing the rough hilly country round Maihar, flows through the plain of Rewa region. Here it is joined by the Satna, and 40 miles lower down, it is joined by a few other effluents and spreading in to a wide stream with long deep reaches, it enters Utter Pradesh at Deora. After a north-easterly course of about 44 miles, it falls into the Ganges 19 miles below Allahabad. It forms the eastern boundary of Chandella kingdom.

**Ken:-** The Suktimati of ancient Indian literature is identified with the Ken, a tributary of the Yamuna, flowing through Bundelkhand. Cunnigham<sup>35</sup> thinks that the name of ken or Kayau is derived from Sanskrit Kanavati. But this name does not appear in the Puranas. It seems peculiar that the name of ken, which is a great river, should not be mentioned though it has its source in the same river shed as the Tons, Paisuni and others. According to N.L. Dey,<sup>36</sup> the river Syeni mentioned in the Matsya Purana<sup>37</sup> is the same as river Suktimati, and under phonetic rules Syeni would become Keni or Ken.

The Mahabharat<sup>38</sup> connect the river Suktimati with the Kolahala range. The river flowed through the ancient kingdom of Chedi.

Pargiter has placed the Kolahala between Panna and Bijawar in the Chhatarpur district.<sup>39</sup> It rises in the north western slopes of the Kaimur range and plowing north-east through Damoh and Panna, enters the Banda District of Utter Pradesh near Bilharka on the Bank of the river stood a city of the same name (Suktimati of the Mahabharata,<sup>40</sup> Sotthivati of the Buddhists),<sup>41</sup> which was the ancient capital of the Chedi people.

The Kiyani runs through the Jejakhbukti from South to north, dividing it into two nearly equal portions, with the capital cities of Mahoba and Khajuraho in the western half and the great fort of Kalanjara and Ajaigarh in the eastern half.<sup>42</sup> According to the legend connected with the origin of the Chandellas, the founder of the Chandella dynasty Chandra Varman was born on the bank of the river Kanavati, the modern Kiyani or Ken.<sup>43</sup> Thus river Ken played a vital role in the history of the Chandellas. It surrounds the famous Chandella fort of Ajaigarh.

**Baghein:-** This is an important river of Banda district of Utter Pradesh. It is rising from a hill near Kohari of Panna district of Madhya Pradesh, it enters Banda district at Masauri Bhartpur Village. It flows north-eastward and at a point separates Banda from the new created Shahuji Maharaj Nagar (Chitrakut) forming boundaries between atarra and Karvi towns. Continuing north east it joins Yamuna near Bilas Village.

At the evidence of Skanda Puran, Avantya Khanda (Rewa-Khanda),<sup>44</sup> N.L. Dey<sup>45</sup> identifies Balu Vahini river with Baghein river in Bundelkhand. The Baghein is a tributary of the Yamuna and the fort of Kalanjara stands on its.<sup>46</sup>

**Mandakini:-** The Mandakini has been identified with the present Mandakini, which flows by the side of the famous Chitrakuta Mountain.<sup>47</sup> It is a small stream flowing into the Paisuni a little below Sitapur.

The river Mandakini along with the famous Chitrakuta has been mentioned in the Ramayana.<sup>48</sup> It appears that Rama resided for some time on Mountain Chitrakuta during his exile.<sup>49</sup> The Malavikagnimitra<sup>50</sup> mentions a river named Mandakini. Its identity is however, uncertain. But the author might have the river Mandakini around the Chitrakuta in mind. The river has also been mentioned in the Brhata- Samhita.<sup>51</sup>

**Paisuni:-** Rising near the Satna district of Madhya Pradesh, Paisuni at the Village of Mangawan it falls from the Vindhyan plateau in two five cascades, separated by a deep pool. The lower pool which always filled with clear, translucent water, is said to be very deep. This is associated with legendary demon Viradh associated with Ramayan. From this point it enters the famous pilgrim center Chitrakuta. It flows north-east almost parallel to Baghein river for some distance, then takes a turn to join Yamuna near Village Kankota. The Pauranic river Chitrakuta is identified with Paisuni by some scholars. The name of the Chitrakuta evidently was derived from the famous Chitrakuta hill of the Ramayana. The Ramayana<sup>52</sup> associated the Chitrakuta range with two rivers, viz, the Mandakini and Malini. D.C. Sircar<sup>53</sup> thinks that the Chitrakuta of the Puranas is to be identified either with the Mandakini or with a part of it. But the name of the river Mandakini still survives, and Cunningham takes it to be the same as the present Mandakini, a small tributary of the Paisuni. So, it is possible that the Malini<sup>54</sup> is identified with the Chitrakuta itself. Which according to N.L. Day<sup>55</sup> is another name of the Paisuni. As the Paisuni was larger than the Mandakini, we may think that it had a better claim to be called after the name of the mountain near about it.

Cunningham<sup>56</sup> found an allusion to Prasravana in Parisaroni or Paisuni, and accordingly, he identifies it with the present Paisuni, a tributary of the Yamuna between the Ken and Tons near the Chitrakuta. Prasravana literally means 'a spring, Cascade or Waterfall,' and the stream, which is famous for the cascade, got the name of Prasravana hill.<sup>57</sup> So, it is possible that the Prasravana-nadi (i.e. Paisuni) is an earlier epoch was known as the Chitrakuta after the name of the hill.

**Narmada:-** The Narmada is regarded as the line of Madhya Pradesh. With a course of over 1312 Km. this is the longest among the west flowing rivers of Indian subcontinent originating from Amarkantak, the Narmada flows westward through the asymmetrical valley of about 160 Km. in length entered between the Vindhyas as on the North and Satpura on the south till it reaches down to the neighbouring region of Tripuri, it forms a beautiful 15 meters high Dhuandhar waterfalls. Here the Narmada has youthful appearance.<sup>58</sup> Narmada also divided the Indian subcontinent into two culture zones. It is also called Reva.<sup>59</sup> It was identified with the Narmada in post Vedic literature.<sup>60</sup> The name of Reva, which has probably been derived

from Sanskrit root rev' to hop owing to the leaping of the stream down its rocky bed has been mentioned in the Puranas including the Markandeya,<sup>61</sup> works like Meghaduta<sup>62</sup> and the Brahat-Samhita<sup>63</sup> and epigraphs like the Mandasor inscription of Yasodharman<sup>64</sup> and Eran inscription of Budhagupta.

The Narmada is also known by a few other names as follows:-

1. Dakshinaganga mentioned in the Skanda Purana,<sup>65</sup>
2. Induja.<sup>66</sup>
3. Purvaganga,<sup>67</sup>
4. Mekaladirja,<sup>68</sup>
5. Mekalsuta,<sup>69</sup> or Mekalkanyaka, possibility owing to its association with the Amarkantaka which is a spur of the Mekla range, and
6. Samabhava.<sup>70</sup>

Among the important tributaries of the river, the Banjar in Mandla, the Sher and Shakkhar in Narsingpur and the Tawa, Ganjal and Chotta Tawa in Hoshangabad are well known. The Hirau, another tributary, flows beneath the Vindhya hill near Jabalpur. Most of these rivers have a short and precipitous course from the hills.

The Narmada is regarded as one of the seven sacred rivers of India. The local devotees place it above the Ganges. The local legend aver that Ganga herself must dip in the Narmada once a year. She comes in the form of a black Cow, but returns home quite white, free from all sins.<sup>71</sup>

The Prada Kishna ceremony of the Narmada, that is to walk from its mouth to Broach to its source at the Amarkantaka by one bank, and back by the other, is considered to be an act of great religious merit.<sup>72</sup> Every year a good number of pilgrims take in it.

The importance of the Narmada also lies in the fact it generally esteemed to form the boundary between Aryavartta and Dakshinapatha.<sup>73</sup> The Narmada is the holiest river in Madhya Pradesh in the earliest medieval period. An early literary tradition regarded as Kumari originated from the abode of Siva<sup>74</sup> and testify she was represented originating from Rudra himself. was initially regarded as second only to Ganges in sacredness. She is also conceived as the Ganga of the south and another form of Ganga.<sup>75</sup> The Rewa inscription<sup>76</sup> of Malayasimha K.S. 944 (1192 A.D.) invokes the Narmada as the virgin goddess which flew with pure sacredness of water from the abode of Siva i.e. Amarkantaka and as one which

removes the Sin merely by sight. Thus in the twelfth century A.D. Narmada was regarded as a sacred Virgin River goddess. The Narmada formed the southern boundary of the Chandella kingdom.

**Water Falls:-** The Chandella kingdom has a large number of waterfall. These waterfalls are the natural water resources, which enhance the beauty of the region. The Khajuraho inscription dated v.s. 1011 (A.D. 954)<sup>77</sup> gives a very graphic description of water fall during the time of the Chandellas. It refers:

“whose pleasure mount (was) that Vindhya the peaks of which are charming with the sweet notes of his excellences sung by Kirat woman seated on spotless lotuses, (and) on which groups of peacocks are made to dance by the bubbling noise of waterfalls rushing down from its tops”

Panna district of Madhya Pradesh is famous for its diamond mines. Panna district having been one of the most thickly forested and a natural abode of the elephants at one time, has been a good source of perennial streams, picturesque water falls, natural reservoirs called Kund and Seha. Some of them are describe below:-

#### **Prapat Kund:-**

It is situated near Panna town, not far from Padmavati temple, Prapat Kund is a waterfall associated with a deep water body called Kund, Jhiriya is another water body near Prapat Kund.

**Pandav Prapat:-** This is situated by the side of Panna-Chhatrapur road, down the valley of Ken river, Pandav Prapat is a beautiful natural fall which is associated with Caves and Jhirna. This is a spectacular site.

**Chiraipani Seha:-** This is situated in Panna district near Fatehpur in the Vicinity of Vyarna river. In Addition to the waterfall and reservoirs' this has numerous caves with rock-paintings.

**Mata ka Seha:-** This is situated by the side of Panna Chhatrapur road near Bhairo-Tek. Mata ke Seva is a picturesque waterfall and the water body. There are also pre-historic caves and the protection for water which would have been important even in that period.

**Lakhanpur Seha:-** Situated in a deep forest setting this is biggest Seha also associated with prehistoric period, there are caves, rock-paintings and water protection post.

**Brihaspati Kund:-** This is situated on the right side of Banda-

Panna road before Pahadi-Khera, in the interior forest and on the bank of Baghein river. Brihaspati Kund exists as one of the most picturesque, deep and difficult water fall associated with deep reservoir of water with natural caves and old temples.<sup>78</sup>

**Bedhak:-** Nearly a few km. downstream is Badhak which is an unique place and water steam, where the water dropping from the top is highly siliceous and turns the wood of the trees into stone form.<sup>79</sup>

**Raneh Waterfalls:-** This is situated 20 Km. to the west of Khajuraho, on the river Ken, with a stunning rock formation in a variety of colours. This is a spectacular site.

#### **Excavated And Constructed Water Resources:-**

Agriculture the occupation of a large number of the people, as it has been from in this country since earliest time. The attention that the Chandella kings paid to irrigation corroborates this fact. They dug out wells, reservoirs and lakes<sup>80</sup> and raised embankments to divert the course of the river.<sup>81</sup> well (kupa), reservoirs (Vapi) and lakes (Puakiarni) of the Chandella period still survive in Khajuraho and its vicinity. That works of public utility, especially related to water resources, were extensively carried out by the Chandells rulers in their kingdom. This is known from their inscriptions.<sup>82</sup>

There were several tanks and reservoirs constructed during the Chandella period throughout the whole kingdom. Their water water managements is very significant and still it serves the need of local people. The main reason for the construction of tanks and reservoirs is due to the shortage of rainfall. This fact is known from an inscription of Chandellas from Ajaigarh fort, it refers that in the Samvat year.1237 (A.D. 1180) on Monday, the second day of waxing moon of Ashadh, in the fort of Jsayapura, for the use of all people, by the Raut Sri Vira, the Son of Tejla, a kahatriya of the Village of Kotia, during the time of famine, a bauli (Well) was built on the road.”<sup>83</sup> This reference also indicate that relief works were carried out during the Chandella period.

The geographical location of the Chandella Kingdom was also favourable for the construction of tanks. We find a tank or some type of water source near by a temple. The name of the tanks are also related with deities as shivasagar, Ramasagar etc. But some of tanks and reservoirs were also associated with the name of their builders or place where they were built. Some of the tanks, ponds, and

reservoirs constructed during the time of Chandellas were located at following places:-

**Shivasagar:-** This is an important tank excavated at Khajuraho, stone inscription of Dhangadeva of V.E. 1059 (A.D. 1002) refers regarding the construction of this temple “ Sagar got is dug by his sixty thousand sons with great difficulty at the cost of their lives and subsequently that was filled with water by his three prominent grandsons, hearing this narrative of the origin of the sea, the wise king through a sense of competitions, speedily constructed a lake ‘Bilvarnava’ large than the sea.”<sup>84</sup> This water tank is an important land mark in Khajuraho. The Shivasagar tank is possibly ‘ the ‘largest lake surrounded by towering temples’ describe by Ibn Battuta, the Arab traveler who visited Khajuraho in A.D. 1335. At the time of Captain Burt’s visit in 1838, and Cunningham’s in A.D. 1865 this water tank extended about three- quarters of a mile to the north, along the area behind the Matangeshvara, Lakshman, and the Vishvanatha temples. Cunningham mention the Chitragupta to be on the west bank of the old bed of the Shivasagar and the Vishvanatha as on its east bank. Now a days this south-north bed had dried up and tank only occupies the area south of the Matangeshvara temple.

The Shivasagar tank plays an important part in the ritual life of Khajuraho town. During the Shivaratri festival thousands of pilgrims bathe in the tank then visit the Matangeshvara temple for worship Siva. In the month of Kartik (November), women of the Khajuraho come to the bank of the Shivasagar in the early hours to worship Krishna. Shivasagar tank increased the beauty of surroundings of Khajuraho temples, particularly of western groups Khajuraho stone inscription of Kokkala of V.S. 1058 (A.D.1002) refers the construction of tanks. “ He who built tanks full of water, in which the lotuses shown with the loveliness of the spreading rays of the bright lustered moon and temple high like the peaks of the Himalaya”.<sup>85</sup> Thus inscriptional sources gives us valuable information regarding water resources.

**Chopra Tank:-** This tank is located near the western group of temples at Khajuraho. This is a small water tank. It is three storeyed steeped tank. Its construction near the Sun temple, connected with the healing of diseases, is significant.

**Khudhar Nala:-** Khajuraho is situated on the banks of the Khudhar Nala, a tributary of the Ken river. It surrounds the Khajuraho town.

There are about more than twenty big and small tanks at Khajuraho assigned to the Chandella period. This indicates the richness of the water resources in Khajuraho during the Chandella period.

**Tanks of Mahoba:-** Mahoba is a historic city of the Chandellas. The Chandellas who were great builders, left behind an extraordinary legacy of temples and tanks. The lakes constructed by Chandellas are extraordinary creations of engineering skill and their successful water management systems. These lakes were formed by building massive embankments across shallow valleys. The lakes include Rahila Sagar built by the fifth Chandella ruler Rahila, The Kirti Sagar, built by Chandella ruler Kirti Varman and Vijay Sagar, built by the Chandella ruler Vijaypala. The Madan Sagar built by Madan Varman Chandella. Is a picturesque sight.

Besides the tanks Mahoba has two famous of Chandella period lined with granite slabs in a reverse pyramid shape. Rama Kunda is located in the west of Madan Sagar, while Suraj Kund is near Rahila Sagar.

**Tanks and Ponds of Kalanjara:-** The famous fort of Kalanjara played a very significant role in the history of Chandellas. There are many tanks and rock-cut water ponds constructed here. Some of them are described below:-

**Bhairva Kund:-** This is located near the sixth Gate of Kalanjara fort. To the west of this gate in the Raoni, immediately above the Bharava Kund, there is a colossal figure of Bhairava cut in the rock. This kund is having water and due to its relation with Bhairava image it is named as Bhairva kund. Here also are two figures of pilgrims represented carrying water in the usual manner in two vessels fixed to the end of a Banghi pole.

**Patal Ganga:-** The Patal Ganga is a large deep well or reservoir, cut in the rock. The water is deep, and is constantly dripping and trickling from the roof and sides. Due to its deep water it is named as Patal Ganga.

**Pandu Kund:-** Pandu Kund is a shallow circular basin; about 12 feet in diameter, into which the water is constantly trickling from the crevices in the horizontal strata of rock. This kund is old.

**Budhi or Burhiya Tal:-** Near the middle of the east face there is a natural hollow, in the bottom, of which has been excavated in the rock a small reservoir with steps all round. This is called the Budhi

or Burhya Tal. Its waters are believed to possess very great healing power, as the leprous Raja Kirtivarman after having bathed in the tank, found him self healed.

### Kalanjar Fort Water Management



**Mrig-dhara:-** Near the middle of the south face is the Mrig-dhara or “Antelope’s spring”, a small pool in an inner chamber of the rampart into which water is constantly trickling. It is no doubt supplied, from the great reservoir of Kot tirth on the high ground nearby this place is associated with the Pauranic stories.<sup>86</sup>

**Kot- Tirth:-** This is large reservoir the several flights of steps and many remains of sculptures. Kot-Tirth, or the “Fort- Holy Place”, is the chief object of pilgrimage in Kalanjara. In the south-east corner there is said to be a deep well, and this was the original holy pool of the place, which was eventually enlarged to the present size. This name is also written as Koti-tirth or the “ten million places of pilgrimage”, and Koth-tirth or the “leprosy place of pilgrimage” where lepers are cured by bathing.

**Swarga Rohin Kund:-** Just out the mandap of Nilakantha temple there is a deep kund or rock- cut reservoir, called Swarga Rohina. This is the main source for Nilakantha Generally pilgrims after taking bath visits the Nilakantha temple at Kalanjara.

**Ganga Sagar or Shivasuri Ganga:-** On the north face of hill, and about 60 or 70 feet above the plain, there is a fine stone walled tank called Ganga Sagar or Shivasari Ganga, 160 feet in length 120 feet in breadth. It has continuous flight of steps on three sides, and only a narrow flight in the middle of the fourth side. A long flight of steps lead to the top of the embankment. The whole of the steps and walls are formed of cut stones, including numerous carved pillars,

bracket capitals, and broken statues. On this site there has been once a very fine temple, as shown not only by there remains, but by a colossal figure of Vishnu, 13 feet in length reclining on the serpent Ananta. It seems that tank is referred in Mahabharata.<sup>87</sup>

### Kalanjar Fort Tank



**Tanks of Ajaigarh:-** Ajaygarh is the famous fort of the Chandellas. But the name of Ajaigarh is not found in any of the inscriptions, the name being invariably given as Jayapura-durgga, or the Fortress of Jayapura”.<sup>88</sup> During the time of Chandellas there were many tanks and ponds constructed by the Chandella ruler and their officials. Some of them describe below:

**Ganga-Jamuna Tanks:-** Near the northern gate there are two tanks excavated in the rock, which are known by the name of Ganga-Jamna. Almost exactly in the same size. These tanks were excavated during the time of Chandella king Viravarman. An inscription is inscribed on the front part of rock forming the roof the tanks records the construction a nijara-kupa and prapra at Ajaygarh and of a tank and ahall at Nandipur by Viravarman’s chief queen Kaiyanadevi.<sup>89</sup>

**Ajay-Pal ka Talao:-** Almost exactly in the middle of the fort there is a large tank cut in the rock called as Ajay-Pal-ka-Talao. The tank is an irregular excavation in the solid rock; it is greatly and appear to have been the natural result of excavations made to obtain material for building. It is said never dry up, but to have always a depth of ten feet of water in deepest part. This tank plays an important part in the ritual life of Ajaygarh town. During the Makar Sankranti, festival, thousands of pilgrims bathe in the tank and head for the

Ajaypal temple for worship.

**Parmar Tal:-** Near the southern end of the fort there is another tank called Parmar Tal, or the Reservoir of Raja Parmal. The tank is not large, but said to be very deep; its sides are supported by massive vertical stone walls with ghats, the walls diminish upwards by narrow steps, the steps of the ghat are large and broad; on a slab on one of the steps of the ghat here is an inscription. Close by there is a ruined temple of the Chandella times which is also attributed to Raja Parmal; and at a short distance there are two other temple standing together are known as Chandele Mahal.

**Significance of Water Works:-** The undertaking the works of public utility was highly recommended by thinkers from very earliest times. Vishu Dharmasastra refers that “one who digs a well for the public is saved from the fruits of half his sins when the water has begun to flow forth”.<sup>90</sup> Bana Bhatta mentioned that the Smritis enjoined upon men foundation for public use of halls, shelters, wells, gardens, embarkments etc.<sup>91</sup> Some writer even say that the reward of sacrifices is only heaven, but by purta, i.e. consecration of temples, tanks and gardens, one is released from Samsara.<sup>92</sup> This indicates that charitable works for the use of the public or large sections of the public came to be regarded as more meritorious than sacrifices, in the gifts of which only the Brahmanas benefitted.<sup>93</sup>

According to Smritis, water reservoirs dug out by men are of four kinds viz. Kupa, Vapi, Puskani and tadaga. Kupa is usually defined as a well of five to fifty cubit in length. Vapi is a well with a flight of step on all sides or on three, two or one side only and its length varies from 50 to 100 cubits. A puskarni (pond) is between 100 to 200 cubits in length or diameter, and tadaga is from 200 to 800 cubits.<sup>94</sup> the Chandella inscription record the construction of all kind of water reservoirs, Sukra says that the king should see to the adequate supply of water in the country by digging wells, wells, with steps, tanks lakes etc.<sup>95</sup> The great attention paid by the Chandella kings to this problem is testified by the number of tanks that still exist in the different parts of Chandella kingdom.

#### **Impact of Water Resources:-**

All works on architecture contain long chapter on the Bhuparkasha or the examination of the soil. In these chapters lands are directed to

be examined as regards their colour, taste, fragrance, fertility, elevation and even the surroundings Scenery. This show the significance, attached to by the Indian to the site of a temple. A passage from the work of Kasyapa, a predecessor of Varahamihira is quoted by Bhottotpala, according to which A place where tanks full of sweet and transport water, thronged with birds, abound, where forest and pleasure gardens are in numbers, where trees always blossom, where swans and karandava birds live in flock and where peacocks dance- there the gods always remain and enjoy pleasure.<sup>95</sup> The west place for constructing a temple was, therefore, on the sea shore, on a river, on the skirt of a forest and on a hill, beside a spring. The Khajuraho and the other temples prove that Chandellas always followed this practice in building a temple. Varahamihira while discussing the subject adds. “ The gods comes near the place which have a water and gardens in the either natural or artificial.<sup>97</sup> It is therefore evident from this passage that in crowded cities and towns where the natural Scenery was not very attractive, where rivers or forests were not available, temples were built on the bank of the tank and flower gardens were made to render the place beautiful and attractive to the gods. All Chandella temples ruined or existing are thus found to have tank near them.

It is therefore very probable that the artists did not stop with merely the excavation of tanks or the foundation of a garden by the side of a temples them selves scenes from nature, creeper and foliage, peacocks and swans, herds of elephants and monkeys are the favourite decoration of all the temples found in Chandella kingdom. A description in the Samaranga Sutradhara of the figure to be carved on building point to these facts. This tendency of making the site attractive according to the direction of the Silpasastras is thus apparent from the text as well as the decoration of the temples them selves.<sup>98</sup>

Thus the water resource makes the temples site attractive and create a scenic beauty. The water resources around temple also create an atmosphere of purity and spirituality. Water resources are thickly associated with the religious rituals. Before visiting the temple generally people take bath and then they visit temple and worship the god. During the festival people in large number take bath in the tank and then visit temple for worship. Thus water played a significant path in ritual life of temples during the time of the Chandella. No



daily, monthly, annual ceremony is complete without ritual purification with water. At birth, marriage death this concept is articulated.

The water that sustain life, the first principle of fertility and of life whether of ocean or river or cloud or sky. The archaeological evidence of Mohanjodaro, Harrappa, Lothal and recent excavations of Ganga Valley leave no doubt about fundamental ritual importance accorded to water and its fecundity. The Vedas devote the many hymns to water.<sup>99</sup> Inscriptional sources connected with different dynasties throws valuable light on the water resources. Similarly Chandella inscriptions also throws light on the significance of water resources. The construction of water resource is considered a holy work.

The water resources influence the physical and mental activities of artists. The rivers, tanks, gardens, aquatic animals are reflected in Chandella art and architecture by various ways and means. The numerous art motifs and decorative pattern and designs are taken from water resources surrounding the temple complex. Of aquatic animals mention is made of alligator capable for devoting elephants find a very significant place in Chandella art as Vahan of river deity ganga. The Chandella sculptor carved the toranas of the temple archways with decorative motif finds generally in Chandella temples only. The tortoises also finds place in Chandella temple as Vahan of Yamuna and as one of the incarnation of Vishnu. Tortoise is also depicted in scences of Samudramanthen in the sculptural art of Kalanjara. The fish is also finds it place in the form of Vishnu incarnation as fish. We also finds depiction of fish in some sculptures of Kalanjara. Similarly swans are depicted in the doors of Chandellas temples at Ajaygarh fort.

The lotus is flourished in the water. In mythical, terms, the lotus emerges from primeval water, whether river or pond. It is most important of Vegetative formic born of water, connected to the mythical centre of the earth through its stem, and always above the water, it leafs the symbol of untainted purity, its flowers blossoming with fragrance. Physically, the lotus is a typical ecological statement of the processes of nature. Symbolically, it assumes the greatest importance in Indian myth, art and ritual.<sup>100</sup>

In all lotuses, wheather as seat (asana), as emblem or epithet, it denotes fecundity, abundance, well being. Logically, lotus becomes goddess and is personified as Sri and Laksmi. She is praised as lotus

born (Pamasana bhava or Padmaja), standing on lotus (Padmasthita) and a thousand other names.<sup>101</sup> We are familiar with goddess Sarasvati also associated with lotus. Lotus is also associated with Vishnu as he hold lotus as ayudha in his hands. Similarly lotus originated from the navel of Vishnu and Brahma sits on the lotus to create the world. Lotus is also connected with the Sun. Similarly lotus is associated with Bodhisatava Padmapani and also connected with Jain tirthankars. The Chandella artist also utilized the lotus to decorate the ceiling of the Madapas. Thus water born lotus find a place in Chandella art and architecture in various forms of decorative motifs.

There are a number of panels in Khajuraho temples which exhibit in their small friezes the various prevalent modes of worship. The most complete is the one found lying on the bank of the Shivasagar lake now it preserved in the museum. All of these Puja sconces depict Siva in his ling form. These Puja Sconce shows that Linga is placed on high pedestal and worshiper shown powering water over the Linga. Thus these Sconce depicts the utility of water in worship of siva.

At Kalanjara there are many scences of water carriers carved in the rocks. These images of water carrier also throw light on significance of water in those days. In assessing the impact of water resources in Chandella art and architecture we must considered the vital part played by the water resource shaping an amicable environment for worship and creation of the site as recommended in the canons of Indian architecture.

The flowing rivers, the tanks with flowering lotus, the majestic Vindhyan mountains, the fecund forest, the trees with green leaves and variegated flowers, most of them spreading an aroma of fragrance all around, the colourful animals, the birds on the wings warbling sweet, even the buttes flies with tented patern on their wings hopping on every flower of bunch for sucking honey there from, have all been a source of joy and inspiration to the Chandella artist, who have had from the earliest times an abiding love for environment around.

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## Land Use and Water Resource Management During Prehistoric Period in Chhattisgarh

\*Prof. R.P. Pandey

Chhattisgarh is an important state of Indian sub-continent. This region earlier was part of Madhya Pradesh and formed south-eastern part of Madhya Pradesh. In 2001 A.D, this part of Madhya Pradesh was declared as an independent state namely Chhattisgarh in Republic of India. The Chhattisgarh State lies between 17° and 24° N, 80 and 84 E. The complete state is divided in 27 districts in three regions. The Northern region covered with hills of Satpura Range, The Central region in which the Mahanadi and its tributaries drain and develop the alluvial plain in and south are the Plateaus of Bastar. The Mahanadi is life line of Chhattisgarh. The Mahanadi and its all tributaries and sub tributaries have developed the great alluvial plain of the Mahanadi, which is 322 km. long and 80 km wide.<sup>1</sup>

The Chhattisgarh is surrounded by hills and plateaus in between the alluvial plain is concentrated. The great plain of Mahanadi is fertile and favourable for paddy cultivation and is known as **Rice Bowl** of India<sup>2</sup>. The name of Chhattisgarh is derived after the thirty six forts constructed in the area during the reign of Marathas and Kalchuries<sup>3</sup>. The name of Independent Chhattisgarh is recent and Chhattisgarh appears for the first time in 1795 in historical Atlas of India by Charles Jopter. The Vedas Puranas, do not mention the name

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of Chhattisgarh<sup>4</sup>. Some scholars relate it, basing on linguistic terms. But the opinions are divided. The Ramayana mentions this area as Dandkaranya<sup>5</sup>. Cunningham in 1878 called this area as Kosala and Dakshin Kosala<sup>6</sup>.



The Chhattisgarh is situated in the south-eastern part of Madhya Pradesh. In fact, earlier this region was in Madhya Pradesh state but later on, it was made a separate state of India. It lies between Maikala range and Chhota Nagpur in the north and the Orissa hills and Bastar hills in the South which created a corridor of upper Mahanadi valley. The Mahanadi valley covers a greater part of Chhattisgarh plain. The complete Chhattisgarh is divided in two Physiographic units; the Plain and the Hills (Fig-1).

The Chhattisgarh plain known as Chhattisgarh basin is formed due to interfluvial intersectors of different rivers and streams. The main rivers of the area are the Mahanadi, Seonath, Hasdo and Jonk. These rivers flowing in the area meeting each other have created the great plain of the Mahanadi. The Mahanadi river flows close to the hills at the eastern edge of the Chhattisgarh Basin. Due to which the Mahanadi alluviation is less than those of the Seonath which flows in comparatively levelled Zone. In the south east region in Bastar, the river Indravati flows and after flowing in rocky area of Bastar, enters into Koraput of Orissa. Around the great plain of Mahanadi, the elevation rises steeply in all directions. In between, the plain is so fertile for rice crop, and is named as "Rice Bowl" of India, covered with **tropical** reddish yellow silt but some patches of Black soil occur. Rock outcrop littered with rock pieces at some places are also present. The Chhattisgarh plain is fringed with few river basins lying between the hills. Famous among them are Kanker basin in south and Raigarh and Korba basin in the north.

The Chhattisgarh plain is surrounded by the hills and plateaus of varying heights. Maikala range chiefly composed of Deccan traps.

runs to the north west rising upto a heights of about 700"900 AMSL. The northern boundary of the Chhattisgarh is formed by Pendra plateau, Chhuri hills and Raigarh hills containing Granite, Quartzite and Gondwana rocks rising of about 700"900 AMSL. In the south and south east stands Gondwana hills of Bastar rising upto a height of 800"900 AMSL. The Mahanadi plain rests over the Cuddapah rock formation and bordered by Granite and Gneiss rock formations having rounded topography<sup>7</sup> (Fig-2).

### Mahanadi Valley



Since beginning, the early man had used varieties of land forms for the Settlement. He lived in different environment. The hills plateaus, laterite and alluvial plains abound the Chhattisgarh region. where the basic needs of early man were met with. The rivers have taken birth from the hills and after flowing over different kinds of landforms developed water bodies in which early man performed varieties of activities. The Main inhabitants of the Chhattisgarh are tribal communities among which the Gonds tribe dominate the area due to which Allchins 1968 have termed the Chhattisgarh area as Gond Kingdom.<sup>8</sup>

The Chhattisgarh region proved to be very rich right from Lower Palaeolithic period. A continuous prehistoric cultural sequence has been discovered and they have been located in different types of deposits. More than hundred prehistoric sites have been discovered in different location and land form.<sup>9</sup> Mainly the sites are located near the river but some times, some sites are away from the rivers near the smaller water bodies. The Lower Palaeolithic sites are generally

smaller in size and located on the hills, slopes away from the main rivers. The Lower Palaeolithic sites are situated near the main river Mahanadi. A sites namely Chanderpur is situated on the rocky surface on the Mahanadi proper. The tools are fashioned on the Granite and Quartzite material and is mainly "Pabble tool" industry.

The Middle Palaeolithic people continued the same technological tradition for making the tools of Middle Palaeolithic period as many miniature Handaxes and Pabble tools of smaller size made on different material i e Chert material. In the last leg of pleistocene during Middle and Upper Palaeolithic times, the environment underwent modifications as is evident from the animal fossils of Equus Bos and Ovis/ Capra. These animal fossils are indicative of grass land and open type of forests. During Lower Palaeolithic times the early man had penetrated in the thick jungles where due to humid climate thick vegetation and varieties of vegetarian food in form of fruits roots and tubers were available in plenty. Then comparatively drier climate ensued which effected the vegetation and the vegetation was now concentrated in the dry deciduous climatic Zone. Due to climatic variability, now early man was forced to settle in comparatively open forested areas near the river banks, water bodies where the vegetation and raw material of different type like chert and other allied minerals were available in the rivers as gravels<sup>10</sup> (Plate 1&2).

Probably the population during Lower Palaeolithic period in this area was very small and early man had an assess of food from the thick forests. During subsequent Middle Palaeolithic and Upper Palaeolithic period, due to climatic variation, the shift in vegetation caused the movement of the cultural people near the water bodies and also the settlement at the foot of the hills away from the rivers where the water, raw material were existing.

In the close of Pleistocene and beginning of Holocene. The environment underwent changes and the changes in tool"kit and settlement but the technological tradition developed and continued. The tools became tiny and could be used only in composite form as knife, sickle, arrow" bow etc. Due to warm climatic condition causing heavy rains the rivers were flooded creating flood plains on the main river Mahanadi and also on the tributaries. The grassland and pockets of forest still existed on bank and also near the low lyine hills of the area. In these areas, the early man had the availability of raw material

as well as smaller games and also aquatic games in the rivers and had sufficient food for their subsistence in the forests and also in the flood plains and also in the rivers. In this phase, the maximum population concentration was confined on Mahanadi proper. A little population also lived on smaller rivers like Hasdo and Jonk<sup>11</sup>. Some naturally formed Caves in the area were also occupied temporarily (Plate-3). The Seonath river probably due to unfavourable conditions in this phase, do not show the settlement of mesolithic population. The Chhattisgarh is very rich in natural resources which are now less due to human interference and due to irrigation and cultivation in the flood plains. The vegetation has become less which must have been in plenty during prehistoric times. During past, the foot of hills must have springs and sources of nalaes, rivers providing sufficient water. Living around these water bodies the early man performed. Since the major portion of Chhattisgarh is covered with hills and plateaus, all the rivers, nalaes and springs have originated from these hills and plateaus. These water bodies meeting together have developed alluvial plain of Mahanadi. In the alluvial plain cup like depressions have developed which must have provided an ideal place for settlement of early man in Chhattisgarh.

The Mahanadi and its tributaries rise from the hills of the Chhattisgarh and develop thick alluvium. At many places depression have been created and natural water bodies have formed which must have provided sufficient water supply to early man. On these water bodies, many sites have been located. The rivers of this area preserve gravels and also thick alluvium which must have been deposited due to heavy rains and also full bedload of the rivers. The gravels are generally near the rivers, situated at the base and also some time 4-5 km away from the present rivers, indicating sufficient rains due to which gravel deposition and sedimentation took place. Two sets of gravels namely sandy pebbly gravel and High level gravel have also given evidences of fossils. The Sandy pebbly gravel yielded vertebrate fossils of *Bos*, *Equus*, *Ovis/Capra* (Plate - 4 & 5) species while High level gravel yielded invertebrate fossils of *molluscan shells*. These vertebrate and invertebrate fossils indicate Savannah type of landforms hard ground surrounding areas punctuated with water sheets in the Chhattisgarh Region.

Fig-1

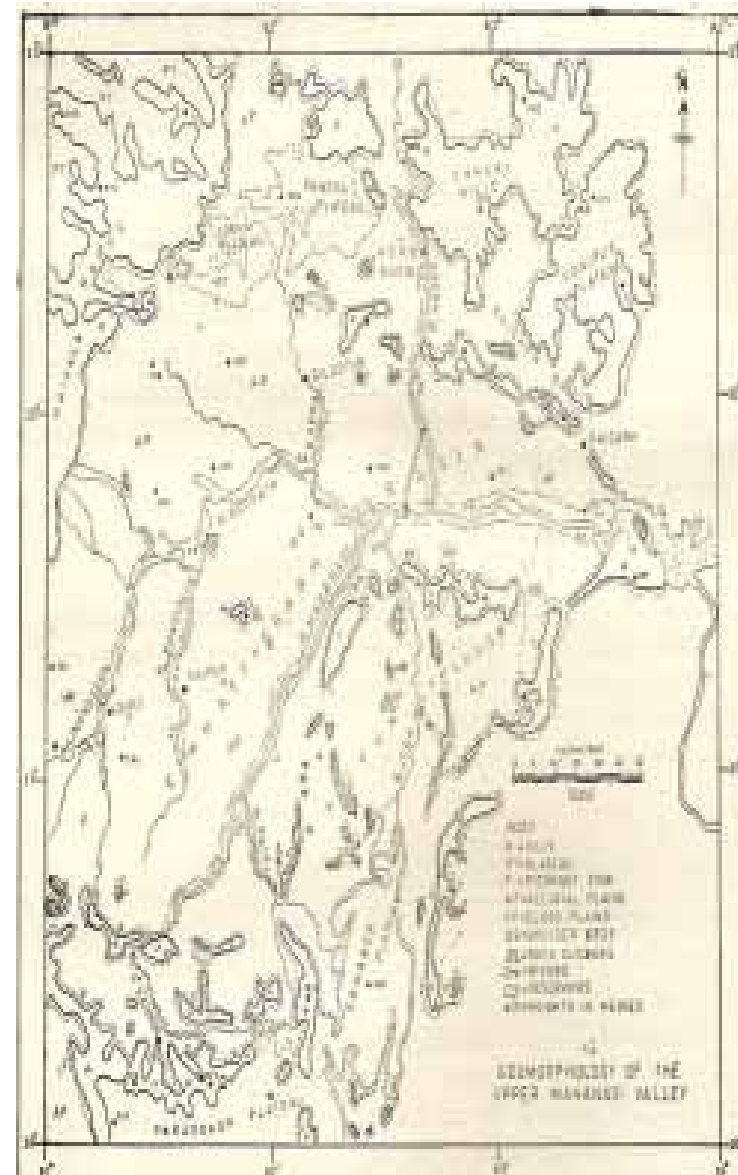


Fig-2



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## 3

## The Techniques of Water Management System in Medieval Malwa

**\*Dr. Vinay Shrivastava**

Malwa was one of the most important province of India in ancient times and its influence on Indian culture has been profound. Physically, culturally and politically we may call it the heart of India.<sup>1</sup> It is the passage way to the North India to Deccan. 'Malwa' implies the plateau region which formed a political unit like 'Magadha, 'Kalinga and 'Saurashtra'. Malwa covered an area of about 47,760 Sq. kms. and comprised of the district of Dhar, Jabua, Ratlam, Dewas, Indore, Ujjain, Mandsaur, Sehore, Raisen, Shajapur and Vidisha,<sup>2</sup>

According to Abul Fazal in his A-in-E- Akbari, It is stated that, "subah of malwa is situated in the second climate. Its length from extreme point of Garha (Mandla) to Banswarah is 245 kos. Its breadth from chanderi to Nandurbar is 230 kos. To the east lies Bandhun (Rewa); to the North, Narwar; to the south Baglanah to the Gujrat and Ajmer There are mountain to the South.<sup>3</sup> Abul Fazal says that, "Its principal rivers are the Narmada, the sipra, the kali sindth, the Betwa and the Godi. According to Abul Fazal Godi is a tributary of the 'Narmada'.<sup>4</sup> At every two or three kos clear and limpid streams are met on whose banks the willow grows wild and the hyacinth and fragrant flowers of many hues, amid the abundant shade of trees. Lakes and green meals are frequent and stately palaces and fair country homes breathe tales of fairyland.<sup>5</sup>

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The rulers of Medieval Malwa and Rajasthan have taken care of their states very well. Their ideals were based on the ritual policies and religious Granthas. Such as 'Vedas'. 'Puranas', 'Manusmriti', 'Sukra Niti', 'Artha shastra' etc are the special Noticed. Arthashastra stated the well wishes of the king to the people of the state. According to Arthashastra, the king has always do the best for the people.<sup>6</sup> The Arthashastra throw immense light on the water works, water management, water and agriculture, irrigation system, water and war, water and fort, water and traders, construction of water works and consumption of water by the Army.<sup>7</sup>

'Shukra Niti'<sup>8</sup> has clearly mentioned that the king has take care of water management and the availabilities of water bodies in his Capital and state. Early version of shakra Niti is a great account of water bodies, water wars, Military uses of the water, water management and the construction process under water management. According to the sukra Niti - "Jalon se sabka poshak Raja Jal-rup aur Apne Dhano se Pusta karne se Varun rup hai.<sup>9</sup> The 'Mandan' had accepted and recognised the construction of water resources is very pious and noble work of 'punyavans' like 'vishnu Dharmottar. He said that the water has always protected the life of the animals and human beings. According to him the once who has constructed the small reservoir like the leg of a cow, he would have been stayed in swarglok up to sixty thousands years.<sup>10</sup> If a man wants to construct the water resources like well, step well, tanks, cistern etc, for social and religious welfare, than the king must have to support him by giving him land and other materials.<sup>11</sup>

There is a referrance in yajurvedas.<sup>12</sup> and 'Tettariya samhita.<sup>13</sup> that the wells, cannals, Tadag, Rivers, water souroes and Bandhas have been used for the vegetation. There is a referrance in the vedas to protect the agricultture from heavy rain and less rain.<sup>14</sup> There is a referrance in Manu Smriti about the Raj Dharm, social rules and water bodies.<sup>15</sup>

Samrangan sutradhar of Raja Bhoj was the most valuable and authentic source of water technique in the palaces and forts, construction methods of water resources, the architecture of water bodies of malwa.<sup>16</sup> Raja Bhoj has constructed so many water tanks, lakes and reservoirs in Dhar, Mandu and Bhojpur.

According to samrangan sutradhar, "There must be fort and water sources in the Capital. There must be many Tadags, Gardens,, wells and bathing place in the city. Water has obtained from the wells

& clouds for the irrigation. Many wells, tanks, Cannals and reservoirs has been digged in that period. King Munz parmar has constructed munz sagar in Dhar and king Bhoj has constructed a huge tank near to chitor which is called Bhojsar.<sup>17</sup>

During the establishment of muslim rule in India, many Historians has written the inscriptions in farsi and arbi and Many 'Tawarikhen' has written by them in farsi. There is a referrance of water resources and water management of Malwa in the Rajasthan autobiography of some muslim rular in India.<sup>18</sup> The Mughal Emperor Babur has described the environment, rainfall, gardens, wells, rivers, cannals, tanks, Arawali hills, ponds and irrigation, tools and techniques like Rahet, Chadas, Dhinkly etc.<sup>19</sup> Abul Fazal described in the third volume of Ain-E-Akbari about the Crops, the environment, natural beauty, sweet water productions, art and industry etc.<sup>20</sup>

The mughal Emperor Jahangir has described beautifully in his autobiography Tujuk-E-Jahangiri about the water resources, wells, Bawdies, rivers, sarovars, kunds, springs, lakes, tanks, ponds and fountains. He writes about Malwa that, "Five big rivers flows in Malwa apart from cannals, rivers and springs. These rivers are Chambal, Shipra, Kali-Sindh, Neera (Betwa), Narbada.<sup>21</sup> He has referred the Kaliadah palace kund of Ujjain and the beautions places, tanks and big cannals of Mandu.<sup>22</sup>

Originally, the religious feelings have inspired for the construction of the process of water reources, on the other hand the water resources have compulsurely required in the State for drinking water. Agriculture irrigation and the economic development. Therefore in the medieval period, many rulars of Malwa and Rajasthan have constructed the numbers of water resources in many places. They have taken keen interest for the development of water resources in their areas. The rulars of this region have inspired to their 'Jagirdars, Samantas, and 'Rayyats' to construct the wells, step wells, kup, tanks reservoirs in their region for the economic development of the state.<sup>23</sup>

In Medieval Malwa the Muslim rulars have also made the wonderful efforts for the water management. The resudue of extensive and scientific water resources like huge bawdies, reservoirs, cistern etc. have present in different place of Malwa. According to the Vakiyat-E-Mustaqui Nasir-Ud-din Khilji has constructed the palaces, hauz and Ahukhana in different places of Malwa. In Kaliadah palace

of Ujjain, the beautiful palace, water cannal and fifty two reservoirs has constructed with the excellant engeeniring and architect.<sup>24</sup>

The Malwa agriculture has always depended on various sources of water both natural and artificial for its irrigational requirement viz Rain, wells, river, tanks canals, bawdies etc. The construction of water works and the technological changes that took place in the traditional irrigation system in this region during the Malwa parmar kings and sultunate hithereto neglected, need a scientific study. The relevant evidence available in the contamporary Indian and Persian works through the construction of water works and the changes that irrigation technology and water refining technology undervent from time to time. In perticular the setting up of the percian wheel on wells and the construction of large artificial canals provide clues to the introduction of certain mechanical devices in the irrigation system employed during the period under review.<sup>25</sup>

Dams, lakes, and water reservoirs were some of the important means of irrigation in Malwa at 11th Century. The artificial lake at Bhojpur Commissioned by King Bhoj in the middle of the 11th Century covered 250 Sq.miles.<sup>26</sup>

An important aspect of Indian agriculture is artificial irrigation to supplement the natural bounty of the mansoons. The principal means employed for this purpose has been the construction of well, tanks and canals. In Malwa, wells must have provided the chief source of irrigation. Number of artificial devices were used to lift water from well. Pullys were employed over wells for this purpose. Another device worked on the lever principal. In the region of all Malwa there was the wooden arhet or 'rahat<sup>27</sup> called by the english the 'Percian Wheel' with the chain of pots and pin drums gearing. This water lifting mechanism obtained much greather ability to lift water from greather depth when the pots were transferred from the spokes or rim to a rope chain or "Post-garland" (Malwa)<sup>28</sup> The earliest allusion to this 'post-garland' Occurs in 'Yashodharman's Mandsaur inscription found on two type stone pillars of victory set up by king Yashodharman of Unknown origin near Mandsaur. One of them is dated in Malwa year 589 (532-33 AD). The dated on records the construction of a large well by one Daksha, whose brother Dharmadasa was the minister of Yashodharman.<sup>29</sup>



On other techniques in which uses of heavy wood Pillar of tree, and small harbest and clay make a 'kacha Bandha' on river then growing the label of water and make a temporary canal and uses water for irrigation. This type of temporary canal called 'Saran'.<sup>30</sup>

In his general account of Malwa and Mewar agriculture is artificial irrigation to supplement the natural bounty of the monsoons. In Malwa and Mewar, wells and 'Deekli' (local language) 'Kotumbi' and 'Bundha' must have provided the chief source of irrigation.<sup>31</sup> In Malwa wells must have provided the chief source of irrigation. Most of the wells were 'Kachcha' that is made without use of masonry. These necessarily had to be dug or dug of fresh every year. In Malwa out of a very large number of water tanks recorded in all region and many ruins of 'Wooden Rahat' also found in this region.<sup>32</sup>

Some cultivated fields when watering is required women and men irrigate by drawing up water by other techniques like 'Kutumba' and odi (abat). These techniques were found in Malwa and Mewar. In Kutumba long hollow tree like 'Kajui' and other any long tree one side attached on height and second terminal attached in agriculture area or fort area, then water moving up to down.<sup>33</sup> There are an allusion of ruined hallows, have been found at many places in the lower portion of Asirgarh fort in between the main wall and the second wall of the fortress.<sup>34</sup>

In Malwa all techniques of Water Management have been depended on Rain water harvesting. The water of rain, rivers and streams have been conserved in wells, Bawdies and tanks in most of the forts, temples and other areas of Malwa during medieval period. This conserved water has been used for drinking and irrigation purposes. The techniques of Kachcha Bandha, Kutumba and water courses have been used for this purpose.<sup>35</sup>

In Malwa many examples of roof water harvesting finds in Mandu. The monument of "Jahaj Mahal" and Rani Rupmati Mahal are the great example of Rain water harvesting. Asirgarh fort and 'Khundi Bhandara' of Burhanpur are also the great example of Rain water harvesting.<sup>36</sup>

In Malwa there are two main techniques of rain water harvesting storage of rain water on surface for further use. Recharge to ground water the storage of rain water on surface is a traditional technique and structures used were under ground tanks, ponds, check, and dam's weirs etc.<sup>37</sup>

Example of water related architecture in Malwa include Lateral step built on the banks of rivers, reservoirs and dams or ghats, which form a characteristic feature at various pilgrimage sites and religious enclosures, wells, royal pleasure pavillions fronting or situated on rivers and lakes and ornamental pools and water gardens attached to palaces. Other type of water related architecture include deep stepped basins, village tanks and wells which served as community areas for bathing, watering animals and meeting places etc.<sup>38</sup>

Alongside this Since the palaces and forts of the rulers and their feudatories incorporated water bodies to meet drinking water needs as well as for aesthetic and weather conditioning purpose, elaborate system of transporting water within palaces and forts and of mountains and water channels that ran through chambers and gardens were devised.<sup>39</sup> In the context of Malwa for example Baj Bahadur and Rani Roopmati Mahal, Jahaj Mahal, Kalidah Mahal at Ujjain, Shahi Hamuman at Mandu and Burhanpur, Arirgarh fort, Mahal Gulara and Ahukhana at Burhanpur, Rewa Kund of Mandu etc.<sup>40</sup>

Thus the splendid water management system and techniques of medieval Malwa was based on the roof water harvesting for the collection and conservation of rain water in the palaces and other places in contemporary times. Filtre system techniques were used, for the purification of water in many forts and building of medieval Malwa. A sign of 'Light System' have also been existent as a tools of water management to reach the water on the height. The whole water management system of Malwa was based on the conservation of water system which were based on the rainfall.<sup>41</sup>

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### 34/Land and Water Resource Management.....

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4

## **Critical Review of Engineering Aspects of Bhimkund Reservoir and Upper Lake Constructed**

### **By Raja Bhoj**

\*Dr. K.G.Vyas

#### **Background**

Raja Bhoj (1010-55) constructed Bhimkund reservoir (a very large pool of water) on river Betwa, near Bhojpur (23° 6' N and 77° 38' E) – a small village nearly 30 km south of Bhopal and Upper Lake on river Kolansh (tributary of Betwa) at Kamla park, Bhopal, Madhya Pradesh, India. Many traditional stories exist amongst local people about construction of Bhimkund. According to one, Raja Bhoj was stricken with serious illness (perhaps leprosy) and could not be cured by his physicians. Ultimately, a monk was approached and he, after examinations, pronounced that Bhoj would die of the disease, unless he constructs a lake which is fed by 365 springs and streams. After taking bath in this lake on a particular day and time, he would be cleansed. Stories tell that after long and weary investigations, skilled engineers of king discovered the valley in Vindhyan hill ranges which contained the head waters of 359 springs and streams. It was Betwa river valley which was located east of his state capital (Dhar). The number deficit of streams and springs was resolved by Kalia – a local Gond chief. He pointed out a missing river, which along with its

tributaries, made up the desired number. The engineers diverted the missing river through a feeder lake (Upper Lake of Bhopal) to meet the desired number. This missing river is named after Kalia Gond and is known as river Kaliasot.

W. Kincaid (1888) provided first brief account of Bhimkund in Rambles among ruins in Central India. C. E. Luard (1908) also provided brief account of Bhimkund in Bhopal State Gazetteer, but the same is mainly based on the findings of W. Kincaid. Archeological Survey of India (ASI), many scholars and historians have also made valuable contributions to enrich our understanding about the past history of central India but these contributions lack in providing the engineering ability, skills and knowhow of ancient people. This paper attempts to fill some gap and paves way for improving our understanding about long lived perennial water bodies.

W. Kincaid described Bhimkund reservoir as the largest and the most beautiful sheet of fresh water in peninsular India. According to his report, two earthen bunds (87 ft and 40 ft high) were constructed – one at Betwa and other to divert river Kaliasot at right angles to meet Betwa. The pitching of these earth filled bunds was done with dressed blocks (4 ft x 3 x 2.5 ft) of local red sandstone. These blocks were laid on either side of the bund, one on the other, without mortar, but fitting so truly as to be watertight. Kincaid says that waste-weir, cut in solid sandstone, was located at the blunt apex of the triangular valley and is nearly 3.2 km east of small bund. The report says that maximum water level (MWL) of Bhimkund reservoir was 6 ft below top bund level (TBL).

Kincaid appreciates positioning of waste-weir of this grate reservoir saying that any error in deciding the level would have washed away the dam. He describes it as a proof of practical ability of Hindu engineers of tenth century. According to him, the area of Bhimkund was nearly 250 sq miles (650 sq km or 65000 hectares) and the maximum depth was nearly 100 feet. The dam wall is more than one kilometer long and now serves as road connecting Mendua village with Bhojpur. It is shown below in Figure 1.

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**Figure 1, Dam wall between Bhojpur and Mendua village****Figure 2, Broken Stretch of the Dam Wall Near Shiv Temple, Bhojpur**

Bhimkund bund (Figure 2) was broken by Hoshangshah in the year 1430. Broken bund is located near Shiv Temple, Bhojpur. Many stories (local as well as by contemporary historians) exist to tell the reasons for destroying the bund by Hoshangshah. It is said that local tribal army was deployed for destroying the bund across river Betwa. Gond army took three months to destroy the bund and Bhimkund Lake emptied in nearly three years. Cultivation started on lake-bed after nearly 30 years. Destruction of dam provided vast fertile land for cultivation.

Traditions tell and Kincaid confirms that run-off contribution of Betwa river system was insufficient to fill the Bhimkund reservoir

so they skillfully met the deficiency by turning the waters of another valley in Bhimkund. Kincaid says that diversion increased the drainage area of Bhimkund by nearly 500 sq miles.

### **Bhimkund Reservoir**

Author studied various technical aspects of Bhimkund and Upper Lake to understand the appropriateness and technical competence of tenth century engineering and has compared it with modern civil engineering criterion used in dam designing, construction etc. The study include aspects like site selection, bund construction, average and maximum water depth, character of catchments, area (original and enhanced), run-off contributions, storage capacity, shape and size of the reservoir, silt deposition, basin water diversion in context of river science.

#### **A. Site Selection, bund Construction and Depth of Bhimkund**

Site selection – Author has reviewed the technical details available for Bhimkund dam vis-à-vis present day technical criterion for site selection of dams. The review confirms that technically sound and economically viable site (narrowest gorge) was chosen by engineers of tenth century. It is, therefore said, that the site selection was perfect as per present day technical and financial norms.

Bund construction – The bunds of Bhimkund are earthen bunds of unusual size. They have been constructed by filling the compacted local soil and stones. The stone pitching was done without mortar on side slopes so as to protect the bund from water action (wave and rain water action). The workmanship was extremely good and the stone pitching of dressed stone blocks made it almost water tight therefore the compacted soil did not permit water entry / movement inside the bund. Bund, due to, use of durable and weather resistant construction material has survived for more than 1000 years. The height of bund was decided with such perfection that breach (due to excessive flood) did not occur in its life time i.e. nearly in 400 years. The un-breached dam wall, even after witnessing weathering impact for more than 1000 years, is still in good condition.

Depth – The basement or bed rock is basalt and sandstone. The assessment of its depth was done from shorelines to main bund by using data of bore-hole logs at 18 different locations. The bore-hole

logs provided depth of basement rock and silt depth at different locations.

The difference between reduced level (RL) of waste – weir and ground level (GL) of bed rock provided the average water column which suggests maximum depth of water in the reservoir. The maximum depth, at the time of construction, could be close to 40 meters.

Attempt was made to assess the average depth of the reservoir. Geomorphology and slope of the reservoir area suggests that its average depth could be nearly 20 meters.

### **Catchments character And its Size (Original And Enhanced)**

Catchments character – Catchments of Betwa river-system were located in Vindhyan hill ranges situated in north-west, west and south of reservoir. The delineated gross catchment is shown in the digitized map (Figure 3). Its shape is elongated and could broadly be classified as fern-leaf type catchment. As catchment is small so the time of concentration of flood would be small i.e. flood waters will reach reservoir in a very short time.

Gross catchments area – Author has estimated catchments gross area by using computer digitization method. Approximate original catchments area comes to approximately **1, 06,800** hectares. It is mainly Betwa and its tributaries excluding Kolansh river system. When river Kolansh was diverted via upper lake, its catchments area up-to Bhadbhada water-divide (39,658 hectares) got included, making the gross area as 1, 46,458 hectares. The total area of five islands, situated in the Bhimkund reservoir is 1460.35 hectares. Thus the entire contributing catchments is **147938.35** hectares

Kincaid (1888) reported area of Kolansh basin as 500 sq miles (129500 hectares) but this figure does not match with current figure of GOMP or CWC (GOI). The current figure of Kolansh basin is 36100 hectares and water spread area of upper lake is 3558 hectares. The gross catchments area is therefore **39,658** hectares only.

### **Run-off Contributions**

Run-off contribution from all catchments - The gross run-off contribution has been estimated by using rational formula assuming run-off co-efficient as 0.5 and annual average rainfall as 1100 mm

(1.1 meters). The estimated yearly gross run-off contribution therefore could be **81366** hectare meters.

Ratio of catchments area and water spread area of reservoir - The ratio of water spread area of reservoir to gross catchments area is 27 % 100 or **27%** of the catchments.

Rain fall contribution of reservoir – As the reservoir area is very large so its contribution has been estimated and added to the catchments contribution. The rainfall contribution, over the reservoir (approx area 40020 hectares) is **44022** hectare meters. Seepage loss from the lake-bed has been estimated by using Central Ground Water Board norms. It is approximately 57.6 hectare meter per year therefore the net yearly contribution from the lake is approximately **43964** hectare meters.

**Gross contribution (reservoir and catchments)** - Gross contribution is approximately **1, 25, 388** hectare meters only.

### **Storage Capacity of Bhimkund**

Storage capacity of the Bhimkund reservoir - It has been estimated by assessing reservoirs area, side slopes, basement morphology and average depth. The reservoir correction factor (0.7) has been applied to assess the gross effective storage capacity. On the basis of above assessment, the effective storage capacity of Bhimkund reservoir comes to approximately 5, 60, 280 hectare meters.

Relation between storage capacity and catchments yield - The approximate yearly contribution is 1, 25, 388 hectare meters where as storage capacity is 5, 60,280 hectare meters i.e. reservoirs capacity is nearly 4.5 times more. This relationship indicates that initial filling of the Bhimkund reservoir might have taken nearly 5 years.

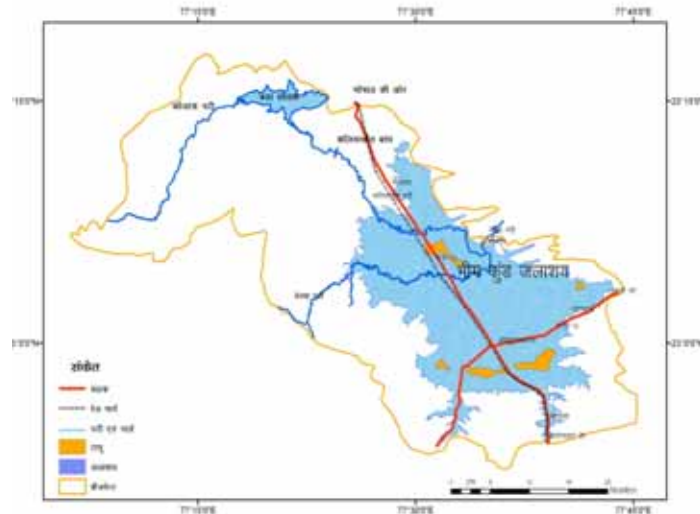
### **Shape And Size of The Reservoir**

Author has attempted to assess the shape and size of the reservoir along with contributing catchments by using computer digitization technique. The digitized map showing above details is given in Figure 3 below.

The study reveals that gross water spread area of the reservoir (area within blue boundary) is 40022 hectares. The area of 5 islands, within the reservoir is 1460.35 hectares. Mandideep is located approximately in the centre of the lake. Other four islands (not

reported by Kincaid) are located in southern and eastern part. They have been shown in dark yellow color. According to above map, the northern boundary of Bhimkund was at Amravad Khurd ( $23^{\circ} 12' 30''$  and  $77^{\circ} 29' 40''$  N) – a village located south of Bhopal. The catchments area is within yellow but outside the blue boundary of the reservoir.

**Figure 3 Digitized Diagrams of Bhimkund Tank And Its Catchments**



Note – The map of water spread area of Bhimkund is available in the report of Kincaid (1888). Kincaid has reported the area as 250 sq miles (65000 hectares). Author's findings about water spread area and shape of reservoir are different.

### Silt

Silt deposition, primarily depends on relation between inflow in the reservoir and out flow from the reservoir. As Bhimkund survived till 1430 therefore, the silt deposition was also confined till 1430 i.e. for nearly 400 years.

Catchments of Betwa river-system were the principle source of the silt for Bhimkund. Its maximum quantity was brought to the reservoir during floods. The thickly forested catchments with variable slopes and hills of moderate height, even during floods, would have

allowed movement of only small particle of weathered basalt and sandstone. The silt, therefore, consists of soils derived from weathering of these rocks.

Study of bore-hole logs at 18 locations in the reservoir area indicates silt thickness. Its maximum thickness is 28.06 meters (village Satalpur, east of Mandideep). Samples indicate that the silt mostly consists of sticky yellow clay. The bore-hole data shows that large particles (sand and gravel) appear along and near the buried river courses/shore line.

Bhimkund existed for nearly 400 years therefore it is concluded that silt deposition of 28.06 meter was confined to 400 years only. The maximum silt thickness of 28.06 meters is abnormal. It is many times more than silt deposition in Upper Lake. This difference probably hints the purpose of construction of Bhimkund.

### Basin Water Diversion And River Science

Traditional stories tell that to complete the number and water deficit, waters of a missing river-system were diverted. Missing river has been named as Kaliasot. Kincaid (page 351) says that engineers of those days undoubtedly understood that the drainage area of Betwa and its tributaries was insufficient for the purpose.

### Influence of Bhimkund on Kaliasot River-System

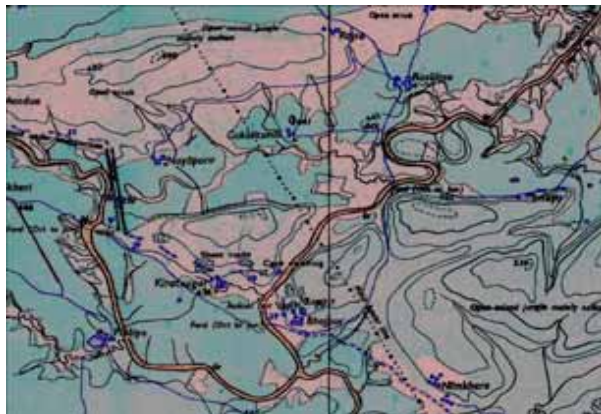
Construction of Bhimkund has influenced the confluence of river Kaliasot with Betwa / Bhimkund. The study reveals that river Kaliasot passed through three phases. These phases existed in three different periods i.e. after the destruction of Bhimkund, during its existence and prior to construction of Bhimkund. Author describes these phases as current phase, intermediate phase and original or old phase. During these phases, river-system had undergone major changes. The changes are as given below- Current phase –The present day water course of river Kaliasot, from Bhadbhda (origin) to village Bilkhiria Khurd ( $23^{\circ} 8'$  and  $77^{\circ} 27' N$ ), is unchanged. It is same for all the three phases. The remaining part of the river course, between Bilkhiria Khurd to its current confluence with Betwa has been developed in past 600 years on the lake-bed.

Intermediate phase –During this phase, Bhimkund reservoir was in existence. This phase existed from the date of construction of

Bhimkund to year 1430. In this phase, Kaliasot traveled from its origin near Bhadbhada water-divide to village Bilkhiria Khurd. At Bilkhiria Khurd, it merged in the Bhimkund reservoir.

Original or old phase – This phase is prior to construction of Bhimkund. In this phase, Kaliasot originated near Bhadbhada water-divide and traveled via Bilkhiria Khurd to its confluence (east of Bhojpur). In the initial reach, river flows through a structural valley (broad at origin). The old river course, downstream of Bhimkund bund, can still be seen by naked eye (Figure 4) on Survey of India topographic-sheet (55E/12). The original drainage system of Kaliasot was developed after Deccan trap activity and is very old.

**Figure 4, Waste-Weir And Old Course of River Kaliasot**



### **Influence of Bhimkund on Kolansh River-System**

The traditional story talks about a missing river. The story tells that waters of this river were diverted to another river basin. This river diversion has been studied in the light of various probabilities including river piracy with the help of satellite imagery.

Satellite map (Figure 5,) of the area shows upper lake, lower lake, water divide between Kolansh and Kaliasot drainage basins, many small streams flowing in respective basins and river Kaliasot. In this map, few features of the imagery have been omitted.

Satellite map shows the origin of river Kaliasot and the extended arm of upper lake near Prempura (within red circle). Kaliasot

originates from a point (Bhadbhada area) which is very close to water-divide of Kaliasot and Kolansh basins / watersheds.

The drainage basins of Kolansh and Kaliasot are a topographic reality. The water-divide between them decides the slope direction. The slope in above drainage basins is away (opposite) from each other therefore streams of one basin shall, as a rule, will always flow in their respective basins and shall not cross the water –divide. The satellite map (Figure 5) confirms above reality and rules out the possibility of river piracy i.e. possibility of Kaliasot capturing the flow of river Kolansh. It denies the traditional story.

**Figure 5, Satellite Map of Kaliasot River's Origin**



The above mentioned reality over rules the possibility of river piracy (transfer of water of Kolansh basin to Kaliasot basin). It also proves that traditional story of diverting the missing river is scientifically unsound.

### **Upper Lake**

Raja Bhoj constructed Upper Lake in Bhopal. It was constructed on river Kolansh which was, earlier flowing beyond Kamla Park on the path carved by natural forces. Initially, the water spread area of upper lake was 2.5 sq km. Traditional story says that upper lake was constructed to divert the water of Kolansh basin to meet the deficit of Bhimkund.

Excess water of Upper Lake, which got released from Bhadbhda, followed the water course of Kaliasot. Author is of the opinion that apart from Bhadbhda, the excess waters were also flowing through Retghat boulder bund and the tunnel across Kala Park bund. This assumption is based on the study of toposheet covering bund area.

The Figure 6 is a satellite image and shows upper lake, lower lake (blue area), river Kolansh (light blue line), vegetation (red patches) and lineaments (light yellow straight lines). Lineaments are weakness planes.

**Figure 6, Drainage and lineament map of Upper Lake, Bhopal area.**



The satellite image shows the river course of Kolansh on the Upper lake bed. It also indicates that Kolansh River is flowing towards Kamla Park. The river path suddenly disappears in the dark blue area (towards Kamla Park). The observations of river course also indicate that there are no indications of river path diversion. It also appears that the path is not influenced by lineaments crossing the upper lake.

Construction of Upper Lake blocked and submerged the route of river Kolansh. Thus, the identity of river Kolans was permanently lost. The surplus waters of upper lake were flowing through Bhadbhda, Retghat and tunnel across the Kamla Park bund. The release of surplus waters has modified the flow pattern of Kolansh river-system and the same is described in brief in the next few lines.

### **Impact of Construction of Upper Lake on Flow Pattern of Kolansh River-System**

Kincaid (1888) had written that the surplus waters of storage-lake (upper lake) were carried into the larger lake (Bhimkund) for full

three months after the close of rains. Kincaid's report is silent about the release of surplus waters from Kamla Park tunnel and Retghat. The Kamla Park tunnel and Retghat were also the outlets from where the surplus waters of upper lake got released. Since Kamla Park and Retghat were located on the old river course of Kolansh therefore the released surplus water followed the same old course and rejuvenated the old river. This new born stream of tenth century was however not given any name.

Chote Khan (Minister in Bhopal Princely State) in 1794 (?) constructed Chota Talab (small tank – original reservoir area 0.25 sq mile) on above stream but the surplus waters of upper lake, after filling Chota Talab, got released and gave birth to a new stream. This new stream is known as Patra. It flows on the old river course of Kolansh and meets Betwa near Islamnagar. This is the brief history of influence of construction of upper lake on the flow pattern of Kolansh river-system.

The waste-weir at Bhadbhada had also undergone changes in different periods to meet water requirements. Nabab of Bhopal constructed stone masonry spill-way (approximate height four feet). In 1963, GOMP constructed waste-weir, nearly 150 meter downstream of stone masonry spill-way and increased the storage capacity. Similarly the height of Retghat and Pulpukhta (Road Bridge) was also raised from time to time

### **Catchments Character And Silt Deposition In Upper Lake**

Catchments of kolansh river-system were the principle source of the silt. It was brought to the Upper Lake reservoir through surface run-off. In the tenth century, the forest cover in the catchments of Kolansh must have been very dense. It must have been similar to catchments of Bhimkund. The topography and the forest cover of the Kolansh catchments would have allowed movement of small particle mainly derived from weathering of basalt and sandstone.

The studies have been conducted to estimate silt thickness and its spread in the Upper Lake. Studies reveal that near Kamla Park bund, two layers of silt are found. The lower layer is stiff grey clay. Its thickness is between 2.50 to 3.00 meters and consists mainly of clay and silt. It is hard. Above this layer there is another layer of soft grey clay which consists mainly of sand, clay and



silt. The lower layer is old and its period of deposition is obviously till 1963. The upper layer is young. The silt deposition in Upper Lake till 1963 (before enhancing storage capacity by CWPC) is inferred to be between 2.5 to 3.00 meters. This thickness (2.50 to 3.00) is negligible or very small as compared to silt deposition (28.06 in 400 years) in Bhimkund. The difference in the rate of deposition in two reservoirs suggests that low rate of silting was for sustainability (long life) of the reservoir while the high rate is for developing the undulating terrain in flat or gently sloping ground.

Above study reveals that experts of traditional or indigenous water science knew-

1. Construction of nearly silt free water bodies. This was achieved by storing small portion of catchments yield. This was further facilitated by keeping low or small ratio of reservoir area to catchment area. This is demonstrated in Upper Lake where the ratio was kept as 1.61: 100 only. This ratio allowed maximum silt deposition of 3.00 meters in 1000 years.
2. By retaining small portion of catchments yield and allowing removal of maximum silt through waste-weir, they ensured pollution free water bodies. It may be recalled that Upper lake started showing signs of pollution after 1945 when the first filtration plant was established in Bhopal.
3. Construction of silt traps (water bodies) for reclaiming waste lands/ undulating terrains. This was achieved by storing large volume of catchments yield. This can be seen in Bhimkund where the storage capacity was designed five times more than the catchments yield. This was facilitated by keeping higher ratio of reservoir area to catchment area (27:100 or **27%**). This design allowed maximum silt deposition of 28.06 meters in just 400 years.

The above conclusions undoubtedly prove that people of Central in tenth century were not only familiar with durable construction techniques but also knew the techniques of accumulating silt in water bodies for reclaiming undulating terrains. They also knew the construction of perennial and sustainable water bodies with inbuilt provision of silt removal at no cost.

