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## **ANIMAL REMAINS EXCAVATED FROM NAGDA ARCHAEOLOGICAL SITE (MADHYA PRADESH) AND THEIR RELEVANCE TO THE CHALCOLITHIC CIVILIZATION OF THE PLACE**

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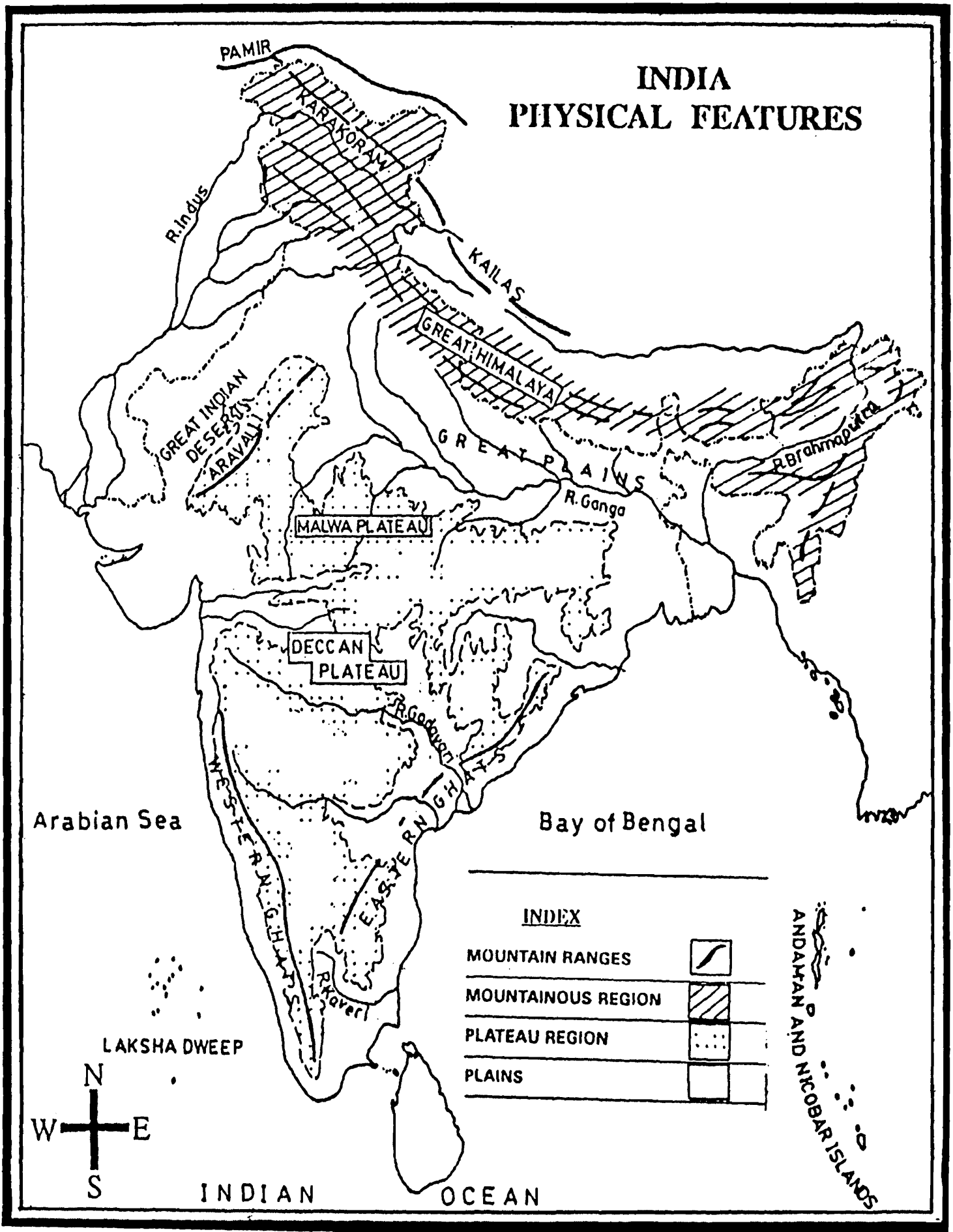
### **INTRODUCTION**

The various excavations carried out in central, western and south India for developing an understanding of the prehistoric civilization have revealed the nature of the Chalcolithic civilization that existed in past on the Indian soil. This culture had evolved almost at a time when Indus civilization in Harappa and Mohenjodaro was disappearing. This culture had a wide expanse from Jammu to Daimabad in Maharashtra and from Sutkagendor in the west to Alamgirpur in the Ganga plains. On the basis of cultural objects and related items the Chalcolithic cultures of India were divided into five regional groups, viz., (I) South western Rajasthan, (II) Malwa region, fed by the rivers Chambal and Narmada and under which comes Nagda, (III) Northern Deccan, (IV) Southern India, and (V) Eastern India.

The excavations at Nagda were carried out by the Archaeological survey of India during 1955–1957. It is revealed from various objects recovered during the excavations that the post Harappan Chalcolithic people of Nagda were mainly agrarian and they also had trade practices on various items including ivory and shells. They lived in houses built mainly by mud or mud-bricks.

### **LOCATION**

The ancient cultural site at Nagda is situated at about 1.6 km. north-west of Nagda Railway station on the Western Railway, in the District of Ujjain, Madhya Pradesh (see Maps 1 and 2). The site of the culture covers an area of 0.8 sq. km. and is broadly divided into two mounds. The Village, Juna Nagda is located over the mound on northern side and which could not be excavated for archaeological purposes. The mounds rise conspicuously above the surrounding plains to a



Map 1. : Physical features of India shows the position of Malwa Region in which Chalcolithic site of Nagda is located.



height of about 27.9 metres above the bed of river Chambal that flows north-south through the western side of the mounds. The site was first noticed in 1945, and occurrence of microliths, potteries etc. around the site indicated potentiality of the place from the archaeological viewpoint. Later on, more than twenty such sites were identified in the Chambal valley and exploration of these sites revealed that Malwa region in ancient days was an important area of settlement by the Chalcolithic people (Banerjee, 1986).

