Man Bac site
A Neolithic settlement in Northern Vietnam

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Abstract:

Man Bac site is located in 20°08’085” North latitude and 105°59’025” (c. from above
and under 4.000BP to above, under 3.5000BP), Bach Lien hamlet, Yen Thanh commune, Yen
Mo district Ninh Binh province. Man Bac site has been excavated five seasons from 1999,

Man Bac site stratigraphy has been three cultures layer with two develop periods. Among
these sites, Man Bac site has been excavated five with the total area of 149,8m², 105
burial sites with 107 individuals were found, like this to now area average 1,427m²/1 burial
and 1,4m²/1 individual. In the first culture period has been 3 individuals and culture second
period has been 104 individuals.

The spiritual life of the Man Bac inhabitants is also very rich; this is shown clearly
through the funeral goods in the burials such as: beads, bracelets, earrings, ceramics and
cypraidae snails (such as ancient money) which are considered to be used as primitive money
as far as the scientists are concerned. Therefore, the ancient Man Bac inhabitants had the
perception of the living life and dead life that the deceased would live in the same way as
when they were alive. Besides funeral goods could be help us to know Man Bac ancient social
organization.

After 10 years research Man Bac archaeological site, archaeologists were found vestiges
architecture relation to the Man Bac residents houses like post holes and over fire soil
foundations.

As far as we know, Man Bac site is located in Ninh Binh province, the “Inter-culture”
location between the Hong river plains and delta and coastal plains of Ma and Chu rivers.

Through Archaeological artifacts stone and potteries at Man Bac site, we are recognizing
Man Bac early period were co-development from Phung Nguyen Culture (Go Bong, Xom
Ren), Con Chan Tien and Hoa Loc Culture. Trang Kenh, Dau Ram (early period culture) was
bring aspect cultural to Man Bac area to live with autochthons like Con Chan Tien, Hoa Loc
and Phung Nguyen were live before made aspect cultural in late period.

The Man Bac inhabitants were communicative self ling in the coastal area. The main living sources might have been cultivation, wet-rice growing, along with raising cattle’s, pig and chicken. The Man Bac inhabitants might have developed fishing, exploring marine, brackish of fresh water products, as well as hunting animals and gathering vegetation. Ceramic handicrafts play an import and rode, with other activities as stone tool making, thread twisting textile and knitting. On the basics of agriculture development, the Man Bac inhabitants succeeded in exploiting and expanding to the sea in Ninh Binh province. The owners of the Man Bac site had a richly-spiritual life with their original products in a normal life, dong honor to themselves and serving their religion. Those are various types of ceramics, decorative motifs, bracelets, stone earrings or exotic earthen animals.

With economic development Man Bac residents was inter-culture with other dwellers area such as Kalumpang west center in Sulawesi Island, Indonesia or pottery technical like potteries anvil in High land, South Vietnam, Northeast Khorat Plateau in Thailand and South Korea ect.

The Man Bac is where such various factors as the culture from Late Neolithic to Early Metal Age in the coastal area, the plains of Hong River and Ma, Chu rivers deltas concentrate. This reflects through the assemblages of stone tools and ceramics.

If we consider the Phung Nguyen culture as a start of the Red rives civilization, it might be possible to see the Man Bac site as a factor helping to create physiognomy of that civilization. The characteristics and concentration of Man Bac culture factors further confirm Phung Nguyen culture expansion to the sea and vice versa; The Northeast costal residents on way go to South, the Con Chan Tien, Hoa Loc tribes have moved deeper into inland. At that time, the settlement scattered by come tribes with various cultures might have been started. That culture accumulation might have been vole accelerated.

I. Introduction:

Ninh Binh province is located in 20°14’ North latitude and 105°59’ East longitude, with the area of 1382,0km², the North is adjacent to Ha Nam province, the West and the South is adjacent to Thanh Hoa province, the East is next to Nam Dinh province. Geologically, the Tam Diep area belongs to the Southwest border of the Hong river plains and delta, and it is the transitional area between the mountainous area and the plains. There are 3 types of major terrains: low hills and mountains, limestone mountains and plains. The plains are set up by mixed sediments: sand, clay powder from various sources: river, mixed river - sea, sea. Ninh Binh is next to mountains and nearby the sea and is the doorway for trading between the roads on land and waterways. Ninh Binh includes Day River, the main branch of Hong
River, which used to be the important waterway axis in Pre- prohistorical period and history between the mountainous areas and the plateaus, the plains and seas, the North plains and delta and the central area. In the Ha Nam, Nam Dinh and Ninh Binh provinces, there are a lot of the remained hills and mountains from 50m to 100m high, with numerous forms. At the feet of these limestone mountains, there are a lot of clear traces of Middle Holocene sea waves, the temperature in the region is uniform, with the average annual temperature of 23°C, and the average temperature is 16°C in January and 29°C in July. The maximum photometric temperature is 40,1°C and minimum is 6.3°C. The average annual rain amount is 1.400mm - 1.600mm. The greatest rain amount measured in Nam Dinh province in 1994 was 2.754 mm and the least rain measured there in 1957 was 978mm.

