

## RESHAPING THE URBAN SPACE: BAKCHIAS IN PTOLEMAIC AND ROMAN TIMES

### 1. PREMISE

The study and analysis of urban layout require not only extensive knowledge of built-up space and its surrounding environment, but also an in-depth comprehension of different aspects of the site (e.g. geographical, economic, social, religious, architectural, historical, handicraft); in particular, numerous multi-disciplinary specialists have to interact synergistically to better understand the urban process dynamics and the evolution of a settlement.

In this regard, the Fayyum region (Egypt) has always been a favoured case study in order to examine the urban models of the new foundation settlements during the Ptolemaic era and their continuity throughout the Roman period (MUELLER 2006; DAVOLI 2011, 2012; MAROUARD 2012; CARPENTIERO 2016): not only because of the good state of preservation of the ancient structures and artefacts, but also because of the significant amount of written sources available. This textual evidence (papyri, ostraca, epigraphic texts) allows us to increase our awareness of the settlement characteristics and the social context. Unfortunately, the lack of in-depth site knowledge or a general overview of some characteristics of plans and architectural features renders the understanding of the urban dynamics in the Fayyum settlements both imperfect and arduous.

For this reason, a significant example of a historical interpretation of urban layout is represented by the case of the Bakchias village where, for over twenty years, the Mission of Bologna University, accomplished in partnership with Sapienza University of Rome (since 2005), have investigated the archaeological area (GIORGI, BUZI 2014). Thanks to the collaboration of numerous researchers, it is now possible to present a detailed reconstruction of the settlement's topography and landscape, by considering and combining not only knowledge that has been improved by excavation activities on-field, but also specific information obtained from papyrological sources and from different surveying approaches. All the data gathered have been recorded in a database connected to a GIS platform, enabling different spatial analysis to be carried out along with chronological maps and the reconstruction of the transformations of the urban physiognomy.

### 2. THE SITE OF BAKCHIAS AND THE DATA SET

The archaeological area of Bakchias, the modern Kom Umm el-Athl, is located at the north-eastern part of the Fayyum (Egypt), near the modern

village of Gorein (in the Tamiyya markaz), and occupies about 50 ha. Nowadays the site is divided into two sectors, N and S, by the bed of a now dried-up ancient canal. The northern part of the village, known as North Kom, is a sandy mound on which many buildings are still visible, mainly made of mud-bricks, but in many cases the use of stone and fired-bricks is also distinguishable. This section of the archaeological area hides the remains of the oldest portion of the settlement: a stratigraphically complex sector composed of different layers of buildings, evolving continuously since the Ptolemaic era to the late Roman period (BUZI *et al.* 2011; GIORGI 2011; ROSSETTI 2013; GIORGI 2014a; GIORGI, BUZI 2014). The southern part, the South Kom, is actually a flat space where the few remains date back to the Late Roman, Byzantine and Islamic Period (BUZI 2014a, 2014b). Regrettably, the state of site conservation and the preservation of the ancient structures has been badly affected by ancient and modern spoliations, by *sebbakh*-searching, which destroyed ancient structures for agricultural purposes, and by looters and illegal diggers.

Since 2011 a useful database has been compiled and three different types of data have been integrated into the GIS platform (QGIS 2.18.2 Las Palmas):

1) First of all, the plans of the areas investigated by previous campaigns have been digitalized and each geographical datum has been associated with attribute data, deduced from the investigations. During recent years, some of the main public and private buildings have been extensively excavated and carefully documented (ROSSETTI 2008; TASSINARI 2009; GIORGI 2012; GIORGI, BUZI 2014): i.e. in the North Kom an entire residential district, six temples, a granary, a bath complex, a kiln, and probably a fullery, while in the South Kom two churches and their associated structures.

2) Useful geographical information has also been deduced from papyri. Indeed, the spatial content, activities and buildings testified by certain papyri, could be transformed into geometric data and represented in the urban space (ŁUKASZEWICZ 1986; DARIS 2007; STEPHAN 2010). Obviously, in some cases, the geographic locations are definite since the edifices were brought to light by the archaeological excavations while, in other cases, the placements could be only hypothesised.

