



## JORDAN DURING THE LATE SEVENTH/ EARLY SIXTH MILLENNIA BC

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### ABSTRACT

This paper discusses, within the present limits of Jordan, the way of life people used to live in this part of the world around 8500 years ago.

Compared to other countries, comprehensive studies directed towards understanding the prehistory of Jordan are recent. They started, in fact, during the second half of the twentieth century. Since then, the increase in the number of projects is remarkable. The projects are widely distributed and representing a time range from the Lower Paleolithic to the Chalcolithic (Henry 1998; Gebel, Kafafi and Rollefson 1997; Garrard and Gebel 1988)

Jordan is not located along the Mediterranean Sea coast. However, due to its climate and vegetation at least part of Jordan belongs to the Mediterranean zone. And this is the reason behind including this paper in this volume.

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**KEYWORDS:** Jordan, Paleolithic, Chalcolithic, chronology, architecture, economy.

### INTRODUCTION

Jordan situated to the east of the Jordan Rift Valley, and geographically can be divided into three zones consisting of (from west to east):

1. The Jordan Rift Valley.
2. The Mountainous ranges, where we find the Mediterranean vegetation. This feature is present much more in the north and central Jordan than in the south.
3. The Badia/Desert.

### CHRONOLOGY AND STRATIGRAPHY:

The published results of the archaeological excavations on Jordanian sites indicate that until today Neolithic sites dating from ca. 10.300 to 9.600 BP "uncalibrated", a period known as Pre-Pottery Neolithic "A". Remains belonging to it found in Jordan are really scarce and most of the uncovered sites attributed to camps while very few others were small villages.

The following phase of the Neolithic is, as well known, identified as the Pre-Pottery

Neolithic B (PPNB) and dated from ca. 9.600 to ca. 8000 BP "uncalibrated". This phase has also been divided into sub-phases based on stratigraphical sequences and C14 dates, as the followings:

1. Early Pre-Pottery Neolithic B (EPPNB) (ca. 9.600 to 9200 BP "uncalibrated"); archaeological evidence of this period and uncovered in Jordan are very rare and poor. For some scholars, as an example, is I. Kuijt is arguing against its existence all over southern Levant (Kuijt 1997).
2. The Middle Pre-Pottery Neolithic B (MPPNB) (ca. 9.200 to 8.500 BP "uncalibrated"), this phase is well represented at the sites of 'Ain Ghazal, Wadi Shu'eib, Beidha in the Mediterranean zone and Wadi Jilat 26 in the arid area (Rollefson 1998b).
3. The Late Pre-Pottery Neolithic B (LPPNB) (ca. 8.500 to 8000 BP "uncalibrated"). During this phase the sites of Ain Ghazal (Rollefson ; Simmons and Kafafi 1992), Wadi Shu'eib (Simmons et al 1989) and Wadi Jilat (Garrard et al 1994) continued to be occupied., meanwhile others such as Beidha were completely abandoned for millennia (Kirkbride 1966).

What is important to note is that recently in the southern part of Jordan, a number of LPPNB sites ( cf.map) such as es-Sifayyah/Wadi Mojib (Mahasneh 1997); Basta (Muheisen and Gebel 1987; Gebel et al 1988); el-Bassit (Fino 1999) and Ba'ja/Petra area (Gebel and Bienert 1997); el-Ghuweir/Wadi Feinan area (Simmons and Najjar 2000) and Ain el-Jammam/Wadi el-Jammam (Waheeb and Fino 1997) have been discovered. Most of these settlements, if not all , especially those located in southern Jordan were abandoned around 8,000 BP "uncalibrated." But, the sites of Ain Ghazal and Wadi Shu'eib in Central Jordan continued to be occupied during the period dated from ca. 8000 to 7500 BP., which has been termed by G. Rollefson and A. Simmons as Pre-Pottery Neolithic C (PPNC). They considered this term to characterize the

archaeological material excavated in the levels overlying the LPPNB ones.

