

Natural Geomorphic Landscape, Historical Religious Hindu Temple, Monument, Palace Architecture, Culture And Heritages In Sihawa - Kanker Granitic Mountainous Tract, Mahanadi Catchment, Chhattisgarh, India

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Abstract - In the Ancient Medieval Period, the Central India had been mostly governed by Rajputana clans. The reigns of Som Dynasty (1125-1345 AD) and Chandra Dynasty (1385-1947 AD with Princely States of British India) had made efforts towards cultural and social upliftment and status of common Tribal People of Sihawa – Kanker Granitic Mountainous Tract (SKGMT) of Upper Mahanadi Catchment (UMC). The aim of the study is multidisciplinary Scientific interpretation of the facts to elaborate the physical domain of Granitic terrain and landscape and correlation with Histo-archaeological, Architectural, Religious & Cultural heritages. The Prolific growth of religious Heritages in form of Temple, Monuments had been maintained by their successors also even after King Rulings, in the 19th and 20th Century, during princely states of British Colonial Rules. The rock shelters, Natural Caves, Rock Paintings, Lush green forests, Hillocks, River Valley enriches the Geo heritages of the region. In this study, under methodology the Remote Sensing Satellite Imageries have been utilized for the physical domain recognition. The Landscape Physiography, Geomorphic features, Natural Resources Interpretation and Demarcation (NRID) have been carried out at selected zones of “Ancient Kanker State Region Peripheries” (AKSRP) The study reveals that during their reign of Som and Chandra Dynasty, the Ruler King had given priority on expansion of education and cultural religious segment in the state’s society. The making of intellectual and wise citizens of the state was proved after a long tenure of successful administration by Ruler King of Som Dynasty and Chandra Dynasty. The interpretation and concise study analysis will be useful in identification and selection of Natural, Historical, Archaeological and Architectural heritage site at National level or UNESCO oriented Programmes of Conservation Schemes.

keywords - Mahanadi, Granitic Tract, Sihawa, Mountain, Kanker, Somdynasty, Chandra Dynasty, Hindu Culture, Heritage, Temple, Rock Monument, Colonial Architecture, Geo Heritage, Chhattisgarh, India.

INTRODUCTION

During the Medieval period, the Central India had been governed mostly by Rajputana Clans viz. Kshatriya Chauhan, Haihavansh Kalachuris, PanduVanshi, Somvanshi, Chandels, Jat, Chandra, and Tribal Group Like Gonds, Raj Gonds, Kandra etc.(1,5) The rulings of Chandra Dynasty had established in the Kanker state, lies the Kingdom, at the North of Baster plateau Region (Dadyakranya) C.G. on 1385 AD. King Veer Kanhar Deo. Related to Som Dynasty came from Shri Jagganath Puri to Sihawa mountains for cure of his health, but after healings on people wish and request he had opted Ruling of Kanker State. Earlier to Chandra Dynasty, the Kandra Dynasty was ruled over the Kanker State about 40 yrs.(1345-1385 AD.) (18) The Tribal leader Dharma Dev Captured Kanker, defeating the Chandra Sen Dev belonging to Som Dynasty in 1345 AD.(19) The Som Dynasty was established in Kanker by Founder Singh Raj in 1125 AD. He defeated Kalchuri King Ratanpur, Gaykarni. The Kalchuri ruler was a weak King. The rulings of Som Dynasty and Chandra Dynasty had made efforts toward cultural and social upliftment for common man of the Kanker State, situated in the Upper Mahanadi Catchment, tribal region, by prolific growth of Religious heritage like temples and monuments. It had been maintained by their successors also even in the 18th and 19th century during princely states and British colonial rules. The educational formulation for common peoples of the state including the establishment of English school, Primary School, Colleges and Hospitals. In this study for the Physical Domain recognition, the Remote Sensing Satellite Imageries have been utilized. The landscape, physiography, geomorphic features, natural resources interpretation and demarcation have been carried out at the selected zones of Ancient Kanker State Region (AKSR).(20) Since Kanker State acts as protective shield for Bastar region, it had utmost important strategically and Trading route purposes. The historical events and socio-political conditions of Som Dynasty and Chandra Dynasty has been collected from various literatures properly cited and acknowledged. The study reveals that priority on

education and cultural religious segment in the States Society proved after the long tenure of successful administration of ruler King of Chandra and Som Dynasty. The sovereignty of Som Dynasty make Kanker as independent status in South Kosala. The Hindu Temple of Kal Bhairav (by Vyaghraj in 1136AD.). Lord Shiva Temple (by Kamraj (Krishna) in 1184 AD) and Chandra Sen Dev (1344AD) considered significant founder of Temple, Monuments in Kanker State. The rules of Chandra Dynasty begins from 1385 AD till the 1947AD i.e. Independent India, except a short period of Maratha Occupation during (1809-1818) about 9 years and at the time of British India, it was. recognized as Princely States. The study indicates that the rulers of Chandra Dynasty were changed the capital town many times e.g. Sihawa, Rudri, Kanker, Narharpur Govindpur etc. from time to time, perhaps due to giving equal weightage to these place and making Kanker as New Urban Growth Centre in Nucleus position. Also to raise their Ethical attitude to promote the literacy awareness and increase in Social status of common people of the Kanker State. The natural resources in form of vegetation, forestry products, flora and fauna, water drainages streams rivers provide plentiful water resources to enrich the agricultural practices of the region.(8,19)

PHYSIOGRAPHY, LANDSCAPE AND TERRAIN CONDITIONS

Geologically, the Kanker State lies in the Stable Bastar Craton of Archean Age. The landscape is governed by the Geologic Litho Type (GTL) mainly Granites, Granitoids igneous rocks and their weathering processes prevailing in the region. (21)The hillocks, ridges, slopes, valleys and undulating plains are major landforms developed in the region. The dense Forest Canopy Cover (FCC) makes pleasant greenish environment and nourishing the floras species of Medicinal Plant (MPS) apart from the Timber, Fodder and Wood Plants. The Subtropical Climatic Conditions (SCC) are suitable for plant growth and agricultural products. The average annual rainfall ranges between 1200mm - 1400mm and temperature ranges between 4°C in winter raises to 43°C during summer seasons are common.(8)

UPPER MAHANADI CATCHMENT-(UMC)

The origin of Mahanadi (Chitrotapala Ganga) lies in Southern Hills of Sihawa, near Muchkot Pharsiya Village Literally Mahanadi combines two Sanskrit words, Maha (Great) and Nadi (River) (22).It's name has been differently known according to Hindu Vedic Era (Table(A)). The surface water drainage lines of Eastern Central India, C.G. & Orissa, is occupied by Mahanadi River Catchment, spread over 1,46,600 km² and flows from origin place Pharsiya, Sihawa, (440mAMSL) Hilly mountain to Jagitpur Delta Orrisa (False point, OmAMSL) at Bay of Bengal(23)(Table II).

METHODOLOGY

Under methodology, the historical literatures of Kanker,C.G. have been collected and arranged in a chronological order. Various sources of information Published Literature, Monograph, Periodicals, Books, Journals have been consulted, analysed, classified and tabulated . The physical domain of Kanker State, Natural Assets Forest, Water Resources,Hills, Mountains, Soil, rocks have been studied using Satellite Imagery Prints adopted inductive and deductive reasoning and interpretation keys with limited Ground truth i-e. Field Work. The historical temples, monuments, palace, and other Constructed Ancient Remains (CAR) have been visualized, observed and identified. Correlation made with the literature information and other sources, described in tables.