3) In order to create an up-to-date map and to monitor the conservation state of the ancient buildings, a surface-survey project has been carried out (ROSSETTI 2013, 2014a). The topographic survey of all the buildings emerging from the sand has been integrated with a description of the structures, specifying their dimensions, the arrangement of rooms, the building materials and a series of useful spatial data. Moreover, a detailed reading of the stratigraphic units recognised for each structure and the analysis of pottery findings have enabled the dating for each structure. The topographic survey has also been accomplished by the registration of the distribution of lithic elements (millstones,

mortars, counterweights and press bases), associated mainly with the grinding activities (ROSSETTI 2013, 195). Finally, the site has also been monitored using an integrated approach combining several geomatic techniques, such as remote sensing, photogrammetry, spatial geodesy and geophysical prospection (BOSCHI 2011; BUZI *et al.* 2011; BITELLI, MANDAICI, VITTUARI 2014).

Through the spatial analysis and the investigation of superposition of the layers and their chronology merged in the GIS platform, it shall be possible to isolate the main phases of the buildings and to re-read the historical development of village life. Thanks to these plans it was possible to understand how Bakchias suffered after its foundation at the very beginning of the Ptolemaic period, at least two major transformations during the Ptolemaic era, the last of which was consolidated in Roman times.

### 3. RESHAPING THE BAKCHIAS URBAN PATTERN

The village of Bakchias was founded during the late 4<sup>th</sup> century BC, probably at the very beginning of the land reclamation project, started by Ptolemy I Soter (MANNING 2003; DAVOLI 2012). This “new” Ptolemaic hamlet was probably established in a place formerly occupied by a previous settlement, as testified by numerous important clues obtained from the archaeological excavations and the analysis of certain structures (BSO 376, BSE 379, BSE 380) which present a completely different orientation from the others (PERNIGOTTI 2014) (Fig. 1). Although few remains of this older village survived, dating at least from the Late Period, the site’s strategic position on the edge of the plateau of the Fayyum depression and its altitude (20 m above sea level) allow us to understand its fundamental importance as a stronghold for the realisation of the reclamation project.

The “new” Hellenistic settlement realised above this already abandoned village was organised according to a quite regular grid around the oldest discovered temple, named Temple B (BNO 109), as shown by the structures dating back to this early Ptolemaic period (Fig. 1). The sacred edifice was built of mud-bricks and it was oriented southwards, probably towards the main canal (ROSSETTI 2014b, 115-118). All the other site structures related to this first phase could be identified as houses, at least according to the preliminary surface-survey, organised in quite regular blocks. This kind of orthogonal town planning, probably advanced by the central Lagid authority and adapted in the local context, was dictated by the need to expand the territories for cultivation as soon as possible (MUELLER 2006, 112-121).

This settlement layout was completely re-arranged when the land reclamation project was almost completed, during the second half of the 3<sup>rd</sup> century BC (Fig. 2). The enlargement of the agricultural area and the increase in the economy and finances of Bakchias probably involved a rapid expansion of the

