

## INTRODUCTION

### 1. The gardens

The present work aims at examining the management of gardens, in particular palm groves (Sumerian  $\hat{g}e\hat{s}kiri_6$ ), in the Ġirsu province during the third dynasty of Ur, also known as the Neo-Sumerian period, a period spanning the last century of the third millennium BC. As is well known, agriculture was the economic *fulcrum* of Lower Mesopotamia in third millennium BC, assuming various forms according to the different landscapes of the alluvium, and garden culture was just a part of this broader framework.

Arable lands, principally consisting of fields dedicated to the cultivation of cereals, extended along the complex canal system created from antiquity in order to optimize agricultural production in the alluvium. Indeed, already in ancient times, the climatic and geographic conditions of Mesopotamia offered a particularly harsh and hostile environment hardly suitable for the prosperity of crops; high temperatures and insufficient rainfall meant that cultivation depended exclusively on irrigation. Another important factor deeply shaping the Mesopotamian landscape and the agricultural sphere was the period of the yearly floods of the main rivers of the plain; in fact, the Tigris and Euphrates flooded in the early spring, shortly before the harvest time. Therefore, Mesopotamian agriculture strictly depended on human intervention as far as the flood control, on the one hand, and the procurement of sufficient water, on the other, were concerned. As a consequence of the floods, the accumulation of sediments forming levees also played a significant role. During the process of the formation of the levees, indeed, the river bed gradually raised until it flowed above the surrounding land. This feature allowed for the cutting of irrigation channels through the levees, allowing the water to flow down towards cultivated fields and gardens. Due to the peculiarities of the levees' soil, in particular their drainage capacity, these plots proved to be optimal for the cultivation of fruit trees, date palms, and other types of vegetables. These portions of land were adjacent to watercourses, and thus benefitted from a copious and direct supply of water; they also presented a natural flora comprising a dense growth of various species of tree, such as willows, poplars, and tamarisks. Marsh areas, either permanent or seasonal, were interspersed among the cultivated lands and were dominated by reed-beds, grasses and various shrubs. In contrast, far from the watercourses, the vegetation could be described as semi-arid.<sup>4</sup> Then, alongside the massive crops represented by fields (Sumerian  $a\text{-}\hat{s}a_3$ ), particular crops belonging to different kinds of plots were present in Mesopotamia. They can be interpreted as gardens or orchards, whereas Sumerian terminology employed different labels according to the different types of cultivations. These include:

- $ki\text{-}nisi_g(SAR)$ , plots devoted to the cultivation of various types of vegetables and spices;
- $ki\text{-}\hat{s}um_2$ , plots dedicated to the cultivation of different species of alliaceous plants;
- $\hat{g}e\hat{s}kiri_6$ , to be interpreted as palm groves unless another type of cultivation is specified, especially grapevines,  $\hat{g}e\hat{s}kiri_6 \hat{g}e\hat{s}tin$ ,<sup>5</sup> or timber and fruit trees, as for example  $\hat{g}e\hat{s}kiri_6 \hat{g}e\hat{s}u_3\text{-}suh_5$ , probably a kind of pine,<sup>6</sup>  $\hat{g}e\hat{s}kiri_6 \hat{g}e\hat{s}ha\hat{s}hur$ , probably apple tree,<sup>7</sup> as

<sup>4</sup> Wright 1988, 12-14; Pollock 1999, 28-33.

<sup>5</sup> Postgate 1987, 117; Brunke 2011, 222-223; Heimpel 2011b, 112-115.

<sup>6</sup> Type of pine. For a detailed discussion on the exact identification of this kind of tree, see Heimpel 2011b, 103-105 and Stol 2013, 730.

<sup>7</sup> Type of tree not yet identified, but commonly interpreted as apple tree. With regard to the interpretation of  $\hat{g}e\hat{s}ha\hat{s}hur$ , see Postgate 1987, 117-119; Powell 1987a, 153-156; Brunke 2011, 209; Heimpel 2011b, 116-118.

well as other types of tree, e.g.  $\hat{g}e\hat{s}$  nu-ur<sub>2</sub>-ma, pomegranate tree,<sup>8</sup>  $\hat{g}e\hat{s}$  peš<sub>3</sub>, fig tree,<sup>9</sup> and others, which however are not associated with the garden name;<sup>10</sup>

-  $\hat{g}e\hat{s}$  tir, ‘forests’, plots devoted to cultivation of timber trees;

The first two types of garden-orchards, in particular the ki-šum<sub>2</sub>-plots, represented types of cultivation subsidiary to the principal ones. The subsidiary types shared the ground,<sup>11</sup> or more precisely, occupied areas left uncultivated by principal types. Moreover, the documentation attests to the presence of the same tree types in different environments as is the case of the kind of poplar known as  $\hat{g}e\hat{s}$  asal<sub>2</sub>,<sup>12</sup> which is attested both in forests and in gardens,<sup>13</sup> or the tamarisk ( $\hat{g}e\hat{s}$  šinig),<sup>14</sup> cultivated both in fields and gardens.<sup>15</sup>

Each of these particular crops were associated with different skilled professional figures (lu<sub>2</sub>-nisig<sub>x</sub> (SAR), lu<sub>2</sub>-šum<sub>2</sub>, nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub>,<sup>16</sup> lu<sub>2</sub>- $\hat{g}e\hat{s}$  tir), as can be seen in the following table:

$\hat{g}e\hat{s}$ kiri <sub>6</sub>	nu- $\hat{g}e\hat{s}$ kiri <sub>6</sub>
ki-nisig <sub>x</sub> (SAR)	lu <sub>2</sub> -nisig <sub>x</sub> (SAR)
ki-šum <sub>2</sub>	lu <sub>2</sub> -šum <sub>2</sub>
$\hat{g}e\hat{s}$ tir	lu <sub>2</sub> - $\hat{g}e\hat{s}$ tir

Looking at the working structure of gardens in more detail, a more complex situation consisting of different categories of skilled workers and sector managers (a-bala, du<sub>3</sub>-a-ku<sub>5</sub>, um-mi-a/nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub> and santana) is revealed and will be analyzed in the first chapter.

The importance of gardens as economic units within the rural landscape was tied, as already noted, to their main crop, the date palm, *Phoenix Dactylifera* (Sumerian  $\hat{g}e\hat{s}$  ĝešnimbar). Due to the particular conditions of the Mesopotamian soil, it seems plausible that already in ancient times only a certain selection of crops were suited to prosper. Particular features of date palms, such as tolerance of high levels of soil salinity and acidity or to high temperatures, assured

<sup>8</sup> Postgate 1987, 121; Heimpel 2011b, 120-121.

<sup>9</sup> Postgate 1987, 117; Heimpel 2011b, 115-116.

<sup>10</sup> It should be noted, that the documentation provides several examples of interplanting within the gardens ( $\hat{g}e\hat{s}$  kiri<sub>6</sub>), between different types of palm trees, or between palms and trees of smaller size, especially pomegranates, for which see further section 1.1.

<sup>11</sup> Stol 1987, 57-80 and previous literature. The author quoted the work of Dowson (1921), who noted that this practice is still current in modern Iraq. Both authors referred specifically to the practice of growing alliaceous plants in palm groves, a kind of intercropping actually poorly attested in the administrative documentation of the Neo-Sumerian Ĝirsu province, but well documented for other centers of the kingdom.

<sup>12</sup> The Euphrates Poplar could be meant here. See Powell 1992, 102; Heimpel 2011b, 124.

<sup>13</sup> In the administrative documentation of the Ĝirsu province this type of tree occurs solely in connection to a vineyard ( $\hat{g}e\hat{s}$  kiri<sub>6</sub> ĝeštin). See § 4.5.2.

<sup>14</sup> With regard to this type of tree, widespread throughout the alluvium, see Streck 2004, 251-254; Heimpel 2011b, 127.

<sup>15</sup> For this classification, see Powell 1992, 104. According to the author, both fruit and timber trees were cultivated in large gardens, whereas trees growing in forests were probably part of the spontaneous flora, which was in any case under state control. With regard to the timber trees exclusively attested in gardens, see now Heimpel 2011b, 132-136.