HISTORY OF KANKER STATE

Physiographically, the Kanker Sihawa region is a part of Dandakaranya province of Bastar Tribal Hilly Mountaineous Plateaus. The history reveals that Kanker had been always known as a separate Kingdom or State since beginning of political states. History of Kanker State begin with early stone Era of primitive human being, resides in cave and rock shelters. Also mentioned in Hindu Epic Ramayana and Mahabharata, Vedic literature and Puranas(24). Various Rock Shelters, Cave, Rock Painting confirms the presence of human being during Litho Ages and Early stone ages in Kanker region. The region and states of Ancient Indian History commence from 3rd BC with Mauryan empire, then Satvahan Dynasty King's Satkarni ruled from 106 AD. Pulluvami, Shiv Shri, Shivskand were administered the Bastar Plateau region, It also described by Chinese visitor Huensang. After wards, the state king, Vakatak, Nal Gupta Dynasty were ruled the region upto 500AD. South Chalukyas ,Pulkeshin II, Vikramaditya,Vinayaditya, Vikramaditya II and Kriti Verman expanded the Region including Odisha, A lot of Temples were constructed by these rulers between 500 AD to 788 AD. The Haihavanshi Kshatriya, Kalchuries of Tripur, M.P. and Ratanpur C.G. ruled from 788-1125 AD. King Gayakarni was defeated by Som Vansi founder King Singh Raj in 1125AD. Onwards, Som Vansi and Chandra Dynasty, with only intermiltant Kandra Dynasty for 40 years, ruled over the Kanker, Sihawa region. (21)(TableIII) The Bhosle of Nagpur were controlled the state continuously for 9 years and British Rulings recognized Kanker as Princely States of India. Thus, the history reveals that Kanker had been always known as a separate and independent State since beginning of political states and rulers expanded Hindu culture and heritages throughout the span of their rulings.(27)(Table IV)

SIHAWA MOUNTAINEOUS TRACT

Sihawa had been the place of Hindu Monk's, Saptrishi, Lomus, Angira and Shringi. The Sihawa Tract is an extension of Eastern Ghat Archean Metamorphosed Rock Ridges mountain's(Table I (B)) . It contains Rock boulders of Granitoid nature with scanty vegetations. The Great River Mahanadi turn its flows at one flank of mountain peripheries also water pools found in form of ponds and ditches, filled with permanent source of water. According to Hindu legends and literature of Epic Ramayana, Hindu Monk Shringi had built his Ashram in this mountain and his blessings in Treta Yuga, gave King Dashrath of Ayodhya, a Son in performing Yagya rituals. Also, Rishi Angira, another Hindu Monk mediated in the Navakhand Hills near to Ratwa Village, Sihawa with aims to gain enlighten supreme power from Agni Deva (Lord of fire) in Yagyashala situated at cave of Hillocks.(24) Apart from this the Rishi Lomus also prayed Lord Vishnu in the bank of Chitrotapal Ganga

(Mahanadi) in upper Mahanadi and also at confluence of Mahanadi, Sondur and Pairi river i.e. Triveni in Rajim.

ANCIENT ROCK MONUMENTS AND GEOHERITAGES ANCIENT ROCK SHELTERS AND CAVES

The stone implements of Ancient Nomadic people have been found at many localities of Kanker region. The cultural heritages of Mountaineous Tract is oldest one and begins with stone age. Rock shelters and caves, Rock Painting's have been located and identified as prehistoric, Rock paintings in well conditions e.g. Udkuda, Parkha, Kacheri, Khairkhed villages of near by Charama Tahsil. The Rock Paintings exhibit Hand impression, Forest, Fauna, Haunting Scene and various activities of human being. (25)

GADIA MOUNTAIN KILA DONGRI

The Gadiamountain lies in the southern boundries of Kanker City. It is encircled on western part by Doodh Nadi, a tributary of Mahanadi which is originated from Neele Gondi about 15 kms distance in further south of Kanker city. The Gadia mountain is a Granitic Residual Hills, erect out by fluvial weathering and erosion processes in the region (601 mAMSL). It was the capital of Kanker State in ancient medieval period of King of Kandra Dynasty (1345-1385 AD). (26) The remanants of Forts scattered at the IInd level and Top level of Hill contains Natural Cave ChuriPager, Jogi Cave, Lord Shiva Temple, Shitala Temple, Yogmaya, Durga Temple water reservoir pond /lake (Sonai-Rupai). These enriched Monumental Heritage Hindu Religious Heritage, Natural Heritages, Geo Heritage of Kanker State Region (Diwan et al, 2020)(19)

CARVED STONE TEMPLE

The ancient monuments includes carved temples constructed by Som Dynasty and Chandra Dynasty during 12th century AD to 20th century AD (Table) it includes Shiva Temples, Ram Nath temple, Hanuman Temple in Sihawa, Kanker during (12th-14th century AD) Vyagraj, Krishna (KamaRaj) and Chandra Sen Dev, whereas the Chandra Dynasty rulers Vasudeva (15th century AD) to NarharDeo (early 20th century) constructed many temples at Bank Of Mahanadi and city Kanker, Dhamtari, Rudri etc. (Table IV) (27) These constructions enriched the Hindu religious and cultural heritages of Chhattisgarh state as mostly these structures have been found in well preserved conditions. Apart from these tepmls constructed by Royal families of Som Ruler and Chandra Ruler, the Indigenous Tribal Groups (ITGS) of Southern Keshkal valley, at 29 kms distance from Kanker, Mahanadi Valley, consists Temples of Bhaivagaram (A Tribal Diety) and at GarhGobarhin village, ASI (Archeological survey of India) has excavated remains of Ancient Temple, at 12 kms from Keshkal, in Dhanora village i.e. GarhDhanora also has remains of many ancient Temples, need further investigation and correlation. (25)

ROYAL PALACE - KANKER PALACE (RADHA NIWAS BAGICHA) COLONIAL ARCHITECTURE

The Palaces of C.G. State comprises a unique tradition of monumental architecture and can be compared with Rajputana Palace heritages. It also reflects the vibration of local cultural, religeous thoughts and construction structures. The Palace of Kanker was built in the 18th century and renovation with landscaped Garden in 1937AD. It was earlier known Radha Niwas Bagicha, and lies in the Raja para, the old part of Kanker City. The Architectural style represents the "Colonial Architecture" i.e. Princely state of British India (1853 AD) The aesthetic, sensitivity and stylistic influences of Rulers power and dignity expressed in the Glory of Palace Building structures encompasses, large compound with greeneries of Garden. The Kanker Palace, the "plan" exhibits "wings" where rooms has been arranged. (22) The decoration painted in yellow colour it shows a religious Hindu Royal Choice of Rajputana Palaces. It has double storied plain facades with logo Emblem double tigers at the centre of the Parapet wall. In Rajapara, the old Palace Complex entry can be approached by an imposing Gateway. (24) The temples of Royal Family, dedicated to Dieties Chhote Pat Deo, and Anga Dev lies in this place, prayed by Royal Chandra Dynasty clan members in their fixed occassions In the Rajapara, the ancient temples dedicated to Lord Balaji and Lord Jagannath had been constructed by King NarharDeo (1882-1903) of Chandra Dynasty, and every year people celebrates Rath Yatra at Kanker, Started by King Vasudeva (1461-1482), the 4th Ruler of Chandra Dynasty (Table IV)