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## 5

## Transformation and Apotheosis of Rivers in Indian Art and Culture

\*Dr. Vinay Kumar

### Introduction

‘Transformation’ is the change from one expression, function or geometric figure to another by a variety of means. In art context transformation may be the transformation of ‘form’ or transformation of ‘idea’. In biological terms ‘any process that involves an animal changing its fundamental form is called transformation’. We all know that all great civilizations have flourished along the rivers. The Egyptian Civilization along the Nile, the Babylonian near Euphrates and the Tigris, and the Indian Civilization along the rivers, Sindhu and Saraswati. In all these cases, water became the life-line of the people; but nowhere do we find the apotheosis, the deification of water as is found in the Indian art and tradition. The physical form of water in various reservoirs like the ponds, lakes, streams, rivers and oceans was first venerated, and then the guardian principle got personified and then deified by Indians. Rivers yielding sweet, milk-like water were considered to be life bestowing mothers. Because of their constant flow, they were regarded as purifiers. All dirt, dust and impurity is supposed to be washed away by the flowing waters. Hence the apotheosis! Water in its different forms has always been a source of wonder, curiosity and practical concern for human beings. The most noteworthy trait of water is its ability to cleanse, purify and because of this, the water places, the lakes ponds etc, got prominence

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in man’s social and religious life. In addition to this, it is also endowed with the healing and curative power. It is for this reason that water is worshipped. Such glorification is seen not only in India but the entire world over. Its sacredness and efficacy as a curative fluid is widely believed in (Hastings, 1977:706). As water is a purifying agent, it is invoked to remove sins and evils (RV.I.23.22, X.9.8). Since water cleanses both body and mind, it is regarded as an eternal source of peace (Taitt. Br. I.7.6.3). It is powerful agent that it purifies even the impurities in sacrifice (Sat. Br. XI.4.1.15).

As we know from the earliest *Vedic* times, water has been regarded in India as manifestation of the divine essence and that is why oceans and rivers figure so frequently in hindu art and mythology and has been transformed as various symbols. In the *Rigveda* we have many deities linked with water. *Aja Ekpad*, one who is unborn and has one leg, is the Sun who traverses the vault of sky every day. Then there is *Ahirbudhnya*, the gigantic serpent, the dragon, holding the waters captive. In the *Puranas*, it is the limitless *Ananta*, the cosmic serpent guarding the waters. He is at times called as *Vrtra*. Basically it is the rain-cloud. There is a unique god associated with water and that is *Apam Napat*, the son or grandson of water. This is an old deity and is found in the *Avesta*, holy scripture of Zoroastrians also. Besides these special gods, the regular *Vedic* deities like Indra, Varuna, Agni, Brhaspati too are associated with waters in one way or the other. When we speak of the association with the gods, this necessarily brings in added holiness and divinity to the elemental waters.

### Apotheosis of Rivers In Indian Art

Water is the greatest sustainers and hence the closest to man, almost like a mother. Siva being symbolic of water, the primordial element of the universe is described as most fond of *abhisheka*, perpetual bath, and *Sivalingas* are usually bathed reciting the *satarudriya* in *Sivapuja*. A fine Gurjara Pratihara sculpture of the 9<sup>th</sup> c. A.D illustrate *rishis* bathing the *sivalinga* with pots of holy water emptied on its crest.

The concept of the river in India has been mainly that of sustaining mother, *usatir iva matarah*. The stream of the river carries *payasa*. The word *payasa* stands both for water and milk. Appropriately this has been used in relation to the river as a stream that sustains the people, her children with water, as a mother sustains her babies with her milk. A Kusana sculpture of Sri as both river

goddess and mother goddess stands on *puṇnaghata* with lotuses, touches her breast to suggest *payasa*, i.e., milk and water, the *ghata* suggesting her stream. Ganga is depicted as dancing on Siva's locks, her body below the waist undefined, and almost formless, like a tapering wavy mass (Sivaramamurti, 1976: 43). River is tender at heart and sympathetic to all. At times she is viewed as a young mother bending a bit while breast-feeding her child and at some place she is considered to be a shy maiden bending to get embraced from her lover (RV.III.33.1). Thus all types of female relationships are superimposed upon her, yet the image of a sustaining mother has been preserved in our tradition, both in literature as well as art and architecture. The *Rigveda* glorifies river Saraswati as the best mother, best river and best goddess (RV.II.41.16). On her lap, the children of the soil could sit and muse without thought of the future, (Sivaramamurti, 1976: 49) depositing all their worries and sorrows in her ever-flowing streams and totally relying on her for their wellbeing. This is '*Nadimatrka*' way of life. There are idols of rivers having jets of water from their jar-like full breasts and some carrying food and water for men in a tray and water-jar respectively.

**Plate 1:** *Rishis* bathing *Sivalinga*, Gujara Pratihara, 9<sup>th</sup> century A.D.



Of all the rivers, Ganga has always had the highest appeal. Her sacred name is on the lips of every Hindu and the sincere belief is that a mere utterance of her name purifies one. The confluences of several rivers that become sacred spots are known as *tirtha*. The sacred

*kshetra*, the greatest among holy spots in India, visited by pilgrims has been presented graphically in sculpture in the cave of Udayagiri near Vidisa. Visnu raised *Prithivi* from the ocean and served as the model for the great Gupta kings who rescued the earth and their own families and raised their royal glory to heights worthy of their prowess. In this context the scene *Samudra* is personified as carrying a *ratnakalasa* to suggest that he is *Ratnakara*. The rivers flow into the ocean; the streams are shown commingling their waters with it. The two principal holy rivers, Ganga and Yamuna, are shown standing in human form, each on her own vehicle and on their own streams which join and proceed to meet the ocean also transformed in human form that stands to receive them. This is a vivid picture of great *tirtha* in India that has been so effectively transformed in sculpture. In this classical representation of Ganga and Yamuna approaching *Samudraraja* as *ratnakara* in the Varaha cave at Udaygiri near Vidisa, the wavy pattern suggestive of water is not only shown here for the streams but also for the ocean. In the present paper an attempt has been made to find out the mode of transformation and the meaning behind this transformation and apotheosis of various sacred rivers in Indian art.

**Plate 2:** Gaṅgā, Ahicchatrâ, 5<sup>th</sup> century A.D.

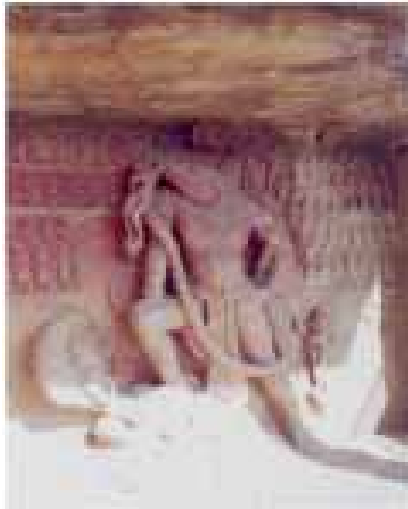


**Plate 3:** Yamunâ, Ahicchatrâ, 5<sup>th</sup> century A.D.



At the entrance gates of the inner chambers of the temples of Khajuraho also, statues of the sacred rivers, Ganga and Yamuna stood on either side.

**Plate 4:** Varâha cave at Udaygiri, Vidiuâ, 5<sup>th</sup> century.



### Apotheosis of Rivers In Indian Culture

Culture is the sum total of ways of living built up by a group of human beings and transmitted from one generation to another. It deals with the concrete material world as well as the abstract inner world. For a commoner, it means rites and rituals, beliefs and practices, festivals and fairs and general norms of life. Of all these aspects *Samskaras* is an integral part of Indian Culture and Indian festivals. Technically *Samskara* means consecration that removes blemishes from a thing/person and deposits qualities and virtues in it (*Brahma Sutra. Sankarabhasya.I.1.4*). In Indian tradition, right from birth till death, various *Samskaras* are prescribed. These include *Garbhadhana, Pumsavana, Namakarana, Upanayana, Vivaha, Sraddha, etc.* In all these, presence of water is inevitable. All our rituals begin with *Samkalpa*, sipping water before declaring his wish/decision to undertake any rite. This is supposed to purify him from

within. Then water is offered to the desired deity as '*padya*'. *Arghya*, offering of water with flowers or sandalwood paste, is given as a way of greeting. The most important and distinguishing feature of any ritual, however, is ritual bath or sprinkling. Regular river bath is advised and preferred in our scriptures. Bath in a river is worth the donation of 100/1000 dark-coloured cows, according to our holy texts (Anne, 1995:47). Bath is supposed to give new life, new birth to a person, because river is regarded to be a living unit. In the *Skanda Purana*, there is a story of *Katha*, a celibate, studying in the hermitage of sage *Bharadvaja*. As '*gurudaksina*', the sage asked him to marry his ugly daughter *Revati*. After marriage, *Katha* propitiated *Siva* and asked him to confer beauty and prosperity on his wife. As told by *Siva*, he bathed his wife and washed her. She turned into a beautiful lady. The stream which flowed got the name *Revati*, which later on joined *Ganga*. Thereupon a reward of beauty was assured for a person who took bath at that place Sage *Chyavana* got rejuvenated and cast off his old emaciated body after a bath (*Bhagavata Purana.IX.3.13ff*). A ceremonious bath is given to a bride in open as a lustration rite (RV.X.85, AV.XIV.1). Ceremonious bath (*Avabhrthasnana*) is a customary rite for a student, indicating end of his celibacy and eligibility to attain the new status of a householder (*Manu Smrti.3.4*).

Water is imbued with power of spiritual purification also. All temples are located near water source. The devotees are supposed to bathe or wash their hands and feet before entering the shrines. This is a universal custom. In Judaism at Mikveh, a holy day, ritual bath is considered important. Muslims, before their daily prayers (*namaz*) wash hands, feet and eyes. All the mosques have water source. In Christianity water is linked with Baptism. Jesus was baptized by John the Baptist in river Jordan, with a belief the water rejects original sin. Thus bath is important in all traditions. When full bath is not possible, sprinkling is done through jars filled with water. It is symbolic bath. Divinity and positive vibrations are stored and protected in closed jars and not in the open buckets. Therefore in Indian culture, much prominence is attached to *ghata* or *kalasa*. It is believed that *Visnu, Rudra, Brahma* and other gods and goddesses dwell in different parts of a *ghata*. Thus worship of *ghata* is worship of all these gods and sprinkling of water from *ghata* is being blessed by them. *Ghata* also symbolizes the womb and signifies fertility. The water in a *ghata* is

thus creative, fertile fluid and not just elemental water. Festivals form a special feature of any culture all over the world, some festivals are associated with harvest. After reaping bumper crops, sons of the soil express their gratitude towards the factors causing their prosperity. Water, rain river are these prominent principles. In India, many festivals are connected with the rainy season. *Nagapancami*, to express gratitude to serpents, the real friends of farmers and the zoomprph of water is celebrated in *Sravana*. Onam or Pongal also come as harvest festivals. On the full moon day of *Sravaan* the fishermen throw coconuts in the ocean to pacify it. Then comes Pola, the veneration of bulls. Bull is an emblem of physical strength and symbolizes Indra. *Simhastha* or *Kumbha*, after every 12 years, is the most distinguishing feature of Indian Culture. Thousands of devout people gather at places like Prayag, Haridwar, Ujjain, Kumbhakonam, Puskar *etc* and take a dip in the holy river.

### Conclusion

Thus, we see that rivers have been repeatedly transformed as gods in Indian art and thought and they have been depicted in sculptural forms also. They have become an integral part of Indian culture too. On the whole therefore from the above it becomes apparent that the visual Indian art did not incorporate the elements of nature in term of rivers for their natural beauty but also for the concepts which the Indian minds developed to pickup symbols to convey those concepts through the elements of nature. In other words the elements of nature were transformed into symbols, which convey a host of meanings. This is what is called transformation of nature in Indian art and thought.

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## 6

## Documentation and Development of Golden Triangle At Chhattisgarh (A Study Based on The River Zones At Tala-Ratanpur-Malhar )

\*Ar. Shivi Joshi

### Abstract

*The site of Tala, Malhar and Ratanpur are the one of the important Archaeological sites in Chhattisgarh. Tala is 30 km away from Bilaspur and has earliest temples (named as Devarani and Jethani) of Chhattisgarh with outstanding art and architecture and is watered by river Maniyari while Malhar with an impressive fortified settlement, is located about 32 km south-west of its district headquarters Bilaspur. It is surrounded by three rivers e.g. Arpa in west, Lilaghar in east and Sivanath in south. In other hand Ratanpur was the first capital of Kalachuri of Ratanpur dynasty Ratanpur was ornate by a huge fort named as hathiquila, palace like Badal Mahal and so many temples e.g. Mahamaya temple, Kanthidewal, Budhamahadeva, Ram temple etc. It is also a river front site, watered by River Arpa. Apart from it ,Ratanpur is also famous for its 120 tanks which were excavated in Kalachuri period and a characteristic feature of this period.*

From tourism point of view, all three sites are too important but there are not any basic facilities which can give the impetus to tourism viz. Proper roads, resorts and restaurants, communications, pleasure

atmosphere etc. So the proper documentation, conservation and restoration, basic facilities which can enhance the tourism are required for all of these places. In present study, conservation, development plan of sites including the plans of hotels, restaurants, shops (based on folk culture), open air theatres for light and sound programmes, Horticultural development near the monuments and other areas, development plan of Ghats, where will have the all facilities for tourists viz. Restaurants in folk version, small shops (medical and other basic needs), fountains, gardens and folk activities (music and dance), plan of check dams, for developing the tourism through the river. Rivers of these sites viz. Arpa, Lilagar, Sivanath and Maniyari would be interconnected and make a golden triangle between the all three sites. Ships will be arranged in terminal time for tourist and they shall be visit all three sites by these water channels (golden triangle) and can get the pleasure facilities of Ghats of rivers and museum for researcher shall be included.

### The setting

Dakœina Kosala (see, map) is roughly corresponding to the boundaries of presents Chhattisgarh, which was carved out of erstwhile Madhya Pradesh in 2000. This is 26<sup>th</sup> state of Indian Union. Chhattisgarh has an ancient most history also. Earliest Archaeological evidence is found of this area in Allahabad Praceasti. The Praceasti speaks about the campaign of Samudragupta in the DakœiG apatha region. The first country invaded by him was “Kosala”, (identified as South Kosala i.e. modern Chhattisgarh region) which was ruled by king Mahendra. This king must have been most illustrious and full of vigor than the other pretty states of the South. The beauty of this land is being continued from the past to present. It has the beautiful ancient monuments, exiting natural beauty which is adorned by dense forests, waterfalls, rivers, lakes, flora and fauna and hill ranges. This paper deals with the potentiality of development of tourism by interconnecting ancient heritage of Chhattisgarh and natural beauty both. For successful implement of this work, a proposal has been designed by author and named it, as **golden triangle** because proposed sites were comes under the ancient commercial zones and verity of gold, silver and copper coins are yielded from there.

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\* V.C. Shulkla gali, 44/25, Budhapara, Raipur, Chhattisgarh

### Geographical Delimitation

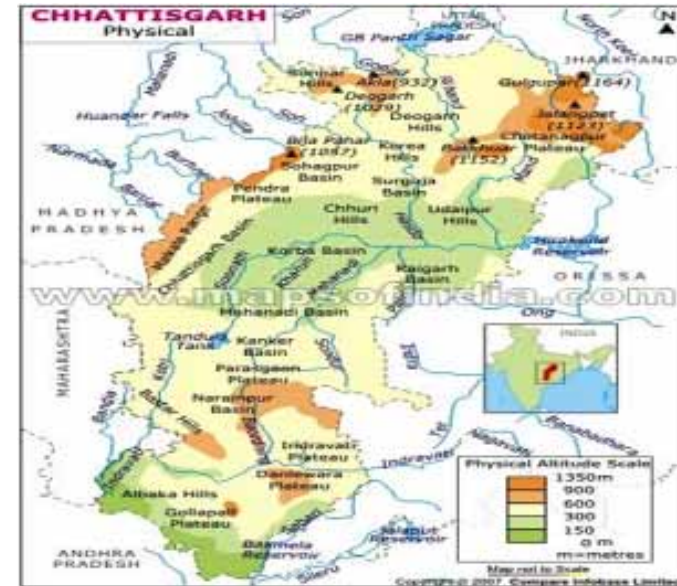
Chhattisgarh is located in the central part of India. Madhya Pradesh borders Chhattisgarh in the north western part. Maharashtra borders Chhattisgarh on the west and Andhra Pradesh lies in its south. Orissa is located in the eastern side. Chhattisgarh is bordered by the state of Jharkhand in the north eastern part. The geographical location of Chhattisgarh is 17 46' north to 24 50' north latitude and from 80 15' east to 84 20' east longitude. The total Chhattisgarh Area is 1,35,191 square km. The Chhattisgarh area is divided into 27 districts.

The Chhattisgarh region is almost conterminous with the Cuddapah or Porana sedimentaries and the Archaean granites and gneisses exposed in the basin and the surrounding upland respectively. Apart from it, The Chhattisgarh region is characterized by two major land-form types, i.e., the gently sloping Chhattisgarh plain and the undulating Rimland. The elevation of the plain ranges from about 250 m. on the eastern margin to about 330 m. in the west

Drainage system of this region is mainly controlled by Mahanadi River. The Mahanadi river system has a nearly radial pattern in the Chhattisgarh plain. Therefore, this plain is divided into a number of well- defined sectors, which may be named after the bounding river, i.e., the Mahanadi and its tributaries, the Seonath, the Hasdo and the Mand, etc. These inter fluvial sectors generally present only slight surface undulations. While most of the area is covered by a veneer of soil, development locally, one also observes some comparatively rugged areas of rock-outcrops littered with weathered rock pieces (Singh R.L., 1971).

Three ancient sites of Bilaspur district has been scoop out by author for proposed design due to its historical significance, natural sources and other facilities which can be developed and has tourism potentiality.

### Proposed Sites (Fig.1)



Malhar (fig.1)



Malhar (see map), with an impressive fortified settlement, is located about 32 km south-west of its district headquarters Bilaspur and 13 km from the Masturi taluk, enroute the pilgrimage centre of Seorinarayan. The extensive mound spread over an area of 3x2 km consists of a mud rampart with two moats i.e. internal and external. It is surrounded by three rivers viz. Arpa in west, Lilaghar in east and Sivanath in south. In Kalachuri inscriptions, the site was known as Mallala or Mallalapatana (Mirashi V.V., 1955).

Considering the archaeological potential of the site, it was subjected to extensive excavations in two phases-from 1975-77 (Bajpai K.D., 1975-77) and from 2009-12 (Mitra S.K. 2010). The earlier excavation was taken up by the Department of Ancient Indian History, Culture and Archaeology, University of Sagar and concentrated in three places on the exterior of the fort revealing a sequence from 1000 BC to 1300 AD divisible in five periods. While the latter excavation was undertaken by the Archaeological Survey of India inside the fortified area showing a five-fold cultural period from pre Mauryan to Later Guptas.

**Ratanpur (fig 2)**



Ratanpur is also a river front site. Arapa river is watered it. Ratanpur got its significance in Kalachuri period (10<sup>th</sup> CAD) when it had been established by Ratandeva I as his capital. At present it has a

big fort of the time of Prithavideva, Badal Mahal, and so may ancient temples. Scholarly researches in the region brought to light a prolific number of hydraulic structures. Few Epigraphic evidences also shed light on the water management of Kalchuris in Chhattisgarh i.e. Ratanpur stone inscription of Jājalladçva I (year-866), Akaltarâ stone inscription of Ratandçva II<sup>1</sup>, Raipur museum stone inscription of P[ ithvidçva II, Kugda stone inscription of P[ ithvidçva II (year 893), Koni inscription of P[ ithvidçva II (year 900), Ratanpur stone inscription of P[ ithvidçva II (year 910), Ratanpur stone inscription of P[ ithvidçva II (Kalachuri) year 915, Shçorinârâyan stone inscription of Jājajalladçva II chedi year 919, Kharod stone inscription of Ratandçva III (year 933). Excavation of tanks in large quantity is a characteristic feature of Kalachuris in Chhattisgarh. Ratanpur area has 120 reported water tanks of allied period.

**Tala (fig. 3,4)**



The site of *Tala* is located at 18km far. from the Bilaspur and 89km. from *Raipur* near the village Amari Khapa and left bank of river Maniyari at Chhattisgarh. Here are two ancient temples named as Devrani and Jethani .The art and architecture of Devrani temple are reflected the features of post- Gupta period, but the temple of Jethani seems late. Both are surviving for their existence. During the clearance of this area in 1986-88, the temples came in the light. A coin of Prasannamatra who are belong to Sharabhpuriya dynasty (5-6c.A.D.), found from Devarani temple period (5-6C.A.D.) the area of this site is 63706sq.m.



The most attractive thing is in this site the image of Probably Shiva or Tribal god (Budhadeva) (Upadhyay Vishi, 2011-12). The image has the depiction of different types of animal, birds and human faces and holding a staff in right hand which is broken now

### Problems And Requirements at Sites

**Communication :** Communication is not proper at these sites, only local buses and autos are available for public communication and this creates a big obstacle on the way of tourism.

**Roads :** The condition of roads is better in Tala and Ratanpur than the Malhar, but it is not enough for developing a highly developed tourism. It should be reach at the level of National highways.

**Restaurants :** Food and drinking water are the basic requirements for all sites. Due to a religious centre at Ratanpur, there is many small *dhabas* and restaurants are available but condition is too pathetic in Malhar and Tala. Not a single food facility is there.

**Cottages or Hotels :** If any researcher or visitors want to stay at site for their research, so there is not any facility for staying on all three sites. The rest house of PWD is available but it not in reach for all, except to government employees.

**Museums :** Museum is an important requirement on archaeological site, because it is necessary for researcher and public. Museum contains the basic information of prior site and brief picture of site. But in all three sites not a single museum is available, only few sculpture sheds are existing there.

**Conservation :** It's a strong need of all the structures over there at the site. Due to the human vandalism the sites are losing their charm and ancient craftsmanship. Structural and Chemical conservations are required at the site of Tala, it is suffering from serious distraction and ignorance of government. Archaeological Survey of India has carried out conservation work at site of Malhar and Ratanpur in many seasons and it is enough (Indian Archaeology-A Review 1958-59).

### Research Design

**Contour Plans :** For understanding the actual levels on sites, these kinds of plans shell be must, it may be too helpful if we have plan

about the new infrastructural developments at there. Contour plans are also shown the natural depreciation and geographical image of the site. Apart from it, for maintaining the *ghats* at sites it will be required.

**Conservation Plan and Detailed Documentation :** For all three sites both Conservation plan of ancient structures and detailed documentation of the antiquities and monuments are required for knowing the requirements of sites; with this conservation plans and their execution many ancient structures will preserved for the next generations. Along with it documentation will help for understanding the actual present condition of sites and developing plan according to it.

**Development Plan of Sites :** Development plan of the sites includes the basic connectivity to the site through the roads and water channels. It is also included the basic facilities like toilets, drinking water, sitting space around the monument etc. Interconnectivity of water channels will be mainly focused here. Apart from this, cheap and expensive hotels, Restaurants, museums shall be the part of this plan.

**Interconnection of Rivers :** This can be a magnified task but if will be implemented. According to this plan the main focus will be on water channels. All three sites are river front sites so it is easy to implement. The problem of water level in summer may be solved by constructed the check dams. In this proposal three sites will be interconnect through river channels. It is also become beneficial and interesting for the tourist who are planning to visit the sites not by road but through these water way. From the point of tourism of Chhattisgarh it will be a new kind of tourism not seen before in this area. I suggest the name of this interconnection as golden triangle. Few Cruz ships will be arranged for this pleasure visit. This journey will be start from the site of Malhar and end at the Ratanpur. Tourist guides shall be available on ship for guiding the visitors. At the *ghats* of Malhar there will be food venues and small market of local crafts and handlooms. After the Malhar the first stoppage of this ship will be Tala. On ship there will be the arrangement of folk music by local artists. At Tala visitors can visit the monuments, museums, enjoining the shopping of folk objects. There will be full facility of food and entertainment. After spending the time under the guidance of tourist

guide the visitors shall be set out for next site. The second and last stoppage of this journey will be the Ratanpur. Here will be same facilities like Tala. After visiting the whole sites, the tourist buses will be arranged for going back to destiny of visitors. This full package will be planned in single ticket and will be in range of everyone. So it will be a new invention and tourist can take the benefit of pleasure trip of golden triangle.

### Conclusion

All three site are very close to each other (geographically) and also having their own identity. By developing the proper connectivity and facilities on these sites, the all scenario may be change. . These sites are always an attractive point for researcher and if the proposed pan will be implemented, all sites will be present a costless instance in field of tourism. The corporation of government is too necessary in this regards.

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7

## Need of Policy of Cleaning For River Bad's in Case of Arpa River

\*Dr. Praveen Upadhyay

### Abstract

*The dumping of garbage & flow of sewerage i.e. solid waste sewer water has become a serious problem in most of cities in India. River beds are used for dumping above in few cities. The "throw and flown and forget" attitude of public is also a major cause of this. Bilaspur City is in the state Chhattisgarh situated on the banks of the 'Arpa' River, which originates from the high hills of the Maikal Range in central India. 'Arpa' river is very important for religious, water supply point of view etc. But due to lack of strong policy for Solid Waste Management and sewerage water by Municipal Corporation Bilaspur, maximum both of are dumped on the river bed of Arpa, due to which, pollution level of Arpa river is increasing, day by day. In this paper I have tried to focus on the various problems of Arpa River pollution, due to dumping and disposal of Solid Waste and sewerage into the River bed of Arpa. This paper also tries to give some suggestions for overcoming this problem of river pollution caused by wrong way of Solid Waste management and sewerage disposal in Bilaspur city.*

*Key words: Pollution on river bad's water, Sewerage water disposal, Eutrophication River water cleaning.*

### The Setting

The disposal of Sewerage water is a common problem in Indian subcontinent. Not only small cities but also metro cities are also suffering by this problem, due to the few irresponsible policies. The present paper assesses by the focused on the loss of biodiversity and quality of water of the river due to pollution from the sewerage water and highlighting how river polluted due to waste water from different source and which type effect come to this municipal corporation attitude here mentioned definition and reason and quantity of pollution which is make serious reason of this stage, here I mentions the name of some city who faced this type of problem, and case study of Bilapsur city, with its importance of river Arpa , and focusing on the existing situation and reasons of this polluting status of the Arpa river and last suggestion points for saving the life of river, along with it gives special concern to proposed and existing project for the Arpa river for its conservation.

### Water pollution

Water Pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). Water pollution occurs when pollutants are directly or indirectly discharged into water bodies without adequate treatment to remove harmful compounds. Water pollution affects plants and organisms living in these bodies of water. In almost all cases the effect is damaging not only to individual species and populations, but also to the natural communities. Surface water and groundwater have often been studied and managed as separate resources, although they are interrelated. Surface water seeps through the soil and becomes groundwater. Conversely, groundwater can also feed surface water sources. Sources of surface water pollution are generally grouped into two categories based on their origin.

1. Point source
2. Non-Point source

Contaminants may include in organic and inorganic substances.

### Sewage

Sewage is a water-carried waste, in solution or suspension that is intended to be removed from a community. Also known as wastewater,

it is more than 99% water and is characterized by volume or rate of flow, physical condition, chemical constituents and the bacteriological organisms that it contains. Classes of sewage include sanitary, commercial, industrial, agricultural and surface runoff. The wastewater from residences and institutions, carrying body wastes (primarily feces, urine and semen), washing water, food preparation wastes, laundry wastes, and other waste products of normal living, are classed as domestic or sanitary sewage. Liquid-carried wastes from stores and service establishments serving the immediate community, termed commercial wastes, are included in the sanitary or domestic sewage category if their characteristics are similar to household flows. Wastes that result from an industrial process or the production or manufacture of goods are classed as industrial wastewater.

**Fig.1 Sources of Water Pollution**



### Pollution on River Bad

Over 97% of all the water on Earth is salty and most of the remaining 3% is frozen in the polar ice-caps. The atmosphere, rivers, lakes and underground stores hold less than 1% of all the fresh water and this tiny amount has to provide the fresh water needed to support the Earth's population. Fresh water is a precious resource and the increasing pollution of our rivers and lakes is a cause for alarm. Most fresh water pollution is caused by the addition of organic material which is mainly sewage but can be food waste or farm effluent.

Bacteria and other micro-organisms feed on organic matter and large populations quickly develop using up much of the oxygen dissolved in the water. Normally oxygen is present in high quantities but even a small drop in the level can have a harmful effect on the river animals. Animals can be listed according to their ability to tolerate low levels of oxygen. In the following list animals which indicate a high level of dissolved oxygen are at the beginning while animals indicating a low level of oxygen are at the end: stone-fly nymphs, mayfly nymphs, freshwater shrimps, freshwater hog lice, blood worms.



## Eutrophication

Eutrophication is characterized by excessive plant and algal growth due to the increased availability of one or more limiting growth factors needed for **photosynthesis** such as sunlight, carbon dioxide, and nutrient fertilizers. Eutrophication occurs naturally over centuries as lakes age and are filled with sediments. However, human activities have accelerated the rate and extent of eutrophication through both point-source discharges and non-point loadings of limiting nutrients, such as nitrogen and phosphorus, into aquatic ecosystems (i.e., cultural eutrophication), with dramatic consequences for drinking water sources, fisheries, and recreational water bodies. Eutrophication is a leading cause of impairment of many freshwater and coastal marine ecosystems in the world.

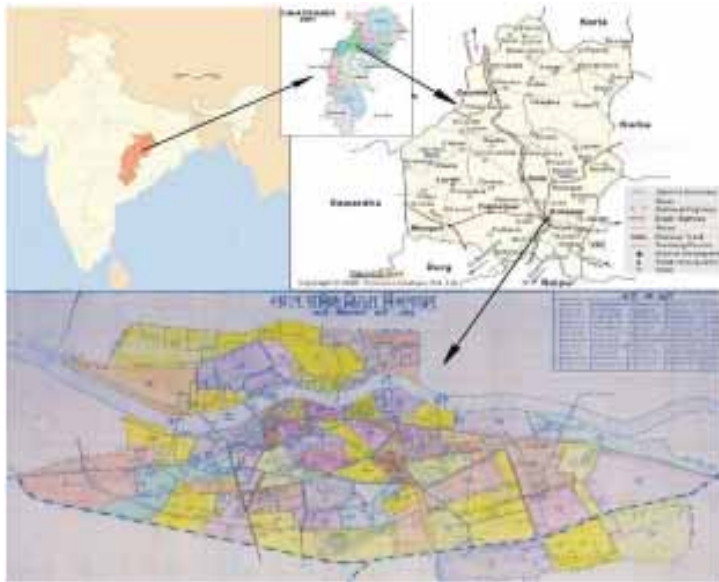
## Disposal of Sewerage Water

In India, due to increasing population new settlement, industry, and different types of new activity created. Due to all activity industry's polluted water disposed on the river, the quality of river's water decreased. So the biodiversity of river may be finished. Not only industrial waste water responsible for water pollution also, sewerage water generated from household every day, which is flown on the water body without any treatment every day. The sewerage water contains many types of harmful bacteria. All categories of sewage are likely to carry **pathogenic organisms** that can transmit disease to humans and other animals; contain organic matter that can cause odor and nuisance problems; hold nutrients that may cause **eutrophication** of receiving water bodies; and can lead to **Eco toxicity**. Proper collection and safe, nuisance-free disposal of the liquid wastes of a community are legally recognized as a necessity in an urbanized, industrialized society. The reality is, however, that around 90% of wastewater produced globally remains untreated causing widespread water pollution, especially in low-income countries e.g. In India Yamuna river Delhi, Ganga river Kanpur, Tapti river at Surat, Arpa River at Bilaspur etc. have been reached to critical condition due to mismanagement of sewerage disposal. Here we will see the example of case of Arpa River at Bilaspur city, which is facing this type problem.

### Bilaspur City

Bilaspur city is located in the Chhattisgarh state in Bilaspur District, India. It is the second largest city in the state with having population of 3.29 lakh. Being the headquarters of Bilaspur District; it is located 111 kilometers north of the state capital Raipur.

**Fig.2 Location Map of Bilaspur**



Bilaspur enjoys the status of being the headquarters of the South East Central Railway, which comprises the Bilaspur, Nagpur and Raipur Divisions. Bilaspur is known for its aromatic Doobraj rice, handloom, woven, colorful, and soft Kosa silk saris, and for its rich, varied and colorful culture. Bilaspur City is situated on the banks of the Arpa River, which originates from the high hills of the Maikal Range in central India. The average elevation of the city is 262 meters above mean sea level. The city area slopes toward the Arpa River and the general topography slopes from west to east.

### Arpa River

The River originated at Khodri hill from Pendra-lormi plateau. The total length of the river is 189km. Its flow to north-west part of

Bilaspur district and finally in southern direction of Chhattisgarh its merge on Sheonath River. It's also known as lifeline of the Bilaspur city. 9km stretch of river flow between city's two parts. Arpa River passes through the centre of Bilaspur city and its width varies between 81 m to 530 m in the city Area. The Area is having urban, semi urban and rural zones on its edges. The central parts of Bilaspur city adjoining the river banks are having dense development and urban form of the city is generally organic in nature. City is gradually spreading along the river, both in upstream and downstream directions. The new urban growth areas along the river are semi urban in character where scattered unplanned developments are experienced. The northwestern parts of the Project Area are generally rural in character and have fairly high quality agriculture lands along both banks of the river.

**Fig.3 Location of Arpa River & its Catchments**



Water quality survey of Arpa River is done by Central Pollution Control Board, and they have given following data (Table-1), which is showing that, due to dumping of solid waste and other waste in the Arpa River, water has been highly polluted.

**Table 1:- Water quality of Arpa River**

Type	Min.	Max.	Mean
D.O.	6.8	7.5	7.2
PH	7.5	8.5	8.0
B.O.D.	2.4	3.8	3.2
Nitrate	1.02	1.30	1.16
Ammonia Nitrate	1.34	1.36	1.35
Coliform level	83	185	146
Conductivity	162	816	389

**Source:-** Central pollution control Board

### Sewerage System of Bilaspur City

There is no sewerage system in the BMC area. The residential and commercial buildings and even the educational institutions have onsite septic tanks and soak pits to dispose of this waste. The overflow from these tanks/ pits finds its way to nearby drains. The municipality is responsible for taking proactive measures to improve the performance levels of the sewer system. The cleaning and inspection of sewer lines are essential to maintaining a properly functioning system; such activities promote the community's reinvestment into its waste water infrastructure.

But due to no good sewerage system the sewerage water directly thrown on arpa river, last 10 year it become high result the eutrophication on the Arpa river bad increasing day by day, the above table analysis by the C.P.C.B. is proved that the water quality of Arpa river is not usable for daily need purpose. The following snaps have shown the existing situation of Arpa River.

There are following type's waste water flown every day on Arpa River's bed.

1. Domestic sewerage waste
2. Industrial waste water
3. Chemicals etc.

The importance of Arpa river is much more in the Bilaspur, may types of religious activity as *Ganesh*, *Durga visrjan*, *Bhojali visarjan*, *Chat puja*, *shivratrri* fair etc. festival organize every year at the bank of the Arpa river's polluted water. The following snaps show the activity on the bank of the Arpa river water.



**Fig. 4 Eutrophication on River's Bad And Sewerage Water Flow Directly on River Bad**



**Fig. 5 Chat Puja and Shivratri fair on the Bank of Arpa River.**

There are following location points in Arpa River where sewerage water flown every day

1. Jawalinalah.
2. DLS College to Arpa river drain.
3. Power house to Arpa river drain.
4. Manglachowk to Arpa river drain.
5. Nehru chowk to JawaliNalah.
6. Ganesh chowk to Nehru chowk drain.
7. Guru Nanak chowk to Arpariver drain (Torwa bridge).
8. Magarpara to Induchowk.
9. MaharanaPratapchowk to Nehru chowk.
10. Circuit house to Kurudunand.
11. Idgahchowk to SIMS hospital.
12. Rajkishorenagar to Urjapark.

**Fig. 6 Map Showing Catchment Areas And Location of Outfalls**



### Impact

There are following impacts comes due to mismanagement of sewerage water.

1. The water quality of Arpa River has become poisonous.
2. Eutrophication covered the maximum parts of the river area.
3. The culture and activity on the bank of Arpa River will be reduced every year.
4. The biodiversity of the river will be collapsed every day.

### Solution/Suggestion

There are following suggestion & solution for proper disposal of sewerage for the Arpa River bed.

1. Stops the directly flown of sewerage water on the river's bed, without treatment the sewerage water not released to the river.
2. For the treatment of sewerage water, make proposal for sewerage system and connected to all sewers to the treatment plant where it will be treated.
3. Slums near River banks should be removed and River front development projects should be carried out on priority basis.
4. Public awareness should be increased for changing their attitude.
5. River development projects and 'Ghat' development and beautification projects should be implemented.
6. Encroachment on River beds should be removed and care should be taken to discourage such activities on the River Beds.

**Project:** -A detailed project report of the development of a sewerage system has been prepared by Meinhardt Pvt. Ltd. The sewerage system has been designed to fulfill the requirements till the year 2037. The city is divided into two parts by the Arpa River, with 80 percent of the area falling on the south and 20 percent on the north of the river respectively. The total project cost has been estimated at Rs. 279.97 crores. Under this project it has been proposed that a 267 kilometer pipe line be laid down. Approximately 75 kilometers of this has been laid. As per Meinhardt officers, this project will be completed by 2011. The total quantity of sewage generation by the year 2037 is estimated at 92 MLD. The current estimates reveal sewage generation at 48 MLD (commissioning year 2007) and intermediate flow up to year 2022 is estimated at 71 MLD. Two Sewerage Treatment Plants (STPs) have been proposed with a capacity of 60 MLD and 17 MLD at Domuhani and Chilati villages. Initially for a period of three years, the operation and maintenance of the STPs will be done by the agency responsible for their construction and commissioning.

**Conclusion:** - Any cities which are located at the bank of the river are very important because River not only benefits the people who are living there for their daily need, but also recharges the ground water of the land where it's passes through. If we released sewerage water on the River beds, it will result in ground water pollution. Various Urban Local Bodies (ULBs) are responsible for sewerage disposal strategy and River front development projects. Based on the nature of development proposed as part of the River front

development, adequate provisions for the underground sewerage system shall be proposed in the new development plan. This shall include Waste storage facilities in a segregated manner so that parts of it can be recycled and reused. Sewerage water meant for treatment plant treated in collaboration with the Municipal Authorities.

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## 8

# Water Resources Management System At And Around Ellora

**\*Dr. Manoj Kumar Kurmi**

The Ellora is famous for magnificent group of Caves (Buddhist, Hindu and Jain) and one of the *jiyotirlinga* have given it an important place in Indian and world cultural history. Ellora is situated on ancient trade routes connected to Ujjain and Paithan at present Aurangabad district of Maharashtra state on National Highway no. 211.

Ellora was the abrupt vertical formations of the volcanic hill. On its southwest facing side are called as Charanadri hills, a part of Mahimal range of Deccan Trap. Elganga and Girija River originated from this hill and land of surrounding earth crust belongs to Cretaceous era of the geological period. The catchment area of water near cave no. 29 is *seasonal* river known as *Elganga*. The rock cut caves are divided under sub group as- (1) Buddhist Group of Caves (Cave 1-12), (2) Brahmanical Group of Caves (Cave 13-29), (3) Jaina Group of Caves (30 – 34), (4) Ganesha Group of Caves, and (5) Jogeshwari Group of Caves. Out of these cave numbers 1, 2-3, 8, 10, 11, 12, 14, 15, 16, 17, 21, 25, 27, 29, 30, and 34 are provided with water cisterns. Apart from the Ellora caves, Ellora village has also magnificent water bodies such as *Brahmasarovar*, Tank and other Reservoirs which are reflected the nature guided water management which has been learnt

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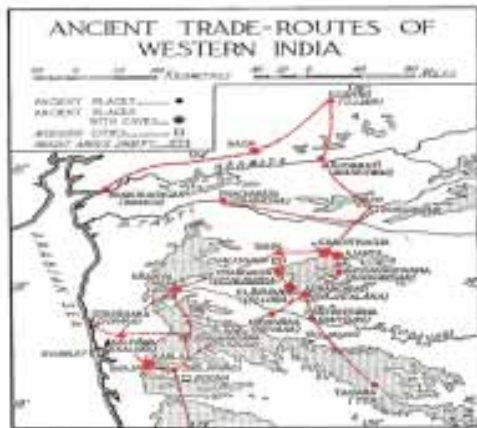
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by the local people since long. *Nagjhari, Singar nala, Tanda* tank are locally known for water source through out year nearby Ellora.

Pilgrimage networks served to reinforce local-global linkages which contributed to the significance of a local Shaiva cult at Ghrishneshwar that expanded to become a part of the jyotirlinga network. The myths encapsulated in the *Verul Mahatm* yasimultaneously enhanced its local and transe – local significane.

**Map Showing Ellora on Trade Network**



**Brahma Sarovar, Ellora**



**Step Well of Grishneshwar, Ellora**



The Ellora is famous for magnificent sculptures. Among the many marvelous sculptures one of them Icon of *Ganga* repeated several time in the Hindu group of Caves. In Cave 16 *Ganga* flanked by *Yamuna* and *saraswati* which is adverse that Pauranik/ mythological sequence i. e. always tell that *Ganga –Yamuna- Saraswati*. Here *Ganga* is carved in centre because of *kailash* is replicated on Cave 16. As such, her worship does not require the usual rites of invocation (*avahana*) at the beginning and dismissal (*visarjana*) at the end, required in the worship of other gods. Her divinity is immediate and everlasting

It is *Shiva's* relationship with *Ganga*, that is the best-known in *Ganges* mythology One should not be amazed that this *Ganges* is really Power, for is she not the Supreme *Shakti* of the Eternal *Shiva*, taken in the form of water?

This *Ganges*, filled with the sweet wine of compassion, was sent out for the salvation of the world by *Shiva*, the Lord of the Lords. The *Ganga* represents both posterity and development (*udbhava*). *Ganga* fulfills the continuous wishing.

As the iconography evolved, sculptors in the central India especially were producing animated scenes of the goddess.

The association of hydraulic structures with religious institutions like caves and temples indicates that their management required technical expertise supported by hierarchies of power and ritual authority. Community based water management structures were managed through a system of social hierarchy. The current water scarcity is based on a disjuncture between the carrying capacity of the region and the aspiration of the modern Indian state where

practices like cash-cropping and pumping of ground water undermine the sustainability of the settlements through the ages in the region.

### Ganga avataran, After Bhagirathitapascharya



### Ganga on Crocodile Just Close to Cistern at Cave21 Ellora



### Acknowledgements: -

I am extremely thankful to Regional Director (West) and Superintending Archaeologists, Nagpur & Aurangabad Circle, Archaeological Survey of India for encouragement. I am also like thanks to my colleagues and higher authorities of Archaeological Survey of India.

**Table 1- Location And Water Storage Capacityof Cistern at Ellora Caves**

Location of Cistern (Cave Vise)	Water Carrying Capacity / Storage(Approximate)
Cave 1	5696 Liters
Cave 2	350322 Liters
Cave10	172844 Liters
Cave 11	60857 Liters
Cave 12	140000 Liters
Cave14	106150 Liters
Cave15	387935 Liters
Cave16 A	830664 Liters
Cave16B	174740 Liters
Cave17	142974 Liters
Cave21	132300 Liters
Cave25A	142972 Liters
Cave25B	175500 Liters
Cave27	618700 Liters
Cave30	907207 Liters
Cave34	5700 Liters

### Ancient Water Technique of Ellora Caves :-

Water consumption pattern of the Ellora Caves was firmly rooted in lifestyle choices than pragmatism where an individual required a basic minimum quantity of water just to ensure survival. The basic technology to harness usable water was centered around rainwater and ground water harvesting couple with the understanding of interlinking of co-dependent ecosystem, more specifically local landforms and rock structure. Rain water harvesting is the process of gathering and storing rain drops and preventing run-off, evaporation and seepage for its efficient utilization and conservation whereas ground water harvesting was based on tapping natural aquifers and springs. Owing to negligence and callous disregard for their traditional knowledge resulted in the depletion of crucial reservoir of potable water both in quality and quantity. Today when we encounter the mammoth task of providing access to potable water and its quantum being depleting considerably, their age old method might be an alternative. Using traditional knowledge does not mean to reapply

directly the technique of the past, but rather to understand the logic of this model of knowledge. It allows the people in the past to manage eco-systems in balance, to carry out outstanding technical, artistic and architectonic works which are admired and have always been able to renew and adapt. Traditional knowledge is a dynamic system able to incorporate innovations subject to the test of the long term, thus achieves local and environmental sustainability. This can be a starting point for new solutions today. A number of ancient examples of effective water harvesting systems have survived in the country and are examples of the successful efforts that people have made to live and survive. This is of special importance to Ellora Caves as development of a sustainable water supply is one of the major challenges that it faces today. The increasing water demands and the shortage of current water supplies to meet these increasing demands compel us to look into how water resources were managed in the past inspiring in facing the challenges of managing today's water resources. Now a days, people have to think how to combine modern supply systems with old harvesting methods.

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## 9

# Archaeological Remains of Kharun River, Chhattisgarh (With Special Reference To Patan)

**\*Dr. Atula Kumar Pradhan**

Patan is a Tehsil head quarter in Durg District of Chhattisgarh. It is located 37 Km towards East from District head quarters Durg. Patan is surrounded by Abhanpur *Tehsil* towards East, Raipur Tehsil towards North, Bhilai Tehsil towards North, Gunderdehi *Tehsil* towards west. This Place is in the border of the Durg District and Raipur District. Raipur District Abhanpur is east towards this place.

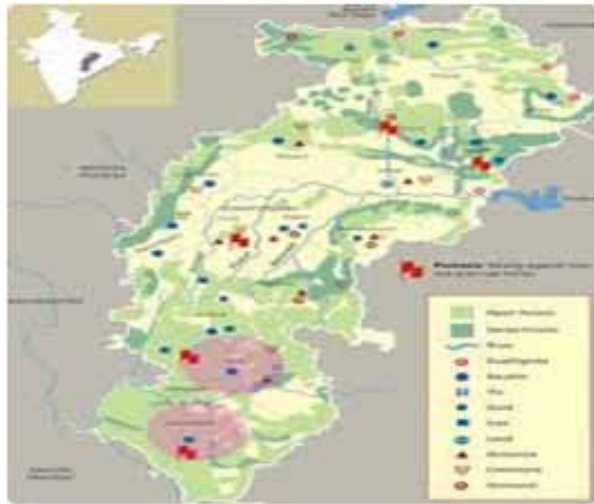
The river Kharun is flowing nearby this locality. It is flowing about 60 k.m. and joins seonath. Besides this, small water channel and *nalhas* are joins to this river. The exploration at this Patan area revealed many archaeological discoveries which are given below.

#### Dih

The exploration revealed more than three big mounds near Dih in Patan block of Durg district. The exact site is located on the left bank of river Kharun. The site is approachable from Raipur-Bhilai main Highway road. The site is totally encroached by the inhabitants of local villages. The antiquities in the form of terracotta figurines, beads, iron objects, iron slags and pottery. These antiquities are traced out by the heavy plough of the field. The exploration revealed terracotta and stone beads, the bricks and brickbats of kalchuri period.

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**\*Directorate of Culture And Archaeology, Raipur**

**Chhatisgarh Map****Jamraon**

Jamraon is located in the Patan tehsil of Durg dist. of Chhattisgarh. The site Jamraon is located about 15 k.m from Raipur and 20 k.m from Patan, dist Durg. The nature of the site is very good and no encroachment is found nearby the site. But eastern part of the site is slightly damaged by the river which is protected by the stone fencing by the local villagers. The survey revealed more than four mounds with antiquities in the form of pottery, saddle quern, hopscotch, beads, and terracotta figurines. The survey yielded many structural remains of stone and bricks.

**Kahui**

Being situated on the right bank of the driver Kharun, this site Kahui attracted the the early historical, late medieval people for the habitation. here the river takes 'U' turn. Here there are about four mounds are spotted which covered with antiquities in the form of potsherds, beads, stone implements etc. There are various types of ceramic are traced out from the mound. From the ceramic analysis it is studied that less number of potteries are of early historical and late historical pottery are of late in phase. The early historical potteries

consists Black Slipped Ware(BSP), Red Slipped Ware(RSW), Black and Red ware(BRW) etc.

**Kumhli**

This site is about 15 km from Patan. An ancient brick structure is accidentally retrieved from this village. Besides this the buff red ware bowl and other terracotta objects are also recovered from this site. Large number of architectural members and sculptural pieces are also found in this village.

**Pandar**

This site is situated about 2 k.m from Patan. There are two big mounds are existed and another big mound is converted into a pond by the villagers. The ancient ceramics like black and red ware , black slipped ware, red slipped ware, beads of terracotta and semi precious stones, fragmented parts of ring wells, brick bats, hub scotch etc are scattered around the site. The excavated pond contains ring wells, and three chambered rooms made up of bricks. Other important antiquities like legged saddle querns, medieval sculptural fragments like Mahisamardini, Uma Maheswar, Ganesh etc. One beautiful lajpyagauri is also found in this site.

**Tarighat**

Tarighat is located in Patan tehsil of Durg district. This site came to limelight in the year 2007-08. The present continuing excavation revealed five cultural sequences.

Period I is the earliest strata reprint Pre-Kushan in nature. There are about 12 layers are exposed which represent five cultural periods, of these cultural periods, the earliest level of occupation was not represented by any structural remains but by one pit cut into depth of the soil. Period II is assigned to Kushan period. Large number of Kushan coins and a coin hoard are traced out from the site. One stone seal is retrieved from this cultural level. There are four letter are engraved which read as *Bâmapâda*. This script is ascribed to 2nd C.A.D. The third period is attested with the evidence of Satavahan coins, seal, sealing and terracottas. One seal is engraved in early Brahmi characters of 3rd C.A.D. and read as *VADHA*. The fourth period is assigned to Sarabhapuriya dynasty which is very

contemporary to Gupta period. This period is succeeded to Satavhan period in a stratified deposit. The excavation yielded three gold coins of this dynasty. The stone seal is engraved in box headed early Brahmi character of 4<sup>th</sup> -5<sup>th</sup> C.A.D. and read as *Úrî Prâsâda*. Again possible after a short desertion, a culture sprang up here and continues to flourish up to late Kalchuri and Islamic period. Coins of this period found from the surface.

#### Excavation Site Tarighat Retrieved Structures



The findings of Satavan and Kushan coins, early historic potteries, terracotta's, structural features and other material culture of Tarighat shows its date to early. Other important villages like Ruhi, Bathena etc contain large number of archaeological treasures which need proper scientific survey and documentation.

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## 10

**Besnagar and Bhon :****Two Paradigms of Ancient Canal Structure****\*Dr. Rajeev Ranjan**

Excavation conducted at Besnagar and Bhon have revealed two altogether diverse model of canal structures of early historic period. Indeed certain notional features such as both fed by rivers, flanked by masonry walls, drained the field adjoining to it and increased the ground water level to for securing the water in wells constructed in its proximity.

The Besnagar canal, so far as its planning is concerned, is different in its lay out and structure. It is found in two segments and both the segments joined each other at right angle. Further it has been considered as a storage canal or inundation canal. It received water from the river Bes, flowing hardly two furlong from the excavated canal. The Bhon canal was of course longer than that of Besnagar and it was fed by uninterrupted supply of water by the river Purna, flowing in its proximity.

In fact, in either case, both these canals provided water for the agricultural production as well as supplied water to the habitational area for their domestic use. However here it is desirable to describe each of these in its natural and historical perspectives.

Besnagar, an ancient site, located near Vidiúâ (M.P.), lies on the bank of river Bes. The site has provided the evidence of an ancient irrigation canal. Here, the excavation conducted near west bank of the river Bes under the supervision of Devadatta Ramkrishna Bhandarkar (from 1913 to 15) has brought to light this markable finding. 32 In fact, the excavation exposed such a canal which

provides not only the importance of irrigation in this area but reflects the superb structural skill of the hydraulic engineering, which was prevalent during the pre-Mauryan or Mauryan period. Going through the details of this canal-remains, Bhandarkar analysed that the river Bes, flowing hardly two furlongs away from the site was dammed at a ford. From this point the canal under study was taken out which in its plan layout shows that at first stage this canal ran in north-south direction and then turned towards the east- west direction. The north-south wall was measured 1852422 in length, 72 in breadth and 52622 in height (maximum).

**Besnagar Pillar Vidisha (M.P.)**

The east-west canal could be traced up to 132 in length only. Rest of its part was broken off so it was not possible to measure its exact length. Two striking features of this canal are one, i.e., a slight slope was deliberately provided which is intelligible in case of canal to counter act the pressure of water prevalent in it; next is, on the walls of the canal there was application of superior quality of plaster. The quality of plaster was essential for preventing the percolation of water as well as to secure the permanency of the structure. On chemical analysis it is found that it could compete with that of contemporary Romans.<sup>34</sup>

According to Bhandarkar, as the cross walls which joins the north and south wall it appear that it was a storage canal and, its water must have been raised up by the suitable lifting devices. Hence, the area on the right side to this canal was occupied by the then inhabitants of Vidiúâ so the possibility cannot be ruled out that the city might have availed the stored water for domestic purposes too. However, R.S.Sharma considers it as an inundation canal; for the

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rivers in southern India overflow their tanks in rainy season and dry up in summer.

To assign the date of this canal, besides the epigraphic evidence some other factors were also taken in to consideration. The well known inscription of Heliodorus which is situated in close proximity to both *i.e.* Vasudeva (Eankarsan temple as well as to this canal, inscribes the date 165 B.C.E. By the stratigraphy point of view, canal-wall is at lower strata than the temple. Further, it has been also analysed that there was some gap period between the destruction of canal and construction of the said temple. Besides this, the canal of such solid construction must have existed for a pretty long time before it fell in to ruins. Thus taking all these factors in to consideration Bhandarkar suggests its date around Mauryan (300 B.C.E.) or probably earlier to it.

Bhon, an early historic site situated in Purnâ basin of Vidarbha region (Maharashtra), provides us an evidence of a brick-built ancient canal. The site is located at 30 k.m. north-west of Sheogaon talluka on Mumbai –Nagpur rail route. The excavation conducted at Bhon (talluka –Sheogaon) by the Department of Archaeology, Deccan College, Pune, under the supervision of Bhaskar Deotare, and his team mates have exposed the structural remains of an irrigation canal, which was drawn from river Purna. It could be measured 100 meters only. Its shape, voluminous water containing capacity, overall gradient *i.e.* 30 cm. from river towards inland and above all its extent lead us to believe that it was an artificial water channel. Further, the presence of patina formed on its surface which has been caused due to running of water for a long duration, confirms that it was an irrigation canal. In this very context finding of charred rice grains and husk impressions from adjoining areas by Deotare, leaves no doubt in saying that it was a canal utilised for irrigation purpose specially for the paddy crops.

In addition to this an interesting structure associated with this canal was a super structure built of bricks in square shape (3 x 3 m.) and positioned on the canal walls. Its bottom opening were kept open in both north and south direction. However, nothing is clear about the purpose of this super structure but possibly there might be some manually operated equipment fixed on the top of this super structure in order to regulate the of water-flow flowing in this canal, when this water structure was in functional stage.

### Bes River Vidisha



The walls of canal were constructed by bricks of larger size (50 x 25 x 8 c.m.). The thickness of the wall as measured is 75 c.m. while the height is believed to be was 100 c.m. The base which is 3 m. wide, was constructed by using two courses of bricks. The canal-wall rested on this very basal construction. On the whole the total length of this exposed canal is measured 100 m. The alignment marks show that at first it runs in north– west direction from its origin *i.e.* from river bank. After covering a length of 21 m. it turns straight in north direction. Its sloping gradient measured 30 c.m. from its origin to towards in land proves its as an irrigation canal.

The finding of charred rice grains and husk impressions from adjoining areas proves the utility of this canal for irrigation specially for paddy cultivation. According to Deotare, the excavator of this site, the structural remains mark not only the architectural skill of the settlers but their expertise in the irrigation practices too. The calculation lead us to believe that here agriculture production was done in an area of about 12 to 15 hectares. So far assignment of its date is concerned, on the basis of its constructional features it may be assigned to pre- Sâtavâhana or Mauryan period.

Thus we see that canals of both the above mentioned sites were unique in their constructional features but the purpose was almost the same *i.e.* to facilitate irrigation for production of crops and to provide water for domestic purpose. Here, it may be inferred that the technology of canal construction which was developed by Mauryan rulers. Megasthenese and Strabo have also revealed about an extensive system of canal- irrigation. The canals constructed at Kumrahar (Pataliputra) and in Kathiawad (Gujarat) might have motivated the

people in later period to construct canals. As a result water structures of Kalinga nagari, Besnagar and Bhon were brought in existence in little later period.

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## 11

# Ancient Hydraulic Structures of Kalachuris of Ratanpur (A Brief Discussion on Basis of Epigraphic and Archaeological Sources)

**\*Dr. Vishi Upadhyay**

#### Abstract

*Kalachuris of Ratanpur branch came from the Tripuri, this was a distinguished branch from Kalachuris of Tripuri. Kalachuris were first occupied the Tummâna and settled their initial capital, but after few eras Ratandeva I was shifted his capital to Ratanpur . This new capital was developed with many aspects i.e. art and architecture, economy, trade and commerce, irrigation etc. Chhattisgarh is dominated by the mansoonal climate whereby the southwest (or advancing mansoon ) generally brings rains between month of June and August and the northeast (retreating mansoon) in September and October. Given the variability in rainfall and relatively dry condition for a long period heavy emphasis was placed on the development of water management of techniques. This kind of climate might be possible continued in ancient period so in this respect Kalachuris were excavated many hydraulic structures especially water tanks in different sites of Chhattisgarh, India and gave the description about it in*

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*their inscriptions The paper offers here an attempt to compile the archaeologically existing hydraulic structures with the inscriptional records of Kalachuris.*

### **The setting**

Water plays a vital role in everyday human life, for the overall development of a man and society, especially in the fields of agriculture, industry, fine arts and economic prosperity. Since time immemorial, water has become one of the primary source materials. Man depends on the river as well as rain water and rivers which, in turn depend on the rain. The rains basically being seasonal and failure of timely rains resulted in the depletion of subsoil water table. It further resulted in the poor agricultural production. In order to overcome these lacunae man started storing the water by artificial methods and utilized the same, whenever he needed water, even when timely rains failed. Such artificial water storages are called tank, canals, reservoirs; dams etc. enough evidences are at our disposal to substantiate the prevalence and usage of such irrigational construction since prehistoric times in India (Vasudeven,2010).

The excavations of some of the Harappan sites in India have yielded artificial water storage facilities. In South India the irrigation, according to a few scholars, rich cultivation, in particular was started by the people of Megalithic Culture. *Yajurveda, Atharvaveda, Arthasatra* (of Kautilya), *Mahabhart*, *Jataka* stories and other literatures provide valuable information about the water reservoirs during ancient period<sup>1</sup>. Since early historic times people paid more importance to irrigation as many contemporary inscriptions of the period refer to them. The Junagadh (Gujrat) inscriptions consist the information about the hydraulic architectural features of the *Sudarasana* Lake, This tank of *Sudarsana* was excavated by Vysa Pushyagupta, a provincial governor of Chandragupta Maurya (324-300 CBC) and subsequently it was renovated by a prince. Later on during the time of Mauryan Emperor Asoka, a provincial governor of the area got the silt removed from the tank and repaired the canals and facilitated for the easy flow of water through the canals.

Evidences of existence of tanks during 1<sup>st</sup> CBC are also found in Kalinga and adjacent area of Bengal. The Hatigumpha inscription

informs about the repair and enclosing of a tank in Kalinganagri by Kharvela. Kalinga ruler Kharvela (2<sup>nd</sup> CBC) is credited with the extension of an earlier canal in Orissa (sircar 1985).

Archaeological excavations at Sringeripura near Allahabad have yielded remains of large water tank assigned to 200 CBC – 200 CAD. Whether water from the Ganga was brought to this area by a channel for agricultural or non- agriculture purpose is still not clear. The diversity in patterns of settlements and irrigation development emerged as a major aspect in the environmental history of South Asia featuring the Socio- Economic life of ancient India (Chakravarti, 1998).

While in South India, the Cholas of Sangam Age, who gave a boost to the agrarian order, made elaborate irrigational arrangements during the initial years of the Christian era. Satvahana and Ikshvankus, who followed them also, provided encouragement to the irrigation, a fact that is known from the archaeological evidences. Subsequent dynasties like Pallavas, Cholas, Pandyas, Kadambas, Gangas, Chalukyas and Hoysalas continued the same zeal in providing sufficient attention and fillip to the irrigation system and excavation of tanks, and continued the popular social welfare schemes like their predecessors. Inscriptions of their period provide us with a mine of information on this aspect. The Chandravalli tank of Karnataka, Vairamenghata tataka of Tamilnadu and Kavitagunarava tank (Sahstri, 1923) of Andhra Pradesh were well known tanks of early historic period that are often referred to by scholars. Along with it the hydraulic structures at Udaygiri and Khandgiri also are the superb instance of water management in ancient period (Khamari, 2012).

These types of attempts were being continued in Kalachuri period also in Chhattisgarh. Early medieval epigraphic sources indicate that in Chhattisgarh, structural and sculptural activities were received both royal and non royal patronage. Temples and other allied or affiliated institutions in the form of temples and Mathas as educational centers, boarding places for ascetics and their pupils were also erected. Apart from these we also find a critical and effective water management in this period.

Map -1



### Dakshina Kosala or Chhattisgarh

Dakshina Kosala (see map), nearly corresponding to the boundaries of present Chhattisgarh, India, is not only famed for an impressive concentration of forts, but also having the effective and powerful water management in Kalachuri period of Ratanpur branch (10<sup>th</sup>-13<sup>th</sup> CAD). Scholarly researches in the region brought to light a prolific

number of hydraulic structures. Mention may be made of temple sites of Ratanpur, Malhar, Arang, Dongergarh, Jajgir-Champa, Bastar, Devabaloda, Bhoramdeva etc. mostly hydraulic structures have been concentrated in front of temples. Few Epigraphic evidences also shed light on the water management of Kalchuris in Chhattisgarh i.e. Ratanpur stone inscription of Jajalladeva I (year-866), Akaltara stone inscription of Ratandeva II, Raipur museum stone inscription of Prithvideva II, Kugda stone inscription of Prithvideva II (year 893), Koni inscription of Prithvideva II (year 900), Ratanpur stone inscription of Prithvideva II (year 910), Ratanpur stone inscription of Prithvideva II (Kalchuri) year 915, Shcorinârâyan stone inscription of Jajalladeva II chedi year 919, Kharod stone inscription of Ratandeva III (year 933)

The Kalchuri inscriptions and archaeological records provide elaborate information not only on temples but also allied hydraulic structures attached to the temples i.e.

- 1) Water tanks attached with temples
- 2) Water tanks individual
- 3) Wells
- 4) Step- wells interconnected with another well
- 5) Dams
- 6) Canals

### The Climate

Chhattisgarh is dominated by the monsoonal climate whereby the southwest (or advancing monsoon) generally brings rains between month of June and August and the northeast (retreating monsoon) in September and October. Given the variability in rainfall and relatively dry condition for a long period heavy emphasis was placed on the development of water management of techniques. Apart from this the surface of the land of Chhattisgarh consist the bedrocks due to which the rain water does not contain for long time and soil generally has lost its moisture.

### Epigraphic Records (See Table-1)

Inscriptions of Kalachuris are consisted the information about the hydraulic structures. Excavation of tanks in large quantity is a characteristic feature of Kalachuris in Chhattisgarh. Only at Ratanpur area has 120 reported water tanks of allied period.

Fig-2



**Ratanpur Stone Inscription of Jajalladeva I (year-866)** - In this inscription, it has been mentioned that Prithvîvara (I) constructed several temples at Tummâna and excavated a large tank at Ratanpurâ.

Apart from this Jajalladeva seems to have founded a town named Jajallapura (present Janjgir), where he constructed a monastery for ascetics, raised a garden, planted grove of mango trees and excavated tank.

As for the geographical names in the present records, Tumman, as shown is identical with Tumman, 26km. north-east of Ratanpur, Jajallapura, which was evidently founded by Jajalladeva, may be identical with Janjgir (Mirashi, 1955).

**Akaltara Stone Inscription of Ratandeva II** – The inscription refers to the reign of Ratandeva II of the Kalachuri dynasty of Ratanpur. The object of it is to record the construction of temple of Revanta and excavation of a tank evidently at Kôtgadh, by Vallabharaja, a feudatory chief of Ratandeva II. Verse 24 contains an interesting comparison, based on double entrances of the tank with the Buddhist doctrine (Saugat-mata) (Mirashi, 1955).

**Raipur Museum Stone Inscription of Prithvideva II**- The object of the inscription was to record the construction, by Vallabharaja of a temple of Úiva evidently at Kôtgagh and excavated a tank named as Vallabhasagara (Mirashi, 1955).

**Kugda stone inscription of Prithvîçva II (year 893)** - In this inscription has been mentioned about the exploits and charity of Vallabharaja( feudatory of Prithvideva II). The town he settled and the lake excavated appear to have been described in this inscription (Mirashi, 1955).

**Koni inscription of Prithvîçva II (year 900)**- There is also the information about the excavation of deep tank at Ratanpura (Mirashi, 1955).

**Ratanpur Stone Inscription of Prithvîçva II (year 910)** – Vallabharâja made a lake to the east of Ratanpura, using the range of hills near the village Khâdâ as a dam, he dug another small tank, raised a grove of three hundred mango trees at the base of the hill near the village sadavida and excavated a large lake Rathûvarasâgara, named evidently after his earlier suzerain Ratandçva II. On the outskirts of Vikarhapura he made a tank, raised a garden. Another tank was excavated in a village, the name of which appears to be Râthçvaisamâ. To the east of the town called Bhauda, on the way to hasivadha, he excavated a tank, full of water –lilies (Mirashi, 1955).

As far the geographical names occurring in the present inscription, Ratanpurâ has already been identified with Ratanpur. The village khâdâ, near which lake was formed, taking advantage of the position of the neighboring hills, and it is probably identical with Karrâ; about a mile and half to the east of Ratanpur, near which there is still the extensive Khârung tank.

**Ratanpur Stone Inscription of Prithvideva II (Kalachuri) Year 915**- In verses (22-39) describe the benefactions of Brahmadeva, he constructed a temple of Dhûrjati (Úiva) at Mallâla and excavated a tank. At the latter place he excavated also a large step well and two tanks, one on the north and the other on the south of the city. Several other religious and charitable works of Brahmadeva are next mentioned, viz. a tank at village Gôthâlî, another tanks at Bamhanî, charauya and Tejallapura (Mirashi, 1955).

As for the localities mentioned in the present inscription, Mallâla is evidently modern Mallhâr, 16 miles south - east of Bilaspur. Varçlâpura or Barçlâpura is Barçla, 10 miles south of Ratanpur. Bamhanî still retain its name, the former is situated on the Mahânadi in the Raipur district, while the latter is 4 miles north by east of Akaltarâ. Rai Bahadur Hiralal identified Kumarâkôta with Kôtgadh,

but from some other records the old name of the letter appears to have been Vikarnapura. Gôthâli, Charauya and Tejallapura cannot now be traced, but the last of these may have been situated not very far from Shçorinârâyan, for it seems to have founded by Tejalladeva, a kalachuri prince of a collateral branch, who is mentioned on inscription at Shçorinârâyan.

**Shçorinârâyan Stone Inscription of Jâjajalladeva II Chedi Year 919** – The third section of the inscription, which begins with verse 35, records the benefactions of the princes of this collateral branch. In the town of Sônthiva, Sarvadeva erected a lofty temple of sambhu, excavated a large tank and raised a garden. In the village of Pandaratalâi, Amanadçva I established a charitable feeding house, planted an orchard and dug a tank. In the village of Pathariâ, Râjadçva built a temple of purabhid (Eiva), raised a mango grove and excavated a tank. Further a queen named Râmbhallâ excavated a beautiful tank and also grew a mango- grove in the village Pajanî of the places named in this inscription Sônthiva is modern Sônthi in the Bilaspur district, 11 miles north of Akaltarâ. Pandaratalâi may be identical with one of the several villages named Pçndri or Pandriâ, of them, the one nearest to Shçorinârâyan is Pendriâ, 7 miles to the north - west. Pathariâ still retain its name and is situated 6 miles south by east of Mungeli. Pajanî may be Pâchari, 6 miles east of Shçorinârâyan (Mirashi, 1955).

**Kharod Stone Inscription of Ratandeva III (year 933)** - In this inscription has been mentioned about the charitable work of Gangâdhar the chief minister of Ratandeva III. To the north of the Ratanpura he built a mandapa for Tûntâ- Ganpati and had tanks and lotus ponds excavated in the village Tipuruga, Girahulî, Uluvâ and Sçnâdu.

Of the place names occurring here, Ratanpura have already been identified. Identify Tipuruga with Tiprunga, 10 miles south of Kharod, in the former Katgi zamindari and Sçnâdu with Sonada, 15 miles to the east of Kharod in the Jânjgir district. Girahulî may be identical with Guolpâlî in the Jânjgir district and Uluvâ with Ulbâ in the Raipur district (Mirashi, 1955). So it can be that several inscriptions of Kalachuri period are consisted the information about their water management.

### Archaeological Records (See Table-2)

Similarly to Epigraphic sources, various Archaeological sources are also available allied to water management of Kalachuries. At Jânjgir district a temple of Vishnu is existed and it was erected by the Jâjajalladçva I. Near this Vishnu temple a large tank is also available of Kalachuri period. So relation of this tank can be fixed with the Ratanpur stone inscription of (year 860) of Jâjajalladçva I. There is information about the excavation of a tank at Jâjallapura (Jânjgir)

**Fig-2.**



At Ratanpur, Ratandeva I constructed a beautiful temple of Mahâmâya (fig. 1). In the east direction of this temple a tank is being existed till now. It has been surrounded by so many temples. Tank has properly constructed from all directions and having good arrangement for bathing and for proper drainage.

At few distance from Mahâmâya temple, in complex of Hâthi quilâ (constructed by Prithvideva II), there is a lake named as Bhairâgvan (fig. 2). On one bank of this lake, there is Narmadeshwar Mahadeva temple is situated and on either side, Solemen mausoleum of king Râjasingh which is also called the Bîsdvâriâ temple is located. This lake is surrounded by the mango groves and might be played a vital role for hydraulic activities in Kalachuri period.

Perched on the top of the hill Râmtékri (Ratanpur) there is an ancient Ram temple in *panchâytan* style. Below this Râmtékri , Buddeshwar Mahadev temple also called Buddhâ Mahâdeva temple built by Prithvidçva II is situated.

In this temple can observe a noteworthy thing on the east direction of this temple, there is properly made Step well (*Bâvanî*) (fig. 3). The *Æivalinga* is open from the top and water level can be seen inside the *linga*, meaning *the linga* is full of the water and if water is poured inside this *liE ga* the water level does constant. I have observed this *linga* in two seasons, first of all in rainy season when the water level was high inside this *linga* at that same time the water level of step well (previously mentioned) was also raised. And in summer season when the water level of the step well was low at that same time the water level of *linga* was went down (near this step well another well is also existed). So conclusion is that, there may be interconnection between this *Æivalinga* and step-well. It might be popular religious centre in ancient time (Drawing no.-1).

**Fig-1**



A little ahead of Ratanpur, on the Bilaspur- Korba highway, there is a historical city of Junâ. It was established by the king Râjsimbhâ who called it Râjpur. He was constructed the seven storied Bâdâl-Mahal for his queen, Kajrâdevi. This is a beautiful example of Kalachuri architecture and also locally known as the *Satkhandâ Mahal*. At present only four stories are remaining.

Near this Bâdâl- Mahal a beautiful step-well is situated (fig. 4, 5). The level of this step well is low from the surface that's why for entering inside to this structure there is steps down arrangement. At the core of this step well there is pond with full of water. This step well is interconnected with another well which is situated nearby it. A connecting channel can easily see on the bottom of this another well. The water level of both wells notice always same. The well provides water for connecting step well. The step well is impressive and effective instance of water management of Kalachuri period. Step well consists few rooms also; they are well plastered by lime. The relation can be fixed of this step- well with the Ratanpur stone inscription of Prithvidçva II (year 915), there is information about a step- well, was constructed by Brahamadçva near Ratanpur.(Drawing no.-2) At Ratanpur , there is dam on Kharun river named as *Khuta ghat* . The Ratanpur stone inscription of Prithavideva II (910) provides information in this regards. The village khâdâ, near which lake was formed, taking advantage of the position of the neighboring hills, and it is probably identical with Karrâ; about a mile and half to the east of Ratanpur, near which there is still the extensive Khârung tank. This Karrâ village is presently situated near Khutâghât dam. The dam has been constructed on the river Khârun. Most probably the ancient dam might be existed in this area on river Khârun. Vikkarnapura was probably the old name of Kôtgadh, 1 ½ miles north of Akaltarâ. Hasivadha may be Hasod in the Jânjgir tehsil, about 22 miles east of the Shiôrinarâyana. The hills Dçvaparvata cannot be definitely located.