The archaeological excavations conducted at Neolithic sites in Palestine and especially in the Jordan Valley such as Munhata (Perrot 1968) and Jericho (Kenyon and Holland 1982) pointed out to a stage of abandonment during the period from ca. 8500 to 7500 BC "uncalibrated." This was mostly attributed to climatic changes that affected human presence at those sites. It has also been proposed that this tragedy had affected the site of Beidha in south of Jordan.

In some parts of the region, especially in central and south Jordan, especially in the wadi basins (Zerqa, Shu'eib, Moujib) and very close to perennial water resources (Basta and Ain Jammam), sites either grew rapidly, for example 'Ain Ghazal, or were established for the first time, like Basta; reached a very large size. This is why they are often defined as "*mega-sites*." Smaller in size contemporaneous small villages, hamlets, camps and perhaps industrial sites have existed throughout the arable countryside. What is new is that some sites have been uncovered in the eastern steppe and the Badia of Jordan that have been radiocarbon dated to the LPPNB. They might represent a "push" for part-time exploitation of the area, possibly as the initial stage of pastoralism.

A brief discussion about the excavated material culture excavated at the Jordanian sites dated to the period ranging from ca. 8.500 BP (uncalibrated) to ca. 7.500 BP (uncalibrated) is presented below.

## ARCHITECTURE

Two types of architecture can be recognized in the LPPNB:

1. dwellings: they are characterized by:
  - a. Small quadrangular /rectangular/ polygonal rooms connected by wall openings (Fig.1)
  - b. A cluster of rooms surrounding a courtyard/open space (Fig.1)
  - c. Appearance of two-storied buildings (Figs. 1 and 2)
  - d. Structures built on terraces.



Fig.1: General view of Area B in Basta. (courtesy of the Basta expedition).



Fig.2: Two-story building, 'Ain Ghazal.



Fig.3: Sub-floor structures excavated at Basta (courtesy of the Basta expedition).



Fig 4: LPPNB curvilinear ritual building, 'Ain Ghazal.

- e. Use of sub-floor structures, channel like features (fig.3)
- f. Use of red painted plastered floors, as in the previous periods.
- g. Doubled-faced walls with nicely set courses with interwedged stones.
- h. Use of clay mortar  
( Bienert and Gebel 1998; Gebel and Bienert 1997).

## 2. RITUAL BUILDINGS:

At the site of 'Ain Ghazal LPPNB buildings assigned as cultic shrines and temples were excavated (Rollefson 1999; Rollefson and Kafafi 1997, 1996, 1994). Two types seem to co-exist, and they probably had different functions. They are:

a. Curvilinear structures: at Ain Ghazal a four phases structure was excavated. The building started as a rectangular one, then a curved wall

has been built at its western side to become as an apsidial structure. It seems that with the time this curvilinear wall became very weak and the inhabitants found themselves obliged to enforce it with an oblong wall and to give the building the form of a rectangular building. However, during the fourth phase of use, it has been stopped as a curvilinear one in the latest stage of use. The building has been constructed with medium sized lime-stones and during the final phase the floor has been replastered many times. The center of the building is occupied by a pit having four openings which might have been used as aqueducts (Fig.4). A large stone was found inside the pit (Kafafi and Rollefson 1995).

Another similar curvilinear building was excavated just a few meters to the south of the just described structure. It seems that this building was used only for a short period due to the fact that the floor was plastered only once with a thin layer of lime-plaster and the walls were built of smaller rubble lime-stones (Fig.5) that appeared to be weaker in construction than the former one. Both curvilinear features were built on a terraced and leveled land at the northern slope of Ain Ghazal.

The shape of these two buildings and their common interior arrangements can suggest that they had special function and might have been used for some kind of ritual practices.

b. Rectangular structures: a rectangular building was constructed of large lime-stones on the most upper part of the eastern side of the site of Ain Ghazal. The area on which the structure was built is very steep, but it was leveled by the constructors. The building measures 4m N-S by at least 5m E-W; and its western side was destroyed by erosion. A plastered hearth lined by seven limestone is in the north-eastern corner of the building (Fig.6). This building is a single room structure with a clay floor.