DISCUSSION AND CONCLUSION

The Ancient Hindu Kanker State has always been stands as an independant Reign in the Indian History. During Medieval period the Kanker State had been mainly ruled by two rulings namely Som Dynasty (1125AD to 1345AD) and Chandra Dynasty (1385AD to 1947 AD) with the intermiltant Hindu Tribal of Kandra Dynasty for 40 years (1345AD to 1385AD) Physiographically, the Kanker Sihawa Granitic Mountaineous Tract comprises Dandakaranya tribal province of Bastar Plateaue Forests, The cultural Heritage s and Geoheritages- of Monuments, Carved Hindu Temples, Cave, Rock shelters, Rock painting, Mountain s, Forest, Valleys, enriched the region. The study indicates that the Som Dynasty and Chandra Dynasty rulers had made efforts towards raise of cultural and social uplift of common people s of Kanker- sihawa Mountaineous Tract, Upper Mahanadi Catchment Zone'. The construction of various religious Heritage Temple. Monuments by earlier ruler, the ethics and plans were also followed by their successors, even in the Princely States under British Colonial rules many educational schools of primary and high levels had been open. The princely states colonial British Architecture of Kanker Palace reflects the ethical attitude toward awareness and keen interest of Rulers in upgrading the social status of the State.

TABLE I (A) INDIAN LITERALLY NAME OF MAHANADI RIVER WITH AGES

S. No.	Language/ Age /Era	Name (Popular)	Source Literature
1.	Sanskrit Language	Great Nadi	Epics/Hindu Literature
2.	Ancient Era	Kanakandini	Ramayana Grantha
3.	Dwapar Yuga	Chitrotapala	Matsya Purana
4.	Treta Yuga	Nilotapala	VayuPurana
5.	Mahabharata Era	Mahananda	Maabharata Grantha
6.	Kalyuga	Mahanadi or Mahasweta	Vedic-Puranik literature

Source: (Wikipedia, 2021)

TABLE I (B) UMC-GEOLOGICAL SUCCESSION (Generalized)

AGE/ERA	GROUP/FORMATION	LITHO UNIT/ ROCK TYPES
Recent to Pleistocene	Laterite/Alluvium	Soil, Sand, Alluvium, Reddish Laterites
- UNCONFORMITY-		
Proterozoic	Chattisgrh SG Chandrapur Group (Sedimentary Rocks)	Quartzitic Sand stone Siliceous Aerianites Dolerite Dykes Intrusion
- UNCONFORMITY-		
Archaean	Intrusive Bengal Older Metamorphics	Quartz veins, Pegmatite, Aplite veins Pink Granite, Grey Granite, Gneisses, Magmatites Banded ferruginous, Quartzites, Biotite Schist, Hornblende Schist Amphibolite, Tale Schist

TABLE –II Landscape Physiography and Terrain Characteristics of Mahanadi Region. (Catchment)

S.No	Characteristics	Locality	Geographical Co- Ordinates	Physiography / Region Area / Elevation
I	Source Area Dense forest flows Towards North Direction mountaneous terrain	Sihawa (Part of the Dandakaranya) Head water Lies 6 km at Mahakot	20° 11' N 81° 91' E	Extension of Eastern Ghat Hillocks Archean Granitic Rock(890 mAMSL Max.)Originated From Pharsiya Village Mts.(442 mAMSL)
II	Middle Part East Ward Flow, max, Length of main trunk in C.G. In C.G.- Bilaspur, Janjgir, Raigarh- Undulating Plains In Odisha- Ridges, Ghats (Sambalpur, Cuttack)	Area Spreadin C.G. and Orissa Joins Seonath, Arpa, Jonk, Ib, Bramhini etc.	20° 11' N 81° 91' E to 81° 23' E	Main trunk 858 km length Catchment Area 1,41600 km Archean Granites C.G. Sedimentaries Granitoid, Metamorphic, Eastern Ghat& Alluvium in Cuttack onward
III	The Drainage Catchment Area coverage	Dandakaranya Centra Province Sambalpur Dakshina Kosala Kingdom Coastal Plains		Hilly Terrain, Undulating Plain in C.G. , Nilgiri Mountains, Eastern Ghat Marine Coastal plains Jagtishpur (False Point)
IV	Mouth Confluence with Ocean (Bay of Bengal)	False point Jagtishpur Delta Odisha	Bay of Bengal	Deltaic Coastal Alluvium , Beach, Sands, 0m(MSL)

TABLE III CHRONOLOGICAL PERIODS OF RULERS/KING/RAJA IN KANKER STATE (GENERALIZED)

S. No	Age/Era	Dynasty	Ruler/King	Locality/ Area	Discription of Events/Activities Cultural/Religious Social etc.
I	Ancient Period 1000 BC/600 BC to 300 BC	STONE AGE & HINDU EPICS	Neolithic and Primitive Man Ramayana Mahabharata King/Empire (Ishavaku Vansh)	Hills, Cave, Dandakara Dakshin Koshala	Cave, Rock shelters, Litho Paintings, Keshkal Ghati described in Ramayana & Mahabharata Hindu Epic
II	3rd Century BC to 1st Century AD	Mauryan Dynasty (Magadh)	Mauryan Rulers Bindusar, Chandra Gupta Maurya, Vikramaditya	Dandakaranya Dakshin Koshala	
III	106 AD 2nd century	Satvahan Dynasty	(i) Satkarni	Bastar Plateau	Chinese visitor Huensang described the Kanker region