Apart from this, recently excavated site Pachrâhi is located in Kabirdham district of Chhattisgarh; there is also the evidence of Kalachuri architecture. On the front of temple area (to the east of the temple area) there are two large tanks of Kalachuri style and might be main source of hydraulic activities in this area.

### Conclusion

After surveying the structural activities of Kalachuri period, it can be observed that Kalachuris were much conscious for hydraulic structures. 120 water tanks are reported from the Ratanpur, from Malhâr 130 tanks and others were excavated in different localities of Chhattisgarh in large quantity. Appearance of these hydraulic structures is represented a strong irrigation or water management system of allied period. Kalachuris were excavated not only tanks but also, constructed dams, wells, canals, step wells etc. the proper information about these structures are available in inscriptions of Kalachuris even archaeological evidences also are indicated in this respect. Each and every temples consist the water tanks, inscriptions indicate that they were excavated the tanks for public welfare. So it can be assumed that in Kalachuri period had an effective, broad and critical expansion of hydraulic architecture in Chhattisgarh and this was the outstanding instance of technique of water harvesting in ancient period.

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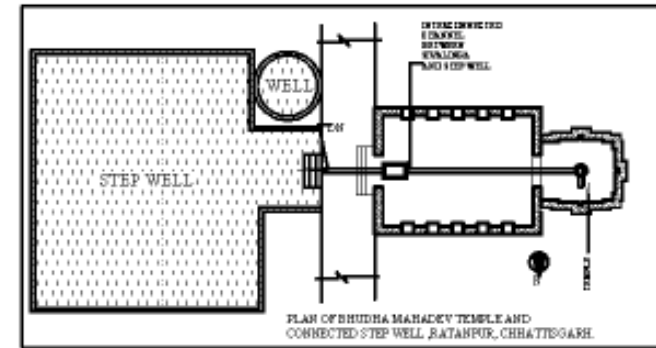
**TABLE -1 (Hydraulic structures on epigraphic records)**

King	Place	Hydraulic Structures
Prathvideva (I)	Ratanpur	Tank
Jâjalladeva (I)	Jâjallapura (janjgir)	Tank
Ratnadeva II	Kotgarh	Tank (Vallabhsâgar)
Tank	Kotgarh	Tank
Do	Kotgarh	Tank
Do	Ratanpur	Tank
Do	Khâdâ(karrâ)	Dam On Lake
Do	Sa Avida	Tank (Ratheshvar Sâgar)
Do	Ratanpur	Lake
Do	Vikarnapura (kotgarh)	Tank
Do	Devparvata (dalha Hill?)	Deep Well (Step Well)
Do	Rathevaisama	Tank
Do	Bhauda	Tank
Do	Mallâla(malhâr)	Tank
Do	Ratanpur	Step Well And Two Tanks
Jâjalladeva Ii	Sonthiva(sonthi)	Tank
	Sarvadçva	
Do	Pandâtalâi (pandariâ)	Tank
Râjadeva	Pathariâ	Tank
Rambhlla (Queen)	Panjani(pachri)	Tank
Ratnadeva Iii	Ratanpur	Tank
Do	Tipuruga(tipunga)	Tank
Do	Tipuruga(tipunga)	Tank
Do	Uluvâ (Ulvâ)	Tank
Do	Senadu (Sonad)	Tank

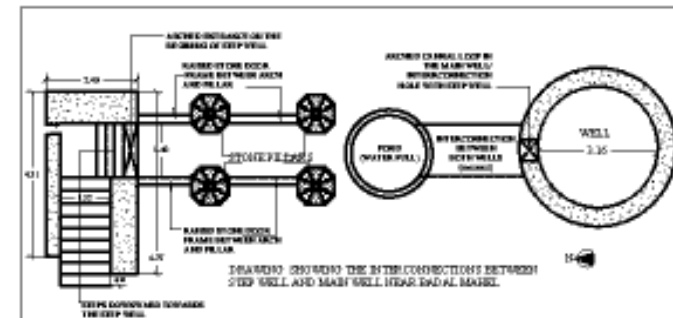
**TABLE -2 (Hydraulic Structures on Archaeological Records)**

King	Place	Hydraulic Structures
Ratandçva I	Ratanpur (mahâmâya Temple)	Tank
Do	Ratanpur (bhairavbaba Temple)	Tank
Jajalladeva I	Jânjgir	Tank
Prithvideva II	Ratanpur (Buddhesvar Mahadeva Temple)	Step Well
Do	Ratanpur (Hâthi Quilâ)	Lake (Bairâgvân)
?	Ratanpur -chaprâ Highway	Krishnârjuni Tank
?	Ratanpur	Lake (Dulharâ Talav)
Prathvideva II	Junâ Úahar (Near Bâdal Mahal)	Step Well And Well
Do	Malhâr	Tank
Do	Kotgarh	Tank
Do	Karrâ	Tank(khârung) (Khutâghât Dam)
?	Pachrâhi	Tank
?	Tummân	Tank

**Drawing No. 1; Step Well of Buddha Mahadeva Temple**



**Drawing No.-2; Step-Well near Bâdal Mahal**



12

## **Management and Conservation of Natural Resource and Culture in Tribal Areas of Madhya Pradesh Through Panchayat Raj Institution : Legal And Practical Perspective**

**\*Dr. Uday Singh Rajput**

The tribal communities of India have a rich tradition, culture and custom to manage their natural resources such- forest, water and land. But about before two centuries the tribal communities have been continuously lost their rights. After independence a significant step has taken by the constituent assembly with crating a different administrative setup in part X and Fifth and Sixth Schedule of the Constitution. Further, in 1996 Indian Parliament has passed a revolutionary law that called PESA, Act. Much more emphasized has been given to conserve and preserve tribal culture through this Act. In this paper, it has been tried to analyze the legal and grassroots reality of implementation of PESA Act in Scheduled Areas of Madhya Pradesh.

### **Introduction**

Most of the tribal population of the country has been living in the forest areas since immemorial. The tribal are described as 'Vanvasi' means forest dwellers, clearly revealing the relationship between the tribal and forest. In our country, the tribal and forest are inseparable phenomenon and in general public understanding both are almost

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synonymous. Overwhelming majority of the tribal were living in forest areas and most of the forest area in our country falls in the tribal region. Entire economic activities and livelihood of the tribal community were based on forest. Forest was the part of their culture and they worshiped the tress since yore. This situation sharply and tragically changed after the nationalization of forest by the Britishers, the process started with the Forest Act in 1878, the tribals were totally dispossessed of their own forest land and the rights. This was the biggest blow to the tribal economy and their main livelihood. Oddly enough, the post independence period has also continued alienation of the tribals from the forest land. However, Government of India has introduced the concept of joint forest management involving tribal community before some years. But it could not have achieved expected goal. Really it was equal partnership between two unequal.

Similarly, the rich tradition of the conservation of water was found in tribal community. If we see the tribal villages then we found most of the villages have a small water pond and it scientifically structured. However, their existence is going to end but it shows that tribal community respects the natural resources.

The natural resources management was directly associated with the tribal culture. Their rituals, festivals, dress, ornaments, arts, songs, god, and goddess all the things related to nature. They have developed a rich administrative system since yore to manage their all affairs. They have developed their own institutions of panchayats, Tribal Head, Council of the elders and inter-village panchayat for establishing peace, law and order, for resolution of disputes and argumentation and proper management of the resources. But due to interference of colonial government it has lost their existence. The situation did not change after independence. Modernization and development's process has negatively affected their culture as well as nature. Most of the traditional institutes which had significant role in all walks of life have towards declined.

### **Administrative System in Tribal Areas After Independence**

After independence, keeping in view of the different culture, identity and backwardness of tribes, the Government of India has taken two strong steps. First, the separate administrative system was made in Part X of the Indian Constitution which is quite different from other



state or union territory administration. The whole tribal areas divided into 'Tribal Areas' and 'Scheduled Areas'. In article 244 of the constitution and in its Sixth Schedule the provisions for administration of the tribal areas i.e. Assam, Meghalaya, Mizoram and Tripura were made. Similarly in the article 244 (1) and fifth schedule the provision for the administration for scheduled areas was made.

Article 244 (1) and fifth schedule provisions are regarding to scheduled areas. Scheduled areas are those, which are under the fifth schedule of the constitution of India where the tribal populations are predominant. Article 244(1) maintains the different identity of the scheduled area. This provision has provided special powers of Governor of the states and another significant feature of the fifth schedule is the Tribal Advisory Council (TAC). The Constitution required that these TACs should be in each state which has Scheduled Areas therein. Following these importance provisions regarding tribal administration was being taken after independence and before the 73<sup>rd</sup> Constitutional amendment by the Government of India.

### **Gram Panchayat in Tribal Areas After Independence**

Our great leader Mahatma Gandhi wished to establish strong decentralized democratic system in the country. He said that "the soul of country vested in village", so government should keep the village in centre and try to empowered village firstly. Keeping in mind of ideas of the father of nation, the pt. Jawaharlal Nehru has inaugurated the PRI in Nagor district of Rajasthan first time in the country in 1959. Same day the Government of Andhra Pradesh also started the PR system in their state and almost all the states of the country had passed Panchayat Acts within year and lunched PR system in their states. During these period many committees, commissions were formed by Union and States Government to give suitable form to PR System. Overall these committees reported that all the development programs are politicized and failed to achieve the goal of development of the rural as well as tribal people. The recommendations of various committees and keeping in mind of the grassroots reality of PR system the Central Government decided to give constitutional status to the PRIs and passed the 73<sup>rd</sup> Constitutional Amendment Act, 1992.

### **73<sup>rd</sup> Constitutional Amendment And Panchayati Raj**

April 24<sup>th</sup>, 1993 should be written in golden words in the rural history of free India. It is the day when Panchayat Raj (73<sup>rd</sup> Constitutional Amendment) Bill received consent of the president of India and the bill became an Act. This is the bold attempt on the part of the government to ensure people's democracy. Mahatma Gandhi stated "Villages are the backbone of our economy", and the 73<sup>rd</sup> amendment had surely paved the way for it.

Indeed, this amendment act provided constitutional status to the Panchayats, listed 29 items for the working of panchayats and added XI<sup>th</sup> schedule in the constitution. This new Act established three tiers panchayat system and provided uniformity to the PR system in throughout India. Reservation was provided in favour of SCs, STs and women in respect of all seats. At least one third of the seats (now 50 percent) shall be reserved for women. Tenure of panchayat was fixed for five years. Election commissions and Finance commissions were constituted. Power and function of Gram Panchayat was redefined and delivered power to panchayat for preparing plans and implementation of schemes for social justice and economic development of rural people.

### **Panchayat (Extension To The Scheduled Areas) Act, 1996 (PESA)**

No doubt, the 73<sup>rd</sup> Constitutional Amendment Act provided respectable spaces for the tribal people in the working of the PR System but such legislation could not made the tribal communities the sole masters of their socio-political destinies in their areas. The need was always felt that the institutional structures within the fifth scheduled areas were to be in consonance with the tribal needs, ethos and tribal institutions with which these people were familiar for ages. Also many of such areas, which were once freely managed by the tribal people themselves, for example, the management of their forests, lands and water resources, are now out of their purview and are under the authority of external institutions/agencies. Besides another question was unanswered that, legal setup of the PRI has made similar in all the states of the country according to 73<sup>rd</sup> amendment Act but the administrative setup of the Vth and VIth Scheduled areas have

been quite different since after independence. Therefore it was reasonable demand that the administrative mechanism and PR system of tribal dominated areas should be different from non-tribal areas after implementation of 73<sup>rd</sup> Amendment Act.

As a result of such demands and needs of the tribal communities a committee of parliamentarians and expert (22 members) was appointed in June, 1994 by Government of India under the chairmanship of Shri Dilip Singh Bhuria. The committee has presented his report in 1995. Many of the recommendations of the Bhuria Committee were accepted by the Union Government and the Legislation was passed, to be known as Panchayat (Extension to the Scheduled Areas) Act, 1996. This Act was also popularly known as PESA Act.

At present nine states of the country implied in scheduled areas. These are Andhra Pradesh, Himachal Pradesh, Orissa, Jharkhand, Gujarat, Rajasthan, Maharashtra, Madhya Pradesh and Chhattisgarh. Scheduled areas may be the entire district or partially Block, Panchayat or Villages. All the states have implemented PESA Act within the Scheduled areas after passing the bill by the Parliament.

### **Tribal Scenario of M.P.**

The Madhya Pradesh is a rich house of the tribal communities and still has the largest concentration of tribal population in the country. There are nearly 15 percent tribal population of the total tribal population of the country is residing in Madhya Pradesh. According to the 2011 census the tribal population of the state is 153.17 lakh constituting 21.1 percent of the total population of M.P. (726.27 Lakh) and 33.6 percent of total geographical area notified as scheduled area. After the formation of new districts in the state, tribal sub plan area of 35 districts (5 fully and 30 partly district) having 89 Tribal Development Blocks. Besides this, about 39.43 lacks tribals are scattered outside Tribal Sub-Plan Area, which is 32.23 percent of the total Scheduled Tribe population of the state. There were 43 recognized Scheduled Tribes and three of them (Baiga, Bharia and Saharia) have been identified as “Special Primitive Tribal Groups” in the State. There are five districts and some other areas of the states have been included in the fifth Scheduled.

### **Implementation of PESA In M.P.**

The M.P. state has become the first state in the country which has amended their Panchayat Raj Act according to Central PESA Act in 1997. The Madhya Pradesh Panchayat Raj (Dwitiya Sanshodhan) Adhiniyam, 1997 was enacted by the state assembly. It received Governor's assent on December 2, 1997 and was promulgated on December 5, 1997.

### **Special Powers And Functions of Gram Panchayat In Scheduled Areas-**

- I To safeguard and preserve the tradition and customs of the people, their culture identity and community resources and the customary mode of dispute resolution.
- II To exercise control over institutions and functionaries in all social sector.
- III To manage Natural Resources including land, water, forest, village, market, cattle fair within the area of village in accordance with its traditions and in harmony.
- IV To control local plans, resources and expenditure.
- V The Power of approval of the development plans, programmes and projects for social and economic development.
- VI The Power of identifying and selecting beneficiaries for poverty alleviation and other programmes and the power for granting of certificate of utilization of funds or plans, programmes that are implemented.
- VII Consultation before land acquisition for development projects and before resettling or rehabilitating persons affected by such projects.
- VIII Control over money lending

### **Practical Perspective of The Implementation of PESA In M.P.**

The PESA Act gives wide ranging power to gram panchayat as well as gram sabha. Perhaps the most progressive law passed by the parliament since independence. It empowered villages to protect community resources, control social sector functionaries, own minor forest produce, manage water bodies, give recommendation for mining lease, enforcement of prohibition, adjudication of disputes in accordance with prevalent traditions and customs, identify

beneficiaries for poverty alleviation and other government programmes. This significant legislation was expected to have far reaching consequences in the social, economic and cultural life of tribals in the scheduled areas. The distinguishing feature of these legal instruments is to recognize the traditional structures of self-governance in the tribal areas and to transform them into units of local self-government, particularly through the gram sabha.

Almost 18<sup>th</sup> years have been over to implementation of this Act in the State. During this period many studies has completed on that issue but the emerging picture is not satisfactory. There are so many weaknesses of this vital law coming out from the various grassroots studies.

The important issue, conservation and protection of tribal culture are remained untouched. Most of the gram sabha member, panchayat representatives even some government officers do not know about this law. Besides, the tribal community of the scheduled area is unable to decide that how the tribal culture should be preserve and conserve. They all are in dilemma. The Gram Sabha is the basic institution and most powerful foundation of the decentralized governance. It is the first modern political institution that seeks to place direct political power in the hands of the people, without the mediation of elected representatives. But unfortunately it could not become an important institution at the grassroots level because of self interest and interference of local leadership and bureaucracy. Gram Sabha are mostly dominated by sarpanch and small groups of their supporters.

It has been seen that the level of participation of the people at grassroots has been very low and Gram Sabha are almost a formal institution with no active participatory role in various assigned works. Most of the people even elected member are not aware of such an amendment and its provisions. It is unfortunate that both - the leadership and bureaucracy at the grassroots level have not been able to strengthen the Gram Sabha. It has been evident that the meetings called were mostly without prior and adequate notice. It has been seen in many places that the elected members has called proxy meetings.

The grassroots experience shows that a majority of the panchayat representatives and villagers are not aware of the quorum required for the Gram Sabha meetings. The required women's representation

for quorum is not known to a majority of the people. The basic reasons for low attendance are mainly the engagements of peoples in agriculture, labour and migration, lack of information, groupism, scattered habitations etc.

It has been observed that the issues of management and conservation of forest, land and water are not being raising in the meeting of Gram Sabha as well as Gram Panchayat. The mostly panchayat representatives and gram sabha member have been focusing on the development issues instead of management of natural resources. The confusion has remained on the relationship between Panchayati Raj System and Forest Department in the control, conservation and development of forest. For the Panchayati Raj system to become effective, the entire system need to improve and strengthen with accountability and transparency integrated in the entire system of governance.

### **Suggestion**

It has been observed that the level of awareness and exposure among Panchayat Raj Representatives is very low. It is therefore important to initiate special training packages in scheduled areas. The provision of the state act should be translated into simple Hindi and local dialect and distributed to all Panchayats. Posters can also be printed and displayed on the walls of Gram Panchayats buildings.

Government should appointment of trainee and educated secretary at the local Panchayats. The public awareness campaigns can be launched through NGOs. Electronic media (Community Television) can also be an effective medium. There also needs to be proper coordination between the officials and non-officials in the entire structure of the new panchayat system. With proper education, training and strategies, it is possible for the enlightened and capable poor women and men to not only enter into these bodies democratically but also give new dynamics to the bottom up development process. The sustainability of the grassroots level people centered participatory and self managed development process will ultimately depend on the capability of the people in local resource mobilization and influencing policy processes.

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13

## Management of Drinking and Domestic Water Supply in Coastal Odisha

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### Introduction:

Water is life. The changing pressure on water due to the growth of population, urbanization, and its multifarious use has made many to think over certain issues like access to water, quality of water, continuity of water supply etc. It is widely accepted that access to potable water in urban setting seems to be satisfactory if it is available within 200m of the dwelling, while for a rural household access to water means a member of the family does not spend time in collection of water. New dimensions like water quality; cost factor etc has been added to the issue of availability and access to water. In order to ensure potable water and sanitation the national and international agencies have been making several attempts. The International Drinking Water Supply and Sanitation Decade from 1980 to 1990 could not meet the demands as required and planned. Some of the factors like inadequate understanding of the geo-morphology and geo-hydrology of the country more particularly of the coastal region, lack of appropriate technologies, lack of adequate funding support etc are high lighted in the aftermath of the water decade, seems to be quite appropriate. The present paper based on Odishan situation tries to provide information, facts and figures to the following objectives.

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**Objectives:**

- It appraises the coastal and marine eco-systems and the water resources of Coastal districts.
- It tries to highlight the present scenario of drinking water, while analysing the impact of a special bi-lateral project intervention in selected pockets of coastal districts.
- While reviewing the state water policy, it highlights certain issues relating to drinking and domestic water use in coastal region of the state.

The data are mainly collected from different published sources of state government departments, specialized agencies and authors own involvement in different studies while working as sociologist in Danida assisted Odisha Drinking Water Project implemented during the international decade for Drinking Water Supply and Sanitation and subsequently as faculty at ICSSR centre in social science research at Bhubaneswar.

**Odisha: At A Glance:**

Odisha is located at 17°49' N 22°34' North Latitude and 81°24' to 87°29' East Longitude. It is bounded by the Bay of Bengal in the east and Bihar, Jharkhand, West Bengal on the north, M.P, Chhatisgarh on the west and Andhra Pradesh on the south. The state has a coastline of 450 kms. Administratively the state has 30 districts, 3 Revenue Divisions, 57 sub-divisions, 114 Tahasils, 314 CD Blocks, comprising of 3830 GPs, 51,057 villages and 123 urban centers. The state from physiographic perspective can be divided into four zones. They are viz: the Northern Plateau, the Eastern Ghat Zone, and the Coastal Zone. Climatologically post-monsoon. The state demography includes population of 41.97 million, in which the STs constitute 22.8% (2011). The decadal change of ST population during 2001-2011 for rural areas was 16.8% as against 33.4% for urban areas of the state. The decline may be due to increasing literacy, better access to basic services and family planning measures. Around 85% people of the state live in rural areas, who mostly depend on agriculture. The urban population has increased from 13.38% (1991) to 14.97% (2001). The male and female ratio is 972 per 1000 males (2001). The population density is 236 per sq.kms. The literacy rate is 63.08% and 50.97% for males and females respectively (Ibid).

**Rainfall:**

Odisha basically gets rainfall from southwest monsoon. About 81.83% annual rainfall is concentrated in first four months (June to Sept). The average rainfall of the state is 142.2 cms. The coastal districts like Balasore and Ganjam, receive the minimum of 129 cms per year. The mean annual temperature of the state is 26.2°C that varies from 37.1°C to 50°C.

**Urbanization:**

The rate of urbanization in Odisha is comparatively low. Ganjam district occupies the first position in having 19 towns, whereas, Deogarh and Boudh occupies the last position. The increasing decadal rate of population as includes in Class VI towns (which have less than 5000 populations) is due to migration of families from rural areas to the nearest urban centers with expectations to educate their children through new livelihood opportunities (Census of India, 2001). There were 95 towns in Odisha during 1981, which rose to 110 in 1991 and to 123 in 2001 Census period.

Slums are the byproduct of urbanization. In Odisha there are 2401 slums with a population of 12,27,191, which constitute 12.40% of total urban population. The slum population of Bhubaneswar is the highest (1,03,730) is the highest followed by Cuttack town (90,796). The study of Asian Development Bank, Manila that was circulated by National Institute of Public Finance and Policy, New Delhi in 1993 says that urban poverty in Odisha is 24.1% mostly observed among the slum dwellers. In other words, one can say that high incidence of poverty with low urbanization continues to yield intense pressure on urban environment.

**Coastal Region:**

The coastal region of the state extends inland for about 100 to 120 kms of the state. Alluvial deposits of rivers like Subarnarekha, Budhabalanga, Baitarani, Mahanadi, and Brahmani contribute the formation this region. The entire coast of the state can be divided into three long narrow strips from northeast to southwest. The first strip is the saline with swampy mangrove vegetation having no hills. The second strip is the alluvial plain. The third strip is hilly by character. The coastal Odisha is largely dominated by agriculture.

The coast of Odisha can be divided into two regions, viz: North Odisha coast consisting of Jagatsingpur, Puri, Ganjam districts. This coast is shallow, muddy and calm with extensive river deltas compared to South Odisha coast, which has sandy beaches. Of the total 30 districts of the state, nine districts namely Ganjam, Khurda, Puri, Jagatsingpur, Kendrapada, Bhadrak, Jajpur, and Cuttack are considered as coasta.

### **Coastal And Marine Eco-System:**

The coastline of Odisha covers 480 Kms, which accounts for 8% of the total coastline of India. It is bestowed with rich diversities consisting of mangrove and sea grasses, which provides breeding ground for marine species. The Chilika lagoon and Bhitarkanika are rich and full of mangrove eco-system, which represents largest hatching for the Olive Riddles and largest repository of estuarine crocodile. The state capital and the major cities of the state are also located in these districts. Major rivers, which flows to Bay of Bengal covers these coastal districts. They are Mahanadi, Brahmani and Baitarani, which have contributed for the formation of a rich delta. Rushykulya system of Ganjam, Budhabalanga and Subarnarekha of Balasore creates almost no delta.

Physiographic study of the coastal area can be divided into three regions. They are viz: i) The northern plateau which is undulating and full of hill ranges, ii) the Central River Basin consisting of Mahanadi, Brahmani, and Baitarani which has resulted vast stretches of fertile agriculture land, iii) the Eastern Ghats full of diversified flora and fauna. On the whole both alluvial and marine processes are observed in coastal deltaic tracts. The land form features include spits, bans, lakes, creeks, swamps, beaches, tidal and mangrove swamps. The river Mahanadi is divided and sub-divided into a dozen of sub-rivers. Similarly, the river Brahmani is also divided into a couple of branch Rivers.

The geo-morphology of the deltaic tract consists of varied landforms. This region includes couple of wetlands like Chilika, Bhitarkanika, Satabhaya, Hukitola bay, and the estuarine wetlands like Jatadhar, Hansua, and Batikola. The riverrine and marine processes like littoral currents, waves, tides, and river currents, which transports sediments to form these lands in these regions.

In coastal Odisha the deltaic region has a fascinating ecosystem due to types of mangroves and estuarine. The marine lives like fish, prawns, crabs and molluse breeds during the period from October to May every year. The sea turtles congregate in these regions having migrated from distant lands. The ecological integrity of the estuarine ecosystem determines the coastal productivity. The hydrology and the geomorphology of the estuaries are also significantly affected due to the flow of streams.

Chilika lagoon is situated along the east coast of Odisha, carries both marine brakish and fresh water eco-system with amazing bio-diversity. Hydrologically Chillika is influenced by three sub-systems viz: distributaries of Mahanandi, western catchments and the Bay of Bengal. This lagoon sustains the livelihood of more than 0.2 million fisher folk and 0.8 million people who live on the catchments.

The coastal eco-system includes many living resources, which influence the water bodies and more particularly the drinking water pool of the coastal districts. Mangrove forests survive high salinity tidal extremes, wind velocity, high temperature, and muddy aerobic soil, which is hostile for terrestrial (land based) plants. The Odisha mangrove forest and swamps are encountered at different geographical points like Bhitarkanika, Paradeep, Hukitola bay, Hansua, Devi River mouth, Satabhaya, Dhamara mouth and Basudevpur. Destruction of mangrove forest leads to various environmental hazards. Sea grasses, sea turtles, olive Ridleys, estuarine crocodiles and brakish water aquaculture for shrimp farming etc of the coastal districts have important influence over the water bodies of the region.

### **Water Resources:**

Odisha has a geographical area of 1, 55,507 sq. kms which is 4.7% of the total land resource of India. Compared to its size and population Odisha is fortunate to have adequate water resources both at surface and ground level. However, largely it is dependent on rainfall. In many years the rainfall is unevenly distributed which is reflected in both spatial and temporal dimensions. The average annual rainfall of the state is 1482 mm, which is largely, distributed during the months of (around 80%) June (213.2mm), July (351.6mm), August (335.6 mm) and September (236.5 mm).

**Surface Water:**

The river basins contribute to surface water resources of the state. Of the major 11 rivers, many are inter-state by nature. The rivers of coastal region contribute a lot compared to the inland region rivers.

**Table No-1** gives a view of basin area, catchments area and the features of major rivers of coastal district.

**Table No. 1. -Basin Area (in Km<sup>2</sup>) of major Rivers of Coastal Districts.**

Basin	Basin Area	%of share*
Mahanandi	65628	42.15
Brahmani	22516	14.46
Baitarani	13482	8.66
Rushikulya	8963	5.76
Baghua	890	0.57
Budhabalanga	6354	4.08
<b>Total</b>	<b>117833</b>	<b>75.67</b>

**Source:** Dept of Water Resource, Govt of Odisha, 2006.

(\*Percentage share of each river basin is calculated on the basis of total river basin of the state.)

Similarly, the length of these rivers and their catchments in Odisha substantially spreads in Odisha and contributes to a great extent to the water pool of the state. **Table No-2** briefly gives the profile of catchments of these rivers.

**Table No. 2. Distribution of Length of Rivers And Their Catchments (in km<sup>2</sup>)**

Rivers	Total catchments (km <sup>2</sup> )	Catchments area inside Odisha (km <sup>2</sup> )	% of share in Odisha	Total length (km)	Length inside Odisha (km)	% of share in Odisha
Mahanandi	141134	65628	46.50	851	494	58.04
Brahmani	39116	22516	57.56	765	461	60.26
Baitarani	14218	13482	94.82	440	360	81.81
Rushikulya	8963	8963	100	175	175	100
Baghua	1118	890	79.60	96	74	77.08

Burhabalanga	4838	4838	100	199	199	100
Total	209387	116317	55.55	2526	1763	69.79

**Source-DOWR, Govt of Odisha, 2006**

The state Water Resource Department has assessed the surface water availability through a hydrology package called Hymos. The data with respect to the distribution of inflow of water in major rivers in coastal districts show that in coastal Odisha these basins cover more than 70 percent as assessed during 2001. The same river basins when projected for the inflow of water for the year 2051 reflect that there is a marginal reduction in the inflow of water in these basins by 2.6 million m<sup>3</sup> (**Table No-3**). It is due to increase in utilization of water resources in neighboring states.

In Odisha the availability of surface water is directly dependent on the southwest monsoon. The temporal variations in the rainfall make the rain available for about 100 days in a year. Looking at the scanty rainfall and for a short duration, many times the state feels that the water is flown unused into the Bay of Bengal. In order to make use of the flown water the state has developed 44 storage schemes as major and medium projects and 713 schemes in minor irrigation sector. However, such attempts are not many in coastal districts of the state. As a result, these riverbeds are found dry for more than six months a year. The doubts are many on the continuity of water flow in these basins from the own sources even by 2051.

**Table No. 3 Distribution of Inflow of Few River Basins (2001 Scenario) In Coastal Districts of Odisha.**

(In million m<sup>3</sup>)

Basin name	Average Flow (2001)			Projected Average Flow (2051)		
	Own	Outside	Total	Own	Outside	Total
Mahanandi	29900	29255	59155	29900	21039	50939
Brahmani	11391	7186	18577	11391	3118	14509
Baitarani	7568	-	7568	7568	-	7568
Rushikulya	3949	-	3949	3949	-	3949
Burhabalanga	3111	-	3111	3111	-	3111
Baghua	438	-	438	438	-	438
Total in costal	56357	36441	92798	56357	24157	80514
Total in Odisha	82841	37556	120397	82841	25272	108113

% of coastal to Odisha 68.03 97.03 77.07 68.03 95.58 74.47

Source – DOWR, Goo, 2006.

### Hydrology of Coastal Districts:

Major portion of the coastal districts is located on an extensive alluvial fan deposit formed by river Mahanadi and the thick marine sediments consist of mostly unconsolidated gravel sand, silt and clay with a thickness of more than 600 meters. The bore well records show that the main part of the deposits consists of marine deposits and minor part consists of fresh water deposits (DANIDA, 1988). Over the time a lot of shift has taken place in the coastal zone of the state. In few coastal districts an aquifer with highly saline water is found underlying and overlaying a fresh water reservoir. Therefore, the hydrological conditions in coastal districts seem to be critical due to shifting of hydrology within a depth of 100 meters (Ibid, 1988.)

### Ground Water:

Consequent upon the revised norms of the Ground Water Estimation Committee (1997) of Govt of India, the Govt of Odisha reconstituted the study group for Odisha in 1999 to revise the ground water assessment based on GEC norms. The hydrological parameters in Odisha are conducive for steady replenishment of ground water potential. The diverse rock types constitute 80% of the Odishan topography. The geological formations and settings primarily influence the ground water potentiality of the state. It influences the inherent properties like porosity, permeability and hence water holding and yielding capacity of aquifers and plays a vital role in the hydrological regime (DOWR, 1997).

The ground water assessment in Odisha shows that the state has an annual replenishable ground water resource of 21, 01,128 hectometer (HM) and 60% of it is considered as safe use. About 1,22,272 HM is committed for domestic and industrial requirement for coming 25 years (GWSI, Directorate, 2001). **Table No-4** briefly describes about the ground water resources of coastal districts of Odisha. The data reflect that the utilization of ground water in the state is only 14.79%. The utilization range of ground water in

Balasore, Bhadrakh, Ganjam, Kendrapara districts is above the state average. In the districts like Puri, Khurda and Jagatsingpur the level of utilization of ground water is much below the state average.

**Table No-4 Distribution of Ground Water Resources In Coastal Districts of Odisha**

Coastal Districts	Ground water resource assessed (HM)	Utilizable resource for domestic and industrial use (HM)	Annual draft for irrigation (HM)	Gross Annual draft for all uses (HM)	State of ground water (%)
Balasore	99888	5556	38410	41804	41.85
Bhadrak	51209	2928	17480	19854	38.77
Cuttack	105367	6747	10755	14886	14.13
Ganjam	113804	9098	18828	24431	21.47
Jagatsingpur	139699	2765	11423	13646	9.77
Kendrapara	32344	782	6852	7550	23.34
Puri	88348	3187	4431	6470	7.32
Khurda	90183	8542	4455	10017	11.11
Coastal total	720842	39605	112634	138658	
State total share	2101128	112272	236044	310689	14.79
% Coastal to state total	34.30	35.27	47.71	44.62	

Source: -G.W.S.I., Directorate.

### Impact of Coastal Salinity on Ground Water:

A major portion of the coastal districts has saline aquifers and reflects a complex salinity profile. Around 5.39 lakh hectares of the coastal alluvial tract is affected with salinity hazard. The strip starts from Chandeneswar in Balasore district in the northeast, which extend up to Brahmagiri in Puri district in the southwest. The saline aquifer occurs in different depth in different parts of coastal districts. **Table No-5** gives a brief outline of saline aquifer zone in coastal Odisha.



**Table No-5. Distribution of Saline Aquifers In Coastal Districts of Odisha.**

District	Saline Aquifer Zone	
	Fully Covered Block	Partly Covered Blocks
Balasore	-	Bahanaga, Balasore, Baliapal, Basta, Bhogarai, Remuna.
Bhadrak	Chandabali	Basudevapur, Tihidi, Dhamnagar
Ganjam	-	Chatrapur, Chikiti, Ganjam, Khalikote, Rangeilunda.
Jagatsingpur	Ersama	Balikuda, Kujanga, Nuagaon
Jajpur	-	Bari, Binjharapur, Dashrathpur.
Kendrapara	Mahakalpada, Marsaghai, Rajkanika, Rajnagar	Aul, Derabish, Kendrapara, Pattamundai
Puri	-	Astaranga, Brahmagiri, Delanga, Gop, Kaktapur, Kanas, Krushna prasad, Nimapada, Pipili, Puri. Satyabadi.

**Source** - G.W.S. &I Directorate.

The data from table-5 reflect that 45 C.D. Blocks (43.69%) distributed in different coastal districts are affected by saline aquifers. The calculation on the average surface and ground water potential of Odisha is 141 BCM, while it is going to reduce to 129 BCM in 2051. The per capita availability of water in Odisha is calculated on the basis of population growth criteria of Govt of India shows that the present quantum of water availability is 3359 m<sup>3</sup> (2001) which will reduce to 2218m<sup>3</sup> in 2051, against the national average availability of 1820m<sup>3</sup> in 2001 and 1200m<sup>3</sup> proposed in 2051. The river basins like Rushikulya, Baitarani and Baghua will be adversely affected in water flow by 2051. Since river basins play an important role in the surface water availability therefore, it is appropriate to know the availability of per capita water resources from these river basins.

**Table No-6 Distribution of per-capita water resources in Basins of coastal Odisha (2001).**

Basin Name	Average (2001)		Average (2051)	
	Total	Per Capita (m <sup>3</sup> )	Total	Per Capita (m <sup>3</sup> )
Mahanandi	59155	3651.06	50939	2434
Brahmani	18577	3634.95	14509	1928
Baitarani	7568	1976.01	7568	1348
Rushikulya	3949	1341.87	3949	1021
Burhabalanga	3111	2263.65	3111	1623
Baghua	438	1616.61	438	1412
Costal river basin Total	92798	2414.02	80514	1627
State River basin Total	120397	3359.17	108113	2218

**Source** – DOWR, Govt of Odisha, 2006.

The Odisha Remote Sensing Application Centre (ORSAC) and Space Application Centre (ISRO), Ahmedabad has conducted a survey on the wetland situation in Odisha in 1996. The wetlands are important for multiple purposes. It is important to highlight the wetland situation in coastal districts of the state (**Table No-7**). The Coastal districts of the state include two major wetland sites of international importance namely Chilika lake declared since 1981 and Bhitara Kanika declared since 2002.

**Table No-7. Distribution of Wetlands In Districts of Coastal Odisha**

Districts	Area in Hect
Balasore	16809.75
Bhadrak	8629.75
Cuttack	2889.25
Ganjam	12779.75
Jagatsingpur	10440.00
Kendrapara	30748.25
Puri	117523.75

Khurda	3872.25
Coastal Total Wetlands	203692.75
Odisha Total Wetlands	3,48,205.25
% Coastal Wetlands to total Wetland of Odisha.	58.49

Source- ORSAC, 1996.

### Utilization of Water:

The demand for water use for various purposes have been calculated taking into accounts both surface and ground water of the state. The DOWR has calculated utilisation of ground water in consultation with the related Departments of the Government for both 2001 and projected the use for 2051 (Table No-8).

**Table No- 8. Distribution of Water demand for various purposes in the state of Odisha for the year 2001 and 2051(unit-Million CU.M.)**

Purposes	Surface Water		Ground Water	
	2001	2051 (Estimated)	2001	2051 (Estimated)
Domestic	798	1202	1198	1803
Agriculture	18000	40000	4688	9408
Industry	606	1750	100	200
Environment	21000	21000	8400	8400
Others	100	200	100	200
Total	40504	64152	14486	20011
Water available	70000	70000	21000	21000

Source-Dept of Water Resources, Govt of Odisha, 2006.

**Note-** Water demand under various disciplines is approximate and environment demand has been taken as 30% for surface water and 40% of ground.

### Water Quality:

The importance of quality of water for use in drinking, cooking, bathing and other household use is important. The objective of Water Act 1974 is to provide prevention and control of water pollution and

maintaining the wholesomeness of water, which includes overall integrated view of the water ecosystem. The location of urban centers and industrial town influence the water quality of the river. For example, the tributaries of Mahanandi (Seonath, Jonk, Mond and Hosdeo) above the Hirakud dam links the major industrial towns like Rajnandagaon, Bhillai, Durg, Rairpur, Bilaspur, Korba etc. which carry pollution load to the reservoir. In Odisha the rivers equally pollutes the reservoir. In down stream of Hirakud dam the urban centers like Sambalpur, Cuttack pumps a lot of untreated waste water into the river. The river Brahmani carries a lot of pollutants at Panposh, Rourkela, Angul and Talcher from these industrial towns in its down streams. In many places the water quality is below the level of acceptance (State Pollution Control Board, Odisha).

The industrial wastes are directly put into the river. The Taladanda canal is the oldest canal of 82.20 Kms covering six blocks of Cuttack and Jagatsingpur districts. It supplies water to industrial complexes at Paradeep and also irrigates 28.870 hec. Drain water bacteria was found to have polluted Taladanda canal water at Cuttack due to the city drainage system (Ibid).

The ground in the state is slightly alkaline. In costal region the seawater ingress and tidal flow contaminates the ground water, which varies from calcium bicarbonate in inland areas to sodium chloride near the sea. Complexity of situation is largely due to the penetration of seawater wedge into the costal track (Ibid).

### Shrimp Culture In Coastal Odisha:

The coast of Odisha has favorable hydro-topographic and climatic features most suitable for shrimp farming. The state has 6,70,017 ha of fresh water area and 4,17,537 ha of brackish water area (Govt. of Odisha: 2006). The local people of the state have been practicing shrimp farming for centuries in a more environment friendly manner. However, in the beginning of nineties, industrial shrimp farming practiced rapidly. The state Fisheries Department conducted an extensive survey of the coastal areas found that a total of 32,587 ha were suitable for shrimp farming. Till March 2002, about 12,828 ha of land has been developed for shrimp farming in the State (Directorate of Fisheries, Govt of Odisha, 2002). The intensive shrimp farming has remarkable impact on mangrove, agriculture land, environment. This reduces dissolved oxygen in receiving waters resulting increased

sedimentation. Use of chemical fertilizer, pesticides, antibiotics etc damages the soil quality. This has blocked the natural drainage system, affected the traditional rights of the community over CPR land resources and over withdrawal of ground water has lower down the water level (Flaherty, Samal, Pradhan, Ray, 2005). In Dhamara & Erasama areas, the discharge of the effluents from shrimp ponds into water bodies cause strong pollution effects (Ibid).

### **Water Logging:**

Inadequate drainage in deltaic region due to low land results serious water logging problem in few costal districts. The introduction of canal irrigation in this region under World Bank assisted Water Consolidation Project has partly aggravated the situation. In coastal Odisha the water logged area is defined in terms of availability of water level upto 1 mt to 1.2 mt below ground surface. In Odishan context different agencies have assessed the waterlogged area. The National Commission on Agriculture (1976) reported waterlogging area to the extent of 60,000 hect. Odisha Remote Sensing Application Centre (ORSAC) in 1993 assessed such areas to the extent of 84.80 thousands. Among the coastal districts the waterlogging problem is quite acute in Balasore to the extent of 6.3 thousand hecets, Cuttack to the tune of 31.4 thousand hector, Ganjam to the extent of 5.9 thousand hectares, and Puri to the tune of 14.0 thousand hectares. The waterlogging problem results in more salinity due to the upward movement of soluble salts in the soil, which is resulted due to the heavy concentration of chloride, sulphates of sodium calcium, and magnesium in the soil. The Mahanadi delta is one of the worst affected areas by drainage congestion and loss of agricultural command due to introduction of canal irrigation under consolidation project of the World Bank. It is calculated that out of the total 3.03 lakh hecets of irrigated area in Mahanandi delta, above 1.00 lakh hect is out of command due to drainage conge station. (Behura, Samal, Swain, Panigrahi, 2001).

### **Natural Calamity**

The land of Odisha is blessed by natural calamities in the form of flood, drought, cyclone, super cyclone, heat wave etc. All these natural calamities have direct bearing on water availability and water quality. Almost all the corners of coastal districts are more or less affected by

flood every year. The eastward flowing rivers like Mahanandi, Brahmani, Baitarani, Subarnarekha, and Rushikulya causes heavy flood every year during the months of June to October. The flow of heavy monsoon along with the infrequent depression in the Bay of Bengal due to high precipitation aggravates the situation in costal districts. Construction of Hirakud Dam over Mahanandi though has checked the frequency and intensity of flood, still the flood in the years of 1980,1982,1991,2001,2003 cannot be forgotten. Similarly, construction of Rengali dam over river Brahmani has partly checked the impact of flood. In spite of, the confluence of Baitarani, Brahmani and Mahanandi rivers in the costal delta causes heavy damages on a recurring basis.

### **Sanitation, Personal Hygiene And Water Use:**

People in coastal districts are comparatively educationally advanced. In spite of, their personal hygiene, sanitation and water use pattern are many traditional by nature. The use of sock pit latrine in these districts is quite less. People make use of pond and river embankments, village roadsides, agricultural and barren lands for the purpose of defecation. The places of defecation are changed according to seasons. Though the practices of going outside do not give them privacy, still they prefer this out of cultural, and economic compulsions. The government attempt to popularize the sanitary latrine programme through multiple low cost designs, awareness programmes, etc is yet to result satisfactorily in the adoption of latrine units. Open defecation has direct impact on water pollution, which has been confirmed by medical reports. This gives sufficient opportunities for rise in the water born diseases like dysentery, diarrhea, measles etc.

The personal hygiene of the people of coastal districts by and large shows that most of the people change their clothes while going for defecation. The reason for doing so is to avoid the pollution in the kitchen and of the house dirt and paying respect to the tradition. The use of foot wears during the defecation is very negligible for the fact that they are not able to afford, do not have the habit of wearing footwear and it is embracing for the women to use footwear. The change in this aspect is very marginal. Collection and storage of water for cooking and drinking is equally important. It is commonly observed that hygiene aspects are linked to the way of convenience.

The practice of reusing the eating plates in which somebody has eaten is a wisely practice in rural villages. This is due to multiple factors may be to reduce the drudgery of work for the women, common food practice, to avoid wastage of food etc. The females use the reused plates more than the males. Disposal of garbage is mostly disposed of in the backyard either in a garbage pit or on a heap. Very little change is observed. One observed the wastewater flows here and there, left to roads or left to backyard. This reflects that management of drinking water and wastewater need to be inculcated in the minds of the people.

### III. Drinking Water Supply Project Intervention In Coastal Odisha:

The Danida assisted Odisha Drinking Water Supply Project was implemented in the three coastal districts of Puri, Cuttack and Balasore (all undivided) from 1983 to 2003. These three coastal districts consist of 89 blocks, out of which the project covered only 8 blocks in a phased manner by drilling 4000 tube wells and by installing India mark-II hand pumps. It was planned to cover one tube well to 225 users on population projection and socio-economic considerations. These districts were selected due to their high occurrence of saline water, iron content, bacterial contamination and seasonal fluctuations in the quantity and quality of water. It was observed that digging of deep tube wells would yield safe and potable water and will solve the drinking water problem in these districts. This was done by constructing tube wells using appropriate technologies, modifying and upgrading traditional technologies. The project goals were translated through imparting training (both hardware and software) undertaking research and development on all components, involving the civil society, introducing health and hygiene and sanitation education and by establishing a model integrated rural water supply system for the coastal saline belt of Odisha which could for m a basis for adoption in other parts of the state.

#### Major Achievements of the project:

##### Water Quality:

- The magnitude of the problem of salinity of water varies from 4 to 7 percent fairly spread evenly between the blocks but real trends indicated within the blocks.
- The project through laboratory tests has confirmed the trend for

increase in morning and total salinity occurrences.

- The increase in the salinity in the tube wells is basically due to the pollution in the fresh water aquifer has been established from the investigation of successful and failure tube wells.
- The water quality profile analysis establishes the fact that a high level of user sensitivity to iron taste and smell is found in most of the project areas due to the formation of iron and corrosion. Around 50 per cent of the tube wells are associated with iron problems.
- The shallow tube wells if drilled into the lateritic and metamorphic layers show a high level of particles in tube well water of both iron related and other oxidized particles.
- Particle problems due to sand or silt may be encountered by jetting of these tube wells or by re-drilling up to a most suitable layer based on logging.

#### The Yield:

- The yield problems are basically is of two types. It may be no yield or low yield. This is due to delayed repair, due to corrosion of riser pipes, and low discharge of the water layers.
- A majority of current problems in respect of hydrological and hydro-chemical conditions (60-75%) are related to iron either as corrosion or as formation of iron. The occurrences of iron problem is fairly widespread but with definite concentration of severity in specific region. Around 35% of total iron problems at present occur in case of shallow wells.

#### HP Maintenance:

- It could establish the fact that tube well fitted with hand pump can be well located, well maintained and well used '(Carl Bro International, 1992).
- The project could establish a decentralized system of maintenance in the Government of Odisha drifting from the Breakdown Repair Approach' to 'Preventive Maintenance Approach'.

#### Changing Sources of Drinking Water In Coastal Odisha:

##### A comparison of 1991 And 2001:

**Sources of Drinking Water:** Water source is very important for the purpose of drinking, cooking and other uses. It covers various dimensions like safe and cleanliness, continuity of flow and regularity

in availability. The public and private character of the water source is also equally important. It not only talks of the physical and social access, but also reflects the economic access of the households. Here an attempts is made to find out the changes in the percentage distribution of households over a time span of one decade. The census data for the years 1991 and 2001 are taken into account with respect to the sources of drinking water availability in rural and urban areas of coastal districts of the state.

Here an attempt is made to find out the coverage of households by different sources of water for drinking and cooking purposes and the changes observed during the decade 1991-2001. It is observed that in rural areas, except Bhadrakh and Balasore, all the coastal districts had a low coverage under tap and hand pump water sources. On an average, only 38.00 percent HHs were covered in rural area under tap and HP water sources, which went up to the coverage of 68.89% HHs. For rural areas the State is trying to provide water through tube wells fitted with HPs. Attempt to popularize pipe water scheme is very limited. Pipe water scheme covers only additional coverage of only 0.26 percent HH during 1991 to 2001 (Table No-9).

**Table No-9. Distribution of HHs Covered by Major Sources of Drinking Water in Rural Areas During 1991 And 2001 in Coastal Districts of Odisha.**

Districts	Sources of water (In%) In Rural Area								
	1991			2001			% of change		
	Tap	HP/ TW	Total	Tap	HP/ TW	Total	Tap	HP/ TW	Total
Bhadrak	2.38	57.02	59.40	3.23	85.40	88.63	0.85	28.38	29.23
Balasore	2.18	69.27	71.44	2.40	83.93	86.33	0.22	14.66	14.89
Kendrapara	1.82	43.37	45.19	1.94	71.80	73.74	0.12	28.43	28.55
Jagatsingpur	4.38	34.41	38.78	4.11	73.87	77.98	-0.27	39.46	39.20
Jajpur	2.95	18.99	21.94	2.24	40.12	42.37	0.71	21.13	20.43
Cuttack	2.91	20.89	23.80	2.13	47.92	50.05	0.78	27.03	26.25
Puri	3.50	34.50	38.01	2.57	73.02	75.59	0.93	38.52	37.58
Khurda	2.85	17.32	20.17	1.96	41.01	42.97	-0.89	23.69	22.80
Ganjam	4.07	26.63	30.70	3.96	53.93	57.89	-0.11	27.30	27.19
Average	3.00	35.82	38.82	2.72	66.17	68.89	0.26	27.62	27.34

HH covered

Source - Census Report; 1991 & 2001.

In urban areas of coastal districts the coverage by tap and tube well water sources used for drinking and cooking purposes is also taken into account. During 1991 it was reported that around 41.83 and 23.70 percent HHs were covered under tap and tube well water sources respectively, while the coverage of additional HHs covered by only 3.20% under tap water source and 9.53% HHs under tube well water source in 2001. In total, in urban areas during the period of 1991 to 2001 there is an additional coverage of 13.64% of HH under tap and tube well water sources used for cooking and drinking purposes. The state has given more importance to few districts like Kendrapara, Jagatsingpur, Cuttack, while the districts like Bhadrakh, Jajpur and Khurda has little additional coverage during a decade period of 1991 to 2001 (Table No-10).

**Table N0-10 Distribution of HH Covered by Major Sources of Drinking Water In Urban Areas During 1991 and 2001 in Costal Districts of Odisha.**

(HH in %)

Districts	Sources of water in Urban areas (In %)								
	1991			2001			% of change		
	Tap	HP/ TW	Total	Tap	HP/ TW	Total	Tap	HP/ TW	Total
Bhadrak	15.22	67.76	82.98	10.70	80.40	91.10	4.52	12.64	8.12
Balasore	46.42	33.83	80.24	48.52	42.36	90.87	2.10	8.53	10.63
Kendrapara	15.40	15.69	31.09	32.78	29.44	62.22	17.38	13.75	31.13
Jagatsingpur	56.18	8.15	64.33	64.65	21.79	86.44	8.47	13.64	22.11
Jajpur	53.61	10.56	64.17	50.25	21.87	72.12	-3.36	11.31	7.95
Cuttack	54.08	8.40	62.68	60.11	16.58	76.68	5.83	8.18	14.00
Puri	38.43	44.49	82.92	38.45	56.80	95.25	0.02	12.31	12.33
Khurda	49.84	7.33	57.18	48.64	14.62	63.27	1.20	7.29	6.09
Ganjam	47.14	8.97	56.11	51.28	15.26	66.55	4.14	6.29	10.44
Average	41.83	23.70	64.63	45.03	33.23	78.27	3.20	9.53	13.64

HH covered

### Source-Ibid

The data with respect to dug well and other sources used to fetch water for drinking and cooking purposes in rural areas show that dependency on dug well has reduced from 51.69% (1991) to 28.82% (2001) households. Similarly, dependency on other sources of water has also reduced. This clearly indicates the shift of household

dependency in favour of adopting tube wells as a major source of collecting water for drinking and cooking. In all the coastal districts the downward shift of household dependency on dug well is quite distinct (Table No-11).

**Table No-11 Distribution of HHs Covered by Dug Well And other Sources of Drinking Water In Rural Areas During 1991 And 2001 In Coastal Districts of Odisha.**

Districts	Sources of Water in Rural Area (HH in %)						% of change		
	1991			2001			Dugwell	Others	Total
	Dugwell	Others	Total	Dugwell	Others	Total			
Bhadrak	33.20	7.40	40.60	8.92	2.46	11.37	24.28	4.94	29.23
Balasore	17.40	11.16	28.56	6.82	6.85	13.67	10.58	4.31	14.89
Kendrapara	46.03	0.78	54.81	23.08	3.19	26.26	22.95	5.59	28.55
Jagatsingpur	58.32	2.90	61.22	19.76	2.26	22.02	38.56	0.64	39.2
Jajpur	67.28	10.78	78.06	48.85	8.78	57.63	18.43	2.00	20.43
Cuttack	71.92	4.28	76.20	47.36	2.59	49.95	24.56	1.69	26.25
Puri	47.21	14.78	61.99	16.51	7.90	24.41	30.7	6.88	37.58
Khurda	73.41	6.42	79.83	53.92	3.11	57.03	19.49	3.31	22.80
Ganjam	50.48	18.83	69.30	34.18	7.93	42.11	16.30	10.90	27.19
Average Coastal	51.69	9.48	61.17	28.82	5.00	33.82	22.87	4.47	27.34

Source- Census Reports, 1991, 2001.

Similarly, households in urban areas of coastal areas collecting water from dug well and other sources for drinking and cooking purposes show the similar trend of decline. Around 32.68% households were collecting water from dug well during 1991, which has reduced to 19.65 percent in 2001 (Table No-12). In all the districts the change is distinct. The data suggest that the state popularizes the tube well with HP as the best and major source of collecting water for drinking and cooking. In coastal Odisha hand pump as a means of collecting water from the ground and supplying for drinking and cooking purposes reflects both predictable and unpredictable limitations. But looking at the limitations of covering larger population under pipe water scheme, the state felt tube well with HP as the only and best source.

**Table No-12 Distribution of HHs Covered by Dug Well And Other Sources of Drinking Water In Urban Areas During 1991 And 2001 In Coastal Districts.**

	Sources of Water in Urban Areas (HH in %)						% of change		
	1991			2001			Dug well	Others	Total
	Dug well	Others	Total	Dug well	Others	Total			
Bhadrak	15.88	1.14	17.02	6.67	2.23	8.90	9.21	-1.09	8.12
Balasore	16.54	3.21	19.76	6.95	2.18	9.13	9.59	1.03	10.63
Kendrapara	67.23	1.68	68.91	37.16	0.62	37.78	30.07	1.06	31.13
Jagatsingpur	32.04	3.62	35.67	9.96	3.60	13.56	22.08	0.02	22.11
Jajpur	34.88	0.94	35.83	25.20	2.67	27.88	9.68	-1.73	7.95
Cuttack	35.42	1.90	37.32	22.15	1.17	23.32	13.27	0.73	14.00
Puri	15.25	1.83	17.08	3.19	1.56	4.75	12.06	0.27	12.33
Khurda	41.55	1.27	42.82	35.74	0.99	36.73	5.81	0.28	6.09
Ganjam	36.14	7.76	43.89	29.83	3.62	33.45	6.31	4.14	10.44
<b>Coastal</b>	<b>32.68</b>	<b>2.58</b>	<b>34.25</b>	<b>19.65</b>	<b>2.07</b>	<b>21.72</b>	<b>13.12</b>	<b>0.58</b>	<b>13.64</b>

Source- Census Reports, 1991 and 2001.

### Budget Expenditure for Rural And Urban Water Supply:

Attempt has been made to know the distribution of budget expenditure under Non-plan, state plan, central plan and centrally sponsored plan schemes made separately for rural and urban water supply in Odisha during the period 2000-01 to 2006-07. The expenditure made for administration, training, survey and investigation, machinery and equipments etc is kept separate from the direct investment for programme (Table No- 13 and 14). The data reflect that there is an inconsistency in the expenditure in rural water supply while in urban water supply the expenditure has increased over the years. This substantially justifies that the State is yet to take into account/or consider the need of rural areas from the perspective of drinking water supply.

**Table-13: Distribution of Allocation Under Rural And Urban Water Supply Programmes (Revenue And Capital Account) Rs. In Cr.**

Programmes/Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Rural Water Supply	74.05	100.06	89.50	91.03	88.93	145.17	92.08	129.49
Percentage	34.93	40.90	37.10	36.36	35.05	40.65	20.28	28.23
Urban Water Supply	53.37	60.18	71.13	78.43	87.46	118.78	119.47	125.40
Percentage	25.17	24.60	29.49	31.33	34.47	33.26	26.31	27.33
Others *	84.58	84.37	80.61	80.88	77.32	93.16	242.58	203.88
Percentage	39.90	34.49	33.41	32.31	30.48	26.09	53.42	44.44
<b>Total</b>	<b>211.99</b>	<b>244.62</b>	<b>241.24</b>	<b>250.34</b>	<b>253.71</b>	<b>357.11</b>	<b>454.13</b>	<b>458.76</b>
Percentage	100	100	100	100	100	100	100	100

Note: \* This includes expenditure for direction and administration, training, survey and investigation, machinery and equipments, asst. to rural and urban local bodies, tribal areas sub-plan etc.

- Data given here includes expenditure under Non-plan, state plan, central plan and centrally sponsored plan schemes.

Source: Finance Accounts (Various Issues) Government of Odisha and Demand For Grants, 2007-08, Finance Department, GoO.

**Table-14: Percentage Increase And Decrease of Allocation Over The Previous Year For Rural And Urban Water Supply Programmes (Figures In Percentage)**

Programmes/ Year	Percentage Increase/ Decrease in Rural Water Supply	Percentage Increase/ Decrease in Urban Water Supply	Percentage increase/ decrease in Other Expenditure	Percentage increase/ decrease in Total Expenditure
2000-01	—	—	—	—
2001-02	35.13	12.78	-0.25	15.39
2002-03	-10.56	18.19	-4.46	-1.38
2003-04	1.71	10.26	0.34	3.77
2004-05	-2.31	11.51	-4.40	1.35
2005-06	63.24	35.82	20.49	40.76
2006-07	-36.57	0.58	160.38	27.17
2007-08	40.63	4.96	-15.96	1.02

**Source:** Finance Accounts (Various Issues) Government of Odisha and Demand For Grants, 2007-08, Finance Department, GoO.

### State Water Policy:

Government of Odisha with special reference to the National Water Policy 1987, prepared the State Water Policy in 1994. The revised National Water Policy of 2002 equally influenced the State Water Policy, and finally the dept of Water Resources of Government of Odisha came with 'Odisha State Water Policy ' in 2007 . Which has been approved by the state Water Resources Board with due consultation of all state holders and administrative departments. The water policy aims at laying down the principles of equitable and judicious use of water for survival of life, welfare of human beings and sustained as well as balanced growth of the state.

The state policy prioritises the allocation of water as per the national policy for various purposes like: drinking water and domestic use, irrigation, agriculture, fisheries, hydropower, industries, navigation and tourism. The perspective plan for the development of water resources of the state will be holistic, participatory and environmentally sustainable especially in the areas of drinking water, irrigation, hydropower **etc** in accordance with people's needs, preservation of ecological balance and enrichment of the eco-system.

The institutional mechanism to develop water resources of the state includes the Odisha Water Planning Organisation under Water Resources Department, which will prepare the plan according to the individual river basin. The state shall provide adequate safe drinking water for human beings and life stock both in urban and rural areas. Irrigation and multipurpose projects should invariably include components for domestic use, which should override the demands from other sectors. Maintenance of water quality and reduction of pollution load will be an integral part of the strategy. Monitoring and surveillance of water quality would also be an integral part of the strategy. This will be achieved through an appropriate combination of legislation and information, education and communication (IEC) measures. Mechanisms to maintain domestic water supply in case of emergency should be provided.

### Discussion:

Odisha is basically a rural society where the nature of drinking and domestic water sources supply and requirements are different. The management of drinking water and domestic water in coastal Odisha is largely influenced by the socio-cultural practices of the people, education level and urbanization.

The coastal region of Odisha share 31952 sq. Kms. or 20.52% of the total geographical area of the state, 41.82% of total households of the state consisting of 40.44% of total rural households and 49.78% of total urban households of the state. The density of population in coastal region is 536 per sqKm is much above the density of the state i.e. 236. the coastal region of Odisha was sharing 43.70% of the total 31659736 population of the state as calculated in 1991 which has increased to 44.08% in 2001 census period. The literacy level of the people for both male and female in coastal region of Odisha is above state average and much above the literacy level of the people of in land region of the state.

The state of Odisha has a coastl area of 480 kms bordering to (30.00%) districts. It covers 8% of the total coastline of the country. The coastal districts cover 15 (25.86%) sub-divisions, 69(40.35%) Tahasils, 164 (35.34%) police stations, 103 (37.80%) CD Blocks 240 (38.51%) GPs, 13 (37.14%) Municipalities and 7 (22.58%) towns of the state.



The coastal and marine eco-system of the state is influenced by the river basins, which creates number of deltaic tracts, wetlands, and mangroves and estuarine. It influences the soil structure, water flow water quality used for drinking and other domestic purposes.

The water resources of the coastal region is largely influenced by rainfall which is 1482mm on an average, largely distributed in the month of June-July-Aug. the river basins of the coastal region of Odisha when projected will produce a reduced inflow of water due to the increased utilisation of water by states on the upper side of the these rivers.

The bore well records in coastal districts show that the main part of the marine deposits and minor part consists of fresh water deposits. In few coastal districts an aquifer with highly saline water is found underlying and overlaying a fresh water reservoir. The hydrological conditions in coastal districts seem to be critical due to shifting of hydrology within a depth of 100 meters. The utilisation of ground water in Odisha is 14.79%. In coastal districts the utilisation level is much higher than the state average.

Around 5.39 lakhs hectoros of the coastal alluvial tract is affected with salinity hazard. Around 45 (43.69%) number of CD Blocks of costal Districts are affected by salinity. The coastal districts share 58.49% of the total wetlands of the state. The Chilika lake and BhitaraKanika are the two major wetland influence the water quality of the coast.

The ground water quality in the state is slightly alkaline. The seawater ingress and tidal flow contaminates the ground water, which varies from calcium bicarbonate in inland areas to sodium chloride near the sea. The complexity in the water quality is due to the penetration of seawater wedge into the coastal track. The water logging and frequent occurrence of natural disasters in the form of flood, cyclone, super cyclone and commercial shrimp farming in coastal belt equally contributes to pollute the quality both surface and ground water.

The sanitary, hygiene practice and water we patterns of the coastal people are largely guided by socio-cultural factors, caste compulsions and tastes. The secular factors like education availability of safe water sources are yet to replace the socio-cultural practices relating to health- hygiene and water use.

### Major Issues:

- More R&D programmes to be carried out to enrich the data bank o the changing geo-hydrology and its impact on the water quality of the coastal districts.
- State emphasis, as water supply for human use more particularly in rural areas through more budget allocation needs to be given.
- Special projects form central government and external sources to be channelised to strengthen water supply infrastructure is the coastal districts.
- Converge of wider habitation area under pipe water scheme be implanted with desalinisation plant provision was wherever demand arises.
- The traditional water bodies in coastal districts need to be revived. Special emphasis be made on coastal belt water protection and presentations be marine ecology.
- Commercial prawn farming be regulated with all preventive measures to strength environment.
- The casual irrigation in coastal districts be planned with full proof of controlling water seepage.
- The river basins be develop with the construction of saline embankments and digging of river beds so as to carry water for a more longer period of the year.
- More number of regional schemes from alternative sources be given priority in these coastal districts.
- Rejuvenation and increasing the delivery strength of the existing old water supply points like pipe water schemes be made so as to meet the increasing demand.
- The demand-based approach for safe water be adopted instead of supply based approach. However, sufficient awareness programme be implemented to create a demand for the need of safe water in human life.
- For an effective functioning of PRI in rural drinking water management necessary policy formulation be made and community participation be encouraged in water management in rural areas.
- A public private partnership (PPP) approach be built in demanding areas for a better management of water in coastal Odisha.

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14

## Geographical and Socio Economic Concepts of Land and Water in Central India

\*Dr. D. Jayasree

Water is a renewable natural resource, precious and most essential for human existence. In India a debate has been going on for quite some time on the inter linking of the rivers for the proper management of river waters. Increasing population, depleting water resources, fluctuating rains, overflowing rivers in some regions and drained rivers in other parts need a new look and enquiry. To feed the increasing population, the production of extra food grains, development of industry and hydropower generation all require more water. Water is becoming increasingly scarce the world over and the world bank is of the opinion that the future wars will be fought over the sharing of water which would result in Hydro politics. Hence Water resource management has drawn the attention of every one in India as well as globally.

Looking at the 2001 and 2011 Census decade, about three-fourths of the Madhya Pradesh State population continues to live in rural areas. Agriculture contributes around 46 per cent of State income and remains the main source of occupation in the State with about 80 per cent of the workforce directly engaged. In this scenario the land and water resource has the dominant role in the development of the state. With five major rivers the Ganga, Godavari, Narmada, Mahi and Tapi, flowing through the state, it is a paradox of sorts that the drinking water needs almost entirely met through the ground water

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extraction. More than 70% of net irrigated area had been covered by ground water based sources. This alarming situation has made the need to explore the ways in enhancing irrigation through tapping surface water sources, promoting water recharging activities and effectively managing water resources. In this course the government has initiated the Accelerated Rural Water Supply Programme (ARWSP) (Supply driven scheme), Swajaldhara (The demand driven programme)

The rain fall can largely attributed to the south west monsoon. The monsoon fluctuations and low rainfall had been responsible for draught like situations in the south west vindhya and the northern regions of the state. Along with few other states MP is also experiencing a silent water crisis. Water table has gone down and the quality of water has deteriorated. Geographical and climatic conditions have created a water crisis in India in general and central India in particular. The National Water Policy (NWP, 1987) calls for participatory irrigation management (PIM), stating that: "Efforts should be made to involve farmers ... in various aspects of management of irrigation systems, particularly in water distribution and collection of water rates."

Community Initiatives in Finding Local Solutions Gravity Irrigation from Storage Tanks Known as an "up level tank," this is a very low-cost method of irrigation in areas where the electricity supply is erratic. Keeping in view the critical state of ground water conditions, it is understood that the water problem in central India can be reduced by proper implementation of various water schemes and active participation of people in demand driven programmes like Swajaldhara.

An increasing use of hand pumps and tube wells clearly points to the over-exploitation of groundwater in many parts of the State. As is shown in Table 2, over the last three census decades, the proportion of rural households depending upon hand pumps/tube wells as the primary and dominant source of drinking water has risen sharply, from above one-third in 1991 to over half in 2001 and about two-thirds by 2011. That this phenomenon has been exerting pressure on the groundwater stock of the State is commonly known. In fact, as a study (Scott and IDC, 2005) had observed, the fast depletion of groundwater level has resulted in a situation, whereby the groundwater

status in half the districts of the State had been classified as 'semi-critical', 'critical and 'over-exploited'. Over-exploitation of Groundwater: Excessive dependence upon groundwater as the primary source of potable water in the State has threatened the sustainability of the existing sources. As mentioned earlier, across the three Census periods as 1991, 2001 and 2011, there has been a significant increase in the proportion of rural households for whom the main source of drinking water remains hand pumps and tube wells. In fact, as per Census of India 2011 data, there has been a significant rise during the last decade in the districts with above 70 per cent of rural households depending upon hand pumps/ tube wells/ bore wells for their drinking water need; Most of this decade, close to 70 per cent of net irrigated area had been covered by these two groundwater-based sources . In fact, during the previous decade, for instance, between 1992-93 and 1998-99, these specific sources accounted for just around 40 per cent; the substantial rise and sustained high level of dependence on groundwater sources during the last decade signals the crisis facing the drinking water sector in the State. Since the above mentioned rivers are rain fed rivers, the state of water availability is vulnerable to the monsoon irregularities. The rain fall can largely attributed to the south west monsoon. The monsoon fluctuations and low rainfall had been responsible for draught like situations in the south west vindhya and the northern regions of the state.

Along with few other states MP is also experiencing a silent water crisis. Water table has gone down and the quality of water has deteriorated. Geographical and climatic conditions have created a water crisis in India in general and central India in particular.

This alarming situation has made the need to explore the ways in enhancing irrigation through tapping surface water sources, promoting water recharging activities and effectively managing water resources.

All the five-year plans resulted in some increase in irrigation but there continues to be a gap between the potential created and actual irrigation. This gap was as much as 60% for minor irrigation schemes. The National Water Policy (NWP, 1987) calls for participatory irrigation management (PIM), stating that: "Efforts should be made to involve farmers ... in various aspects of management of irrigation systems, particularly in water distribution and collection of water rates." The NWP (2002) modified this to

state that: "Management of the water resources for diverse uses should incorporate a participatory approach by involving not only the various governmental agencies but also the users and other stakeholders..." The Madhya Pradesh *Sinchai Prabhandan Me Krishkon Ki Bhagidari Adhinyam* (1999) has been enacted in accordance with the model PIM Act of the Central Government, which provides for the creation of Water User Associations (WUAs), Distributary Committees (DCs) and Project Committees (PCs). Agricultural Water Management Strategies AWM strategies comprise irrigation technologies and supporting management systems. Some of the strategies currently being implemented in Madhya Pradesh are as follows. Community Initiatives in Finding Local Solutions Gravity Irrigation from Storage Tanks Known as an "up level tank," this is a very low-cost method of irrigation in areas where the electricity supply is erratic. Water is pumped into the storage tank from tube wells for 5-6 hours when electricity is available which then flows downhill to irrigation outlets for use when needed. The tank studied in Mirjapur Village, Indore District, cost approximately INR 130,000 in 2001 and took 15 days to construct by 12 labourers. Where such tanks have been constructed, farmers have experienced increased yields as water is applied when most needed by the crops. Wastewater is used in Khandwa District where farmers use electric pumps to lift water from the river which carries the wastewater from the city.

### **Institutional And Governance Deficit:**

Lack of proper inter-departmental coordination and communication as between those dealing with drinking water and sanitation, irrigation, water resources management and health, etc. has given rise to dysfunctionality in managing water supply for rural areas. Projects have also suffered due to disruption in the fund flows caused due to stoppages at various hierarchical levels. A holistic approach to water supply seems to be missing, which, consequently, has reduced the overall efficiency of the concerned state apparatus. Studies indicate that schemes designed and executed by the engineering departments tend to overlook problems specific to a particular source, region and their hydrological or topographical aspects. This is so as most of the activities are often target based and not concerned with the performance after implementation. The need for revising the existing

approach focusing on follow-up monitoring and local specificities cannot be overstated. A specific problem relating to the water supply schemes remains the functional ambiguity that has encouraged divided attention by the department. The coexistence of both the supply-driven schemes as, for instance, the Accelerated Rural Water Supply Programme (ARWSP) and the Swajaldhara (the demand-driven programme introduced in 2002) represents such lack of clarity at the implementation level. The departmental capacity for promoting information, education and communication (IEC) activities was lacking. As a result, villagers were not made aware in advance about the purpose of the demand driven programme (or approach) and were not convinced about their participatory role and the need to make financial contribution towards the new scheme. In short, they felt alienated from the Swajaldhara programme. This implied that the basic purpose of community participation was lost. The communication and information gap between the policymaker and the end users need to be reduced.

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## 15

# Importance of Water Sources and Its Management With Reference Pre-historic To Historic Period

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In Ancient literary sources water is considered as an important element. In historic sources the particular saying is famous 'Water is the most essential element in nature' water is life. In present day globalization generation the importance of water preservation and water management is acknowledged with great sincerity. The Indian Government along with World Health Organisation (WHO) and other countries is trying to work out on the points of water preservation, its purification, distribution and its maximum usage in human life. The Water committee and Human Resource Development Department and National Water Management Committee are working together to make national schemes related to it.