### **HISTORY OF EXCAVATIONS AND TERMINOLOGY OF SITES**

The excavations at Nagda was carried out (by the Archaeological survey of India) mainly for tracing the characteristics of the Chalcolithic culture of that site, and to trace its stratigraphic link with other known cultural sites of India. For this purpose one main trench, NGD-1, and three subsidiary trenches called respectively, NGD-2, NGD-3 and NGD-4 were laid by the Archaeological Survey of India. The main trench was excavated in 1955–1956, and the others in 1956–1957. Many animal remains along with the objects of archaeological importance were recovered from the excavations. These animal remains were sent to the Zoological Survey of India (ZSI) for examination. Earlier, Nath (1966) worked out skeletal parts of some animals obtained during the excavations. A systematic inventory of the available animal remains preserved in the ZSI, are documented here and their relevance in the ancient culture are discussed for the first time in the present account.

### **AGE OF THE CIVILIZATION**

The Carbon-14 study of various material at the Chalcolithic sites, Navdatoli near Nagda indicated a date range of 1631–1375 BC, and the beginning of the culture on the basis of available material was estimated by Sankalia (1963) to be about 1800 BC. It is thought that the culture at Nagda began little earlier than that of Navdatoli (Banerjee, 1986). The pale red ware, a ceramic painted variously in black and a black-and-red characterize the culture. The Chalcolithic culture of Nagda had three different phases *viz.*, period-I, period-II and period-III. Period-I is represented by 16 ft. (6.24 m.) of strata containing an average 23 layers; Period-II is represented by 7.5 ft. (2.92 m.) of strata containing an average 9 layers; and Period-III is represented by 8.5 ft. (3.315 m.) of strata. The above periods are dated, (i) 1500–800 BC, (ii) 750–500 BC and (iii) 500–200 BC respectively based on cultural objects and depths of deposition, by Banerjee (1986).

### **ANIMAL REMAINS RECOVERED FROM NAGDA ARCHAEOLOGICAL SITE**

The animal remains of Nagda archaeological site are worked out and the result of it is presented in Table 1.

**Table 1.** : Systematic analysis of animal remains recovered from Nagda archaeological site.**Cutting-NGD-1****Period-I**

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Sus scrofa cristatus</i> Wagner	1	Fragment of right incisor tooth	L-XXXIV-XXXV S-18	Broken
<i>Bos indicus</i> Linn.	1	Distal fragment of right tibia	L-XLI-XLIV S-25	Broken
	1	Right upper 3 <sup>rd</sup> premolar tooth	"	"
	1	Fragment of distal end of right tibia	"	"
	1	Fragment of left scapula with a portion of acetabula	"	"
	1	Fragment of vertebra(7 <sup>th</sup> ) with anterior articular process and a portion of neural notch	"	"
	1	Fragment of (proximal) piece of 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	"
	1	Fragment of left distal external of humerus with condyle	L-XXXIX-XLI S-21	"
	1	Right portion of scapula with glenoid cavity	"	"
	1	Distal fragment of shaft of metatarsal without distal epiphysis	"	Broken subadult
<i>Bos indicus</i> Linn.	1	Proximal fragment of shaft of metacarpal	"	Much eroded
	1	Fragment of shaft of a humerus	L-XXV-XXVII S-28	Broken
	1	Distal fragment of left tibia with a portion of distal extremity	"	Broken
	1	Proximal fragment piece of humerus with deltoid	L-XX-XXIII S-17X	Broken
	1	Right upper 2 <sup>nd</sup> molar tooth	L-XXV-XXVI S-27	Subadult
	1	Distal end fragment of right humerus	L-XXXIX-XLI S-22	Broken
	1	Left calcaneum	"	Complete
	1	Fragment of head of right humerus	L-XXXIX-XLI S-14	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	2	Fragment of the shaft of femur	"	Broken
	1	Fragment of piece of ilium of the pelvis	"	Broken
	1	Right upper 3 <sup>rd</sup> premolar tooth	"	Complete
	1	Fragment of right pelvis with a portion of acetabulum and a portion of the shaft of ilium	L-XXX-XXIX S-16	Broken
	1	Fragment of the left vertical ramus of the mandible with condyle	"	Broken
	1	Fragment of shaft of femur	"	Broken
	1	Fragment of tubercalcis of right calcaneum	L-XLII-XLIV S-19	Broken
	1	Fragment of spinous process of thoracic vertebra	"	Broken
	1	Fragment of left lower 3 <sup>rd</sup> molar tooth	"	Broken
	1	Distal fragment of the 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Fragment of horizontal ramus of the mandible with 2 <sup>nd</sup> molar	L-XXVIII-XXXI S-18N	Subadult
	1	Fragment of left calcaneum with tubercalcis and sustentaculum tali without distal facet for cuboid	"	Broken
	1	Fragment of the shaft of tibia	L-XIX-XXI S-15	Broken
	1	One horn core	"	Adult
	2	Fragment of ribs	S-7	Broken
<i>Capra hircus aegagrus</i> Erxl.	1	Fragment of distal end of humerus with a portion of medial condyle	L-XLI-XLIV S-23	Broken
<i>Ovis vignei</i> Blyth	1	Left horn core	L-? S-?	Adult

**Cutting-NGD-1****Period-II**

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Pareysia favidens</i> (Benson)	1	One right valve slightly broken	L-? S-?	21 mm. breadth
<i>Lamellidens</i> sp.	1	Piece of valve	L-? S-?	Broken
<i>Trionyx gangeticus</i> (Cuvier)	1	Fragment of epiplastron	L-NGD-1-36 S-11	Broken
<i>Felis</i> sp. Linn.	2	Right humerus	L-NGD-1-40 S-?	Broken pieces, complete
<i>Sus scrofa cristatus</i> Wagner	1	Proximal fragment of left scapula with glenoid cavity and tuberscapula, without blade	L-? S-14	Complete bone
<i>Bos indicus</i> Linn.	1	Left astragalus	L-NGD-1-19	Complete
	1	Fragment of distal end of right femur with medial condyle	"	Broken
	1	Left first phalanx of the fore foot	"	Complete bone
	1	Body of thoracic vertebra	"	Broken
		Proximal end of left scapula with glenoid cavity	"	Broken
	1	Superior body of right horizontal ramus of mandible	"	Partial bone
	1	Fragment of right horizontal ramus without teeth	"	Broken
	3	Fragment of ribs	"	Broken
	1	Left lower 3 <sup>rd</sup> molar tooth	"	Complete
	1	Proximal fragment of right 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	1	Fragment of ischium of left pelvis	"	Broken
	1	Fragment of shaft of ilium of left pelvis	"	Broken
	1	Distal fragment of right humerus with medial and lateral condyle	L-? S-14	Broken
	1	Left 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal without distal portion	"	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Right calcaneum with tubercalcis and a portion of sustentaculum tali	"	Broken
	1	Proximal fragment of left radius with a portion of distal medial end	"	Broken
	1	Fragment of shaft of right tibia	"	Broken
	1	Proximal fragment of left 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	1	Proximal fragment of shaft of right femur	"	Broken, subadult
	1	Distal fragment of the 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Fragment of left calcaneum with a portion of tubercalcis	"	Broken
	1	Proximal fragment of left scapula with glenoid cavity and a portion of neck	"	Broken
	2	Scapho-cuboid bone of proximal right tarsal	"	Complete, Subadult
	1	Right proximal fragment of ulna without olecranon process and semilunar notch	"	Broken
	1	Left proximal fragment of ulna without olecranon process and semilunar notch	"	Broken
	1	Left upper 1 <sup>st</sup> molar tooth	"	Complete
	1	Proximal fragment of scapula with glenoid cavity	"	Broken
	1	Fragment of right calcaneum without tubercalsis and sustentaculum tali	"	Broken
	1	Half of fragment of 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	3	Fragment of left pelvis with a portion of acetabulum and ischium	"	Broken



Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	2	Fragment of left pelvis with a portion of shaft of ilium and a portion of acetabulum	"	Broken
	1	Proximal end of scapula with glenoid cavity	L-XXV-XXVI S-9	Broken
	1	Proximal fragmentary piece of 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Distal fragment of left humerus with a portion of medial condyle	L-XXX-XXXI S-10	Broken
	1	Left calcaneum with tip of the tubercalcis	"	Complete
	2	Right calcaneum without the distal face for cuboid and tip of tubercalcis	"	Broken
	1	Left 3 <sup>rd</sup> phalanx of hind foot	"	Complete
	1	A fragment of first phalanx without proximal portion	"	Broken
	1	A fragmentary piece of proximal end of first phalanx	"	Broken
	1	Proximal fragment of left ulna with semilunar notch and without olecranon process	"	Broken
	1	Fragment of left horizontal ramus of mandible with broken first molar tooth	"	Broken
	1	Anterior end of body of first sacral vertebra	"	Broken
	1	Fragment of cervical vertebra with neural arch and anterior and posterior articular process, without spine	"	Charred
	1	Fragment of a rib	"	Broken
	1	Fragment of a shaft of tibia	"	Broken
	3	Fragments of the second phalanx	"	Broken
1	Fragment of temporal bone of skull with external opening of temporal canal	"	Broken	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Left calcaneum	L-XXVII-XXX S-10	Complete
	3	Distal fragments of left humerus with medial condyle	"	Broken
	2	Proximal fragments of right 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	3	Proximal fragments of left 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	3	Proximal fragments of right 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	1	3 <sup>rd</sup> phalanx of hind foot	"	Complete
	1	Fragment of tubercalcis of calcaneum	"	Broken
	1	Distal fragment of left scapula with glenoid cavity and tubercalcis	"	Broken
	1	Fragment of right pelvis with a portion of acetabulum and a shaft of ilium	"	Broken
	1	Proximal fragment of 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Fragment of anterior portion of the left ramus of jaw	"	Broken
	1	Spine process with a piece of neural arch of thoracic vertebra	"	Partial bone
	1	Fragment of axis vertebra with a portion of anterior articular surface and odontoid process	"	Broken
	1	Proximal fragment of first phalanx of fore foot	"	Broken
	2	Phalanx of right foot	"	Complete
	1	Right 2 <sup>nd</sup> incisor tooth	"	Charred
	1	Fragment of distal facet for cuboid of the calcaneum	"	Broken
1	Fragment of the shaft of 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	L-XXV-XXVI S-10B	Broken	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Fragment of the right calcaneum with sustentacular and a peroneal facet and without distal facet of cuboid	L-XXIII-XXV S-11N	Broken, Subadult
	1	Left astragalus	"	Complete
	1	Fragment of the left pelvis with a portion of acetabulum and ischium	"	Broken
	1	Fragment of sternum of a sternal vertebrae	"	Broken
	1	Fragment of a molar tooth	"	Broken
	1	Left astragalus	L-NGD-1-19 S-?	Complete
	1	Fragment of a distal end of right femur with medial condyle	"	Broken
	1	Left first phalanx of fore foot	"	Complete
	1	Thoracic vertebra	"	Complete
	1	Proximal end of left scapula with glenoid cavity	"	Broken
	1	Superior body of right horizontal ramus of mandible	"	Part bone
	1	Fragment of a right horizontal ramus without teeth	"	Broken
	3	Fragments of ribs	"	Broken
	1	Left lower 3 <sup>rd</sup> molar tooth	"	Complete
	1	Proximal fragment of a right 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	1	Fragment of ischium of left pelvis	"	Broken
	1	Fragment of the shaft of ilium	"	Broken
	1	Distal fragment of right humerus with neural and lateral condyle	L-NGD-1-40	With cutmark
	1	Distal fragment of right humerus	"	Sharp cutmark
	1	Right astragalus	"	Subadult
1	Right astragalus	"	Adult	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Proximal fragment of shaft of radius	"	Broken
	1	Fragment of left calcaneum with tubercalcis	"	Broken
	2	Left 1 <sup>st</sup> phalanx	"	Subadult
	1	Proximal fragment of right ulna with olecranon process and semilunar notch	"	Broken
	6	Fragments of ribs	"	Broken
	2	Fragments ramus of mandible	"	Broken
	3	Left lower molar teeth	"	Complete
	1	Proximal fragment of right scapula with glenoid cavity	"	Broken
	1	Fragment of ilium of right pelvis	"	Broken
	1	Fragment of left calcaneum	"	Broken
<i>Bubalus bubalis</i> Linn.	1	Distal fragment of right tibia	L-NGD-1-20 S-14	Broken
	1	Right 3 <sup>rd</sup> phalanx of the fore foot	"	Complete
	1	Fragment of a blade of left scapula	"	Broken
	1	Fragment of right vertical ramus of mandible with condyle	"	Broken
<i>Capra hircus aegagrus</i> Erxl.	1	Proximal fragment of right femur with head, neck, trochanter fossa without trochanter major	L-NGD-1-19	Broken
	1	Distal end fragment of left femur with lateral condyle and trochlea	"	Broken
	1	Fragment of left horizontal ramus of mandible with 3 <sup>rd</sup> premolar and 1 <sup>st</sup> molar	"	Part bone with teeth
	1	Fragment of the right ramus of mandible with 2 <sup>nd</sup> premolar (broken) 3 <sup>rd</sup> premolar and 1 <sup>st</sup> molar	L-NGD-1-24	Part bone with teeth