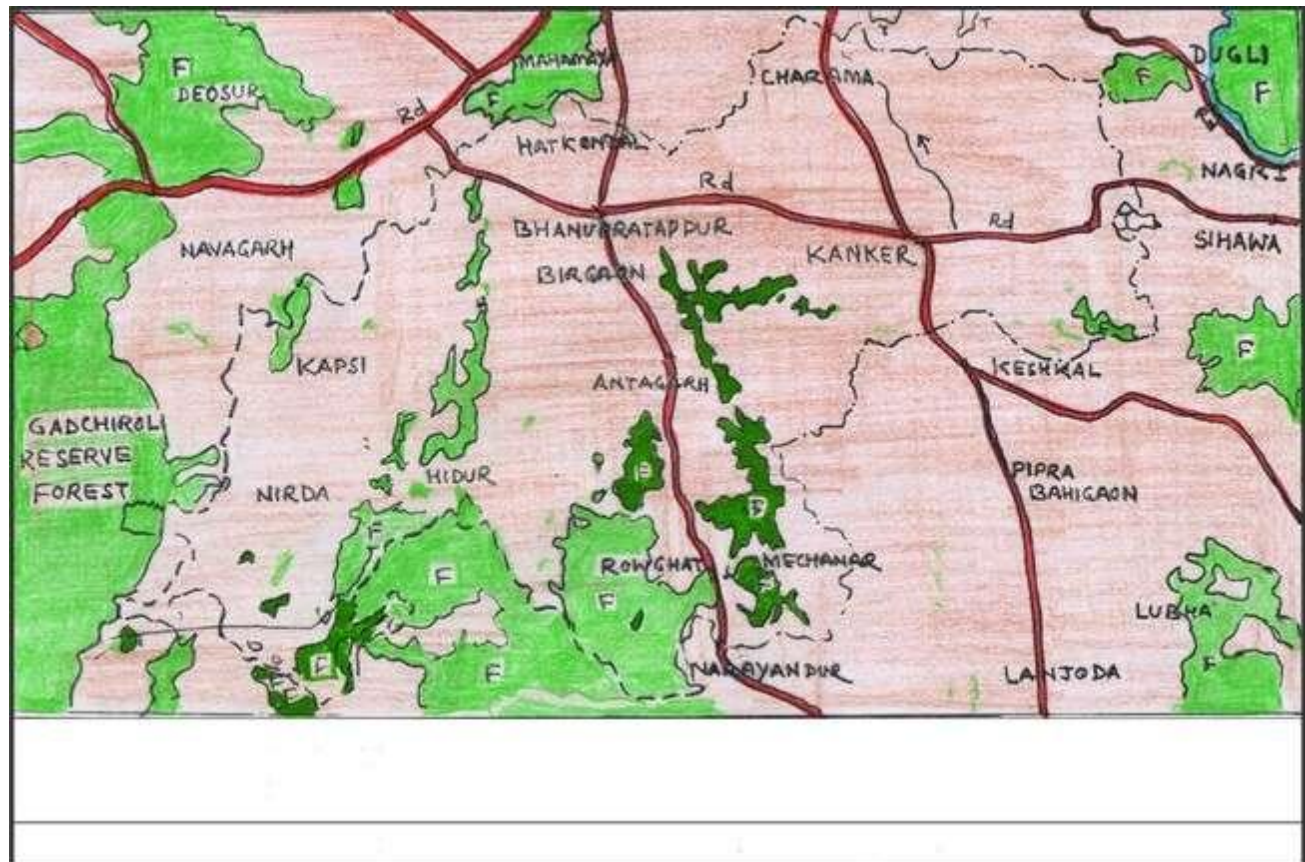
			(ii) Pullu Swami (iii) Shiv Skand	Region Kanker Region	
IV	2nd and 3rd Century AD to 5th Century AD	(A) Gupta Dynasty (B) Nal Dynasty (ii) Vakatak (iii) Nag Dynasty	Vakatak King, Narendra Sen, Nal Kings (i) Vyaghraj (ii) Varahra (iii) Bhavdatt (iv) Arthpati (v) SkandVarma	Rudri Sihawa Kanker	Nal King Vyaghraj won the wholeregion of Dandakaranya and Mahanadi CatchmentVakatak, Narendra Senattacked Bhavdatt, Bhavdatt lost Some part, again collected Kanker
V	6th to 8th Century AD (500-788 AD) 288 Yrs	Chalukya Dynasty	(I) Pulkeshin II (ii) Vikramaditya (iii) Vinayaditya (iv) VikramadityaII (v) Kirtiverman	Sihawa Kanker	Expanded the Region towards Orissa, A lot of Hindu Temples were constucted
VI	8th to 12th Century AD	Kalchuri of Ratanpur (Tripuri) Bran ch Haiha Vanshi	Prithvideva II To Gayakarni	Sihawa Kanker 788-1125 AD	Due to weak Rule of Kalchuri, Gayakarna had defeated by the Singh Raj in 1125 AD, Victory of SomVansh
VII	12th to 14th Century (1125-1345 AD)	Som Vansh (A Pandu AVansh Branch	(I) Singh Raj to Chandra Sen Dev	Sihawa Kanker	Constructed Shiv Temple, Hindu Monuments
VII I	14th Century AD (1345-1385)	Kandra Dynasty (A Hindu Tribe leader of Dandakaranya	(I) Dharm Dev (ii) Chhattar Dev	Sihawa Nagri Kanker	Constitution of Gadia Mountain Fort, Water Tanks, Hindu TamplesYogmaya Temple Kanker Hill Capital
IX	14th Century AD to 20th Century AD (1385-1947AD)	Chandra Dynasty (Related to Som Rulers)Break (I)1809-1818 Maratha Bhosle Nagpur (ii)1853-1882 British Rule (19 Yrs) (iii) British Princely State (1845-1947)	Veer Kanhar Dev To Bhanu Pratap Dev to Udai Pratap Dev	Sihawa Kanker	Constructed Hindu Temple, Educational Schools, in Sambalpur Orissa also, Water Ponds, Tanks, Fort at Dhamtari Temple at Rudri Sihawa, Mahanadi River Bank

Based on various Literatures of South Kosala, C.G.)

TABLE IV Hindu Religious Temple and Monument Heritages in Kanker (Built By Som Dynasty and ChandraDynasty)

S.No.	King / Ruler/ Raja of Kanker State	Temple Monument Heritages	Locality Kanker, Sihawa, Dhamtari, Rudri, Mahanadi Bank
Som Dynasty			
I	Vyagh Raj (1130-1161 AD)	(i) Maa KankalinDevi (ii) KalBhairav Temple	Near M.G. Road, Kanker
II	Krishna (Karna Raj) (1184-1206 AD)	(i) Ram Nath Temple (ii) Shiv Temple	Sihawa
III	Chandra Sen Dev (1344-1345)	(i) Shiva Temple (ii) Hanuman Temple	Up-Down Road Kanker
Chandra Dynasty			
I	Vasudeva (1461-1482 AD)	Lord Jagganath Rath Yatra Every Year	Started and Celebrated the Rathyatra at Kanker
II	KapilNarendra Dev (1482-1502 AD)	Lord Shiva Temple Temple	Mahanadi River Bank Rudri (Dhamtari)
III	RudraDeo (1539-1588 AD)	Rudreshwar Temple	Mahanadi River Bank Near Bridge, Kanker

IV	PadmaDeo (1839-1853)	(i) Goddess Durga Devi Temple (ii) Big Fort (iii) Two Tanks	(i) Kanker (ii) Dhamtari (iii) Dhamtari
V	NarharDeo (1882-1903 AD)	(i) Maa Singh Vahini Temple (ii) Shri Jagganath Temple (iii) Shri Balaji Temple	Raja Para Kanker
VI	(i) Maa Tripur Sundari Temple (Nathia Nawagarh) (ii) Lord Shri Krishna Temple (Daily Market Kanker) (iii) Maa Shitla Devi Temple (Shitla Para, Kanker)		