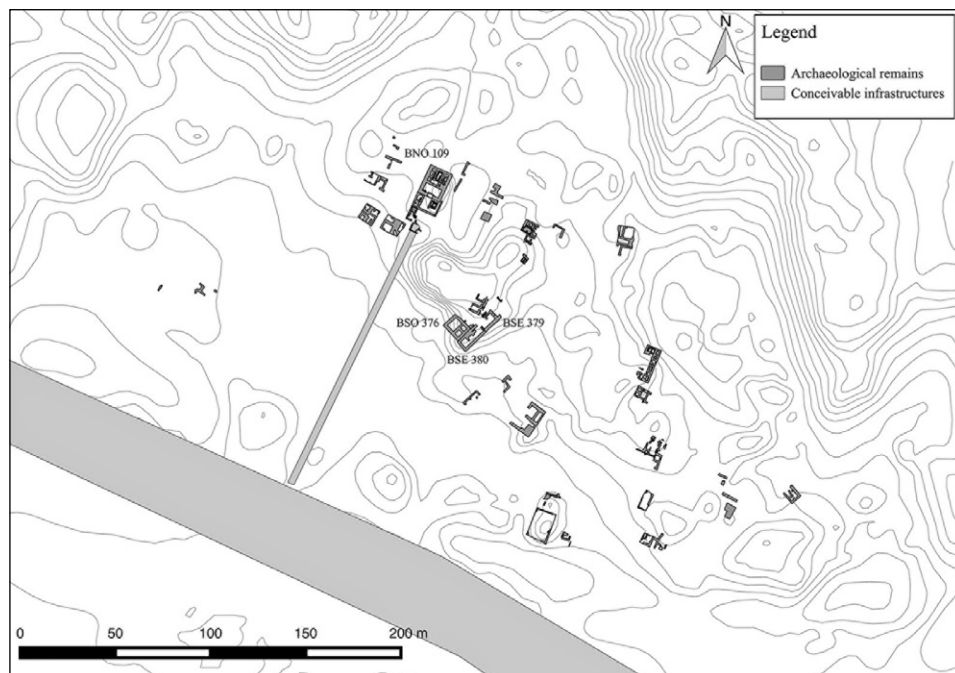


Fig. 1 – Bakchias plan during the early Ptolemaic period (from the late 4<sup>th</sup> century BC to the mid-3<sup>rd</sup> century BC).

entire urban planning, favouring the reorganisation of the settlement space around a new street hierarchy, whilst maintaining its previous orientation.

As has been noted for other Hellenistic villages of the Fayyum (MUELLER 2006, 117-120; DAVOLI 2011; CARPENTIERO 2016), the settlement was re-organised according to the new temple-*dromos* system, located at a very central position. Inside an important *temenos* and probably on the ruins of Temple B, the Temple A (BSO 375), dedicated to the crocodile god *Soknokonneus*, was built (ROSSETTI 2014b, 118-130). This temple was oriented orthogonally to Temple B and it is visible today in its impressive mud-brick structure. From its enclosure, the *dromos* branched off sloping eastwards and running parallel to the main local canal.

The new processional way became the symbolic focus for the organisation of the village, but since it was not used for common or domestic purposes, other parallel main thoroughfares were realised. The other few streets, conceivable on the basis of the structures belonging to this period, appear to be largely parallel and perpendicular to them, although the settlement does not seem to follow a rigid orthogonal pattern.