<sup>16</sup> As is well known, the construction nu + noun forms a conspicuous number of names of professions in the Sumerian lexicon. However, it is unclear which character the element /nu/ had, if it should be meant as a sort of nominal prefix, as already Edzard proposed, or if it should be meant as phonetic variant of lu<sub>2</sub>, as the sporadic attested form lu<sub>2</sub>- $\hat{g}e\hat{s}$  kiri<sub>6</sub> instead of nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub> would suggest (see Edzard 1962, 91-112). In contrast with other nu + noun constructions, generally considered as syntactic, nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub> seems to be a genitive construction, as testified by the ergative form nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub>-ke<sub>4</sub>. According to Attinger, nu- could be understood originally as a sort of “préfix possessif (le concernant/touchant)”, to be meant in a broader sense as “celui qui” or, as is the case of nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub>, “celui de” + substantive in the genitive (see Attinger 1993, 156-157). The etymology of the Akkadian word *nukaribbu*, gardener, remains unclear. However, the interpretation of the term as a loanword from Sumerian does not clarify the phonetic aspects related to the word nu- $\hat{g}e\hat{s}$  kiri<sub>6</sub>: as a genitive construction, indeed, we would expect an ending -akku rather than -abbu (as is the case of the Sumerian loanword nu-eš<sub>3</sub> [-ak], which in Akkadian appears as *nešakku*; see Edzard 1962, 92-95).

success to that species and its consequent continuity and permanence in the same territory. Even today, it represents the most important crop in Iraq, reaching 70% of the entire agricultural output.<sup>17</sup> As the main product of date palms we can surely understand its fruits, dates (Sumerian zu<sub>2</sub>-lum), to be high in nutritious content, to be easily stored and transported, and they are also attested in the context of pharmacopeia. In addition, a certain number of other products were obtained from date palms, as is attested both through modern parallels and the textual sources themselves: wood for construction or for the creation of various types of tools and furniture, fibers for ropes, leaves for ropes, baskets, and their lower parts as floats for fishing nets.<sup>18</sup> A further resource of palm groves was undoubtedly the shadow of the palm fronds, which allowed the growing of more delicate crops. Aside from the optimization of the cultivated areas, indeed, the practice of intercropping in palm groves allowed the other crops, among them fruit trees, to benefit from the shadow and protection provided by the date palms.<sup>19</sup>

The importance of gardens in the Mesopotamian imagination went beyond their economic significance; their shadow, their scent, their richness had indeed an ideological strength. They occur in the royal ideology as a symbol of wealth and prosperity of a kingdom. The Neo-Sumerian rulers claim to have planted gardens alongside the canals or surrounding the palaces,<sup>20</sup> the same *topos* which can be found in the words of the Assyrian rulers several centuries later, when the rulers claim to have enriched their kingdoms with gardens and to have bestowed gardens to their people.<sup>21</sup>

### 1.1. Garden composition

In the category of plots interpreted as gardens (ĝ<sup>es</sup>kiri<sub>6</sub>), besides the areas in which date palms, fruit and timber trees were cultivated, kinds of plots classified as ka-a-DU were also included. In *The Farmer's Instructions Civil*<sup>22</sup> noted that the expression ka-a-DU (KA.A.DU) occurs in two kinds of contexts: a) works on levees; b) description of palm groves and gardens. Further, he noted that areas labeled as ka-a-DU occur in texts in contrast to uncultivated areas (ki-ĝal<sub>2</sub>)<sup>23</sup> and to palm groves. Based on these considerations, Civil concluded that the lands referred to as ka-a-DU designated areas close to watercourses and suited to the cultivation of fruit trees and vineyards. Heimpel<sup>24</sup> interpreted the term as irrigation inlet (plot), on the basis of the literal meaning: water-bringing mouth. The author understood, indeed, the three elements forming the

<sup>17</sup> For the current situation of this crop, see [www.osservatorioiraq.it](http://www.osservatorioiraq.it), based on: al Sharq al Awsat; the article of 4/11/2009, *Iraq: in declino la coltivazione di palme da dattero*, highlights the difficulties that Iraq faced during the last decades in detaining its position as one of the principle exporters of dates. Despite the much older roots of cultivation itself, the commercialization of its produce has relatively recent origins, 1888, as work of an English company based in Basra. According to the statistics quoted by the article, of some 32 million trees present in the country between 1960 and 2000, there currently remain only 16 million. This agricultural sector represented one of the main resources of the Iraqi economy until the 1970s. Its decline, according to Farun Ahmad Hussein, president of the Association for Dates, can be attributed to various factors, first of all the war, which caused the destruction or occupation of the relevant infrastructures, the closing of many agencies dedicated to their production, and brought about deeply rooted damages to cultivation; secondary, the responsibility of the past governments, which failed to provide incentives or advantageous conditions. The agronomist Ali Jasim has suggested that of the 230 varieties of date palms present in Iraq, the majority currently risk extinction.

<sup>18</sup> For a more detailed discussion on the use of palm by-products, see Landsberger 1967, 18-30; Volk 2003/05, 290-293; Streck 2004, 267-270. For its usage as building material or as material for the creation of tools in the modern era, see also Barreveld 2003.

<sup>19</sup> Streck 2004, 263. This scholar analyzed the characteristics of date palm and tamarisk, among them the shadow offered by their fronds, on the basis of the Akkadian version of "The Dispute between Date Palm and Tamarisk".

<sup>20</sup> See Frayne 1997, 15 and below in this work § 1.6 and § 1.8.

<sup>21</sup> See Galter 1989, 238-242.

<sup>22</sup> Civil 1994, 131-132.

<sup>23</sup> The expression ki-ĝal<sub>2</sub> in the third millennium designated the uncultivated areas of gardens (Steinkeller 1989, 125). The practice of leaving portions of plots uncultivated responded to the need of the soil to reduce the salt concentration derived from the intensive agricultural use (Pollock 1999, 32-33).

<sup>24</sup> Heimpel 2011b, 88-89.

expression as: 1) inlet/mouth (ka.g), which allowed the buckets of the devices known as *shaduf*,<sup>25</sup> placed on the top of the embankments, to reach the water courses; 2) water (a); 3) the action of ‘bringing’ (tum<sub>2</sub> or de<sub>6</sub>),<sup>26</sup> in the sense of providing water wherever required. One must not exclude that the last element (DU) entails the action of ‘going’, hence ‘the mouth, where the water is going’, as the comparison with some river names<sup>27</sup> would suggest. In any case, it should be recognized that this designation denoted a type of plot, rather than a type of inlet.

The term is attested in at least fifteen texts<sup>28</sup> from Ĝirsu, in two texts from Umma, SAT 2, 950 (Š 42/x) and SACT 2, 140 (n.d.), and in PDT 2, 1301 (AS 8/vi), a fragmentary text from Drēhem, which, however, refers to an area of Ĝirsu (see § 7.3). The administrative documentation of the Ĝirsu province mentions irrigation inlet-plots cultivated with palms hosting pomegranates at their roots<sup>29</sup> or also irrigation inlet-plots cultivated exclusively with fruit trees, such as apple trees,<sup>30</sup> or irrigation inlet-plots designated as vineyards and hosting a rich variety of fruit and timber trees.<sup>31</sup> These examples suggest that irrigation inlet-plots represented a type of land suited to the cultivation of fruit and timber trees, but adapted in any case to the cultivation of date palms. Thus, this type of plots hosted kinds of crops, which can be considered typical of the gardens, and in fact the personnel employed in them is the same as that employed in the gardens. Furthermore, a single garden could be composed of both areas designated as irrigation inlet-plots and areas designated as palm groves.<sup>32</sup>

In general, even though the texts seldom explicitly indicate the proximity of gardens to watercourses, this can be inferred properly on the basis of the particular requirements of the garden crops. Cocquerillat<sup>33</sup> emphasized the need for cultivating date palms along watercourses and cited the Arabic saying: “La tête dans le feu, les pieds dans l’eau”. The presence of gardens along watercourses is further highlighted in the prologue of the code of Ur-Namma (see § 1.8), in which the king claims to have planted gardens along the banks of the Tigris, the Euphrates, and all the canals. In those cases in which gardens are explicitly indicated as located within the cities, it may be imagined that they were probably planted alongside canals crossing through the urban centers. Therefore, it can be inferred that gardens extended close to the watercourses of the province, the main canals, as well as the secondary canals or irrigation ditches, with particular attention given to the most delicate crops, especially fruit trees.