F : FOREST Rd : ROAD

FIG. I - BHANUPRATAPPUR-KANKER-NAGARI-SIHAWA

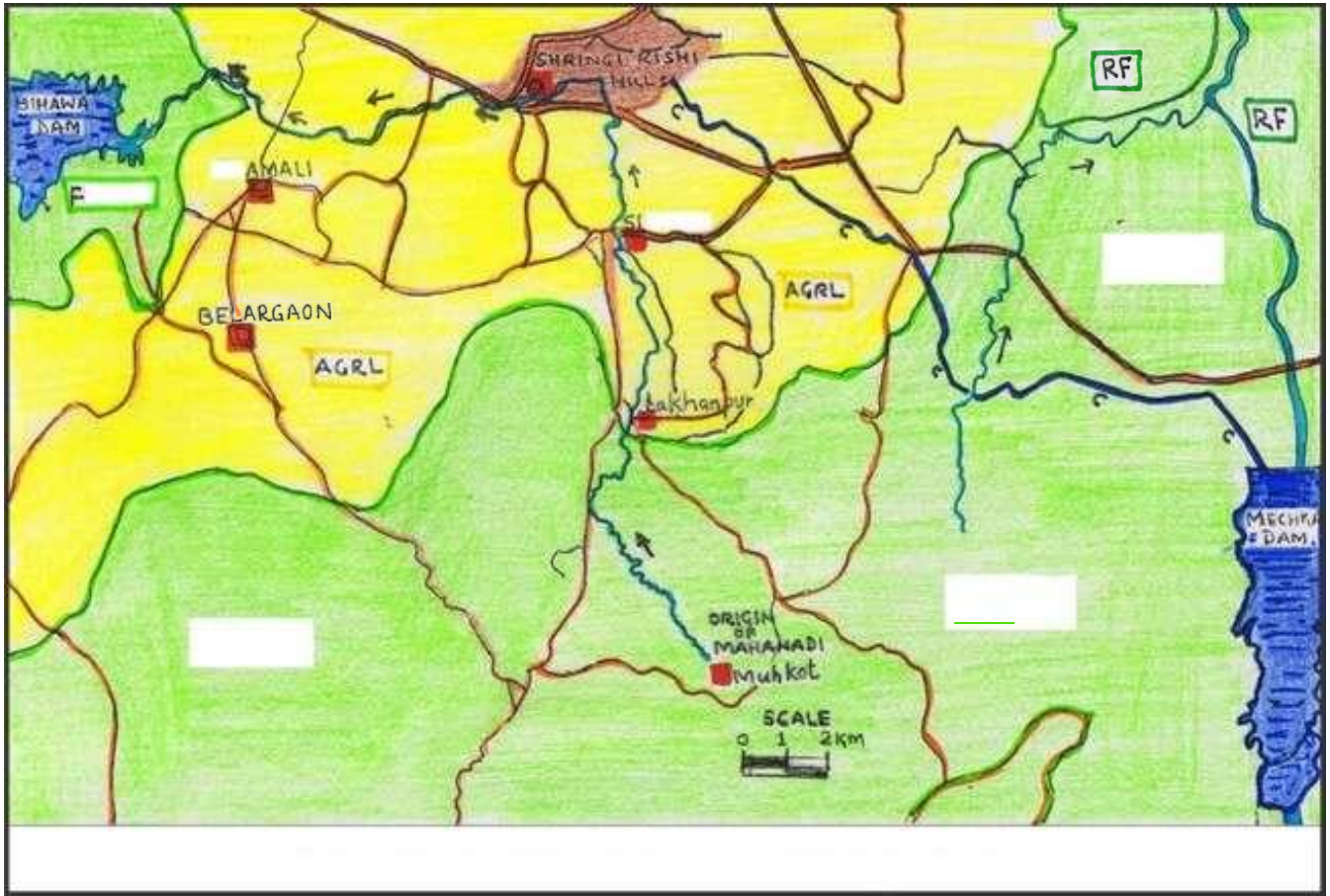


FIG. II A. SHRINGI RISHI HILLS- MAHANADI RIVER ORIGIN (SIHAWA)

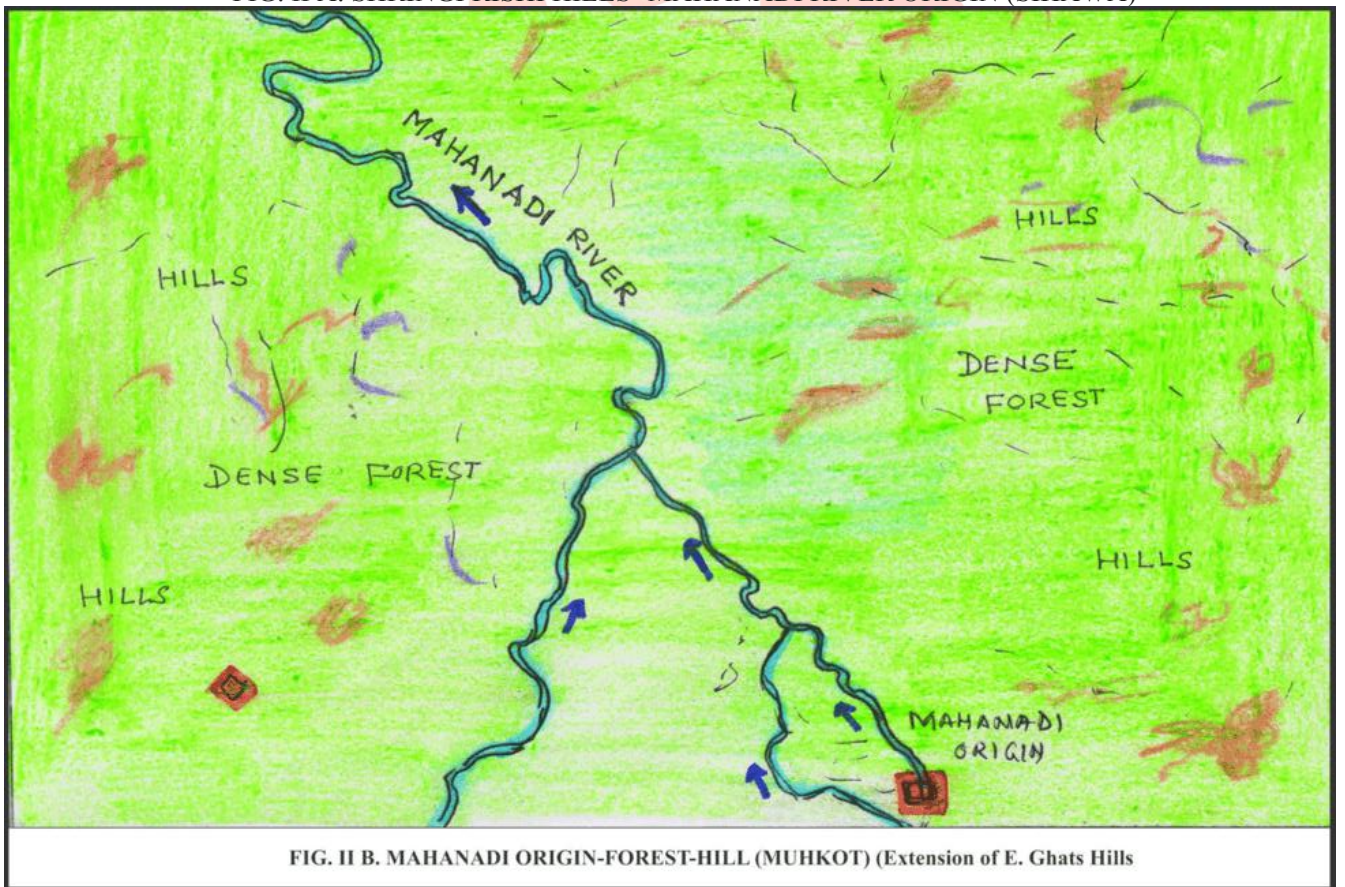


FIG. II B. MAHANADI ORIGIN-FOREST-HILL (MUHKOT) (Extension of E. Ghats Hills)