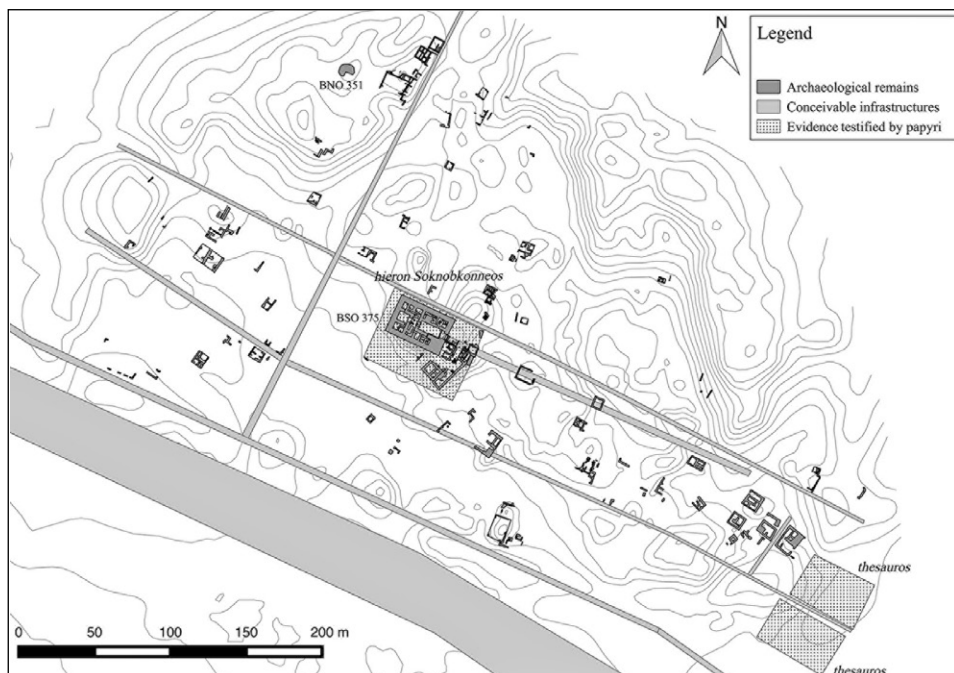


Fig. 2 – Bakchias plan during the mid-Ptolemaic period (from the mid-3<sup>rd</sup> century BC to the mid-2<sup>nd</sup> century BC).

Moreover, the expansion of the settlement included the annexation of three new districts: in the northern part (definitely residential), in the eastern area (probably showing an economic vocation) and another one in the western part. The development of this latter part of the settlement had to be associated with the increase in the relationship between the neighbouring village of Karanis; furthermore, according to the survey of lithic elements, this area may have been hypothetically intended as an area for the processing of food products. The new eastern district of Bakchias has different edifices (identifiable mainly as houses). In this case, thanks to papyri, it is possible to postulate here the existence of granaries. The last district, the northern one, preserved a very important block of mud-brick houses with a lifespan until at least the Late Roman times and, for this reason, the structures were repeatedly modified and rebuilt (GIORGI 2014b).

This new face of the village was not destined to last long. A revolution in the urban planning could be traced back to the second half of the 2<sup>nd</sup> century BC, perceivable particularly in the centre of the village. Here the sacred area was completely rearranged and, along with it, the road system hierarchy was transformed once again (Fig. 3).

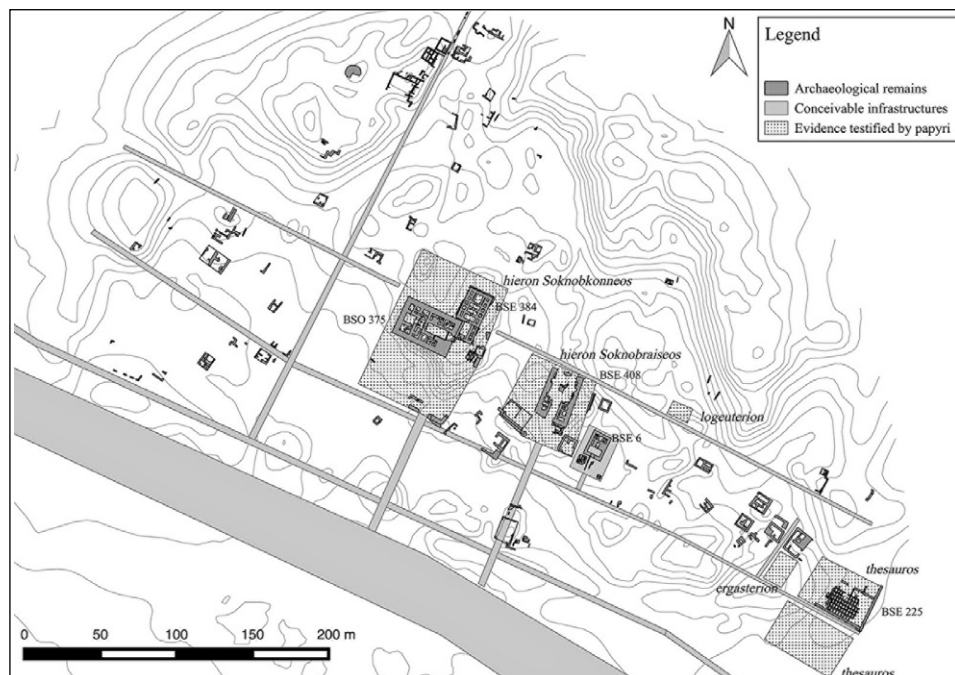


Fig. 3 – Bakchias plan during the late Ptolemaic period (from the mid-2<sup>nd</sup> century BC to the late 1<sup>st</sup> century BC).