Later on, and during the period ranging from ca 8,000 to 7,500 BP "uncalibrated" the inhabitants of 'Ain Ghazal either reused the PPNB structures or built new ones. We observed

that the LPPNB two story building style was replaced by a corridor building; it consisted on both sides the corridor of very tiny rooms used most probably. On top of them was built another level or a lighter structural feature like a cottage or a tent for storage purposes carrying another story or a structure like a cottage or even a tent (Fig.7). In one of the cells and the floor was an assemblage of artifacts: axes, loom-weights and other heavy duty tools were found.

At Ain Ghazal and from this PPNC period architectural remains, might indicate public works: a broad and long courtyard wall and a walled passage-way "street" (Fig.8) were found (Kafafi and Rollefson 1995).

Another rectangular building that consists of two main rooms and an elliptical structure attached jointly with the eastern side was excavated in the eastern part of the site. This building was built of large lime-stones and has a clay floor with a plastered hearth lined by seven lime-stones (Fig.9). In the eastern wall of the building a platform carried on three upright megalithic stones was noticed (Rollefson 1998a; 1998b; Rollefson and Kafafi 1997). Like the ones we described earlier, this building has been attributed to ritual purposes.

**SUBSISTENCE ECONOMY**

Unfortunately, information about the LPPNB subsistence are only published from two sites, Ain Ghazal and Basta. Pulses remained a main element of the diet evidenced by a large amount of



Fig. 5: The two excavated LPPNB curvilinear buildings in 'Ain Ghazal.



Fig. 6: LPPNB rectangular ritual building, 'Ain Ghazal.



Fig. 7: PPNC corridor-building, 'Ain Ghazal.



Fig. 8: PPNC passage-way, 'Ain Ghazal.

charred lentils and peas recovered from one room of the LPPNB two story building at Ain Ghazal.

Despite the fact that in the uncovered flint assemblages of the sites dated to the LPPNB the Jericho, Abu Gosh, Amuq and Byblos points are present, hunting seems to have deliberately declined in some communities.

Studies of the excavated animal bones at LPPNB Ain Ghazal indicate a major reduction in animal species if we compare it with the rich variety of the MPPNB levels of this site. 71% of the LPPNB animal bones belong to domesticated ovicaprids; the wild species had been reduced by almost 50% in comparison to the MPPNB period (figs.10-11). There is a big shift in the ratio of sheep and goat between the MPPNB and the PPNC. It changed from 95% goat to 5% sheep in the LPPNB to 15%goat to : 85% sheep at the beginning of the PPNC, 500 years later(Wasse 1997). Von den Driesch argues that sheep must have been introduced as a domestic from elsewhere to south of the Levant (Horowitz et al 1999; von den Driesch and Wodtke 1997).

So it is during the PPNC that in Jordan first time herded sheep and goat are present. However, during the second half of the seventh and the beginning of the sixth millennia BC "uncalibrated," settlers in Jordan practiced several subsistence activities including hunting,

trapping, foraging and crop cultivation, to which in the PPNC they added the caprine herding.

## BURIAL CUSTOMS

The LPPNB burial practices often made use of abandoned rooms and sub-floor channels beneath the floors as it was the case at Basta in southern Jordan(Nissen et al 1991). Most of the time skeleton was complete, but in some cases the cranium was often missing; in other cases skulls were found without a body.

Burials that belong to the PPNC were only excavated in Jordan at the site of Ain Ghazal. The multiple interments appear in the same pit, in contrast to the LPPNB where there were only single burials. The secondary burials



Fig. 9: PPNC ritual structure, 'Ain Ghazal.

seem to become popular as is, as well the tradition of decapitating the skull. Funeral objects, mostly animal bones (specially pig), were deposited in the burial pit (Rollefson 1998b).