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Capra hircus aegagrus</i> Erxl.	1	Fragment of right horn core (tip broken) with a piece of frontal bone	"	Part bone
	1	Fragment of horn core	L-NGD-1	Broken
<i>Ovis vignei</i> Blyth	1	Fragment of right horn core	L-NGD-1-40	Broken
	1	Fragment of shaft of radius	"	Subadult, broken
	2	Fragments of molar teeth	"	Broken
	1	Proximal fragment of left ulna without olecranon process and with semilunar notch	"	Broken
	1	Left first phalanx of fore foot	"	Complete
	1	Fragment of right pelvis with acetabulum and a portion of shaft of ilium	"	Broken
	1	Fragment of shaft of right radius	L-NGD-1-20 S-14	Broken
	1	Thoracic vertebra without transverse process	"	Much eroded
	1	Proximal fragment of right scapula with glenoid cavity and a portion of tubercalcis	L-NGD-1-49	Broken
	1	Fragment of anterior portion of right horizontal ramus of mandible with teeth	L-XXII-XXV S-11N	Broken
	1	Right lower 2 <sup>nd</sup> molar	"	Complete
	1	Proximal fragment of scapula with glenoid cavity	"	Broken
	1	Distal end fragment of left tibia	L-NGD-1-19	Broken
	1	Fragment of a rib	"	Broken
	1	Distal end fragment of right femur with medial condyle	"	Broken
	1	Fragment of shaft of femur	L-XXV-XXVI S-9	Broken
1	Proximal fragment of scapula with glenoid cavity with a portion of neck	"	Broken	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Ovis vignei</i> Blyth	1	Proximal fragment of shaft of tibia without proximal extremity	"	Broken
	1	Distal fragment of shaft of left radius without distal epiphysis	"	Subadult
	1	Fragment of limb bones	L-XXVI-XXXI S-11N	Broken
	1	Fragment of ramus of mandible	L-XXIII-XXV S-11N	Broken
	1	Tooth	"	Broken
	1	Horn core	L-XXVII-XXX S-9	Complete
	4	Pieces of bones (unidentifiable)	L-XXVII-XXXI	Broken
	1	Tooth	"	Broken
	2	Pieces of bones (unidentifiable)	L-XXV-XXIX S-13	Broken
	3	Pieces of bones (unidentifiable)	L-XIX-XXI S-15	Broken
	3	Pieces of bones (unidentifiable)	L-NGD-1-20 S-14	Broken

**Cutting-NGD-1****Period-III**

A Carp fish (sp. indet.)	1	Abdominal vertebra	"	Complete
<i>Rita rita</i> (Hamilton & Bruhman)	1	Single spine	"	
<i>Lissemys punctata</i> (Bonnaterre)	4	Fragmentary pieces of epiplastron	L-XIV-XX S-13A	Broken
	1	Fragment of the epiplastron	L-XXVII-XXX S-7	Broken
<i>Crocodylus palustris</i> Lesson	1	Fragment piece from lower jaw with a tooth	"	Broken
<i>Sus scrofa cristatus</i> Wagner	1	Left lower tasker canine tooth	L-XXIX-XXX S-3A	Subadult
	1	Right canine tooth	L-XVI-XVII S-5Bs	Complete

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Cervus unicolor</i> (Kerr)	1	Fragment of the antler	NGD-1-486	Charred
	1	Fragment of right patella	L-XXVI-XXVIII S-12	Broken
<i>Cervus duvauceli</i> Cuvier	1	Fragment of antler	NGD-1-782	Broken
<i>Bos indicus</i> Linn.	1	First Incisor tooth right side	L-XXIV-XXV S-0	Complete
	1	Proximal fragment of left 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	L-XXVII-XXXI S-7	Broken
	1	Right first phalanx of hind foot	"	Complete
	1	Fragment of shaft of thoracic rib	"	Broken
	3	Fragment of molar tooth	"	Broken
	1	Distal fragment of right metatarsal	L-XIX-XX S-13A	Broken
	2	Fragments of horizontal ramus of mandible	L-XXVIII-XXX S-7	Broken
<i>Bubalus bubalis</i> Linn.	1	Fragment of extremity of left femur with a portion of trochlear crest and trochanteric fossa and without trochanter major	"	Cut marks on bones
	1	Fragment of proximal extremity of left femur with a portion of head and a bit of shaft	NGD-1-55 L-XIX-XX	Broken
<i>Capra hircus</i> Erxl.	1	Proximal fragment of the left ulna with olecranon process	NGD-1-29	Broken
	1	Distal fragment of shaft of right radius	NGD-1-24	Broken
	1	Fragment of left horn core	L-XXVII-XXX S-7	Broken
<i>Ovis vignei</i> Blyth	1	Proximal and distal fragment of shaft of tibia	"	Broken
	1	Proximal fragment of left 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Distal end fragment of the right scapula with a glenoid cavity	"	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Ovis vignei</i> Blyth	1	Fragment of shaft of femur	L-XXVI-XXVIII S-12	Broken
	1	Right calcanium	"	Eroded
	1	Proximal end fragment of scapula with glenoid cavity	L-XXIV-XXV S-13	Broken
	1	Fragment of shaft of tibia	L-XXVII-XXX S-7	Broken
	2	Bone pieces (unidentifiable)	"	Broken
<i>Lepus nigricollis</i> Cuvier	1	Fragment of pelvis with acetabulum and a feature of shaft of ilium and ischium	"	Broken
	1	Fragment of ischium of left pelvis	L-XXVII-XXX S-7	Broken
<i>Rattus rattus</i> Linn.	1	Thoracic vertebra	L-? S-?	Complete
	1	Proximal portion of ulna		Broken

**Nagda I****Period – Not ascertained**

<i>Bos indicus</i> Linn.	1	3 <sup>rd</sup> phalanx of left forefoot	S-12	Complete
	1	Left astragalus	L-XXV-XIX S-13	Eroded
	1	Longitudinal fragment of left astragalus with proximal and distal trochlea	"	Broken
	1	Distal fragment of 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	1	Right incomplete calcanium with tip of tubercalis broken without distal facet	"	Broken
	1	Fragment of left calcanium with tubercalcis	"	Broken
	3	Fragments of ribs	"	Broken
	1	Left 1 <sup>st</sup> phalanx of forefoot with proximal portion	"	Eroded and broken
	1	Fragments of blade of right ilium	"	Broken



Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Fragment of neural spine of thoracic vertebrate with post articulation	"	Broken
	1	Fragment of anterior portion of left horizontal ramus of mandible with a portion corpus mandibularis	"	Young one
	2	Fragments of neural arch with one spine of thoracic vertebra	"	Broken
	1	Thoracic vertebra	"	Complete
	1	Fragment of rib	"	Broken
	1	Fragment of neural arch of thoracic rib	"	Broken
	1	Fragment of left ramus of mandible with 2 <sup>nd</sup> molar tooth	L-XXVI-XXXI S-11N	Young one
	1	Left lower 1 <sup>st</sup> molar	"	Young one
	1	Fragments of right ramus of mandible with 2 <sup>nd</sup> molar	"	Young one
	1	Fragment of left horizontal ramus of mandible without teeth	"	Broken
	1	Fragment of proximal end of right 4 <sup>th</sup> metacarpal	"	Broken
	1	Fragment of thoracic vertebra with a portion of articular process	L-XXXVI-XXXI S-11N	Broken
	1	Distal fragment of shaft of left humerus	"	Broken
	1	Fragment of shaft of tibia	"	Broken
	1	Proximal fragment of shaft of tibia without proximal epiphysis	"	Young one
	1	3 <sup>rd</sup> phalanx of fore foot	"	Complete
	1	Fragment of rib	L-XIX-XXI S-10	Broken
	1	Spines process of lumber vertebra	"	Eroded

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Proximal epiphysis of right tibia	L-XXV-XXVIII S-7N	Complete
	1	Distal epiphysis of right radius	"	Complete
	1	Distal fragment of 3 <sup>rd</sup> & 4 <sup>th</sup> metacarpal	"	Broken
	1	Proximal fragment of right radius	"	Broken
	1	Proximal fragment of right scapula with a portion of glenoid cavity	"	Broken
	1	Body of thoracic vertebra	"	Broken
	1	Right first phalanx of hind foot	"	Complete
	1	Fragment of superior bone of left ramus of mandible with teeth	"	Part bone
	1	Right upper 1 <sup>st</sup> molar tooth with a fragment of upper jaw	"	Part bone
	3	Fragment of frontal bone of skull	"	Broken
	1	Proximal fragment of left radius	"	Young one
	1	Fragment of rib	"	Broken
	1	Incomplete calcanium	"	Young one
	1	Proximal fragment of tibia with condyle	L-XLIV-XLVI	Broken
	1	Distal fragment of right femur with medial condyle	"	Broken
	3	Fragment of scapula	"	Broken
	1	Distal fragment of right humerus	L-XXXI-XXXV S-15	Broken
	1	Fragment of shaft of 3 <sup>rd</sup> metatarsal	"	Broken
	1	Proximal fragment of left 3 <sup>rd</sup> and 4 <sup>th</sup> metacarpal	"	Broken
	2	Fragments of ribs	"	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Fragment of left 3 <sup>rd</sup> phalanx	"	Young one
	1	Fragment of temporal bone of skull	"	Young one
	2	Proximal part of left scapula with glenoid cavity and tuber scapula	L-XXXI-XXXVI S-30	Broken
	1	Fragment of rib	"	Broken
	1	Head of the femur	"	Charred
	1	Distal fragment of 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	L-XXVI-XXVIII S-9	Broken
	1	Distal fragment of the 3 <sup>rd</sup> metatarsal	"	Cut mark
	1	Proximal fragment of right ulna with semilunar notch	"	Broken
	1	Fragment of head of ilium of right pelvis	"	Broken
	1	Fragment of shaft of femur	"	Charred
	3	Fragments of ribs	L-XXIV-XXV S-13	Broken
	1	Left lower 1 <sup>st</sup> molar tooth	"	Charred
	1	Right combined external and medial cunifform of right tarsus	"	Subadult
	1	Fragment of shaft of humerus	L-XXXV-XXXVI S-10	Broken
	1	Left calcanium with tip of tubercalcis	L-XL-XLII S-16	Broken
	3	Fragments of ribs	"	Broken
	2	Fragments of vertebra	"	Broken
	1	Fragment of shaft of left ulna	L-XL-XLIV S-20	Broken
	3	Fragments of thoracic ribs	"	Broken
	1	Fragment of vertical ramus of mandible	"	Broken
1	Distal fragment of right humerus with medial condyle	L-XXX-XXXI S-12	Broken	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Proximal epiphysis of first phalanx	"	Broken
	2	Fragments of distal end of ulna	"	Broken
	1	Fragment of right calcanium without tubercalcis	L-XXV-XXVIII S-15	Broken
	1	Fragment of right 3 <sup>rd</sup> phalanx	"	Broken
	1	Left 2 <sup>nd</sup> phalanx of hind foot	"	Complete
	1	Distal fragment of left 1 <sup>st</sup> phalanx	"	Broken
	1	Longitudinal half of fragment of 1 <sup>st</sup> phalanx	"	Broken
	1	Longitudinal half of 2 <sup>nd</sup> phalanx	"	Broken
	1	Caudal vertebra	"	Complete
	1	Proximal fragment of scapula with glenoid cavity	"	Broken
	1	Distal condyle of the 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal	"	Broken
	1	Fragment of rib	"	Broken
	1	Fragment of shaft of humerus	"	Broken
	1	Right lower 1 <sup>st</sup> molar tooth	"	Young one
	1	Left lower 3 <sup>rd</sup> molar tooth	"	Young one
	1	Fragment of molar tooth	"	Young one
	1	The right ramus of mandible without teeth	L-XXV-XXVII S-10	Broken
	1	Fragment of upper jaw without teeth	"	Sharp cut on bone
	1	Fragment of blade of scapula	"	Broken
	1	Fragment of rib	"	Broken
	1	Fragment of right calcanium with a portion of tubercalcis	"	Broken
	1	Fragment of molar tooth	"	Broken
	1	Fragment of proximal portion of left metacarpal	L-XLII-XLIV S-15	Broken
1	Fragment of occipital condyle	"	Broken	