From the point of view of water management and water sources the thinking angle has changed from pre-historic period to historic period. Many ancient plans like Mohan Jodero, Harappa, Lothal, Maheshwar-Nawda Toli, Pipaliya Lorika, Rangai, Vidisha, Eran, Nandur, Tripuri, Ghodamada, etc. have their locations near the water sources or beside the water sources. All the above mentioned places when researched thoroughly have proved evidences for the location of water sources. Water has top place in the merit list for the pre-historic man, when it comes to survival pre-historic man has selected places near these water sources or house making, water-use and for

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## 154/Land and Water Resource Management.....

other domestic uses. It is mandatory to mention the construction of great bath of place at Mohan Jodaro of Indus valley as it is an excellent example of water preservation and management. The pre-historic place Eran is blessed with the water of Bina river and this is the only reason why Eran is a developed place with rich water & rivers. Because of the fact that the Bina river has semi circular turn shape in Eran place. Eran is always rich in water all throughout the year. Similarly other places such as Vidisha, Rangai, Pipaliya Lorka, Nandour, etc. are also located on the basin of Betwa river.

### Harappa Civilization Wel



Orchha is recognised for water preservation and water resources. Orchha is the architectural capital of Bundelas. Orchha is famous for the great Naresh Madhukar Shah Palace, Jahngir Palace, Ramraja Temple and Lakshmi Temple for famous wall painting in Bundeli kalan. The Betwa river flows from the middle of Orchha town dividing it into two equal divisions. Orchha has the Samadhi of Bundela kings on Kanchan Ghat and the great Jahangir Palace on river side. Orchha is blessed with water preservation from Betwa river and so also the great Shiv Temple at Bhojpur is located on the Basin of Betva river. Similarly in this context in the historic period all the temple locations, town placements have been constructed and in this construction, the water sources and the water preservation have valuable contribution. This is the reason all the historic places are on the basin of rivers or near the basin of river like Tripuri, Nandur etc. This is very clear from the above facts that in the historic period water related preservation was given high degree of important. I have specially paid attention during my research work on the condition of located in Madhya Pradesh the rock painting place Vaidvara, Rangir, Aapchand, Bila Dam area, Raisen Fort area, Urden etc. rock painting are situated beside the rivers. This is an vibrant example of

## Land and Water Resource Management...../155

the choice of human beings to select these places as they are nearer to water. All the above mentioned examples factfully remind us that from pre-historic to historic period the water sources and their preservation has quite a big importance and this concept needs more precise study and research.

Man, Land and Water resource management has been the basic process right from the beginning of civilization and throughout the origin, evolution and development of Man. In fact Water resource forms an important aspect of environment and biodiversity and helps in maintaining a balance between various components of the nature. Since the prehistoric times man has preferred to live on the river banks and close to the sources of water especially from Lower Palaeolithic to Neolithic times. An awareness regarding the proper management of water came about in the Neolithic, with man exploiting water resources for cultivation, transportation and communication. Water management during the Harappan and later times was one of the major aspects in town and country planning exercise. As is well known, safe and adequate supply of drinking water and water for domestic use remains a priority in India being in most cases dependent on traditional water harvesting structures.

### Harappan Great Bath



In this presentation emphasis has been laid on prehistoric biota (which is generally found on the banks of rivers, in habitation sites and in gullies away from the rivers), their geological provenance and related aspects of environment, evolution, migration and extinction, in various areas of Central India (Narmada, Mahanadi and their

tributaries). These areas provide a bench mark for the diversity of Indian faunal biota since the prehistoric times and offer a suitable ambience for the survival of past civilization in these areas. These environmentally sensitive areas with richness of endemic species, living in restricted pockets, have been successfully mapped and this has helped in a better understanding of the contemporary environmental issues like fragmentation of habitats, introduction of exotic species, gradual elimination of autochthonous ones and extinction of animal populations due to natural hazards, human activities and the overall man- land –water relationship in the prehistoric times.

Indian *vedic* scriptures have described in detail the origin of water, its importance, quality and conservation. The medicinal aspect of water has been discussed in *Regveda* and *Atharvaveda*. Varahmihir's *Vrihat Samhita* is one of the best treatises on ground water hydrology. Varahmihir has narrated the art of finding water source in *Drakarjal* which is based on the presence of trees, rocks, termite and mounds etc. The knowledge of ecology confirms that the presence of some of the trees in the vicinity could be an indication of a ground water source. Water harvesting practices in India are well known. In our country, the largest state – Rajasthan had a very rich traditional, social and cultural heritage of conservation and judicious use of water that helped the mankind and the cattle to survive over the centuries against all odds of the trying environment. Various water harvesting structures and techniques like *Nadi, Khadin, Talab, Johad, Bund, Kua, Sagar, Samand, Kund, Jhalra, Baori, Beri* and *Tanketc.* were practiced to suit particular site conditions. People managed the scarce water resources optimally to survive the often occurring drought conditions. Water has been paid high esteem in our culture in as much as it is regarded as "God".

The importance of water for basic existence is a universally recognized fact – which does not, perhaps, require stressing or re-iteration. Access to water has long determined the habitats of humans. This applies to sites attributable to the prehistoric period of human existence, as much as to the rural settlements, towns and cities that came up in different parts of India. As such, one of the areas in which India's traditional knowledge systems have developed and survived from prehistoric to contemporary times is that of the development and management of water resources.

The great Chandel (Chandella) rulers had ruled the heartland of India often called as Jejakbhukti or Bundelkhand Region of Central India nearly six centuries (800-1414 CE) beside their extended empire beyond Vindhya. This area have been remained in central focus since time immemorial. It has gained an eminent place all through the Indian history for its religious centres, historical sites, monuments, forts water reservoirs *etc.* and studded with most vibrant population. It boasts of a vividly dynamic, rich and colourful cultural fabric manifested by a spectacular diversity in folk dances, music, songs, art, architecture and, of course, the fairs and festivals. As on now it comprises 13 contiguous districts, viz. Jhansi, Lalitpur, Jalaun, Hamirpur, Banda, Mahoba and Chitrakoot in Uttar Pradesh, and Sagar, Chattarpur, Tikamgarh, Panna, Damoh and Datia in Madhya Pradesh. Unfortunately the region apart from its rich cultural heritage is also known for its socio-economic backwardness due to poor rainfall & water management.

#### Rahatgarh Fort Water Management



They are renowned in history not only for political achievements but also for patronage they extended to religion, literature, art, architecture and welfare measures of the people. The Chandels are being remembered not only for their political achievements but also for their victories of peace and people loving. The large number of masonry tanks, embankments, reservoirs, nala, pushkarni, bhiti, bavri (bawli), dondi or chat, kuan, gudpota rahat, rahat, etc. in this area have kept alive the memory of 'Chandeli Raj'. 1. Khajoor Sagar 2. Shiv

sagar 3.Madan sagar 4.Kirat sagar 5.Kalyan sagar 6.Vijay sagar 7.Rahil tal 8.Rasin ka adhik tal 9.Ajaygarh ka tarag 10.Dudhai ka ram sagar 11.Kalinjar's swargarohan tal 12.Patal ganga 13.Kalinjar's pandu kund 14. Kalinjar's budhi-budhiya tal, 15.Kalinjar's mrigdhara 16.Kalinjar's kot tirtha etc. these are made during 9th to 12th century by chandela kings. As evidence from archaeological records, outstanding monuments, water management, patronage of art the Chandels stamped the history as great conqueror, nationalist, people friendly ruler.

Kalinjar fort located about 65 kilometers south of Banda was a strong defensive centre of early medieval times due to its location. The area of Kalinjar is spread along the Baghain River which flows from south-west to north-east. The fort played a vital role in political and cultural history of north India. Many accounts produce early mythological stories associated with this region. Presently, the fort although lost its political virtue but the great Neelkanth temple over here still reflects the real fragrance of those early days. The fort preserve many water bodies in the form of water reservoirs, tanks and *kunds* popularly known as Koti, Tirth Tank, Mrig-Dhara, Buddha-Burhya Tal, Sanischari Talab, Pandu Kund, Khamboran Talab, Patal Ganga, Sita Kund, Bhairav Kund, Siddh Ki Gupha, Bhagwan Sez, Pani Ki Aman, Swargarohan Talab, Ram Katora Talab. Some of them, according to ancient myths are closely associated with miraculous cure of drastic disease.

It is interesting to note that having been an elevation of 374.90 meter above the sea and some 213.36 meter above that of the surrounding ground level the fort never faces water scarcity still today. The main source of water in the fort was rain water but the distribution system of water in all the areas is very unique. Some of the water bodies are connected with each other by utilizing natural slopes. The water reservoirs of Kalinjar fort were made of natural bad rock having the surrounded dressed / undressed sandstone wall. The beginning of these reservoirs may be traced back from Gupta period onwards. However, the possibility of their pre-Gupta affiliation cannot be ruled out.

Since time immemorial water has been considered as an auspicious element in Hindu mythology. Water as a basic need of human life also played a vital role in Hindu and all other religious rituals. Water has been recognized as a primordial spiritual symbol.

In Rig Veda, water is referred as Apah. It has been used for purifying in spiritual context. It has been a practice in India to take a dip into the water before entering the temple. There are several myths and legends on water in Indian context. One such myth is a dip in to sacred water of Koti Tirth Tank of Kalinjar fort which is equivalent to ten million places of pilgrimage. The Kumbha snana in every 12 years denote the importance of water in every Hindu's life. Ancient Indian traditions and rituals have been substantiated in Hindu temple architecture by carving beautiful images of river goddesses Ganga-Yamuna and Varuna the God of water as one of the Dikpalas of western side. If we look into the nature of early human habitations they have been evolved near water prone areas or where proximity of water was feasible. Such instances may be taken up from Harappan as well as Nile valley Civilizations. Gradually, water management became the integral part of fort building and town planning during the time of contemporary rulers.

The tradition of erecting religious structure along the water tanks or wells is still continuing. The Indian rulers of different periods constructed great temples along with various water bodies. In central India Kachchhapaghata rulers during 10-11th c.A.D. constructed temples in various places like Kadwaha, Thoban in Ashoknagar district and Terahi, Rannod, Surwaya in Shivpuri district, Mitawali, in Bhind district, and Padawali in Morena district. In Kadwaha region, most of the temples are provided with a tank nearby and the village contains a large number of wells and tanks in and around.

Water has been cherished in India since antiquity. Evidence of this can be traced in ancient texts, inscriptions and in archaeological remains. The *Puranas*, *Mahabharat*, Ramayana and various Vedic, Buddhist and Jaina texts contain several references to canal, tanks, embankments and wells.

Kautilya's *Arthashastra* says that the king should build irrigation systems with natural water sources or with water to be brought in from elsewhere. To others who are building these, he should render aid with land, roads, trees and implements and also give aid to the building of holy places and parks. An attempt is made here to present the methodology of documentation and preservation of these natural resources which are the nectar to human civilization.



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16

## **Socio-Cultural Practices In Utilization and Conservation of Land and Water Resources among the Gond of Madhya Pradesh**

\*Dr. D.V. Prasad

**Abstract:**

*Natural resources such as land, water and forest are catalytic for survival of millions of rural and tribal people. In the era of globalization, majority of tribal communities still depend on these resources by using traditional knowledge. As such, there exists a symbiotic relationship between natural resources and fringe communities for its sustainable utilization. The conservation and preservation of these naturally available resources for future generations are being done through elaborate rites and rituals. However this symbiotic relationship had been affected by manmade and natural factors that cause lot of destruction to natural resources which in turn has had tremendous impact on the livelihoods of the dependent communities. Despite of this, people still manage the available resources through culturally evolved institutional mechanisms. Though the cultivation in tribal areas was rain fed but still land and water is judiciously used as it is closely*

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*intertwined with their subsistence. For this reason ground water level is being maintained in the form of natural mud bunding, tanks, and other check dams wherever is required. Even the surrounding water bodies like rivers, streams, rivulets, and forest springs are conserved by associating them with supernatural world. Hence many rites and rituals are observed at these places and worshipped in the form of their village deities.*

*To test this hypothesis, a tribal village in Karanjia known as Gaarkamatta is selected for intensive study. The majority of the population belongs to Gond community and possessing the natural drainages such as Karmandal (originating from Kabir Chabutar), Pulwari (originating from Raitwar), and Narmada (originating from Amarkantak) and other natural ponds, wells, stop dams, hand pumps etc. Some of these water bodies are believed to be abode of village deities and worshipped on the occasion of their traditional festivals i.e., Javaara, Bidri, and Teeja. On the occasion of Maha Shivratri and other festive occasions, people throng on the bank of Narmada and offer prayer. As such, the present paper attempts to highlight the role of socio-cultural practices in managing the scarce water resources in Gaarkamatta village. Further it also discusses the organizational response of Gond in conservation and preservation of these resources to eke out natural exigencies.*

### **Introduction:**

The villagers of the study area depend on ponds, wells, rivulet, and spring water sources. Despite of this conventional water sources, the villagers and their livestock depend on the pious Narmada rivulet which originates at Amarkantak and flows through Gaarkamatta.

**Table 1: Major Water Sources in Gaarkamatta Village, 2013**

Sl.No.	Water Sources	Number
1.	Govt. ponds	03
2.	Govt. wells	10
3.	Niji koop (personnel wells )	4
4.	Nisthari Nallaah	1

5.	Stop dam	2
6.	Govt. hand pump	1
7.	Personnel hand pump	1
8.	Narmada Rivulet	1
9.	Karmandal Rivulet	1
10.	Pulwari Rivulet	1

The survival of the Gonds of the study area totally depend on the above mentioned water bodies and hence they worship in their mundane, auspicious and ceremonial life. It is observed during field study that majority of the villagers going to the nearby rivulet for bathing. Before entering into the river, 'Narmade har' is uttered by offering handful of water to river Narmada. It is very interesting fact that no villager is seen polluting river with cleaning night soil instead every one carry one empty utensil in the morning to the river and take water in the river go far away to the riverbed for latrine. After completion of morning both in the river, they bring some water to pour on the erected stones in the form of Phallus of Lord Shiva. After litter prayer, they left to their respective houses for daily chores. Even the word 'Narmade har' has become a way of greeting to relatives, friends and even outside strangers whenever they confront in the village or surrounding market areas. The well in the village are well dug and made concrete precincts for not allowing pollution of water. A separate place is demarcated for cleaning utensils or bathing nearby well and everyone come to this point after taking water from the well.

Further, Gond depend on variety of land resources ranging from dry agricultural fields to pastures, common property resources, hills, surrounding village forest for their sustenance. As such present study made an attempt to understand the symbiotic relationship of these land and water resources in Gaarkamatta village with empirical data. Prior to analyze the results, it is imminent to understand the basic postulated of the study.

### **Study Area & People:**

Gaarkamatta is a Gond dominated village having a few non-tribal households. It is situated in very remote location having distance from 8 kilometers from Karanjia main road of Dindori District of Madhya Pradesh It is having more than forty kilometers to Gadasarai Tehsil and 60 kilometers from District headquarters. Their population

consists of 666 as per 2014 household census of which 42 belongs to Brahmin and Panika and the rest of the population belongs to Gond. Total household of Gaarkamatta comes to 170 wherein 29 belong to above poverty line and the rest belongs to below poverty line.

### Objectives of The Study:

The present study is basically aims to understand the symbiotic relation of Gond with natural resources especially water since it is catalytic for their survival. To understand this man nature relationship, their life cycle and annual rituals, belief systems, and their economic and political organization, other ceremonial practices are analysed from anthropological perspective. Further it also discusses the organizational response of Gond in conservation and preservation of these resources to eke out natural exigencies.

### Methodology and Data Collection:

The present study is basically an outcome of anthropological fieldwork in March/April 2013 by staying in the village. The data was collected through observation, extensive case studies, key informant interviews and verbal discussions etc. For collection of quantitative data, secondary sources like books, journals, and the data from State and government departmental libraries were used for analyzing the results of the study area.

### Village History:

Previously Gaarkamatta is known as *Gai ka matta* (land of cows). Historically once *Suri gai* (goddess cow) lived in the study area. Whenever the people in the study village got trance, they are pacified with its tail. By doing so, the possessed person pacified. Another folklore reveals that there is a plenty of cows used to live on the hillock of this village i.e., *Tikra*. Due to shortage of fodder or grass, their numbers reduced drastically. But still the ancient tradition of cow worship is prevalent during *Deewali* wherein the domestic cows are worshipped as a part of *Goverdhan puja*.

Historically it is believed that the Marawi, Paraste, Tekam clan people came to this place and settled after clearing the forest. Later on Dhurve, Pendu came to Gaarkamatta. From Jhansi, non-tribal families i.e., Brahmin came and settled here and Panika from neighbouring villages came and settled. Thus the present study village

is inhabited by Gond, Panika and Brahmin population. It is widely known that the Dhiru and Nanhwa (Grandmother of Bhaktulal Paraste) came first from Lamsri Gaon, Anuppur district. It is so that spirits came into their dwelling and hence migrated to other village to save their life from death. Even Sriratnu, advised their sons not to visit their motherland otherwise spirits accompany them and harm all the family members. Thus the present Gaarkamatta village is populated with both tribal and non-tribal population.

### Ethnography of The Gond Tribe:

Madhya Pradesh is second largest State in India in terms of area and possessing a rich heritage of culture and natural resources. The total population as per 2011 census is 72,626,809 of which male and female are 37,612,306 and 35,014,503 respectively. The sex ratio is increased from 927 in 2001 census to 936 in 2011 census which is still below the national average. The literacy rate has been increased to 69.32 consists of male 78.73 percent and female literacy is at 54.49 percent respectively. Whereas the sex ratio of women is high in tribal dominated areas in comparison to other non-tribal areas i.e., Dindori district sex ratio of women is 1007 per 100 males. It is also having highest number of tribal population. Among them, Gond is the major tribe and having largest population.

They have their own dialect known as Gondi. The Gond folklore reveals their origin that when Gond ancestors were born, their mother abandoned them. The goddess Parvati rescued them, but the Lord Shiva kept them in captive in a cave. *Pahandi Kapar Lingal*, a Gond hero, who received help from the goddess *Jangu Bai* rescued them from the cave. They came out of the cave in four groups, thus laying the foundation of the basic four fold division of Gond Society.

Thus, the Gonds are mainly divided into four sub-tribes known as Raj Gonds, Madia (Maria) Gonds, Dhurve Gonds and Khatulwar (Khatwad) Gonds. Based on the inhabiting geographical location, they are further classified as

1. The Bastar region in Madhya Pradesh on the Godavari Basin
2. The Kalahandi region of Orissa
3. The Chandrapur region of Maharashtra
4. The Adilabad region of Andhra Pradesh
5. The Satpura and Narmada regions of Madhya Pradesh

6. The Raipur region in Chattisgarh, and the Sagar region in Madhya Pradesh
7. The Ellichpur region in the Amravati District of Maharashtra

Genetically Gonds are the admixture of Dravidian and Austro Asiatic population. The Gonds were settled farmers who cultivated their land with ploughs and bullocks. Land was plentiful, and individuals could freely move from one settlement to another. Gond society has both its vertical stratification and its horizontal divisions, and while with the decline of the raja families the stratification based on hereditary rank has been reduced in relevance, the division of society into exogamous patrilineal units has retained its importance. The basis of the social structure is a system of four phratries, each subdivided into clans, and the origin of this system is attributed to a divine culture hero. The members of each clan worship a deity described as *persa pen* (great god), and in some cases the shrine of this deity lies within the ancestral clan land. Today the clans are widely dispersed, but they still form a permanent framework which regulates marriage and many ritual relations. Closely linked with each individual Gond clan is a lineage of Pardhan, bards and chroniclers, who play a vital role in the worship of the clan deity and many other ritual activities. The Pardhans, though themselves not Gonds and of a social status lower than that of their Gond patrons, are nevertheless the guardians of Gond tradition and religious lore. The recent deflection of their interests and energy to other enterprises will undoubtedly have an adverse effect on the preservation of Gond traditions. A role similar to that of Pardhans is being played by another and much less numerous group of bards and minstrels known as Toti. These too have hereditary ritual relations with individual Gond lineages and act as musicians and story-tellers.

Gond major deity is *Bada Deo* or *Ma-hadev* who is conventionally thought to be *Shiva* of the Hindu traditions. Besides, they also worship *Gorakhnath*, *Thakur Deo*, *Bhudimai* or *Bhudimata*, *Rathmai mudkhuri*, *Dudhmangaradhai*, *Javaradhai* (navrathri), *Medomai* (village deity), *Gaogossain*, *Kheromata*, *Thakurain Dhai*. Further they also worship *Mutwa dev*, *Ghatvaiyya dev*, *Medavaiyya*, *Paniharin dev*, *Chamhur dev* (agricultural field), *Dongra dev*, *Baajan Silli* (on either side of the road), *Rakas*, *Mahisasur*, *Mahrani devi* (drupada).

Members belonging to the same clan or lineage of the even-numbered group of gods were originally permitted to marry only those

belonging to the odd-numbered group of gods, but this tradition are now changing. In addition, the Gonds have further subdivisions by surname and *gotra*. Gond men wear loin cloth or dhoti and women wear a sari and *Choli*. Their staple food is *Kodu* and *Kutki* and taken in the form of boiling or porridge popular as *Pej*. They are non-vegetarian and consume the sacrificial meat. Rice cultivation slowly replacing their traditional varieties of millets. Further they use wide variety of vegetable leaves collected from either from the forest or in their agricultural fields.

#### **Land and Economy:**

Land is used for different purposes like cultivation of crops, groves, forest, pastures, and other commons like *Imli* (Tamarind) and *Aam* (Mango), *Mahuwa*, pastures, etc. The village council exercises control over their access by outsiders, while agricultural lands owned by individual and joint families are regulated and administrated by the respective family and *clan* members. They also depend on other occupations like wage labour, MGNREGA, Private and public employment, handicrafts and painting, etc.

#### **Land Ownership:**

The variation in ownership of land among Gond is attributed to the fact that those who had settled in the beginning had large size of landholdings and those who came in later years have small landholdings. In this regard, *Pendo* clan members possess considerable amount of land as they were the early settlers. But these variations of land ownership do not prevent other Gond clans from enjoying access to common pool resources in the village. They also share the usufruct rights of natural resources irrespective of their status and landholdings. For example, tamarind collection from Tamarind groove during the season is equally distributed among all the households in the village. Access to certain fruit trees located in the private lands is the privilege of those particular clan members only. However, by taking the consent of respective owners, others can access them in times of need.

#### **Land Management:**

Land is a primary source for the subsistence of Gond and its significance is evident from the elaborate rituals associated with it

and agriculture. Settled cultivation, kitchen gardening, horticultural crops, pastures, besides for habitation. Unfavorable weather conditions and low yields of harvest do not deter them from relying on this source. The methods they follow to retain the soil fertility are not resorting to deep ploughing, shifting of cattle pens in the fields for manure, and mixed cropping.

### Land Utilisation Pattern:

Utilization of land as a resource can be understood through the cultivation of various types of crops on the land available. Apart from this, the backyard of each house is used for cultivation of vegetables, bottle gourds and other seasonal fruits. Besides, there are a number of mango and Tamarind trees in the village on which Gond depend for their subsistence.

### Cropping Pattern:

Generally, before rainy season (South-west monsoon), all the Gond families start preparations for agriculture in the month of April by engaging themselves in removing leftover stems of trees cut, arrangement of cattle pens, repairs to their sub plots and demarcations. They broadcast different varieties of seeds in the selected plot. After sowing small millets first, they undertake ploughing to make lines for sowing other seeds as mixed crop.

During January February, Gond cultivate *Rai*, *Ramtila*, soyabean. In March-April, *Nyuayee* (masur dal), *Chana* (Bengal gram), *Gehu* (wheat), *Alsi* (native variety of oilseed), *Batri* (Yellow gram), *Batra*, *Tivura*. During summer i.e., May, they remain at home and prepare the agricultural implements for next season. In June, sowing of *Dhan* (paddy), *Kutki*, *Kodu*, and other native variety millets taken up and will be harvested during September and October.

**Table 2: Seasonal Economic Activities of Gaarkamatta**

Sl.No.	Economic Activity	
	First Phase(June-December)	Second Phase (Oct-April)
1	Paddy	Channa
2	<i>Kodu</i>	Masur
3	<i>Kutki</i>	Muttor

4	<i>Sawa</i>	<i>Alsi</i>
5	<i>Makka</i> (Maize)	Sarsom (Jinjelly)
6	Soyabean	<i>Tiwda</i>
7	Urad dal	Dhaniya
8	Rahar dal	Gehu (Wheat)
9	Ground nut	
10	Bajra	

All these crops are totally rain fed and good harvest is depended on the storage of water in all the water bodies mentioned above. It is so that due to optimum ground water levels, the harvest is good in the study area. Due to its economic significance, Villagers of Gaarkamatta engaged in bunding, check dam construction, water storage pits in forest terraces tank rejuvenation, digging new wells, etc., as a part of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

Under Krishi Yojana, the villagers taken up land development activities i.e., *Med bandhan*, use of fertilizers, afforestation, fishing ponds, etc. As a result of such land and water conservation programmes, the agro-economic related occupations also taken up in large scale. At present, villagers engaged in rearing milch animals like cow and bullock, oxen, goat, poultry, etc.

### Gond Jajmani System:

The Pardhan is a sub tribe of Gond who are known as traditional ballads for Gonds in their own clan. In Gaarkamatta, very few Pardhan families also residing along with Gond and depended on agriculture and traditional bounty of *Jajmani* system. There are two division in the same Gond clan of Markam into Markam proper and Markam Pardhan. The later one expertise in handling of *Baana* (musical instrument possessed by Pardhan family). It is considered as their *Bada Dev* and venerated in all the ceremonial and functional occasions. In case of mishandling, it is believed that the wrath of the *Bada Dev* will be appeared in the form of harm to their family members and unproductive crop yield.

During harvest time, Pardhan visits his clan *Jajman* (land owner) and play *Baana* by uttering their folklore, origin, gondwana or Mahabharata history. In return he receive paddy, rice in winnowing fan (*Supa ka upper dan*), diya, money, cloth, mahuwa bottle as a part

of honorarium (dakshina). Only once in two years, Pardhan visits his *Jajman* to collect the gifts. Likewise each Pardhan has more than 30 or 40 *Jajmans* and keeping on visiting in alternatively. The *Jajman* need not be from his own village or clan, but he may belongs to other village or clan also. Likewise, the Pardhan of Gaarkamatta having *Jajmans* even in Rajendragaoon of Annupur District. Apart from these regular visits, they also invited during death or funeral rites to operate *Baana* and offer gifts in the form of money, paddy, cloth, cow, even land. One Marawi family in Gaarkamatta has more than 100 patron families in different areas. For example Kuwar Singh Markam has patrons at Mandla (50) district, and Balaghat. Once in 3 years he visits their patron and play the *Baana* during free time. During monsoon, they themselves play in their own households to purify the seeds to be sown in their fields.

### Soil And Water Conservation:

The natural resources are pivotal for subsistence of the Gond and hence they developed a symbiotic relationship in the form of nature worship. The man nature relationship is evident from the celebration life cycle, annual and agricultural related festivals.

The above mentioned rituals are observed collectively by villagers, clan or lineage wise, or family wise. In all the rituals, after completion of the worship, it is customary to visit the pious Narmada and finally it is immersed in flowing waters.

### Javaara:

Before the harvest of wheat crop and during Ram Navami, village as well as individual families does observe *Javaara* for nine days at sacred place. It is known as *Khermata* at village level and will be observed under a tree. It may range from *Pepal* to *Saajak*, *Mahuwa*, *Iml*i, or *Pankar*. In case a big village, people divided into different groups and select the nearby tree for *Javaara*. Whereas some individual families do observe this event known *Meedia* and observed at a separate room earmarked for this event. For the village *Javaara*, all the families give new pots (*matka*) and Wheat for sowing after filling it with earthen. It is the responsibility of the village priest (*Baiga* or *Panda*) for giving water everyday till its sprouts. He offers *Puja* everyday on behalf

of the villagers and offer Prasad in the form of coconut and *Chironji dana*. For his service, he will be given *Anaaj* (honorarium) in the form of wheat flour, rice, dal, vegetables, and even the monetary contributions also given to priest. Every day night, villagers organize cultural activities i.e., singing and dancing by using *Mandar*, *Dolak*, flute and other musical instruments. Consumption of Mahuwa is strictly prohibited in this event. On eight day of the *Javaara*, *Bhandara* (a special worship) is observed by inviting all the villagers wherein *Khermata* is worshiped and *Puri* and *Kheer* is served to them as prasadam. On ninth day evening, the sprouted pots are taken throughout the village in a procession along with beating *Dolak* and *Mandar*. Soon after completion of procession, it is taken to nearby water bodies for immersion. It need not always a river, but the nearby *Nallah* or tank depending on the proximity. After immersing, the sprouted plants are brought back to their home and kept at their sacred place.

Whereas at family level, head of the household or the concerned person who got *Bhav* (possession) in ceremonial occasions will take care of the *Javaara*. On account of serious illness, the concerned family vow to observe *Javaara* and offer hen or goat after recovery or last day of the event. One flag with black and red will be hoisted on the concerned house to demonstrate the villagers that *Javaara* is being observed by the concerned family. Even any other villager suffering from any disease or illness will come to this sacred place and offer worship. It is believed that by doing so they will get good health. Even the family *Javaara* also immersed along with village *Khermata* in case they started on the same day. Otherwise, on ninth day they immerse the sprouted pot in the nearby tank or river. Unless the completion of this event, Gond never eat the newly harvested yield. After completion of *Javaara*, the tender wheat is roasted on fire and eaten.

### Khanyal or Kotar:

It is a leveling platform made in midst of their respective agricultural fields. At first instance, some portion of agricultural field is wet with river water and run the oxen for leveling. There after it is doabed with cow dung and mud. After one or two days it is used to thrash the harvest like *Masur*, *Alsi*, *Urad*, *Gehu*, *Chana*, etc.

**Table 3: Ceremonial Calendar Relating to Conservation of Resources**

livelihood is depended on it. Thus, conservation and preservation of natural resources of already existing their socio-cultural practices of land and water management in the form of celebration of seeds festivals, elaborate harvesting rituals. Hence it is the need of the hour to conserve such traditional methods of land and water conservation.

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### Conclusion:

From the above data, it is established that through agricultural and annual festivals. Gond of the Gaarkamatta village had maintaining the symbiotic relationship with land and water resources since their

Sl.No.	Name of the festival	English month	Traditional calendar
1.	<i>Bidri</i> (worship of Thakur Deo before sowing)	June-July	The day of Krishna <i>Paksh</i> ( <i>Jhestya</i> )
2.	<i>Hareli</i> (Hariyali)	July-August	In the month of <i>Sawan</i> ( <i>Amavasya</i> )
3.	<i>Pulehara</i> (Teeja)	August	In the month of <i>Bhadr</i>
4.	<i>Kujalayya</i> (Raksha Bandhan)	August-September	In the month of <i>Sawan</i> , <i>Shukla</i> mei <i>Ashami</i> ke din
5.	<i>Nava Khana</i> (first offering of harvest to god)	September	<i>Bhadr</i> mei <i>Pitra Paksh</i> or any other day
6.	<i>Cher Cher</i> or <i>Chedta</i>	January	On the day of <i>Purnima</i>
7.	Dusserah (animal offering to mother goddess)	October	<i>Navami</i>
8.	Dipawali	October	On the day of Kaarthik <i>Purnima</i>
9.	Holi (Budwa mangal after next Tuesday of holi)	March	Holi Dahan in <i>Paghun</i>
10.	Ram Navmi	March	Observed for 9 days
11.	<i>Peeda Upavaas</i> (Shankar & Parvati ka puja)	January	After 3 days of <i>Purnima</i> month
12.	Naag Panchami	August	<i>Sawan</i>
13.	Jwetiya/Astami	October	
14.	<i>Javaara</i>	April	
15.	Douli/Daul		Krishnasthami
16.	<i>Nag panahemi</i>		

17  
**Tarighat:**  
**An Early Urban River Bank Settlement**  
**in Chhattisgarh**

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Tarighat (Lat: 21°05' N Long: 81°40' E), Patan tehsil, district Durg, Chhattisgarh is an important early historical site in Central India. Among the river bank townships, Tarighat holds an important position. Its location in the ancient Kosala territory has been strategically significant politically as well as economically. The site is located on the left bank of Kharun, a tributary of Seonath River. No scholars highlighted the forgotten heritage of Kharun River and the forgotten heritage of this region. The exact site is discovered by the author during the accidental visit to this area<sup>1</sup>. The author visited this site and took the photos of scattered antiquities and cutting sections of the river. Then this site is proposed for the scientific exploration to the Archaeological Survey of India. The first author published various research articles about the rich heritage of Tarighat<sup>2</sup> and Kharun Valley<sup>3</sup>. After the excavation in the first session, a brief report was published in the Kosala<sup>4</sup> and Purattatva<sup>5</sup>. After obtaining license from Archaeological Survey of India, the Directorate of Culture and Archaeology provided the financial support for the scientific

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exploration to this site. This is the first early historical site excavated by the Directorate of Culture and Archaeology, Government of India. In Chhattisgarh, the first early historical excavated site was Malhar. First this site was excavated by the Sagar University under the guidance of Prof. K.D. Bajpai and Dr. S.K. Pandey<sup>6</sup>. The excavations at Malhar show continuous inhabitation and antiquity from the second century BCE to twelfth century CE based upon the discovered sculptural specimens. During this period, Malhar observed various religious domination like that of the Buddhist, Brahmanical and Jaina. After a long gap again this site was excavated in the field session 2009-10 by Dr. S.K. Mitra on behalf of Excavation Branch-I, Nagpur. This field session excavation produced fivefold cultural sequence from Pre-Mauryan to Later Guptas<sup>7</sup>.

There are four mounds of various sizes are existed. There is a *moat* (water channel) is flowing on the western part of the site. This ancient settlement extends in an area of about 5 acres along the river in the form of a series of four mounds of different size and height. This site is locally known as '*Killa*' (fort). Some people say that it was the fort of Jagatpal (*Jagatpal ki Killa*).

### Exploration

Before excavation at the site, an exploratory study was done in the exposed section towards river with the prior permission of Archaeological Survey of India for exploration. The scrapping at this exposed section gave good results about the cultural chronology about the site. The total thickness of cultural deposit was noticed up to about 12 mt and remains portions of the deposits are in buried. It was divided into 12 layers. The archaeological materials including pottery were almost of uncommon nature from top to bottom, which indicated an accumulation of multi cultural sequences of this site. On the basis of above findings it was planned for detailed excavations.

### Excavation

Archaeological Survey of India has granted the license for the excavation in the session 2012-13. The Directorate of Culture and Archaeology, Government of Chhattisgarh conducted the excavation. For the sake of excavation, every mound has documented and has numbered from mound no. I, II, III and IV. The mound no. 1 is locally



known as 'Ravan Bhata'. The operation started at this mound. The reference peg is A1, which is the centre of the mound and it is the highest point of contour. Now the excavation is going on. The present continuing excavation revealed following cultural sequences:



Fig.3. Plan showing mounds and moat (google view)

**Period I : Pre- Kushan**

**Period II : Kushan**

**Period III : Satavahan**

**Period IV : Sarabhapuriya(Contemporary Gupta)**

**Period V : Post-Gupta (Somavamsi and Kalchuri)**

#### **Excavated site**

The above chronological sequences are fixed on the basis of retrieved coins, seals, sealing and other datable objects with other supporting evidences. Besides these large number of other supporting materials also found from the excavation which helped a lot for the fixing of the chronological order. As mentioned above that the excavation gave five fold cultural sequences from Tarighat excavation. The period designed as the Pre-Kushan period that in this cultural level no datable objects are encountered but some supporting evidences are found and half portion of the ruined are remained for the excavation.



Plate.4.General view of the

#### **Period I**

The excavation yielded some indications of PreKushan period. In this cultural phase some post holes with cherd grains with glazed black potteries and black slipped ware ceramics are traced out. This cultural phase is noticed below the Kushan period. Some bone implements and ivory implements are also recovered from the trenches. Due to heavy water logged further excavation is not carried out. A copper square fragmented coin very similar to PMC(Punch Marked Coin) also retrieved from the level. There are about twelve layers are exposed from one trench). Besides these large number of postshreds and hopscotch are found from this level. Some post hole impressions are also encountered in this level. Some terracotta and semiprecious stone beads are also retrieved from this cultural level.

#### **Period II**

This cultural phase is attested by the finding of Kushan coins, seals, and terracotta figurines and sung plaques. Some cultural materialism is traced out below the Kushan level from YB2 trench. In this operation yielded ceramic industries like curved bases, bowls, iron

implements, copper objects, and beads of terracotta and semi precious stones. This cultural phase is traced out in the depth of about 1.50mt. This cultural phase continued in the depth of about 4mt. The ceramic industries like black slipped ware, black and red ware, red slipped ware etc are found from this level. The shapes liked bowl, basin, handis, sprinkler etc are traced out. One trench revealed large number of potteries which may be a potters room.

The cultural materialism of this phase found all over the mound. This cultural phase is more authenticated with the findings of Kushan terracotta, coins and typical potteries of this period. Like red ware and red slipped ware with bowls with incurved rim, sprinklers, bottle necked jars and inkpot lids and miniature vessels as the main type.

### Structural Activity:

The excavation yielded large number of antiquities of this period which are found from the structural level. To compare other early historical sites, here all the structures are made up of stone. Very less amount of bricks are used in the structural creation. One thing observed in the total trenches that bricks are only used in the drainage and used in the latter period structures. So the structural activities of this period were dominantly by stones.

The stratigraphical evidence shows that the houses made in three phases. The materials of the lower two lower phases are used in the later period structures. In one trench XA1 and XA2 the walls of three rooms with paved floor are exposed. In these two rooms two hearth (*chullha*) are exposed. In other trenches the main walls with rooms and passages and floors are traced out.

### Datable Objects:

Large numbers of copper coins are retrieved from the excavation. One trench YA1, Qd.III, yielded a Kushan copper coin hoard in the depth of about 2mt. This hoard is retrieved from the side of a wall. Due to the heavy corrosion, the coins are mixed each other. There are about 29 copper Kushan coins in the hoard. Large number of Kushan coins also found in various trenches in this level. Besides this other Kushan copper coins are also retrieved from this level in various trenches. The terracotta figurines of human and animal of this period also retrieved which comprised terracotta human and animal figurines,

beads of terracotta and semi precious stone materials, stone balls, glass beads, ivory beads, bone points, iron and copper objects.

One stone seal is retrieved from this cultural level. There are four letter *Sa, Ma, Se, Da* are engraved which is read as *Samaveda* or *Somaveda*. Besides this, six circular dots are also engraved on the right below of the seal. This script is pre-Kushan or Kushan brahmi which is assigned to 2<sup>nd</sup> C.A.D. One big pit filled with potteries is traced out from one trench. One copper Kushan coin also found from 3mt from one trench. Beside this there are twenty copper Kushan coins are also retrieved. The other terracotta items like dices, wheels, toy carts and frames and skin rubbers are also found in this cultural level. The terracotta figurines prepared out of single and double moulds indication that of Yashkniin the typical of this tradition. Some moulds of figure are also retrieved. One fragmented stone plaque of Sunga-Kushan style, and other terracotta figurines are traced out. Important terracotta figurines also retrieved from the satavhan levels which indicate that this site was an important centre of terracotta art. The material culturalism like ivory comband frame.



Terracotta Whells

**Period III**

This period is attested with the evidence of Satavahan coins, seals, sealing and terracotta. The Satavahanas are the first native Indian rulers to issue their own coins with portraits of their rulers, starting with king Gautamiputra Satakarni, a practice derived from that of the Western Kshatras he defeated, itself originating with the Indo-Greek kings to the northwest. From the site a number of semi-precious stone beads are recovered. The beads of agate, carnelian etc are found. These beads are collected in less numbers. Basically these beads are various sizes like oval, cylindrical etc. Some unfinished beads are also traced out from the trenches in this level. The exploration revealed a huge amount of bones though its identification and dating is under study. Some bones are collected from the surface and few bones are collected from the sections. From the nature and condition of the bones, it seems that these may date back to early historic times. A number of terracotta figures are also traced out. The terracotta's are of figurines, skin rubbers etc are also recovered.

All the figures from Tarighat are finely baked and some of them have a red slip applied to them. A terracotta figurine is retrieved which is a half broken terracotta figure. Two legs with lower part of body only exist. However from the artistic point of view these figurines are very similar to the Sunga/Satavahana. Because the Sunga terracotta are retrieved from all over the northern, eastern and central regions of India. In this stage completely molded plaques take the place of modeled figures. They were also provided with a hole at the top for hanging on the wall.

The Satavahana types of figurines are obtained in the early historical level of several sites. So far as Tarighat is concerned, huge amount of Satavahan copper coins are retrieved from sections of the mounds. Though the technique employed by the Satavahana artists is entirely different from Sunga period. The Satavahana terracottas have holes in places which were apparently intended for letting out the hot expanded air resulting from baking. The retrieved Satavahana terracottas include male, female figures and animal figurines. One beautiful head cutting from the neck is retrieved from the site. The head ornaments with knot are so beautiful and lips with nose are very carefully notified. He wears an ornamental headgear which has a broad forehead band. The face is totally rounded in shape. Another

important animal is bull which is also retrieved from Tarighat. This particular bull is modeled realistically. The bull is depicted in standing pose. From this very site large number of terracotta's are recovered in the form of potteries, beads and figurines. The terracotta figurines are of early historical in nature. The terracotta figurines are of lion, bull and toys. The excavation revealed some satavahan important terracottas.

During this cultural phase, the settlement pattern designed in a proper manner which followed in the successive period. All the structures are built of stones consisting of single, double and multiple rooms. The house situated on the both sides of a common road. This road is oriented from north to south. There are small roads are joined to the main road of both sides. The excavation at trench revealed an interlocked structure which special mentioned. Large numbers of terracotta beads and semi precious stone beads, skin rubbers, terracotta impressing net design, stoppers, reel, single and double perforated discs are retrieved. The operation yielded large number of dice of various sizes and various materials like terracotta, wood and ivory. These objects are in number of marks. Various types of toy carts wheels are traced out from the level of Period II to III). So far as metal objects are concerned, large numbers of iron and copper objects are retrieved from the all strata. Copper objects like copper rings, antimony rod, finger rings etc. Iron objects like sickle, axe, knife and arrow heads. From this cultural level seals of various materials are recovered which is very important for fix the chronology of the site. One stone seal which was found before the excavation. It has only two letters with symbols of moon (*Chandra*) and sun (*Surya*) engraved above them. It is engraved in early Brahmi characters of 3rd C.A.D. and read as *VADHA*. This one found before the excavation.

**Period IV**

This period is assigned to Sarabhapuriya dynasty which is very contemporary to Gupta period. This period is succeeded to Satavahan period in a stratified deposit. This dynasty is known from the seventeen copper-plate grants, one only partially surviving, which were issued from Sarabhapura and Sripura (modern Sirpur). There is no stone inscription discovered so far for this dynasty. So whatever little we know is coming from these seventeen grants and a single

coin. All these grants are written in Sanskrit using box-headed variety of the Central Indian alphabet.



**Terracotta Yakshini from Period III**

The name of the dynasty is taken as Sarabhapuriyas because their earliest grants were issued from Sarabhapura, eleven out of sixteen grants were issued from this town. No mention of any family is made in their grants hence this nomenclature is accepted among the scholars. Though we have about sixteen grants of them however these do not supply any historical information. First no genealogical account is given in these charters and second these grants are dated in their regnal years instead of using any other known era. The only genealogical information available is found on their seals which sometimes inform about the father and grand-father of the reigning king.

Sarabha seems to be the first king of this dynasty however no record of his own has been discovered. He is known from the two grants of his son, Narendra. It is very probable that Sarabha started this dynasty and founded the city of Sarabhapura from where the earliest grants were issued. Though the town of Sarabhapura is not identified satisfactorily however he would have ruled over Daskhina-Kosala region, in and around Raipur, where most of the Sarabhapuriya grants are found. He may be the same Sarabharaja whose grandson, Goparaja, accompanied the Gupta king Bhanugupta to Eran. As per an Eran inscription, Goparaja dies fighting in a battle in 510 CE. If this identification is accepted then Sarabha can be dated in the last quarter of the fifth century CE. K D Bajpai and S K Pandey have put him in the beginning of the fourth century CE while V V Mirashi has put his rule in 460-480 CE. Before going to the next Sarabhapuriya ruler, we need to throw light on two topics. First is about Mahendra, a king of Kosala and second, the identification of Sarabhapura.

A discovery of a clay-seal bearing legend Maharaja Mahendrasya at Malhar made K D Bajpai and S K Pandey to propose that Mahendra was a Sarabhapuriya king, probably a brother of Narendra. Mahendra is known as the king of Kosala in the Allahabad Pillar inscription of Samudragupta which mentions that Samudragupta defeated him and later returned his kingdom reinstating him on the throne again.

The identification of Sarabhapura is still in obscurity. Alexander Cunningham first identifies it with Arbhapura or Arbhi in Wardha district of Maharashtra but later changes his opinion to suggest that Sambalpur in Orissa could be same as Sarabhapura. Hira Lal, while editing Sirpur stone inscription (Epigraphia Indica Vol IX), mentions that the Sarabhapuriyas conquered the city of Sripura and renamed it as Sarabhapura based upon the fabulous animal sarabha who is considered as a match for a lion<sup>4</sup>.

Kurud grant gives an important information as it mentions about grants made on palm-leaves. It mentions that the original palm-leaf grant was burnt in a conflagration in the donee's house after copying its content to a new copper-plate charter. Probably this is the only reference ever found in Indian epigraphs which mentions conversion of a palm-leaf charter into a copper-plate charter. The same grant also suggests that he acknowledges the supremacy of the Guptas. He has referred his overlords as *parama-bhattaraka-pada* while he

himself assumed a comparative smaller title of maharaja. It is stated that the previous palm-leaf grant was made by parama-bhattarakapada after bathing in the river Ganga. Now who could be this overlord other than the Guptas who were ruling at Pataliputra located at the bank of Ganga. However he did not date his grants in the Gupta era but in his own regnal years. It is not clear who succeeded Narendra as none of the available grant throw any light over this. Though no grants of Prasanna is discovered however he is known from the grants of his son, Jayaraja, and grandson, Sudevaraja. Though there is no record found of this king, Ajay Mitra Shastri gave a period of 25 years for his rule. But the later rulers, whose grants are found, are given a very short rule of 10 years. His coins are found in various regions like Kalahandi in Orissa, Chanda in Maharashtra and Chattisgarh area. This probably suggests that he would have ruled over a vast area however it cannot be certain. The legend on these coins is written in the box-headed characters like other grants of the Sarabhapuriyas. The obverse has a figure of Garuda with his wings spread and a conch and a chakra on his either side. This also suggests that Vaishnava character of the Sarabhapuriya kings and we may also say that some influence is probably taken from the Guptas, who had Garuda as their royal emblem. Jayaraja succeeded Prasanna and is known from his four copper-plate charters.

#### Findings:

The excavation revealed three gold coins of Sarabhapuria dynasty. One gold coin of Mahendraditya and other two gold coins are of Prasanmatra. The variety of symbols of Prasanmatra coin may indicate that this coin issued from other mints. The representation of the symbols authenticated the clues that the kings of this dynasty are the followers of Vishnu by faith. Besides these, one stone and ivory seal also retrieved from the excavation. The stone seal is engraved in box headed early Brahmi character of 5<sup>th</sup> C.A.D. and read as *Úrî Pradhâ [n]* or *Úrî Prâsâda*. From this cultural level terracotta and semi precious beads are coming out. A plaque of Lajyagauri (*chhinamastka*) also recovered from this level. Various votive objects and fragments of plaques are recovered. The stone structures are severely disturbed due to the stone robbing by the villagers. One trench revealed rammed floor with platform).



River cutting section showing layers and burnt clay



Gold coin of Prasanmatra

**Period:V**

This cultural phase is defined by the evidence of the coins and some latter period of structures and sculptures. One copper coin of Jajjyaldev of Kalchri dynasty also found from this level. The ceramic industries of this period like buff red ware, red and black ware potteries also retrieved from this cultural level. This period attested with the findings of kalchuri coins, potteries and medieval sculptures like, Ganesh etc. One copper coin of Jajjyaldev of Kalchuri dynasty is traced out from the upper level of excavation. Besides these some later period Kalchuri sculptures are housed in a temple of this site. On the stylistic point of view these sculptures are of Kalchri or Later Kalchuri period.



**Satavhan Copper coins(Obverse)**

The findings of Satavan and Kushan coins, early historic potteries, terracottas, structural features and other material culture of Tarighat shows its date to early. The recovered stone seals depicted various clearly shows that this site might be an important trade centre with urban settlement in the south Kosala.

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# e/; Hkkjr ea ty L=krka dk izU/ku

\*Åks foosdnRr >k

HkkkHkZ ea yxkrkj tyLrj ea gks jgh deh , d cMh prkouh gA ik.kh txr rFkk ouLifr; ka ds vLrRo ds fy, ; g vkLkUu l dV gA ty l d k/kuka ds l E; d izU/ku vj ty L=krka ds l j {k.k }kjk gh bl l eL; k dk funku l Etko gA ?kVrsgq tyLrj dks jkdus ds fy, l Ei wkZ fo"o ea vuFkd iz kl tkjh gA dy dkj [kkukh ol=ka|kae] vLi rkyka bR; kfn ea iz pr gkfudkj d j l k; u] xUnh if; k; "kgj xte dh l Mh xyh olrj] dpjk ty L=krks dks inifr djus ds l kFk&LkFk tyL=krka dh ryh ea cBdj mlga mFkyk cuk jgs gA

lkj kru dky eagh ik.kh txr ds thou ds fy, i kuh dh vfuok; Zk dks igpku fy; k x; k FkA bl fy, ofnd rFkk ijorhZ l kfgR; ea ty dh egrRk vj tyL=krka ds l j {k.k ds fooj .k mi yC/k gA l dUnigk.k ea dgk x; k gSfd ft l uxj ea unh ughagSog LFkku fuokl ; kx; ugha gA ikphu Hkkjr ea ty inifr djus ij n.M dk iko/kku jgrk FkA

ikxrgkfl d dky eadfk l s vufHkK ekuo thfodksi ktZ gRq Qy] dUn] ey vj vk [k/ ij fuHk FkA tyL=krkadsl ehi ml smDr l Hkh l k/ku mi yC/k FkA mPpijki k'k.k dky ea ik; % i kdfrd tyk" k; ka vj ufn; ka ds vkl ikl ekuo fuokl djus yxk rFkk e/; Hkkjr ds fM. Mkj h] e. Myk vj fNnokMk ftyka ea mDr dky dh cflr; k; vud LFkyka ea >hyka vj ufn; ka ds l ehi ik; h x; h gA<sup>1</sup> uoi k'k.k dkyhu dchy; tks ik; % Åps i Bkja ea fuokl djrs Fk ty dh vki firZ ds fy,

\*i wZ foHkxk/; {k} i kphu Hkjrh; bfrgk l l dfr rFkk ijkrRo] MKW gj hfl g xk; fo' ofo | ky; ] l kxj] e/; i ns k

ikdfrd >juk dh vuq fLFkr ea i Bkij ij ghs Nk/srkyk fufeR djrs FkA , d svkoki {ks= e/; Hkkjr ds clrj l Hkkx eafLFkr onj} x<pnsyk eafeysgA<sup>2</sup> nf{k.k Hkkjr ds VDDydk/k l xudYywwvj ekLdh ea Hkh bl ds iek.k i ktr gq gA lk" pkrorhZ gMh k l dfr ds uxj /kSykohj k] gMh k vj ekgutknkMka ea tyL=krka dk u dpy fueZk fd; k x; k oju i kuh dh fudk h ds fy, l q; ofLFkr ukfy; ka fufeR dh x; hA

rkei k'k.k l dfr ea Hkh uxj dh l j {k vj tyL=krkadsl d) Z gRq ij j [kk dk fueZk , j.k vj c] uxj eafd; k x; k FkA bl h dky eacBdk Hkhe ds i .Mki g &y [kkTokj {ks= eafpf=r "kSyk J; ka ds fuokl ; ka us ty l xg gRqfeVv dh ckak fufeR fd; k FkA

pnsxr ekS ds "kkl udky ea muds vk/khu l k'V<sup>3</sup> ds xouj i q; xlr us jbrd ioR l smnHkr i ykfl uh rFkk l p.kfl Drk ufn; ka ds ty dks l xghr djus gRq l q"ku >hy dk fueZk fd; k FkA ml h >hy l sv"kkad ds v/khuLFk ; oujkt rkk'i us muds ugja fudkyhA dkykarj ea l q"ku >hy dk ckak VWus ij : nnkeu i Fke ds dlfB; kckM+ ds xouZ l qo"kk [k us ml dk i q% fueZk fd; kA : nnkeu i Fke us mDr i q% fueZk dh jk" k vi us futh dks l s 0; ; dh FkA l q"ku >hy l k'V<sup>3</sup> ds fuokl ; ka ds fy, thounk; uh FkA bl dsegRo dks n[ kdj xlr l ekV l dnxlr us >hy dks i q% {kfrxLr gkus ij l k'V<sup>3</sup> ds fo'k; ifr i .kzR; ds i q pØi kfyR ds e/; e l sbl dh ejEer dj; h FkA<sup>3</sup> [kkj osy us vud l jkoj cuok, vj rul fy; l sydj jkt/kkuh rd ugj dk foLrkj fd; kA<sup>4</sup>

ikf.ktxr ds fy, ty dh vfuok; Zk dks nf'Vxr j [krs gq vud tyk" k; ka dk fueZk dj; k vj ckak cuok; s Hkkjrh; ujs'kka uA pnsy ujs'k us enu oekZ us 03 ehy 0; kl okyk enul kxj cuok; kA i Yyo ozk ds "kkl udky ea rMkxka rFkk ty/kj kvka dh n[ kj jk djus okyk vf/kdkjh \*rhFkd\* dgykrk FkA jktbz pky i Fke us xaxbz kM&pky i je ds fudV 16 ehy yak ckak cuk; k FkA i jekj k pnsykarFkk dypij; kaus NRrh l x<e/; i ns'k vj mRrj i ns'k eavl ; rkyk cuok; A jktk Hksty }kjk Hkky ds l ehi fo"ky Hkstrky fufeR fd; k x; k FkA



l q'ku >hy

vknokfl ; ka }kjk tyL=krka dk l j {k.k& vknokl h mu i ozh;  
 vls l ?ku ouka l sifji wLz {ks=ka ea fuokl djrs ga tga ik ; %cMh ufn; ka  
 dk vHko ga igkMh ukyk rkykckarFkk ikdfrd tyL=krka ij osfulHj  
 jgrsga xh'edky vkr&vkrs igkMh ukys l v[kus yxrs ga ty L=karks  
 dks cpk; s j [kus ds fy, os ukyka ea feVvh ds vLFkk; h clak l kefigd  
 Jenku }kjk fufeZ djrs ga bl ds vfrfjDr yxHkx l v[k pps ukys dh  
 jr ea xM<k [kkndj HkkHkZ eafo |eku i kuh i ktr djrs ga bl s\*f>j; k\*  
 f>j l=kr l s i kuh fudkyuses iz, Dr xM<k/2 dgk tkrk ga f>j; k ds  
 i kuh dks i ntk.k l scpkusgrqml ea ऊपर&uhsnksuka vls l s [kyk gpk ykgs  
 dk Me xk<+fn; k tkrk g s ikdfrd ty L=karks ij Nks&Nks/sdq 1/2dpz k/2  
 fufeZ djrs ga bu dpa dh fu; fer l QkbZ dj dpjk vls rygVh ij  
 te x; h xan ckgj fudkyrs gsrkfd tyL=kr [kys jga rkykck ukyka  
 vls ikdfrd tyL=krka ds dukj ds o'k dkvus ij xteh.k ifrcak yxk  
 nrs ga rkd tyL=krka dk i kuh ok' i cu u mM+ tk, A

cLrj l Hkkx ds nro kMh ftyea igkM+ds ik"oZ ij fLFkr gsm l ij  
 xte tks ml ij fodkl [kM dk e[; ky; Hkh ga mDr xte fo"ky i oZ  
 dh rygVh ea cl k ga yxHkx pkyhl o'k i wZ vfodfl r bl {ks= ea  
 ml ij ds xteokl h i oZ eafo |eku ikdfrd tyL=karks ea i kys ckd dh  
 i kbi ykbu yxkdj vius ?kjka rd bl i kuh dks ys tkrk FkA ; g , d  
 vuqj.kh; mnkgj.k ga l jxqtk ftyea fLFkr ij kkrkRrod egRo dk

LFky jlex<+ga igkM+ij nll jh&rhl jh "krkCnh bl ki wZ ds f"kyky [k]  
 ukV; "kkyk vls ijorhZ dky ds npeinj rFkk ifrek, a ga i oZ l s  
 mnHkr ikdfrd tyL=kr ea ykgs dk , d i kyk i kbZ yxk fn; k x; k  
 ga ogka tkus okys i; M/d ml h i kuh l s viuh l; kl cpkrsga

ty L=krka ds izaku dh fn"kk ea l Eilu "kkl u ds dk; & "kkl u  
 }kjk Vj d okVj gkoLVx] gSMi a] uy dpa rkyk] LVWMe vls clak  
 dh 0; oLFkk dh tk jgh ga futh Hkne ij rkyk cukus ij vkfFkd  
 l gk; rk dk Hkh iko/kku ga ijUrqi xfr l arksktud ughaga cMs rkyk  
 dh l QkbZ , oaejEer ds fy, Hkh "kkl dh; vuqku dh 0; oLFkk ga

"kkl dh; dk; ka ea l qkij dh vko"; drk& cMs clak cgr mi ; kxh  
 fl } ughag ga Lrjh; fuekZk ds vHko ea clak fj l rsgs VW tkrsga  
 , d h fLFkr ea clak ds ckn ds fupys {ks= ea vikj tu&tu dh {kfr gsrh  
 ga clak ds ckn i Ms okyh l s l Ms , dM+Hkne nynyh gk tkrh g  
 tks d'k ds fy, , dne vuq; Dr ga clak ds fy, ftudh Hkne dk  
 vf/kxg.k gsrk gS , d s ykxka ds foLFki u dh l eipr 0; oLFkk ugha gk  
 i krh ga ueh l kxj clak vls vl; claka ds dkj .k mri lu v0; oLFkk ds  
 dkj.k fojksk in"ku vls tuknsyu gks jgrsga jk'Vh; vls varj k'Vh;  
 Lrj ij Hkh bl l nHkZ ea ruko ga cakykns'k] ikdLru l s fool ga  
 "kkl dh; vuqku l s fufeZ rkykck dk vflRo ughag kus ds mnkgj .k Hkh  
 ga dx tka ij rkyk cus g s ijUrq tehu ij os ugha feyrs ga gSMi a  
 dN l e; ckn gh l v[k tkrsgs muds l qkij us dh 0; oLFkk ugha g s uyka  
 dh VksV; ka unkjr g s i kuh 0; FkZ tk jgk ga rkykck ea gkfudkj d  
 ouLifr; ka Qs jgha g s rygVh ea xan dk teko gks jgk ga QyLo: i  
 ty in'kr gks jgk g s rkykck dh Hk .k {kerk ?kV jgh ga uxjks ea  
 ukfy; ka dh ejEer i k; % ugha gsrh] ckofM+ ka ea l s l Mh ea eu dpuk i V  
 i M+ jgrk ga i kuh dh fudkl h vo: } jgrh ga

l q-ko&cMs clakka ds fuekZk dh txg Nks/s clak cuk, tk, A uxjka  
 ea i kuh dh fudkl h dh ekdny 0; oLFkk dh tk, j ukfy; ka dh ejEer ds  
 l kFk&l kFk Fkk/Mh&Fkk/Mh njj ij ukyh ea yxHkx vk/kQv ; k , d Qv dk  
 <ky fn; k tk, rkd i kuh dk i o'k cuk jgs vls feVvh&dpjk dh  
 otg l s i o'k vo: } u ga rkyk] dpa dh l e; & l e; ij l QkbZ



dj tykHkko dks de fd;k tk l drk gA igkMk@iBkjk ij fufeR rkykckadh l Okbz dj mueal sukyh@ugj ds }kjk l ehi dsxte@uxjka ea ikuh dh vki firz ty l adV dks nij djus ea l gk; d gks l drh gA NRrhl x<+dsfcykl ij ftyseafLFkr ykQlx<+igkMk e/; insk ds nekj ftyseai or nqzfl aks x<} ofn"kk ftyseafLFkr X; kj l ij vls bl h idkj dscgr rkyk igkMk ds Aij iBkj ij fufeR gA ikdfird ty L=krksdk ty c/kku }kjk l jffkr dj mi ; s; eayk; k tk l drk gA oulako"ksk : i l s ty L=krks ds l ehi fLFkr ouka dh l j {kk dh 0; oLFkk gls m | ku yxk, tk, rkfd Hkwhkz dk ty Lrj cuk jgA uxjadh ukfy; ka tyk" k; ka eatkj u feyA dkj [kkula vLi rkyka vls uxj dk xnk ikuh ty L=krks rd u igpusfn; k tk, A rVks rFkk rkykck ij vfrOe.k ij dBljrk l s ifrcak yxk; k tk, A chl ota l rknh ds i k j k rd narsk< ftyk dsckl j ij ea 147 vls eMyk ftyds eobz ea 54 rkyk FkA vc mueal sdN gh rkyk "ksk gSckadh txg ij df'k gks jgh gA dN ykska usHkou cuk fy, gA l kxj uxj dh fo"ky >hy ij vfrOe.k dj l s iMk edku cuk fy, x, gS tyk" k; ka ds rV ij fuekz k dh Lohdfr ugha nh tkuh pkfg, A bl ds nqi fj .kke mRrjk [kM eagq gSck<+vls Hkwhkz ea tu/ku dh gkuh gksh gh gS unh eaeyok fxjus l sunh dh xg jkbz de gksh gS, oa ty i nfrkr gksh gS ufn; ka ea i a yxkok dj fl pkbz ij jkad yxkbz tk, "kkl dh; vumku l s iR; d xte ea rkykck dk fuekz k fd; k tk, A rkykck dh l Okbz 0; oLFkk "kkl dh; vumku dsek/; e l sdh tkuh pkfg, A gSMi a kadh ejEer gls uyka ea VksV; kagls ; g LFkkuh; i zkl u l fuf"pr djA vko"; d gks i j LFkkuh; Lrj ij i zkl u turk dk l g; s; y; [kfut nkgu ij vadqk yxk; k tk, A gSMi a ka ds l eh; l k [krk x<Mscuk, tk, A

tyk" k; kads i ntk. k rFkk rygVh ea feVVh ds teko mMusokyh /ny dk nqi fj .kke gA gSMi a kadh txg dprk rkyk] ckoMk ds fuekz k ij /; ku dBlnr fd; k tk, A ikuh dk ogko fujarj cuk jgs; g l fuf"pr fd; k tk, A unh dsek<+ij , df=r gksusokyh feVVh vls jr dks gvks dh l ; e&l e; ij 0; oLFkk dh tk, A unh rV l sjv [kuu ij vadqk yxkuk pkfg, A tyk" k; ka ea ifrekg] i l kn] QyQny] fol tU "ko fol tU ij ifrcak gksh pkfg, A feVVh ds dfgM+vls i Rry nksk dks

ikRl kgu fn; k tkuk pkfg, A bl l s ikuh dh [kir de gkschA f"kk.k l LFkkvka ea ty ds egro vls ml ds l j {k.k ds mik, i k B; Oe ea "kkfey fd; k tk, A Vku dh l UMkl ea ikuh dh cckzh dks jkadus ds mik, fd, tkus pkfg, A fcgkj ds feffkykpu rFkk cakky ds dN {ks=ka ea xte] dLck vls uxj ds dN fuokl h] ftudsHkou dsckgj vfrfjDr Hkwhkz gS NksV&NksV i s k [kj cukdj ml ea RL; ikyu d j rsgA Ql Lo: i Hkwhkz ea ty dk Lrj cuk jgrk gS i ; kbj .k l arfyr jgrk gA vU; {ks=ka ea Hkwhkz ; g 0; oLFkk mi ; ksch fl } gks l drh gA cgr igys ty dLcka ea uy dh l qo/kk ugha Fkh rc fl U/kh Hkwhkz ka dks ea s j l l h l scuph [kkV ij cBdj Luku d j rsn [kk gA [kkV ds uhp scMk i jkr j [kk gks k Fk ft l ea , df=r Luku ds ty l s di M&ks tkr FkA ikuh dh fer0; f; rk ds fy, ; g dkj xj mik, gA ikphu dBlka ds mR [kuu ea vusd e. Mydih Vijaxcy 1/2 i ltr gksr gA ; s di viz Drk /kjh Vupjy LokVny 1/2 rd [kndj mlgai Ddh feVVh dse. Mykdj fo"ky NYykal sckak fn; k tkrk FkA mi ; s; eayk; k x; k ikuh vls jk [k&feVVh bu di ka dsek/; e l s Hkwhkz ea pyk tkrk Fk rkfd i ntk. k u gks vls Hkwhkz ty dk Lrj cuk jgA bl izkkyh dks ifjof}r dj orZku ea bl dk ykHk mBk; k tk l drk gA l ekt ds /kukM; yks tks tyk" k; kadh fuekz k d j rsg mlga l Eekfur fd; k tkuk pkfg, rkfd bl i dfr dks i k Rl kgu feyA

**l anHkz**

- 1- >k] foodnRr] \*\*vij ify; kfyfkd dYplz vkD fn vij uehk osyh\*\* 1/4 a knd 1/2 vkj- ds "kekz fglVh] vkD; k; k; h , .M dYpj vkD fn uehk osyh] fnYyh] 2007 i- 30&32
- 2- >k] ohMh- \*\*vkD; k; k; h dy blokVhxskul bu cLrj\*\* 1/4 a knd 1/2 ; woh- fl g] vkD; k; k; h dy dkacl , .M l feuk%1972 1/4 1976 1/2 dq {s=} i- 152&53 >k] ohMh- \*\*cLrj dk bfrgkl rFkk i jkrRo\*\* 1/4 k/kj oDr0; 1/2 jk'Vh; l aksBh] txnyij] 28&29 tuojh 2014] idk"kd] l pkyuk; y] l dfr rFkk i jkrRo] NRrhl x<} jk; ij] 2014
- 3- : nkeu ifke dk fxj jk vfhky [k] "ykad 8]18 Ldnxqr dk tuux<+ vfhky [k
- 4- [k] osy dk gkFkhxqk vfhky [k] tsch- vks vkj- , l - 13&14] i- 221&250

# okdkVddkyhu ty&iɔaku

\*i ka plnz ks[kj xdr

iFoh ij pruu l'v ds vflrRo vks ty dk l Ecl/k Lo; aiækf.kr gA ty dk gekjs thou dk; &dyki , oa okrkoj.k&ij d iR; d i i æ ea egUoiwKZ ; ksx gkrk gA l keku; r% gekjh nšānuh vko"; drkvka ; Fkk&[kku&iku] LoPNrk l EcaKh vFkok /kfeZd vkuqBkfud tS sLuku] iZ[kkyu] intu&vpZu vkfn dk; Zea ty dh mi lFkfr vfuok; Zgksh gš fdUrqthou l s tMš vU; dk; kš tS s [ksh&fl pkb] vkokxeu&ifjogu] ifj l heu vkfn dh n'v l s Hkh ty rFkk ty L=krks dh mi; kšxrk egUoiwKZ iækf.kr gkrh gSfofo/k dkyka ea [ks=] 0; fDr vks l aFkk vkfn ds }kjk ty&iɔaku dsiz R; gq gA e/; Hkjr eabLoh rhl jh l s NBh ¼ dKZKZ "krkfcn; ka ds e/; okdkVd dky ea Hkh ty&iɔaku ds iæk.k iklr gq gA iLrŋ i i æ ea bl h dh ppkZ dh tk jgh gA

okdkVd jktoak dk ukeky[ki] ; | fi ijkrkRod L=kr ¼ gjkfkys[k] l s Kkr gkrk gš rFkfi nksukeka dh ppkZ ij k.kka ea "foU/; d\* fo"ksk.k ds l kfk iklr gkrh gSft l sbudk l æak fol/; ¼ ož rFkk i; kZ l s i nš kZ l s Li 'V gk tkrk gA bua igyk uke fol/; "kDr dk gsvks nš jk ml ds i e i dhj dk ft l sokdkVd vfkys[k] kka ea i d j l su dgk x; k gA vkxs ; g Hkh dgk x; k gsd bl ¼ dhj ½ ds pkj i e gkxs tks jk tk cusA bl vk/kj ij pkj "kk[kkvka dh dYi uk dh x; h gA nks "kk[kk, a fonhkZ ds uflnc/kZ ¼ ukxi g ftys ds ulnj/ku@uxj/ku l svfHku ½ rFkk ori xŋe ¼ ofl e ftys ds e[; ky; l s vfhku ½ ds : i ea fofn gA buds ij kfkys[k]; iæk.k iklr gq gA "ksk nksuks "kk[kk, ¼ xkrkojh unh ds

\*ukxi g] egkj k"V<sup>a</sup>

nf{k.k rFkk nf{k.k dkd y ea vuæfur gA gekjs v/; ; ukud kj bu nks "kk[kkvka ea l s , d fofn"kk&ij dk ea rFkk nš jh eny LFkku pudk ¼ orZku upuk] ftyk i l uk] e/; i nš kZ ea Fkha

bl rjg xak l s xkrkojh ufn; ka ds e/; fLFkr bl fo"ky okdkVd l kekt; ea ty iɔaku ty L=kr ka ds vfrfjDr ekuo fufež l a k/kuka dks Hkh l ekgr fd; k x; k gA vks tks ijkrkRod iæk.kka l s i "B gS dk o.kZu foopu ; gka i Lrŋ gA

okdkVd ujs'kka us fonoku cEg.kka dks fofo/k mīš; ka l s Hkfe] vkokl ] vxgkj vkfn dk nku fn; k gSft l dk mYys[k fofo/kr] i at hdr dj rkhā VV }kjk fuxžer fd; k x; k Fkka bu vfhky[k] kka }kjk xte uke] ml dh pkrfnZ l hekoriZ xteka ds uke dkbZ Hk&kfyd fo"kskrk ; Fkk unh] foj] i i kr ¼ d dKZ xRrZ vkfn dh mi l Fkfr vkfn dh tkudkj h iklr gkrh gA

ufn; ka l nk l s ty&i f r Z ¼ [kku&iku] i Z[kkyu] [ksh&fl pkbZ vkfn fofo/k gsrqdsfy, ½ dk , d i æ k l k/ku jgh gA l a dfr dk vkjHk vks fodkl ik; % unh rVka ij gh ifjyf{kr gkrk gA pfpž {ks= ea i; kZr ufn; ka vofLFkr gSfdUrqi i æ kuq kj bu ea l s dgy dkgh mYys[k iklr gkrk gA bua ošaxak tS h cMā vks egUoiwKZ unh dh l okZ/kd ¼ z'kk l fud bdkbZ ds fo"ksk l UnhkZ eā ppkZ gS vks l kfk gh dgy Nks/h ¼ gk; d ½ ufn; ka dh Hkh ¼ tS s mek] e/kqfgj. ; k] d' .kk] oEckj vkfn ¼

unh dk Nks/k l a dj .k] ft l s ukyk ; k fuHkZ dgk tk l drk gS > jh inkUr xte uke ds: i ea Kkr gkrk gS ¼ Vuk l ækyg; rkei VV& e/kpT > jh ½ gA fojd inkUr xte uke ¼ mijkDr nHkZojd] frjkMā rkei VV djT; fojd vkfn ½ Hkh bl h rR; dk ifjpk; d i rhr gkrk gA l æfedk "kCn l keku; rFkk inkUr uke : i ea fo"ksk uke ds: i ea Hkh feyrk gA l æfedk ik; % nks ufn; ka dk l æe LFkku dk i rrfuf/kRo rks djrk gSgh ¼ nš; k] rkei V&plni g & l æfedk ½ l kfk gh l æfedk uked LFkku ds fo"ksk uke : i ea Hk 0; ogr gŋk gS ¼ k. nqkZ rkei VV& l Mxfodk/A

ng "kCn dŋ LFkku ukeka ds mRj in ds: lk ea feyrk ; g "kCn unh ds, d rV ¼ dukj ½ ij fLFkr xgjsHkx dk ifjpk; d gA ; g fglunh ea ng ejkBh ea Mksj : i ea vkt Hkh ipfyr gA okdkVdka ds l c l s

ikphu Kkr rkei VV 1/2}rh; : ni u dk eka-y rkei =1/2 ea l 1/2yplngl  
f}rh; i ojl u dsekl kn rkei VV dseRL; dng rFkk ckyk?kkV rkei VV  
dsfeYyplng i Hkfr ukeal sng dh mi fLFkr i zekf.kr gkrh gA