The French archaeologist, M.Colani, is the first founder and excavator of the workshop site of bracelet manufacture at Cho Ganh cave in 1924 and 3 prehistorically sites: Trung Doi, Yen Luong, and Nham cave at Nho Quan district, Ninh Binh province, which were excavated in November 1927. Based on the existence of crudely chipped tools, she supposed that Trung Doi and Yen Luong were the sites of Paleolithic inhabitants. Nham cave is classified to the Hoa Binh culture due to the discovery of ground axes, almond axes and a few ceramics with weave designs. Based on such data that M.Colani divided The Hoa Binh culture into 3 periods: Paleolithic, Mesolithic and Neolithic. In which, Trung Doi and Yen Luong sites belong to Paleolithic, Nham Cave belongs to Mesolithic.

In 1941, J.Fromaget excavated at Thung Lang Cave, at Nam Son precinct, 3km away southeastward from Tam Diep town in Ninh Binh province. A panda’s tooth and a fossil tooth of Homo erectus were found. However, these findings are missing now. In 2001, the archaeologists from the Vietnam Institute of Archaeology had a test digging at Thung Lang Cave and stated that it is a rock shelter rather than a cave. At the eastern corner, in a hole, they found a lot of elephant’s teeth. According to the researchers, these teeth might be the artifacts left by J.Fromaget.

During 1966 - 1977, the Institute of Archaeology excavated Dang Cave and Moc Long Rock shelter and had a test - digging at Lai Cave of Cuc Phuong commune, Nho Quan district, Ninh Binh province.

Until 1970s - 1980s, in Ninh Binh there weren’t any new Pre- prohistorical sites found, but the concentration was on the excavations and researches of the sites from the Dinh - Le periods. In 1990s, Pre- prohistorical sites in Ninh Binh started to be noticed and as far as our statistics, 18 cave sites and 3 open - air sites have been found. That is excavations: Man Bac (Ha Van Phung, Bui Thu Phuong, Ngo Thi Lan 1999; Ha Van Phung, Nishimura Masanari, Trinh Hoang Hiep and Truong Huu Nghia 2001); Dong Vuon (Ha Van Phung, Trinh Hoang Hiep et al. 2002) and Sao Cave (Dang Cong Nga 2002; Trinh Hoang Hiep 2007, Ha Van Phung, Trinh Hoang hiep, Nguyen Cao Tan 2007).
Besides excavations and around in this time some archaeological site had a surveys and test excavations in Nho Quan commune, Gia Vien commune and Tam Diep town. In the excavations and surveys and test excavations above was founds many archaeological site: Ba Mountain, Dao Cave, De Cave, But Cave, Mo Cave…and have some articles for the Pre-prohistorical Archaeological of Ninh Binh province such as: Dang Cong Nga, Nguyen Cao Tan 2001; Nguyen Van Lu, Nguyen Cao Tan 2001; Nguyen Van Lu, Nguyen Cao Tan 2002; Nguyen Van Lu et al 2002; Nguyen Duc Long et al 2002; Nguyen Gia Doi et al 2002; Trinh Hoang Hiep 2002; Trinh Hoang Hiep et al 2002; Trinh Hoang Hiep et al 2003; Trinh Hoang Hiep et al 2004; Trinh Hoang Hiep 2004; Trinh Hoang Hiep 2007; Trinh Hoang Hiep 2010).

II. Man Bac site and Relationship with the Pre-Dong Son Cultures in the Northern of Hong River Delta:

Man Bac site is located in 20°08′085″ North latitude and 105°59′025″, Bach Lien hamlet, Yen Thanh commune, Yen Mo district Ninh Binh province. Man Bac site has been excavated five seasons of the 1999, 2001, 2004-2005, 2005 and 2007. Among these sites, Man Bac site has been excavated five with the total area of 149.8m², 105 burial sites with 107 individuals were found, like this to now area average 1.4m²/1 burial.