In his analysis of the social context and of the diachronic changes in the production of fruit in Mesopotamia, particularly on the lack of texts mentioning the topic after the end of the Neo-Sumerian period, Postgate stated:

In the climate of southern Iraq fruit trees, like all agriculture, can only be sustained by careful husbandry and in particular dependable irrigation. While date palms may survive in tidal conditions in the far south, other fruit trees will not tolerate so much salt, and therefore any

<sup>25</sup> The *shaduf* is a simple device consisting of two upright posts converging at the top, which hold up a third post, at the ends of which are placed a weight and a bucket. For attestations of this device in the Neo-Sumerian texts, see Maekawa 1986, 119-121. The author identified the expression a zi-ri<sub>(2)</sub>-gum<sub>2</sub> as “a simple device to lift water by means of buckets out of a canal or well”. As stressed by Civil, however, references to these devices in the texts are rare (Civil 1994, 69). In any case, with regard to the gardens of the province, a zi-ri-gum<sub>2</sub> is quoted in connection with only two plots, one recorded in the name of the gardener Alla (see § 1.11.6) and the other in the name of the garden administrator Ga’a (see § 9.4.1).

<sup>26</sup> With regard to the Sumerian differentiations of the verb ‘to bring’, see Sallaberger 2005a.

<sup>27</sup> See e.g. the Niĝinšedu canal, ‘the canal going to Niĝin’ (i<sub>7</sub> Niĝin<sup>ki</sup>-še<sub>3</sub>-du).

<sup>28</sup> ASJ 19, 142 127 (Š 36/-); MVN 6, 290 (AS 2/-); AS 18, 156 1 (AS 2/vii); ASJ 19, 287 11 (AS 2/vii); HLC 3, 391 (l.d.); MVN 15, 178 (l.d.); CUSAS 6, 85-87 (n.d.); ASJ 13, 214 (n.d.); Studi Saporetti 241 (n.d.); CT 10, 49 BM 14334 (n.d.); TÉL 233 (n.d.); PPAC 5, 288 (n.d.); CBT 3, BM 28832 (n.d.); CBT 3, BM 25293 (n.d.); WMAH 279 (l.d.).

<sup>29</sup> See e.g. HLC 3, 391 (l.d.).

<sup>30</sup> See e.g. ASJ 18, 156 1 (AS 2/vii).

<sup>31</sup> See e.g. MVN 15, 178 (l.d.); CUSAS 6, 85-87 (l.d.); PPAC 5, 288 (n.d.); CBT 3, BM 28832 (n.d.); CBT 3, BM 25293 (n.d.).

<sup>32</sup> See e.g. CUSAS 6, 85-87 (l.d.); HLC 3, 391 (l.d.).

<sup>33</sup> See Cocquerillat 1968, 30.

deterioration in the administration of irrigation will have its effects on the quality and quantity of fruit produced. That the break down of centralized bureaucracy which accompanied the fall of the Ur III kingdom would have had an immediate impact on the irrigation system does not need to be justified at length: even if the administrative traditions of the dynasty were retained locally by the individual city states, they lacked political control of the whole system of watercourses. There is therefore a likelihood that fruit-growing in general suffered a recession after the Ur III period.<sup>34</sup>

With respect to the difficulties encountered in the cultivation of other types of trees, such as, for example, the type of pine known as  $\text{ĝe}^{\text{s}}\text{u}_3\text{-suh}_5$ , and as far as the relevant climatic conditions, Stol already noted the lack of references after the Old-Babylonian Period. As stated by Heimpel, the cause of this disappearance is still unclear, although it can be supposed that, due to the torrid climate of southern Iraq, the cultivation of such trees was not an easy task and thus it was not always successful.<sup>35</sup> Nevertheless, we so far lack any clear indications suggesting that the cultivation of pines was preferred in irrigation inlet-areas. The types of timber trees attested in this kind of land, particularly in vineyards (for which see below), generally seem to coincide with the natural flora which grew along the watercourses, although this does not exclude the possibility that some were also intentionally planted in garden contexts.

An example of the composition of lands managed and worked by garden personnel, which can thus be defined as  $\text{ĝe}^{\text{s}}\text{kiri}_6$ , is provided by the text WMAH 279 (l.d.). The information offered by the text seems to concern a wide area of the province, considering that it is based on an area of 153 iku (550,800 m<sup>2</sup> / 0.55 km<sup>2</sup>),<sup>36</sup> and can be summarized as follows:<sup>37</sup>

	<i>Palm groves</i>	<i>Intercrops</i>	<i>Uncultivated areas</i>	<i>Other crops</i>	<i>Irrigation inlet-areas</i>
<i>Total</i>	69 $\frac{3}{4}$ iku $\text{ĝe}^{\text{s}}\text{ĝe}^{\text{s}}\text{nimbar}$ (251,100 m <sup>2</sup> )	13 iku $\text{ĝe}^{\text{s}}\text{ĝe}^{\text{s}}\text{nimbar}/$ $\text{nu-ur}_2\text{-ma}$ (46,800 m <sup>2</sup> )	16 iku $\text{ki-ĝal}_2$ (57,600 m <sup>2</sup> )	1 $\frac{1}{2}$ iku $\text{ĝe}^{\text{s}}\text{ĝe}^{\text{s}}\text{tin}$ $\text{babbar}^{38}$ (5,400 m <sup>2</sup> ) 1 iku $\text{nu-ur}_2\text{-ma}$ (3,600 m <sup>2</sup> )	51 $\frac{3}{4}$ iku $\text{ka-a-DU}$ (186,300 m <sup>2</sup> )

Based on the information derived from this summary, it can be deduced that the lands cultivated as gardens consisted of approximately 46% palm groves, 8% of intercropping between palms and fruit trees, 2% of fruit trees, 34% of irrigation inlet-areas<sup>39</sup> and 10% uncultivated areas.

<sup>34</sup> Postgate 1987, 126.

<sup>35</sup> See Heimpel 2011b, 103, with previous literature.

<sup>36</sup> Compare the surface area of the cultivated gardens in this text and those given in the texts treated below in the 3.1, recording the presence of cultivated garden surfaces within an area corresponding to  $\frac{1}{6}$  of the whole province. The information of WMAH 279, given the fragmentary state of the tablet, is insufficient to determine which area of the province is treated; see the considerations in § 9.5.1.

<sup>37</sup> This text seems to be the record of a distribution of barley, wool and garments to gardeners (see 1.8.7.6), showing at least two sub-sections. The information given here is based on the data recorded in the total of the second section, as this is better preserved.

<sup>38</sup> Although the sign UD, when referring to  $\text{ĝe}^{\text{s}}\text{tin}$ , usually entails dried grapes, raisins ( $\text{ĝe}^{\text{s}}\text{tin had}_2$ ), this interpretation can hardly fit with the context. It seems more plausible, in this specific case, that the sign refers to an attribute of the plant or its fruits, not yet intended as specific product.

<sup>39</sup> The text does not specify the presence of trees in the area defined as  $\text{ka-a-DU}$ , probably because it refers to information derived from the total. In other texts, as for example ASJ 18, 156 1 (AS 2/vii), summarized in § 2.10, information on the cultivation of the irrigation inlet-area is given in the ‘detail’ section, whereas in the ‘total’ section is solely given the total extent of the described areas. Based on the comparison with other texts, it can be suggested that the irrigation inlet-area of WMAH 279 had hosted the types of cultivation common on this type of ground, that is, fruit and timber trees occasionally interspersed with palms (see § 1.6.3). In addition, as shown by the text, fruit trees outside irrigation inlet-areas were essentially located within palm groves, and thus protected by the shade of the palms.