; s ng tgka xgjkbl ds dkj.k ikf.k; ka ds ik.k ds fy, l adV  
i zekf.kr gkrh gSogh fl pkbz dh nf'V l s, d cMk ty HkA/kj.k Hkh fl }  
gkrk gA ; g J}k LFkku ds : i ea Hkh tkuk tkrk gA tgka ykx  
i utk&vpZuk djrs gS vksj fl Dds p<kr s gA gky gh ea dQn o'kkz i wZ  
; oreky 1/2onHkZ ftys dh iuh unh ds rV ij fLFkr i d n xke l scMk  
l [; k ea bZ k dh vkj fEHkd "krkfCn; ka ds fl Dds Mkg l s i ktr gq FkA

ufn; ka vkoxeu rFkk ifjogu dk vPNk ek;/ e fl } gkrk gA  
; | fi bl nf'V l s dkbz fo"ksk i zek.k i ktr unhagkr sgr rFkfi l edkyhu  
vU; = l k{; ka dsvk/kkj ij ; g ekuk tk l drk gA fd ; g rF; ; gka Hkh  
ykw fd; k tk l drk gA bl nf'V l s ukxi g ftys dh ikjfl ouh  
rgl hy ea ip unh ij fLFkr xkj [ki g ?kkV uked LFkku dh ppkZ  
egRo i wkZ fl } gkrh gS ; g LFkku okdkVd dky ea , d i zekf k  
0; ki kfjd@i z'kk l dh; d n z Fkk tS k fd i s v d k "kh'kZ d c k Egh ea mRdh.kz  
n'Ve ysk; q r epk /otLrEHk ds [kf.Mr v'k rFkk i dh feVVh ds, d  
/k e z a dh i kfr l s i zekf.kr gkrk gA n'Ve ysk okdkVd rkei VVka ds  
i wkZ gkus ij tkjh djust l e; ysk ds vj EHk ea v i dr tkrk FkA , d s  
gh ; g epk yk, x, eky dh tkp vkfn ds i "pkr yxk; h tkrh jgh  
gkschA nHkZ; o"k vc xkj [ki g ?kkV uked ; g LFkku ; gka cuk, x,  
uoxk d [kjh ckak ds Mnc {ks= ea Mnc x; k gS fdUr qokdkVd dky ea; g  
fu"p; gh , d egRo i wkZ d n z jgk gksck tS k fd ; gka l s i ktr bu  
i gko"kska l s i f y f {kr gkrk gA

bl LFkku ds mRrj ea ulni g] ?kk?kk x<f dksyrekjk vkfn rFkk  
nf{k.k&if"pe ea ikjfl ouh vkfn LFkku gS tgka l s okdkVd dkyhu  
i gko"ksk ; Fkk efurZ ka Lrj epk, a 1/2kon s] : n n s ukeka d r 1/2 i dh g p Z b Z /s  
vksj epk d 1/2 tra Hkxork 1/2 bR; kfn i ktr gq gA rRdkyhu HkS k fyd  
l hek i nf"kr djust gh ugha vfi rqi z'kk l fud bdkbz ds ukefHk/kku ea Hkh  
unh uke dk mi ; kx nf'Vxr gkrk gA bl nf'V l s cS.kk ; k oSkk tks  
orZeku oSuxak l s v f HkUu gS l c l segUoi wkZ fl } gkrh gA bl unh dk

mYyq[k i gk.kk tkrd egkHkjr rFkk ojkgefegj ds ogRI fgrk vkfn  
vkfHk tkr; x d Fkar Fkk [kjosy ds gkFk x f Qk f Hky s [k] okdkVd ka ds rkei VVka  
vkfn ea Hkh i ktr gkrk gA bl unha dk vkj EHk gS e/; i n s k ds fl ouh  
ftys ds i rki i g l s, d >hy l sfudydj ckyk?kkV ftysea i o s k gkrk  
gS vksj vkxs; g fonHkZ ds Hk.Mkj k] ukxi g] pUn i g] x<f p j k S y h gkr s gq  
d'.kk gq i wZ k 1/2ojnk 1/2 oSuxak] b n o r h vkfn ufn; ka l s l a e d j r h g p Z  
xknkojh unh ea l ek tkrh gA tkrd dky ea bl ds rVorh z i n s k dk  
uke oS.kk; M Fkk] l krogu dky rd bl svfl d tuin ukefHk/kku  
feykA tcd okdkVd dky ea bl soskk@os.kkdV uke gh ugha fn; k  
x; k vfi r q bl s d Qn foHkxka ; k Hkksxi VVka ea ckA/k Hkh x; ka

oSuxak dh i zekf k l gk; d unh dUgku , d i kphu unh gS f l s  
d'.kk] dUgk] dUguk vkfn ukeka l s tkuk x; k gA okdkVd dky ea  
bl ds rFkk oskk 1/2o s u x a k 1/2 ds nks/kc dks d'.kkys'kkyhdVd uke l s  
tkuk tkrk FkA 1/2}rh; i ojl u dk i ouh rkei V 1/2 d'.kkys'kkyh , d  
fof"kv i ztkfr dh /kku 1/2pkoy 1/2 dk uke Hkh gks l drk gA tS s gky  
rd dQn i zkj dkyh dEekn] dkyh e n vkfn ukeka l syk d f i z FkA  
; g Hkh egUoi wkZ gS fd vkt Hkh ; g {ks= 1/2Hk.Mkj k] xkn; k] p n z g  
ftyk rd i n s k 1/2 v P N s n t s ds Lokfn'V pkoy i zkj ds fy, tkuk  
tkrk gA

[ksh ds l nHkZ ea fuorZu dh ppkZ ; gka vuq; q r ugha gkschA  
fuorZu okdkVd nku i =ka ea eki nM dh , d bdkbz ds : i ea l ekur%  
mfYyf [kr ik; k tkrk gA Hkne rFkk gy vU; eki nM/ka ds : i ea p p r  
gA fuorZu uru : i ea fonHkZ ds bl {ks= ea e j k B k dky rd i p f y r  
j g u s d s i z e k . k f e y s g S f d U r q e y r % b l d k L o : i f H k U u F k k t S k f d  
gekjs v/ ; ; u l s fl } gkrk gA

fuorZu eyr% unh rV ds ml Hkx dk uke Fkk tksekM+okys LFkku  
ij fLFkr gkrk Fkk vksj /kjk ds l kFk vk; smi tkA feVVh dk teko  
LFky curk FkA bl rjg fuorZu [ksh ds fy, cMk mi tkA {ks= gkrk  
FkA ; gha dkyarj ea [ksh dh tehu uki us dh bdkbz ds : i ea tkuk  
tkus yxka fo"ksk ckr ; g gSfd , d nh?kZky l s v l R r o ea j g u s d s  
c l o t m fuorZu dk dkbz fuf"pr {ks= Qy r; ugha gks ik; ka

ty miyC/k djkus dh nf'V l s dq ½dñ ¼ okfi dk ¼ckoMh¼  
i (dj.kh) l j] l jkøj] rky] rVkd@rMlex vkfn dk fuekZk fd; k tkrk  
Fkka buea l s dñ mnkgj.k okdkVd dky ea fufe- gkus ds HkkSrd  
iek.k i klr gq gA okdkVd dky ea idh bV/ka rFk cy; kdj NYykadh  
jpuk okys dñ dh ij jk dñ "krkfn; ka i wZ l s pyrh vkbZ nf'Vxr  
gksh gA i Ppj vkdkj dh idh bV/ka l srFk cy; kdj NYykadks, d ds  
Åij, d jpdj tksfeVh l scukdj idk fy, tksrFk; sdiq cuk,  
tkrsFk; syxHk l ok, d ehVj 0; kl ¼dq U; wkf/kd 0; kl ½ ds cuk,  
tkrsFk rFk xgjkZ ea ik; % i kdfrd l rg dks Nrs Fka dñ mnkgj.k kka  
ea bu ij idh feVh ds <Ddu dh 0; oLFk Hk feyrh gA i ouh  
¼Hk.Mkj k ftyk ¼ i ouk ¼o/kkZ ftyk¼ uxjk ¼xkñ; k ftyk¼ rkj l k] vMe  
¼ukxi g ftyk¼ vkj.kh ¼ oreky ftyk¼ dñ ifrfuf/k mnkgj.k gS  
rkj l k xk ea rks l kM unh dsfcYdy rV ij cuk, d, d k NYynkj  
dñ feyk gSck.Hk usg'kpfjr eabl s x.Mdq ny dgk gA okl qno"kj.k  
vxoky blga dñ vl; mi; ks ds fy, iz ðr ekurs gA

okfi dk dks dñ vFok tydñ gkrs Fksftudsty Lrj ij igpus  
grq l hf<+ ka dh ; kstuk gksh Fkka jkeVd ¼ i kphu jkefxj¼ uxj/ku  
¼ufno/kZ½ vkfn LFku ij ; sHk foneku gA ; |fi iozhdky ea buea  
vo"; d ejEer vkj ifjorZ gkrs jgs gA ik; % l Hk mnkgj.k i RFkj l s  
fufe- gA ; |fi idh bV/ka l scus dñ Hk ¼ Fk&eka-y) ftyk ukxi g¼  
l sfeysgA r.kkx] l j vkfn rky ¼rkyk¼ tS sjpukvka dk ifrfuf/kRo  
djrs gA ; |fi l j ¼ jkøj½ >hy vkfn ikdfrd dñ/ka dh vkj bñx  
djrs gA fdUrq; g cku dkj d ugha Fkka ; g dbZ ckj fn[kkZ nsk gS  
eul j ¼ i kphu eMh l j] ftyk ukxi g¼ bl dk, d mnkgj.k gA ; gka  
, d fnokj ckdkdj <yku okys {ks= l so'kkZ dk ty l xg.k dj, d rky  
cuk; k x; k gA ftys vkt rd l j gh dgk x; k gA bl ea ty ds dñ  
l krs ¼L=ks½ Hk ik, x, gS tks ty l xg.k dh nf'V l scuk, x, gksA  
i wZ fn"kk ea dñ i RFkka dh fpukBZ dj cuk, x, i Dds ?kkV cus gA  
l ¼Xu igMh ij e[; r% idh bV/ ¼bZLVdk½ l scus fdUrq dñ i Lrj & iz ðr  
efnj] fpfr ¼; su rFk de¼ iq 'k&eS] e.enhd] [kMv vfHkyS[k]  
f"ky idfr; ka vkfn i; kZ; l [; k ea feys gA ]

okdkVd dky ea VdMh@ igMh l sf?kjs <yoku okys {ks= ij ckak  
cukdj ty dk l xg.k cuk, x, rky@ rMlex dk ipyu cgr Fkka  
; g eul j ds vfrfjDr vl; dñ vkj LFkkul sKkr gksh gA i gkHkyS[kh;  
iek.kka l s xqtjkr dh l q"ku rMlex ij jk] HkyHkkar] Kkr gksh gA  
ftl dk vkjHk ekS Zdky ea dh nf'Vxr gksh gS vkj {k=i dky l sgksh  
gkZ xlr dky rd viuk vLrRo cuk, j [krh gA ; g l q"ku rMlex  
ij jk bl h uke l sokdkVdka usHk cuk, j [kha egRo i wkZckr ; g gSfd  
foU; dh okdkVd "kk[kk usns, d s ty Hk.Mkj ka dk rFk ufno/kZ vkj  
oRl xYe "kk[kk vkaus, d&, d rMlex ka dk fuekZk fd; ka bu l c fuekZkka  
ds igkrRoh; iek.k i klr gq gA vñre nks mYyS[kr iek.k rks bu  
fuekZkka ds uke Hk l q"ku ?kk'kr djrs gA

xqtjkr ds twkx<+fLFkr fxjuk ioz dh pVVku ij dñ ys[k  
mRdhZ kZ gS ftul s bu l q"ku ds bfrgk l ij idk" i Mf k gA ; s  
vfHkyS[k egk{k=0 : nnkeu rFk xlr ujs'k Ldnxlr ds dky ds gA  
bul sKkr gksh gSfd ekS Zuj'sk panxlr ds jkT; dky eam l ds jk'Vh;  
oS; i q; xlr us, d ckak dk fuekZk dj, d ty i okg dks jkdj, d  
rkyk dk fuekZk djok; k Fkka ftl ea o'kkZ ty dk l xg.k Hk gksh Fkka  
v"kkd ds dky ea bl ea njLr [krka dh fl pkbZ grq uja cukBZ xbZ Fkka  
egk{k=0 : nnkeu ds dky l or-72 ¼150 bZLoh½ ea ew yk/kj o'kkZ ds  
dkj.k vkBZck<+eaog ckak cg x; k vkj cMh&cMh njkjs i Meul sl q"ku  
nq"ku cu x; ka i Fke : nnkeu usitz ij Hkj u Mkyrsgq fuft [kpZ  
l sigysl scMh vkj ugj scuokdj rMlex dks vkj vPNk cuk fn; ka i q%  
xlr dky ea xlr l or-136&456bZ½ Ldnxlr ds l e; ?ku?kkj c'kkZ ds  
dkj.k ; g Vw x; ka rc bl dk i q'fuekZk fd; k x; ka rRi "pkr dc ; g  
ckak Qw k bl dk mYyS[k ugha feyrka vkt i wkZ-% vuq yC/k gS vkj  
bl ds vo"ksk <ks us dñ iz, kl foHkU 0; fDr; karFk l LFkkvka }kj fd,  
x, gA



fxjukj fLFkr v'kkcd dk vfHkys[k

fol/; okdkVdka dk emy LFkku Kkr gkrk gSi dhj ¼ Fke i djl u  
dk , d i e i Foh'ksk Fkk ftl ds inkud; kr 0; k?kno usupuk rFkk xat  
ea nks fuekZk vi us ekrk&fi rk ds iq; kFZ djok, FkA ; | fi , d l s  
rhuka bu vfHkys[kka ea fuekZk D; k Lo: i Fkk] ; g ugha mYys[kr gS  
rFkfi LFkkuka ds Hkksrd v/; ; u ds vk/kkj Li'V gA ; s fuekZk ty  
i dkg dks vo: } dks cuk, x, ty Hkkskj gh FkA igyk nks vfHkys[k&; D r  
i Lrj tgka l sfeyk ml s tl ks fj; kl r ds d Bkj ; k d Bkj x<+ds  
ckj eñku ea upus dh rykbZ uked xk d gk x; k gA nñ jk i kflr  
LFkku l ehi Lr vt; x<+fj; kl r dk eyw&V&ch VsdMh ds ikl xat  
uked xk ds M&ck ¼ nks kh½ ds: i eamYys[kr gS; gka ty i dkg dks  
jk d us ds mn&s; ea ck&k cuk, tkuseaiz D r vo"ksk mi yC/k gq gA  
vr% vfHkys[kka ea p p r ; smYys[k bu nksuka LFkkuka ij fufeZ tykojksk  
vFkok tyl æg.k grqcuk, ck&k&dsfy, vfHki r Fkk] bl eadkbZ l ng  
ugh jgrkA

ufuno/kZu ds okdkVd o&k dk , d f"kyky[k dñ n"kdka i dZ  
jkeVd ds d o y ufl & eñj l segkj k'V jkT; i jkrRo foHkx }kj k i d k "k  
ea yk; k x; kA nñ& ; o" k vl ko/kku ds d kj . k bl dk vk/ks l svf/kd Hkx  
fNy fn; k x; k gA vof" k' B v&k ea x&r jkto&k] i Hkksrh x&r] ml ds  
HkksbZ?kVks dPN }kj k vi uh Hkks&h ¼ Hkksrh x&r] dh i e h½ l sfookg vkfn  
dk foj . k gA bl h ea l q" kZu rM&x dk mYys[k gA ftl dk l ehdj . k

l ehi Lr i dZ fn"kk ea cusf[kMI h tyk" k; l sfd; k gA bl rkyk dks  
jke l kxj uke n s us dk Hk iz Ru fd; k x; k gA

bl h Hkksr o r l x&e ds okdkVd n o l u us Hk "kd 380 ¼ 458 bZ½ ea  
fgl s&jkyk uked xk e f tyk e d ; ky; l s9 fdeh nf{k.k ea fLFkr gS  
l q" kZu rM&x dk fuekZk fd; k FkA bl LFkku ij vc ukys v&S ck&ks x,  
ck&k ds vo"ksk vof" k' V gA Li'V gS fd bl "kk [kk }kj k Hk l q" kZu  
i j&jk dk voycau fd; k x; k FkA

bl i j i j k ea v&S Hk dñ ck&k cuk, x, Fk s t& & jkeVd ea gh  
vofLFkr v&kyk ¼ i kphu v&cf rRFk] tkr d½ uxj/ku vkfnA

bu rF; ka ds vokyk dñ typj] ; Fk eRL; % ekl kn dkeBh  
rkei VV&eRL; dng] eM&h½ tk& rkei VV@eM&h xte½ ty i j d uke  
t& s l eñj i Fohl eñj ¼ }rh; i Foh'ksk dk ekgg > jh rkei VV%  
, dk. k&l fyy ¼ }rh; ; nñ u dk eka y rkei =½ ty i j ¼ Hkksrh x&r  
dk fejs& rkei =½ vkfn Hk okdkVd dky ea vi uh mi fLFkr ntZ  
djokrsfn[krs gA ; sl eLr rRFk bl ckr ds i f j p k; d gS fd okdkVd  
dky ea ty i z&ku vi us l exz rFk l p k: : i ea l f o ; FkA

I UnHk&x&Fk

- 1- okl qno fo. kfej k"kh b&l o i "ka v&kh okdkVdkt] dki ð b&l o i "ka e-bf. Mdje] [ka5] mVde. M 1955 vt; fe= "kkL=h ¼ ¼ n , t v&nd n okdkVdki ] gjeu iftyf"ka gkA l fnYyh 1992A
- 2- okdkVdki % fgLVh , .M l kd ð ] vk; ð c& l b. Vjus'kuy] fnYyh 1997A
- 3- pUn'ks'kj x&r] fonHkz % , frgkl d Hkks&ksyd i "B&h&e] fo"oHkjr h i d k "ku] ukxi j 1996A
- 4- i kphu fonHkz p k , frgkl d Hkks&ky] mi j k D r

20

# I kxj ftys ds ty L=kr , oa ty çca/ku% , d , frgkfl d v/; ; u

\*MKW ukxs k nps

cpsy [k.M eal kxj ftysdk bfrgkl xksoi wZ jgk gA foal; ioze kyk vks ?kusouka us l kxj vpy dks çk dfrd l kOn; Zçnku fd; k gA bl vpy eacgusokyh chuk] /kl ku] l ukj] dks jk] ckeuj rFk çal vkfn ufn; k; ml smoj cukrh jgha gA l kxj vpy i k'kk.k; qhu vkfn ekuoka dh ØhMk LFkyh jgk gA , frgkfl d ; q; ea ; g Hkkkx çed[k jktoakka ; Fkk ekS ] 'kqç ukx] xqr] plnsy] dypñj rFk ijekjka ds l kekT; dk vak jgk gA l kxj vpy dks l okZ/kd egRo xqrdky ea çktr gqKA l epixqr ds l e; , j.k %çkphu , s j ds k½ uked LFku ftys vflky [k ea 'LoHkkx uxj\* dgk x; k gA<sup>1</sup> ; g jkt dh; rFk l sud xrfrof/k; ka dk egRo i wZ dñz Fkka xqrdkyhu vo'kSkka ds fy, ; g LFku vR; Ur fo[; kr gA

NBh 'krkCnh bl oh dsi 'pkr-l kxj ftysdk bfrgkl i q%vU/kdkj ds xrZ eal ek; k gq/k gA uoeha 'krkCnh bl oh dsi 'pkr-TkSt kd HkqDr %cpsy [k.M½ rFk f=i gh ea nks u; sjktoakka plnsy rFk dypñj; ka dk mn; gqKA budk vf/kdkj l kxj {ks= ea i; ktr l e; rd jgkA X; kjgoha 'krkCnh bl oh ea ijekjka us l kxj ftysdk Hk&Hkx plnsy ka l s Nhu fy; ka bl {ks= ij ekyok ds ijekjka dk 'kkl u Fk ijUr q i q% plnsy ka us vi uk vf/kdkj bl Hk&Hkx ij LFkfir dj fy; ka

\*, l kf'k; v çkQd j] çkphu Hkkj rh; bfrgkl ] l d dfr rFk i g krUo foHkkx] MKW gj hf l g Xkks fo' ofo | ky; ] l kxj] %e-ç-½

ckjgoha&rjgoha 'krkCnh bl oh eabl ftysds vvx&vyx Hkkxka ij fofHkUu LFkkuh; jktir oakka us jkT; fd; ka jgyh ds vkl ikl vkghjkarFk x<i gjk ij nkax; ka dh l Ukk LFkfir gksx; ha rjgoha&pkngoha 'krkCnh rd l kxj ftysij fnYyh l Yrur dk vf/kdkj jgkA i angoha 'krkCnh bl oh dsmUkj) Zeal kxj ftyk xk&kaedsv/khu jgkA l ake'kkg o jkuh nqkZbrh ds 52 x<ka eal snl x<+l kxj ftyseafLFkr gA buea x<i gjk] /kkeksh] 'kkgx<f [keykl k] nojh] xkS>kej] jkgrx<f bVkok] x<kdkk/k vks jgyh fLFkr x<+veç; ky; ½ vkrs FkA<sup>2</sup> xk&ka ds i 'pkr-epxyka dk vf/kiR; bl Hk&Hkx ij dk; e gqKA l =goha 'krkCnh bl oha eal kxj ftysds/kkeksh ij çñsyk 'kkl d tçkjfl g dk vf/kdkj Fk] tçkjfl g dh er; qdsi 'pkr-bl {ks= ij pEi rjk; dk vf/kdkj gqKA pEi rjk; ds i 'pkr-muds i ç çñsyk ujsk N=l ky us l kxj ftysds /kkeksh] f[keykl k] x<kdkk/k vkfn LFkkuka dks epxyka l s Nhu fy; k vks vi us jkT; eal feefyr dj fy; ka egkjkt N=l ky us vi us thou ds vfire o"kkā eabykgkckn dseqy vkØe.k ea i s kok ckthjko }kjk l Ø; l gk; rk fn; s tkus ds QyLo; i vU; nñ jsftyka ds l kfk] l kxj ftyk Hkh i s kok dks l ka fn; ka vr% l kxj ftysij ejk Bka dk 'kkl u LFkfir gqKA

l u-1818 dsi 'pkr-l kxj ftyk fcfV'k l kekT; eal feefyr gqKA vakst h l suk us l kxj] , j.k] [kj b] f[keykl k] tS huxj] jgyh] /kkeksh vkfn çed[k LFkkuka i j vi uk vf/kdkj dj fy; ka l u-1861 eaç'kkl fud 0; oLFk ds fy, l kxj ftys dks ukxi g l s feyk fn; k x; k vks l kxj & uezhk çns k] e/; çkar dk , d Hkx cu x; ka ; g 0; oLFk l u-1956 rd u; se/; çns k jkT; ds i pxBu gksus rd cuh jghA<sup>3</sup>

orZku eal kxj ftysdk Hk&Hkx e/; çns k dsmUkj h e/; Hkx ea fLFkr gA ; g 23°11' , oa 24°27' mUkj h v{kkak vks 78°4' l s 79°21' i whZ nskkUrj ds e/; fLFkr gA bl ftys dh mUkj h l hek l s yxk gq/k mUkj çns k dk >kf h ftyk] nf{k.kh l hek ij ujfl g i g vks jk; l su] ftyS i f'peh l hek ij fofn'kk ftyk vks i whZ l hek ij nekS ftyk gA mUkj & i whZ vks mUkj & i f'peh dh vks ; g ftyk Øe'k% Nrji g vks xqk ftys l s yxk gq/k gA l kxj ftys dk {ks= Qy 3961 oxZ eh y

1/4 0269 oxZfd-eh-1/2 gA<sup>4</sup> fo'kky ekyok ds i Bkj ds nf{k.kh&i whz fdulkjs ij ; g ftyk fLFkr gA<sup>5</sup> ddZjs[kk ftys ds nf{k.kh Hkx I s xqt jr h gA I xj ftys dh I enry I svk r Apkbz yxHkx 447-2&553-4 ehVj gA<sup>6</sup> I xj ftys dk {ks= fol/; i o'r Uka[kyk dh Jf.k; ka I s vkPNkfnr gA foa; i o'r dks ckphu dky ds I kr e[; i o'r ka ea I s , d dgk x; k gA<sup>7</sup> foa; i o'r Uka[kyk I xj] cMk jgyh] uj; koyh vkfn {ks=ka ea folrh.kZ gA ftys dk I cl s Apk LFkku ukgeA gA I xj ftys ds Hk&Hkx I s ckphudky dk ced[k jktekxz xqt jr k Fkk] ; g jktekxz mTtf; uh] fofn'kk] I kaph gkrk gvk ftys ds ced[k uxj , j.k I s xqt jr k Fkk v[ Hkj gq gkrk gvk] dks kEckh rd tkrk FkA<sup>8</sup> i jkrUoh; , oal kd dfrd oBko I s I Ei lu I xj ftyk c[nsy [k.M dk an; LFky gA I xj ftyk u[ fxZ Hk&I j puk , oa ck dfrd I qek I s I Ei lu gI xj ftys ds ty L=kr ea e[; L=kr o"kkZ dk ty gh gA

xh'e \_rqds vire efguka eanf{k.kh if'peh rFk if'peh gokvka ds I kFk vkdk'k ea cknv Nkus yxrs gA o"kkZky ea cknys I s Hkj k vR; f/kd f?kj k gvk vkdk'k ; gk; cgdkk fn [kkbz nrk gA ftys ea vkB o"kkZki d dlnz gdf ty ea c[ro"kz 1]226 fe-eh- v[ r o"kkZ gkrh gA ftys dh nf{k.kh if'peh I hek ij vf/kd ek=k ea o"kkZ gkrh gS v[ mUkj v[ i wZ dh v[ Hk d[ ?kV tkrh gA ftys ds nf{k.kh i whz Hkx ea jgyh ea cgr de ek=k ea o"kkZ gkrh g[ bl dk e[; dkj.k ; g {ks= i o'r Jf.k; ka dh vk/ ea cl k gA

ty I d k/ku

ty i firZ ds I k/ku dq a g[ foa; 'kSy j puk v[ V[ pVVkuka ea ty I p; {kerk cgr de gA xehz ds eghuka ea i kuh dh cgr deh jgrh gA i Fkj; k&x<kdk/k ekxz ds i wZ dh v[ ds ty ks+cn[ k ea d[ka ea vf/kd ek=k ea i kuh ik; k tkrk g[ tcf d Bkj 'kSy okys {ks=ka ea dq a xehz ds ek[ e ea I [k tkr gA dHk&dHk fonj r puak i RFkj dh pVVkuka ea ty I p; vPNk gkrk gA

ufn; k; ftys dh ufn; ka mUkj v[ mUkj i wZ dh v[ cgrh gA ftys dh i kp cMh ufn; k; vFkk~& chuk] /kl ku] col ] I k[ v[ ckeuj gA<sup>9</sup> os e[; ty L=kr gdf t[uea dbz Nks/h&Nks/h ufn; k; vk feyrh g[ t[uea I svf/kdk k d[ o"kkZkyhu Nks/h ufn; k; gA

; g ftyk okLro eamUkj rFk mUkj i wZ dh v[ <yokagA if'pe I s i wZ dh v[ fXuus ij e[; ufn; ka Oe'k% chuk] /kl ku] col ] I k[ v[ okeuj gA

chuk unh] ftl dk L=kr ftys I s nf{k.k dh v[ dbz ehy dh njh ij g[ bl ftys ea eguk xke ds fudV [ok k djrh gA jkgrx<+ I s gkdj c[us ds ckn unh dks I xj I svkus okyh I M[ i k djrh g[ ; g unh mUkj i wZ dh v[ e[+tkrh gS v[ ml ds dbz LFkkuka ij I xj v[ fofn'kk ftyka ds chip dh I hek cu tkrh gA<sup>10</sup> jkgrx<+ xke ds Aj ; g unh 50 QV 1/15-24 eh-1/2 dh Apkbz I s ty[ikr ds : i ea fxjrh gA ; g ty[ikr eukje n'; koyh ds fy, v[ fidfud LFky ds : i ea [fl ) gA chuk&bVkok ds if'pe dh v[ 10 ehy I s Aj ; g unh orok I sfey tkrh gA c[ok Lo; a I xj I sugha cgrh] fdUrq I xj v[ x[uk ftyka ds chip dh I hek cukrh gA<sup>11</sup>

/kl ku unh dk L=kr ftys dh nf{k.kh I hek ds ml i k i kl gh ea gA og i gysnf{k.k dh v[ Qj mUkj&i wZ dh v[ uj; koyh 1/4 tksfd I xj v[ chuk ds chip , d j syos LV[ ku g[ ds ml i k rd cgrh gA mUkj ea dk Qh njh rd og I xj v[ >ka h ftyka ds chip dh I hek cukrh gA

nf{k.k&i wZ dh v[ col ] I k[ j] dks jk v[ okeuj ufn; ka g[ dks jk v[ col okLro ea I k[ dh I gk; d ufn; ka gA mUkj i wZ dh v[ ftys dh I hek I s dbz ehy nj I k[ v[ okeuj feyrh gS v[ ds I s tk feyrh g[ tksfd ; euk dh e[; I gk; d unh gA

ty dh mi yC/krk I sgh I H; rk&I dfr dk fodkl g[ka cat j Hk[ie dks i kuh feyk rksueh i kdj Hk[ie d[ k ds d[fcy g[ [krh dh xbZ rksvlu mRi lu g[ka O; fDr ek[ kgkj h I s'kkdkgkj h cu x; ka ; fn Hk[ie <kyh i gkMh i Fkjhyh gS v[ ogk ckj gkaekl h ty; [r ufn; k; ukysugha

gð rks euþ; ka us ogkj /kjkrý ij cjl krh çokfr gkrš tkrš ty ds  
l æg.k grqrkyk , oadq; cuk fy; Å mDr l æghr ty dk mi; kx  
vi usnšud thou dsfuLrkj , oadfk fodkl ] tš sl Hkh dk; kã ea yus  
dh ; kstuk x<+yh xba bl çdkj /kjkrýh; ty dks mi; kx ea ykus  
dk l cl scgrj rjhdk rkykcka ckofM+ ka , oa dya ds fuekz k dk l kpk  
vkš ml sl kdkj fd; kA



Ckhuk unh tyi i kr jkgrx<+

vFkøbn ea Lrfir gšfd ^gs e: nòks l w l dh xehz ds l kFk vki  
l epz ds Åij l smMks vkš egko"khk ds l eku xtZuk djus okys ty  
cknyka dks ykdj vki Hkñe dks rlr dj; D; kãd tc rd /kjr dh l; kl  
ughacp-rhj mRi fUk] mRi knu] vkokl &fuokl dñ Hkh l Ehko ughagA /kjr  
dks tyker l sthfor j [kuk igyh vko'; drk gš; fn /kjr ij thou  
j [kuk gš rka\*\* D; kãd euþ; ds ftlnk jgus dkš i hus dkš ugku&/kks  
dkš l kQ&l Qkbz j [kuš Hkstu i dkus dkš ?kj&edku fuekz k ds fy,]  
vlu mRi knu grqfl pkbz ds fy, ] dy&dkj [kkuspykus ds fy,] fctyh  
cukus ds fy,] vkš] kfxd {ks=ka ds fodkl ds fy,] l kãdfrd LFkyk  
nòky; ka ds fodkl ds fy, ty çfke vko'; drk gA rks ty dsfo"i;  
dh l gh l e> Hkh t: jh gA tks ty Hkñe ij cjl rk gš ml dk

nq i; kx u gkA bl ds vykok ; g fd l rgh cjl krh ty dks vfhk; kfl=dh  
rkš ij unh&ukyka ij ck/k] rkyk] dq; , oackofM+ k; cukdj , d k l æg  
dja fd l æghr ty dks fer0; f; rki wZl df"i thoui; ksch dk; kã , oa  
dy&dkj [kkuka dks fn; k tk l ds , oa fer0; f; rk ds l kFk Cqñ&cpñ dk  
mi; kx df"i fl pkbz , oa m | kxka ea gks l dA

o"kkZ ds /kjkrýh; çokfr i kuh l s ufn; k&ukyka dk fuekz k gkrk  
gA ; g Hkh fd iFoh ds /kjkrý ij o"kkZ ds ty l sfufeZ ufn; k&ukyka  
dk tky l k fcNk gvk gš tks Åpkbz l sfupkbz dh vkš ty çokfr djrh  
gA ; fn Hkñexr tyL=kr çkr djuk vl Ehko gš vFkok nfo/kktud gš rks  
iFoh ds /kjkrý ij ufn; k&ukyka ds çokfr gkrš tkrš ty dks jkdj  
ekuoh; fodkl ds mi; kx ea rks yk; k gh tk l drk gš ftl ds fy,  
rkykckã dya, oackofM+ ka dk fuekz k gh l cl sl tñj] l kãdfrd] l jy  
, oa l Lrk mik; gA

rkyk

l kxj ftyk nf{k.kh çñsy [kM dk , d k ftyk gš ftl dk vf/kdkã Hkx  
i gkM] vkš; kÅ] Åpk&uhpk] ÅcM& [kkM+vkš <kywgš; gk; dh i gkM]  
<ky] vkš; kÅ] i Fkjhyh jkdM+Hkñe ea df"i fl pkbz vkš tu fuLrkj grq  
rkykcka dk fuekz k fd; k tkrk gA , d srkykcka ea i gkM+ kã vkš; ka , oa  
Åph Hkñe dk cjl krh /kjkrýh; ty uhps dks çokfr gkrk jgdj  
bdVBk gkrk jgrk gš ftl dk mi; kx df"i fl pkbz , oa tu fuLrkj ea  
gkrk jgk gA dñ cM&cM+rkyk Hkh l kxj ftyea gš ftul sftys dk  
çkdrd l kšn; l , oa egUkk nñj&nñj rd çfl ) gA , d sl jkøj n'kZuh;  
Hkh gA l kxj ftyea vuod , frgkfl d rkyk gA

l kxj rkyk] l kxj & l kxj >hy uxj ds nf{k.kh&i wZl Hkx  
dh i gkM+ ka ds e/; l Fkr gš tks if'peh ik'oz ea nf{k.kh&mUkj  
i gkM+ ka dh i vkj ea , d Nks/k&l k ck/k cukdj rš kj dh xbz FkA bl s  
ekak uke l s tkuk tkrk gš orëku ea rkyk ½>hy½ ds pkj ka vkš dh  
i gkM+ kã vkš; kã ij cl k gvk gA





Lkxj rkyk

, d h ykd fdonl rh gsf d l kxj >hy dk fuekZk 13oha l nh ea catkjk ka usdj k; k Fkka , d cfl ) yk [kk catkjk vi usvl; catkjk adsl kfk xngkj HkS kj cSyka 1/4/kMkz ij ued vkj vl; xtgfLFkd l kexh ykndj cflnsy [kM {ks= ea vkr sFks rFkk ?kne&?kne dj cM+s; ki kfjd dLck&xkpkaea oLrq; cpk djrs FkA gtjk ka eof' k; ka ds l kfk muds Mj s i Mf s FkA vi us eof' k; ka 1/4/kMkz dks i hus dks Hkkjh ty dh vko'; drk i Mf h FkA pyr k&fQjrk 1/4/kMkz dks 1/2; ol k; catkjk tkfr dk e[; /ku/k gsrk Fkkj ftl dkj .k og ogha Mj k Mkyrs Fks t gk; i kuh cgyrk eagrk Fkka ; fn mi yC/k ughagrk rks catkjs; ki kjh vi us i s sl srkyk vFok ckofM+ k; cuok yrs FkA catkjk tkfr 0; ol k; 1/2 catk] cat 1/2 dj us ds dkj .k gh , d tkfr ds: i ea cfl ) gks xbz FkA l kxj ea Hkh buds Mj k yxk djrs FkS i jUr qogk; muds eof' k; ka 1/4/kMkz dks i hus ds i kuh dh deh i Mf h jgrh Fkhj ftl dh vki firZ ds fy, catkjk ka us nks i gkfM+ ka dse/; Nks/h nks dk i jUr qpkMk l n<+ck/k cuokdj fo' kky l kxj 1/4 rkyk 1/2 dk fuekZk djok fn; k Fkka pkj ka vkj Åph&Åph i gkfM+ k; ftuds e/; ea fo' kky l kxj 1/2 hy tS k rkyk 1/2 cu x; k Fkka bl h l kxj 1/2 hy 1/2 dsuke l snkf x; kj vghj ka , oa xkMk dh vkj; ka 1/4/kS h 1/2 ij cl h cLrh 'l kxj\* rkyk dsuke l sgh cfl ) gks xbz FkA orZku ea l kxj cLrh rkyk ds pkj ka vkj dh i gkfM+ k; vkj; ka ij , oa muds fi NokMk dh uhp l ery Hkfe ij cl h gpZ gA >hy cLrh ds e/; ea gks xbz gA

bl fo' kky rkyk ds dkj .k gh bl uxj dk ukedj .k 'l kxj\* gq/kA l kxj ds orZku LFkku ea cFke cLrh fugy 'kkr ds oa kat nkach 'kkl d mnu 'kkg us l u-1960 ea cl kbz FkA mnu 'kkg us orZku LFkku

ij , d fdyk cuok; k Fkka fdys ds i kl dh cLrh i jdk/k uke dk xkæ vc l kxj uxj dk , d Hkx gA ; g {ks= nkæx; ka ds vf/kdkj l s dkykUrj ea ejk Bka ds vf/kdkj ea jgkA<sup>12</sup> l kxj uxj ds bl rkyk dks cMk : i nus dk Js ejk Bka dks gA ml gkaus rkyk dks xgjk vkj pkMk- dj k; ka ejk Bk l usnkj xkfolnjko i Mf r us nkæx; ka }kjk cuok; s x; s i jkus fdys ds LFkku ij gh fo' kky fdyk cuok; ka rkyk ea vud ?kV/ka dk fuekZk dj k; ka muds l e; ea l kxj ds rkyk dh 'kklk n' kZuh; Fkha catkjsy k l kxj vkdj rkyk dh i nck djrs FkA catkjk ka dh vud dFk, a bl rkyk ds l kfk tMh gS tks jkpd gkus ds LkFk uxj ds 0; ki kfjd egRo dks c dV djrh gA<sup>13</sup>

/kkeksh rkyk & l kxj ds mUk es l kxj & egjksh cl ekxZ ij 30 fdyk ehVj dh njh ij /kkeksh gA ; g ckphu uxj Fkkj tks xkMk cflnsy ka , oa vaxt ka ds vf/kdkj ea jgrk jgkA ; gk dk fdyk cflnsy [kM ds fdyka ea l s , d cfl ) vkj fo' kky fdyk gA bl fdys ds nf{k. kh i' oZ ea ckphu cflnsy 'kkl udkyhu l qnj rkyk gS tks fdyk l s yxHkx , d fdyk ehVj dh njh ij gA bl rkyk l s fdys ds vlnj tyki firZ ds fy, feeh ds i kbi Mys gq FkA fdys ds pkj ka vkj cuh i Dh [kkbz Hkh bl h rkyk ds f>jrs i kuh l s Hkh jgrh FkA fdys ds gEekLj Lukukxkj ka ea Hkh bl h rkyk dk i kuh tkrk jgrk Fkka i jUr qvc bl rkyk dh Hkfe ij >kfM+ k; mx vk; ha gA<sup>14</sup>

cMk dk rkyk & cMk uxj l kxj & 'kkgx<+cl ekxZ ij l kxj l s 30 fdyk ehVj dh njh ij gA cMk uxj ds i whZ i k' oZ ea , d Nks/k rkyk gS tks fuLrkjh rkyk gA bl rkyk ds i kl vud tS einj gA , d nit jk rkyk ej?kvk rkyk Hkh cMk ea gA<sup>15</sup>

fouk; dk dk rkyk & fouk; dk xte l kxj ds c dkd fouk; d jko ejk Bk uscl k; k Fkka fouk; d jko bl h fouk; dk dLck ea jgk djrs FkA ; g cMk l s i f' pekS kj fn'kk ea 18 fd-eh- dh njh ij /kl ku unh ds fdokj s l Fkr gA ; gk fouk; d jko }kjk cuok; k gq/k , d vfr l qnj fuLrkjh rkyk gA l u-1897&1900 bz dse/; bl dk th. kS kj dj k; k x; k Fkka

x<+gjk dk rkyk & x<+gjk dLck l kxj dsmUkj&iwZea9 fd-eh dh njih ij fLFkr gA l kxj tuin dk nll jk , frgkfl d rkyk x<+gjk dk ekshyky gA ; g rkyk nkach 'kkl dka }kjk cuok; k x; k gA cKphu dky ea; g xkMlokuk jkT; ds vlrzr Fkkj i jUrq dkyUrj ea x<+gjk dks nfx; ka us vi us vf/kdkj ea ydjj bl svi uh jkt/kkuh cuk fy; k FkA ; gk i gkM+ ij l tñj fdyk gA fdyk dsuhpsmUkj&iwZ fdukjs, d rkyk gSftl seksh l kxj dgk tkrk gA ; g rkyk orZku ea tyfogh u gks x; k gA<sup>16</sup>

x<kyk rkyk & x<kyk [kj bz ifj {ks=klrxr}] l kxj l s 34 fdykehVj dh njih ij gA ; gk , d cMk rkyk gA ; g yxHx 75 , dM+{ks= ea Qsyk gS tks nfx; ka dk cuok; k gA gA ; g [kj bz {ks= dk cMk rkyk gA bl ds ty dk mi ; ks tu fuLrkj , oa {ks=ka dh fl pkbZ eafd; k tkrk gA<sup>17</sup>

ghjkij dk rkyk & ghjkij dLck 'kkgx<+ds mUkj&iwZ ea 'kkgx<&Nrjij , oaNrjij&nekg ekxk ds frxSyk LFky ij fLFkr gA ghjkij cKphu dLck gS tks fj; kl rh tekuseapj [kjh fj; kl rh dk Fkk] ftl s 1857 bz eafolyo i 'pkr-vaxstka usysfy; k FkA ghjkij eafdys ds ikl , d plnsy ; qhu rkyk Fk tks QW x; k FkA ckn ea bl dk th.kk) kj dj; k FkA ; g ghjkij dLck dk tu fuLrkjh rkyk gA<sup>18</sup>

tñ h uxj rkyk & ; g rkyk l kxj ftyk eq; ky; ds nf{k.k&if'pe fn'kk ea 32 fdykehVj dh njih ij xte t; fl g uxj ea fLFkr gA ; g t; fl g uxj x<+gjk ds nfxh jktk t; fl g us cl k; k FkA mlgha nfxh jktk t; fl g us; g rkyk xkp ds tu fuLrkj grq cuok; k FkA dkyUrj eabl rkyk dh ejEer djkdj rkyk dh ty Hkjo {kerk c<kbz FkA<sup>19</sup>

fi BkSj; k dk rkyk & fi BkSj; k xte l kxj dsmUkj&if'pe ea 18 fd-eh dh njih ij gA ; g dypñj& qhu xte gSrFkk ml h ; q dk ; g tufuLrkjh l tñj rkyk gA bl dk {ks=Qy 1328 , dM+gA rkyk ds cKk ij x.kk th , oaf'koth ds eñj cus gq gA<sup>20</sup>

jkgrx<+ rkyk & jkgrx<} l kxj l s if'pe ea l kxj Hkky ekxZij 35 fd-eh dh njih ij fLFkr gA ; gk chuk unh ds fdukjs i gkM+

ij fo'kky l tñj fdyk fufeñ gA fdys ds vlnj i gkM+ds iRFkj dks dkVdj , d xgjk cMk rkyk cuk gA ftl ea mrjus ds fy, l hf<+k; kuh gpz gA cjl kr ea ; g rkyk ty l s Hkjk jgrk gS ; g vkd"kd , oa eukgkj yxrk gA<sup>21</sup>

enu l kxj rkyk 'kkgx<+& 'kkgx<+ds mUkj&iwZea i gkM+ka dse/; l tñj rkyk gA bl rkyk dk fuekZk 'kkgx<&xMkcdk/k ds jktk enu fl g us djok; k FkA ; g n'kZu; rkyk gA

'kkgx<+nqZ l s l ayXu i wZ i k'ozea dK; l syxk gA , d NkV/k rkyk Fk tks orZku ea feñ l s Hkjk pdk gA dny cKk dh Ajh l hf<+k; gh rkyk dh vkdfr Lefr Lo: i n"V0; gA<sup>22</sup>

[kj bz dk rkyk & l kxj ftyk eq; ky; l s nf{k.k fn'kk dh vkj 50 fdykehVj dh njih ij [kj bz uxj fLFkr gA ; g l kxj chuk jyosdk , d LVs ku gA l kxj ftyk dh rgl hy [kj bz dk eq; ky; gA bl dk fodkl ejkBa ds vk/khu gkus ij gA l kxj dsejkBk l wnkj xksoln oYyky [k] l s [kj bz {ks= ij dCtk dj ; gk fdyk cuok; k vkj fdyk l s l ayXu i wZ i k'ozea , d l tñj l jk) dk fuekZk dj; k FkA bl rkyk dk cKk nf{k.k dh vkj gSrFkk Hkjo fdyk ds l ekurj ij dKk l s l ayXu mUkj i wZ Hkx dks gA cKk ea l tñj ?kkV fufeñ dj; s FkA fdyk ij dKk l s l ayXu Hk l tñj ?kkV , oa eñj fufeñ gS tks jkt l h ?kkV , oa eñj jgs FkA [kj bz dk rkyk l tñj n'kZu; eukje tufuLrkjh rkyk gA<sup>23</sup>

ekyFkA dk rkyk & ekyFkA l kxj l s if'pe ea l kxj & yfyri j cl ekxZij ekyFkA ?kkVh dk xkp gS tks i gkM+ds 'kh"z i j gh cl k gA ; gk xkp ds cKk i wZ i k'ozea bñxkg ds ikl , d cKphu xkMlokuh ; qhu rkyk gS tks l j {kk&l QkbZ , oa ejEer dh 0; oLFk ds vHko ea chgM+gks jgk gA<sup>24</sup>

cyg rkyk & cyg rkyk l kxj ftyk dh jgyh rgl hy eq; ky; l s 16 fdykehVj dh njih ij cyg xte ea fLFkr gA cyg cKphu dky ds xkM+jkT; 'kkl udky ea fi FkSj ds xkM+ ifjokj dh tkxhj dk cMk l eñur l Eilu xte FkA ogk ml h ; q dk , d cMk l tñj rkyk gA cKk ij pMdk noh dk eñj gA<sup>25</sup>

mij; Dr rkykcka ds vfrfjDr Hkh fuEukadr rkykc l xj ft ysea g&

jrkuk rkykc] ekgjh rkykc] u; k[kjk rkykc] dkNyku rkykc] iMjbl rkykc] ghjki g rkykc] Nstyk rkykc] eNj; k rkykc] VMk rkykc] xax l xj] [kjkuk rkykc] egvk [kMk rkykc] cfin; k rkykc] ukjk; .ki g rkykc] cjk; Vk rkykc] frxkMk rkykc] rkykc] fouk rkykc] cknjh rkykc] xaxjk [knz rkykc] eMk xkM rkykc , oa egjh rkykA

bu l Hkh rkykcka ea xkMj 1/2 kn 1/2 Hkj xbz gA ykx rkykcka ds Hkjko {ks= ea dfr'k djus yxs gA ckykka ea fj l u gksh gA 'kkl dh; mi fkl] vuns kh , oa ejEer ds vHkko ea rkykc npr kxLr gks x, gA rkykcka ds ckykka i j i M&> kfm+ k; i nk gks xbz gA i Mka dh tMka us ckykka dh feeh ea njkai i nk dj nh gA vks& i hNs dh i RFkj dh i f; ka dks vi us LFkku l sfopfy dj fn; k gA dN nhokj ka Hkjko {ks= ea vks dh vks vks dN i hNs dh lkhNsf [kl ddj fxj xbz gA bu nhokj ka ds fopyu l s, oa i Mka > kfm+ ks dh tMka l scuh njkka ea l srkykcka dk i kuh fj l & fj l dj i hNs fudy tkrk gA ty Hkjko ds nco rd i kuh ckj fudy tkrk gA rkykc i kuh l s [kkyh gks tkr gA vLr] rkykcka dh xkn] xkMj] rkykckadh l hek l scgj fudyokuk cgr vko'; d gA tc rkykcka dk xgjhdj .k gks tk, xk rks ty l xg .k {kerk c<+tk, xhA xgjhdj .k ds l kfk gh ckykka dh l kQ&l Qkb] ejEer] fj l uclnh] cakku dh Hkjkb] i Mka > kfm+ ka dh dVkbz cfro"lz gkrs jgus l s rkykcka dh fj l u&f>ju cln gks xhA tc rkykcka dk ty 0; Fkzeackgj u fudy l dsx rks ty dk Hkjko l nk cuk jgs xA u; k& i gkuk i kuh feyrk jgs xA ty l dV ugha c< xkA

ckcfM+ k; & mi ; Dr rkykcka ds vfrfjDr l xj ftys ds qR; sd uxjka dLcka o xkpa ea ckcfM+ k; tks fd , frgkl d egRo dh gA ; s ckcfM+ k; ty L=kr ka ds : i egRo i wLz jghagA l xj uxj eagh xki kyxat] cMck t k j] y{ehi j k ea l Fkr ckcfM+ k egUoi wLz gA bl h rjg f[keykl k] uj; koyh] [kj b] chuk] npr h] e<fi i fj; k] cMk fcu k j kgrx< xk] >kej] 'kkgx< /kksuh] x< kckk] jgyh fLFkr vf/kdk k fdyka ea ckcfM+ ka ds cek.k cklr gA tks ty ds l j {k.k dk eq; L=kr Fkha

ckphu i jEi jkr ty caku l d k/ku rkykc] ckcfM+ k; dq; , oa pks j] yxHkx 400 l s 1000 o"lz rd ds i gkus gks ppls gA nh?kzky l s pysvk jgs bu ty l d k/kuka ea xkMj] xkn] dpjk] feeh] i Uk] i RFkj ka dk Hkjko gks x; k gA dq] ckoMk dpjka l shk x, gA mudk i kuh xUnk cncnkj gks x; k gA ykx mueaer i 'kqrd Mky nrs gA dN u"V gks x, vks ek= xM<sjg x, gA dN dks ykxka us vi uh dfr'k fl pkbz dk l k/ku cuk fy; k gA ftu ty l d k/kuka i j i jk uxj] xte fuHk] Fk] os u"V gks ppls gA vFkok mi; kx yk; d ugha jgs gA

i jkus rkykc i d f; ka ds : i eajg x, gA ftu rkykcka ds ckykka i j cflr; k; cl h gpbz gA vks ckphu dky ea clrh ds ykx gh rkykcka ds l j f{kr fd, jgrs Fk] ty dks 'k] cuk, j [krs Fk] rkykcka ea xUnxh ugha QSykrs Fk] ?kj ka dk dMk&dpjk rkykcka ea ugha Mkyrs FkA Lokra; kdkj dky ea LorU=rk ikdj turk vi uk usrd nkf; Ro Hkay xbz vks [kkyh NW ikdj ml gkaus rkykcka ea dMk&dpjk Mkydj Hkjuk ckj Etk dj fn; k rFk rkykcka ea ?kj & edku] cMk 1/2 cukus yxs gA rkykc] dq] ckcfM+ k; xteokfl ; ka ds thounkrk ^ver dMk\* gA\*\* ftUga ukxfjd gh u"V dj jgs gA tc tyL=kr u"V gka jgs gks rks ty l dV rks gks x ghA

bl fy, t: jh gSfd ; fn vkneh l [ki wLz jguk pkrk gS vks vi uh fodkl cf; k fujUrj tkjh j [kuk pkrk gS rks ml s cjl krh i kuh dh cMk&cMk dks ver ekurs gq l gst dj j [kus ds fy, rkykcka ds fuekZk] th. k] kj , oa muds l dkkj l j {k k i j /; ku nsuk gks xA i kuh dh deh dh l eL; k fdl h , d 0; fDr dh l eL; k ugha gScfyd ; g l eL; k l Hkh xte] {ks= okfl ; ka, oa l ekt dh l eL; k gSft l snj djus ds fy, l Hkh dks fcuk foHkn tVuk gks xA D; kkd fcu i kuh l c l u gks x] u tho jgs x vks u thou jgs xA ekuo dks fouk'k l scpkus dk , dek= mik; gS i kuh dk cpkuk] ml dk l xg .k vks l j {k .k djuka tyL=kr k] l d k/kuka ds l kQ&l OPn j [kuk vks ml gacnfr u gkaus nsukA ty ds l xg .k , oa l j f{kr&l kQ j [kus dk nkf; Ro l jdkj vFkok fdl h 'kkl dh; , st d h i j ugha NkMk tk l drkA ty qR; sd ck.kh dh vko'; drk gS bl fy, qR; sd 0; fDr] i fjokj , oa l ekt dks , dy : i l s vks l ex

I eŋ : i l sty l æg.k , oal ğ {kk dk; kãeafujlŋrj tŋk jguk pŋfg, A  
ty dk l ğ {k.k vŋŋ l æghr ty dksLoPN cuk; sj [kuk] ty nŋ dh  
i tŋk gŋ

I nHkZ %

- 1- jk; cŋkŋj] ghjkyky] l kxj l jkt] vyEe xŋFkekyk] tcyiğ] 1988] i: 173
- 2- l kxj ftyk xtŋV; j] Hkki ky] 1970] i: 52&53
- 3- ih- jk?kou] l kxj fojkl r vŋŋ fodkl ] fnYyh] 1992] i: 18
- 4- l kxj ftyk xtŋV; j] 1970] Hkki ky] i: 1
- 5- ogh] i: 3
- 6- ogh
- 7- eRL; i ğk.k] 57] 10&11
- 8- ukxŋk nŋŋ , j.k dh dky] l kxj] 1997] i: 3
- 9- euŋk feJ] l kxj ftysdk l kãdfrd bfrŋkl ] l kxj] 1998 i: 5
- 10- l kxj ftyk xtŋV; j] i nŋkYyf[kr i: 5
- 11- ogh
- 12- ogh] i: 527
- 13- ih- jk?kou] i nŋkYyf[kr] i: 7
- 14- dk' kh çl kn f=i kBh] çŋŋy [k.M dsrkykka , oaty ççku dk bfrŋkl ] l e;  
çdk'ku] ubz fnYyh] 2011] i: 88&89
- 15- l kxj ftyk xtŋV; j] i: 511
- 16- dk' kh çl kn f=i kBh] i nŋkYyf[kr] i: 89
- 17- l kxj xtŋV; j] i: 507
- 18- ogh] i: 517
- 19- ogh
- 20- l kxj ftyk xtŋV; j] i: 523
- 21- ogh] i: 525
- 22- dk' kh çl kn f=i kBh] i nŋkYyf[kr] i: 91
- 23- ogh
- 24- ogh
- 25- l kxj ftyk xtŋV; j] i: 504

# e/; &Hkkjr ea ty i çl/ku

\*MKW ekgu yky p<kj

ty gh thou gŋ vkfndky l sgh euğ; ogh fuokl jr Fkk] tğk; ml s  
l ğtrk l sty miyç/k jgrk FkA i k jEHk eaeuğ; i k dfrd ty L=kska  
ij gh fuHk] Fkk fdUrğ l H; rk ds fodkl ds l kFk gh og eŋkuh Hkxka  
ea i ğpŋk rksml sdfre l k/kukadsek/; e l sty i klr djust j xHkjr k  
l sfopkj djuk i Mka ifj.kkeLo#i ty dh mi; kŋxrk ds egRo dks  
l e>rs gğ euğ; us i k jEHk l sgh ty p; u ds cğfo/k l k/kuka dks  
[kŋst k] ftl l sty dh l eL; k l s futkr fey l dŋ euğ; ds blgh  
iz kl ka dk ifrQy g& rykka dk fuekZk dŋk] çkofM+ ka rFkk çku/kka  
bR; kfn dk fuekZkA e/; Hkkjr ea ty l æg.k ds vud vo"ksk i klr gğ  
gŋ gea gMHi k l H; rk l s ty l æg.k ds i æk.k feyus yxrs gŋ  
dkyUrj eaf"kykva dks dkVdj xQkvka ds l kFk gh çkofM+ ka , oa dŋka  
dk fuekZk fd; k tkus yxk FkA bl ds vud mŋğj.k gea nŋ[kus dks  
feyrs gŋ e/; Hkkjr ea i nŋE/; dky] l Yrur dky , oa eğy dky ea  
vud rykck] dŋk] çkofM+ ka rFkk çku/kka dk fuekZk fd; k x; kA budk  
fuekZk xteka , oauxj kanksu seaf; k x; k FkA dŋyhu oxkã , oa0; ki kfj ; ka  
}kjk jktekxã ij vud dŋk] çkofM+ k] rykka dk fuekZk djok; k FkA  
bl l s jğxhjks , oa0; ki kfj ; ka ds dkfQys dks ty l çerk l s i klr gŋs  
tkrk FkA

\*i kphu Hkkjr h; bfrŋkl ] l dfr rFkk i ğkrRo] b-xk-jk-t-tk-  
fo' ofo | ky; ] vej dVd

e/; Hkkjr l srkri ; Z e/; ins'k rFkk NRRhl x< Lks gA bu nksuks  
ins'kka ea ikphu dky l sty izl/ku ds vud iek.k ns[kus dks feyrs  
gA e/; Hkkjr ea l h<hknj vud dpyka dk fuekZk fofHku dkyka eafd; k  
x; k Fkka ftl dsek/; e l stho&tUrqcXkS #dloV ds ty xg.k dj  
l drsFkA bl izkj e/; Hkkjr ea vud ckofM+ kj dq tcyi ij] , j.k]  
[ktjgkq] Hkksstij] Hkks ky] l kph] mn; fxjh] mn; ij] [kS kx<] fryb]  
eYgkj , oajruig bR; kfn l sikr gq gA

Xokfy; j {ks= ea ty izlku dh mfpr 0; oLFkk djus dk iz kl  
Xokfy; j {ks= ds 'kkl dka usfd; k Fkk vkSj bl ds fy, Bkd uhfr dk  
vcyau Hkh Xokfy; j fj; kl r eafd; k x; k Fkka Xokfy; j {ks= ea 20  
l s vf/kd ufn; kj cgrh Fkha fdUrq fQj Hkh Xokfy; j fj; kl r ds  
'kkl dka us fl pkbZ , oa is ty grq tyk'k; ka dh 0; ki d 0; oLFkk dh  
Fkha mlgkaus fj; kl r ea cky/kk] rkyckk] dpyka ugjka ds }kj fl pkbZ dh  
mfpr 0; oLFkk djus dk iz kl fd; k Fkka Xokfy; j {ks= ea ty ink;  
grq yxHkx 12 cMs ckyk rFkk Nks/s rkyck o ckdka dh dty l a; k  
yxHkx , d gtlj l svf/kd Fkha bl ds l kFk gh] Xokfy; j fj; kl r ds  
'kkl dka us \*jkt/kkuh Xokfy; j\* ea is ty 0; oLFkk dh vfr 0; ofLFkr  
, oa vfr l qnj 0; oLFkk dh Fkha^, jp^ mlkj ins'k ea cthnsy [k.M {ks=  
ds vUrxr >k] h tuin dh xjkBk rgl hy eacrok %o=orh% unh ds  
nk; arV ij fLFkr gA ; g , d egUoiwkz igj kLFky gS tgg l siLrj  
vkSj rke&midj.k ds l kFk&l kFk ikphu enHk.M] e.ehrz kj iLrj  
ehrz kj fl DdS eudS epk , oa epk rFkk b"VdkfhkyS[k vkfn iklr  
gq gA tks bl {ks= fo'kSk ds l kFk&l kFk Hkkjr; bfrgkl ij egUoiwkz  
izk'k MkysrgA mYys[kuh; gSfd , jp l sikr fl Ddka, oavfhkyS[kka  
l s vud vKkr 'kkl dka , oa muds jktoadka dh tkudkj iklr gsrh  
gA ; gk ds uxj&fl Dds, oa epk; a l keftd , oa vkfFkd fodkl ij  
izk'k Mkysrh gA

bl izkj ikphu dky eajktuhfrd , oal kldfrd jkt/kkuh gkaus  
ds dkj.k , jp ea vud egUoiwkz dk; Z l EiUu gq FkS ftl ea  
i qdfj.kh&mR[kuu dsek/; e l sty&l j {k.k dk Hkh mYys[k fd; k tk  
l drk gA n'kk.kz ds 'kkl d v"kk<fe= }kj brus ikphudky ea, jp ea

crok unh dsgkaus ds cotm ty&l j {k.k dk ; g dk; Z l Hkor% ihus, oa  
fl pkbZ vkfn fofo/k mIs ; ka dh i firZ grqfd; k x; k Fkka



Xokfy; j fdys ea ryck

mlgkaus l keftd] l kldfrd , oavkfkd {ks= ea cgrj izlku ds  
mPp ekun.M LFkfr fd, A og LFkkuh; 'kkl d Fks vr%mlga bl {ks=  
ds ikldfrd o Hkkskfyd l d k/kuka o ifj fLFkr; ka dh tkudkj Fkha  
pnsyka us ikldfrd l d k/kuka dk mi ; ks djrs gq fl pkbZ o is ty grq  
rMlexka vFkok tyk'k; ka dk fuekZk djok; kA

pnsydkyhu rMlexka ea egkck dk l o fl ) rMlex "enul kxj" gS  
tksfd xkd.kz igkMh rFkk vU; rhu igkM+ ka ds e/; ea cthnsy [k.M ds  
l okZ/kd l qnj rFkk fo"K"V rMlex ds: i ea pnsydkyhu 'kkl dka dh  
tufgr Hkkouk o JSB ty izlku {kerk ds |krd gA bl h ds l ehi  
3 fdeh ds foLrkj ea uxj ds if"pe ea QSyk dhfrZ kxj egkck ds gh  
i wZea jkfgy l kxj rFkk bl h ds i wZea 6 fdeh ds foLrkj ea QSyk fot;  
l kxj pnsyka dh ty izlku uhfr dks 0; Dr djrs gA ; s rMlex vFkok  
tyk'k; Oe"K% pnsy 'kkl d enuoel dhfrbeZ] jkfgy , oafot; i ky  
dh Lefr dks l kdkj djrs gA i jenh% usvt; x<+ea i jeky l jkqj  
dk fuekZk djok; kA enuoel usVhdex<+ftysea, d vU; rkyck dk  
fuekZk djok; k] tksftyk eq; ky; l s 20 fdeh dh njh ij gA ; gk  
tS rhFkz vggj fLFkr gA vggj l svfhkyS[k l fgr yxHkx 100 tS  
ifrek; j iklr gqZ gA iklr ifrekvkaeanks ifrekvka ij enul kxj ij dk

mYy[ k g[ k g[ ; g ifrek y[ k l or 1209/1152 bl oh/2 , oa 1211  
1/1154 bl oh/2 frfFk ds g[ , d vl; Hk0; ifrek ij enunsk l xjij  
fy[ k g[ k g[ v[ kj ds rkyk dk uke enu l xj v[ j uxj dk uke  
enu sk l xjij g[ ; gk[ ds 'kkl d enuoeh[ ds uke ij j [ks x, Kkr  
gkrs g[ ; s uke ijenh[ n[ ds 'kkl udky ea ipfyr FkAv[ kj xte  
enul xj rkyk ds fdukj s fLFkr g[ ; g rkyk yxHkx 3 fdeh- ds  
foLrkj {ks= ea g[ v[ kj xte ds nf{k.kh {ks= ea, d vl; i kdfrd >hy  
gsft l ds fdukj s Hkh clrh FkA ogkwl s Hkh ifrek, Wi klr g[ p[ g[ bl >hy  
dk Hkh pansy 'kkl dka }kjk izak fd; k irhr gkrs g[ Hkjr h; l dfr  
ea Hkjr dk gj ty L=kr p[ ks og unh g[ un g[ l jk[ g[ l epz  
g[ l Hkh J) k ds d[ hz ea jgs g[

*vki ks ukjk bfr i k[ k] vki ks osujl uo%*  
*v; uarL; rk% i [ ] ru ukjk; .k% LeRk%*

fo". k[ g[ k. k ds vud[ kj bl l exz l d kj ds l fVdrkz c[ dk l cl s  
i gyk uke ukj; .k g[ n[ js 'k[ nka ea Hkxoku-dk tye; : i gh bl  
l d kj dh mri frR dk dkj .k g[ epz ty dk mri frR LFkku g[ bl fy,  
ty jk'k l epz dh dkeuk djrh g[ ty l epz dks i kdj ifo= v[ j  
ve[re; gk tkrk g[ cgrsg[ ty dks jk duk ughap[ g, A D; k[ d og  
l epz ea tkuk p[ grk g[ bl izkj ty rRo dks tkudj tks ty ea  
jgrk g[ ml dh fgd k Hkon[ rk ugha djrs g[ Hkxoku egkn[ gh ver'kRek  
tye; pln[ k dgs tkrsg[

*egkn[ ks . er'kRek . l ks / Ee; JUnz% LeRk%*

i j k. kka v[ j Lefr; ka ds vud[ kj ty v[ k/ kn[ sod] v[ /; k[ Red v[ j  
v[ k/ k[ k[ sed rhuka: i ka eaf[ eku g[ onka ea ty dks n[ rk ekuk x; k  
g[ fdUrqlm st y u dgdj vki %; k vki ks n[ rk dgk x; k g[ \_\_Xon  
ds i j s p[ j l d' vki ks n[ rk ds fy, l efi[ g[ v[ ko[ ea vki ks n[ rk  
l s l Ecu/kr rhu l d' g[ ; s rhuka l d' vi ka Hk[ kt v[ k[ z- ty p[ fdRI k  
l s l Ecu/kr j [krs g[ ty dh 'k[ ) l w z dh fdj .ka i M[ s l } gok ds  
l Li 'kz l s rFk x[ s d[ = x[ s j 1/4 p[ kx0; 1/2 l s gkrs h g[ ty ds d[ oy  
Hk[ rd mi ; s[ gh ugha gkrs c[ yd v[ /; k[ Red mi ; s[ Hkh gkrs g[

ty l d k/ku ds ifr ekuo l p[ sV ugha g[ ft l ds ifj . kkeLo: i vkt  
vud[ n[ kka eafodV fLFkr mri lu gk x[ b[ g[ ty dk i n[ k. k] /kj kryh; ]  
ty dk fcuk mi ; s[ l ep[ ea p[ s tkuk] ty ds ifr vo[ k[ fud  
n[ Vd[ k[ v[ kn ty l d k/ku ds n[ #i ; s[ ds vud[ : i g[ m] s[ /k[ kka  
ds vif'k"V i n[ k[ z t[ s j l k; u] dp[ k] x[ l n[ ] ty] j s M; k[ keh[ rRo v[ kn  
ty i n[ k. k g[ r[ v[ R; f/ kd mRrjnk; h g[

ty , d izfr i n[ Rr fu'k[ d l d k/ku g[ s fdUr[ qvi us n[ k ea Hkh  
i p[ Hk[ r[ Red Hk[ rd ea, d : i ea bl dh x. kuk dj ds gh l o[ r[ erk ds  
dkj .k ty dk n[ g[ u g[ v[ s yx[ rkj g[ s jgk g[ vkt ty p[ urk  
l s l [ d/kr , d ; {k&i z u cu x; k g[ ty gekj thou g[ ty gekj h  
l dfr g[ s v[ j ty ij gh v[ k/ k[ f[ r gekj h l H; rk fodf l r g[ p[ A  
thouki ; s[ xh l Hkh l k/ kuka dk ey[ ea- ty gh jgk g[

Hk[ ky {ks= ea ty izaku dh m[ pr 0; oLFk djus dk iz kl bl  
{ks= ds 'kkl dka usfd; k Fk A bl {ks= ea 5 l svf/ kd ufn; k[ cgrh FkA  
fdUr[ q[ j Hkh ; g[ ds 'kkl dka us fl p[ kb[ z , oa i s ty g[ r[ tyk'k; ka dh  
0; ki d 0; oLFk dh FkA m[ U[ g[ us ea c[ k/ k[ rkyk[ k[ d[ p[ k[ u[ g[ j ka ds }kjk  
fl p[ kb[ z dh m[ pr 0; oLFk djus dk iz kl fd; k FkA Hk[ ky {ks= ea ty  
i n[ k; g[ r[ yx[ Hkx 12 cM[ s c[ k/ k rFk N[ k/ s rkyk o c[ k[ kka dh d[ y l [ ; k  
yx[ Hkx , d g[ kj l svf/ kd FkA Hk[ ky & tcyij jk"Vh; jk tekz i j  
x[ j [ki j xte] fLFkr g[ ; g Hk[ ky l syx[ Hkx 180 fdeh- dh n[ j h ij  
g[ x[ j [ki j dh if"pe fn"kk ea i o[ rh; {ks= ij l ?ku ou g[ s x[ j [ki j  
ea 15oh 'krh b[ oh ds Hk[ z l u/ku , oa ty iz l u/ku ds mRd"V m[ kgj .k  
feys g[ bl i j kLFky dh [k[ st M[ k[ w ftu[ hz t[ s] "k[ s[ k v[ k[ d[ k[ j h]  
okd. kdj "k[ s[ k l dFkku us dh g[ ; gk[ w i j i g[ k[ M+ ka ds uhps, d rkyk  
g[ t[ s yx[ Hkx 200 ox[ leh- ea fufe[ r g[ bl rkyk ea if"pe] nf{k. k  
, oamR[ k[ j h fn"kk dh i g[ k[ M+ ka l scgrsg[ i kuh dks l x[ ghr fd; k tkrk  
g[ i kdfrd l d k/ku dk cgrjhu mi ; s[ djrs g[ bl rkyk dk  
fue[ z k fd; k x; ka rkyk dks i Rf[ k[ ka l s 0; ofLFkr c[ k[ kdj l hf<+ k[ j  
yxk; h x; h g[ bl ea t[ s i Rf[ k[ yxk, x, g[ mudh cukoV , oa  
rduld l s irhr gkrs g[ s fd rkyk l Hk[ r% e/; dky ea fufe[ r g[ k  
g[ s[ kA bl rkyk l sfudV d[ f'k ifj {ks= eaf l p[ kb[ z , oalk"ka[ k[ ds i s ty

dh 0; oLFkk l pk: gA Nf" k dk; Zeafl pkbz ds #i ea ty izl/ku dk egROI wZ LFkk gA l oZofnr gS fd fcuk fl pkbz ds vlu dk mRi knu ughagk l drka ikphu l kfgR; eaf l pkbz ds fofHku l idkj ka dk mYys[k cgqr; r ea mi y/c gA , srgkfl d xFka ea Hkh fl pkbz ds l d k/kuka ds dbz idkj ka diu] rMlex] l jf. k] dqM bR; kfn dk o. kZ gA vij k ftri PNk ea diu] rMlex] l jf. k] unh ckU/k vkfn dk mYys[k gA bl h xBFk ea nl idkj ds d q/ka vkj N%rjg ds rMlex ka dk foj. k gA bl h rjg e/; Hkkjr ea ifrgkj ijekj] plnsy vkj dYpfj 'kkl dka ds fl pkbz dh mYke 0; oLFkk dk iek. k rYkdkyhu vfHky[k ka ea i ktr gsrk gA of. kZ {ks= mYkj & e/; Hkkjr ea i ktr vfHky[k ka ea Nf" k dh mRi kn drk gsrq fl pkbz ds fofHku rks & rjhdka dk mYys[k gA dYpfj dsy ki gM+i Lrj vfHky[k ea "okg" 'kCn fl pkbz ds l d k/ku ea iz qR gA bl h idkj vt; x< } jk [ks=] plngj vej k] >kyjiKVu] v>jh] irkcx<+ , oa eml kj vkfn i Lrj vfHky[k ka ea fl pkbz ds l d k/kuka dk i ; kZr ek=k ea o. kZ gA

ikphu okMMe; ea ty dks egROI wZ ?kVd ekuk x; k gS ikphu l kfgR; d l kka ea ty gh thou gS dh mDr pfjrkFkZ gpbz gA orZku Hke. Myh dj. k ds ; q ea ty l j {k. k , oa ty izdku ds egRo dks egl w fd; k tk jgk gA ty l kka dk izdku dh n"V l si kx srgkfl d dky l sydj , srgkfl d dky rd n"V xkpj gsrh gSegs'oj & ukonk Vksyh] filify; k ykj dk] jxb] fofn"kk] , j. k] ukUnij] f=i gh] ?kkMkek< k] vkfn i kx srgkfl d LFky eq; ufn; ka , oa ty l kka ds fudV ; k fduj s cl kgV feyrh gS mi ; qR LFkkuka ds mR [kuu , oa l oZ. k ea bu LFkkuka ds i ; kZr ty l kka ds egRo ds iek. k feyrsgSfQj i kx srgkfl d ekuo ds cl usdsfy, ty dk ieq[k LFkk gSA Hkou fuekZ k] enHkk. M 1/4 kvj h 1/2 fuekZ k rFkk is ty , oa fuLrkjh mi ; kx ds fy, bl gkaus unh rV ; k ogr ukya ds ऊपर ; k fudV orh LFkku pqus gA e/; Hkkjr dh i kx srgkfl d LFky , j. k dks rhu vkj l schuk unh ds ty l svkor-gS tks , j. k dh ty mi y/c/krk dh vuk[th flFkr ds dkj. k , j. k dh clrh LFki uk ea egROI wZ fclng gA chuk unh dh flFkr , j. k LFky ea unh dh v } plnkZ dkj ?kpkonkj l j puk ds dkj. k , j. k ea ckjg eghuka i ; kZr ty jk f" k mi y/c/ dkjrk gA dfuake egkn; ds vuq kj , j. k l si ktr

enkvka ij vidr v) bUk ij kus , j. k uxj dh flFkr dks i nf' kr djrk gSRFkk unh dk fpà chuk unh 1/4 kphu cs ok 1/2 dk l ds djrk gS ft l ds rV ij , j. k uxj cl k gq/ k Fkka