This is the archaeological relics have unique burial tomb was discovered in the province of Ninh Binh province in particular and southern Hong River Delta in general. Relics buried tombs are distributed in all three cultural layers. The number of tomb relics buried in the high concentration of cultural layers III, also in the cultural layer I and II of the cultural relics of burial tomb accounting numbers less.

It is the only site with such a lot of burials found in Ninh Binh in particular and in the south of the Hong River plain and delta in general. In terms of anthropology, in comparison, The Man Bac female skull is found close to the Luo Bo Wan skulls (Guangxi of Early stage of Western Xi Han) and modern skulls, but quite far from the Neolithic skull at Hua district in China and West Australian aborigines. The analysis result of the male skull is similar (Truong Huu Nghia, Nguyen Lan Cuong, Nguyen Kim Thuy, Trinh Hoang Hiep, Pham Thi Hoa, Nguyen Van Vi 2002). The skulls are characterized by relatively long and flat faces. The multivariate comparisons using cranial and dental metrics demonstrate a close affinity with the Neolithic or later Zhou and Han period samples from the Yangzi Basin in South China, suggesting the arrival of new immigrants from somewhere in this region. The Man Bac skeletons support the “immigration hypothesis” on the population history of Southeast Asia (Hirofumi Matsumura, Yukio Dodo, Wataru Takigawa, Nguyen Lan Cuong, Nguyen Kim Thuy, Marc F.Oxenham 2006).

The spiritual life of the Man Bac inhabitants is also very rich; this is shown clearly
through the funeral goods in the burials such as: beads, bracelets, earrings, ceramics and Cypraidae snails which are considered to be used as primitive money as far as the scientists are concerned. Therefore, the ancient Man Bac inhabitants had the perception of the living life and dead life that the deceased would live in the same way as when they were alive.

As far as we know, Man Bac site is located in Ninh Binh province, the “Inter-culture” location between the Hong river plains and delta and coastal plains of Ma and Chu Rivers. The Man Bac inhabitants in the early stage were related to the Pre-Dong Son inhabitants groups in the Hong River plain and delta, the Phung Nguyen culture (in Go Bong stage), the inhabitants of the Hoa Loc, Con Chan Tien cultures in the coastal plains of the Ma, Chu Rivers. In the late stage, the ancient Man Bac inhabitants were related to the inland Phung Nguyen culture (Phung Nguyen stage) and the inhabitants in the Northeast Coastal area at Trang Kenh (Hai Phong city) and Dau Ram (early period culture) in Quang Ninh province.

In general, the Pre-prohistorical inhabitants settled for a long time and had obvious mountainous direction. They had the relationship and transaction with the inhabitants of the communities in other areas such as: in the Hong River plain and delta, coastal plains of the Ma and Chu Rivers and Northeast coastal plains... Those cultural relations are proved through the assemblages of the found artifacts.

As for dates, these site groups might be similar; they are representatives for the cultural physiognomy in the Early Neolithic of Ninh Binh in the common regional background. If there is a particular and large scale study project on Ninh Binh land, it will enables us to further study of every site group with their typical cultural characteristics shown through strata structure and cultural remains in the caves or open-air site there. They are important archaeological data to study the evolution road of the Pre-prohistorical culture in Ninh Binh in particular, contributing to the study of the Vietnamese Bronze Age in general.

The rest haven’t been archaeologically excavated on a large scale, but there are just small test - dug pits with the area of 1m$^2$ - 2m$^2$ at some caves. However, from such small pits for investigation found fairly rich faunal and Homo sapiens sapiens fossils, or Post-Hoa Binhian Neolithic traces, which doesn’t belong to the Da But culture though, they are affected by the pervasive Da But culture. In general, Post- Hoa Binh Neolithic culture here might be later than the early stage of Da But culture, equivalent to its middle and late stages. It is because of the lack of systematic excavations and researches, the knowledge of Ninh Binh archaeology is diffused and limited and so far there haven’t been any projects that generalize the Pre-prohistorical periods in this area.

III. Conclusion:

The Man Bac inhabitants were communicative self ling in the coastal area. The main
living sources might have been cultivation, wet-rice growing, along with raising cattle’s, pig and chicken. The Man Bac inhabitants might have developed fishing, exploring marine, brackish of fresh water products, as well as hunting animals and gathering vegetation. Ceramic handicrafts play an import and rode, with other activities as stone tool making, thread twisting textile and knitting.