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Right lower 3 <sup>rd</sup> molar tooth	"	Broken
	1	Fragment of right pelvis with a portion of ischium and acetabulum	"	Broken
	1	Left calcanium	L-XIX-XXI S-10	Young one
	1	Fragment of shaft of calcanium	"	Broken
	1	3 <sup>rd</sup> phalanx	"	Young one
	1	Fragment of 3 <sup>rd</sup> phalanx		Broken
	1	Left first phalanx of the fore foot	L-XXXIV-XXVV	Young one
	2	Fragment of limb bone	L-XXV-XXXI S-14	Broken
	14	Fragments of different regional bone piece	L-XXX-XXXI S-7A	Broken (un-identifiable)
	1	Head of limb bone	L-XXVIII-XXIX S-13	Broken
	5	Pieces of limb bone	L-XXX-XXXI S-7	Broken
	1	Left lower 3 <sup>rd</sup> molar tooth	L-XIX-XX S-13	Complete
	2	Fragments of ribs	"	Broken
	1	Fragment of left metacarpal without distal portion	L-XXXIX-XLI S-17	Broken
	1	Fragment of thoracic rib	"	Broken
	1	Fragment of epiphysis of the medial condyle of right femur	NGD 1-36 S-11	Young one
	2	Distal fragments of 3 <sup>rd</sup> and 4 <sup>th</sup> metatarsal with single condyle	"	Broken
	1	Caudal vertebra	"	Complete
	1	Fragment of calcanium with a facet for cuboid	"	Broken
	1	Fragment of sacral bone	"	Young one
1	Fragment of tarsal condyle of right femur	"	Broken	

Name of species	No. of material	Identity of material	Locus(L)/Stratum(S)	Condition of material
<i>Bos indicus</i> Linn.	1	Right lunate bone	"	Broken
	1	Fragment of scaphoid bone	"	Broken
	1	Distal fragment of 2 <sup>nd</sup> phalanx	"	Broken
	1	Fragment of rib	"	Broken
	1	Fragment of 7th cervical vertebra	"	Broken
	1	Fragment of condyle of femur	"	Broken
	1	Left incomplete calcanium	"	Young one
	1	Right 1st phalanx of fore foot	L-XL-XLIII S-18	Complete
	1	Piece of blade of scapula with broken spine	"	Broken
	1	Caudal vertebra	"	Young one
	1	Right astratgalus	L-XXX-XXXI S-6 A	Young one
	1	Left astragalus	L-XXV-XXVIII S-12	Young one
	1	Distal fragment of right scapula with glenoid cavity and a portion of notch	"	Broken
	1	Fragment of left pelvis with acetabulam	"	Broken
<i>Bubalus bubalis</i> Linn.	1	Proximal fragment of left ulna with olecranon process and a portion of semilunar notch	L-XXV-XXVIII S-7 N	Broken
	1	Distal fragment of right humerus with medial condyle	"	Broken
	1	Proximal fragment of left radius with medial articular surface	"	Broken
	1	Fragment of distal shaft of right radius without distal epiphysis	"	Young one
	1	Body of vertebra	L-XXV-XXVIII S-15	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Bubalus bubalis</i> Linn.	1	Left upper 2 <sup>nd</sup> premolar tooth	..	Complete
	1	Proximal fragment of 1st phalanx	NGD-1-36 S-11	Broken
	1	Distal fragment of left humerus	L-XXX-XXXI S-6A	Broken
	2	Limb bones	L-XXV-XXVIII S-7N	Broken
	1	Tooth	..	Broken
	5	Pieces of bones		Broken (un-identifiable)
	4	Pieces of bones	L-XXV-XXVIII S-7N	Broken (un-identifiable)
<i>Capra hircus aegagrus</i> Erxl.	1	Fragment of left horizontal ramus of mandible with 3 <sup>rd</sup> molar tooth	L-XX-XXII S-17X	Broken
	1	Distal epiphysis of the right femur	L-III S-11	Young one
	1	Lumber vertebra without spine and transverse process and a part of neural arch	..	Broken
	1	Distal fragment of right tibia	..	Broken
	1	Proximal fragment of left radius	..	Broken
	1	Distal fragment of 3 <sup>rd</sup> metatarsal	..	Broken
	1	Horn core	NGD 1-24	Complete
	1	Distal fragment of left radius without epiphysis	NGD-1-11 S-12	Young one
	1	Proximal fragment of left radius without epiphysis	..	Young one
	1	Fragment of rib	..	Broken
	1	Proximal fragment of left tibia	L-XXX-XXVIII S-7N	Broken
	1	Distal fragment of right femur with lateral condyle	NGD 1-36 S-11	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Capra hircus aegagrus</i> Erxl.	1	Fragment of shaft of tibia	"	Broken
	1	Distal fragment of left humerus	L-XXV-XXVIII S-12	Broken
	1	Distal fragment of shaft of right femur	"	Broken
	1	Proximal fragment of scapula with glenoid cavity	"	Broken
	1	Proximal fragment of right femur with head, neck and trochanteric fossa	NGD1-19	Broken
	1	Distal fragment of left femur with lateral condyle and trochlea	"	Broken
	1	Fragment of left horizontal ramus of mandible with 3 <sup>rd</sup> premolar and 1st molar teeth	"	Broken
	1	Ramus of mandible with teeth	"	Broken
	2	Pieces of bones	L-XXVII-XXX S-10	Broken (un-identifiable)
<i>Ovis vignei</i> Blyth	1	Limb bone	L-XXV-XXXIV S-7N	Broken (un-identifiable)
	3	Limb bones	L-XXV-XXVIII S-12	Broken (un-identifiable)
	1	Piece of horn core	L-XXVIII-XXX S-8	Young ones
	9	Pieces of different bones	L-XXVI-XXVIII S-12	Unidentifiable
	1	Distal fragment of left tibia	NGD-1	Broken
	1	Fragment of rib	"	Broken
	1	Distal fragment of right femur with medial condyle	"	Broken
	1	Distal end fragments of the left humerus with medial and lateral condyle	L-XXV-XXIX S-13	Broken
	1	Left astragalus	"	Young one
	1	Fragment of sacrum	"	Broken



Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Ovis vignei</i> Blyth	1	Fragment of shaft of tibia	L-XXVI-XXXI S11N	Broken
	1	Cervical vertebra incomplete	L-XXVII-XXVIII S-9	Young one
	1	Body of cervical vertebra	"	Broken
	1	Right incomplete calcanium without distal facet for cuboid	"	Broken
	1	Fragment of left calcanium	"	Broken
	1	Fragment of left pelvis with a portion of acetabulum and ischium	"	Broken
	1	Fragment of ischium of left pelvis	"	Broken
	1	Fragment of distal condyle of 3 <sup>rd</sup> metatarsal	"	Broken
	1	Fragment of right horizontal ramus of mandible without teeth	L-XXXV-XXXVI S-10	Broken
	1	Body of lumber vertebra	L-XXV-XXVIII S-15	Broken
	1	Fragments of right pelvis with a portion of acetabulum and ischium	"	Broken
	<i>Axis axis</i> Erxl.	1	Proximal end fragment of left scapula with glenoid cavity and a portion of neck	"
1		Fragment of tooth without crown	"	Broken
1		Fragment of shaft of femur	"	Charred
1		Fragment of head of scapula without spine	L-XXV-XXVIII S-10	Broken
1		Fragment of shaft of radius and ulna	"	Broken
1		Proximal fragment of shaft of femur	L-XXV-XXVI S-16	Broken
1		Fragment of left pelvis with a portion of shaft of ilium	"	Broken

Name of species	No. of material	Identity of material	Locus(L)/ Stratum(S)	Condition of material
<i>Axis axis</i> Erxl.	1	Lumber vertebra without spine, transverse processes and without posterior articular process	L-XXVII-XXIX S-13	Broken
	1	Fragment of cervical vertebra without neural arch and with portion of body	"	Broken
	1	Fragment of rib	"	Broken
	1	Fragment of bone piece	L-XXV-XXVIII S-15	Charred
	1	Fragment of bone piece	L-XXVII-XXVIII S-9	Broken
	2	Distal fragment of right tibia	L-XX-XXI S-10	Broken
<i>Cervus unicolor</i> (Kerr)	1	Left astragalus	NGD-1-43	Young one
	1	Right 1 <sup>st</sup> phalanx	L-XXV-XXIX S-16	Young one
	1	Right 2 <sup>nd</sup> phalanx	L-XXV-XXIX S-16	Young one
	2	Left side of horn core and a fusion of pedicel	NGD 11-7	Cut marks present
<i>Sus scrofa cristatus</i> Wagner	1	Left tusker canine tooth	L-XXI-XXIV S-8A	Adult
<i>Felis</i> sp.	1	Right humerus	NGD-40	Young one
Unidentified mammal	10	Pieces of bones	L-XXV-XXVII S-3	Broken (un-identifiable)
	20	Fragments of bone piece	L-XXVII-XXX S-10	Broken (un-identifiable)
	14	Fragments of bone piece	NGD1-6 S-19	Broken (un-identifiable)
	13	Fragments of bone piece	L-XXV-XXVI S-5	Broken (un-identifiable)
	13	Fragments of bone piece	L-XXXIII-XXXIV S-15	Broken (un-identifiable)

**Table 2.** : Animal forms recovered from Nagda excavations and their present state of distribution.

Group	Scientific name	Common name	Present natural distribution
Mollusca : Pelecypoda	<i>Parreysia favidens</i> (Benson)	Bivalve(fresh water)	Assam, Andhra Pradesh, Tamil Nadu, Maharashtra, Orissa, Uttar Pradesh; Bangladesh.
	<i>Lamellidens</i> sp.	Bivalve(fresh water)	India, Bangladesh, Myanmar.
Pisces : Telostei	<i>Rita rita</i> (Ham.Bach.)	Rita fish	Most rivers of northern India; Nepal; Bangladesh; Myanmar; Afganistan; Pakistan; Indus plain and adjoining hilly areas.
	sp. indet.	Carp fish	
Reptilia : Chelonia	<i>Trionyx gangeticus</i> (Cuvier)	Indian soft shelled Turtle	Ganga, Sind and Mahanadi river systems; common in N.W. Pakistan, Bangladesh and foothills of Nepal.
	<i>Chitra indica</i> (Gray)	Narrow-headed softshelled Turtle	India (U. P., Bihar, West Bengal), Nepal, Pakistan, Malaysia and Thailand.
Reptilia : Crocodilia	<i>Lissemys punctata</i> (Bonnaterre)	Mud or Flap-shell Turtle	Indo-Gangetic plain and eastward to Akyab in Myanmar.
	<i>Crocodilus palustris</i> Lesson	Mugger, Kumir	Throughout Indian subcontinent from Baluchistan in the West to Assam in the east and from Nepal in the north to Tamil Nadu in the south; also Sri Lanka, Myanmar and Iran.
Mammalia : Carnivora : Felidae	<i>Felis</i> sp.	Domestic cat	Worldwide due to transshipment by human.
Artiodactyla : Cervidae	<i>Cervus unicolor</i> Kerr.	Sambar	Forests of India, Myanmar, Sri Lanka, Nepal, Sumatra, Borneo, Java, Malaysia; introduced to Australia and New Zealand.

Table 2. (Cont'd.).

Group	Scientific name	Common name	Present natural distribution
Artiodactyla : Cervidae	<i>Cervus duvauceli</i> Cuvier	Swamp deer / Barasingha	Restricted to India; north of Ganges from Kumaon to Assam and south of Ganges principally in M. P.
	<i>Axis axis</i> Erxl.	Chital or Spotted deer	Peninsular India, Bengal, Sikkim northwards to Kumaon Himalaya, Nepal, Sri Lanka.
Artiodactyla : Suidae	<i>Sus scrofa cristatus</i> Wagner	Indian wild boar	India, Pakistan, Sri Lanka, Nepal, Bangladesh, Myanmar, Indonesia, Malayasia and Vietnam.
Artiodactyla : Bovidae	<i>Bos indicus</i> Linn.	Domestic cattle	Distributed worldwide through human agency.
	<i>Bubalus bubalis</i> ( Linn. )	Indian buffalo	Terai and plains of Brahmaputra valley in Assam, Orissa, Bastar district of Madhya Pradesh in India; Jungles of Nepal.
	<i>Ovis</i> sp. (? <i>vignei</i> Blyth)	Domestic sheep (?Shapu or Urial)	Wild forms range from Gilgit, Astor and Ladak in Kashmir, eastward to northern Tibet, Punjab, Sind, Baluchistan, and southern Persia. Domestic forms distributed in many parts of world through human agency.
	<i>Capra hircus aegagrus</i> Erxl.	Wild goat	India, Baluchistan, Iraq, Iran, Asia minor.
Lagomorpha Leporidae	<i>Lepus nigricollis</i> Cuvier	Indian hare	Peninsular India, Central India (Vidharbha region and Madhya Pradesh), Cutchh and Kathiawar of Gujarat, Rajasthan, Punjab, Sikkim, Duars area of Bengal, Assam Plains; Nepal; Bhutan; Sri Lanka and Sind of Pakistan.
Rodentia : Muridae	<i>Rattus rattus</i> Linn.	House rat	Original home was India and Myanmar; presently distributed worldwide through shipment of commodities.