First of all, in front of the village’s most important structure, the Temple A, a new sacred building (Temple C, BSE 384) was erected in limestone, oriented southwards and very likely it inherited the worship of the local main god, *Soknobkonneus* (ROSSETTI 2014b, 131-139). In the direction of the old main axis (the *dromos* of Temple A), a second important sacred area was realised with its mud-brick temple (Temple E, BSE 408), placed inside its own enclosure and dedicated to a crocodile god *Soknobraiseos* (ROSSETTI 2014b, 143-148). Both of these two main sacred structures altered the ancient processional street, the site’s main axis, as well as its connected structures. In its place, however, two parallel thoroughfares were realised, the *dromoi* of the two temples, that both reached the canal.

The change in orientation and hierarchy of the major roads can be linked to several factors: religious (the streets were directed to the natural environment of the two crocodile gods), economic (a path that proceeds from Ptolemais Euergetes to Memphis was preferred rather than from Karanis to Philadelphia) or simply practical, dictated by the need to establish two great sacred areas in a central position of the urban network.

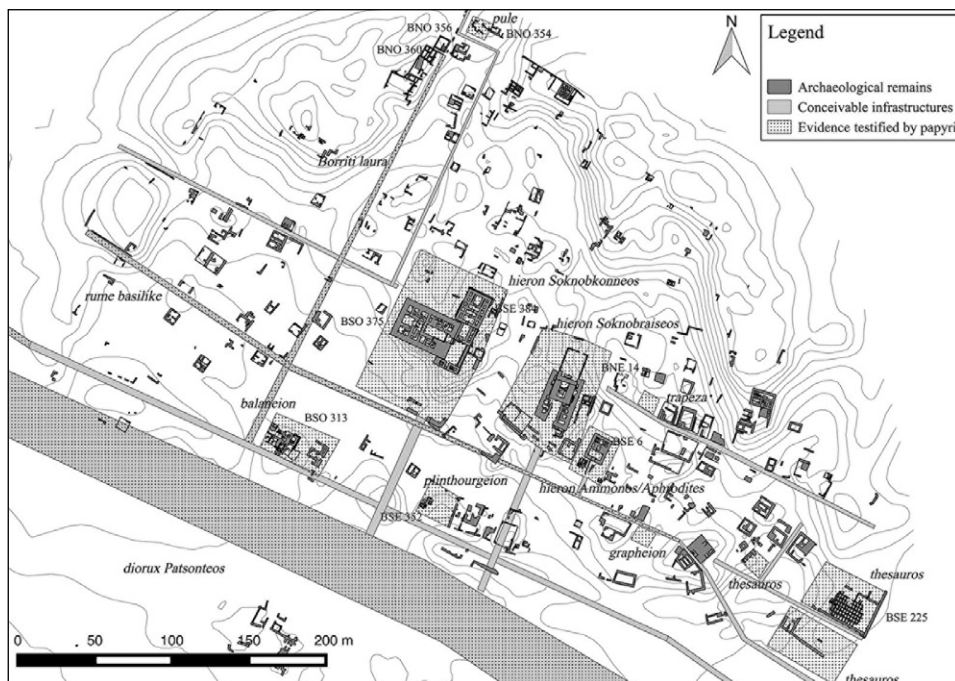


Fig. 4 – Bakchias plan during the Roman period.

Despite the restyling of the site’s central part, the other districts of the village remained almost unchanged. The discovery of the *thesauros* has further confirmed the economic importance of the eastern district, due to its strategic position: near the canal and one of the main streets that bordered it and closely connected to the Bakchias hinterland.

The village’s long evolutionary trend was completed in Roman times (Fig. 4), when the two sacred areas were significantly monumentalised. The two impressive *temene* characterised the scenery of the town and they produced an important architectural impact on the village landscape.