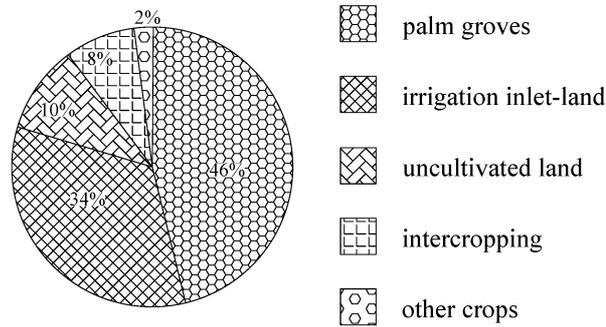


Figure 1. Composition of garden areas.

An example for the composition of a single garden, which can be identified as a palm grove, is in turn offered by another text, MVN 22, 31 (n.d.).<sup>40</sup> The total surface of the garden comprises about 2,078.5 sar (74,826 m<sup>2</sup>), containing 345 palms, and can be subdivided as follows:

	Cultivated area	Irrigated area	Uncultivated area
Total	1,615 sar (58,140 m <sup>2</sup> )	293½ sar (10,566 m <sup>2</sup> )	170 sar (6,120 m <sup>2</sup> )

Then, as a percentage, it can be presumed that a garden was on average composed of 78% of cultivated area, 14% irrigated area,<sup>41</sup> and 8% uncultivated area.<sup>42</sup>

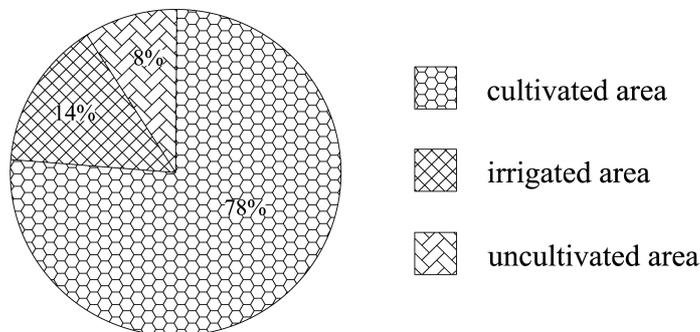


Figure 2. 'Typical' garden composition.

<sup>40</sup> The information provided by the text concerns five gardens, sensibly different in size; the information here reported refers to a single wide garden, the 'garden of Nanše', for which more details are available. The gardens described by the text are: 'the garden of NinMAR.KI' (§ 2.2.24), 'the garden of Išaran' (§ 2.4.2), 'the garden of Nanše' (§ 2.4.3), 'the garden of Lu-Igimaše' (§ 2.5.2) and a garden whose name is not preserved. Beyond this, the text seems to mention the presence of an irrigation ditch (pa<sub>5</sub>, marked as 36, probably sar, thus measuring 1,296 m<sup>2</sup>) close to an uncultivated area, but its exact position with respect to the described plots remains unclear (see § 1.5). The mention of the irrigation ditch occurs within the sketch containing the planning of works to be done drawn by the scribe. As argued in Alivernini and Greco (2014), this text seems to have been a preliminary sketch precluding the drafting of an official text.

<sup>41</sup> The composition of this palm grove could recall the method of flood irrigation, which represents one of the older and still more widespread methods of irrigation in palm groves, though it presents the disadvantage of being able to irrigate only the areas in which there are no palms (see Zaid 2002, VII.3. See also the considerations in § 1.5). For the practice of flood irrigation in fields during the Neo-Sumerian Period, see Maekawa 1990, 127–128; Waetzoldt 1990a, 9-11.

The cultivated area, namely 1,615 sar (58,140 m<sup>2</sup>), corresponding to 78% of the total area of the garden, can be further subdivided into: 1,580 sar (56,880 m<sup>2</sup>), corresponding to 97% ca. of the entire cultivated area and hosting 330 palms; and 35 sar (1,260 m<sup>2</sup>), that is, the remaining 3% of the whole cultivated area, hosting an unspecified number of fruit trees, grapevines and fig trees (25 sar, ġeštīn, 900 m<sup>2</sup>; 10 sar <sup>ġeštī</sup>peš<sub>3</sub>, 360 m<sup>2</sup>), as well as 15 palms.

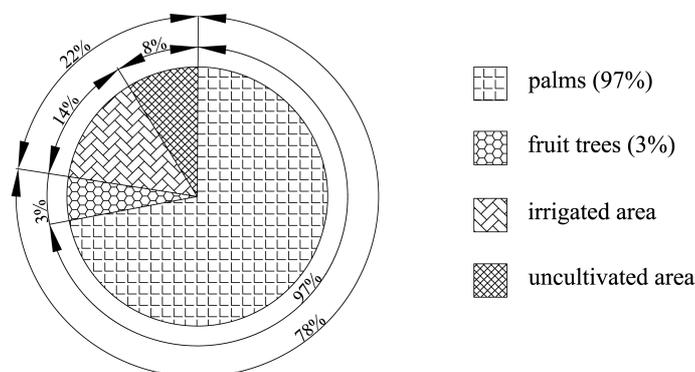


Figure 3. Detail of cultivated areas in the 'typical' garden composition.

However, the size and composition of gardens generally tend to vary considerably; in some gardens the presence of one palm ca. every 5½ sar (198 m<sup>2</sup>) can be estimated, in others the presence of one palm ca. every 13½ sar (486 m<sup>2</sup>).<sup>43</sup> It should also be considered that the presence of fruit trees among the roots of palms seems to occur in only 16% of the areas cultivated as palm groves, but it seems to represent the most common mode of cultivation for fruit trees, specifically 84%.<sup>44</sup>

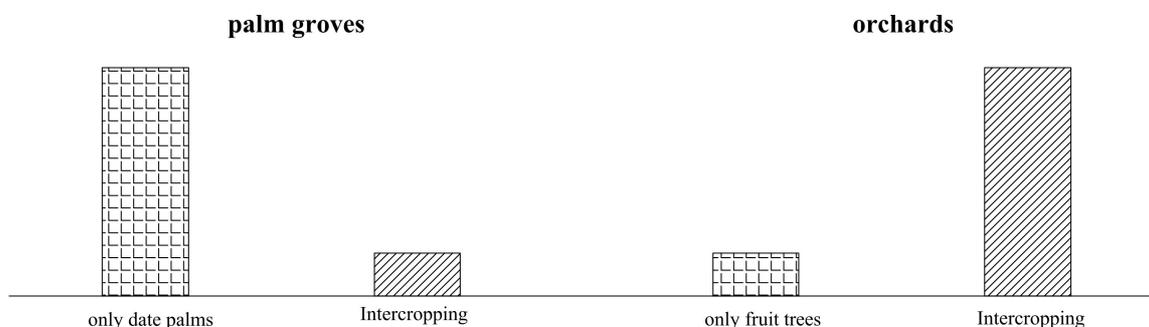


Figure 4. Presence of intercrops in palm groves and orchards.

<sup>43</sup> Data based on information regarding two gardens attested in MVN 22, 31 (n.d.), the 'garden of Ištaran' and the 'garden of Nanše', which show exactly opposing situations: for the first garden is recorded the presence of 40 palms on a surface of 540 sar (19,440 m<sup>2</sup>), of which 96% is cultivated area and 4% is irrigated area, thus the presence of one palm ca. every 13½ sar (486 m<sup>2</sup>) can be estimated; to the second is attributed the presence of 345 palms on a surface of 1,908½ sar (69,706 m<sup>2</sup>), of which 84% is cultivated area and 16% is irrigated area, thus the presence of one palm ca. every 5½ sar (198 m<sup>2</sup>) can be estimated. As stated by Cocquerillat, in the Old-Babylonian period the cultivators still did not know that the density of plants in palm groves is one of the principal factors affecting the productivity of palms (Cocquerillat 1967, 164).