## DISCUSSION

The Malwa region, situated almost in the centre of India, forms a unique geographical unit from the view point of physiography, human culture and economy (Dhavalikar, 1979). The region forms the link between the Indo-Gangetic plain and the peninsular part of India. It may further be considered as a part of the northernmost tip of peninsula. The region is drained by two river systems *viz.*, (i) rivers Narmada, Tapti and Mahi which fall on the Arabian Sea, and (ii) rivers Chambal and Bewa which join the river Yamuna. The climate of the region is tropical monsoonal type, and its black soil is well known for its fertility. Dhavalikar (*loc. cit.*) presumed that the earliest settlers of Malwa were attracted by the fertility of the region. He also commented that the Chalcolithic people seem to have selected this spot obviously because of the environment, which must have been quite congenial to them.

It is revealed that the past inhabitants or Chalcolithic folk of Nagda during the period-I had certain degree of diversity in their livelihood and culture, but the extent of which were not as wide and developed as were seen in the Harappan cultures. The people lived most probably in the mud or mud bricks houses and seldom in the shelters on rubble base. The design of the houses suggests their group structure and living jointly in large numbers. In fact, the presence of large size kitchens (c. 20 ft. x 6 ft. or 11.7 sq. m.) with multiple ovens are clear indications of this assumption. The finds of grains like, wheat, rice, gram, peas, pulses etc. are quite suggestive of the vegetable diet of the folk (Sankalia, Subbarao & Deo, 1958). These also point out to their skill in farming and agriculture. The presence of sharply cut bones of animals indicates consumption of animal proteins by this ancient folk. Ornaments made up of molluscan shells and ivories have been recovered. It appears from the microliths recovered from the excavations, that the tools of this Chalcolithic folk comprised microlithic blades, knives, crescents and trapezes for cutting vegetables, fruits, crops and animals (Banerjee 1986).

Animals with hard exoskeletons (molluscs, turtles) and endoskeletons (vertebrates) have been recovered from the excavations (*vide* Table 1). The presence of molluscan shells, turtles and even the marsh crocodile reveal that river Chambal had enough flow on those days and was well connected with the river system of south of this zone. It was also navigable and was utilized by the people for movement to other places. Among the three turtles, *Chitra indica* still in these days are found in the river system in wide area of India, and *Lissemys punctata* occurs in Indo-gangetic plain; the marsh crocodile, *Crocodylus porosus* had a wider distribution but now-a-days it has disappeared from many parts of India. The river Chambal, flowing from the central highland of India, merges into Yamuna and eventually into the Gangetic drainage system. It is presumed that the highland area had substantial vegetation cover and the drainage had increased flow due to higher precipitation. Many riverine animals, which in these days are not naturally occurring

in western parts of India, had a wider distribution in the past. The occurrence of turtles and crocodiles in western India support these presumptions. The turtles have been recorded from Mahenjodaro (Sewell & Guha, 1931), Harappa (Prashad, 1936) and Lothal (Saha *et al.*, 2004) archaeological sites. Increased anthropogenic pressure along the riverine system of India had greatly influenced the vegetative and climatic features and distribution patterns of many animals.

Most of the remains of mammals belonged to domestic humped cattle (*Bos indicus* Linn.), goat (*Capra hircus aegagrus* Exrl.), sheep (*Ovis* sp. ?*vignei* Blyth.), pig (*Sus scrofa cristatus* Wagner). and buffalo (*Bubalus bubalis* Linn.). Three members of deer family (Cervidae) viz., Sambar (*Cervus unicolor* Kerr.), Baringha (*Cervus duvauceli* Cuvier) and Spotted deer (*Axix axis* Exrl.) were also noticed in the excavated remains. They were no doubt wild forms and the past habitats in the place were suitable for holding these animals. Sankalia (1974) noted that this area was once forested but almost suitable for agriculture. Sewell & Guha (1931) recorded most of these animals in the excavated animal remains of Mohenjodaro, and Prashad (1936) recorded them in Harappa. Recently, animal remains of Lothal excavations have been worked out by Saha *et al.* (2004) and above animals were also represented in that site.

By studying the objects and animal remains, it has been possible to throw some light on the lifestyle and food patterns of the past people of Nagda. However, the identity of the Chalcolithic people and where they came from still remained an unresolved query. Sankalia *et al.* (1974) stated the following probabilities about their identity : (i) people from West Asia or Iran, (ii) the Bhils and other aboriginal tribes; (iii) a hitherto unidentified people; and (iv) yet another group of primitive people. Dhavalikar (1979) who made an in-depth study on Malwa Chalcolithic people, presumed that they had come from outside India. The study of the skeletal remains of these folk may enable in establishing the racial type to which they belong. Incidentally, no human skeletal remains have so far been found at any Chalcolithic sites in Malwa. It would also indicate the possible source and direction of their advent. Such a study may throw light also on the cultural interregnum between the end of the Harappan culture and the beginning of the Chalcolithic civilization in India.

### SUMMARY

The Chalcolithic civilization of bygone era on Indian landmass evolved almost at a closing stage of Indus civilization of Harappa and Mohenjodaro and it had a wide expanse. The culture of the archaeological site of Nagda on the bank of river Chambal, belonged to Malwa Regional Group.

The people of Nagda were mainly agrarian; lived probably in mud-brick residences, jointly in large numbers. They had large size kitchens with multiple ovens. They consumed mainly the vegetable diet, supplemented by animal proteins. Many objects of archaeological significance and animal remains recovered from the excavations are suggestive of an age of 1631–1375 B.C. for the civilization. The analysis of animal remains (586 examples / fragments), comprising mostly hard exoskeletons of molluscs and turtles and endoskeletons of vertebrates, revealed the presence of 2 species of Mollusca, 2 species of Pisces, 4 species of Reptilia, and 11 species of Mammalia. The presence of molluscan shells, turtles and marsh crocodile are indicative of good flow in river Chambal and convenient for navigation. The presence of some wild animals are suggestive of past natural habitat that was conducive for holding a sizeable fauna.

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