## ART

If during the Middle PPNB, the dwellers of the site of Ain Ghazal had artistic objects like human statues and busts and caches of animal figurines that might reflect their will to express their ritual beliefs in artistic objects, the situation completely changed during the following period. At that time they were concentrating their efforts on ritual buildings than on symbolized objects.

In the time being, the best collection of art for the LPPNB has been found in Basta. It has a pendant in the shape of human head, other kind of objects are the jewelery such as mother-of-pearl beads and a large amount of bracelets and anklets made of lime and sand stones. The last series of objects is present at most of the LPPNB sites in Jordan (Gebel and Bienert 1997; Starck 1988. Nissen; Muheisen and Gebel 1987). A mask made of lime-stone, phallic symbols in addition to other animal figurines were found (Hermansen 1997).

Unfortunately, it is only a small number of artistic objects were found in Jordan and belonged PPNB. The best example from those is a 13 cm high female figurine representing a pregnant woman (Fig.12). It is carved in limestone, red painted. This representation has no head, hands and feet (Kafafi 2000). This may mean that the artisan want to concentrate on the pregnancy than on the artistic representation.

## DISCUSSION

Jordan and especially its southern part attested before 8500 years a growth of population; sites reached in several cases very large proportions that invites me and to identify them as towns. Even if using such a term will put us in big dilemma as the word town reflects social and economic organization that we can not

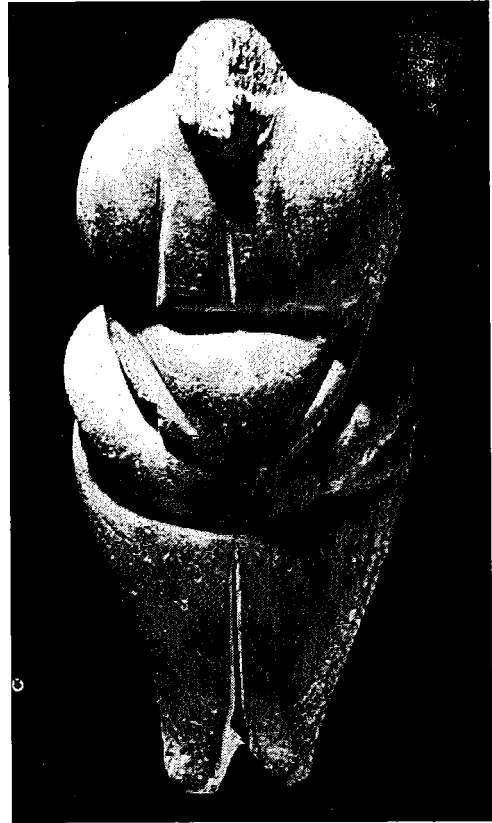


Fig. 12: PPNC female figurine, 'Ain Ghazal.

yet detect. But, we found ourselves obliged to use this term as to identify some sites that can not be termed neither centers nor large villages. Each one of these sites covers a surface of at least 10 hectares in area and they produce a wealth of archaeological material that indicated a surplus of production (Fig.13). The sites of Ain Ghazal, Wadi Shu'eib, es-Siffiya, Basta and many others (cf. the list of sites stated in Fig.13) were established for most of them in wadi systems and till now no smaller sites of the same period were found in their vicinities to argue the centralization.

To compare, results of excavations conducted at sites located in northern Syria and Anatolia showed that the area was occupied by Neolithic farming communities from the end of the ninth