<sup>44</sup> Data based on information derived from WMAH 279 (l.d.), which does not include irrigation inlet-areas. For a detailed discussion on the practice of interplanting based on texts from other provinces in the kingdom, see Heimpel 2011b, 138-147.

Gardens classified as vineyards ( $\hat{g}e\hat{s}kiri_6 \hat{g}e\hat{s}tin$ ) consisted on average of 56% irrigation inlet-areas (ka-a-DU) and 44% uncultivated areas.<sup>45</sup>

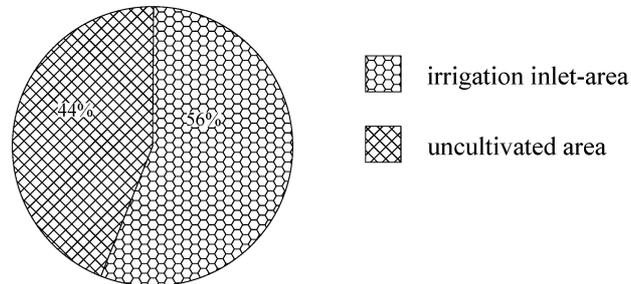


Figure 5. 'Typical' vineyard composition.

Wide areas devoted to the intercropping of a large variety of fruit trees are mostly designated under the label of vineyard, such as apple trees, fig trees, pomegranates,  $\hat{g}ipar$ -trees,<sup>46</sup> and timber trees, such as tamarisks ( $\hat{g}e\hat{s}\hat{s}inig$ ), different types of willows, especially that indicated as  $\hat{g}e\hat{s}kab$ ,<sup>47</sup> hackberries ( $\hat{g}e\hat{s}mes$ ),<sup>48</sup> and different types of poplar, Euphrates poplar ( $\hat{g}e\hat{s}asal_2$ ) and black poplar ( $\hat{g}e\hat{s}ildag_2$ ).<sup>49</sup> However, the exact distribution of the trees remains unclear since the available data are not explicit in this regard.<sup>50</sup> Moreover, we possess little information from the texts of the province on the composition of areas which can be defined as gardens devoted to the cultivation of timber trees, sorts of tree farms, particularly those devoted to the cultivation of pines.<sup>51</sup>

In the following section, a picture of the historical context will be briefly traced, with particular attention to land management, in order to illustrate the context in which the management of gardens in the Neo-Sumerian Period should be situated.

<sup>45</sup> Data based on the information provided by CBT 3, BM 28832 (n.d.) and PPAC 5, 288 (n.d.), texts recording the measurement of two distinct areas defined as vineyards of respectively 3,200 sar (115,200 m<sup>2</sup>) and 2,725 sar (98,100 m<sup>2</sup>). Generally, in vineyards it seems that more space was left to uncultivated areas. This tendency might be explained by the presence of certain species of trees which do not present the same level of tolerance to soil salinization as the date palm does.

<sup>46</sup> The exact type of tree has not yet been identified, usually designated as 'mulberry'. See Powell 1987b, 148; Postgate, 1987, 119-120.

<sup>47</sup> According to Heimpel, this is to be identified as a type of willow growing along the canal banks, but which was also intentionally cultivated (Heimpel 2011b, 125-126).

<sup>48</sup> Type of tree identified as hackberry, cultivated in the south of Iraq particularly for its wood (Powell 2003, 17). As noted by Heimpel, this type of tree produces edible berries, which, however, are attested only in literary compositions. (Heimpel 2011b, 130-131).

<sup>49</sup> Heimpel 2011b, 135; see also Stol 2013, 731.

<sup>50</sup> As will be seen further below, texts from the province recording both the measurements of gardens ( $\hat{g}e\hat{s}kiri_6 \hat{g}id_2$ - $\hat{d}a$ ) and counting of trees ( $\hat{g}e\hat{s} \hat{s}id$ - $\hat{d}a$ ) provide information on the types of plants present in a given garden, but not their distribution within the same. The subdivision of the described plots in parcels according to the responsible gardener, however, could represent a hint at the distribution of trees in a given plot.

<sup>51</sup> See Englund 2010, 108-109. A text from Umma, Nisaba 11, 27 (n.d.), provides more details on the composition of an area within the responsibility of a garden administrator (*santana*) and thus, from an administrative point of view, definable as garden area. According to the text, pines recur either as a monoculture within a plot, among the roots of date palms ( $\hat{g}e\hat{s} \hat{g}e\hat{s}nimbar \text{ur}_2$ - $\hat{b}a \hat{g}e\hat{s}u_3$ - $\hat{s}uh_5$ ), or together with fruit trees ( $\hat{g}e\hat{s}u_3$ - $\hat{s}uh_5 \hat{g}e\hat{s}ha\hat{s}hur$ ). Similar references can be found in a text from the same province, Princeton 2, 492 (ŠS 9/-), for which, see Heimpel 2011b, 136-138.

## 2. The Third Dynasty of Ur: center and periphery

The administration concerning the land management in southern Mesopotamia, in its differentiated forms, has produced a considerable quantity of documentation, especially during the last century of the third millennium BC at the time of the third dynasty of Ur, a period dated between ca. 2112-2004 BC. This century, indeed, represents the best-documented period in the history of Mesopotamia, offering a considerable abundance of evidence mostly pertaining to the economic and administrative sphere of the complex imperial structure directed by the capital Ur, a city in the south of the Mesopotamian alluvium.<sup>52</sup> The core of the state consisted of the traditional regions of Akkad and Sumer, including the Diyāla Region, and was subdivided into ca. 20 provinces approximately corresponding to the territories of the Sumerian city-states of the Early Dynastic times. The provinces of the core were directed by ‘civil governors’ (ensī<sub>2</sub>), appointed by the kings and had to respond in turn to the taxation system, known as bala-system. Peripheral provinces were also committed to ‘military governors’ (šagana),<sup>53</sup> and they were subject to another kind of taxation, known as gu<sub>2</sub>-un ma-da. Any sort of goods, from cereals to animals, reeds or wood, according to the potential of the economic production of the provinces, was channeled into particular structures controlled by the state.<sup>54</sup>

The bureaucratic-administrative development of this historical period may have already begun with the founder of the dynasty, Ur-Namma,<sup>55</sup> to flourish then with his son, Šulgi:<sup>56</sup> this sovereign, during his 48 years reign, promulgated a long series of political, economical and social reforms.<sup>57</sup> One of the essential aspects of the reorganization of the state enacted by Šulgi implied that temple households<sup>58</sup> were effectively brought under state control, even if on a formal level they still belonged to local deities. Therefore, these estates remained administratively under the management of temples, which continued to play a key role as economic units. Cripps<sup>59</sup>, on the basis of a subdivision already drawn by Steinkeller,<sup>60</sup> described the main characteristic of the Neo-Sumerian economy in three sectors; these were: 1) Temple domain: temples continued their economic activities as relative autonomous entities, even if the officials who managed them, the šabra and saĝĝa, were state officials connected to the governors; 2) Royal domain: crown estates included both land tenures assigned in usufruct to royal personnel, especially to military

<sup>52</sup> For an analysis of the rich Neo-Sumerian documentation, see Molina 2008, 19-53.

<sup>53</sup> With regard to internal and external organization of the Ur III, see Steinkeller 1987a, 19-41. For minor and major settlements of the internal provinces, directly managed by the crown through exponents of the high military ranks, among them šagana and nu-banda<sub>3</sub>, see Steinkeller 2011, 373-376.

<sup>54</sup> For a detailed depiction of the taxation system connected to the internal provinces, see Sharlach 2004.

<sup>55</sup> See Watzoldt 1991, 638.

<sup>56</sup> With regard to the temporal distribution of the texts according to year names of the different rulers, see Molina 2008, 47-51, figures 2-6.

<sup>57</sup> For this ruler and the policy of its long reign, see Sallaberger 2012.