- Through specific stone relics and pottery, we believe the early Man Bac site was developed from source cultures of Phung Nguyen (Go Bong and Xom Ren sites), Con Chan Tien Site and Hoa Loc. If Con Chan Tien was the Go Bong emigrated to the Con Chan Tien elements added in bold monuments Man Bac through pottery characteristic of the relics from early to late development, participation and Hoa Loc weak Phung Nguyen than.

- Group of residents from the northeast coast of Trang Kenh, Dau Ram (early period culture) traveled by sea bringing progress to the south and their own nuances to Man Bac. Also, indigenous peoples with residential land lived there before the Con Chan Tien, Hoa Loc, Phung Nguyen to develop culture in the late stages.

- However Man Bac Site also has relationships with a cultures in difference countries of a the region.

- On the basics of agriculture development, the Man Bac inhabitants succeeded in exploiting and expanding to the sea in Ninh Binh province. The owners of the Man Bac site had a richly-spiritual life with their original products in a normal life, dong honor to themselves and serving their religion. Those are various types of ceramics, decorative motifs, bracelets, stone earrings or exotic earthen animals.

- The Man Bac is where such various factors as the culture from Late Neolithic to Early Metal Age in the coastal area, the plains of Red river and Ma, Chu rivers deltas concentrate. This reflects through the assemblages of stone tools and ceramics. However, the Man Bac site also has its own features, which are ceramics with type I characters, with vessel-typed mouths and decorative motifs from simple to complicated ones. The mouth types and decorative motif were inherited from the rim to the body of the vessel, together with complicated decorative motifs.

- Man Bac (lower layer) and Hoa Loc can be placed prior to the Phung Nguyen phase. One C14 date from Ma Dong is 4.145 BP and it is older than the any other C14 date available from the Phung Nguyen site.

- If we consider the Phung Nguyen culture as a start of the Hong Rives civilization, it might be possible to see the Man Bac site as a factor helping to create physiognomy of that civilization. The characteristics and concentration of Man Bac culture factors further confirm Phung Nguyen culture expansion to the sea and vice versa; The Hoa Loc culture tribes have moved deeper into inland. At that time, the settlement scattered by come tribes with various cultures might have been started. That culture accumulation might have been vole accelerated.
Reference
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Fromaget J. L’Indochina Francaise, sa structure Géologique, sD roches, ses mine et leurs relations possible avec la tectonique. BSGI, Vol 25: 2 - 63.


Ha Van Tan 1999. Khao co hoc Viet Nam tap II: Thoi dai Kim khi Viet Nam. NXBKHXH, Ha Noi.
Ha Van Tan 2002. Khao co hoc Viet Nam tap III: Khao co hoc lich su Viet Nam. NXBKHXH, Ha Noi.
Han Van Khan 1996. Do gom Tien su va So su o Bac Bo va Bac Trung Bo Viet Nam: Loai hinh, hoa van va ky thuat che tao, Hanoi National University. Thu vien Khoa Lich su (Library of Faculty of History). pages 16 - 24, Ma so B94. 05. 03.
Hoang Xuan Chinh 1968. Bao cao khaiquat di chi Lung Hoa. NXBKHXH.
Hoang Xuan Chinh 1989. Van hoa Hoa Binh o Viet Nam. Thu vien Vien Khao Co hoc (Library of Institute of Archaeology).
Nishimura M. and Nishino N.2003. Data collection of archaeological sites in the Red River Plain,
Man Bac site

Nguyen Dich Di, Dia chat de tu Viet Nam va danh gia tiem nang khoang san lien quan, Ha Noi 1995.
Pham Ly Huong, Nguyen Quang Mien 2000. Cac ket qua xac dinh nien dai bang phuong phap Radiocarbon o Viet Nam va mot so nhan xet, Thu vien Vien Khao co hoc (Library of Institute of Archaeology).
Pham Minh Huyen. Bao cao khai quat Con Chan Tien, Thu vien Vien Khao co hoc (Library of Institute of Archaeology).
Pham Van Dau 1995. Van hoa Hoa Loc va vi tri cua no trong thoi dai dong thau Bac Viet Nam, Luan an PTS. Khoa hoc Lich su 1995, Tu lieu Vien Khao co hoc (Library of Institute of Archaeology), TL. 464.
T.Chung 2001. On Prehistoric Stone Bark Cloth Beaters in East Asia, Hoi nghi Quoc te Mot the ky Khao co hoc Vietnam - Nhung thanh tuu va Trien Vong (International conference One century of
Viet Nam Archaeology: Achievement, Orientation and Prospect in 2004), Hanoi, Social Sciences Publishing House, Volume 1.