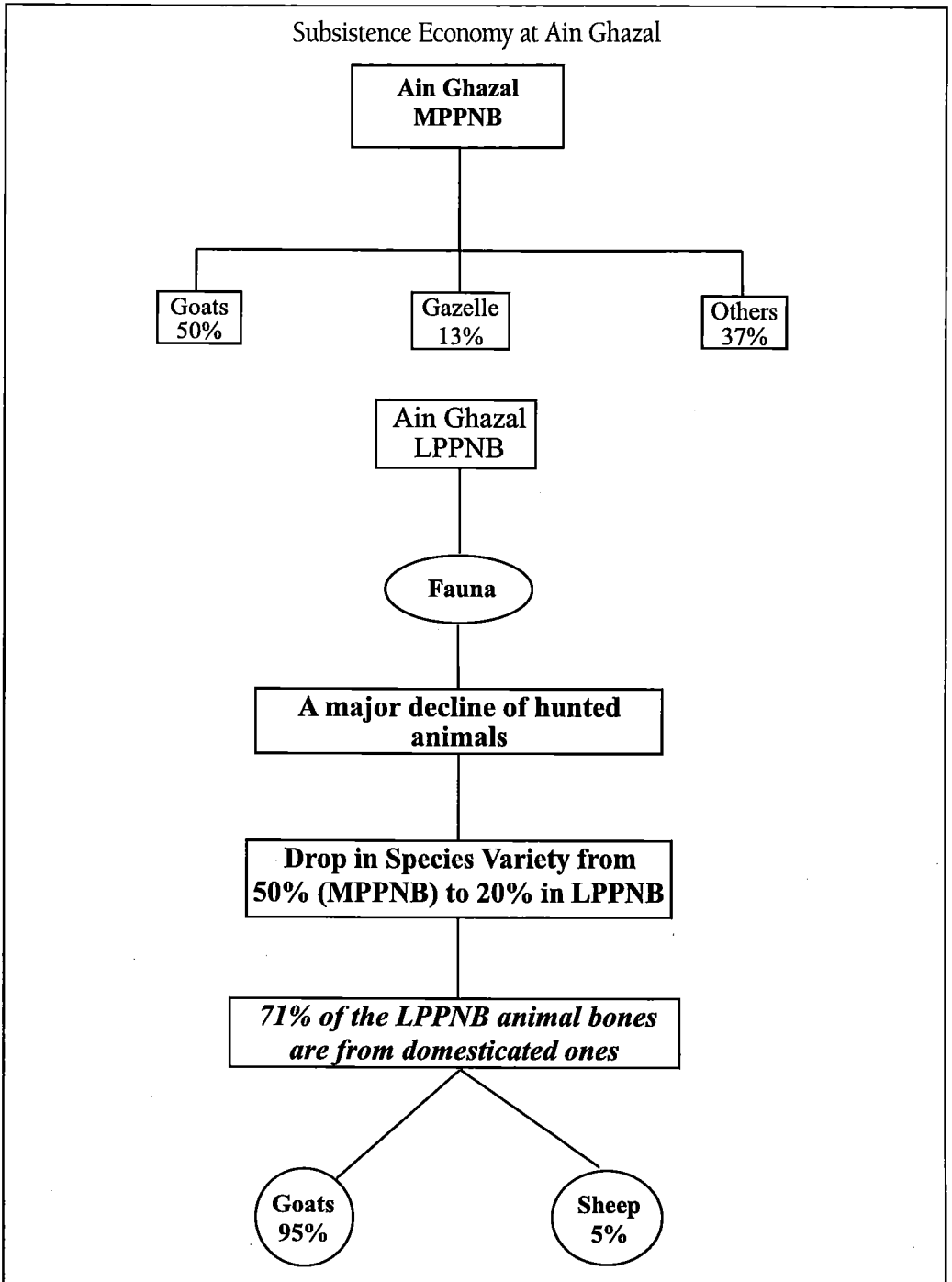


Fig. 10: A diagram showing the changes in subsistence strategies from the Middle PPNB and Late PPNB at Ain Ghazal