, j. k chuk unh

, j. k ij kLFky l srkei k'kk. kdkyhu ty izl/ku ds iek. k mR [kuu ea i ktr gq gA , j. k l si ktr vkgr enkvka ij unh ds fpge o unh ea eNyh ds fpge cus gq feys gA "kd "kkl d Jh/kjoeu ds , j. k vfHky[k ea chuk unh ij ?kkV o l h<h; kllwokus dk mYys[k feyrk gA , j. k ij kLFky l si jorh xqrdkyhu d q/ka ds iek. k Hkh i ktr gq gA , j. k ds vkl i kl ds {ks= ka l si mZ/; dkyhu rykc o vucl ckofM+ ka ds iek. k feys gA , j. k ds l ehi l ukbzo e. Mhckekj k l se/; dky escus rykka ds iek. k feys gA , j. k l si ktr cdkxqR ds vfHky[k ea uehk , oa

dkfylnh vFkk; ; epk dk mYys[k feyrk gA ftl l sLi 'V gkrk gSfd ikphu dky ea ufn; ka dk dkQh egRo FkA bl h izdkj vU; LFky fofn"kk] jaxb] filify; k ykj dk] unij] vkfn ikphu LFky orok unh ds rVka ij fLFkr gA

, srgkfl d dky ea ty izaku , oaty l ksrka dk mRd'V mnkgj .k vlg Nk dk uxj LFkki R; gS vlg Nk dks e/; insk ds dthnyk 'kkl dka dh oLrq dh jkt/kkuh dgk tkrk gA vlg Nk uxj ds e/; l s orok unh i dkfgr gkrh gS tks vlg Nk dks nks Hkkx ka ea Hkkx ka ea foHkkftr djrh gA vlg Nk uxj dks lk; klr ty i m/ku orok unh l s i klr gkrk gS bl h izdkj Hkkst ij dk f"ko efnj Hkh orok ds l gE; rV ij fLFkr gS bl h ifji; ; ea , srgkfl d dky ea ge nq[krs gS fd efnj LFkki R; ] uxj LFkki R; vkfn ea ty l ksrka , oaty izaku dk egRo i wkZ ; ksnku gS fi i Y; k ykj dk] f=i g] h] unij] vkfn ij krk Rod LFky unh ds rVka ; k mudsfudV fLFkr gA bl l s ; g Li "V gkrk gSfd ikphu dky ea ty , oia izaku l s l m/kr vo/kkj .kk dk /; ku j [kk tkrk FkA e/; insk ea fLFkr 'ksyfp= LFky oñokj] jkufxj] vkcpn ] chyk ctkk {ks=} jk; l s u fdyk {ks=} mjnsu] ekek f>Uuk] vkfn 'ksyfp= LFky ufn; ka ds fdukj s fLFkr gA ; g Hkh ikx srgkfl d ekua ds LFky p; u dk] tgl ty lk; klr ek=k eami yC/k jgrk gS dk Toyar mnkgj .k gA bl izdkj ds mnkgj .kka l sgeabl ckr dh vlg /; ku tkrk gSfd ikx srgkfl d dky l s ydj , srgkfl d dky rd ty l ksrka , oaty izaku dk i; klr egRo jgk gA

ujoj or'eku f"koijh ftys dh , d rgl hy gS tks e/; insk ds mRrj&i f"pe eafLFkr gA bl dk mYys[k 'kri Fk ck'e.k] f=foØe dr uypEij Jhg"kdzr usk/kh; pfjr ea mYys[k kr gA , srgkfl d dkyØe ea; gk Øe"kk] jkt i r ¼ jekj] dNokg] rke j ¼ epy] ejkBs'kkl u djrs jgs gA

ujoj {ks= ea l okZ/kd mYys[kuh; ikphu Lekjd ; gk dk ikphu fdyk gS tks , d yxHkx 500 Qw/ Aph igkMh ij fLFkr gA bl fdys ds vñj dh foHkkU bekjra foHkkU jkto dka ds }kj l e; & l e; ij fufeZ dh x; h FkhaokLro eabu bekjra l gh ; g Li "V gkrk gSfd ; s

vyx&vyx l e; eafufeZ dh x; h gA bu bekjra ds l kFk ujoj fdys ds Bhd e/; Hkkx ea ty l ksrka ds : i eadQn dka vlg kfofM+ ka dk Hkh fueZk djok; k x; ka cfofM+ k e/; dky ds nks ku ty l d k/ku ds : lk ea i f"pe Hkkj ea cgr ipfyr jgha gS vlg vkt Hkh i f"pe e/; insk] xqjkr vlg jkt LFkku ea ; scgrk; r ea nq[k tk l drh gS tcf d dq ; l Ei wkZ Hkkj ea i R; d ; q ea ty l ksr ds : i ea ykdfiz jgs gA ujoj eafLFkr dq vlg kfofM+ k ; d cM+ i kax .k eacuok , x; sgSftudk ty Lrj igkMh ds uhs fLFkr dka vlg kfofM+ ka l smPp gA , d gh i kax .k ea , d l kFk brus l kjs dq vlg kfofM+ k ; cuokus dk D; k iz kst u Fk bl dk dkbZfyf[kr dkj .k rksugha feyrk gS yfdu , d vupeku yxk; k tk l drk gS fd fdys ea cMh l ; k ea tul keU; o jkt dk; Z l s t q s ykx jgrs gkax ftuds fy, ty dh i; klr 0; oLFk ds fy, budk fueZk djok; k x; k FkA

ujoj ds ty l ksrka dk Hkh dkbZ/kkfeZ iz kst u jgk gkA i kax .k ds pkjka vlg fufeZ ikphj , oa , d vlg i drc) d{k bl vlg i dcr Hkh djrs gA l kefgd dka ds vfrjDr Hkh dQn vU; dq fufeZ djok, x; sFk rFk , d vk; rkdj rkyk Hkh feyrk gS ftl dh nksfn'kkvka ea nhokj mBk; h x; h gS rFk nksfn'kkvka l s [kyk gq/k gA bl ea o"kkZ dk ty l xghr gk tkrk gS vlg yns l e; rd cuk jgrk gA gk l drk gS fd ; g fdys ea jgus okys i 'kq/ka ds fy, 0; oLFk dh x; h gkA ; g Hkh gk l drk gS fd fdys ds vñj gkus okys fueZk dk; Z ea i Rfjka dh vko' drk dh i rZ ; gk l s dh x; h gk rFk ckn ea bl ds fdukj ka l s nhokj mBokdj bl s rkyk dk : i nsfn; k x; k gkA

ujoj nqZ ds ckj] , d ijkuh ckoMh gA ; g ckoMh fdys ds vñj fufeZ kfofM+ ka l s vi uh okLrj puk ea fHku gA fdys ds vñj dh kfofM+ k; pks l gS rFk mueapkj ka vlg l s l hf<+ k; cuk; h x; hags tcf d tks ckoMh ckj fLFkr gS ml dh vkdf r xky gA okLro ea; g , d dq dks gh tS s ckoMh eacny fn; k x; k gk vlg ml ea vñj rd tkus ds fy, vyx l s fufeZ jklrs ea 0; oLFkr l hf<+ k; cuk; h x; hags tks dq ; l s l xku , d Nks l s d{k rd tkrh gftl ea e j kcnkj nksnjoktsga , d l hf<+ ka dh vlg rFk nñ jk dq dh vlg cus gA



Hkkjrh; bfrgkl ysqku ea vfhkys[kka dk egRo l oki fj gā muds mRdh.kz djkus ds mnns; fofo/k FkA vfhkys[kka ds ifj'khyu l s gea ikphu jktoafk; q) xkFkvvk jkT; dh l hekva"kk l u&0; oLFkk l kelftd fLFkfr vkfFkd n'kk] oSkkfud dk; l l sud vf/kdkj] /kkfezd fLFkfr bR; kfn dh tkudkj iktr gsrh gā NÜkhl x<+l si ktr dypñj vfhkys[kka ea rRdkyhu vkfFkd fLFkfr , oa iofük; ka ds l azk ea foLrr tkudkj iktr gsrh gā ikphu dky ea nf{k.k dki y dh fLFkfr vPNh FkA foHkUu mRdh.kz ysqkka eai ztk ds l q kh gkausdsfo'k; eamYys[k feyrsgā ml h idkj fl jij] jruij] eYykj rFkk vl; LFkkuka ea iktr ikphu Hkouka ds [k.Mgj Hkh bl ckr ds iek.k gā dypñj dky ea jruij] tktYyij vS jk; ij tS suxjka dk u, fl jsl sfuekZk gqk Fk bl dh l puk mRdh.kz ysqkka eafeyrh gā bu uxjka ea vud noky; cus vSj cgr l sl jkj [kqok; sx, rFkk m|ku yxk, x; s FkA

bl idkj dgk tk l drk gSfd dypñj ujsk cMs/kkfezd iofük ds FkA dypñj "kk l dka ds vfhkys[kka l s mudh /kkfezd ekU; rkvka dh l puk feyrh gā nkui =ka l sfofnr gsrk gSfd plnz xg.k l w žg.k ; k fdl h "kjk vol j ij dā .kka dks xk; ] Hkfe ; k xte nku eafn; k tkrk FkA iz'kflr ysqkka l s dypñj ujs'kka }kjk cuok, x; s vud rkykck l jkj k ckx&cxhpk /keZ'kkykva vkfn dk fuekZk djokus dk mYys[k feyrk gā vfhkys[kka dk ikjEHk Hkh fdl h u fdl h nō dks J) ki dēd ueu djrsgq fd; k x; k gā dypñj "kk l d i Fohnō f}rh; ds jruij l s i ktr nks f"kykys[kka %dypñj l or~910 , oa 915½ ea rkykc] eñj] eB] m|ku] ckoMh] l jkj bR; kfn ds fuekZk dk mYys[k feyrk gā bl l smuds ty izU/ku Hkfe izU/ku bR; kfn dsckjseai zdk" i Mfk gā xte fodkl dh vo/kkj .kk oñndkyhu vFkD; oLFkk Hkfe rFkk ty izU/ku ij vk/kfjr FkA \_\_Xon ea vj.;] xte rFkk ij dk mYys[k feyrk gā bl eamoj {k= dksk"qkvFkok l Urku dh Hkkr viuh l Eifr ekuk x; k gā nekj ftya ea xrdky l s ydj mRrje/; dky rd 0; oLFkfr Hkfe , oa ty izU/ku ds iek.k vud ijko"kskka ds ek/; e l s feyrsgā e<fi ifj; k l s xrdkyhu tyizU/ku ds iek.k iktr gq gā ukjvk l sdYpñj dky dh ty izU/ku 0; oLFk dh tkudkj feyrh gā

nekj ftya eai dē/; dky , oamRrje/; dky eacuh vud ckcMh] dq] , oa rykcka ds iek.k iktr gq gā mRrje/; dky ea cus fdyks ea Hkh mPpdksV dk tyizU/ku fd; k x; k FkA bl ds vud iek.k bl {k= l s feys gā

LkUnHkz %

- 1- cā i gk.k @v/; k; & 1 'ykcd&38
- 2- eg'sk dñkj feJ] ty dh Hkkjrh; vo/kkj .kk pkkk k vud 71 2006 Hkky i: 44&45A
- 3- pkk; vkei zdk"ki cñtyh ea ty dk egRo pkkk k vud 71 i: 247A
- 4- oktis h] ds Mh% l kxj Fkksn , tst] l kxj] 1964
- 5- 'kekZ vkj- ds %e-iz ds igkrRo dk l nHkz xdk] e-iz fgluh xdk vdkneh] Hkky] 1974
- 6- nhf(kr) ekjsoj xak/kj %e-iz ds igkrRo dh : ij'kk] 1954
- 7- l kxj ftyk xtV; j] Hkky
- 8- oktis h ds Mh-%e-iz dk igkrRo] Hkky] 1970
- 9- JhokLro] jes kpanz %cñty [k.M dk l k dfrd oBko] ckanj] 2000
- 10- bl jh] 'kksk if=dk fgluh foHkx] MKWgfjl g xk] fo-fo] l kxj %e-iz
- 11- e/; Hkkjrh 'kksk if=dk] MKWgfjl g xk] fo-fo] l kxj %e-iz

22

# Xokfy; j nqz ds fodkl ea ty L=krka dh Hkfedk

\*MKW 'kkfUrno fl l kfn; k

\*\*yYys'k d'ekj

ikphu dky l suxjka ds mRFkku , oairu] uxjka dh LFkki uk nqkadh LFkki uk ea ty L=krka dh egloiwkz Hkfedk jgh gA Hkjr ds vf/kdkrk uxj ufn; ka ds rVka ea cl sgg Fk , d vlg ; s ufn; k; Hkfe dks Aoj cukrh Fkh rks nu jh vlg l ekt ds l kldfrd egRo dks c<krh FkA bl dh idkj Xokfy; j ds nqz ds LFkki uk ea ty L=kr dks Hkfedk dks Hkh udjk ugha tk l drk gA e/; dkyhu Hkjr; nqkadh Xokfy; j ds nqz dk egloiwkz LFkku FkA l Yrurdkyhu vkj fHkd bfrgkl dkjka ea gl u futkeh us Xokfy; j nqz dh iz'ka k djrsgq fy [kk gSfd Xokfy; j dk nqz Hkjr dh nqzkyk ea ekh ds l eku gA bl ds f" k [kj ij py jgh ok; q ugha igp l drhA bl ds cqt ka ij "kh?kxkeh e'kka dh Nk; k dHKh ugha i MhA dYi uk Hkh bl ds Aij dHkh ugha mBhA bl dh A'pkbz l sLoz Hkh pkS/k; k tkrk gA' o'kkz \_\_rqa; gk dk ikdfrd l kbn; zvkj Hkh eukje gk tkrk gS dgk tkrk gSfd ckcj usbl LFkku dk Hk.k fd; k Fk og ; gk ds > juka dks nq'kdj bruk i l u g'pk fd ml usLo; a ckcjukes ea bl dh iz'ka k dh gA

\*l gk: i kQl j] i kphu Hkjr; bfrgkl ] l dfr , oai jkrRo v/; ; u'kkyk thokth fo' ofo | ky; ] Xokfy; jA  
\*\*'kSk v/; s'k] i kphu Hkjr; bfrgkl ] l dfr , oai jkrRo v/; ; u'kkyk thokth fo' ofo | ky; ] Xokfy; jA

dgk tkrk gSfd l j t l su 1/4 w 1/2 ky 1/2 dks + ds jks l s xfl r FkA , d fnu og ol; i kf.k; ka dk f"kdj djrk g'pk] i kl dh , d xki fxfj igkMh ij igpk] ogk dh ikdfrd "kkkk l sog vR; f/kd i Hkfor g'pka ml igkMh ij , d l tñj l jkñ ds l ehi gh Xokfyik vFkok xkyo \_\_f'k dh xQk FkA jktk dks l; kl yxh FkA \_\_f'k us igys ml l jkñ ea Luku djus ds fy; s dgk vlg ml ds mijkr vi us de. My l sty i hus dks fn; k] ftl ds QyLo: i og dqB jks l seDr gks x; ka jktk ml l k/kq l s vR; f/kd i Hkfor g'pka ml fl ) l ar dh bPNkuq kj ml l jkñ dk th. kñ kj fd; k x; ka l k/q us ml dqM+dk uke \*l j t d q M+ j [kk , oa l k/q dh vkKk l s bl nqz dk fuekz k fd; k x; ka jktk us dirKro" k vi us uxj dk uke mu egkRek ds uke ij \*Xokfyv j\* vFkok \*Xokfy; j\* j [kkAA<sup>2</sup> mDr dFku l s Li ^V gSfd Xokfy; j ds nqz , oauxj dh LFkki uk ea egRo iwz LFkku gA

Xokfy; j {ks= 1/4 kphu xki kfnz vFkok Xokfy; j & pEcy l Hkx] ftl ds vUrXr orku ea Xokfy; j] eg'k [k ; ksj] fHk. M+ nfr; k] f"ko i g h] v"kkoluxj vlg x'pk ftyka dk folr Hk&Hkx l fEEfyr gA ; g l Ei wkz Hk&Hkx e/; ins'k ds mUkj h fgLLkseavofLFkr gS bl h dkj .k bl s\*\*mUkj h e/; ins'k\*\* ds uke l s tkuk tkrk gA<sup>3</sup>Xokfy; j dk HkSokfyd folrj 25°-34\* l s 26°-21\* mUkj h v{kkak , oa 77°-40\* l s 78°-50 i wñz ns'kkUrj ds chp gA l enry l s bl dh A'pkbz 292 ehVj gA bl dk vf/kdkrk Hkx i Fkj hys io'ka , oa i Bkja l s ; Dr gA l e; ds l kFk xki knh {ks= ea folrj , oa deh vkrh jgh gS l kFk gh l kFk l Ukk dk d'bnz Hkh i fjoFr gkrk jgk gA vf/kdkrk fo}ku xki kfnz dk folrj mUkj ea pEcy unh l s ysdj nf{k.k eacrok unh dse/; ekurs gA bl {ks= eacgusokyh dñ bl idkj cgrh gS ftl l s bl {ks= dh ikdfrd l hek, afufe'z gk tkrh gA mUkj i f"pe eacgusokyh pEcy unh bl dk ikdfr l hek cukrsgq bl sjktLFkku o mUkj ins'k l s i Fkd djrh gA ogh i ko'rh] fl ak , oa crok ufn; kab l snf{k.k i wzeafLFkr chnsy [k. M+, oa ekyok ds Hk&Hkx l s i Fkd djrh gA Xokfy; j ds mUkj ea fHk. M+, oa eg'k] nf{k.k ea f"ko i g h] i wzeanfr; k rFk i f"pe ea ; ksj ftys fLFkr gA ftys dh egRo iwz ufn; k] l ka l l ksj [kk] egkj] o'skyh] fl U/k] un] NNWn] vki u vlg

igut gA bl ds vfrfjDr "kgj ds chpka chp l s gkdj Lo.kz j s k k unh  
cgrh g s ftl dk o.ku j b2kqusvi usxhk eafd; k gA Mkwokl mo"kj.k vxoky  
ds vuokj kj folv; ioz dsmukj eapEcy vls crok dschp folv; kvoh uked  
ou Fkkj ftl s?kksj kvohj nk: .kkVohj egkj.; ; k egk?kksj ou dgk tkrk  
FkkA ml eavud vkVfod jkT; FkA<sup>4</sup> mDr vkofVd jkT; eaxkij k'V<sup>a</sup> Hkh  
, d vkVfod jkT; gA l epaxkr ds l e; Hkh , d vkVfod jkT; Fkkj  
ftl dk mYys[k gea iz kx iz'kflr eai ktr gkrk gA bl h vkVfod ds  
ukx "kkl d x.kifr ukx dks i jklr fd; k FkA

egkHkkjr ds Hkh'e ioz ea 1/4 ykd&44 1/2 \*xkij k'V<sup>a</sup> dk mYys[k fd; k  
x; k gA bl xkij k'V<sup>a</sup> dh igpku Jh gfjgfuokl f}onh orZku Xokfy; j  
ds vki ikl ds {s= l sdjrs gA ; gk j k'V<sup>a</sup> "kcn dk mYys[k vk/kfud vFkkA  
ea u gkdj \*tuin\* ds vFkZ ea gw k gA<sup>5</sup> egkHkkjr ea gh bl ioz dks  
xksJax dgk x; k gs vls bl sful knHkne ds ikl fLFkr crk; k x; k gA  
ful knHkne dh igpku orZku ujoj rFkk xksJax dh igpku Xokfy; j ds  
xkij knh vFkok xkij kxfj l s dh tkrh gA<sup>6</sup> ekdZMs igk.k ea folv; ds  
mukj ea xko) Zuj dk mYys[k i ktr gkrk g s ftl dh igpuk i kthWj  
egkn; us xkij kpy l s dh gA<sup>7</sup> Xokfy; j nqZ l s i ktr ikphure l k{; gw k  
"kkl d fefgjdgy dk 525 bz dk l wZ efnj vfhkys[k gA bl vfhkys[k ea  
bl s \*xkij kgo; \* dgk x; k gA<sup>8</sup> bl h nqZ l s fofnr l a 932 1875 bz 1/2 vls  
l a 933 1876 bz 1/2 ds ifrgkj dkyhu prHkt efnj vfhkys[k ea bl ioz  
dks uke Oe" k% \*xkij knh\* vls \*\*xkij kxfj\*\* feyrk gA<sup>9</sup> pmsy oakh jk tk  
/kx ds [k t g k g a v f h k y s [ k 1/4 o- l a 1011 1/2 ea Hkh bl s xkij ioz dgk x; k  
gs vls ml s \*fole; dk fuy; \* crk; k gA<sup>10</sup> Rui ky dPNI?kkr ds  
yxHkx 1120 bz ds f"kyky s [ k ea bl insk dks \*\*xkij {k=\*\* dgk x; k  
gA<sup>11</sup> Xokfy; j nqZ l s gh i ktr eghiky dPNI?kkr ds fo- l a 1150 1/4 093  
bz 1/2 ds l kl & cgm efnj vfhkys[k ea Hkh bl dk uke \*\*xkij knz\*\* rFkk  
\*\*xkij knz nqZ\* feyrk gA<sup>12</sup> ; gha l s i ktr l a 1161 1/4 104 bz 1/2 ds f"ko  
efnj f"kyky s [ k ea bl dk uke \*\*xkij kfydj k\*\* feyrk gA<sup>13</sup> fo- l a 1161  
ds vk"kkPknz dk; LFk ds f"kyky s [ k ea bl dk uke xkij kfydj 1/4 xkij ky [k m 1/2  
i ktr gkrk gA<sup>14</sup> ohj fl gno no ds xaklyk rky vfhkys[k 1/4 394 bz 1/2 ea bl s  
xkij kpy x<+ dgk x; k gA rkej dkyhu vfhkys[k ea bl dk uke xkij kpy nqZ

1/4 o- l a 1497 1/4 xkij kpy x<+ 1/4 o- l a 1510 1/2 vls \*\*xkij kxfj\*\* feyrk gA  
ekuf l g rkej ds fo- l a 1552 1/4 u-1495 bz 1/2 ds f"kyky s [ k ea Xokfy; j  
dk mYys[k xko/kZu ds uke l s fd; k x; k gA<sup>15</sup> orZku Xokfy; j nqZ dh  
i gkMh dks i kphu dky ea xkij (Coherd) dgk tkrk FkA bl h dkj.k  
i "kij fr ds vfhkys[k ea bl s xkij dgk x; k gA Qty vyh vls ghjkeu  
us bl s xkar uke l smYys[k kr fd; k gA<sup>16</sup> egkdfo ds o us vi us xhk  
dfofiz k ea bl dk mYys[k xkij kpy x< ds: i eafd; k gA<sup>17</sup> t s xhk  
i z k d k s k r Fk k i Hk k o d p f j r e a \*\*xkij k y f x f j \*\* r Fk k \*\*xkij k y f x f j \* n k u k a u k e  
iz q r g q g A t s u y v k c n h u d s l Hk k i f. M r J h o j 1/4 451 bz 1/2 us  
Xokfy; j dks \*\*xkij kyij\*\* dgk gA Mxkj bnf l g ds l edkyhu vi Hkz k ds  
egkdfo j b?k u s X o k f y ; j d k s \*\*x k s c k f x f j \* d g k g A j b?k u d s g h l e d k y h u  
egkdfo fo' . k n k l u s X o k f y ; j d k s \*\*x k i j k p y x < + \* u k e l s l a k f / k r f d ; k  
gA<sup>18</sup> ekuf l g rkej ds jkT; dky ea nopluz dfo us fNrk b p f j r e a  
Xokfy; j dks \*\*xkij kxfj\*\* dgk gA<sup>19</sup> fgnh ds ifl ) dfo u j g f j  
egki k= us \*\*xkij kxfj\*\* uke dk iz kx fd; k gA<sup>20</sup> r p k a d s l e ; b l d s  
fy; s "Xkkyoj" \*xkfy; j\* ; k \*dkfy; j\* dk iz kx fd; k gA<sup>21</sup> \*rkjh [k  
egEent" 1/4 435 & 36 bz 1/2 ea Xokfy; j dks \*Xokfy; j\* dgk x; k gA<sup>22</sup> fl k; k  
dkyhu vfhkys[k ea bl dk uke \*\*XokYgg\*\* feyrk gA<sup>23</sup> xkij knh dh  
igpku orZku Xokfy; j l s dh tkrh gA vfhkys[k ea Xokfy; j dks  
xkij kxfj] xkij knh] xkij kpy] kxfj nqZ] xkij kpy nqZ] xkij kpy nqZ LFkku]  
xkij & f x j b n n q Z x k i j k p y & i o z k x j x k o / k Z u x k i " k s y x k i i o z ] f x f j o j  
vkfn uke i ktr gkrk gA ckn ea bl s XokYggj (Gwalhar) Xokfyvj  
(Gwalhar) rFkk Xokfy; j dgk x; k gA<sup>24</sup> ekuf l g rkej ds l edkyhu  
ekfud dfo dh j puk c s k y i P p h l h e a l o z F k e X o k f y ; j u k e d k i z k x  
fd; k x; k gA<sup>25</sup>

Xokfy; j nqZ ij l j k o j k a d k f u e k z k l e ; & l e ; i j g k r k j g k g s  
ftl l s n q z i j g e s k k t y i n k ; 0 ; o L F k k H k h l p k : : i l s j g h g A n q z  
i j t g k a H k h f d l h H k o u d k f u e k z k d j k u i M r k F k k r s o g h a l s i g k M +  
d k V d j i r F k j d h l e x h d h i f i r z d h t k r h F k h v l s f o j m l x < < s d k s  
mfpr < x l s c u c d j l j k o j d k : i n s f n ; k t k r k F k A b l r j g l s  
, d i f k n k d k t g l s t k r s F k A , d v l s n q z i j t y i n k ; 0 ; o L F k k e a

of) gkrh Fkh rksnlt jk vlsj Hkou fuekZk dsfy, iRFkj l gylk gks tkrk Fkka xki kpy vk[; ku l sKkr gkrk gSfd fdys l sfudyusokys >jus ckjg ekl cgrs FkA vkt Hkh y{e.k rfy; k} iRFkj dh ckoMh ¼tSu vfr'k; fl ) {ks=½ ds >jus xh'e \_\_rqHkh ughal vl[krk gA

I j t dqM+

mDr dFku l sLi'V gSfd I j t dqM+dk fuekZk I j t l su dsyxHkx 6oha "krkCnh bz ea djok; k Fkka ; g rkyk fdys ij ekrk dsefnj ds ikl rFkk nkrk canh NkM+xq }kjs l s dN ij fLFkr gA ; g , d pksdkj rkyk gS tks fdys fLFkr l Hkh ty L=krka ea fo"kkky gS fti dk ty xh'e \_\_rqeaHkh ughal vl[krk gA I j t dqM+ea "kkgh Luku ds l e; I j {kk grqnhokj ea l sudka ds [kMh gkus ds fy, LFkku cuk; sx; s gA



tkj rky

[kMxjk; dr xki kpy vk[; ku ¼ a k- Jh gfjgjfuokl f}onh½ ds vuq kj l yrku bYrfe" k ds Xokfy; j vfhk; ku ds nkjku yEcs l e; rd Xokfy; j nqZ ij ?kjk Mkysjgusds mi j kUr Hkh og nqZ ij vkf/ki R; djusea vl Qy jgkA bYrfe" k us gsr [kk; dsek/; e l s l n's'k Hkst'k fd "kk l d viuh i e-h l ksdj vkRel eiZk dj nA ey; oeZu i frgkj ds udjkRed mUkj l s nksuka i {kka ea i q% l a'k'z i k j Hk gks x; kA var-% i jkt; ds fpUg nf'Vxkpg gkus ij nqZ dh fl=; ka }kjk tkj fd; k x; k vlsj ey; oeZu us vfire l a'k'z grq nqZ l s fudydj l a'k'z fd; k

ftl ea "kkgh l suk l fgr ey; oeZu ekjk x; kA dgk tkrk gSfd bYrfe" k ds vkOe.k ds l e; gh Xokfy; j nqZ dh fl=; ka us rkyk ds fudV tkj fd; k Fkka rHkh l sml rkyk dks \*tkj rky\* dgk tkusy kA<sup>26</sup>

; g rkyk fdys ij tghkhj egy ds ikl fLFkr gA ; g rky fofHku ryka ea fufeZ gS tks Aij l suhps dh vlsj l adh. kZ gkrk tkrk gA vkdkj ea l Hkh ry oxkZdkj gS vf/kd xehZea; g rky Hkh l vl[krk gA bl rky ds i Fke ry ea cus d {k ea, d "kkgh geke cuk gA d {k ea i qi vkfn dk fp=.k fd; k x; k gA orZku ea l Hkh fp= u'v gks pps gS dny dN i qi ka dk vadu fn [kk; h n's'k gA

, d iRFkj dh ckoMh ¼tSu vfr'k; {ks=½

bu "kSyk dh. kZ tSu xQkvka dk fuekZk rkaj "kk l d Mxjbnfl g rFkk dhfr l g ds "kk l udgy ea Xokfy; j nqZ dh i gkMh dks rjk" kdj vuq LFkkua ij fd; k x; k Fkka , d iRFkj dh ckoMh eayxHkx 24 tSu xQk; a gS fti ea xQk ua l ds Aij h Hkx ea, d iRFkj dh ckoMh fuekZk fd; k x; k gS fti ea i gkM+ds Aij l s i kuh >jrk jgrk gA ckoMh ea l hf<+ kj rFkk dqM+dk fuekZk fd; k x; k gA

vLl h [kEck] ckoMh

; g ckoMh nqZ dh i f"peh nhokj l syxh gplz gS tks ekufi g ds l keus cus d bnh; i jkrRo l xty; ds ikl fLFkr gA vkfj g; ut Hkw i w i kpk; Z jktLFkku d kNyst t; i j us viuh Xokfy; j uked i qrd ea bekjr dks fp="kkky cryk; k gA ukjk; .k nkl }kjk jfpr fNrkbz pfjr ea Hkh fp="kkky ds : i ea mYyS'k feyrk gA<sup>27</sup> ckoMh ds rhu fofok fg l s gS ftueanjokt } LRkEHk o ckoMh gA bl ds cukusea cMh f"kyvka dk mi ; ks fd; k x; k gA bl ds njokt sepxy "kSyh ea cuk; sx; s gsr Fk bekjr e. M+ i upk gS tks LrEHkka ij vkfJr gA e. M+ ea yxs LrEHkka dh l a; k yxHkx 80 gS bl h dkj .k bl svLl h [kEck dgk x; k gA i pfyr tu Jqr; ka ds vuq kj jkt ekufi g ds l e; ; g mDr fuekZk , d f"ko efnj Fkk fti ea os i kr% dky f"ko dh i utk vpZuk fd; k djrs FkA bekjr ds, d vlsj i Lrj ckoMh gS fti ea vnj tkus ds fy, l hf<+ kadk

fuekZk fd; k x; k gA cloMh ea xhe \_\_rqaHkh i kuh ugha l v[krk gSrFkk  
l Hkor%bl ds ty dk mi ; ksx i hus dsfy, fd; k tkrk FkA



ekul jkøj rky

; g rky jk.kk Hkhe fl g dh N=h ds i kl fLFkr gA bl rky dk fuekZk  
l Hkor%Hkhefl g dh N=h ds fuekZk ds nks ku gvk FkA xh'e \_\_rqa  
bl dk ty l v[k tkrk gS bl ea i kuh dk eq; L=kr o'kkZ dk ty gA



xwtjh egy

xwtjh egy dk fuekZk rkej "kkl d ekuf l g rkej usvi uh i s "kh , oa  
i Ruh exu; uh] ftl s xwtjh Hkh dgrs FkS dsfy, cuok; k FkA eqy  
"kSyh ea cus bl egy dk fuekZk dky yxHkx 160ha "krkCnh bz ekuk  
tkrk gA dgk tkrk gSfd ekuf l g rkej , d fnu f"kdj graqkl ds  
jkbZ xte ea x; k FkA ml us ogka , d l Hnj , oa vnE; l kgl okyh  
exu; uh dks n[kk] tks nks yMfs gq HkS ka ds fl æ idMdy vyx dj  
nrh gA ekuf l g rkej exu; uh ds vnE; l kgl l s i Hkfor gvk vks  
exu; uh ds l keus "kknh dk i Lrko j [kA ijUrqexu; uh usekuf l g l s  
bl "krZij "kknh dh Fkh fd og vi us jkbZ xkø dh ftl unh dk i kuh  
ihdj bruh l Hnj , oa cfy' B gøZ gS ml i kuh dks egy rd ys tk; k  
tk,] ftl l sog ges'kk ml i kuh dks i hrh jgA ekuf l g rkej us ml dh  
"krZeku yh Fkh vks i kuh xwtjh egy rd yk; k x; k FkA orZeku ea  
jkbZ xte fr?kj k cak ds i kl fLFkr gA ogk; l svHkh Hkh i kuh eksh >hy  
rd ugj l svkrk gA l Hkor%orZeku ea ml h i g kuh ugj dks u; k : i  
fn; k gkA D; k id bl l s ugj ds fuekZk dk; Z ea l fo/kk , oa cpr gøZ  
gksxA bl ds ckn orZeku eksh >hky l sdhfrZ kxj , oa l kxjrky vkrk  
gA l kxjrky ea vkt Hkh , d cMh ukyh }kjk vkt Hkh ty , d= gkrk  
gA bl d ckn bl cMh ukyh }kjk orZeku txuij vks tkuij rd  
i kuh yk; k x; k gksxA tgl; orZeku ea Hkh ukfy; ka , oa ty 0; oLFkk ds  
vo "kSk gA bl ds mi jkr Xokfy; j ea orZeku ?kkl eMh l sukfy; ka }kjk  
fdys ds Hkhrj i kuh fn; k x; k FkA bl hfy, i kuh ds cgko dks rst  
djus ds fy, orZeku fdys i kl xkMh okyh efltn ds djhc <yko  
ndj i kuh ds rst cgko dks fdys ead j fn; k FkA mi jkDr foj .k l s  
Li'V gSfd xwtjh egy ds nqZ dh rjkbZ ea LFkki uk dk dkj .k ty  
L=kr Fkk] tks jkbZ xte l sugjka , oa ukfy; ka l svkuk FkA<sup>28</sup> xwtjh egy  
ds ry?kj ea vkt Hkh feVvh ds i kbZ ds vo "kSk fn[kk; h nrs gSftl l s  
; g i ekf .kr gkrk gSfd ekuf l g us vo"; gh exu; uh dsfy, vo";  
gh jkbZ xte l s ty 0; oLFkk dh gksxA xwtjh egy ds cgj orZeku ea  
nks dq a vkt Hkh fo | eku gA

y{e.k ryš k

; g nqzdsnf{k.k eanqzdh rjkbzeafLFkr gā bl l jkoj ea ty fdys l sfudyusokys >jus l shjrk gā ; g >juk o'kz dsckjg ekl cgrk jgrk gā bl rkykc dk fuekzk l jnkj y{e.k jko Qkyds ds ¼ u-1925 b½jke tkudh efinj vġš , d rkykc dk fuekzk dj; k FkA ; gh ryl hnk l dh xQk gš ft l eaf"kofyax LFkfi r gā xQk dsuhps Nks/h l h ikdfrd cloMh Hkh gā orekū ea; gk; ?kuh olrh gš ft l dkj .k ; g rkykc viuk oBko [kksk tk jgk gā

l anhkz l pph

- 1- fl g] v"kkd dġkj l Yrurdkyhu Xokfy; j ds bfrgkl ds dN egRo i wZ igy] bfrgkl l #kksku] vcd&1] Hkx&1] Xokfy; j] 2012] i' 30A
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- 3- tū] uouhr dġkj , oaf l l ksn; k] "kkfUrnō] mUkj h e/; i ns k ea; {kh pØ'sojh ifrek, & ifrek"kkL=h; v/; ; u----Kku&egknf/k] i' 286A
- 4- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 175&76A
- 5- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 175A
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- 7- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 180A  
i' fFKO; kefi dRLuk; k l i ns'ka eukje%  
xko) Luā j a j E; a Hkx b L; egkReu%AA
8. J. F. Fleet, CII-III, P. 161-164. D. C. Sircar, Select Inscriptions, No. 57, P. 424-26.
9. EI-I, P. 154-162.
10. Kielhom, EI-I, P. 124, 134. %kr Lknfi fle; Škfyu; knxks kfhk/kkuknf xj s %
- 11- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 175A
12. IA-XXV, P. 41. %Jh xks knka l q'rfuy; % Jh eg hi kynō%½

13. IA-XXV, P. 202.
- 14- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 180A
- 15- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 181A  
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xks kpy , d s x < f j k t k j k e f l g t w l A  
n d k f u d h e f . k j e f g e g ; n d e k f u ; A A
- 18- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 180A
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dkbFkd relgh tkrA xkxfxfj rkdh mrikriAA
- 20- f}onh] gfjgjuokl ] Hkkjr dk l qns'k] Xokfy; j n"ku] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 181A  
\*\*Xkxokfxfj x < +fy, m ohj fcjfl g vli qj \*\*A
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x < + Xokfy; j Fkku q vfr HkykA
- 26- [Mxjk; dr xks kpy vk[; ku ¼ ā k- Jh gfjgjuokl f}onh] Xokfy; j "kksk l l Fkku , oa thokth fo"of o|ky; ] Xokfy; j] 1980] i' 79A  
l c jkfufu fefy fd; ksf l xkjA  
dhuks /kež l Ūkfey l kjAA

vfr l qak Qnyfu vcjfa ga dijLij udu nfaAA  
tc l iju ylxh vfxA rc M: x; kf=; u dks HkfxAA  
dln&dln rsrkefg ijha jke jke Hk[kk mpjhaAA  
LoxLviNjk vkbayha n&f=; k Hkfj nfa uduAA  
/W; &W; rA Apja l j&efu nfa l cs ts djhaAA  
tkaj Hk; ks tkajk rkyA nfa l jkgha l ca HkpkyaAA

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vfhkys[k ij vk/kkfjr i w&e/; dkyhu  
mYkj &e/; Hkkjr ea fl pkbz ds l d k/ku

\*MKW c'ts k jkor

Hkkjr] i kphu dky l sgh -f'k i zku n'sk jgk g\$ bl dk dkj .k ; gk; dh mlur tyok; ij mi tkA tehu vks i "kqkyu ga -f'k l s l EcfU/kr ; U= 'gy\* dk mYys[k i kphu xlfk rYkj; l igrk eafeyrk g\$ ftl ea o.ku g\$ fd , d gy dksckjg ; k pkchl cy [khrsFka bruscyka}kjk , d gy dks [kpk tkuk] bl ckr dk ?krd g\$fd ml odr [krh dk ipyu 0; ki d i ekus ij Fkka

, d sgh] i jkrYo Hkh -f'k vks -f'k dk; Z l s l Ec) vU; vaca dk iek.k i Lrj djrk ga ^-f'k\* dk ikphure- l k{; ikfdLrku fLFkr cyfpLrku ds egjx<+l s 7000 bDi 1/2 i klr gsrk ga i dh feVvh dk 'gy\* cMkoYh] gfj; k.kk] ^t qsgq [kr\* dsfu"ku dkyhcak] jktLFkku] 'Yku\* dk iek.k dksyFMgok] bykgckn vks i Lrj ^tydqM\* /kksykoj] xqtjkr l s feysga bl h rjg] i kphu Hkkjr ea fl pkbz gsrq l cl s izy mnkgj.k tuwx<} xqtjkr dk g\$ tgk; eks Z "kk l d plnaxqr eks Z us l qo[; kr-l n"ku >hy ij , d fo"ky cak cuok; k Fkk] vks l e; & l e; ij bl ds th.kk] kj dk iek.k Hkh vfhkys[kka ea mfYyf[kr ga

mDr mYys[k l s i kphu Hkkjr ea -f'k vks -f'k l s l EcfU/kr vU; rF; ka dk Kku gsrk g\$ fdUr] bl i = ea "kksk dk {ks= vks] dky l hfer

\*Lgk; d i kQd j] i kphu bfrgkl ] bfrgkl foHkx]mYkj i n'sk fodykax m) kj] MKW "kdqryk feJk fo' ofo | ky; ] y[kuA&17

gš bl fy, ; g iLrj vfhkys[ka ds vk/kkj ij] fl pkbz ds l d k/kuka ij izdk" Mkyus dk , d fouez iz kl gš

i d&e/; dkyhu mYkj&e/; Hkkjr ea pkj iæ[k ktir ifrgkj] ijekj] plnsy vŷ dYpŷj oŷka ds "kkl d "kkl u dj jgs FkA bu jktoŷka l s l EclU/kr mlgha f"kykys[ka dk mYyŷ[k fd; k tk jgk gš ftuea fl pkbz ds l d k/kuka dk o.ku gš bl l EclU/kr ea l edkyhu l kfgR; d l kŷka dk Hkh foj.k vki ŷ{kr gš tks vfhkys[ka ea of.kŷ fl pkbz ds l k/kuka dh vfhki ŷV djrs gš

—f'k ij fuhkŷ fdl kuka }kjk vius fl pkbz ds mnŷŷ; dks ij k djus ds fy, ik—frd , oa—f=e nksuka gh izdkj ds ty l d k/kuka dk mi ; ks fd; k tkrk FkA ik—frd l k/kuka ea unh] ukyŷ Lo; afufeŷ >hy , oarkyc vkfn gš —f=e l k/kuka ea rkyk] >hy] dqMŷ dŷk] ckoMh] ugj bR; kfn gš ik—frd l kŷka ea mYkj&e/; Hkkjr dh l Hkh cMh ufn; k; eŷ; gš tŷ & uehk] cŷok vŷ egk unhA ; s ; gka ds fuokfl ; ka dks u dŷy is ty mi yC/k djrh FkA cYd fl pkbz ds mnŷŷ; dks Hkh 0; ki d iŷkus ij ij k djrh FkA ufn; ka ds ck+ ds i kuh dk iz ks fl pkbz ds fy, l cl s LokHkkfod vŷ ij fEHkd l k/ku FkA ck+ ds i kuh l sufn; ka ds fduk ka ds {ks= dks dk Qh ykHk i gprk Fk] ck+ ds i kuh ds l kFk vkbz gŷz mi ; ks ch moŷ d tehu dks mi tkA cukrh FkA ck+ ds i kuh l sty&l kŷ Hkj tkrk Fkŷ ftuganj rd yst; k tkrk Fk] vŷ ckn rd ty dk iz ks fl pkbz, oa vU; vko"; drk vka dh i firz ds fy, gŷk FkA ik—frd l kŷka ds ty dks l jf{kr dj ds —f=e fof/k; ka dk vfo'dkj gŷka —f=e tyl kŷ ds l k/kuka ea dq; tufiz; Fkŷ ; snŷk ds mYkj h Hkx ea vR; f/kd ifl ) Fkŷ fdUrqbudk i Hkko h mi ; ks l hfer FkA

fl pkbz ds l k/kuka dk mYyŷ[k u ek= vfhkys[ka] cYd rRdkyhu l kfgR; ea Hkh feyrk gš l edkyhu "kCndkskkā ea diŷ] rMlex] ckoyh] l juh] dqM+ bR; kfn fl pkbz ds l k/kuka ds ukeka dk mYyŷ[k gš ifl ) xŷFk vijkftriPNk<sup>2</sup> ea fl pkbz ds l d k/kuka ea ŷoki h<sup>3</sup> ¼Nks/k dŷk; ; k l h<h ; ŷr dŷk] ŷdi<sup>4</sup> ¼dŷk] ¼rMlex<sup>5</sup> ¼rkyk ; k >hy] ¼juh<sup>6</sup> ¼ugj] ¼vjgV<sup>7</sup> ¼kuh dh pDdh ; k ifg; k] tks vud ckYV; ka }kjk dqal si kuh dks [kpk tkrk Fk] ŷdqM<sup>8</sup> ¼ty l p; d] ŷunhcak<sup>9</sup> vŷ

ŷ; kŷ=d dŷk<sup>10</sup> dk mYyŷ[k gš bl h xŷFk ea nl izdkj ds dŷka dk Hkh o.ku gš mnkgj .kkFk& Jheŷ[k] fot; k] i kŷk] nŷnŷk] eukŷk] dŷeuh] fnxHkn] t; ] ulnk vŷ l dŷA N% izdkj ds rMlex& l jkg] egk jkg] Hknzd] l Hkn] ifjxgk vŷ ; ŷe ifjxgk dk Hkh foj.k gš pkj izdkj ds oki h dk mYyŷ[k bl izdkj gš & ulnk] Hkn] t; k vŷ fot; kA ; g egRo i wZrF; gš fd vijkftriPNk ea l ŷks ds Hk; dŷ vdky l scpus ds fy, fl pkbz ds l k/kuka dks mlur dŷus gŷ rjktk dks l ykgn; k x; k gš<sup>11</sup>

jkt; ds vk; dk eŷ; l kŷ —f'k ŷdj\* FkA vr% "kkl d oxZ ik; % fl pkbz ds l k/kuka dks mlur dŷus, oa [kŷka ea ty i gpkus dk fo"ksk /; ku j [krs FkA —f'k j l jk<sup>12</sup> xŷFk ea —f'k l s l EclU/kr , d foopukRed yŷk eamYyŷ[kr gš fd ; fn fdl ku mYke Ql y i kŷ dŷus dh bPNk j [krs gš rks mlga ty dks l jf{kr , oa l jf{kr djuk pkfg, A

i d&e/; dky ds mYkj&e/; Hkkjr ea vud f"kykys[ka; l UnHkz i kŷ gŷka gš ftuea ik—frd , oa—f=e l k/kuka }kjk fdl ku fl pkbz dk dk; Z l Ei lu djrs FkA l u-876 bD ea fufeŷ ŷYyHkkRl okfeu<sup>13</sup> eflnj ea , d fof"kv tyl kŷ ŷkg\* dk mYyŷ[k gš ; g eŷedk {ks= ds fudV fl Fk Fk] tks fl pkbz ds fy, vf/kd ykŷfiz; FkA f=i gh ds dYpŷj "kkl d ujfl Egk ds yky i gM+i Lrj vfhkys[k<sup>14</sup> ea o.ku gš fd cYyknŷ }kjk , d tyl kŷ ŷkg\* dk fuekZk dj; k x; k Fk] tks oŷn xte ds ifl ) dkO; kfnR; egkjktie dk iŷ FkA

vt; x<+ i Lrj vfhkys[k<sup>15</sup> ea vud gš fd plnsy oŷk ds "kkl d ijefnŷn us l u-1227 bD ea nŷkZk ds l e; , d ckoMh cuok; k FkA ; g fuekZk dk; Z dkŷV; k xkŷ ds {kf=; rstkyk ds iŷ Jh&ohk dh Lefr ea FkA bl dky ds vud i Lrj vfhkys[ka ea; g Hkh mfYyŷ[kr gš fd rky vŷ rMlex ea ty l p; djus ds fy, l kekl; ukxfjd , oa "kkl d oxZ nksuka fo"ksk /; ku nrs FkA bl rF; dh iŷV l u-999 vŷ 1000 bD ea fyŷ[kr Xokfy; j ds plng h tuin ds j [ks= k i Lrj vfhkys[k<sup>16</sup> ea o.ku gš fd ifrgkj "kkl d fouk; di ky us ty l p; u gŷq 95 ; k 96 dj kM+ ¼l Ddŷ 0; ; fd, FkA bruh /kujk" k [kpz u gŷz gŷ fQj Hkh l EHkor% bl izdkj ds l eku mnŷŷ; dks ij k djus ds fy, vR; f/kd /ku 0; ; fd; k x; k gŷskA



ijekjozkh; "kkl d Hkkt us Hkkt ky ea , d rky<sup>17</sup> dk fuekZk djok  
 dj] ml {ks= dh ty l eL; k dks l ekr dj fn; k FkA bl izdkj dsrky  
 ; k l jkøj rgyukRed : i l sfl pkbZ , oa is ty dsfy, mYke l k/ku FkA  
 vuud dYpñj<sup>18</sup> l k{; crkrs gñ fd l keku; turk ds l kFk&l kFk "kkgh  
 ifjokj ds l nL; ka us Hkh —f=e l jkøj ka dk fuekZk djok; k FkA plñgh  
 f"kykys[k<sup>19</sup> ea o.ku gñ fd izdñ f"ko us VW/sdq dh ejEer djokbz FkA  
 u døy jktozkh vñ jktell=h] cfYd 0; fDrxr : i l sl keku; tu Hkh  
 diw] oki h , oarMlex dk fuekZk djokdj l ekt dksnku dj nrs FkA l u-  
 1094 bz dk vej k f"kykys[k<sup>20</sup> ujoeu dsdky dk mYys[k djrk gñ fd  
 , d ckyofel; foØe uked ctge.k vf/kdkjh us Lo; a ds vftz 2500  
 fl Ddka l s , d rMlex dk fuekZk djok; k FkA

bl h izdkj l u- 1143 bD ea mn; kfnR; ds "kkl u dkyhu  
 >kyj i kVu f"kykys[k<sup>21</sup> eamYys[k vkrk gñ fd , d l k/kj .k ukxfjd  
 i Vy tlud us , d f"koefñj] , d dñi dk , oa ckoMh dk fuekZk  
 djok; k FkA nkunkr , oa ml ds ifjokj ds l nL; /kkfeZd xqkka dh  
 of) djus dsfy, ] bl rjg ds dk; Zdjrs FkA l k{; foör djrs gñ  
 fd dqñ rMlex , oami ou eñj ds l kFk nku nusds mnñs; l scuk,  
 tkr FkA

^vjgVV\* , d ; kfu=d vfo'dkj Fkk] tks e[; : i l sfl pkbZ l s  
 l Ec) FkA bl dky ea vuud jktdepkj ka us vjgVV nku eafn, FkA  
 v>jh iLrj y[<sup>22</sup> eafy[kk gñ fd ijekj "kkl d /kkjo'kz plñtorh ds  
 jktk Fkñ muds Nk/s Hkktbz jktdepkj igyuno us vjgVV nku eafn; k  
 FkA irkcx<+f"kykys[k<sup>23</sup> ea o.ku gñ fd ifrgkj ujs'k egnñi ky f}rh;  
 ds "kkl u dky ea ¼1003 bz½ vjgVV ; k vj?kVV unh ds fdukj s ds {ks=  
 dks fl ãpr djrk FkA bl ea ; g Hkh foör gñ fd ; g ; U= —f'k dh  
 fl pkbZ dsfy, FkA

foör; dky , oa {ks= ds fl pkbZ ds l ã k/ku adsmDr l k{; ka dk v/; ; u  
 djus l s Kkr gkrk gñ fd l keku; turk dh thou&jñkk ek= df'k Fkh  
 vñ jkT; dk e[; vk; Hkh —f'k ^dj\* ij fuHkj Fkk] fdUr qbl dh fl pkbZ  
 grqcgr l hfer l ã k/ku FkA l keku; r%Ql yackfj l ij fuHkj FkA bl  
 dky ea turk vñ "kkl d nku ka oxZ i k—frd l ã k/ku adks cuk, j [kus

ds l kFk&l kFk —f=e l k/ku adk Hkh l g; ks yrs Fkñ vñ —f=e l ã k/ku  
 ds vfo'dkj eamYkys[kj of) djus ds iz kl Hkh gq A

I UnHkZ %

- 1- vej dks k] IX, 26, 28, 31; I, 16;
- 2- l k Lordk s k] v.v, 260,640
- 3- e[<sup>kk</sup> dks k] v.v, 535,233
- 4- vijkftriPNk] 75- 35
- 5- i d kñ] 75- 35
- 6- i d kñ] 75- 35
- 7- i d kñ]
- 8- i d kñ] 75- 35
- 9- vñ- , l - "keñ 'bf.M; u 'ñ; ñMfyTe\* 'ñ}rh; l ã dj .k] i- 204½ ct- , u- , l -  
 ; kno] 'ñ kd kbVh , .M dPpj bu ukñu bf.M; k] i- 305-
- 10- vijkftriPNk] 74-1
- 11- i d kñ] i- 75- 35
- 12- i d kñ] i- 214
- 13- i d kñ] i- 214
- 14- i d kñ]
- 15- , y- , e- n[ ^vijkftriPNk%, fØvdy LVMM i- 120&121
- 16- dkñi l bñLØll ue-bf.Mdñe] i- 438] lyV] III
- 17- jkeplnz i k.Ms ] l ã k- vñ vuñ ^-fl & i j l j k] fnYyh] 2002 i- 55
- 18- bñ xkfQ; k bf.Mdñ] i- 159
- 19- dkñi l bñLØll ue-bf.Mdñe- i - 322] lyV] I
- 20- i d kñ] Hkx] VII
- 21- i d kñ]
- 22- vkfdz kyññt dy l oñ vkñD bf.M; k] fj i kñ] 1924&25] i- 168
- 23- bf.M; u , f.VDojh] XVII, i- 351
- 24- dkñi l bñLØll ue-bf.Mdñe] Hkx iv, i- 54 i- 438] lyV] II
- 25- l jññ Jhoklro] ^eññ vkñD bfjxs'ku bu ukñk l ñV/y bf.M; k Mñjx fn  
 vyñ&E; Mñy i hfj; Mñ] i kd hfñMx vkñD nh bf.M; u fgLVh dkañ 660ka l s'ku]  
 fo"o&Hkñrh "kkñr fudsru] 2005&06] i- 260
- 26- i d kñ] i- 261
- 27- , uqy fj i kñ/ vkñD bf.M; u , fi xkQh] 1952&53] Ø-l a 419
- 28- dkñi l bñLØll ue-bf.Mdñe] Hkx&vII ] i- 250] lyV] II
- 29- Mh- l h- l jdkj] 'ñ syñV bñLØll ut \* Hkx& II, i- 253

24

# i ; kbj.k vksj ty pØ

\*MKW Hkjr l kgw

ty dh xfr vthe gß og /kjr rh ij Hkh nkMfK gß /kjr rh ds Hkhrj Hkh fopj.k djrk gS vksj vkdk'k ds ikø yxkdj Mksyrk jgrk gA gekjs \_\_f'k; ka us bl s vkefi=r djus ds fy, ; K&vudBku dk vkfo"dkj fd; kA xhrk eaLi"V gSfd ; K l sgh o"kkZ dk fo/kku gA

ty ds vHkko ea u rks dkbZ l H; rk i ui l drh gß u fodkl gks l drk gA ty gh thou dk enyHkur vk/kkj gA ty }kjk gh i kf.k; ka dh mRi fRr gsrh gß i kSk.k gsrk gA 'kj hj dh l eLr jkl k; fud fØ; k; a ty&ek/; e l sgh l Ei lu gsrh gA ty oLr r% i k.k dk vk/kkj Hkur rRo gA<sup>1</sup>

ty&pØ dk i ; kbj.k l s?kfu"B l æak gA 'kksk dk; ka }kjk fofnr gvk gSfd fo'o eami yC/k l eLr tyh; L=kskaea97-37 ifr'kr l eqh ty rFkk 2-63 ifr'kr rktk ty gA rktsty dk 76-5 ifr'kr /kph; oQZ rFkk fge[kk/ka ea l æghr gS vksj 22-9 ifr'kr l rgh ty gA bl ds vykok >hykå ufn; kå okrkoj.k rFkk Hkfe ea l æghr ty Hkh 'kkfey gA<sup>2</sup> tc foKku dk vk/kkj ty pØ gA ty pØ dk l okZ/kd egUoi wkZ Hkx ty ok'i gA ty&ok'i ds vkadMsfuEukuq kj gß%&

- l eqz l rg l s, d o"kkZ ea 3]35]000 ?kuehVj ty ok'i ds : i ea mMfK gA
- Hkury l s65]000 ?ku fdykæhVj ok'i u gsrk gS vFkZr-dty feyk dj 4]00]000 ?ku fd-eh ty ok'i dh ek=k vkdk'k ea ifro"kkZ i gprh gA yfdu iFoh ij o"kkZ ds : ea dpy 1]00]000 ?ku fd-eh ek= ty oki l ykS/rk gA

, d oSkkfud l oZk.k ds vuq kj iFoh ij o"kkZ ds : i ea fxjus okys ty dk nks frgkbZ Hkx fofHkUu tykxkj ka dh l rg rFkk feVvH ds ok"i u }kjk vksj ouLifr; ka ds ok"i kBl tZu ds ek/; e l s okrkoj.k ea oki l ykS/ tkrk gA 'kSk , d frgkbZ Hkx i q% l kxj ea tk feyrk gA<sup>3</sup>

ty pØ ea; k=k ds nkS ku ty dh iæfr cny tkrh gA o"kkZ ds : i ea tks ty iFoh dh l rg ij vkrk gS og rki vksj ok; qds dkj.k i q%ok"i cudj ok; eMy ea i gprk gA 'kgjhdj.k ds dkj.k ty&pØ ij nkSjk \_\_kkRed i Hkko i Mf gA bl sbl rjg l sle>k tk l drk gS fd , d rks 'kgjka ea vksj kshdj.k ds dkj.k rFkk LoPN ty ds mi ; ks ea of) Hkh vf/kd gpbZ gA , d l oZk.k ds vuq kj 1985 ea ?k: mi ; ks rFkk m | kska ds fy, 16-70 rFkk 10 ?ku fd-eh ty dh vko'; drk Fkh og o"kkZ 2000 ea of) djds 40 l s 120 ?ku fd-eh ifro"kkZ tk i gprh vks ds o"kkZ ea rks bl dh mRrj k&rj of) gksjgh gA ; g , d fpurk dk fo"k; gSfd Hkfo"; ea bruk ty dgka l svk; s&k bl ty l æV ds xgjkus dk dkj.k ?kVrsou vksj 'kgjhdj.k dk ty&pØ ij foijhr i Hkko i MfK gA

ty pØ dks l pk: j [kus rFkk tyki firZ dks c<kus gsrq ouLifr dk dqy iæaku vko'; d gA ouka }kjk typØ ds i Hkfor gkus ds eq; : i l srhu dkj.k %&

- 1½ ouLifr; ka dks ij rh rjg dkVdj gVf fn; k tkukA
- 2½ vka'kd : i l souLifr gVfuk , oa
- 3½ jkl k; fud fØ; k, a vFkok taxy dh vkx A

buds vykok Hkh ty&pØ ij HkSrd rFkk jkl k; fud fØ; kvka dk Hkh vlj i MfK gA ; Fkk & tyh; rki eku] ty ea vkDI htu dh ek=ij 'kq) dj.k ds ck/kd rRo] ty dk ih, p- eku vkfnA ty ds rki eku ea c<us l sml ea ekSt m vkDI htu de gsrh tkrh gA

ty l d k/ku ds ifr ekuo l psV ughagß ftl ds ifj.kkeLo: i vkt vuq ns kka ea fodV l Fkfr mRi lu gks xbZ gA ty dk inHk.k] /kjryh; ] ty dk fcuk mi ; ks l eqha ea pys tkuk] ty ds ifr voSkkfud n"Vdksk vkfn ty l d k/ku ds n#i ; ks ds vuq : i gA

m | lsc /kalka ds vi f'k'V inkfkz tš sji k; u] dpjk] xlnk] ty] jšM; kškehž rRo vkfn ty inlk.k grq vR; f/kd mRrjnk; h gA bl ds vfrfjDr uxjkaok xmk ty , oaey&ew] dhVuk'kd nokvla, oajkl k; fud moj dkaok vR; kf/kd iz; lsc ty inlk.k dks c<kok nsjgk gA<sup>4</sup>

mYy[kuh; gš fd jkl k; fud moj d dk 30 ifr'kr Hkx gh Ql y dks ikšk.k nrk gA yxHkx 25 ifr'kr Hkx Hkšexr ty ea feydj ml sinif'kr dj Mkyrk gA

/kjrj ij i kuh dk v/; ; u djuokys ty foKkuh (Hydrologist) i kuh dsfofHku : i ka, oamudse/; vki l h l cdkkadk v/; ; u djrs gš ftl s ty&pø dgrsgA /kjrj dk typø o'kkz l s'kq gšrk gA ; g l w Zdsfodj .k }kjk fu; fi=r gšrk gA l kš fodj .k l sl Hkh ty L=krka l s i kuh fujarj ok'ir gšrk jgrk gA blgha tyok"i ka l s kny curs gA okrkoj .k ea Åij rki eku de gšrk gšftl l s; s kny nōty eal škfur gš tkrš gA i kuh dh cma Hkj ds dkj .k gok ea fvd ugha i kha vš x#Rokd"lk ds dkj .k /kjrj ij fxjrha gA bl sge cjl kr dgrsgA<sup>5</sup>

cjl kr dk dñ i kuh tehu ea l kš k fy; k tkrk gš tcf d dñ i kuh cgdj unh&ukyka }kjk l epzeatk feyrk gA bl tyok; qdsdbz mi pø Hkh gšrk gA o'kkz dk l cl s cMk L=kr l epz gšD; kšd ogha l s i kuh ok"i u }kjk okrkoj .k ea i gprk gA i kuh vi u h ; k=k ea reke jklra l s xqtjrs gq varr%egkl kxj ea tk feyrk gA

ty , d idfr inRr fu'k' d l a k/ku gš fdurq vi us nš ea Hkh i pšrkRed Hkšrd ea, d : i ea bl dh x.kuk djdsgh l ol šperk dsdkj .k ty dk nšgu gšrk gšvš yxkrkj gšjgk gA fo'o dsik; }hi kēHkšj l cl s fo'ky ik; }hi gšftl dsHk&i Vy ij vš Hkšexr 'kšy i fVvdkvla ea l s Hkh i ; kš ek=k ea ty gA fQj Hkh bl ty&l dV dsfxj'ir eavk pps gA vkt ty fpšrk l sl eš/kr , d ; {k&iž u cu x; k gA<sup>6</sup>

ty gekjk thou gA ty gekjh l šdfr gšvš ty ij gh vk/kšj r gekjh l H; rk fodfl r gšA thouki ; kšh l Hkh l k/kuka dk eny ea ty gh jgk gA ty dsfcuk thou gh ugha jgšxk rks cktkj ea dksu gšxk mi HkšDrk\ ty dks futhdj .k l scpk; A ty dks cktkj ea ys tkdj er [kMk dja bl dsfy, miyč/k ty dk l gh vš fer0; ; h mi ; kš

dja ty L=krka dks inif'kr u dja tgkard l Hko gš l dš ty dk l j {k.k djavius oržeku vš Hkfo"; dsfy, A ty&l dV dk vkl lu Hkr Lo; a Hkr gš tk; skA

ty l f'V dk thou rRo gA i R; d tho/kkj h ikf.k; ka dk xfreku gšuk bl h ty ds Åij fuHkš gšD; kšd jDr ea Hkh ty dh ek=k vf/kd jgrh gA ; gh dkj .k gš fd \_\_f'k&efu; ka us ty dks ^vki ks T; kfr&jl ksere\*\* T; kšr] j l vš ver dgk FkA vr% ty dk l j {k.k fd; k tkuk u dny ekuo&thou dsfy, gh vko'; d gš cfyd l eLr tho/kkj; ka vš ouLifr; ka ds thou dsfy, , d veV; fuf/k Hkh gA

ekuo thou ds vLrRo dksu"V djuokyh i ; kšj .kh; ?kVuk, agky dso"kkēai gpkuh xbz gA bl fodv i "BHkē uksfodYi <švšvš tš tš dh j {k dsfy, ck/; dj fn; k gA bl dsfy, l fu' pr , oal fodfl r i cš ku , d ek= jklrk gšftl ij ge Hkšrdokn thou'kšy ea vko'; d l kš ykdj gh vkl kuh l spy l dks<sup>7</sup> vL; Fk i kšfrd vki nkvlakd f'kd kj curs jgšA ty&icaku ds i l x ea v frof"V vš vuko"V l s ck<+ vš vuko"V l sl [kM+d h flFkr i šk gšh gA ty&icaku ds l fu; kš u l sgh bl ty l dV dh flFkr l sfutkr ik l drsgA

**l anHkz %&**

- 1- 0; kl ] Mk fd' kšh yky % i jEi jkxr-tyk'k; ka dk l j {k.k & f'koe-i wkkz vad 8] vDVmž 2012] Hkš ky i: 07
- 2- l kšj s jktw% typø vš i ; kšj .k & f'koe-i wkkz vad 10] fnl Ecj 2012] Hkš ky i: 07
- 3- l kšj s jktw% typø vš i ; kšj .k & f'koe-i wkkz vad 10] fnl Ecj 2012] Hkš ky i: 07
- 4- frokj h vki-i h , oa voLFh] , u, e- % ty l a k/ku , oa i ; kšj .k icaku & , - i h, p- i fcyf'kak dki kš s kuj ubz fnYyh] 2000] i: 59
- 5- frokj h vki-i h , oa voLFh] , u, e- % ty l a k/ku , oa i ; kšj .k icaku & , - i h, p- i fcyf'kak dki kš s kuj ubz fnYyh] 2000] i: 05
- 6- f'koe-i wkkz & i wkdR] i: 25
- 7- f'koe-i wkkz vad 6] vxLr 2013

# NRrhl x<+ea Lekjdka ds l ehi fLFkr ty l d k/kuka dk v/; ; u

\*MKW dkerk i d kn oekz

NRrhl x<+i nsk i jkrRo , oa l d dfr dh nf'V l svR; r l e) gA bl i nsk ea tgkll, d vlg i jkrRo ds {ks= eayxHkx 4&5oha "krkCnh l sydj vk/kfud dky rd ds efnj fufeR fd; s x; s ga tks yxHkx l Hkh jktoakka ds dky ea fufeR i klr gkrsgA bl h izdkj ; gkadh l d dfr Hkh i kphu dky l sydj v | ru fodfl r Oe ea fn [kkbz i Mfh gA NRrhl x<+ds rkykcka dsckj seafolRr tkudkjH NRrhl x<+fe=1 uked if=dk ea rkyk "kh'kzd l s izdkf"kr fd; k x; k gA bl l s i klr tkudkjH ds vuq kj rkykcka dk fuekZk Luku] is ty] fl pkbZ LFkkuh; turk ds mi ; ksx , oa /kkfeZd l dckjka ds dk; Z ea mi ; ksx grq fufeR dj; s tkrs FkA

cLrj eafookg ds dbZ usxpkjka dks rkykcka l s l Ec) crk; k x; k gA tS s dka d j eafookg ds vol j ij oj du; k rkykcka ds l kr Qjs ?kueusrFkk i fjokj tuka }kjk l kr ckj gYnh p<kusdh tkudkjH feyrh gA bl ys[k ea Jh fl g }kjk NRrhl x<+ds v f/kdkrk rkykcka dk mYys[k fd; k x; k gS ftl ds iR; d Hkxka dk uked j.k Hkh fd; k x; k gA rkykcka ea fufeR ?kkVka dh Hkh foLrR tkudkjH nh xbZ gA bl h izdkj Jh fl g }kjk tkToY; k<sup>2</sup> uked if=dk ea Hkh fcu i kuh l c l u uked ys[k ea i kuh dh mi ; ksxrk rFkk rkykcka dsckj seafolRr tkudkjH nh xbZ gA

\*e[; j l k; uK] l pkyuky; ] l d dfr , o i jkrRo] jk; i j %N-x-1/2

bl h izdkj MKW fnu'sk ufnuh i fgkj us NRrhl x<+ ds vfhky[ kka ea mfYYkf [kr ufn; ka, oa tyL=kska dk , fngkfl d fo"ysk. k<sup>3</sup> uked ys[k ea ufn; k<sup>3</sup> rkykcka dh , oa ckoMh ds ckjs ea foLrR tkudkjH nh gA

i kphu dky l sydj vkt rd tks Hkh efnj fufeR fd; s x; s gA mudh i utk i k B rFkk norkvka dks Luku , oa "k<sup>3</sup> hdj . k dsfy; s i kuh dh vko"; drk i frnu i Mfh gA bl h dksnf'Vxr j [krsgq s i kphudky l s efnjka ds fufeR gkus ds l kFk&l kFk ckoMh rFkk rkykcka dk fuekZk fd; k tkrk jgk gA NRrhl x<+ea vHkh rd Kkr l oZ.k ds vk/kkj ij Lekjdka ds l ehi fufeR ty L=kska dks v/; ; u dh nf'V l sfuEufyf [kr Hkxks eafoHkfr fd; k tk jgk g&1-ckoMh] 2-rkyk] 3-ufn; ka, oa 4- i kdfrd ty l kA budk l f[klr foj . k vyx& vyx fuEukuq kj g&