<sup>58</sup> An economy based on households (*oikos*), according to Pollock, became widespread during the Early Dynastic period at expenses of a tributary economy, as consequence of an increasing urbanization. Early in the third millennium, indeed, the concentration of population in villages and cities reached unprecedented proportions. Material production became more elaborated and several raw materials were imported from afar for the manufacturing of luxury goods or mundane artifacts (Pollock 1999, 117). According to the author, urbanization entailed a substantial reorganization of the economy. Firstly, the possibility to obtain produce in form of tributes from the surrounding rural areas declined, a phenomenon that consequentially caused crisis situations for that part of the urban population which based its wealth on the surplus of produce coming from the rural areas. In response, the wider and wealthier households tended to increase the employment of no-kinsmen as labor force, to produce much of what was consumed. Although kin-based households still existed, keeping also a certain economic relevance, a substantial portion of the political economy was apparently inserted in this scheme. According to Pollock, indeed, “what emerged was a complex web of economically interdependent units whose members frequently had connections and obligations with more than one household” (Pollock, *ibid.*). Garfinkle stressed that in the type of household economy (renamed by him as *e<sub>2</sub>-economy*), this change, though radical, was neither uniform nor all-embracing, since not everybody worked or lived in an *oikos* (Garfinkle, 2008).

<sup>59</sup> Cripps 2007, 16-19.

<sup>60</sup> Steinkeller 1987a, 27; Steinkeller 2004, 92.

officers in return for service, and manufactory industries, herds, flocks, etc.; 3) Private sector.<sup>61</sup> the existence of private activity was an extension of the other side of the state economy. Moreover, Šulgi, as his 39<sup>th</sup> year name attests, was responsible for the foundation of Puzriš-Dagān, an important center devoted to the management of herds and flocks and source of some ten thousands of documents. Allred,<sup>62</sup> in his study on the production units represented by kitchens (e<sub>2</sub>-muhaldim), noted that the complex administrative machinery may be seen as a direct and logical response to the geo-political situation, which was derived from the reforms of the second half of the reign of Šulgi.

However, Garfinkle,<sup>63</sup> in regards to the idea of a highly centralized state, emphasized that the term ‘bureaucratic’ referring to the Ur III State is not completely justified. The author affirmed that the centralization of the economic and social control clearly represented one of the main purposes of the Ur III dynasty,<sup>64</sup> though this purpose was never actually accomplished, in spite of the imposition of rational bureaucratic state. Therefore, according to the author, the Neo-Sumerian state should be seen as an attempt to expand centralized control of the Mesopotamian society, and the centralization itself should be seen as the will of the crown to represent the gravitational center of the resources of the entire state. For this purpose, the Ur III kings entrusted the local power networks with the responsibility for controlling what lay beyond immediate royal control. However, the persistence of local élites at the top position of the governorship suggests forms of autonomies, hardly quantifiable on the political level as merely the choices of the crown. It should be noted, in any case, that the persistence of local calendars, despite the creation of a royal calendar, could also be seen as evidence of a certain autonomy of the provinces.

### 3. Land management

Regardless of the aims pursued by the state administration, from the perspective of land management particular attention was paid by the kings to evermore sophisticated irrigation works, on the one hand, and on the other to the attempt at keeping the agricultural landscape under their control. It represented an understandable attitude for a region that owed its wealth and prosperity to the agricultural crops. According to Pettinato, 80% of arable lands were directly managed by the temple households (aša<sub>5</sub> gu<sub>4</sub>), while the remaining 20% was subdivided in unequal parts between prebend fields (šuku) and leased out fields (apin-la<sub>2</sub>).<sup>65</sup>

Mesopotamian documentation shows that already in the proto-historic period of Djemdet Nasr land was principally kept by temple and perhaps palace households, namely the central institutions of the later city-states. The apparent monopolization of the rural landscape operated by the central institutions was present in the whole Sumerian period until the end of the Third Dynasty of Ur.<sup>66</sup> Arable lands kept by temple and palace were directly worked by the respective institutions through the permanent employment of working personnel receiving allotments and, additionally, personnel were occasionally employed under corvée. The conscripted workers received plots that would have supported their own households, besides the payments they received during their periods of employment.<sup>67</sup> In Pre-Sargonic Lagaš the personnel of

<sup>61</sup> On the discussion about the existence of a private economy during the Neo-Sumerian period, see e.g. Steinkeller 2004, 91-135; van Driel 1998, 19-49; van Driel 2000, 5-23.

<sup>62</sup> Allred 2006, 8.

<sup>63</sup> Garfinkle 2008, 60-61.

<sup>64</sup> Nevertheless, it was not a commonly shared opinion among the scholars; the author, who more than any other emphasized the centralizing nature of the Ur III state, is surely Diakonoff. Indeed, he described Ur III as a state completely subjugated to a despotic bureaucracy, under the supervision of which, the ġuruš were constantly forced to work, and he defined it as one of the worst totalitarian systems known to history (see Diakonoff 1971, 20).

<sup>65</sup> Pettinato 1999, 104-106. With regard to the subdivision of the arable lands, see also Maekawa 1999, 66-75. Maekawa compared the expression niġ<sub>2</sub>-ġal<sub>2</sub>-la to apin-la<sub>2</sub>, as far the leased plots it concerns.

<sup>66</sup> Cripps 2007, 5. In his work, Cripps analyzed different forms of land tenure, as well as sale contracts regarding fields for the periods preceding Ur III.

<sup>67</sup> Cripps 2007, 23-29.

institutional households was subdivided into two groups: ‘those who have received prebends’ ( $lu_2$  šuku dab<sub>5</sub>-ba), and ‘those who have received monthly (allotments)’ ( $lu_2$  iti-da) or ‘those who did not have received prebends’ ( $lu_2$  šuku nu-dab<sub>5</sub>-ba).<sup>68</sup> The first group, consisting solely of men, relied on plots as a form of subsistence beyond the allotments of barley, whilst the second group, to which belonged men, women and children, depended for its own subsistence exclusively from the monthly payments. As an example of this subdivision of the working personnel, Maekawa<sup>69</sup> examined the issue of garden management during the Pre-Sargonic Period. Here, the garden workers ( $du_3$ -a-ku<sub>5</sub> and  $igi$ -nu- $du_8$ ), who received monthly allotments, acted under the control of a gardener ( $nu$ - $kiri_6$ ),<sup>70</sup> who, in contrast, also received a prebend plot.<sup>71</sup>

Generally, it seems that cult officials and royal dependents<sup>72</sup> would receive both payments and prebend fields, lands that most likely remained their property permanently. Indeed, at the beginning those who benefitted from prebend plots as compensation for the labor performed as corvée obligation, most likely had to give back the plot to the institution which had granted its usufruct at the moment in which they were no longer able to serve the corvée, a moment which probably coincided with their death. However, it is likely that these provisional properties became part of the private households and hence inheritable, even though the ‘formal owner’ likely continued to share in the possession of the property.<sup>73</sup> It is also likely that those benefitting from subsistence fields also occupied a place at the head of their respective households, as it cannot be excluded that once the lands became inheritable, these prebenders could have gone from a situation of inconsistent employment and dependence on what subsistence they received, to that of privileged professionals figures at the top of society.<sup>74</sup>

Therefore, the reforms promulgated by Šulgi were probably intended to ensure that the management of pre-existing households would remain under royal control, first of all the temple households, but they had to face a situation where the local élite played a key role. As a response to this situation, the Ur III rulers maintained the power of the local élites at a local level or replaced the higher ranks through the appointing of officials by royal imposition. Nevertheless, the existence of cadastral texts during the all Neo-Sumerian period represents a clear evidence of the absorption of the rural landscape in an agricultural economy directed by the central bureaucracy.<sup>75</sup> Further, the use itself of fixed parameters, bound to the calculation of arable surfaces and their management, also points in this direction.

Indeed, the Neo-Sumerian administration availed itself of the use of a base agricultural unit, corresponding to approximately 1.30 km<sup>2</sup>, 20 bur<sub>3</sub> (360 iku), each of which was divided into two halves, one left fallow for a given year, the other cultivated by a farmer together with three persons responsible for driving the oxen and one group of animals used for plowing, and hence

<sup>68</sup> Maekawa 1987a, 49-71. On the same topic, see also Prentice 2010, 90-95.