Trinh Hoang Hiep, Pham Thi Ninh 2004. Do gom di chi Dau Ram trong he thong gom co vung ven bien Dong Bac Viet Nam (Ceramics of Dau Ram site in system of Ancient ceramics in Northeast coast of Viet Nam), Hoi nghi Quoc te Mot the ky Khao co hoc Vietnam - Nhung thanh tuu va Trien Vong (International conference One century of Vietnam Archaeology: Achievement, Orientation and Prospect in 2001), Hanoi, Social Sciences Publishing House, Volume 1, page: 492 - 523.

Trinh Hoang Hiep, Ha Van Phung 2001. Bao cao ket qua dieu tra va tham sat o phia Nam Dong bang chau tho Song Hong (Report survey and test excavation in the South of Red River Delta), Thu Vien Vien Khao Co hoc (Library of Institute of Archaeology).


Trinh Hoang Hiep 2004. Man Bac site and Relationship with the Pre-Dong Son Cultures in the South of Red River Delta. Master thesis of Social Science and Humanities of Hanoi National University. Thu vien Vien Khao Co hoc (Library of Institute of Archaeology).


Trinh Hoang Hiep 2006. Cau truc dia tang di tich Man Bac sau 4 mua khai quat va tham sat (Study the structure of stratigraphy at Man Bac site after four excavation Seasons), NPHM ve KCH nam 2005 (New Archaeological discoveries in 2005).


Higham, C.F.W and Bannanurag F.S.A&R (1990), The excavation of Khok Phanom Di a Prehistoric Site in Central Thailand, Volume II: The Biological Remains, Published by The Society of Antiquaries of London, distributed by Thames and Hudson Ltd.


Meacham, W. (1978), Sham Wan Lamma Island an Archaeological site study, Published by the Hong Kong Archaeological Society, with the assistance of the Urban Council.


Landscape terrain of the Man Bac site

Man Bac is located at 20°08'085" latitude north, 105°59'025" east, Bach Lien Village, Yen Thanh Commune, Ninh Binh Province.
Burials and minimum number of individuals per excavation season at Man Bac

<table>
<thead>
<tr>
<th>Order</th>
<th>Area</th>
<th>Number of burials</th>
<th>Number of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>H1: 12m²</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>H11: 30m²</td>
<td>5 Burials</td>
<td>6 Individuals (99MBM5a,b)</td>
</tr>
<tr>
<td>2001</td>
<td>24m²</td>
<td>10 Burials</td>
<td>11 Individuals (01MB4a,b)</td>
</tr>
<tr>
<td>2004 - 2005</td>
<td>36m²</td>
<td>36 Burials</td>
<td>36 Individuals</td>
</tr>
<tr>
<td>2005</td>
<td>10m²</td>
<td>9 Burials</td>
<td>9 Individuals</td>
</tr>
<tr>
<td>2007</td>
<td>H1: 13.8m²</td>
<td>13 Burials</td>
<td>13 Individuals</td>
</tr>
<tr>
<td></td>
<td>H2: 24m²</td>
<td>H2: 32 Burials</td>
<td>32 Individuals</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>149.8m²</td>
<td>105 Burials</td>
<td>107 Individuals</td>
</tr>
</tbody>
</table>

**Average area**

- 1.427m²/1 Burial
- 1.4m²/1 Individual

Decoration motifs of Man Bac Site have relationships with cultures in different countries of the region.

Patterns on the pottery material type II of Man Bac Site

Patterns on the pottery of Trang Kenh Site

Patterns on the pottery material type II, Man Bac Site

Pottery at Kalumpang Center west Sulawesi Islands, Indonesia
Artifacts pottery of Burial 28 (2004 - 2005)
Man Bac Site (Culture phase II.)

Radiocarbon and AMS dates from Man Bac Site:
Late period:
99MBH12L2 (30-40cm): 3,530 ± 60BP (1,580 ± 60BC).
MB01L5-7 (150cm - 160cm): 3,400 ± 60BP (1,700BC)

- We think that early period of the Man Bac Site around 4,000BP.
- Data based on material culture such as stone and pottery. We think Man Bac Site belongs to the Late Neolithic - Early Bronze Age.

Chinese bronze drum
[Ancient Chinese Bronze Drums 1981]

- Archaeological artifact wasfound at Wangjiazui Site, Chongyang province in 1977.
- Age of the relics is tied to the Zhou State, but some think that the text dates to the Pre-Jin. According to a number of researchers the chronology is equivalent to Man Bac relics of early Zhou 1046-77BC, Pre-Jin 221- 201BC).