1- ckoMh %& NRrhl x<+ea yxHkx 5oha "krkCnh bZ ea uyoakh "kkl dka ds dky ea cLrj ea x<Aukjk uked LFky ij bZ/ fufeR efnjka ds l egn , d gh LFku ij i klr gq sgftudse/; i kphu ckoMh ds vo"ksk vkt Hkh fo | eku gA bl Oe ea l oZ fke cLrj {ks= ea xke x<Aukjk ea uyoakh "kkl dka ds dky ea fufeR ckoMh ds pkjka rjQ bZ/ fufeR efnjka ds vo"ksk vkt Hkh fo | eku ga tks v f/kdkrk%oS. ko efnjka l s l EcA/kr gA bl h izdkj l jxqk ftys ds xke dypk Hknokgh ea fLFkr l regyk l egn ea mRrjH fdukjs ij , d v'Vdks kh; bZ/ fufeR ckoMh vHkh Hkh fo | eku gS ftl ds if"peh fdukjs ij l ki ku fufeR gS rFkk ml l s vlnj ?kq dj i utk vpZuk grq i kuh fy; k tk l drk gS D; khd ; gkq ij ipk; ru f"koefnj ds vykok vU; dbZ iLrj fufeR efnjka rFkk vkokl h; Hkou ds vo"ksk fo | eku ga tks l Etkor% l keoakh "kkl dka ds dky 8&9oha "krkCnh bZ ds fufeR i rhr gkrsgA

orZku ea uofufeR ftyk cyjkeij tksfd i wZ ea l jxqk ftys ds vUrxr vkrk Fkk ogkll ij fLFkr xke Mhi kMhg ea yxHkx 10&11oha "krkCnh bZ dh , d i kphu vk; rkdj ckoMh fo | eku gS ftl s LFkkuh; yks jkuhi kqj dsuke l s tkurs gA<sup>4</sup> ; g xke Mhi kMhg ds mjka vksyh uked i kjk ds l ehi fLFkr gS tks i wZ if"pe ea yEch rFkk mRrj&nf{k. k ea pMh gA bl ea pkjka rjQ iLrj dh l hf<+ kMfufeR gS rFkk xh'e \_rq ea vHkh Hkh i kuh Hkjk jgrk gA bl ckoMh dk foLrR foj . k j [kfp=]

rFkk Nk; kfp=ka ds ek/; e l s y [kd }kjk NRRhl x<+dh LFkkiR; dyk 1/4 jxqt k ftys ds fo"ksk l mHkZ e% uked i qrd ea izdkf"kr fd; k tk p ptk gA bl ds vykok Mhi kmhg ea l ker l juk eñj l eñj ds mRrjh fdukj s ij pkeqMk eñj rFkk l wZeñj l eñj ds chip eaHkh , d ikphu ckoMh fo|eku gSftl dk fdukj i RFkj ds l ki kuka l s fufeR gS rFkk bl eapkj kafn"kkvka l svUnj tkus dk jkLrk gA orZku ea; g ckoMh i V jgh gS rFkk bl ea o'kkZ ds ckn i kuh ugha jgrk gA bl dk fuekZk dky l Hkor% jkuhi ksqkj ds i wZ.8&9 oha "krkCnh bZ eafd; k x; k gksk D; kñd bl dspkj ka rjQ d eñj ko"ksk l k eoZkh rFkk f=i gh ds dypj h dkyhu i rhr gksr gA<sup>5</sup>

i kphu ckoMh] Hknokgh] ftyk l jxqt k



cLrj {ks= ds dkdj ftyse] dkdj ds l k eoZkh "kkl dka dk jkT; Fkk tks yxHkx 11&12 oha "krkCnh bZ ea "kkl u djrs FkA muds dky ea fufeR egkunh ds nka srV ij d.kZoj eñj l eñj nsnj i kj ea fo|eku gA ; gk ij eñj ds mRrj ea Hkh , d Nks/h l h ckoMh fo|eku gS tks eñj ds l kFk gh fufeR gks l drh gA bl dh xgjk bZ de gks l sl Hkor% xh'e \_\_rq ea i kuh l i [k tkrk gA d.kZoj eñj l eñj ea Hkh dty 6 eñj ka ds fufeR gks dh tkudkj vfhky [k ea feyrh gS rFkk vHkh Hkh ; gk ij i ntk&vpZuk dh tkrh gA

egkl eñ ftys ds txl ukFk eñj [KYykh' tksfd i gkMh ds uhps cLrh ds e/; fufeR gA bl eñj dk fuekZk dYpjh "kkl dka ds dky ea Jh nsi ky ekph }kjk dj k; k x; k FkA bl eñj ds l Eed [k l ehi ea gh i wZ fn"kk ea , d ckoMh fufeR gSftl ea ges'kk vHkh Hkh i kuh Hkj jgrk gA bl dk i kuh Hkh eñj ds i ntk i k B , oami ; ksx ea vkrk gA ; g eñj 15 oha "krkCnh bZ dk gA

nqZ ftys ds xte nocykn ea Hkjr h; i jkrRo l oZk.k foHkx dk , d l j f [kr f"ko eñj fo|eku gA bl eñj ds mRrj ea Hkh , d ikphu ckoMh eñj l sl w/dj fufeR gSftl eapkj ka fdukj s ij i Lrj fufeR l ki ku gA<sup>8</sup> bl eñj ds e.Mi ea mRrj fn"kk dh rjQ Hkh i oZk }kjk fufeR gS tksfd NRRhl x<+dh LFkkiR; dyk ea e.Mi eanks i oZk }kjk okyk ; g , dek= mnkgj.k gA bl dk mRrj h i oZk }kjk ; g i ekf.kr djrk gS fd eñj l sl ayXu ckoMh fufeR gks ds dkj.k i kuh dh vko"; drk grq; g }kj cuk; k x; k gksk tcf d i wZ fn"kk ea , d vl; i oZk }kjk gA ; g eñj Hkh Qf.kukxoZkh dky dk 14&15 oha "krkCnh bZ dk eñj gA

f'ko eñj , oa ckoMh] nocykn ftyk nqZ



y {e.kZoj eñj [kjkr ftyk t kkt xhj & pkk k tksfd eñ r%6&7 oha "krkCnh bZ ea fufeR gS yfdu ml dk i fjo/kZ dYpjh "kkl dka ds dky dk gA bl ds i f"peh Hkx ea , d ckoMh fufeR gSftl dh fhkrR; k w

i RFkj l sfufeŕ gŕ<sup>9</sup> bl ds l ehi gh , d rkykc gSŕyŕdu og ckoMŕ rkykc dsckn i kuh dh l ŕo/kk gŕŕi jorŕhZ dky eafufeŕ dh xbl i rhr gkrh gŕ

jkrŕe flFkr l keŕoj eŕnj , oay{ehukjk; .k eŕnj ds i Bŕkkx ea Hkh i kphu ckoMŕ ds vo"ŕsk gŕ<sup>10</sup> ; snksuks eŕnj ejk Bk dky ea fufeŕ i rhr gkrsgŕ l keŕoj eŕnj dh i hNs dh ckoMŕ ea pkjkarjQ i RFkj dh fhkrŕr gSŕyŕdu orŕku ea i V tkus ds dkj .k bl ea dŕoy o'kkZ Jrŕeagh i kuh Hkj jgrk gŕA bl h iŕdkj y{ehukjk; .k eŕnj ds fi NokMŕ ea Hkh , d l h<ŕnkj ckoMŕ fufeŕ gSŕtksgjh gŕŕFkk ml dh fhkrŕr; kŕHkh i RFkj l sfufeŕ gŕA bl dk mi ; ksx Hkh eŕnj dh i ŕtk gŕŕi kuh ds fy; sfufeŕ fd; k x; k gŕokŕA fQŕŕoj rgl hy eŕ; ky; ea i p/kke eŕnj ds vŕnj Hkrŕy ea , d ckoMŕ fufeŕ gSŕftl ea i dŕk djus gŕŕl hf<+ kafufeŕ gŕA bl ea geŕkk i kuh Hkj jgrk gŕA bl h ds l ehi Qf.kdŕoj egknŕ eŕnj yxHkx 14&15oha "krkCnh bZloh dk rhu xHkZg okyk eŕnj fo | eku gŕA bl ds mŕrj ea Hkh l ehi ea rkykc fufeŕ gŕA

fMŕMusŕojh eŕnj eYgkj ftyk fcykl ij ds l ehi Hkh , d ckoMŕ fufeŕ gSŕftl dk pkj kafdukj orŕku ea i RFkj ds l ki kuka l sfufeŕ gŕA eYgkj ea i kphudky ea vŕ; eŕnjka ds mi ; ksx gŕŕ , d i kphu x<+ vFkkŕ [kkbz dk fuekZk fd; k x; k Fkk ftl ea vHkh Hkh geŕkk i kuh Hkj jgrk gSŕftl dk mi ; ksx ml l e; l s vHkh rd fd; k tk jgk gŕA fMŕMusŕojh eŕnj eYgkj ds i hNs dh rjQ Hkh , d cŕŕ cMŕ rkykc fufeŕ gSŕftl ea geŕkk i kuh Hkj jgrk gŕA

dfi yŕoj eŕnj ij l j ckykn ea Hkh , d i kphu ckoMŕ Fkh tks l Hkh eŕnj l egka dse/; ea Fkh A<sup>11</sup> ; gkŕij vHkh Hkh 6&7 eŕnj i ŕkŕ; k l jf{kr flFkr ea gŕ tks i ŕŕr flFkr ea gŕ; sl Hkh eŕnj yxHkx 15&16 oha "krkCnh bZ ds gŕA ; g ckoMŕ /khj & /khj i Vrh tk jgh Fkh ftl sfoxr o'kkŕ ea NRrhl x<+ "kkl u }kjk th.kkŕ kfjŕ dj eŕZ : lk fn; k x; k gŕA ckykn ea xkŕMekyhu "kkl dka ds dky dk , d fdyk Hkh fufeŕ fd; k x; k Fkk tks cŕkrkykc dh eŕ+ea ek= dŕŕ nhokyh rFkk i dŕk }kj ds vo"ŕsk gŕA vr%fdyka dk fuekZk Hkh rkycka ds fdukjs fd; s tkus dh i ŕV gkrh gŕA bl h iŕdkj /ke/kk ea Hkh xkŕMekyhu fdys ds vo"ŕsk

fo | eku gŕ tks fd nkgjs ?kjs ds vŕnj fufeŕ FkkA bl ea vHkh Hkh i kuh Hkj jgrk gSŕtk LFkkuh; ykŕkŕ rFkk eŕnjka ds i ŕtk&i kB ea mi ; ksx gkrk gŕA

dfi yŕoj eŕnj] ckykn



nŕZ ftys ds ckucjn uked xke ea Hkh fo'.kq eŕnj gŕ tks ejk Bkdkyhu fufeŕ i rhr gkrk gŕA bl eŕnj ds nf{k.k i k"ozea , d i Lrj fufeŕ ckoMŕ gŕ tks vk/kŕud dky vFkkŕ 20oha "krkCnh dh ekyŕ i Mŕh gŕ<sup>12</sup> bl ds i Vus ds dkj .k foxr o'kkŕ ea uxji kfydk vfgokjk }kjk bl dh l QkbZ djokdj cxhps ds : lk ea fodfl r fd; k x; k gŕ tks i kuh dh mi ; ksxrk ds l kFk&l kFk n"ŕZka dk eukjat u Hkh djrk gŕA

fcykl ij ftys ds jruij ea i kphu x<+ ds vo"ŕsk vkt Hkh fo | eku gŕ tgk ij jruij ds dypŕj; ka dh jkt/kkuh l oŕku; gŕA ; gkŕij eŕnjkarFkk fdyka ds vo"ŕsk vkt Hkh fo | eku gŕ rFkk ; gkŕij rkycka dh l ŕ; k Hkh T; knk gŕA jruij ea egkek; k eŕnj , oad.Bhnŕy eŕnj vkeu&l keus fufeŕ gŕ tks l Hkor% 15&16oha "krkCnh bZ ds gŕA egkek; k eŕnj jkT; l jf{kr rFkk d.Bhnŕy dŕnh; ijkrRo foHkx }kjk l jf{kr Lekjd gŕA bu nksuka Lekjdka ds e/; Hkh , d vk; rkdj i kphu ckoMŕ gSŕftl ea pkjkarjQ i Ddh l hf<+ kacuh gŕA bl ea geŕkk i kuh Hkj jgrk gŕ tks n"ŕZkFkZ; ka rFkk LFkkuh; turk ds Luku rFkk i ŕtk&i kB ea mi ; ksx gks jgk gŕA

2- rkykc%&rkykcka ds fuekZk dh ijEij k ikphu dky l s Fkh ftl ds mnkgj .k gea f"kykys[kka ea Hkh feyr s gA l k eo a kh "kkl dka ds vfHkys[kka ea oki h d i r M l e x k i f u f T t z l l i l nu dk m Y y s [ k feyr k g S f t l l s ; g v k " k ; f u d y r k g S f d H k o u k a d s l k F k & l k F k m | k u , o a d i i ] o k i h r F k k r M l e x d k H k h f u e k Z k f d ; k t k r k F k k A b l h i d k j r k e i = k a e a r M e k u k a g L = k f . k o k t i s " k r k f u " k c n d k m Y y s [ k feyr k g S f t l d k v k " k ; r k y k c d k f u e k Z k , o a m l d s n k u d k f o f " k ' V e g R o F k k A b l h d k j . k , d r M l e x d k n k u l g L = ; K k a d s l e k u e k u k x ; k g A b l d s n k u d k f o f " k ' V f d j k h f t y k f c y k l i j l s i k l r l k r o k g u d k y h u d k ' B L r h k y s [ k t k s f d r k y k c l s i k l r g a y k F k k A b l l s H k h r k y k c k a d h i k p h u r k K k r g k r h g A

ckoMh] okucjn] ftyk npxZ



fl l nojh] rgl hy iykj h] ftyk cykshk cktkj ea yxHkx 6&7oha "krkCnh bZ ds ikphu efinj ko"sk dh ikflr gbZ gS ftl ds l ehi Hkh ikphu rkykc fo | eku gA fl j i j e a " k j H k i g h " k k l d k a d s d k y d s i k p h u b v / f u f e z e f i n j k o " k s k ] c k s ) f o g k j ] v k o k l x g ] , o a c k t k j g r q f u f e z d { k k a d h i k f l r g p z g S f t u d s l e h i r k y k c ] c k o M h ] r F k k e g k u n h d k i d k g t y d s f y , m i ; p r l k / k u g A f x / k i g h f t y k c y k s h k c k t k j e a H k h i k p h u e f i n j k o " k s k d s l e h i r k y k c f o | e k u g A i k y h r g l h y ] f t y k f c y k l i j e a i k p h u e g k n o e f i n j d s l e e d [ k f o " k k y r k y k c f o | e k u g S

tksyxHkx efinj ds l edkyhu 9oha "krkCnh bLoh dk fufeZ i rhr gkrk gA

xte xksk eacLrh dse/; ikphu efinj ds vo"sk rkykc dh em+ eafol eku gArFkk xte fdjkjh eai kphu efinj ds i h n s l s i k d f r d u k y k i d k f g r g A y k O k x < + f t y k d k j c k e a H k h i g k M h d s A i j d Y p g h d k y h u r k y k c d s v o " k s k g A t g k W i j i g k M h d s A i j e g k e k ; k e f i n j f u f e z g A

Dypg h " k k l d k a u s r f e k . k ] j r u i g ] t k t Y y i g ] [ k y o k f V d k ] , o a j k ; i j t s s u x j k a d k f u e k Z k d j k ; k r F k k b u u x j k a e a f o " k k y l e m z d s l e k u l j E ; l j k o j k a r F k k i q d j h ] o k i h ] r M l e x , o a d i i v k f n d k f u e k Z k d j k ; k F k k A b u d k m Y y s [ k d Y p g h " k k l d k a d s v f H k y s [ k a e a f e y r k g A t s s t k t Y y n o i f k e d s j r u i g f " k y k y s [ k e a l e m z d s l e k u l k x j u k e d r k y k c d s f u e k Z k ] i F o h n o f } r h ; d s d k u h v f H k y s [ k e a j R u i g s l k x j ] j r u i g f " k y k y s [ k e a o Y y H k l k x j , o a j R u s ' o j l k x j ] r F k k l p x H k j k o k f i d k v k s f o i g y t y l s i f j i w k l j k o j d s f u e k Z k d h t k u d k j h f e y r h g A d k a d j d s l k e o a k h " k k l d k a } k j k t k j h v f H k y s [ k e a d k a d j l s i k l r H k k u n o d s f " k y k y s [ k e a r k y k c r F k k d k a M d u k e d c k a k c u o k u s d h t k u d k j h f e y r h g A 13

nUr o k M h f t y s d s c k j l j u k e d x t e l s 1060 b z d k , d f N a n d u k x o a k h " k k l d t x n s d H k k . k d s f " k y k y s [ k l s i k l r t k u d k j h d s v u d k j e g k e . M y s ' o j p l n t f n R ; e g k j k t u s p l n t f n R ; l e m z u k e d r k y k c [ k p o k u s r F k k m l h d s r V i j p l n t f n R ; s ' o j u k e d f " k o e f i n j d k f u e k Z k d j k ; k F k k A 14 d k a d j d s l k e o a k h " k k l d H k k u n o d s l e ; e a m l d s e a h u k ; d o k l n o u s n k s e f i n j r F k k n k s r k y k c k a d k f u e k Z k d j k ; k F k k A t k t Y y n o i f k e d s j r u i g l s i k l r f " k y k y s [ k e a d Y p g h " k k l d i F o h n o d s } k j k r f e k . k e a i F o h n o s ' o j r F k k v u s d k a e f i n j k a d s f u e k Z k d s l k F k j r u i g e a l e m z d s l e k u x g j k r k y k c [ k p o k ; k F k k A b l h i d k j t k t Y y n o u s t k t Y y k i g u k e d u x j c l k u s d s l k F k & l k F k e u k o j l j k o j d k f u e k Z k H k h d j k ; k F k k A

i F o h n o f } r h ; d s l e ; d k j r u i g d s f " k y k y s [ k l s i k l r t k d k j h d s v u d k j d Y p g h " k k l d c Y y H k j k t u s j R u i g l s i n o z e a [ k k M h x t e d s f u d V i o r c k a d j l j k o j d k f u e k Z k d j k ; k F k k A r F k k m l h i d k j

I MfoM xte ds ioŕ ds uhps , d rkykc vls jRuŕoj uked I jkoj cuok; k Fkk rFkk nŕ ioŕ ds uhps ckoMh jkBoŕ ek xkb ea rkykc ds fuekZk dk mYys[k gA bl ds vykok iFohno f}rh; ds le; dk jruij I s ikr f"kyks[k ea cgenŕ us eYgkj ea /kutIV egknŕ dk efinj vls I jkoj] rFkk jruij ea ckoMh vls nks I jkoj ds fuekZk dk mYys[k feyrk gA bl idkj dYpgh "kkl dka ds dky ea Hkh NRRhl x<+ ea rkykca ds fuekZk dh ijEijk dh iŕV gsrh gA

xte nrnj; k ea txyka ds e/; i kphu efinjka ds vo"ksk rFkk ifrek; afojeku gŕftudse/; , d ikdfrd unh rFkk >juk idkgr gsrk gSftl ds ty dk mi ; ksx vHkh Hkh gsjgk gA xte I jnk] rgl hy cjyk] ftyk cŕsjk ea xŕrkŕj dkyhu vFkkŕ-I keoŕkh dkyhu i kphu efinj ds vo"ksk gŕftl ds i hNs rkykc fufeŕ gSrFkk ; gkal syxHkx nks fd-eh- njh ij f"koukFk unh mRrj fn"kk ea idkgr gsrh gA fl ) ŕoj efinj iykjh ftyk cykŕk cktkj cky l eŕ uked rkykc ds fdukjs i nhz eM+ea fufeŕ gA ; g efinj I keoŕkh dky ŕoha "krkCnh bZ dk gA bl rkykc dk i kuh i utk i kB ds vykok iykjh "kgj dks Hkh i husgrqforfjr gsrk gA<sup>15</sup> fprkojh noh efinj /kksuh cykŕk cktkj ftyse a ŕoha "krkCnh bZ dk fufeŕ efinj gS tks rkykc dh i nhz eM+ ij fLFkr gSftl dk mi ; ksx LFkkuh; xteokl h nsud dk; kŕ ds vykok i utk i kB ea Hkh djrs gA xte [kjkn ftyk tkt xhj & pŕk ea y{e.kŕoj efinj rFkk "kcjh efinj ds l ehi rkykc fufeŕ gA y{e.kŕoj efinj ds i B Hkx ea l ehi ea ckoMh rFkk i f"pe ea , d rkykc fufeŕ gA bl h idkj "kcjh efinj ds i nhz , oa nfk.k fn"kk ea Hkh , d& , d rkykc fufeŕ gSftl ea ges'kk i kuh Hkj jgrk gA

xte dypk Hknokgh] ftyk I jxŕtk ea l regyk ds l ehi bM fufeŕ v'Vdkskh; ckoMh vHkh Hkh fojeku gA gekjh tkudkj ds vuŕ kj N-x- dh ; g i wkZ isk I g fkr l cl s i kphure-ckoMh gS tks yxHkx 8&9oha "krkCnh bZ dh gA<sup>16</sup> bl ds l ehi mRrj ea yxHkx 100 ehVj njh ij 3&4 rkykc Őe"kk% , d ds Åij , d vHkh Hkh gŕftl ea ges'kk i kuh Hkj jgrk gA dks ck ftyse a egknŕ efinj iykjh rkykc dh i f"peh eM+ ij fLFkr gA<sup>17</sup> ; g rkykc dk Qh fo"ky gSftl ea ges'kk

i kuh Hkj jgrk gA eYgkj ftyk fcykl ij ea i krkyŕoj efinj i kphu x<+ ds l ehi fufeŕ gSftl dh [kkl ea ges'kk i kuh Hkj jgrk gA Hkŕjenŕ efinj dohj/ke ftyse a Qf.kukxoŕkh dkyhu 11&12 'krkCnh bZ dk gSftl ds mRrj ea ikdfrd ty L=kr tks fd pkjka rjQ I s i gkMh I s f?kj gŕk gA bl s ckd kdj rkykc dk fuekZk fd; k x; k gSftl ea n"ku kFkhZ vkdj Luku djrs gA rFkk bl dk i kuh efinj ds i utk i kB ea dke vkrk gA f"ko efinj ?kfv; kjh xte fcj [kk ea jktukan xkb ftyse a fLFkr gS tsk i j i gkMh dh rygvh ea efinj ds i f"pe fn"kk ea rkykc fufeŕ fd; k x; k gS tks ijorhZ dky dk irhr gsrk gA xte uxij k nŕZ ftyse a tkyckakk jkM ij fLFkr gA ; gka ij cLrh dse/; , d cgr cMh rkykc fufeŕ gSftl snks Hkx ka ea foHkfr tr fd; k x; k gA bl h rkykc dh nfk.kh eM+ea i nhz Hkeŕkh f"ko efinj fojeku gA bl ds xHkZg ea dkbZ Hkh ifrek LFkkf i r u gkus ds d kj . k i utk vpZuk ughagrh gA

jkuhi ks[kj rkykc] Mhi kMhg



fcykl ij ftyse a dks/k jkM ij xfu; kjh xte ea i nhz Hkeŕkh , d i kphu f"ko efinj ds vo"ksk gŕ tks rkykc dh i f"peh eM+ ij fufeŕ gA<sup>18</sup> bl rkykc ea ges'kk i kuh Hkj jgrk gSftl dk mi ; ksx i utk rFkk ughus ds dke ea vkrk gA ckj I j fLFkr nlrŕokMh ftyse a plnkfnR; efinj



rkykc dh iwhz eM+ ij fLFkr gS tks fd cLrj ds fNUnd ukxoalkh "kkl dka ds dky dk rkykc rFkk eñj fufeZr gSD; kãd bu nksuka dk mYys[k ; gkal siklr iLrj f"kykys[k ea Hkh feyrk gA

xte nãjchtk çerjk ftyseanqZjkm ij l Med dsfdukjsfLFkr gA ; gkal ij xte ds mRrj ea , d rkykc dsfdukjs if"peh eM+ ij iwhzHked[kh f"koefñj rFkk nf{k.kh eM+eailrj fufeZr l rh LrHk LFkkr r gA ; gkal ij orZeku ea lk; /u foHkx }kjk rkykc dsfdukjs l hf<+ km fufeZr dh tkdj l kãn; hãlj .k fd; k x; k gA tkkt xhj ftyk e[; ky; ea Hkh rkykc ds if"peh fdukjs ij fo'.kq ds nks eñj iwhzHked[kh fufeZr gA ; g rkykc Hkh ikphu gSftl dk mi ; lxx LFkkuh; ykxka ds nãud dk; kã ds l kFk&l kFk eñj ds iwtk&ikB ea Hkh dke vkrk gA cLrj ds d jiky uked xte eaf"koefñj dsvo"ksk gãftl ds mRrj ea xk<+ kjh uked rkykc fufeZr gA ; g ijorhãkyhu irhr gkrk gA xte cLrj eaf"koefñj ds mRrj earFkk i hNs dh rjQ , d fo"ky rkykc fufeZr gA ; g ijorhãkyhu irhr gkrk gA cLrj xte ea yxHkx 14oha "krkCnh bZ rd fNUnd ukxoalkh "kkl dka dh jkt/kkuh jgh gA ; g eñj nf{k.k Hkjr; nfoM+ "kyh dk NRrhl x<+dk , dek= mnkgj .k gA

ykQkx<+ tks fd l Hkor% dkjck ftys ea vkrk gA ; gkal ij , d igkMh ds Åij nqZefñj fufeZr gS rFkk ; ghaij , d rkykc dk fueZk Hkh fd; k x; k gã tkseñj ds l edkyhu 14&15oha "krkCnh bZ dk irhr gkrk gA xfj ; kãn ftyseafQaxoj uked rgl hy e[; ky; eaipeñj fufeZr gSftudse/; ikphu ckoMh fLFkr gA ; g fQaxoj ds jktkvka }kjk fufeZr irhr gkrh gA bl ea vlnj i d'sk djus gsrq iRFkj dh l hf<+ km fufeZr gA bl ckoMh ea ges'kk ikuh Hkjk jgrk gS rFkk orZeku ea Hkh iwtk&ikB ds dk; kã ea mi ; lxx gkrk gA ip eñj ds mRrj ea Qf.kd'soj ukFk eñj fLFkr gSftl ds ck; arjQ rkycka dk fueZk fd; k x; k gA e.Mok egy ftyk dchj/kke ds iwhz ea Hkh , d rkykc fufeZr gS yfdu bl dk ikuh xh'e \_\_rqa l v[k tkrk gA ; g eñj Qf.kukxoalkh dkyhu 14&15oha "krkCnh bZ eafufeZr irhe gkrk gA xte l gl ij] çerjk ftys ea cLrh ds nf{k.kh fdukjs ea f"koefñj , oa ctjacyh eñj iwhzHked[kh fufeZr gA budsnf{k.k iwhz ea , d fo"ky

rkykc dk fueZk fd; k x; k gS tks l Hkor% l u-1973 ds yxHkx dk gA xh'e \_\_rqa ; g l v[k tkrk gSD; kãd bl dk ikuh fl pkbZ ds dke ea yk; k tkrk gA ?ke/kk ftyk nqZea Qf.kukxoalkh dkyhu nks eñj , d gh LFkku ij gãftl ds l Eed[k ikphu x<+dh [kkbZ gS rFkk i hNs rjQ rkykc fufeZr fd; k x; k gSftl ea ges'kk ikuh Hkjk jgrk gA

ckykn ftys ds iykj xte eaf"koefñj rkykc dh nf{k.kh eM+ ij iwhzHked[kh fLFkr gA ; g eñj Qf.kukxoalkh dkyhu irhr gkrk gS yfdu rkykc ijorhãky dk gA f"koefñj xepMiky cLrj ftys ea fLFkr gSftl ds nf{k.k ea yxHkx , d Qyãk njh ij fpãkrjkbZ uked , d rkykc fLFkr gSftl ea ges'kk ikuh Hkjk jgrk gA<sup>19</sup> ckykn ftys ds xte txlUkFki g ea eñj ds l ehi , d fo"ky rkykc fufeZr gS tks l Hkor% xh'e \_\_rqa l v[k tkrk gA ; g eñj ckykn l svtãk l Med ekxZ ij ck; a fdukjs ij fLFkr gA fcykl ij ftys ea xte xrkj ea 15&16oha "krkCnh bZ dk , d eñj gA eñj dsfdukjs rkykc fufeZr gA dkãdj ftys ds ujjij rgl hy ea xte nãuokxk ea , d ikphu eñj] xte nãMkxj ea ikphu eñj] xte fjl kokMk , oa xte eM+ kj ea ikphu eñj dsvo"ksk gA bu pkjka LFkkuka ij rkykc fo|eku gS tks ijorhãky ds gA<sup>20</sup>

jk; ij ftyseaxte uokxk tksfd eñj gl kn l svkxsyxHkx 4 fd-eh- njh ij nk; arjQ fLFkr gA ; gkal ij eñj ds ck; aik"oz ea rkykc fufeZr gA bl h rkykc dh mRrjh eM+ ea fo"oukFk eñj mRrj kHked[kh fufeZr gSftl ds nka s rjQ Hkh , d fo"ky rkykc dk fueZk fd; k x; k gA<sup>21</sup> bl h izdkj jk; ij ftys ds xte fxjkn ea Hkh 17&18oha "krkCnh bZ dk , d eñj if"pekHked[kh fo|eku gS tks rkykc ds mRrj iwhz dks useafLFkr gA bl rkykc dk mi ; lxx LFkkuh; ykxka }kjk nãud dk; kã ds l kFk&l kFk eñj dh iwtk ikB ea Hkh dke vkrk gA

3- ikdfrd tyL=kr%&bl izdkj ikphu ckoM+ ka ds vykok NRrhl x<+ea dñ , d sHkh LFky gã tgdw ij fd ikuh dh l fo/kk gks ds dkj.k rFkk l qerker dh nf'V l s eñj fufeZr fd; s x; s tãfd ; g ijorhãky ds gA , d s LFkyka dh l pph eaf"koefñj csi kul<sup>22</sup> ftyk

fcykl ij rFkk uehk eñj] uehk ftyk jktukxkñ gñ bu nksukgh LFkkukh ij ikdfrd ty L=kr gñ bu eñjka dk fuekzk dky 15&16oha "krkCnh bZ I Hkkfor gñ uehk eñj ds l ehi ck; aik"ozeaL=kr dksckkdj dqM dk Lo: lk fn; k x; k gS rFkk ogkñ s, d ukysdk i dkg "kq gksk gS tks vkxs pydj f'koukFk unh eafeyrk gñ

i kdfrd dq M] cyiku



bl h idkj cyiku ea ikphu dypñh dkyhu eñj jgk gksck ftl ds oLr gks tkus ij ; gkñ ij , d f'koefñj dk fuekzk fd; k x; k ftl ea ij kus vo"kskka rFkk i frekvka dks tM+fn; k x; k gñ bl eñj ds i" B Hkkx eaeñj I sl ãXu ikdfrd dqM dksckkdj ckoMñ dk Lo: lk fn; k x; k gS ftl eapkjkarjQ I heñM i Ddh I hf+ñ fufeñ gñ ; gha l s uhpsrjQ , d ukysdk i dkg "kq gksk gñ

4- ufn; kñ NRrhl x<+ea dñ i ed[k eñj ufn; ka ds fdukjs Hkh fufeñ fd; s x; s gñ tgkñ ij rhFkZ ds : lk ea Hkh I Kk dh xbZ gñ bu eñjka dsmi ; ksx ea Hkh ufn; ka dk i kuh fy; k tkrk jgk gksckA NRrhl x<+ ea l cl s ikphu eñj fcykl ij ftys ea fLFkr nñjkuh tBkuh eñj rkyk gS tksfd 5&6oha "krkCnh bZ ea "kj Hki jñ "kk l dka ds dky eafufeñ ekuk tkrk gñ bl ds i f"pe eafu; kjh unh cgrh gS ftl eageskñ i kuh Hkj jgrk gñ<sup>23</sup> jkfte fLFkr dñs'oj eñj egkunh vñ ijñ ds l ae

ij fLFkr gS rFkk bl ds l Eed[k i ðZ dh rjQ jkthoykpu eñj] i p's'oj eñj] Hkrs'oj eñj] jkts'oj eñj] nks'oj eñj] rFkk rfyu eñj ijñ unh ds nka s rV ij fLFkr gñ<sup>24</sup>

clrj fLFkr Hkkacki ky ea uyoñkh "kk l dks ds dky dk pñ; xg , oa f"ko eñj ds vo"ksk fo |eku gñ bl ds mRrj fn"kk ea Hkh , d unh cgrh gS tks jñhyh rFkk de xgjh gñ f"koefñj cy l j orñku ea cyjkeij ftye ea vkrk gñ bl eñj ds ck; aik"ozea Nkñ/h Lkh ckoMñ gS tks/kññ/kñs i V jgh gñ eñj ds i ðZ ea , d i gkMñ ukyk gS rFkk nka s rjQ egku unh dk l æ LFky gS ftl eageskñ i kuh Hkj jgrk gñ ; g eñj 8oha "krkCnh bZ dk gñ

Ekkxjk cjkñ] f'koukFk unh



fl jñ fLFkr xñs'oj eñj] , oa vñ; ikphu eñjka ds vo"ksk egkunh ds nk; a rV ij fo |eku gñ vr % buds i ðk i k B , oa nñud mi ; ksx ds dk; kñ gñ r egkunh dk ty mi ; ksx fd; k tkrk jgk gksck A l jxñk ftye ea egs'ki j ds eñjko"ksk jñ+unh ds ck; a rV ij fLFkr gñ rFkk dñ rkyk Hkh fufeñ fd; s x; s gñ bl h idkj xte nñVdj fLFkr nñx<+ , oa Nj dk nñj eñj Hkh jñ+unh ds ck; a rV ij fo |eku gS tksyxñkx 9&10oha "krkCnh bZ ds gñ<sup>25</sup> fl gkok fLFkr d.k'oj eñj l eñj egkunh ds nk; a rV ij fufeñ gñ tks 11&12oha "krkCnh bZ ds gñ

I jxqtk ftyseaeqkjkuhi j xte ea , d f"koefnj ds vo"ksk gdf t l ds mRrj eae kan unh i d k fgr gsrh gA ; g efinj 10&11 oha "krkCnh bz dk gA

nLrs'ojh efinj nLrpkMk tksfd 14&15oha "krkCnh bz dk gA bl ds l ehi ck; arjQ "ka[kuh rFkk Mduh uked nksufn; kadk l ae gA bl LFky ij ges'kk i kuh cgrk gSftl dk mi ; kx efinj ds n'ud i vt&i k B ea gsrk gA t k t x h j f t y s d a f " k o j h u k j k ; . k e a e g k u n h d s c k ; a f d u k j s i j d s ' k o u k j k ; . k j u j u k j k ; . k j p l n p m + e f i n j r F k k t x l u k F k e f i n j v k f n f u f e r g s t k s 11&12oha "krkCnh bz ds gA bl ds nka s rjQ n f { k . k e a e g k u n h i w z d h r j Q i d k f g r g s r h g s r F k k b l d s i w z e g k u n h e a t k a d , o a f " k o u k F k u n h d k l a e g A ; g l a i j g e s ' k k u n h e a i k u h c g r k j g r k g S t k s n " k u k f k z k a d s n ' u d m i ; k x d s l k F k & l k F k " k g j d k s H k h i h u s d s d k e e a v k r k g A

cyksnk cktkj ftys ds vLrxr xte ukjk; .ki j ea fo'.kq efinj i w z h k e [ k h f u f e r g S t k s d Y p j h " k k l d k a d s d k y 11&12 o h a " k r k C n h b z d k g A b l e f i n j d s c k ; a r j Q l e h i e a g h e g k u n h c g r h g A c L r j f t y s d s f N a n x k o e a f " k o e f i n j d s v o " k s k g d f t l d s l e h i c k ; a r j Q b l n k o r h u n h i d k f g r g s r h g s r F k k b l d s v k x s b l n k o r h e a f p = d k v u k e d t y i i k r d k f u e k z k g s r k g A <sup>26</sup> N j d h e g y ] d c h j / k k e f t y s e a f u f e r g S t k s x t e N i j h e a v k r k g A ; g e f i n j 13&14 o h a " k r k C n h b z d k g A b l d s n k a s r j Q v F k k r n f { k . k e a l a d j h u n h d k m n x e i g k M h l s g s r k g S f t l e a g e s ' k k i k u h c g r k j g r k g A ; g e f i n j Q f . k u k x o a k h " k k l d k a d s d k y d k g A x t e n o d j f t y k c e r j k e a ? k a k j j k t k e f i n j u k e d L F k y i j c g r l s i l r j f u f e r l r h L r h k r F k k ; k s ) k i f r e k ; a e f i n j i f j l j e a t M h g s t g k w i j i g y s , d y ? k q v k d k j d h c k o M h F k h t k s / k h j & / k h j s i V d j l i k v g s x b z g A ; g H k h 15&16oha "krkCnh dh irhr gsrh gA ; g ckoMh l hkor%efinj ds dky dh gks l drh gA

xte rji kack ftyk cyksnk cktkj eafLFkr gA ; g l a i j e k o y h n o h e f i n j 16&17oha "krkCnh bz dk fufe r gA bl ds l ehi e a i h N s d h r j Q f " k o u k F k u n h c g r h g S r F k k o ' k k z \_ r q e a b l d k i k u h e f i n j d s l e h i r d v k t k r k g A d n j e k y ] f t y k d k j c k e a v k / k f u d d k y d h d c h j i f F k ; k a

dh yxHkx 300 o'kz i k p h u l e k f / k ; k a f u f e r g A b l d s l e h i g l n k s u n h i d k f g r g s r h g S f t l d k i k u h x t e r F k k ; g k a d s i q t k f j ; k a d s f y ; s m i ; k x e a v k r k g A

bl idkj mi ; Dr LFkyka dk v/ ; ; u djus ij Kkr gsrk gSfd efinjka , oa/kkezd LFkyka dk fuekzk i w k z % i k u h d s L = k r d s v k / k j i j f u H k j d j r k g S p k g s o g e f i n j d s f u e k z k l s i w z m i y C / k g k s ; k e f i n j d s f u e k z k d s c k n i k u h d k l k / k u f u f e r f d ; k x ; k g k A b l h i d k j ; g d g k t k l d r k g S f d N R r h l x < + e a g h u g h a c f Y d l E i w k z H k j r o ' k z e a t g k w i j H k h e f i n j k a d s f u e k z k d h ; k s t u k i l r k f o r d h t k r h F k h o g k w i j i k u h d h v k o " ; d r k e g R o i w k z F k h p k g s o g d q j c k o M h j u n h j i k d f r d t y t = k r v k f n d s : l k e a D ; k a u g k A b l e a e g R o i w k z c k r ; g H k h g S f d i k j a h k d d k y e a i d f r d s o k r k o j . k d s v u q l k i g y s N k s / s v k d k j d s t y L = k r k a d k f u e k z k f d ; k t k r k F k k r F k k e k u o d s o S k f u d ; q e a f o d f l r O e e a t y d h v k o " ; d r k d s v u q l k r y k c ] c k o M h j d q j r F k k o r e k u e a g S M i E i , o a V ; w c s y d k H k h m i ; k x g k s u k i k j a k g k s p o p k g A b l d s v y k o k e f i n j k a d s f u e k z k , o a t y L = k r k a d s f u e k z k e a m l l e ; j k t k v k a d h l E i U u r k r F k k m l d s " k k l u d k y d s A i j H k h f u H k j d j r k j g k g s k A

I n H k z &

- 1- NRrhl x<+fe=] val 4] 2012] rkyk] jkggy d'ekj fl g] i:- 23&27-
- 2- tkToY; k if=dk] 2004] fcu ikuh l c l w] jkggy d'ekj fl g] i:- 13 ,oa15-
- 3- i k d h f M X l v k Q n u s k u y l f e u k j v k u f j o j o s y h f l f o y k b t d u v k Q N R r h l x < + , . M U ; w f j l p a t b u b f . M ; u v k f d z k y k t h ] 2012] N R r h l x < + d s v f l k y s [ k k a e a m Y y f [ k r u f n ; k a , o a t y L = k r k a d k , f r g k f l d f o " y s k . k ] M k w f n u s k u f i n u h i f j g k j ] i:- 26&33-
- 4- NRrhl x<+ dh LFkki R; d y k ] l j x q t k f t y s d s f o " k s k l n H k z e j ] 2012] o e k z d k e r k i d k n ] i:- 99-
- 5- m i f j o r } i:- 85-
- 6- c L r j d h L F k k i R ; d y k ] 1/5 o h a " k r k C n h b z l s 12 o h a " k r k C n h b z r d 1/2 o e k z d k e r k i d k n ] i:- 121&122-
- 7- f c g f u ; k j v a l } k n " k ] v x L r 2014] N R r h l x < + d s i k p h u e f i n j f L F k r c k o M h v k j r k y k c ] d k e r k i d k n o e k j i:- 48&49-

- 8- mifjorþ i: 49-
- 9 - dyk oðkoj vð 16] 2006&2007½ efinjka dh uxjh [kjk%LFkki R; o dyk ij iðk"ki] oekZ dkerk ið kn] i: 116-
- 10- NRrhl x<+dh LFkki R; dyk] e/; NRrhl x<+dsfo"ksk l mHkZ eþ 2014] oekZ dkerk ið kn] i: 63-
- 11- mifjorþ i: 239-
- 12- mifjorþ i: 253-
- 13- mRdh.kZys[k] ckypan tði] i: 31-
- 14- cLrj dh LFkki R; dyk ]mifjorþ i: 78-
- 15- NRrhl x<+dh LFkki R; dyk] e/; NRrhl x<+dsfo"ksk l mHkZ eþ mifjorþ i: 76-
- 16 NRrhl x<+dh LFkki R; dyk] mifjorþ i: 34-
- 17- NRrhl x<+dh LFkki R; dyk] e/; NRrhl x<+dsfo"ksk l mHkZ eþ mifjorþ i: 100
- 18- dykoðko] vð 13&14] 2003&2004 f"koefinj xfu; kjh] dkerk ið kn oekZ i: 93-
- 19- cLrj dh LFkki R; dyk] mifjorþ i: 138-
- 20- mifjorþ i: 186&187-
- 21- NRrhl x<+dh LFkki R; dyk] e/; NRrhl x<+dsfo"ksk l mHkZ eþ mifjorþ i: 248-
- 22- mifjorþ i: 235&236-
- 23- mifjorþ i: 18-
- 24- jkfte] i: 63-
- 25- NRrhl x<+dh LFkki R; dyk] l jxqk ftysdsfo"ksk l mHkZ eþ mifjorþ i: 135-
- 26- cLrj dh LFkki R; dyk] mifjorþ i: 137-

26

bð k dh i kjfEHkd 'krkCnh ea  
 ,jp ea ty&l j {k.k %  
 vkfHkys[kh; l mHkZ

\*MKW vke iðk'k yk JhokLro

^,jp^ mðkj in sk ea dhny[k.M ds vlrxt >kl h tuin dh xjkBk rgl hy eacrok %os=orh½ unh dsnk; arV ij fLFkr gð ,jp dk ^,jN^ uke plnsy 'kkl d ijefnho dsfoðe l or-1230 dsegkck rkei =ys[k eai klr gkrk gð¹ ; gh uke ,jp dsdfo fu/kkufxfj Ñr l or-1912 ds muds xfk 'HkfDreuksgj\* ea Hkh mfYyf[kr gð² bl dk ikphu uke ^,jdN^ ; gk ds uxj&fl Ddka ij bð k i wZ rhl jh&nl jh 'krkCnh dh ckāh fyfi eamRdh.kZgð³ orðku eabl s^,jp^ ; k ^,jN^ Hkh dgk tkrk gð

ijEijkuð kj ,jp dks fgj.; d'; iq dh jkt/kkuh dgk tkrk gð ; g ,d egðoiwkZ igjkrkflod LFky gð tggk l siLrj ,oarkezmi dj.k] ikphu fl Ddð enHkk.M] e.efirz kj iLrj&efirz kj rFkk vfHkys[k vkfn feysgð tksbl {ks= fo'ksk ds l kFk&l kFk Hkkjrh; bfrgkl ij egðoiwkZ iðk'k Mkyrs gð

,jp l s i klr fl Ddka , oa vfHkys[kka l s vusd vKkr 'kkl dka , oa muds jktoðkka dh tkudkjh i klr gkrh gð ; gk ds uxj&fl Dds , oa epk; al keftd , oavkfkZd fodkl ij iðk'k Mkyrh gð igjkrkflod vo'kskka ds vk/kj ij ,jp dh igpku egtuin ^psn^ dh jkt/kkuh ds

\*i wZ jftLVhdj .k vf/kdkjh] 12&ch] i h- l h- cutHz ekx] , yuxat] bykgkckn ¼m-i z½

: i eadh x; h gA<sup>4</sup> ; gk; l i klr fl Ddka, oavfhky[ka dsvk/kj ij Hkh ,jp yxHkx bZ k i dZ f}rh; 'krkCnh l s f}rh; 'krkCnh bZ ds chp jkt/kkuh i ekf.kr gkrk gA<sup>5</sup>



,jp ij kLFky dk l kekl; n';



bl izdkj ikphudky eajktu[rd , oal kl Nfrd jkt/kkuh gkaus ds dkj.k ,jp ea vusd egUoiwkZ dk; Z l EiUu gq Fk[ ftuea i tdfj.kh&mR[kuu dsek/; e l s ty&l j{k.k dk Hkh mYys[k fd; k tk l drk gA ; g dk; Zbruk egUoiwkZ Fkk fd bl dsl mHkZeab"VkdKfhky[ k mRdh.kZ dj; k] ftl dh vusd ifr; kj i klr gPZ gA bl vfHky[ k dh bA/a ,jp ea , d LFku ij u fey dj l e; ds i; klr vUrjky ds dkj.k b/kj&m/kj dbZ LFkkuka ij fc[kjh gPZ Fkha dN bA/a rks unh ds fdukjs Åps Vhys ij yxh gPZ Fkh] ftudksmrkj usea dk Qh dfBukbZ gPZ yxHkx igyh 'krkCnh bZ dh ctāh fyfi ea; g vfHky[ k rhu i ā; ka ea mRdh.kZ gA&

fl ) a l s ki r% 'krkuhdL; i i k s-sk l s ki r% vfnrfe=L; i k s-sk l s ki r% n'kk.kkZ/ki r% enyfe=L; i e-sk l s ki fruk n'kk.kāojk okl "Bhi e-sk v"kk<fe=s k i tdfj.kh [kkfurk

,jp vfHky[ k



v"kk<fe= ds bl vfHky[ k ea eq; : i l s ,jp ea i tdfj.kh mR[kuu dh pPZ dh x; h g[ fdUrqb l vfHky[ k dsek/; e l svHkh rd vKkr , d uohu jktoak dscjseatkudkjh feyrh g[ ftl us ,jp l s n'kk.kZ {k= ij 'kkl u fd; kA bl vfHky[ k ea v"kk<fe= ds ifi rkeg 'krkuhd rFk fi rkeg vfnrfe= dks ^l s ki fr\* dgk x; k g[ fdUrqLo; a v"kk<fe= , oam l ds fi rk enyfe= dks l s ki fr dsl kFk&l kFk ^n'kk.kZ dk vf/ki fr^ Hkh dgk x; k g[ fdUrq; g ughadgk tk l drk fd ftuds l kFk dōy ^l s ki fr\* dh mi k f/k g[ osek= l s ki fr gh Fk[ cfYd osbl {k=

vFkk~n'kk.kzds^vf/ki fr\* Hkh FkA I Hkor%osI sukifr i q; fe= dh Hkfr  
ek= ^I sukifr^ mikf/k gh /kkj.k fd; sFkA



i qdfj.kh&mR[kuu I sI EcfU/kr bl vfhky[k ean'kk.kzds'kkI d  
v''kk<fe= }kjk brusikphudky ea,jp eacrok unh dsgkousdskotm  
i qdfj.kh dk mR[kuu djds ty&I j{k.k dk ; g dk; ZI Hkor%i hus, oa  
fl pkbz vkfn fofo/k m's; ka dh i firZ gsrqfd; k x; k FkA v''kk<fe= ds  
bl vfhky[k I sirk pyrk gSfd n'kk.kzds'kkI d v''kk<fe= dh ^i HkZ  
/keZ ds i fr i; kZr vL Fk FkA i jk.kka ea oki h] d p/kj rkyk vks eanj  
dk fuekZk rFkk cx yxkuk vkfn ykdfgr ds dk; ka dh ^i HkZ /keZ ds  
vLrxr pkl dh x; h gA' i jk.kka ds i wZ Hkh ^dBki fu''kn\* ea ufpdrk  
vk[; ku ds I anHkZ ea of.kZr ^b''Vki HkZ ds vLrxr ; K] nku vkfn deka  
, oa d p/kj ckx] rkyk vkfn ds fuekZk rFkk mul siklr Qy dh pkl  
gA° vr% ty&I j{k.k tS ykdfgr dk dk; Z v''kk<fe= us ,jp ea  
i qdfj.kh&mR[kuu ds ek/; e I s fd; k Fkk] ftl dk vo'kSk I Hkor%  
oUnrky ds : i ea vkt Hkh fo|eku gA

v''kk<fe= dk yxHx igyh 'krkCnh bz dk b''Vdkfhky[k ,jp ea  
ty&I j{k.k dk i kphu vkfhky[k; I k{; rksGgh] ; g , frgfl d , oa  
I ka.Nfrd n''V I s Hkh egUoi wkZ gA bl I anHkZ ea mYy[kuh; gSfd  
dkfynkl useqknir ea eq dks I ans k nrs I e; fofn'kk dks n'kk.kz dh  
jkt/kkuh crk; k gS vks ml sfn'kkvka ea i fl ) Hkh dgk gA° bl I sirk  
pyrk gSfd dkfynkl useq dks tc Hkh I ans k fn; k Fkk] ml I e;

fofn'kk n'kk.kz dh jkt/kkuh FkA , frgfl d n''V I s; g fLFkr bz k i wZ  
f}rh; 'krkCnh dh gS tc I sukifr i q; fe= dk i q vfxufe= fofn'kk  
dk 'kkI d Fkk] fdUrq ,jp I siklr v''kk<fe= ds bl vfhky[k ds vuq kj  
n'kk.kz dh jkt/kkuh ,jp Fkh] u fd fofn'kkA bl vfhky[k eav''kk<fe= dks  
Li''V : i I s n'kk.kz oj\* rFkk ml ds fir k dks n'kk.kz/ki fr\* dgs tkus I s  
i rk pyrk gSfd dkfynkl ds i 'pkr~n'kk.kz dh jkt/kkuh fofn'kk I s  
,jp LFkkukUrfjr gks x; h FkA bl I s; gh Li''V gsrk gSfd dkfynkl  
dks ek= ml dky[k.M dk Kku Fkk] tc n'kk.kz dh jkt/kkuh fofn'kk  
FkA vr% v''kk<fe= dk i qdfj.kh&mR[kuu I s I EcfU/kr ; g vfhky[k  
dkfynkl dks bz k i wZ f}rh; 'krkCnh<sup>10</sup> ea fu/kkZjr djus ea egUoi wkZ  
Hkiedk i Lr q djrk gSftl I s dkfynkl ds I e; ds ckjs ea vfu'p;  
dh fLFkr I eklr gks tkrh gA

bl i dky v''kk<fe= dk ; g b''Vdkfhky[k vuq egUoi wkZ , frgfl d  
I anHkZ ds I kFk bz k dh igyh 'krkCnh ea ,jp ea i qdfj.kh&mR[kuu dh  
tkudkj h i Lr q djrk gS tks bl {ks= ea ty&I j{k.k I s I EcfU/kr I cl s  
i kphu vkfhky[k; I k{; gA

I anHkZ %

- 1- bfi xIQ; k bf.Mdk] ftYn 16] i: 12
- 2- os=orh ngq dny ij dfo fu/kkufxjokl A  
,jN i jFky rHFZ I e nmtk ekB fuokl AA  
JhokLro] vke izdk'k yky % dny [k.M dk nyBk xBk Hkfdreukgjj] fgUnkrkuh  
Hkx 67] vad 3 tykb&fl rEj 2006] i: 113&115
- 3- JhokLro] vke izdk'k yky % Vw Vkbll vKd fl Vh Dok; UI vKd ,jdN]  
U; fieLeSVd MkbtLV] ftYn 21&22] i: 1&3( FKMZojk; Vh vKd fl Vh Dok; UI  
vKd ,jdN] tuzy vKd U; fieLeSVd I kd kbVh vKd bf.M; k] ftYn 54&55]  
i: 10
- 4- JhokLro] vke izdk'k yky % ,jdN% , su , MfefuLVVo U; fdy; I Fkn  
, tst] pfrohFkd] bygkckn I xgky; 1/2 ftYn 5 1/4 1999&2000] i: 223&227-
- 5- JhokLro] vke izdk'k yky % vkfdZ ksyk h vKd ,jp % fMLdojh vKd U; w  
MkbuLVht] I gHk izdk'ku] okjk.kl h] 1991
- 6- ogh] i: 10
- 7- oki h d rMxkfu nork; rukfu pA

- vluinkuekfFk; % i WkZer; fhk/kh; rAA ekdZ Ms igk.k] 16] 124
- 8- vk'kki rht{ks l xrp l wirka p b"Vki WkZ i e-i 'kpp l okZA  
 , rno³ Drs i # "kL; KYi esk l ks ; Lekuue-ol fr ctã . kks xgAA  
 dBki fu"kn} 1@8
- 9- -----n'kk. kZA  
 rs'kka fn{kq i fFkr fofn'kky{k.kkajkt/kkuhA e9knw} 1@25&26
- 10- JhokLroj vke idk'k yky % dkfynkl dh frffk % b] k i wZ f}rh; 'krkCnhj  
 tuzy vkwD xakukFk >k dbrnh; l L.Nr fo|ki hBj ftYn 54&55 ¼1998&99½  
 i: 141&146-

# xki kfnz nqZ dk ty i cl/ku

\*MKW xkfoln ckFke

Xokfy; j e/; ins'k dsmRrjh {ks= eafLFkr gA ; g uxj i kphudky l s  
 gh l kldfrd : i l s l e) jgk gA bl uxj dk uke Xokfy; j  
 'Xokfy; k \_\_f'k dsuke ij i Ml ftUgkusuxj dse/; Hkx eafLFkr Åph  
 o foLrr igkMh ij riL; k dh FkA ft l s "xki kfnz" dgk tkrk gA  
 fefgdjy ds Xokfy; j vfhkyqk ea bl s "xki kg; ukfEU Hkxj" vFkkr  
 xki i or dgk gA Hkxst nD ds fo- l - 933 ¼876 bLoh½ ds vfhkyqk ea  
 bl ds "xki fxjh" 'kCn dk mi ; kx gqkA foDe l or 1150 ds vU;  
 vfhkyqk ea bl i or dsfy, "xki kfnz", oa"xki kfnnqZ" dk uke feyrk  
 gA mi ; Dr l k{; kadsvk/kj ij bl igkMh dsfy, xki] xki kfnz; k xki fxjh  
 ukela dk mYyqk bea foFkUk l k{; ka l s i ktr gkrk gA bl ds vk/kj ij  
 xki kfn] xki fxjh] xki kpy vkfn ukela ea i Fke in ds : i ea xki dk  
 Xoky ds : i ea i ; kzkph gA vr% xki kfnz 0; Bi fRr dk vk/kj xki  
 ¼koy½ i rhr gkrk gA

Xki kfnz nqZ dk egkHkjr dky l s gh i edk LFku jgk gS bl {ks=  
 ij ekS ] 'kqk ukx] ek[kjh] gqk] xqtj i frgkj] dPNi?kkr] eflYe  
 l Yrkukj rkejka o eqyka, oaejkBkso fcfV'k 'kkl dka ds vkf/ki R; ea; g  
 nqZ jgk gA yEcs l e; rd Xokfy; j nqZ ij 'kkl u jgus dk i edk  
 dkj.k bl xki kfnz nqZ dh Hkxskfyd fLFkr dk i edk ; kxnu jgk gA  
 xki kfnz nqZ, d fo"ky igkMh ij fufeZ gStskdQh Åph gA bl snqkã  
 dk ftckYVkj Hkx dgk tkrk gSfdl h Hkx nqZ dks l j {kk dh n"V l s tc

\*ofj "B ekxh'kd] xrtjh egy l xgky; ] Xokfy; j e- iz

rd vHkn ugha ekuk tk l drk tc rd ml ea i; klr ; q l kexh  
[kk | ku o ty dh i; klr 0; oLFkk ugh gks D; kfid 'k=q }kjk nqz ; k  
uxj dh ?kj kclnh dj fy, tkus ij bu oLrnp/ka dh vki firZ gjk & thr  
ea cgr dN fu.kkZ d fl ) gksrh gA jkek; .k] egkHkkjr] euqefr]  
eRL; i gk.k] fo".kq /kekRj i gk.k] eku l ksyki vkfn xBFkka ea dgk  
x; k gSfd nqZ ea vk; qk] vUu] vkskf/k] /ku] ?kkM+ gkFkh] Hkk [kkgh i 'kj  
ckã.k] f'kyidkj] e'khus rFkk ty vkfn dh i; klr 0; oLFkk gksuh  
pkfg, A vijkftriPNk rFkk OkkLrgjktOYyHk ds vuq kj iq; kRek dks  
ij 1/2 nqZ ds Hkhrj pkj oki h] nl di] pkj dqM vj N% rkyk  
cuokuk pkfg, A bl izdkj ik; % l Hkh jktuhfrK rFkk okLrd kL=h nqZ  
ea ty ds egRo dks Lohdkj djrs gS D; kfid l dVdky ds fy, ; fn  
ty l xg dh i; klr 0; oLFkk ugh gsrks dkbz Hkh nqZ vf/kd l e; rd  
vfoftr ugh jgk l drkA

Xokfy; j dk nqZ tyi firZ dh nf"V l s dk Qh l Qy jgk gS D; kfid  
dkbz Hkh 'k=q bl s ty dh deh ds dkj .k dHkh glRxx ugha dj l dka  
bl ds tyk' ; i; klr vkdkj ds gS vj vr; kf/kd xehZ ds fnuka ea Hkh  
ughal qkrs rFkk l dV ds l e; ty dh vki firZ ea i wZ % l {ke jgrsgA

Xokfy; j nqZ ij ty ds izU/ku ds fy, rkykca d/ka vj  
ckofM+ ka dk fueZk fd; k x; k ftl l s l ky Hkj rd nqZ ds fuokl ; k  
jktifjokj ds l nL; ka vj l sudka dh ty dh vko'; drk dks ij k  
fd; k tk l ds ftl dk o.ku bl izdkj gS %

1- vLI h [kEHkk ckoMh % ; g oki h igkMh dse/; Hkkx ea jktk  
ekufi g dsegd ds nf{k.k&i f'peh dks ij fLFkr gA bl dks pkj k vj  
l s, d Aph ikphj }kjk ?kj fn; k x; k gS ftl ea fHkrj izsk djus ds  
fy, i wZ dh vj , d fo'kky }kj gA bl dk fueZk cM&cM s i'kk.k&[k.Mks  
dks tkMdej xskdkj : i eafd; k x; k gA oki h dk 0; kl 12-75 ehVj  
rFkk ty ds l rg rd dh xgjk bZ 11-45 ehVj gA Ajh fl jsij vkMh  
ds Aj 2-15 ehVj pkMh Nktu gA ml ds pkj ka vj 1-85 ehVj pkMh  
64 xsk [kEHka ij vk/kfjr , d oRrkdkj cjenk Hkh gS ckoMh ds i f'pe  
ea Hkh , d Nk/k izsk }kj gS ftl ds nksuka vj nks l hf<+ k; dVh gS tks  
uhps , d LFku ij fey tkrh gA i p% ogka l s nksuka vj l hf<+ k;

fudyrh gS tks oki h ds ty ds vlnj rd pyh x; h gA vr% vijkftr  
iPNk ea of.kz okfi ; ka ds vk/kj ij ^vLI h [kEHkk ckoMh\* dks ^ulnk  
Jskh ea j [kk tk l drk gA



bl oki h dks ^vLI h [kEHkk ckoMh\* uke l s l EckS/kr fd; k tkrk  
gA bl vk/kj ij bl ea vLI h [kEHk gksus dk vuqku gsrk gS fdUrq  
okLro ea bl ea dy 64 LrEHk gh gA bl ds mRrjh Hkkx ea oki h l s tMh  
g/k LrEHka ij vk/kfjr , d fo'kky Hkou gS tks vkt dy ^jghenkn dk  
enjl k' dsuke l s i f l ) gA bl dh jpuk l s, d k irhr gsrk gS fd i wZ  
dky ea; g dkbz l Hk&Hkou jgk gskA l keU; /kj.kk gS fd bl Hkou  
dks ckj us cuok; k Fkka fdUrq budh LFki R; dyk dks ns[kus l s, d k  
yxrk gS fd bl dk fueZk ckj l s i wZ dHkh rkej jktk vka ds 'kkl u  
dky eagyk gsk vj osyxs bl Hkou dk mi ; ks ^l Hk&Hkou\* ds : i  
ea djrs jgs gkA ^vLI h [kEHkk ckoMh\* bl Hkou dh l edkyhu irhr  
gskh gA bl ds ty dk iz ks l Hk Hkou ea gksus okys mRl oka rFk  
l Eesyuka vkfn ds vol j ij fd; k tkrk jgk gsk bl ds vfrjDr  
ekuefUnj vj dhfrEgy vkfn eafuokl djusokys jktifjokj ds yskka  
}kjk Hkh bl dk ty iz qr fd; k tkrk jgk gskA

2- xwtjh ckoMh % ; g oki h igkMh ds uhps xwtjh egy ds  
mRrjh Hkkx ea l Fkr gA bl dk vkdkj 8-30 ehVj yEck] 7-65 ehVj  
pkMh vk; rkdj gsrFk xgjk bZ 5 ehVj gA oki h dk fueZk Nk&Nk/s  
i'kk.k [k.Mks dks tkMdej fd; k x; k gA bl dh rygVh vj nhokj ka ij  
lykLVj Hkh Fk fdUrq v cog u"V gks x; k gA oki h ds nf{k.k&i f'peh



dkus ij ry rd igpus dsfy, l hf<+ k; fufeŕ dh x; h gŕ xutjh egy l soki h rd vkus dsfy; s, d f[kMeh Fkh] tks vc dln dj nh x; h gŕ bl l sLi "V gSfd bl ds ty dk mi ; ksx xutjh egy dsyksks }kjk fd; k tkrk jgk gkskA



3- /kksl/kk ckoMh %& ; g igkMh dsmRrjh&if"peh Hkx ea/kksl/kk nŕ }kj dsckgj fLFkr gSbl dk fuekZk igkMh ds i k"kk.k [k.Mks }kjk v/kpUnkdj : i eafd; k x; k gŕ v/kpUnkdj ijf/k dh yEckbz 20 ehVj gŕ okih dh xgjkbz 5 ehVj l s8 ehVj rd gŕ bl ds iwhZ fl js ij ty dh l rg rd l hf<+ k; cuh gŕ okih ds Bhd Åij nqz ikphj gŕ ftl ea, d ?kkV fufeŕ fd; k x; k gŕ bl ?kkV ds }kjk Hkh okih dk ty iklr fd; k tk l drk gŕ



4- 'kjin vkŕ vukj ckoMh %& gffk; ki kŕ vkŕ y{e.ki kŕ dschp ea igkMh dks dkVdj ml ds Hkhrj ^kjin ckcMh\* vkŕ ^vukj ckoMh\* uke ds nks tyk'k; fufeŕ fd; s x; s gŕ 'kjin ckoMh ea , d Nks/k l k egjkenkj iŕsk&}kj cukdj ml s igkMh ds Hkhrj] yEckbz pksMkbZ vkŕ xgjkbz ea dkVrs gq , d pkskŕkj dqM cuk fy; k x; k gŕ bl dh Nr igkMh eadkVdj rŕ kj fd; s x; s LrEHkka ij vk/kkfjr gŕ bl h idkj dh jpuk vukj ckoMh ea Hkh dh x; h gŕ

5- ?kxZtZ ckcMh %& ; g ckoMh ?kxZtZ }kj dsuhpsfLFkr gŕ vr% ^?kxZtZ ckcMh\* dgrs gS bl dh yEckbz 15 ehVj rFkk pksMkbZ yxHkx 7 ehVj gŕ

6- l ij tdqM ; k l w ZdqM %& ; g rkyk igkMh dse/; Hkx ea fLFkr gSA bl dh yEckbz 94 ehVj rFkk pksMkbZ 85-55 ehVj gŕ rygVh l ery u gkus ds dkj . k ; g dghaij vf/kd xgjk rFkk dghaij mFkyk gS n f{k.k dh vkŕ bl dh xgjkbz l cl svf/kd yxHkx 7-80 ehVj gŕ i whZ rFkk i'pe dh vkŕ ty rd igpus dsfy, l ki ku gŕ rkyk dse/; ea, d Nks/k eflnj gS ftl ds xHkZig eaf'kofyax LFkfi r gŕ eflnj rd igpus dsfy, i whZ l ki kuka l s LrEHkka ij vk/kkfjr , d igy dk fuekZk fd; k x; k gŕ

ijEijk esbl rMlx dks l okZ/kd ikphu ekuk tkrk gsvkŕ /kkfeZ nŕV l s Hkh bl dk cgr vf/kd egRo gŕ fdonUrh gS fd ; gkŕ ij riL; kjr Xokfy; k uked , d fl ) l Ur us, d ckj ^l ij tdqM\*\* dk ty dŕryijh ^dŕokj\*\* ds jtk l ij tl s dks ihus dsfy, fn; k Fkk ftl l s ml dk dqVjksx vPNk gks x; kA bl ij l r ds vksk l s jtkk usbl dqM dk th.kkŕ kj djok; kA jtkk dsuke ij bl dqM dk uke ^l ij tdqM\*\* ; k ^l w ZdqM\*\* i M+ x; kA

fegjdy ds Xokfy; j vfHkyŕk l sirk pyr gSfd xki uked ioŕ ij ekripŕ us, d l w Z eflnj dk fuekZk djok; k Fkka ; g l w Z eflnj ^l ij tdqM\*\* ds i'peh rV ij gh dgha fLFkr Fkka l w Z eflnj dk fuekZk l ij tdqM dk th.kkŕ kj djrk rFkk Xokfy; j nqz dk l Fkkid , d 0; fDr l ij tl s dks ekudj dfudke bl dh frfFk fo-l a 332 1/275 bz 1/2 fu/kkfjr djrs gŕ fdUr qmudk ; g er mŕpŕ ugha i rhr

gksrk D; kfid fefgjdgy ds vfhkys[k l s Li"V gS fd l w Z eflnj dk fuekZrk "l j t l s" ugha vkfir q "ekrps/" Fkka ; g eflnj gw k 'kkl d fefgjdgy ds 'kkl udky ds 15 os o"lz ea fufeZ fd; k x; k Fkka fefgjdgy ds 'kkl u dk i k j EHK 515 bZ eafu/kkZjr fd; k tkrk gA vr% l w Z eflnj dh frffk 530 bZ Bgjr h gA vc ; fn l w Z eflnj vks l j t dqM dks l kfk&l kfk fufeZ gw k eku fy; k tk, rks l j t dqM dk l e; 530 bZ ds vkl & ikl fu/kkZjr fd; k tk l drk gA bl dr dh l EHKkouk dh tk l drh gS fd l j t dqM vks l w Z eflnj dk fuekZk l kfk&l kfk gw k gksD; kfid eflnj dks cukus ds fy, tc l ehi LFk i gkMh dks dVdj i RFkj fudkysx; s gkx\$ rc ml LFky ij , d dqM l k cu x; k gkskA dkykUrj ea ml h dk th. kkd) kj dj "l w Z eflnj" ds uke ij dqM dk uke "l w Z dqM" j [k fn; k x; kA

7- f=dkfu; k rky %& ; g rkyk i gkMh ds mRrjh& if'peh dks us ij fLFkr gA bl dk vkdkj f=dks kh; gksu ds dkj .k bl sf=dksu; k rky dgrsgA bl rkyk dh i nhz Hkqt k dh eki 23 eh- if'peh Hkqt k dh eki 9-30 eh- rFkk nf{k.kh v/kpUnkdj Hkqt k dh eki 33 eh- gA rkyk dh xgjk bZ 7 eh- gA bl ds nf{k.kh fl js ij rygVh rd l ksi ku cuk; s x; s gA

i gkMh ds ft l Hkx ea; g rkyk fLFkr g\$ ml s t; Urh Fkj dgrs gA ; gkaij , d ikphu eflnj Hk Fkka , d k dgk tkrk gS fd bl dk fuekZk dNokgk oak ds i k j fEHkd jktk t; Uriky us djok; k Fkka orZeku l e; ea; gkaij LrEHkka ij vkf/kfjr , d esjkc g\$ ft l s Hkhrjh Hkx eanksvfhkys[k vadr gA , d earkej 'kkl d "ojeno" dk uke gS rFkk n h j seafol a 1465 1/1508 bZ/2 frffk mfYyf [kr gA bl izdkj ; g esjkc rkaj 'kkl d ohjeno 1/1400&1419% ds 'kkl udky eafufeZ dh xbZ irhr gsrh g\$ fdUrq ij Eijk ds vuq kj f=dksu; krky dks vi\$kkdr bl l svf/kd ikphu ekuk tk l drk gA

8- tkaj rky %& ; g rkyk Hk fdys ds mRrjh Hkx ea 'kkg t gk egy ds l keus fLFkr gA bl dh yEck bZ 58-50 eh] pksMkbZ 55-50 eh] rFkk xgjk bZ 6-10 eh- gA rkyk eady rhu tynks.k; kbfufeZ dh x; h gS ftudh Aj l sxgjk bZ 0e' k% 2-70 eh] 1-70 eh- gA bl dh nf{k.kh

fn'kk ea chpk&chp , d pcwrjk cukdj ml ds i nhz earkyk dh rygVh rd l ksi ku cuk; s x; s gA bl h izdkj mRrj&i nhz earkyk dh tynks kh rd Nks/&Nks/h l hf<+ kacuh gA rkyk dh nhokj ds Aj h Hkx eapkj ka vks 18 iz.kkfy; ka dh 0; oLFk g\$ ftul so"kkZ dk ty , d= fd; k tk l drk gA bl rkyk dk th. kkd) kj nqZ ds xozj erfen [kkj }kj y [kksh bZ] pms vks 'kq'khZ l s djok; k x; k Fkka nhokj ka dh fpuk bZ brus vPNs < x l s dh xbZ Fk fd rkyk dk , d can i kuh Hk ckgj ughafj l l drk Fkka bl dh bZ/ka dh nhokj rks vkt Hk vPNh fLFkr eag\$ fdUrq ml ds Aj fd; k x; k e'kkys dk yi u"V gks x; k gA



rkyk ds "tkaj" ; k "tkaj" uke ds l Ecl/k ea, d k dgk tkrk gS fd ifrgkj 'kkl d ey; oeZu no ds 'kkl udky ea tc bYrfe'k 1/1232 bZ/2 us bl nqZ ij vk0e.k fd; k rks ogk dh jkf; ka vks jkt ifjokj dh fl=; ka us bl h rkyk ds l ehi vfxu ea dmdj "tkajor" dj fy; k Fkka bl h dkj ; g rkyk "tkajrky" uke l s ifl ) gA

9- 'kkg t gk rky %& 'kkg t gk egy ds i k .k ea , d rkyk fLFkr gA bl dk fuekZk cM&cM+ i k "k.k [k.Mka dks tkM elj fd; k x; k gA bl dh yEck bZ 31-20 eh] pksMkbZ 26-30 eh- rFkk xgjk bZ 15 eh- gA 4-60 eh- xgjk bZ ij rkyk dh tynks kh cuk bZ xbZ g\$ ft l dh yEck bZ 20 eh- pksMkbZ 15-65 eh- rFkk xbjkbZ 10 eh- gA tynks kh rd igpus ds fy, i nhz vks if'pe ea l ksi ku cuk; s x; s gA bl h izdkj mRrjh& if'peh dks us ij Hk ty dh l rg rd igpus ds fy, tynks kh ea l ksi ku cus

gA nf{k.kh fn'kk ea 3-75x4-00 eh- dk ,d Lukukxkj ; k d{k fufeZ fd;k x; k gS tks l EHkor%oL=kfn cnyus ds fy, iz qR fd;k tkrk jgk gksk bl rkyk dk fuekZk 'kkgtgk; egy ds l kfk gh yxHkx l =goh 'krkCnh ea fd;k x; k irhr gkrk gA

10- ekul jkoi %& ; g l jkoi nqZ ds if'peh Hkkx eamjokgh ds fudV fLFkr gS, d k dgk tkrk gSfd bl dk fuekZk rkej jtk ekufi g 1/41486&1516 bZ½ }kj djok; k x; k Fkka l jkoi dk vkdkj cMkSy gS vj n[s kus l s, d k irhr gkrk fd bl dk fuekZk ; kstuc) <x l sfd; k x; k gA l EHkor% Hkouka ds fuekZk ds fy; s bl LFky l s i'kk.k&[k.M fudkys x; sgSftl ds dkj.k ; g tyk'k; cu x; k gA cgr l EHko gS fd bl rkyk l jtk ekufi g ds Hkouka ds fy, gh iRFku fudkys x; s gk ftl ds dkj.k ijEijk eabl sekufi g l s tkM+fn; k x; k gA if'pe dh vj bl dh xbjkbZ yxHkx 6 eh- gA