<sup>69</sup> Maekawa 1987a. With regard to the garden workers of the Pre-Sargonic Lagaš, see Prentice 2010, 22-26.

<sup>70</sup> With the term  $nu$ - $kiri_6$  the author intended  $nu$ - $\hat{g}e\hat{s}$  $kiri_6$ , since in the documentation he referred to, the semantic determinative  $\hat{g}e\hat{s}$  does not occur. Actually, the omission of the semantic determinative before  $kiri_6$ (SAR) can be observed in several documents of the Ur III period, suggesting that this old feature was partially kept.

<sup>71</sup> Noteworthy is that for the Neo-Sumerian period there seems to be no textual evidence suggesting that the gardeners ( $nu$ - $\hat{g}e\hat{s}$  $kiri_6$ ) received prebend plots, in contrast to the garden administrators ( $santana$ ). The types of payment for the gardeners, as well as those for the garden administrators, will be further analyzed in § 1.6.8 and § 1.8.9.

<sup>72</sup> For the professionals benefitting from those forms of distribution, see Waetzoldt 1987a, 117-141.

<sup>73</sup> Cripps 2007, 24-25.

<sup>74</sup> Cripps 2007, *ibid.*

<sup>75</sup> The ‘Cadastral text’ composed by the first king of the dynasty, Ur-Namma, had political purposes and indeed it describes the boundaries of the new kingdom; see Frayne 1997, 50-60; Sallaberger 1999b, 190. As far as the agricultural sphere was concerned, there are, for example, the *Runde Tafeln* which consist of a corpus of 78 texts recording land surveys of the Girsu province, dated between Š 42 and IS 2 (Pettinato 1969). According to Maekawa, this type of texts may correspond to a program established by Šulgi, according to which surveys of the public lands should be carried out at a regular interval of years, likely at the beginning of the agricultural season (Maekawa 1999, 66).

these groups are referred to as personnel of plow or bull<sup>76</sup> ( $\hat{g}iri_3-se_3-ga\ apin/gu_4$ ). The territory of the Ġirsu province was subdivided into 600 agricultural units<sup>77</sup> and, in terms of agricultural units, the households<sup>78</sup> appeared highly differentiated; furthermore, the number of units per household was susceptible to changes over time.<sup>79</sup>

### 3.1. Presence of gardens in the Ġirsu province

As was shown in 1.1 with regard to the composition of plots defined as garden land, in an area that can be nearly compared to a district, there were ca. 153 iku (0.55 km<sup>2</sup>) of surfaces cultivated as garden land. Information about the presence and the extent<sup>80</sup> of garden areas within the rural landscape is then provided by texts pertaining to the description of the lands in terms of agricultural units.

A comparison of two texts, ASJ 17, 229 118 (Š 31/-) and TUT 12 (l.d.), suggests that the distribution of garden areas within the rural landscape of the province was not homogenous and that, in fact, depending on the area considered, the dimensions of the surfaces dedicated to gardens could differ significantly.

ASJ 17, 229 118 (Š 31/-) records the land survey<sup>81</sup> of an area consisting of 100 base agricultural units ( $a\check{s}a_5\ gid_2-da\ \hat{g}iri_3-se_3-ga\ gu_4-apin\ 100-kam$ ; 36,000 iku/130 km<sup>2</sup>), that is  $\frac{1}{6}$  of the estimated area which could be cultivated in the entire province of Ġirsu.<sup>82</sup> Within the described area, the garden surface covers 120  $\frac{1}{2}$  iku (v. iii, 13: 6.2.0  $\frac{1}{2}$  iku  $\hat{g}e\check{s}kiri_6$ ), that is,  $\frac{1}{300}$  of the whole area, whereby the urban surface occupies 278  $\frac{3}{4}$  iku (v. iii, 12: 15.2.2  $\frac{1}{2}$   $\frac{1}{4}$  iku iri), that is, ca.  $\frac{1}{120}$  of the whole area and two times as large as that occupied by gardens. Other types of plots, which were neither fields nor gardens, are indicated with the term SAR.SAR,<sup>83</sup> which seems to cover a surface of 25  $\frac{1}{2}$  iku (v. iii, 14: 1.1.1  $\frac{1}{2}$  SAR.SAR), that is less than  $\frac{1}{4}$  as large as

<sup>76</sup> On this topic, see Maekawa 1987a, 97; Maekawa 1999, 65-67; Heimpel 1995, 74.

<sup>77</sup> Maekawa supposed that 480 units pertained to the local public institutions, while the remaining 120 were reserved for the use of the royal crown of Ur. The tripartite management of lands observed by Pettinato is reflected then within the subdivision of the rural landscape in agricultural units, according to which, approximately six of every ten agricultural units were directly managed by the temple households ( $a\check{s}a_5\ gu_4$ ), while the remaining four were divided between prebend ( $\check{s}uku$ ) and leased out ( $apin-la_2/ni\hat{g}2-\hat{g}al_2-la$ ) fields. On this topic, see Maekawa 1987b, 96-99 and Maekawa 1999, 65-75. In the latter work, the author noted that, in fact, the situation changed over time and that only a small number of lands seems to have exhibited this kind of subdivision, noting that the fields including parcels of land to be rented out or given as prebends were usually situated near dwelling quarters (Maekawa *ibid.* 67).

<sup>78</sup> For the subdivision of agricultural units per household, see Maekawa 1999, 67-75 with previous literature. On the basis of the information provided by TUT 5 (Š 47/-), this scholar analyzed the subdivision of 420 agricultural units by different households, the most important of which were under the control of members of the family of the local governor (Maekawa 1996b, 171-179). With regard to this text, see also Heimpel 1995, 74.

<sup>79</sup> See Maekawa 1987b, 97 and Heimpel 1995, 77-78.

<sup>80</sup> In contrast to fields, whose composition are described in detail, the areas concerning gardens are indicated in only one entry providing a summary of its extent, as is true for the urban surfaces, apparently because this was the only information of some interest for the administration which produced these documents.

<sup>81</sup> Maekawa indicated several texts recording land surveys conducted by order of the ruler, and dating back to the years Š 28, Š 31 and Š 36. Inim-Šara, who is defined as 'land surveyor of the king' ( $sa\hat{g}-du_5$ ), occurs as the responsible official ( $\hat{g}iri_3$ ) in these texts, whereas the administrator ( $sa\hat{g}\hat{g}a$ ) of NinMAR.KI occurs as the supervisor in ASJ 17, 229 118 (Maekawa 1995, 196-197; 1997b, 114-116). For further texts mentioned in this study, which record land surveys ordered by the ruler, see § 4.1.

<sup>82</sup> Heimpel 1995, 74.

<sup>83</sup> For this designation of land, see Volk 1995, 173. This author interpreted the expression SAR.SAR as  $mu_2-sar$  (*musarū*), 'Gartenbeet', a kind of plot which was different from 'greenery plots',  $ki-nisig_x(SAR)$ , and 'gardens',  $\hat{g}e\check{s}kiri_6$ . One must not exclude that the differentiation of this text aimed at distinguishing palm groves ( $\hat{g}e\check{s}kiri_6$ ) from orchards, or even from irrigation inlet-lands ( $ka-a-DU$ ), by using in this case a different terminology; as seen above,  $ka-a-DU$  is a designation which occurs especially in texts from the Ġirsu province and sporadically in texts from Umma. In any case, considering both areas in a same calculation, we would obtain 146 iku (525,600 m<sup>2</sup>), hence consistent with the data (550,800 m<sup>2</sup>) reported in WMAH 279; see above 1.1.

the surface dedicated to gardens and less than  $\frac{1}{10}$  as large as the urban surface. According to Vanderroost,<sup>84</sup> the area described by the text can be identified with the district of Gu'aba.