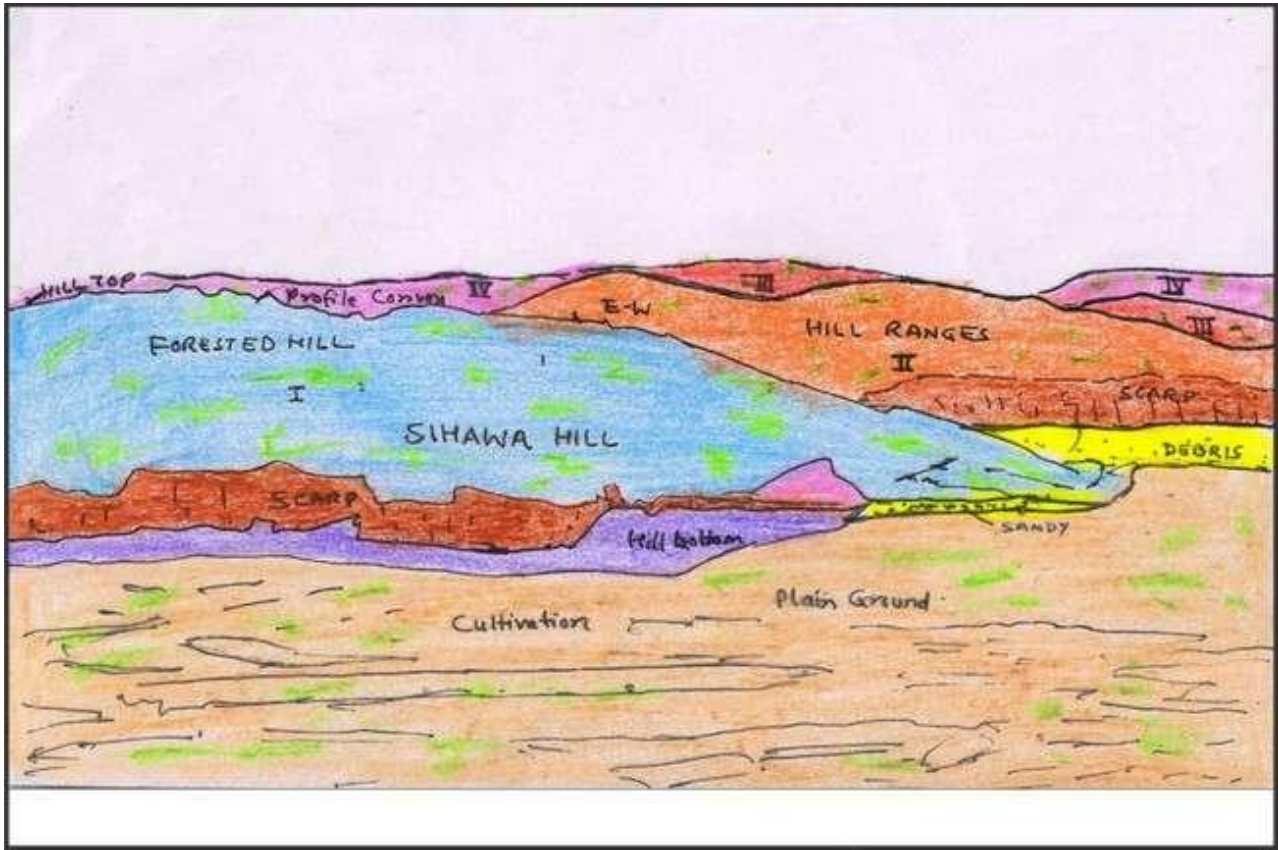


FIG. III . SIHAWA HILL RANGES (STRETCHED IN E-W)

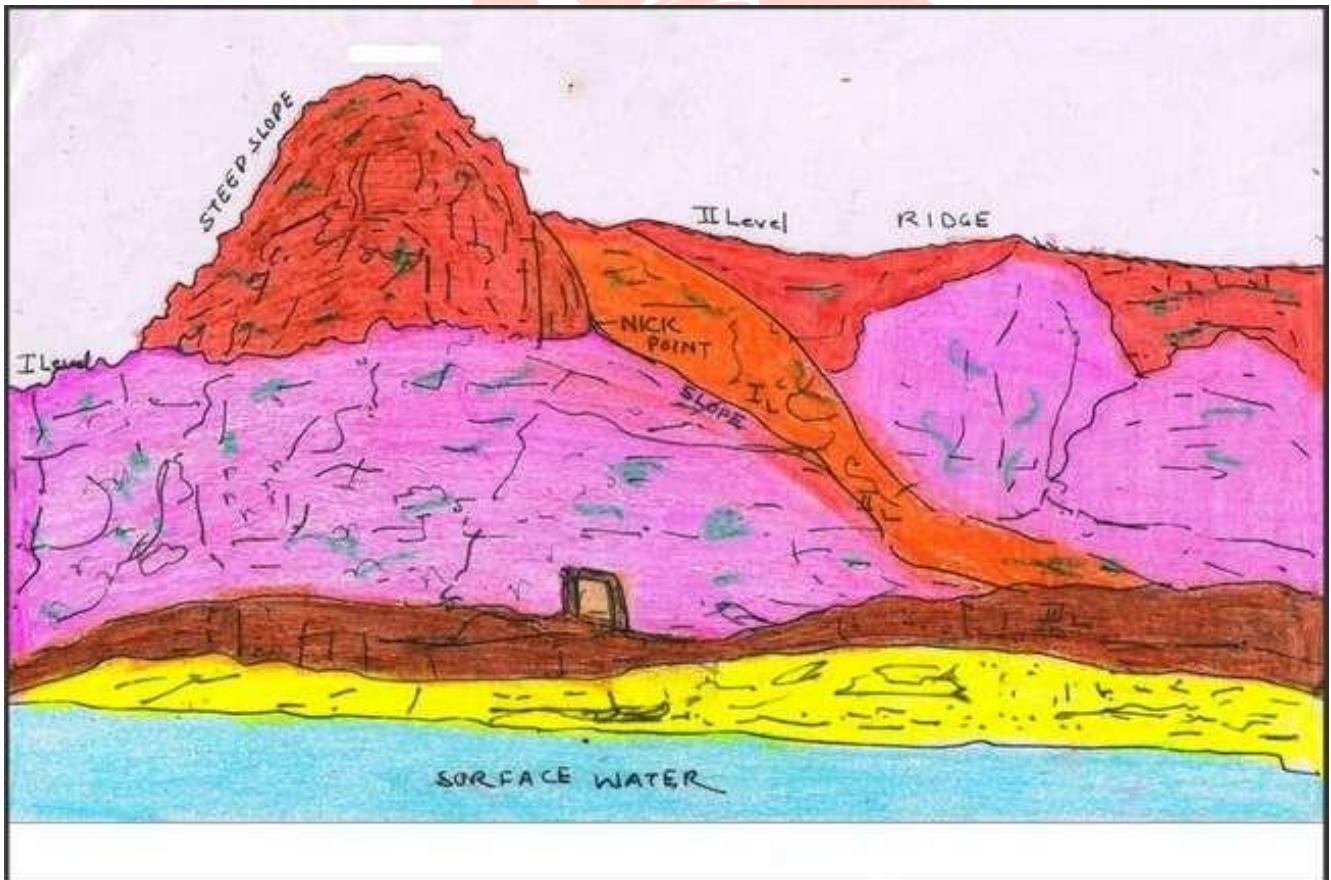


FIG. I V. SI HAWA H I LL TOP AN D LEV ELS (SH R I NGI R IS HI A SH RAM, M A H ANAD I)