The rest of the settlement seems to remain almost unchanged in Roman times compared to the previous period, with rare exceptions. Since it has been possible to identify a greater number of buildings dating back to this period, the roads of the entire urban layout have been hypothesised with a higher level of accuracy. While the main street network that divided the village into many blocks (*insulae*) was preserved, the secondary network (narrower streets, passageways and semi-private alleys) became denser and sometimes diverged. Each district was divided by paths that could be rapidly changed by the construction of new

houses or obstruction with other structures. This development appears to testify a rapid economic gain and a high population growth rate that was difficult to control, in which public space was regularly exposed to encroachments and appropriations of private-inhabitants (ALSTON 2002; MAROUARD 2008).

This urban organisation of Bakchias seems to have remained unaltered throughout the Roman period until the abandonment of the northern area, which probably occurred during the late 3<sup>rd</sup> and early 4<sup>th</sup> century AD, when the centre gravitated further S and the ancient remains entered a state of partial abandonment.

As has been demonstrated, the synergy of many scholars and the integrated approach between archaeology, papyrology and different kinds of technologies have enabled us to trace the various stages of the village's developmental parabola: the settlement was reshaped many times during its life and at least two important urban renewal programmes were accomplished during these six centuries. The case of Bakchias represents an important step in understanding the settlement dynamics of the Fayyum region. In the village, the urban network changes, the implementation of major public monuments and the expansion and the organisation of the new quarters reflect historical and economic development of the region about which, however, much remains to be understood.

ILARIA ROSSETTI

Sapienza Università di Roma  
Dipartimento di Storia Culture Religioni  
ilaria.rossetti@uniroma1.it

## REFERENCES

- ALSTON R. 2002, *The City in Roman and Byzantine Egypt*, London-New York, Routledge.
- BITELI G., MANDAICI E., VITTUARI L. 2014, *Esperienze di geomantica a Bakchias*, in GIORGI, BUZI 2014, 93-105.
- BOSCHI F. 2011, *Indagini geomagnetiche a Bakchias (Campagna 2001)*, in P. BUZI, E. GIORGI (eds.), *Bakchias 2009-2010. Rapporto preliminare della XVIII e XIX Campagna di scavi*, Imola, La Mandragora, 285-290.
- BUZI P. 2014a, *Fayyum tardo-antico e Bakchias cristiana*, in GIORGI, BUZI 2014, 69-80.
- BUZI P. 2014b, *Il settore cristiano*, in GIORGI, BUZI 2014, 179-212.
- BUZI P., GIORGI E., GASPERINI V., MANDANICI M. 2011, *Bakchias: Urban peculiarities and preservation problems*, in R. PIRELLI (ed.), *Natural and Cultural Landscapes in the Fayoum. The Safeguarding and Management of Archaeological Sites and Natural Environments*, Cairo, Unesco, 86-95.
- CARPENTIERO G. 2016, *Continuity and change in Hellenistic town planning in Fayum (Egypt): Between tradition and innovation*, in N. MUGNAI, J. NIKOLAUS, N. RAY (eds.), *De Africa Romaque: Merging Cultures across North Africa*, London, The Society for Libyan Studies, 73-84.
- DARIS S. 2007, *Strutture urbanistiche di Soknopaiou Nesos nei papiri greci*, «Papyrologica Lupiensia», 14, 83-94.