11- jkuhrky rFkk pjhrky %& ; g nkuak rMlx igkMh ds mRrjh&if'peh fudV gA jkuhrky dh yeckbz 34-50 eh-pkMkbZ 20-50 eh- rFkk xbjkbZ 9 eh- gA mRrjh fn'kk ea pkSdj LrEHkka ij vk/kfjr f}Hkksed cjenk gA mRrjh&if'peh fn'kk ea ty rd igpus ds fy, l ki ku cus gA tynks kh ikdfrd pVvku dks dkV dj cukbz x; h gA ml ds ऊपरी Hkkx dks i'kk.k&[k.Mka l s tkM+dj l n.k fd; k x; k gA l kr LrEHkka ij vk/kfjr fupyk cjenk l keku; r%ty ea Mck jgrk gA pjhrky dh yeckbz 36 eh- pkMkbZ 36 eh- rFkk xgkjbZ 7 eh- gS bl ds iNZNTtk ; qR iDsk}kj gA mRrjh rFkk dksuka ij rkyk ds ty rd igpus ds fy, l ki ku fufeZ fd; s x; s gA

jkuhrky vj pjhrky ds l Ecl/k ea ,d fdonUr ih pfy gS ftl ds vuq kj pjhrky l nS l v[k iMk jgrk Fkka vud mik; djus ds ckn Hk ml ea ikuh ugha Bgjk rks ,d Hkryh; ukyh dkVdj ml s jkuhrky l s tkM+fn; k x; k ftl l s nkuak rkykcka ea ty dh l rg cjkj jgusy xhA fdUr qorEku l e; eankuak rkykcka dk fujh{k.k djus ij ,d h fdl h Hk Hkexr ukyh ds vo'kSk Li"V ugha gA bu l jkoi ka ds fuekZk dk Js jtk ekufi g 1/41486&1516 bZ½ dh jkuh vj ml dh nkl h 1/2 pjh½ dks fn; k tkrk gA

12- xaksykrky %& fdys ds yxHkx e/; Hkkx ea rsh eflnj ds l keus rFkk ckyfdyk ds nf{k.k ea xaksykrky fLFkr gA vkt dy ; g xq }kjs ds ?kjs ea vk x; k gA bl dk vkdkj yxHkx 200 eh- yeck vj 200 eh- pkMk gS rygvh Aph&uhph gks ds dkj.k ; g dgha ij vf/kd xgjk gS rFkk dgh ij deA bl rkyk l s ifrgkj jtkvka rFkk rkej 'kkl dkaal sohjl g nS m) j.kn vj ekufi g ds vfHky[k i ktr gq gA bu vfHky[k ka ea rDkyhu jtkvka ds 'kkl udky dh fdl h fof'k"V ?kVuk dk mYys[k gpk gA fo) kuka dk vuEku gSfd l EHkor% tc fdl h jtk ds 'kkl udky eadkbZ fof'k"V ?kVuk Hk] rc bl rkyk dh l Okbz djokbz tkrh Fk vj ml eam l ?kVuk dk mYys[k djrsgq y[k vdr dj fn; k tkrk Fkka orEku l e; ea ; g vfHky[k rkyk ds xgjs ty ea Mks gq gS vj mlga i ktr dj iku l EHko ugha gS pnd rkyk ea dfri ; ifrgkj oAk 'kkl dka ds vfHky[k Hk vdr gS vr% bl dk fuekZk yxHkx 10oha'krkCnh ds iNZ ea gh gks x; k gkskA ; g rkyk rsh ds eflnj ds l keus fLFkr gA cgr l EHko gSfd rsh eflnj ds fuekZk ds fy, i'kk.k[k.M bl h rkyk l s fudkys x; s gA

13- dVkj rky %& ; g l jkoi xaksykrky ds if'pe eamjok?kVh dh ikphj ds fudV fLFkr gA bl dk vkdkj dVj s tS k xsy gks ds dkj.k dVjkrky dgrsgA bl dk 0; kl 50eh- vj xgkjbZ 7-5 eh- gA rkyk ds e/; ea vkB LrEHkka ij vk/kfjr f}Hkksed cqt hZ cuh gS ftl dk f'k[kj xjcnkj gA iNZ fn'kk ea rkyk dh rygvh rd igpus ds fy, nkgjs l ki ku cus gA ऊपरी Hkkx ea o"kkz dk ty ,d = djus gq Nk/h&Nk/h iz kfy; k fufeZ dh x; h gA rkyk dh cqt hZ dh LFki R; dyk rkej dkyhu irhr gsrh gA bl vk/kj ij dVjkrky dks yxHkx l ksygoh l =goh 'krkCnh ea fufeZ ekuk tk l drk gA

14- ,d [kEHkrky %& ; g dVjkrky ds mRrj&if'pe ea nqZ dh if'peh nhokj ds fudV fLFkr gA bl ds e/; ea ,d i'kk.k LrEHk gks ds dkj.k bl ^, d [kEHkrky\*\* dgrsgA rkyk dh yeckbz 43 eh- pkMkbZ 25 eh- vj xgkjbZ 8-50 eh- gA bl dk iNZ dksuk nf{k.k dh vj yxHkx 5 eh- ckj fudyk gpk gA nf{k.k&iNZ dks ij ty rd igpus ds fy, l hf<+ k cuk; h x; h gA rkyk dk fuekZk eyr% iRFkj

dVus l s gqk gA dkykUj ea tynts khz ds Ajj ik'kk.k [k.Mka dks tkMlej bl l q<+fd; k x; k gA chp ds ,dke LrEHk ij , d Nks/h cqt hz cuk; h x; h gA bl rkyk dsfuekZk dk l e; fuf'pr dj ikuk dfBu gA

15- /kkschrky %& ; g igkMh ds nf{k.kh Hkx ea jkuhrky vKj pjhrky dsfudV fLFkr gA bl dh yEckbz 30 eh- pkM/bz 30 eh- rFkk xgjbz yxHkx 4-50 eh- gA bl ds mRrjh rFkk nf{k.kh dks us ij l hf<+ k; fufeZr gA uhs dk Hkx iRFkj dkVdj ikdfird : i l scu; k x; k gA rFkk Ajjh Hkx dks ik'kk.k [k.Mka l s tkMlej l q<+fd; k x; k gA

16- ujh l kxj %& ; g igkMh ds iwhz Hkx ea x.k's ki k; dsfudV fLFkr gA bl dh yEckbz 19-50 eh- pkM/bz 12 eh- rFkk xbjkbz 5 eh-gA ml ds mRrjh&iwhz dks us ij l hf<+ k; cukbz x; h gS rFkk nhokja ij lykLVj fd; k x; k gA 1687 bz ea nqZ ds xouj eafsen [kkW}kjk bl dk th.kk}kj djok; k x; k FkA pfd ml dh mikf/k uj&mnahu Fkh] vr% bl s^ujh l kxj\*\* dgkW tkus yxkA

17- l kl &cgq rky %& bl dk mYys[k dfuake us vi uh fj i kVZ eafd; k gA mudsvud kj ; g l kl &cgq ds eflnj ds l ehi fLFkr FkA bl dh yEckbz 250 Qv/ pkM/bz 250 Qv/ rFkk xgjbz 15 l s 18 Qv/ cryk; h x; h gA ml l e; ; g l keU; r% l q'kk i Mh jgrk FkA orZku l e; ea l kl &cgq eflnj ds vkl & i kl bl izdkj dk dkbz Hkh rkyk miyC/k ugha gA

Xokfy; j nqZ ds mi ; Dr vakra , oami kakka dk fuekZk vyx&vyx l e; eafd; k x; k A mi yC/k l k; ka l s; g fuf'pr iwhz Li "V ugha gk i krk fd "xki ; k xki kfnz" uked bl igkMh ij l cl sigys nqZ dh LFki uk dc vKj fdl ds }kjk dh x; h; ij Urq bl l Ecl/k ea tks l k; ; gea i kr gq gamul si rk pyr k gSfd ; g nqZ NBh 'krkCnh bz l sigys dk ugha gA

dqvk %& dhi vFkok dq Wdh l k/kj .k fuekZk&; kst uk dks nq[kus l s Kkr gkr k gSfd bl dk Lo: i vR; Ur ikphudky ea gh fodfl r gks pqrk Fk A \_\_Xon ea^dqk^ dk mYys[k feyrk gSbl ds vfrfj Dr Hkjr dh ikphure l H; rk ds i ed[k dhnz ekgu tknMh , oagMh i l shkh dqvka

dsvo'kSk i kr gq gA fl U/k&l H; rk ds i k; % l Hkh cMh?kj ka ea ehBs i kuh l s Hkx xgjs l krs dk dqvk cuk; k tkrk FkA bl dh tM/bz l q'ok ; k l q'k&i VVh bZ/ka l s dh tkrh FkA dq; ds Ajj , d ऊँचि txrh dk fuekZk fd; k tkrk FkA bl dk vkdkj xky vFkok pksdkj nksuka izdkj dk gkrk Fk] fdUr qxkydkj dqvka ds mnkgj .k vf/kd l q; k eami yC/k gkrs gA budk tks Lo: i vkfndky ea fodfl r gqk ogha FkMh cgq; i fjoZkads l kFk ij Eijkr : i eavkt rd fo leku gA vijkftri PNk rFkk okLrjktcYyHk ea bl izdkj ds di ka dk mYys[k feyrk gA

orZku l e; ea Xokfy; j nqZ ij d; X; kjg dq; fo leku gA bu ea vkB mjok?kkVh ea rFkk rhu cnyx<+{ks= ea fLFkr gA cnyx<+ dk , d dqvk xvtjh egy ds i hNs mRrjh&iwhz dks us ij] nvl jk mRrjh&i'feh dks us ij rFkk rhl jk Hk}ka k; dsfudV gA mjok?kkVh ds dq; eflye vkOe.k ds iwhz gh fufeZr dj fy; sx; s Fk} D; kfd 1232 bz ea nqZ ij vf/kdkj dj ys ds i'pkr-bYrfe'k us bl dh l j {kk ds fy, ?kkVh dsegkus ij , d fo'kky ikphj dk fuekZk djok; k FkA tgl rd cnyx<+ ds dqvka dk izu g; ; s xvtjh egy rFkk cnyx<+ ds Hkouka ds l kFk jktk ekufi g ds 'kkl udky 1/486&1516 bz ea fufeZr fd, x; si hr gkrs gA

ik; % l Hkh dqvka ea txrh rFkk ty fudkyus ds fy, , d&, d ?kkV fufeZr fd; sx; sgSfdUr q xvtjh egy i'feh dks us ij fLFkr dq; ea rFkk Hk}ka i k; dsfudV okys dq Weanks&nks?kkVka dh 0; oLFk gA l Hkh dqvka dk vkdkj xky gA bl dk fuekZk Nks/&cMh ik'kk.k&[k.Mka dks tkMlej fd; k x; k gA dqvka dh vKj r xgjbz 20 eh- l s 30 ehVj rd gA mjok?kkVh ij fLFkr N%dqvka dk 0; kl Oe'k% 3-25 ehVj 1/4yxHkx l kr gkFk} 3-35 ehVj 1/4yxHkx l kr gkFk} 3-34 ehVj 1/4yxHkx l kr gkFk} 3-45 ehVj 1/4yxHkx vkB gkFk} 3-80 ehVj 1/4yxHkx uksgkFk} 4-90 ehVj 1/4yxHkx X; kjg gkFk} cnyx<+ ds dqvka dk 0; kl 5-70 ehVj 1/4yxHkx r}kg gkFk} 5-80 ehVj 1/4yxHkx r}kg gkFk} gA bl izdkj v/; ; u l s Li "V gkr k gS Xokfy; j nqZ ij ty dk izU/ku cgn vPNs <x l s fd; k x; k o o"kkZ ty dks l gst dj j [kk tkrk FkA

I nHkZ I ph %&

- 1- pØorhZ dsdsj Xokfy; j QkVZ
- 2- fl g vej] Xokfy; j nqç] LFkklU; ,oa ifrek
- 3- xkj] xqyc [kk] Xokfy; j dk l dfrd bfrgkl
- 4- fLerK xkVj Xokfy; j foVat
- 5- eat i ij; k l at; ] Xokfy; j ds n'kUh; LFky
- 6- JhokLro inhi] Xokfy; j ds vki & i kl
- 7- dijsh ukbZ] Xokfy; j fojkl r
- 8- Xt fV; j Xokfy; j
- 9- l oçk.k ds vk/kkj ij

28

nf{k.k dks y ds dypçj ujs' kka

dk Hkfe , oa ty i çl/ku

¼i Fohnø f}rh; ds jruiç l s i klr vfHkys[kka  
ds fo' ks'k l UnHkZ eç

\*MKW vk' kq'ks'k pkç s

Hkçrh; bfrgkl yçku ea vfHkys[kka dk egRo l oki fj gð mudsmRdh.kZ  
djkus ds mnns'; fofo/k FkA vfHkys[kka ds ifj'khyu l s gea i kphu  
jktoákkç ; ç) xkFkkvkç jkT; dh l hekvka "kkl u&0; oLFkk] l keftd  
fLFkfr] vkfFkd n'kk] oçkkfud dk; ] l sud vf/kdkj] /kkfeç fLFkfr  
bR; kfn dh tkudkj i klr gksh gð

l kphu Hkçr ea vkfFkd fLFkfr dk i rk foHkku ; çkka ds vfHkys[kka  
l s i rk pyrK gð Hkçr o'kz, d df'k i zku ns'k jgk gð df'k ds l eçpr  
fodkl gçqHkfe dh dh fl çkkbz ij lk; kZr /; ku fn; k x; kA fl pkbz ds  
fy, >hykç ugjkç l jkçjka rFkk l jkçjka dk fuelZk fd; k tkrk FkA  
#nknkç ds tux<+vfHkys[k' l sfofnr gksh gsfid l ç"ku uked >hy  
¼rMkd½ dk fuelZk plnççr ekç Z ds "kkl u dky ea gçk FkA #nknkç  
ds "kkl u dky ea çk/k VW x; k rc ml {k=lk ujs'k usml dh eçer  
djç; hA ççr ; ç eaLdUnççr }kjç i ç%bl dk i çfuelZk djç; k x; kA?  
[kkjçsy ds gkFkh xçk vfHkys[k' l s Kkr gksh gsfid jkT; kfhk' kcd ds  
i kpos o'kz jkç/kkuh rd ugj yk; h x; h FkA nf{k.k ds l krokgu ujs'k  
of"kf'B i ç i çyekfo ds jkT; dky ea rykçka dk fuelZk vf/kd ykçfi z

\*l ççjç; k/; {k} bflnjk dyk l ççr] fo' ofo | ky; ] [kç kx< ¼N-x½

gq/kA bl dsvfrfjDr dpr/ka l sjgV ¼vj?kVV½ }kjk Hkh fl Pkkbz/dh tkrh FkA<sup>4</sup>

bl h izdkj vfhky[ kka ea Hkfe &eki l s l Ecf/kr foj.k fo"kskr% xlr ; q l sfeyusyxrsgA Hknku djusokyk nku ds l e; Hkfe dh l hekvkadk Li 'V mYy[ k djrk Fkk] rkd ckn eafdl h izdkj dk fookn u gkA y[ kka ea Hkfe eki ds fy, gy] i kor[ gLr] ukyd] fo"kf/kd] fuoRkL] dYok;] ntskoki] vk/ok; vkfn "kCnka dk iz kx fd; k x; k gA

NÜkhl x<+l siklr dypfj vfhky[ kka earRdkyhu vkfFkd flFkfr , oa i dFÜk; ka ds l adk eafolRr tkudkj h ikr gsrh gA i kphu dky ea nf{k.k dkd y dh flFkfr vPNh FkA fofHkUu mRdh.kz y[ kka ea iztk ds l [kh gkus ds fo'k; ea mYy[ k feyrs gA ml h izdkj fl jij] jruij] eYyjk rFk vU; LFkkuka ea ikr i kphu Hkouka ds [k.Mgj Hkh bl ckr ds iek.k gsf d rRdkyhu NRrh l x<+ea iztk v[ jtkk ds ikl bruk /ku Fk fd fuekZk dk; Zgkrsjgrs FkA l eLr jkT; fofHkUu fo'k; ka; k e.Myka ea foHkDr FkA jkT; dh vf/kdkak tul [; k dk fuokl xkpk ea Fkk] fdUr uxjka dh deh ugh FkA u, &u, uxjka dk fuekZk bl dky ea gsrk jgrk FkA

dypfj dky ea jruij] tktYyij v[ jk; ij t[ s uxjka dk u, fl js l fuekZk gq/k Fk bl dh l puk mRdh.kz y[ kka eafeyrh gA bu uxjka ea vud noky; cusv[ cgq l sl jkoj [kqok; sx, rFk m|ku yxk, x; s FkA os brus l Eilu Fk fd mudh rgyuk d[ dh uxjh vydk l sdh tkrh FkA jtkk dh vk; dk e[; l k/ku Hkfedj gsrk Fkk] fdUr vU; djka l s Hkh vk; ikr gsrh FkA jruij ds dypfj jtkk vka us Hkh l kas ds fl Dds pyk, FkA

f=i gh ds dypfj; ka dh , d ygjk "kk[kk nf{k.k dks'ky ea tkdj jkT; djusykh FkA bl "kk[kk ds mRdh.kz vfhky[ kka ea dgk x; k gsf d f=i gh ds dksYy ds vVBkjg i[ FkA muds T; sB i[ rks f=i gh ds jtkk gq v[ ml us vi us Hk; ka dks fudVorize. Myka dk vf/ki fr cuk; k FkA bu Nk/s Hk; ka ea l s, d ds o[ka ea dfyxjkt gq/k ft l us vi us i dZtka dh Hkfe dks Nk/lej nf{k.k dkd y tuin ea igpdj ml s vi us ckgy l s ikr fd; k v[ i dZtka }kjk LFkfr r[ek.k dks jkt/kkuh

cukdj vi uh jkT; y{eh dh of) dhA<sup>5</sup> dfyxjkt dk i[ deyjkt dk i[ jruijkt 1045 bl oh l Eor] jRuno ds lk"pkr i Fke i Fohn] i Fohno dk i[ tktYyn 1095 bl oha l Eor] jRuno f}rh; 1127 bl oh i Fohno f}rh; 1138 bl oha l s 1163 bl ohard rFk tktYyn f}rh; 1167 bl oha l s 1168 bl ohard bl "kk[kk ea gq gA

jruij tyk'k;



i Fohno f}rh; ds l e; dk jruij l siklr dypfj l Eor 910 f"kyky[ k dkysi Rfkj ij mRdh.kz feyk gA tujy vyDts Mj dfu?ka us vi uh l o[ fji kVZ ea bl dk foj.k fn; k gA<sup>6</sup> bl ds lk"pkr ch- ch- fejk"kh us bl vfhky[ k dks izdkf"kr fd; k FkA<sup>7</sup> bl iz'kflr ea 28 i fDr; kVg[ bl dh fyfi ukxjh , oa Hk'kk l ddr gA ; si Fohno f}rh; ds jkT; dky 1158&59 ea mRdh.kz fd; k x; k FkA bl vfhky[ k dk mnns"; l ker oYyHjkt ds }kjk l e; l e; ij fd; s x; s /kkfed dk; ka dk foj.k nsuk gA bl vfhky[ k ea dypfj o[ka dk foj.k fn; k x; k gA bl y[ k ea o.ku feyrk gsf d oYyHjkt us jruij l s i dZ fr"kk ea [kMlxte ds fudV i o[ ck/kdj l jkoj cuk; k Fkk] vl h y[ k ea vks dgk x; k gsf d l MfoM xkp ds i o[ ds uhps, d rkyk v[ rhu l ks vke ds i M/ka dk cxhpk v[ j Rus'oj uked l jkoj dk fuekZk djok; k Fkk] fod.k[ g ds ckg; Hkx ea no d[ dseMy l fgr rkyk] vud vU; e[ n] m|ku v[ jUr dk e[ n] cuok; k FkA no i o[ ds uhps ckcM[ j k B[ s ; k xkb ea rkyk] Hkks/ki Rru ds i o[ ea gfl o/k ds

jklrsij foTty ioŕ dsuhpsrkykc bR; kfn dk fuekZk djok; k Fkka vfhkyŕk dsvŕr eadgk x; k fd ; s l Hkh /keZdk; ZoYyHkjkt dh iŕRu "orYyknŕh dh ijskk l sl EiUu gg FkA bl iz'kflRk dk ysŕkd nŕx.k uked 0; fDr gA

bl iz'kflR eamYyŕ[kr Hkkskŕsyd ukela eal s [kkMŕexke vk/kŕud dk; Zxte gS tks jruig l syxk gŕk gA fod.kŕg vdyrjk dsfudV fLFkr dks/x<+gS vŕŕj gfl o/k tkatxhj ftys eafLFkr vk/kŕud gl kŕn xkŕ gA

bl h izdkj iFohnŕ f}rh; ds l e; dk jruig l siklr f"kykyŕk dypj h lŕ-915 jruig dsfdys dsckny egy eal klr gŕk Fkka vl vfhkyŕk dks l j fjpkMZ tŕdUl us l u 1825 ea, f"k; kŕVd fjl pŕt ea izdkf"kr dj; kA<sup>8+</sup> bl ds i "pkr dhygkuZ us , fi xŕfi ; k bŕMdk ea izdkf"kr djok; k Fkka<sup>9</sup> oh-oh- fejk"kh us dki ŕ bŕLŕl"kie Hkx&4 ea l Ei kŕnr fd; k x; k gA<sup>10</sup> vfhkyŕk ea 36 i fDr fy[kh x; h gS ysŕk dh fyfi ukxjh , oa Hkkskk l ŕdr gŕ vfhkyŕk ea 1163&64 dh frffk dk mYyŕk gA vfhkyŕk dk i k j EHK f"ko dh Lŕŕŕ l s gŕk gS bl ea Hkxoku f"ko dks ueLdkj fd; k x; k gA bl ea rygfjeMy dk mYyŕk fd; k x; k gA l kllr cŕnŕ dh oŕkkoyh rFkk ml dh fot; ksdk o.ku ysŕk esfd; k x; k gA jktk iFohnŕ ds }jkk l kllr cŕnŕ dks rygfj e.My l scykdj vius jkT; dk "kkl u l kŕ us dk mYyŕk gA

l kllr cŕnŕ ds vud /kkfeZ dk; kŕ dk mYyŕk bl iz'kflR ea gA ml useYyky ea/kŕtV egknŕ dk eŕnj vŕŕj l jkŕj rFkk , d vl; LFkku ij «; Ecd ds nl eŕnj] cjsykiŕj ea Jhd.B dk mRrŕ eŕnj] jruig ea ikoŕh ds ukseŕnj] jruig ea gh ckoMh vŕŕj nks l jkŕjka dk fuekZk , d mRrj earFkk ml jk nf{k.k ea cuok; k x; kA bl ds vykok ml us vudka /kkfeZ , oa tudY; k.kdkjh dk; Z djok; s FkA

bl iz'kflR dk dfo f=Hkŕuiky gS vŕŕj dŕkji ky] /kuiŕ vŕŕj bŕoj uked f"KYi dkjka us mRdh.kZ fd; k Fkka bl ea ftu ukela dk mYyŕk vkrk gSmueal seYyky orŕku eYyky] cjsykiŕj orŕku cjsyk vŕŕj cŕuh vdyrjk ds ikl fcykl ij ftys eafLFkr gA vk/kŕud dkjx<+dk ikphu uke fod.kŕg Fkka

### jruig ryk



bl izdkj dgk tk l drk gSfd nf{k.k dks ky ds dypj h "kkl d l kelftd] vkffkZ , oa lk; kŕj.k dks /; ku eaj [kdj ty , oa Hkŕie dk iZl/k djrs Fkka dypj ujs k cMs/kkfeZ iŕŕŕk ds Fkka dypj "kkl dka ds vfhkyŕkka l smudh /kkfeZ ekU; rkvka dh l pŕk feyrh gA nkui =ka l s fŕnr gŕk gS fd pln xg.k] l ŕ ŕg.k ; k fdl h "kŕk vol j ij cŕŕ.kka dks xk; nku] Hkŕie nku ; k xte nku eafn; k tkrk Fkka iz'kflR ds ysŕkka l s dypj ujs kka }jkk cuok, x; s vud rkykck] l jkŕjka cŕx&cŕhpk] /keZ'kkykvka vkfn dk fuekZk djokus dk mYyŕk feyk gA vfhkyŕkka dk i k j EHK Hk fdl h u fdl h nŕ dks J) ki nŕd ueu djrs gg fd; k x; k gA dypj "kkl d iFohnŕ f}rh; ds jruig l siklr nks f"kykyŕk dypj lŕ-910 , oa 915½ ea rkykc] eŕnj] eB] m | ku] ckoMh] l jkŕj bR; kfn ds fuekZk dk mYyŕk feyrk gA bl l smudh ty iZl/ku Hkŕie iZl/ku bR; kfn ds ckjse izdk" i Mŕk gA

### l UnHkZ xŕFk%

- 1- fl yŕV M buŕhl"kie- [k.M 1 i: 177
- 2- fl yŕV M buŕhl"kie- [k.M 1 i: 334
- 3- fl yŕV M buŕhl"kie- [k.M 1 i: 215
- 4- , fi xŕfi ; k bf.Mdk] [k.M 11 i: 33
- 5- cŕyplnZ tŕ] mRdh.kZ ysŕk] l ŕdr , oa i jkrRo l ŕgky; ] jk; ij] i: 72
- 6- vkD; kŕ kŕftdy l oŕfj i kŕ/ Hkx 17 i: 78
- 7- dki ŕ bŕLŕl"kie-bMhdje ftYn 4 i: 495&501
- 8- vŕj- tŕdUl & , f"k; kŕVd fjl pŕt ftYn 15 i: 4&05
- 9- dhygkuZ , fi xŕfi ; k bf.Mdk] ftYn 01 i: 33
- 10- ch-ch fejk"kh& dki ŕ bŕLŕl"kie-bMhdje ftYn 4 i: 495&501

29

### ujoj ds i kphu tyl d k/ku

\*Mkw v' kh" k p k p k n ; k

ujoj oreku f"koig h ftys dh , d rgl hy gS tks e/; ins'k ds mRrj&i f"pe eafLFkr gA Hkkskksyd nf"V l sujoj ekyok ds i Bkj ds mRrjh Hkx eafol/; ioz Jd'kyk eadBkj pVVkuka l s; Dr Hk&Hkx ij fl U/k unh dsekM+ij fLFkr gA 'ktd ir>M+ouka l svkPNkfnr bl {ks= dh tyok; qm". kdfVcdkh; v) Z'kqd idkj dh gS, oabl {ks= dksU; u o"kkz okys {ks=ka ea 'kkfey fd; k tkrk gA; gk ds bfrgkl ds fuekz k ea vuqjkr; ka, oa xkFkkvka dks ied'krk l sLFkku fn; k x; k gS; | fi ; gk l s dN vfhky'k Hkh ikr gq gS yfdu osbfrgkl y[ku ea i; klr : lk l s l gk; d ugha gA vuqjkr; ka ea ; g {ks= uy vks ne; arh dh xkFkk l s l ad'kr fd; k x; k gS tks vyx&vyx : i ea 'kri Fk ct'oe.kj f=foDe dir uypEi j Jhg'kdr usk/kh; pfjr ea mYys[kr gA , srgkl d dkyDe ea; gk De'k%jkt i r ¼ i jekj] dNokg] rke j ¼ l Yrku bYr'fe'k] exy] ejkBs 'kkl u djsrjsgs gA

ujoj {ks= ea l okz/kd mYys[kuh; i kphu Lekjd ; gk dk i kphu fdyk gS tks , d yxHkx 500 Qw Aph igkMh ij fLFkr gA bl fdys ds vanj dh fofHkuu bejra fofHkuu jktoadka ds }jkk l e; & l e; ij fufe' dh x; h FkhaokLro eabu bejrkal sgh ; g Li "V gksrk gSfd ; s vyx&vyx l e; ea fufe' dh x; h gA bu bejrkad s l kFk ujoj fdys ds Bhd e/; Hkx ea tyl ksrka ds : i ea dN d'ka vks ckofM+ ka dk Hkh fuekz k djok; k x; kA

\*Mkw gj hfl g xk'j fo' ofo | ky; ] l kxj

### ujoj ds fdys ds vlnj d'k



ckofM+ k; e/; dky ds nks ku ty l d k/ku ds : lk ea i f"pe Hkkr ea cgr ipfyr jgha gS vks vkt Hkh i f'pe e/; ins'k] xqjkr vks jktLFkku ea ; scgrk; r ea ns[kh tk l drh gS t'cd dq; l Ei wkz Hkkr ea i R; d ; q; ea tyl ksr ds : i ea ykdfiz ; jsgs ujoj eafLFkr dq vks ckofM+ k; , d cMs-i ka.k ea cuok, x; sgftudk ty Lrj igkMh ds uhps fLFkr d'ka vks ckofM+ ka l s mPp gA bl dk dkj .k 'kk; n i gkMh dh Hkkskksyd l j'puk gS tks pVVkuka l sfufe' gS tks o"kkz ds ty dks l xg djds j [krh gS vks bl s fupys Hkxka ea tkus l s jkdrh gA fdys ds vanj ds tyl ksrka l s t'ph , d ykd m'Dr Hkh ; gk ipfyr gS ~vkB d'k] ukS ckoMh] Nii u l ks i fugkfj u\*\*A gkykd fd l h usHkh bl dgkor dk i jk : i ugha qk; k fQj Hkh ; g dgkor dN , srgkl d l dr vo' ; nrh gA

fdys ea fLFkr ryk





, d gh i kx.k ea, d l kfk brusl kjsdq vlsj ckofM+ k; cuokusdk D; k iz kstu Fkk bl dk dkbZfyf [kr dkj .k rksughafeyrk gSyfdu , d vupeku yxk; k tk l drk gSfd fdys ea cMh l d; k ea tul keku; o jkt dk; Zl st M; ykx jgrsgkxsf tudsfy, ty dh i; klr 0; oLFkk ds fy, budk fuekZk djok; k x; k FkA "Nilku l k si fugkfju\*\* 'kCn Hkh ; g l fpr djrs gSfd fdys ea fuokl jr ykxka dh fo'kky l d; k dks ty miyC/k dkus dsfy, cgr l sykx dk; Zeayxk, x, FkA ; gk; ds; s tyl kr ; gk; ds ikphu l ekt ds tkfrxr foHkk tu dks Hkh n'kkZrs gS tS k fd ; gk; ds dN ykx ; g dgrsgSfd ; sdq vyx&vyx tkfr; ka dsfy, cuok, x, FkA ; fn dN l e; i dZ %yxHkx 40&50 o"KZ i dZ ds bfrgkl ij utj MkyarksXokfy; j&pEcy {ks= ea tkfrxr vk/kkj ij d; ka dh 0; oLFkk l keku; Fkh ftl s; gk; ds fdl h Hkh o) l s tkuk tk l drk gA bu rF; ka dks/; ku eaj [krsgq ; g dgk tk l drk gSfd i dZ e/; dky ; k e/; dky ea tc ; gk; tkfrxr cak u icy jgsFksml l e; ty l d k/ku Hkh bl 0; oLFkk ds vuq kj gh oxhZdr dj fn; sx; sgkxkA

Ukjoj ds fdys ea fLFkr ckoMh



bl l anHkZ ea, d vlsj Hkh l Hkkouk fn [krh gA ikphu Hkkj rh; ijEijk ea ty l d k/ku ekuo dh ikfkfed vko"; drkvka dh i firZ ds l k/ku ek= ugha Fks oju- mudk , d /kfeZd egRo Hkh ekuk x; k gA bfrgkl dkjka dk , d oxZekgutknMks ds Lukukxkj , oaogk; ds yxHkx

i R; d edku ea ikr d; ka dks /kfeZd iz kstu l s fufeZ ekurs gA ofnd l kfgR; ea Hkh ty , oa tyl kskadh l rfr dse= feyrsgS tS s fd \_\_Xon dk unhl d rA l Hko gSujoj ds tyl kskadk Hkh dkbZ/kfeZd iz kstu jgk gkA i kx.k dspkjkavkj fufeZ ikphj , oa, d vlsj i drc) d {k bl vlsj l d r Hkh djrs gA l kefgd d; ka ds vfrfjDr Hkh dN vl; dq fufeZ djok, x; s Fks rFkk , d vk; rkdj rkyk Hkh feyrk gSft l dh nksfn'kkvka eanhokj mBk; h x; h gsrFkk nksfn'kkvka l s [kyk g; k gA bl ea o"KZ dk ty l azghr gks tkrk gSvlsj yae l e; rd cuk jgrk gA gks l drk gSfd ; g fdys eajgusokys i 'k; ka dsfy, 0; oLFkk dh x; h gkA ; g Hkh gks l drk gSfd fdys ds vanj gkus okys fuekZk dk; Zea i RFkjka dh vko' drk dh i firZ ; gk; l s dh x; h gks rFkk ckn ea bl ds fdukjka l snhokj mBokdj bl srkyk dk : i nsfn; k x; k gkA , d vl; LFkku bl ckr dks Li "V Hkh djrk gS tgk; tehu l s i RFkj fudkyusds l k; feyrsgft l s, d foLr r xMMs dk fuekZk gks x; k gS; | fi bl snhokj ds }kj k rkyk dk : i ugha fn; k x; kA

fdys ds ckgj fLFkr ckoMh



ujoj nqZ ds ckgj] igkMh ds uhps l jdkjh fpdfRI ky; ds ifj l j ea Hkh , d i gkuh ckoMh gS tks l EHKor% 15oha 16oha 'krkCnh dh ekuk tk l drh gA ; g ckoMh fdys ds vanj fufeZ ckofM+ ka l svi uh okLr qjpuk ea fHkuu gA fdys ds vanj dh ckofM+ k; pkS k; gsrFkk muea pkjka vlsj l s l hf+ k; cuk; h x; ha ga tcfd tks ckoMh ckgj fLFkr gS ml dh vkdfr xk; y gA okLro ea; g , d dq dks gh tS s ckoMh ea

cny fn; k x; k gks vks ml eavnj rd tkus dsfy, vyx l sfufer  
jklrsea0; ofLFkr l hf<+ k; cuk; h x; hagd tksdq; l sl xku , d Nks/s l s  
d{k rd trrh gdf tl eaegj kcnkj nksnjokts gda, d l hf<+ ka dh vkj  
rFkk nll jk dq dh vkjA orzku ea; g l qnj ckoMh l okz/kd mi s{k dh  
f'kdj gSftl ea i; klr ty gkus dsckotm bl s, d dpjk?kj ds: i  
eami; kx fd; k tk jgk gda orzku ea ujoj ea uohu ty l d k/kuka tS s  
fl U/k unh ij vVyl kxj ck/k cu tkus o cMh l d; k ea uydih ka dh  
0; oLFkk gks tkus ds dkj .k igkus fojkl r ea i klr ty Lkr vfr mi s{kr  
fLFkr ea igp x; s gda iLr ysk dk mnas; bu tyl kka dh vkj  
/; ku vldf'kr djuk , oabul stp/sbfrgkl dsfuekz k dsfy, l Hkkoukvka  
dks ryk" k djuk gda

**l nHkZ xLFk l qh %&**

- 1- ba.M; u , UVhDoj hJukbz fnYyh
- 2- jke"kdj f=i kBh] i kphu Hkkjr dk bfrgkl ] cukj l ]1968-
- 3- d".k xki ky 0; kl ] Hkkjr dk iJEij kx r ty foKku] ubz fnYyh-
- 4- dk"khil kn f=i kBh] ctnsy [k.M ds rkycka , oa ty iczku dk bfrgkl ] ubz  
fnYyh] 2011-
- 5- 'kekj vkj- ds % e-iz ds igkrRo dk l nHkZ xdk] e-iz fgluh xdk vdkneh]  
Hkks ky] 1974
- 6- nhf{kr] ekjsoj xak/kj % e-iz ds igkrRo dh : ij s[kk] 1954
- 7- f"koigh ftyk xtsV; j] Hkks ky
- 8- okti sh ds Mh% e-iz dk igkrRo] Hkks ky] 1970
- 9- JhokLro] jes kpnz % ctnsy [k.M dk l kldfrd oBko] cknk] 2000
- 10- dfua]ke] vyDtsMj & vkD; k; kMh dy l oZvkD bf.M; k] fji k; / l ] ubz fnYyh
- 11- dfua]ke] vyDtsMj & Dokbul vkD , f'k; v/ bf.M; k] ubz fnYyh
- 12- dfua]ke] vyDtsMj & n fl Vh bu vyhZ fgLVk; jdy bf.M; k] ubz fnYyh
- 13- dfua]ke] vyDtsMj & fji k; / vkD Vj bu ekyok , .M ctnsy [k.M] cukj l

**NRrhI x<+ dh LFkki R; dyk ea  
xty{eh i frekvka dk vdu**

\*MKW ds ih- oekZ

Yk{eh th dh mRi fRr dsckj sea dgk x; k gSfd noka rFkk vl gka }kj k  
l epze fku djrs l e; ml l smRi Uu gq splng jRuka ea l sy{eh th Hkh  
, d jRu Fkha osdey ds vki u ij cBh gpbz dey i qik gkFk ea/kkj .k fd; s  
gq si zV gpbz Fkha y{eh th Hkxqdh du; k Fkha rFkk /kkrk , oafu/kkrk uked  
buds nks Hkksbz Fkha mudh ekkr dk uke [; kfr Fkha ; gh y{eh fo". kq dh  
i Ruh gpa<sup>1</sup> xak vkfn ifo= ufn; k; vi us ty l sy{eh dks LUKku djokus  
dsfy; smi fLFkr gpa Luku dsckn mudsvax iR; x eavud idkj ds  
vkhkik .k fo'odekz th us vkdj iguk; s rFkk f[kys gq s dey i qik ka dh  
ekyk {khj l kxj us mlgs inku dhA<sup>2</sup> bl idkj ifo= ty l s Luku  
dj k; h gpbz fn0; vkhkik .kka dks /kj .k djus okyh l qnj oL= , oa ekyk  
vkfn l s vydr dh gpbz y{eh Hkxoku fo". kq ea l ek x; ha vkj os mlgha  
dso{k LFky ij fojkteku gks x; ha l jLorh usekfr; ka dk gkj] cgek  
th us dey rFkk ukxka us nks dq My l efi r fd; A<sup>3</sup> y{eh dk ; g : i  
Hkj gq] l kph] ckskx; k] vejkorh] rFkk vU; LFky ka ea dgha & dgha ij  
vdr gpa<sup>4</sup> buea y{eh dey ds vki u ij ; k rks cBh gpbz ; k [kMh  
inf'kr gpa gkFk ea dey i qik fy; } fodfl r dey l s f?kjh gpbz gda  
dey i qik ds i= QSys gq s gpa os nks gkFk; ka l s Luku djkbz tk jgh gpa  
ekS z rFkk 'kax dky dh vud epkvka ij y{eh dk ; gh : i gpa<sup>5</sup>

\*Lkpkyyky; l dldfr , oa igkrRo] jk; ij 1/4N-x-1/2

\_\_Xon dsJhl Dr eaJhnoh ; k {kek dsuke l sy{eh dk mYys[k feyrk gA<sup>6</sup> ; t0h eaJh vls y{eh dksije iq "k dh Hkk; kzdgk x; k gA<sup>7</sup> vFkobn eaJh jkek; .k rFkk egkHkkjr eaJh rFkk y{eh dk mYys[k gA<sup>8</sup> dkykUrj eaJh vls y{eh dks, d ekuk tkusyxA mi fu"kn- vls l # y{eh dh mRi rRr iztkifr l } tcf d ijk.k l epaxHkz l sekurs gA i ksf.kd l kfgR; eafo".k&i Ruh y{eh] dY; k.k l k0n; ZrFkk l ef) dh noh ds : lk ea of.kz gA Hkkjrh; f'KYi ea'kq l krokgu dky l s y{eh dk vadu i kjk gA<sup>8</sup> d fkk.k dky rFkk xtr dky eaHk y{eh dh vadu ifrek, i fufeR gkus dh tkudkj feyrh gA oS.ko eAnjka ds }kj mRrjx ea y{eh vFkok xty{eh dh efrZ ifr"Br djus, oa i ntk djusdk fo/kku t; kfnz l fgrk-] vfxu ijk.k bZoj l fgrk] vijkftri PNk vkfn xFkka eami yC/k gA<sup>9</sup>

NRrhI x<+dh LFkkiR; dyk eaHk xty{eh dh ifrek, i nojkuh eAnj rkyk dh }kj'kk[kk ds fl jny eA fl )soj eAnj iykjh ftyk cyksh cktkj ds mRrjh tdk eA blny noy eAnj [kjksh ftyk tktxhj&pkik ds f'k[kj Hkkx eA fl j i g] ftyk egkl ep fLFkr gfjgj eAnj dsyykVfcEc eA f'koefnj pln[kjh ftyk jk; i g dsfl jny eA noh dk eAnj rjxk ftyk cyksh cktkj dh fLFkr eA egskij dsdfj; k >g dh Vhys l s, d foyx rFkk, d y?kqvdkj eA cadsoj eAnj rpeku ftyk djkck dh }kj'kk[kk ds mnfcj eA Mhi kmhg ftyk cyjkeij fLFkr l ker l juk eAnj dh }kj'kk[kk ds fl jny ea, oa, d foyx j [ks fl jny eA f'koefnj xfu; kjh ftyk fcykl i g dh }kj'kk[kk ds fl jny eA f'koefnj fdjkhxksk ftyk fcykl i g dh tdk eA jkthoykpu eAnj jkfte ds e.Mi ds Lrthk ea, oa ikdkj ds iosk }kj ds fl jny eA ukjk; .k eAnj ukjk; .ki ky ftyk cLrj dh }kj'kk[kk ds fl jny ea l hrknoh eAnj nojchtk ftyk caerjk dh }kj'kk[kk eA f'koefnj cLrj ds e.Mi dh }kj'kk[kk ds fl jny eA Qf.kds ojukFk egkn0 eAnj fQasoj ftyk xfj; kcn ds xHkxg dh }kj'kk[kk ds fl jny eA Nj dh egy] ftyk dhj/kke ds fl jny eA narsojh eAnj narokMk ds xHkxg ds fl jny eA txlukFk eAnj jkfte ds fl jny eA nwk/kjh eB ftyk jk; i g dh }kj'kk[kk ds fl jny eaxy{eh dh ifrek, i iklr gpZgats

fofHku dkyka dh gA

NRrhI x<+earkyk fLFkr nojkuh eAnj ds yykVfoEc ds Aijh ijr ea mRdh.kz vfhk"kd djrs gq s xty{eh dk n"; cMk gh fo'k"V izdkj dk gA bl ea inekLkuLFk y{eh dk vfhk"kd xtka ds }kj dk jkus dk n"; gS ftl ea nksuka ik'oka ea nks&nks xtka dk vadu gSrFkk xtka ds }kj vfhk"kd djus dh if0; k cMk gh eukje, oadykRed gS<sup>9</sup> 1/Nk-fp-0-1/4 MKW d".kn0 ds vadu kj nojkuh eAnj ds fl jny eaxy{eh dks fo |k/kj pkj xt; qy ds }kj cxy l s i ntk djrs gq scrk; k x; k gSrFkk mudserkuq kj ; g eAnj 575&600bz ea fufeR fd; k x; k gA<sup>11</sup> f'koefnj pan[kjh] ftyk jk; i g ds yykVfcEc eaHk l keodkh dkyhu fufeR xty{eh dk vadu gA bl ea y{eh inekl uLFk gSrFkk nksuka rjQ l s, d&, d xt l M+l stykfhk"kd djrs gq s inf'kr fd; s x; s gSrFkk xt ds ihNsHk nksuka rjQ, d&, d xt ihNs dh vls eMdej ?kV idMs gq s inf'kr fd; s x; s gA<sup>12</sup> k fd nojkuh eAnj rkyk ds fl jny eaxy{eh dk vadu gS 1/Nk-fp-0-2/4

fl )soj eAnj iykjh ftyk cyksh cktkj ds clyl ep rkyk dh eM+ea bZ fufeR eAnj ds tdk Hkkx eaHk mRrjh fLFkr ds Hknj Fk eaxy{eh dk vadu gA y{eh inekl u ea fojkteku gSrFkk nksuka rjQ l s xt vfhk"kd djrs gq s inf'kr fd; s x; s gA<sup>12</sup> ; g eAnj 675&700 bz ea fufeR ekuk x; k gA MKW d".kn0 ds vadu kj fl )soj eAnj iykjh ftyk cyksh cktkj rFkk blny noy eAnj [kjksh] ftyk tkatxhj&pkik ds eAnj ea fufeR xty{eh ea l ekurk gA

jkfte ftyk xfj; kcn fLFkr jkthoykpu eAnj dsegke.Mi ds, d Lrthk ij xty{eh dk vadu gS 1/Nk-fp-0- 3/2 rFkk nll jh ifrek bl h eAnj ifl j ea ikdkj ds iosk }kj ds fl jny ds yykV foEc ea vkl uLFk vidr dh xbZgA ikdkj ds fl jny ds yykVfcEc ij vidr ifrek eanoh %y{eh % i wkl mROy dey ij vkl hu gSrFkk muds nksuka rjQ, d&, d xt dh ifrek gS ftuds l M+Aj dh vls mBs gq s gSrFkk os vius l M+ea d fHk fy; s gq s gS 1/Nk-fp-0-4/4 d fHk v/kkeq k gA bl rjg nks gkFk; ka }kj noh ds tykfhk"kd fd; s tkus dk n"; ; gk vidr fd; k x; k gA<sup>13</sup> bl izdkj dh ifrek egskij ds rkjkdfr

f'koefinj ifjl j eaj [ks iLrj LrHk ea Hkh mRdh.kz iklr gplz gSftl ea xty{eh dsuhpsokuj dk vadu gS%Nk-fp-Ø- 5% okuj vi usru i s ka ds l gkjs [kMk gwvk inf'kzr gSrfk vkxsk , d gkfk ekfks ij j [kk gwvk gA okuj dk e[k ihNs dh rjQ eMk gksus l s ml ds e[k dh fLFkr vLi "V fn [krh gSyfdu fo'kSk ij h{k.k djus ij e[k ds Åij nksvkj [kka dsfpa Hkh fn [kkbz i MfsgA xt vi usfi Nysnks i s kal s [kMfgq sinf'kzr gA i ks, -, y- JhokLro ds vuq kj tykfhk"ksd djrs gq xtka ds }kjk i kuh dh /kkj cgdj uups rd cgrh gplz fn [kkbz x; h gS %Nk-fp-Ø- 6&v]c%a bl h LrHk ds nh jh l rg ij d[çj rFk ml dsuhpsokuj dk vadu gS%Nk-fp-Ø-7%<sup>14</sup>

I jxqt k ftys ds Mhi kMhg fLFkr l ker l juk l e[çj ea f'koefinj dh vof'k"V }kj'kk [kk dsfl jny dsyykVfc ea inekl u eacBh gplz f}Hkqt h xty{eh inf'kzr gSftl ds nksuka gkFk ea l uky deyi Hk gA bl ds nksuka vkj dey ij [kMfgq s, d&, d xt] y{eh dk vfhk"ksd dj jgs gA fl jny dh iFke iVvH ea yrkoYyjh , oaf}rh; ijr ea xty{eh ds nksuka vkj 2&2 ekyk/kkj fo |k/kj ; qyka dk vadu gA MkW foodnRr >k<sup>15</sup> ds vuq kj ; g xty{eh prHkqt h gSrfk dey ds Åij inekl uLFk gSrfk l keku; vkHk.k; Ør gA og Åij h gkFk ea l uky dey /kkj .k fd; s gq s rFk fupyk gkFk [kf.Mr gS%Nk-fp-Ø- 8% ; g ifrek ukoha 'krh bz dh gA eyok l Qkbz l so"lz 1988 ea iklr fl jny dh ; g ifrek i wZ eanks [k.Mka ea foHkDr Fkh ftl s ckn ea j l k; fud l j {k.k dk; Z ds n[çku y[çkd }kjk LVhyjKM , oa j l k; uka ds }kjk tkMedj vuq {k.k dk; Z l s e[çj fLFkr ea [kMk fd; k x; k gA bl ds vykok Mhi kMhg fLFkr l ker l juk e[çj ifjl j ea gh , d xty{eh ; Ør fl jny iklr gwvk gSftl ds nksuka rjQ dh rZçkka dk , d i aDr ea vadu gS%Nk-fp-Ø-9%

foxr o"kk ea fl j j fLFkr xako[oj e[çj ds mRrj&i wZ ea gfgj e[çj e[çj mR[kuu funskd Jh v#.k d[çj 'kekç }kjk dj k; s x; s mR[kuu dk; Zea, d xty{eh; Ør fl jny iklr gwvk gSftl ea xty{eh dh ifrek {kfj r gS%Nk-fp-Ø-10% f'koukFk unh ds i çkr Roh; l o[k.k ds n[çku y[çkd dks xte rjæ k ftyk cyk[çk çktj dse[çj dh fhkr ea

tMh gplz , d vkBoha'krkCnh dh xty{eh dh ifrek izk'k eavk; h gA xty{eh inekl u eqk ea fojkteku gS tks f}Hkqt h inf'kzr gA nka k gkFk ikyFkh ij j [kk gSrfk çka sgkFk l s ?kV /kkj .k fd; s gA fl jkkkx ea iHkke.My] d.kz dqMy] Lrugkj] çkt[çn] rFk daku vkHk.k k gA y{eh ds fl jkkkx eanks xt vkeus l keus [kMfgkçj ?kV l stykfhk"ksd djrs gq inf'kzr gA y{eh ds nksuka rjQ vFkçr-xtka ds uups nks l fodk; a vFkçr ppj/kkj.kh [kMh gplz inf'kzr gA ifrek dk dky 8&9oha'krkCnh bz l Hkfor gA ; g ifrek fd l h oS.ko e[çj ds fl jny dk Hkx gS%Nk-fp-Ø-11% bl ds ckn foxr o"kk ea egs ki çj eamR[kuu ds }kjk d[çj ; k >ç dh uked Vhys l s xty{eh dh , d foyx ifrek iklr gplz gS tks NRrhl x<+dh vkh rd Kkr ifrekvkaeal sLora- dkçV dh gS%Nk fp-Ø-12%

fo".kqefinj tkç xhj ftyk tkgxhj & pkkk ds }kj'kk [kk ds fl jny dse/; ea Hkh prHkqt h xty{eh dk vadu gS tks 12oha'krkCnh ea fufeç e[çj gA bl h izk'k f'koefinj xfu; kjh ftyk fcykl ij ds fl jny ea Hkh xt y{eh dk vadu n"V0; gA<sup>19</sup> bl ea y{eh inekl u ea fojkteku gSrfk nksuka Åij h gkFk ea xt dks Åij mBk; s gq gA , oafupys nksuka gkFk ikyFkh ij j [ks gA

f'ko e[çj fdjkhxkçh] ftyk fcykl ij ds dyp[çh dkyhu e[çj ds vof'k"V vf/k"Bku Hkx ea i k[ços Fkj dse/; ea vxy&cxy nks&nks xtka dse/; inekl uLFk y{eh dk l çj "V vadu n"V0; gA e[çj ds vf/k"Bku dse/; jFk ea xty{eh v[çr gSftl eanksuka rjQ l s xt 'kqM l s ?kV idMedj vfhk"ksd dj jgs gA ; g ifrek rhuka e/; jFkka ea gS tçd vuq Fk rFk dks kjFk ea d[çy xt i aDr gA l hrknsh e[çj nojçtk ftyk n[çZ dse[çj ds t[çk Hkx ds vfy[ç ea Hkh xty{eh dk vadu gA<sup>20</sup> mi ; Ør l Hkh e[çj yxHkx 11&12 oha'krkCnh bz ea fufeç i rhr gksr gA vr%fl jny ea v[çr y{eh ifrek; j Hkh ml h l e; dh gksuk LokHkçod gA

NRrhl x<+ds çLrj l EHkx ea çj l j] n[çkMkç Hkç ex<+ çLrj xte vkç txny ij ea y{eh dh e/; dkyhu ifrek, ç fufeç dh xbz gA<sup>21</sup> ukj k; .k e[çj] ukj k; .ki ky ftyk çLrj ds xHkçg dh }kj'kk [kk ds

fl jny eack; a dksuseaf}Hkqth xty{eh dk vodu gStks 12 oha'krh bz  
eafufeZ irhr gkrh gA<sup>22</sup> nlrnkVlk eafLFkr nlrsojh efinj ds xHkZg  
dsyykVfcEc ij xty{eh dh vkdfv mdjh xbzgA y{eh inekl uLFk  
fojkteku gArFkk nkskrjQ l sxt tykfhk"kd djrsgg sinf'kr fd; s  
x; sgA

cLrj xte eanoh efinj dsyykVfcEc ij nkgjsine ij inekl u  
enrk eavkl hu prhkt h nsh dk vfhk"kd] inekl u l smnHkr dey i ti ka  
ij [kMxxt vfhk"kd djrfin [kk; sx; sgA nsh y{eh ds Aijh gkFka ea  
l uky dey] rFkk fupyk cka k gkFk vHk; enrK ea rFkk pkFkk gkFk  
[kf.Mr gA fl jny ij nsh ifrek ds nkskrjQ i = i ti koyh ds vanj  
fl g] gkFkh] vks ga dk vodu eukgjh gA ; g ifrek Hkh 11 oha'krh  
bz dh gA<sup>23</sup>

dchj/kke ftysdsxte pksk eabV fufeZ efinj Njdh egy dh  
}kj'kk[kk ds fl jny dse/; ea prhkt h vkl uLFk y{eh dk vodu gA<sup>24</sup>  
fl jny dsck; i dksus ij prhkt h x.kk cBs gq sinf'kr gA ; g efinj  
Hkh do/kk ds Qf.kukxoakh 'kkl dka ds jktRo dky ea 14 oha'krh ds  
mRrjk)Z eafufeZ djkk; k x; k gksckA

jk; ij ftyk ed; ky; eanvk/kjh eB ifjl j eaLFkfi r j?kpkFk  
efinj dh }kj'kk[kk ds yykVfcEc dh fupyh iVVh ea xty{eh dk  
vodu gA bl efinj dk fuekZk jktk tr fl g l ko ds l e; ea 16 oha  
'knh bz dse/; ea gqyk Fkka bl h dky ds y{ehukjk; .k efinj jkfte  
ftyk xfj; kan dsejkBk dkyhu efinj ds fl jny eaHkh xt y{eh dk  
vodu gS 1/4Nk-fp-0-11 1/2

bl idkj ; g dgk tk l drk gSfd NRrhl x<+dh LFkki R; dyk  
ea Hkh 5&6 oha 'krkCnh vFkok iDZ e/; dky l s ydj v+ ru y{eh  
ifrekvka dk fuekZk gkrk jgk gA y{eh fo".kq dh vkRek rFkk 'kfDr gA  
bl l s ; g fl ) gkrk gSfd y{eh dh ifr"Bk vks vodu l Hkh /keka ea  
l eku : lk l s ykdifi; jgk gA bl fy, y{eh&i frek; i oS.ko /kez dh  
l k{kh D; ka !

I anHkZ %&

- 1 fo".kq i jk.k] 1@8@15
- 2 fo".kq i jk.k] 1@9@104
- 3 JhenHkxor] 8@8@12&16
- 4 ts , u- cdt h] Ms fg- vk ] i:- 209
- 5 , uq fj- vk- vkj- l oZ vkQ bf.M; k] 1913&14] i:- 116
- 6 \_\_Xon Jh l Dr 5] 87] 25]
- 7 ckt l us h l agrk 31]22
- 8 , -ds dtej Loketj fgLVh vkQ bf.M; u , sM b.Mkuf'k; u vkV] i:- 43-
- 9 'kf'kokyk JhokLro] Hkjr h; efinj , oa npefirz kj; Hkx 2] i:- 255]
- 10 fjfMy vkQ bf.M; u vkbdkskxkOh 1/4tVd vku js j vkbdku Yke rkyk] 1/2  
l Eiknd] , y-, l - fuxe] 2000] i:- 48-
- 11 d".knob egkdki y LVkby 1/4yxHkx bz l u-550&750% ij kruk] vad 9 ] i:- 6
- 12 mDrkuq kj] i:- 9
- 13 fo".kq fl g Bkdij] jkfte] 1972] i:- 123-
- 14 dkerk iD kn oekj egskij dh dyk] l dfr , oa i jkrRo foHkx] jk; ij]  
2012] i:- 10-
- 15 foodnRr >k] \*vkVZ vkQ l jxqk] ij kruk] vad 9] 1994] i:- 14

# člňsy [k.M ea pňsy 'kkl dka dk ty izaku

\*Mkw ftuňnz dękj tš

Hkkjrh; bfrgkl ea člňsy [k.M uke l sifl ) Hk [k.M ikphudky l s  
vuđ ukeal sigpkuk x; kA bueapfn) n'kk.kz Mkggy , oa tskd HkqDr  
eč; gA ifrgkj l kekT; ds xHK l sftu jkT; ka dk tle gępk mlkea  
tstkđ HkqDr ds pňsy l cl s 'kfDr'kkyh FkA pňsy oak ds 'kkl dka us  
vk/kqđ člňsy [k.M ds {ks= ij yxHkx 1300 bZ rd 'kkl u fd; kA ch  
, - flEFk dk er gSfd vk/kqđ člňsy [k.M l sml l Ei wZ {ks= dk cksk  
gkrk gSftl eaplňsy 'kkl dka us jkT; fd; k FkA' i kjfEHkd pňsy' kkl d  
ulluapl] t; 'kfDr' fot; 'kfDr o jkfgy l ker 'kkl d Fkš yfdu g"lz  
1000&925¼ ; 'kkpeZu] /kax] x.M] fo |k/kj] enuoehđ o ijenhđ  
Lora o egRo iwZ 'kkl d gqA pňsyka dh dyk us fo'odhfrZ LFkfi r  
djrs gq nš k dks xkš okflor fd; kA Kkr0; gksfd pňsy 'kkl d dyk  
i eh gh ughacfYđ JSB izakđ Hkh FkA mlGkaus l keftđ l kđdfrđ , oa  
vkfFkđ {ks= ea cęrj izaku ds mPp ekun.M LFkfi r fd, A og  
LFkkuh; 'kkl d Fksvr%mlGabl {ks= ds ikđfrđ o Hkšškfyd l a k/kuka  
o ifjflFkr; ka dh tkudkjh FkA pňsyka us ikđfrđ l a k/kuka dk  
mi; kx djrs gq fl pkbZ o is ty gęq rMkxka vFkok tyk'k; ka dk  
fuekZk djok; kA

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\*'kks'k vf/kdkjh] Mkw oh-, l-okd.kdj] ijkrRo "kks'k l đLFku]  
Hkks ky

ikjfehkd pňsy 'kkl dka ea; 'kkpeZu l okZ/kd 'kfDr'kkyh 'kkl d  
Fkk bl us , d fo'kky tyk'k; dk fuekZk djok; k FkA<sup>2</sup> pňsydkyhu  
rMkxka ea egkck dk l oZ fl ) rMkx ^enul kxj^ gS tks fd xkd.kz  
i gkMh rFkk vl; rhu igkM+ kadse/; eacłňsy [k.M ds l okZ/kd l ŋj  
rFkk fo'k"V rMkx ds : i ea rFkk pňsydkyhu 'kkl dka dh tufgr  
Hkkouk o JSB ty izaku {kerk ds |krđ gA bl h ds l ehi 3 fdeh-  
ds foLrkj ea uxj ds if'pe ea OSyk dhfrZ kxj egkck ds gh i wZ ea  
jkfgy l kxj rFkk bl h ds i wZ ea 6 fdeh- ds foLrkj ea OSyk fot;  
l kxj rkyk gš ; g rMkx pňsyka dh ty izaku uhr dks0; Dr djrs  
gA ; srMkx vFkok tyk'k; Øe'k% pňsy 'kkl d enuoel] dhfrbeZu]  
jkfgy , oafot; iky dh Lefr dks l kdkj djrs gA pňsyka }kjk fufe-  
vt; x<+ds nęz eankš ošk }kj gA mlkj }kj ds l ehi i oZ kads [kkn  
dj fudkysx, nks tydqM gš xak&teup dsuke l sifl ) gA ; gha  
ij , d f'kykš [k gš ftl ds }kjk Kkr gkrk gSfd mudk fuekZk pňsy  
'kkl d ohj oel] dh jktefg" k noh ds }kjk gęk FkA vfhkyš [k eabl dk  
uke ^verđii^ feyrk gA<sup>4</sup> nęZ ds nf{k.kh fdukjs ij nš jk rkyk gš  
tks ijeky l kxj dgykrk gS bl s jktk ijenhđ us cuok; k FkA  
ijenhđ us vt; x<+ea ijeky l jkđ dk fuekZk dj; kA

pňsy 'kkl d enuoel] usegkck dsifl ) rMkx ^enul kxj^ ds  
vfrfjDr Vhdex<+ftys ea , d vl; rkyk dk fuek.k djok; k]  
ftl dk uke Hkh ^enul kxj^ gh gA ; g ftyk eč; ky; l s 20 fdeh-  
dh nęh ij gA ; gk tš rhFkZ vękj flFkr gA vękj l svfhkyš [k l fgr  
yxHkx 100 tš ifrek, i klr gęZ gA i klr tš ifrekvka eankš ifrekvka  
ij enul kxj ij dk mYyš [k gęk gA ; g ifrek yš [k l đr 1209 ¼ 152  
bZ oh½ , oa 1211 ¼ 154 bZ oh½ frfFk ds gA

rhFkđj useukFk dh ifrek ij yš [k g& l đr 1209 cš k [k l ŋn  
13 Jh enu l kxj ijš eMokyo; rkd ¼ kgđ dskđ l q l cql k/kq  
tkYyđ; k ifrek dkjfi rka<sup>5</sup> nš jh vkfukFk dh ifrek ij yš [k g&  
l đr 1211 OkYxup l ŋn 8 v | g Jhenu l kxj ij š-----A<sup>6</sup> , d vl; Hk0;  
rhFkđj 'kfrukFk dh ifrek tks l đr 1236 ¼ 179 bZ oh½ ea ifr"Br

gþZFkh bl ij enunskl kxjiij fy[kk gþvk gð vglj dsrkykc dk uke enu l kxj vlgj uxj dk uke enuskl kxjiij gð<sup>7</sup> ; glj ds 'kkl d enuoehð ds uke ij j[ks x, Kkr gkrs gð ; s uke ijenhð nð ds 'kkl udky ea ipfyr FkA

Pknsydkyhu rkykc



vglj xte enul kxj rkykc ds fdukjs fLFkr gð ; g rkykc yxHkx 3 fdeh dsfoLrkj {ks= ea gð rkykc dspkjkavlgj i kdfrd ty l æghr gkrk gð bl rkykc l syxHkx nks g tkj , dM+d<sup>7</sup>k Hkfe dh fl pkbz gkrh gð l kFk gh 10 xteka ea is ty 0; oLFkk gkrh gð vglj xte ds nf{k.kh {ks= ea , d vU; i kdfrd >hy gS ftl ds fdukjs Hkh cLrh FkA ogkwl sHkh ifrek, Wi ktr gþZ gð

Pknsydkyhu rkykc



bl >hy dk Hkh pnsy 'kkl dka }kjk i zck fd; k x; k gð bl >hy dspkjkavlgj ioz gð tglj l sty l æghr gkrk gð

pnsyka us cþnsy [k.M dh Hkkskfsyd i fjlLFkr; ka ds vuð kj dñj oki h %oj ¼ ckoMh o rMkx ; k rkykc dk fuekZk l SLMka LFkkuka ij djok; kA cþnsy [k.M ds Vhdex<+ftyseagh e/; i nsk cUnksLr fchkkx ds fjdKMZ ds vuð kj 962 rkykc pnsy 'kkl dka us cuok, j Fkð ftl ea l s 421 dk orðku ea mYys[k fd; k tk l drk gð<sup>8</sup>

Pknsydkyhu rkykc



pñsy 'kkl dka us cþnsy [k.M dh Hkkskfsyd i fjlLFkr; ka dks/; ku ea j [kdj rkykcka dk fuekZk djok; k FkA cþnsy [k.M ds {ks= dh i kdfrd l jþuk d<sup>7</sup>k dh n<sup>7</sup>V l scgr vPNh ughækuh tkrh gð ; glj mi tkA dkyh feih U; u , oagYdh dkyh o i hyh feeh vf/kd gð ; glj i Bkjh {ks=Qy vf/kd gS vr% feih dh ijr dh ekv/kbz Hkh de gð cþnsy [k.M ds Vhdex<} o Nrjiij vkfn {ks= dh feeh ea ueh l gstus dh {kerk de gS vr% ; glj rkykc vf/kd cuk, Wx, , oanf{k.kh cþnsy [k.M ds l kxj] i l uk o nekj ea dkyh feih dh ek=k T; knk gS ml ea ueh l gstus dh {kerk vf/kd gS vr% ; glj rkykc de cuk, x, A<sup>9</sup> jktkvka }kjk cl kgV ds fudV vlgj Nk&h&Nk&h i gkfm+; ka ds <y ij l keku; r% Nk&s vldkj ds rkykc cuok, A ftu bykda ea Nk&s vldkj ds rkykc cukus ds fy, mi ; þr LFky vlgj vf/kd ek=k ea cjl krh i kuh feyrk Fkk ogkj jktkvka us i kuh l gstus ds fy, rkykcka dh Jðkyk, j cuokbz tks

ekul uuh ty ds vf/kdre l p; dh l k{; Fkha cl kgV l snij fo'kky tyk'k; ka dk fuekz k dj; k x; ka plnsy jktkvka ds iz kl ka l syxrk gS fd mUgkaus [krh ij vkfJr l ekt dh t: jrka dks igpku dj LFkkuh; i kkfjLFkfr dh vksj /kjr dh xqkka l s rkyesy feBkrs gq rkykca dk fuekz k dj; k Fkka tS h LFkkuh; i fjLFkfr os k l j p u k p; u vksj fuekz k fd; k x; ka ftl LFkku ij fuLrkj rkyk ds fy, mi; p r i fjLFkfr; k; Fkh ogk; fuLrkjh tgl; fj l u ds vuq kj fj l u rkyk cuk, x, A tgl; DokVZt&jhQ dh igkfm; k; ekst in Fkh] ogk; ikdfird : i ekst in mi; p r LFky ij] ty l xg gsrq tyk'k; cuk, x, A<sup>10</sup> jktkvka }kjk cuok, x, vf/kdkk rkyk ugj foghu gS ysd u ckjgekl h gA

dk'khi d kn f=i k Bh ds vuq kj] i k j Ekh ea ctnsy [k.M dk l ekt ?kpeUrw i 'kij ky d l ekt Fkka ctnsy [k.M ea ty foKku ds fodkl us ty l j p u k fuekz k dks l gt cuk; ka i fj .kkeLo: i ?kpeUrw i 'kij ky d l ekt /khj&/khj s [krh dh vksj eMk vksj [krhgj l ekt cukA ; g cnyko baxr djrk gSfd rkykca ea l p r i kuh dh cMkkaus l v[kh [krh dks vkl ku vksj vktfodk dks l 'kDr vk/kkj inku fd; ka dgk tk l drk gSfd l Hkor%; gh os cl/kudkj h i fjLFkfr; k w Fkha ftUgkaus /kjr h vksj cjl kr ds pfj = dks /; ku eaj [kdj] jktkvka dks rkyk cukus ds fy; s i f jr fd; ka rkyk fuekz k us ?kpeUrw l ekt dh vLFk; h cl kgV ka ea cnyk] rkykca ds fuekz k us vktfodk vksj l v[kh [krh ds l a/ka dks fd l h gn rd vkl ku fd; ka<sup>11</sup> ctnsy [k.M ea rkyk fuekz k ds iz kst u dks i frikfnr djrs gq d".k xki ky 0; kl us fy [kk gSfd ctnsy [k.M ds ugj foghu i kphu rkykca dh gdhdr baxr djrh gSfd jktkvka us /kjr h ea ueh ds Lrj dks cuk, j [kus ds mIs; l s rkykca dk fuekz k dj; k gkska bl mIs; dks gkfl y djus ds dkj .k fu'p; gh vkl i kl ds {ks= ea tyok; q l argyu] mFkyk Hkka ty Lrj] ufn; ka ea l rr ty i dkg vksj [krka ea ueh dh vof/k ea l dkkj gq/k gkska [krka ea ueh dh vof/k dsc<us l s Ql ya ds fodkl vksj mRi kn drk ea l dkkj gq/k gkska bl ds vykok tehu eaggj h ?kkl dh mi yC/krk c<h gkska i 'kij ky u dks l gkjk gq/k gkska bl fefJr 0; oLFk ds dkj .k d f" k dk; Z ds fy, cSyka [krka dks [kn , oai fjokj ds fy, vukt] ?kh] nulk dh vki firZvkl ku gPZ

gkska vuoku gSfd rkykca ea vktfodk dks vk/kkj inku dj use Nyh i ky u fl a k k M k vksj dey x I k i n k dj us t S h vu d x r f o f / k ; k a d s v o l j m i y C / k g q g k s k a <sup>12</sup> d k ' k h i d k n f = i k B h d s v u q k j c t n s y [ k . M e a r k y k d s v k x s j d k s p j k x k g d s : i e a l j f f { k r j [ k k t k r k F k k a p j k x k g k a d s d k j . k ] H k k i e l j f f { k r j g r h F k h v k s j d p e v / l s u ; u r e x k n v k r h F k h A r k y k d s v k l i k l v k s j f u p y s { k s = e a [ k r h d h t k r h F k h A m l d s f u p y s { k s = k a d h f e e h e a v f / k d l e ; r d u e h c u h j g r h F k h A u e h m i y C / k r k d h y E c h v c f / k d s d k j . k Q l y d k l g h f o d k l g k r k F k k v k s j m l d s l v [ k u s d k [ k r j k d e j g r k F k k A <sup>13</sup> ; g x e h . k v F k D ; o L F k k d k L o k o y E c h i k p h u e k M y g S f t l d h c f u ; k n H k k j r h ; t y f o K k u v k s j i j E i j k x r t y i z k k f y ; k a i j f v d h g A p l n s y ' k k l d k a u s t y i z d k u d h o K k f u d i ) f r f o d f l r d h A j k t k v k a u s t g k j i s t y o i ' k i j k y u g s r q d v k j o k i h o r k y k c a d h U k a k y k r S k j d h o g h H k k i e t y L r j c u k , j [ k u s d k H k h o K k f u d f o d k l f d ; k A r k y k v o ' ; g h u g j f o g h u F k s y s d u f l p k b z v o ' ; g h i k p h u i ) f r l s g k r h g k s c h A

**l anHkZ&**

- 1- ba.M; u ,UVhDojh] 1908] vad 37- i: 137]
- 2- jke"ka dj f=i k Bh] i kphu Hkkr dk bfrgl ] cukj l ] 1968] i: 503]
- 3- , - , l -vkj-] [ktjkgk i fcyds ku fMohtu] fnYyh] 1952] i: 439]
- 4- [ktjokgd] f'kyky[k] 'ykd&20]
- 5- dLrjpn l eju] vglj {ks= ds vfhky[k] vglj] 1995] i: 115]
- 6- ogh] i: 128]
- 7- ogh] i: 1&5]
- 8- d".k xki ky 0; kl ] Hkkr dk i j E i j k x r t y f o K k u ] u b z f n Y y h ] i : 46]
- 9- ogh] i: 41]
- 10- ogh] i: 42]
- 11- dk'khi d kn f=i k Bh] ctnsy [k.M ds rkykca , o a t y i z d k u d k b f r g l ] u b z f n Y y h ] 2011] i: 20]
- 12- d".k xki ky 0; kl ] Hkkr dk i j E i j k x r t y f o K k u ] u b z f n Y y h ] i: 48]



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