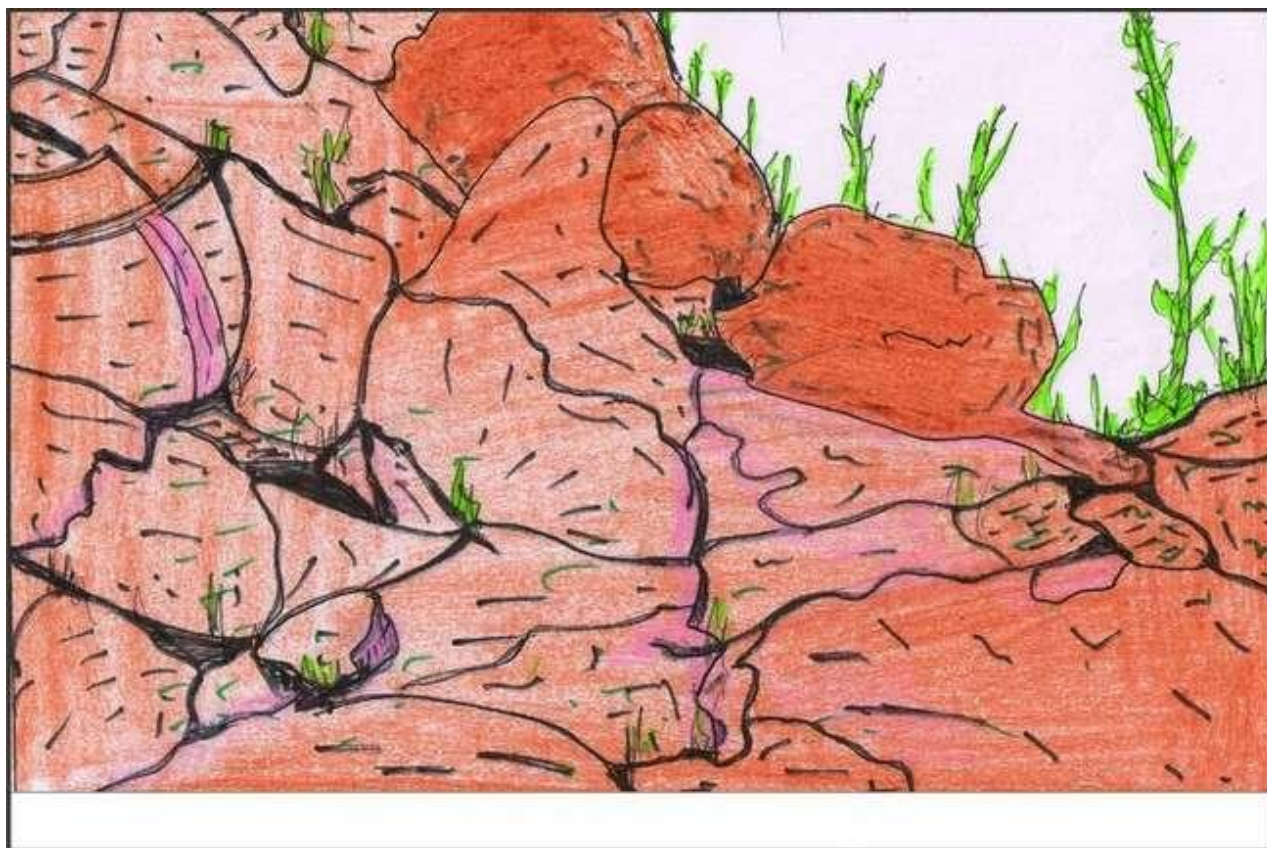


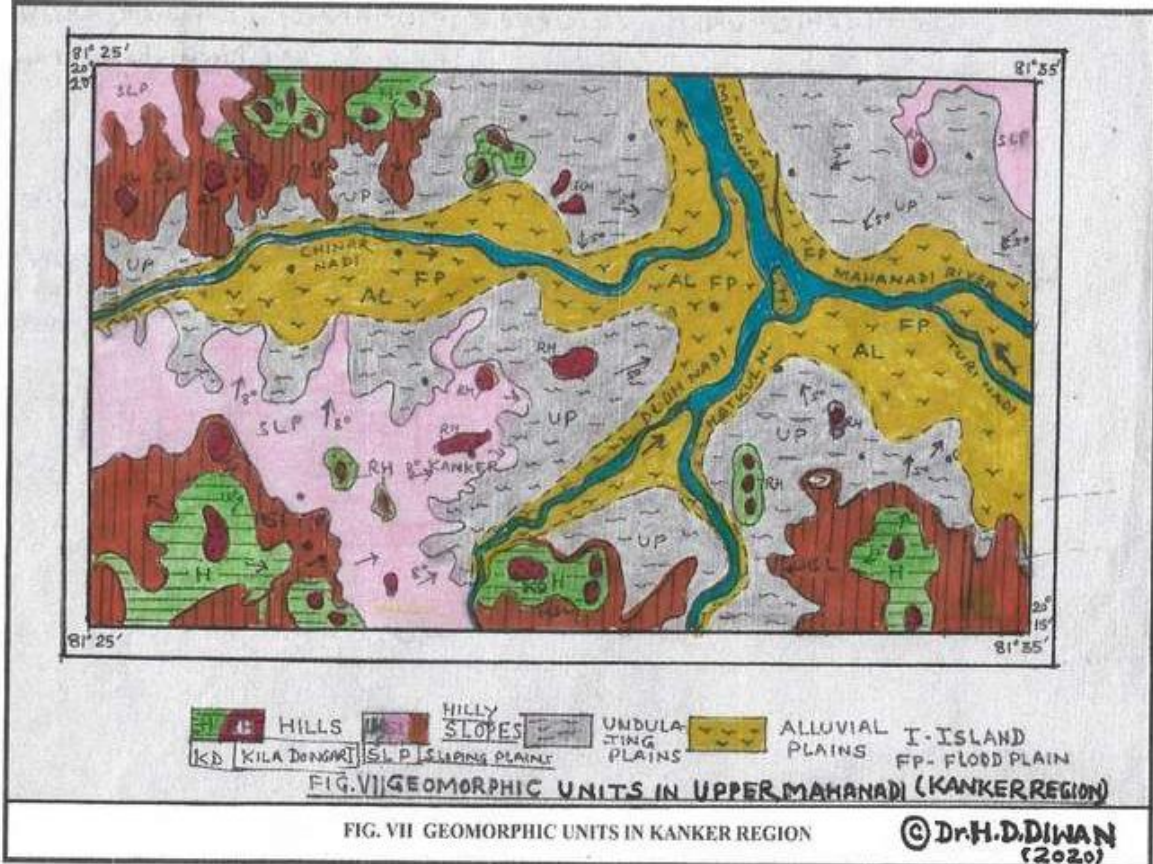
FIG. V GRANITIC BOULDERS WITH SCANTY



FIG. VI A. SIHAWA-MONUMENTS IN SHRINGI HILLOCK



FIG. VI B SIHAWA-ARCHED DOOR MONUMENT (HILL SLOPE)