- DAVOLI P. 2011, *Reflections on urbanism in Graeco-Roman Egypt: A historical and regional perspective*, in E. SUBÍAS, P. AZARA, J. CARRUESCO, I. FIZ, R. CUESTA (eds.), *The Space of the City in Graeco-Roman Egypt: Image and Reality*, Tarragona, Institut Català d'Arqueologia Clàssica, 69-92.
- DAVOLI P. 2012, *The archaeology of the Fayyum*, in C. RIGGS (ed.), *The Oxford Handbook of Roman Egypt*, Oxford, Oxford University Press, 152-170.
- GIORGI E. 2011, *Riflessioni sull'urbanistica di Bakchias*, in P. BUZI, D. PICCHI, M. ZECCHI (eds.), *Aegyptiaca et Coptica: studi in onore di Sergio Pernigotti*, BAR International Series 2264, Oxford, Archaeopress, 183-194.
- GIORGI E. 2012, *I bagni romani di Bakchias. La storia dell'edificio e l'evoluzione dell'impianto urbano*, Imola, La Mandragora.
- GIORGI E. 2014a, *La genesi e lo sviluppo urbano*, in GIORGI, BUZI 2014, 53-67.
- GIORGI E. 2014b, *Il quartiere settentrionale*, in GIORGI, BUZI 2014, 155-164.
- GIORGI E., BUZI P. (eds.) 2014, *Bakchias. Dall'Archeologia alla Storia*, Bologna, Bononia University Press.
- ŁUKASZEWICZ A. 1986, *Les édifices publics dans les villes de l'Égypte romaine: problèmes administratifs et financiers*, Warszawa, Wydawnictwa Uniwersytetu Warszawskiego.
- MANNING J.G. 2003, *Land and Power in Ptolemaic Egypt. The Structure of Land Tenure*, Cambridge, Cambridge University Press.
- MAROUARD G. 2008, *Rues et habitats dans les villes et villages de la chôra égyptienne à la période gréco-romaine (III<sup>e</sup> S. av.-IV<sup>e</sup> S. apr. J.-C.): quelques exemples du Fayoum (Nome Arsinoïte)*, in P. BALLET, N. DIEUDONNE-GLAD, C. SALIOU (eds.), *La rue dans l'antiquité. Définition, aménagement, devenir (Poitiers 2006)*, Rennes, Presses universitaires de Rennes, 117-128.
- MAROUARD G. 2012, *Les quartiers d'habitat dans les fondations et refondations lagides de la chôra égyptienne. Une révision archéologique*, in P. BALLET (ed.), *Grecs et Romains en Égypte. Territoires, espaces de la vie et de la mort, objets de prestige et du quotidien*, Le Caire, IFAO, 121-140.
- MUELLER K. 2006, *Settlements of Ptolemies. City Foundations and New Settlement in Hellenistic World*, Leuven, Peeters.
- PERNIGOTTI S. 2014, *Per una storia di Bakchias*, in GIORGI, BUZI 2014, 17-38.
- ROSSETTI I. 2008, *Il tempio C di Bakchias*, Imola, La Mandragora.
- ROSSETTI I. 2013, *Bakchias alla luce delle ultime scoperte: topografia e urbanistica*, «Aegyptus», 93, 189-200.
- ROSSETTI I. 2014a, *La schedatura degli edifici di Bakchias*, in GIORGI, BUZI 2014, 369-406.
- ROSSETTI I. 2014b, *Le aree templari di Bakchias*, in GIORGI, BUZI 2014, 109-153.
- STEPHAN R.P. 2010, *Texts and artifacts: A spatial analysis of papyri at Karanis*, «Past Imperfect», 16, 92-131.
- TASSINARI C. 2009, *Il thesauros di Bakchias. Rapporto definitivo*, Imola, La Mandragora.

## ABSTRACT

The paper focuses on some important results obtained by an integrated approach using archaeological evidence, papyrological sources and different kinds of technologies in order to reconstruct the urban development of the site of Bakchias, located in the north-eastern part of the Fayyum region (Egypt). The Mission of Bologna University has excavated ancient Bakchias at Kom Umm el-Athl for over twenty years. In particular, the latest studies, conducted in partnership with Sapienza University of Rome since 2005, have revealed several new elements which are useful for reconsidering the urban development of the *kome*. In 2011, a GIS was constructed not only in order to store and manage the large quantity of data collected during these years, but also to analyse and process the information and to optimise the research

goals. Indeed, the latest-field activities have brought to light numerous structures, both public buildings and private houses in different sectors of the archaeological area. At the same time, an analysis of the papyrological and epigraphic sources was carried out so as to comprehend the useful information about the spatial content, activities and buildings recorded for the settlement. The research was completed using different surveying approaches. All the data thus obtained were merged together in a GIS environment, in order to collect and manage all the information and to integrate the individual elements in a coherent workflow process. Spatial or distributional analysis of the data relating to the site enabled us to draw a series of thematic and phase maps of the Bakchias site. The execution of these diachronic plans, representing different chronological phases of the town, allowed us to evaluate the historical development of the site and urban plan transformations.