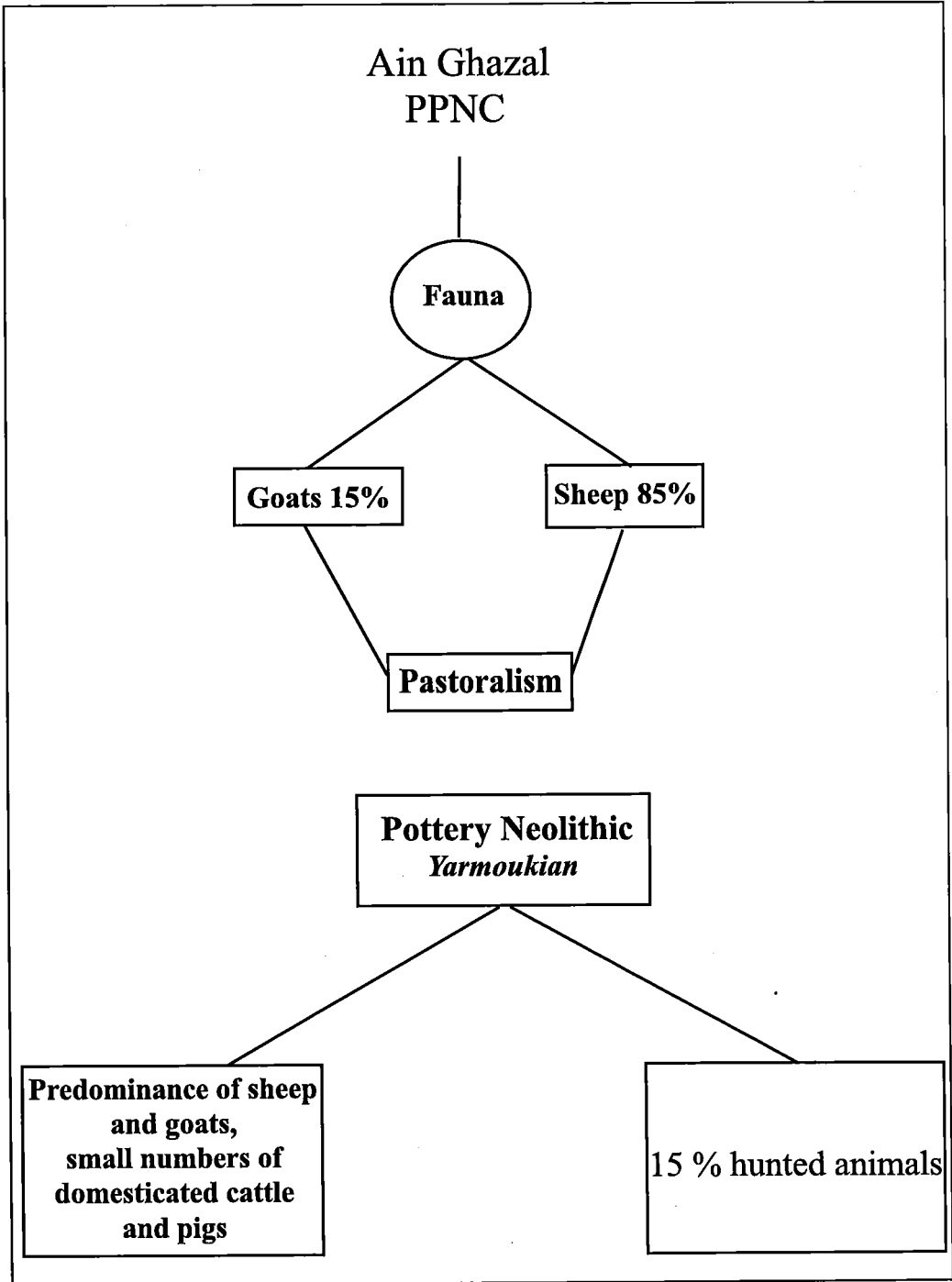


Fig.11 - A diagram explaining the changes in subsistence during the PPNC and the Yarmoukian at Ain Ghazal

| Site name     | Site(hectares) | Water Resources        | Identification                  |
|---------------|----------------|------------------------|---------------------------------|
| Ain Ghazal    | 14             | Zerqa River and Spring | Town                            |
| Basta         | 15             | Wadi and Spring        | Town                            |
| Es-Sifiya     | 12             | Wadi Moujeb and Spring | Town                            |
| Beidha        | 8-10           | Wadi Aqlat             | Large Village                   |
| Ain el Jammam | 6-8            | Spring                 | Large Village                   |
| Al-Bassit     | 6-8            | Wadi and Springs       | Large Village                   |
| Ba 'ja III    | 1.5            | Wadi                   | Small Village / industrial site |
| Al-Ghuwayr I  | 1              | Wadi                   | Small Village                   |
| Wadi Jilat    | 0.5            | Wadi                   | Camp                            |