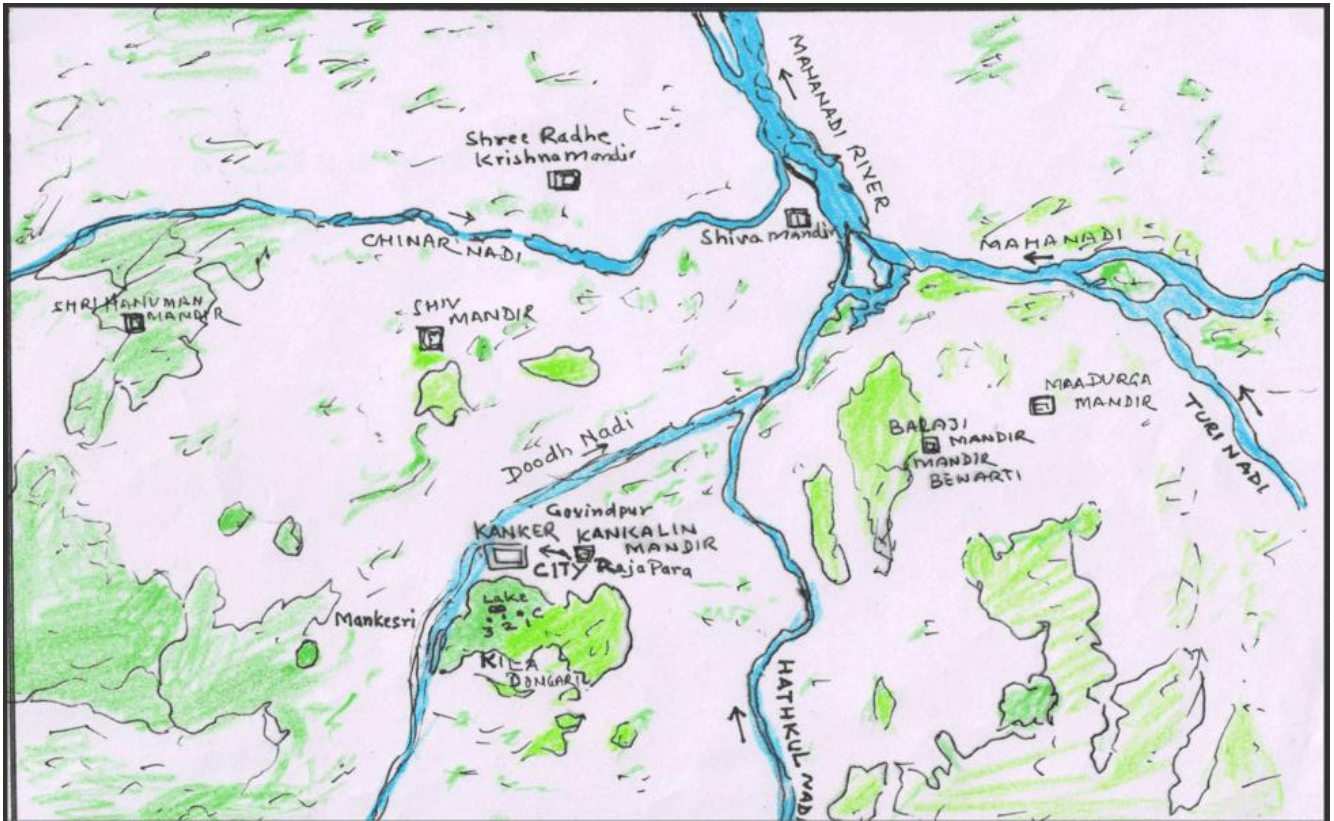


FIG. VIII KANKER CITY-GADIA KILA DONGRI (FORT REMAIN) CAVES 1,2,3, DOODH NADI, TEMPLES MAHANADI RIVER

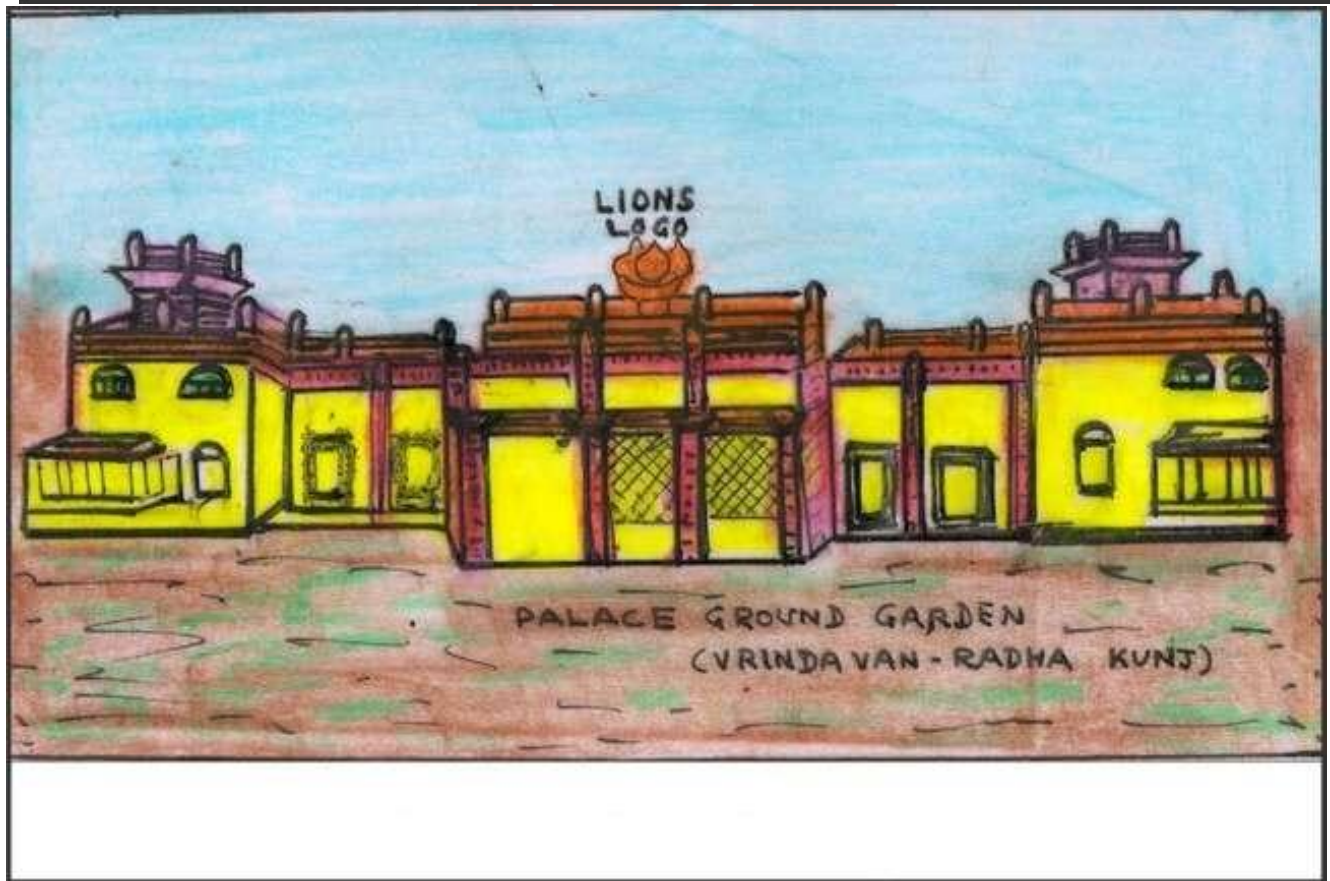


FIG. IX KANKER PALACE (CHANDRA DYNASTY) (PALACE VIEW) (SCHEMATIC)

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