Fig. 13- A list of the major excavated PPNB sites in Jordan

The differences in the sizes of the PPNB sites, the architecture, economy (surplus in production), and artefacts inventories are possibly indicating the differences in types of settlement associated with a complex system including towns (sites over 10 hectares), large villages (sites between 5-10 hectares), small villages and industrial locations (sites between 1-5 hectares) and hunting camps and hamlets.

millennium BC. Several PPNB villages such as Jerf Al-Ahmar, Djade, Mureybet IIIB and Cheikh Hassan were found. Some of these continued to be occupied during the earliest phases of the PPNB, whereas others as Halula started a little bit later but continued to be occupied during the LPPNB as the case of Abu Hureyra. (Molist 1996; Cauvin 1994). Based on the published archaeological data excavated at the LPPNB sites in the north Syria no cult buildings or statues similar to those encountered at sites in the South Anatolian and South Levant (including Jordan). Nevertheless, some of the uncovered structures at the famous PPNB/PPNB site Jerf Al-Ahmar showed internal divisions having benches and embellished by decorated stone slabs ascribed as communal buildings were excavated. These were dated to the Early PPNB and described as were used for meetings and/or for ritual (Stordeur et al 2000). The cult buildings and "temples" excavated at the Hallan Cemi, Cayonu, Nevali Cori and Gobekli Tepe in Anatolia differ from the residences in plan, technique and size. (Schmidt 2000; Ozdogan 1999) The presence of such

archaeological ritual elements in north Syria and Anatolia reminds us with those uncovered at Ain Ghazal in Jordan.

In the Levant as well as in Southeastern Anatolia a cultural climax had been reached during the second half of the seventh millennium BC, and this is evident by the appearance of the so-called mega-sites, intensified trade, cultic building and ritual objects. (Gebel 1997). This climax and flourished settlements were followed by a collapse or decline, many sites were deserted while others shrank to a smaller size.

In an attempt to explain the far distance relations between those LPPNB sites in Jordan, it has been proposed that the society of these mega sites was composed of different socio-economic groups such as farmers, herders, hunters and handicraft persons. Considering the handicraft activities, the amount of limestone vessels found at Basta and moreover the large number of finished and unfinished bracelets and anklets excavated at Baja that seems to be a specialized activity site suggest that in the same society some persons were performing handicraft activities

while others served as exchangers dealing with the surplus of the production that they were bringing to towns (Fig.14). These objects might also having been transferred to the other towns by the handicraftsmen themselves.

Those large sites seems to be a single period ones and were mostly abandoned after the LPPNB period. Meanwhile at many of the LPPNB sites e.g. Basta, Ain Jammam and es-Siffyah top surface levels contained pottery sherds and very small arrow-heads. Unfortunately, those most upper levels were not thoroughly studied or even neglected by the excavators.

The abandonment of these LPPNB sites in southern Jordan by ca. 8000 BP "uncalibrated" invited us to raise two questions:

1. Why did this happened?
- 2 Where went the inhabitants of those sites?

Archaeologist and palaeozoologists tried to attribute this to several factors: invaders from the north, as it was suggested by K. Kenyon; nomadic pastoralism as suggested by I. Koehler-Rollefson, plaster manufacturing, as argued by G. Rollefson and climatic changes, as agreed upon by J. Perrot, de Contenson and Kirkbride. Based on observations I made at several sites, I am in favour with the climatic change thesis.

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