	<i>Garden areas</i>	<i>SAR.SAR-areas</i>	<i>Urban areas</i>
<i>ġiri<sub>3</sub>-se<sub>3</sub>-ga gu<sub>4</sub>-apin 100-kam</i>	120 $\frac{1}{2}$ iku (0.43 km <sup>2</sup> )	25 $\frac{1}{2}$ iku (0.09 km <sup>2</sup> )	278 $\frac{3}{4}$ iku (1 km <sup>2</sup> )

The colophon of TUT 12 is illegible, but the text amounts to a document recording land survey, largely similar to ASJ 17, 229 118, with the difference that it presumably describes a smaller area. To the center of Kimadasala, a settlement of the Ġirsu district,<sup>85</sup> are attributed 95 iku of urban surface (o. i, 15: 5.0.5 iku iri Ki-ma-da-sal<sub>4</sub>-la<sup>ki</sup>), to be compared with the sum indicated elsewhere in the text, presumably the total,<sup>86</sup> which lists 188  $\frac{1}{4}$  iku of urban surface (r. ii', 6: 10.1.2  $\frac{1}{4}$  iku iri) and 9 iku of surface cultivated as gardens (r. ii', 5: 0.1.3 iku <sup>ġe<sup>s</sup></sup>kiri<sub>6</sub>), thus in this case  $\frac{1}{20}$  as large as the urban surface. However, the area considered in this text presumably includes at least two urban centers.

	<i>Garden areas</i>	<i>Urban areas</i>
Kimadasala		95 iku (0.34 km <sup>2</sup> )
Unspecified	9 iku (0.03 km <sup>2</sup> )	188 $\frac{1}{4}$ iku (0.68 km <sup>2</sup> )

In the Neo-Sumerian period, the individual provinces maintained a strong identity bound to their own secular traditions as independent states, a tendency which emerges from the same administrative documentation, where texts from various provinces present differences not only in the ductus, in the choice of lexical and administrative terms, etc., but also in management procedures. Obviously, when the provincial administration was in contact with the capital Ur, the parameters imposed by the central bureaucracy were followed, as shown by the case above. The following section attempts to offer a brief overview of the Ġirsu province, in order to illustrate the context that produced the sources used in this study.

#### 4. The Ġirsu province

The Ġirsu province was situated along the southeastern border of the Neo-Sumerian empire and was most likely the widest<sup>87</sup> of the internal provinces, and, thanks to its strategic position, it was considered the gateway to the East. In the Neo-Sumerian period, the province was subdivided into three main districts: Ġirsu, Gu-Iniġinšedu, and Gu'aba.

<sup>84</sup> Vanderroost 2008, 130. The same author stated that the surfaces of the province of Umma likely equaled about one fifth of that of Ġirsu (Vanderroost, *ibid.* 132).

<sup>85</sup> Kimadasala was a minor center of the Ġirsu district (Notizia 2009, 15). For the toponyms of the provinces of Umma and Ġirsu including the element -sal<sub>4</sub>-la, see Sauren 1966, 158. For the garden named after this center, see § 2.9.3.

<sup>86</sup> Assumption based on the comparison with ASJ 17, 229 118; both ASJ 17, 229 118 and TUT 12 contain a section devoted to the lands given as prebends to several officials, in the case of TUT 12 also including the garden administrators; see § 1.8.9.

<sup>87</sup> Sharlach 2004, 61-66. According to the author, the importance and geographical extent of this province is somehow reflected in the bala-system. Indeed, this province alone covered about the 25% of the whole system, likely on the basis of its size and prosperity, thus representing one of the richest provinces of the state. Steinkeller, discussing the possibility of reconstructing the countryside of the province of Umma, noted the difficulties that instead can be found in reconstructing the countryside of the neighboring province of Ġirsu, and stated: “[...] However, a reconstruction of the border and total land area of Ġirsu/Lagash is impossible, primarily because of the fact that there is no way of determining how far is extended to North and East - not to mention that its written sources do not contain even remotely comparable information on the countryside” (see Steinkeller 2007, 186).

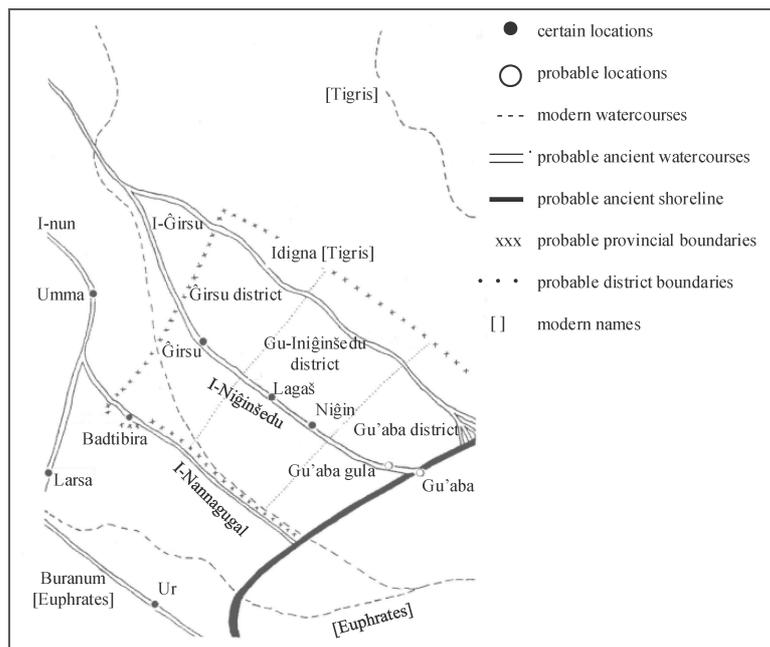


Figure 6. The Ĝirsu province in the Neo-Sumerian Period, from R. de Maaijer 1998, 64.<sup>88</sup>

Ĝirsu was the name of the district hosting the homonymous urban center, the largest and also best-documented of the province, around which smaller centers gravitated, such as Kisura and Kimadasala; Gu-Iniĝinšedu, also referred to in the texts as Kinunir-Niĝin,<sup>89</sup> designated the territory which extended along the banks of the ‘canal flowing toward Niĝin’, comprising a series of minor and major centers, among them Lagaš, Niĝin, Alšana, Kinunir, Ki’esa; and finally Gu’aba, the district close to the sea, composed of the two main centers of Gu’aba and the old (gu-la) Gu’aba.<sup>90</sup> In the territory of the province there were two palaces, one at Ĝirsu and the other at Gu’aba, designated as the ‘new palace’ (e<sub>2</sub>-gal gibil).<sup>91</sup> In this period, Ĝirsu became the more common designation at the expense of Lagaš, and identified the city as well as the district and the province for administration above the regional level, while Lagaš remained the traditional and local designation for the city as well as the province.<sup>92</sup>

As stated by Bauer,<sup>93</sup> already in the Pre-Sargonic Period the state of Lagaš comprised three main urban centers, among them Ĝirsu, which at this time was already the seat of the central government. For this period, a series of activities have been attributed to Ur-Nanše, commonly considered to be the founder of the First Dynasty of Lagaš: the installation of a system of canals, as well as the respective economic units associated with it; new constructions for cultic purposes, for which the district of Ĝirsu was adorned with monumental works and became the base for

<sup>88</sup> This map clearly highlights the district subdivision of the province and the succession of the most important centers alongside the course of the main canal known as Ĝirsu/Niĝinšedu canal. With regard to the issues inherent the course of the Tigris and the extension of the gulf, see now Steinkeller 2001.

<sup>89</sup> See Waetzoldt 1997. The different denominations are due, according to the author, to a chronological factor: Kinunir-Niĝin between Š 43 and AS 9, Gu-Iniĝinšedu between Š 40 and IS 3. This implies that for 14 years both the denominations coexisted, while starting from the Šu-Suen’s reign only the second one was still in use.

<sup>90</sup> See de Maaijer 1998, 61.

<sup>91</sup> See de Maaijer *ibid.* 53.

<sup>92</sup> See de Maaijer *ibid.*

<sup>93</sup> Bauer 1998, 438. The author emphasized the difficulties in establishing exactly when Ĝirsu became the governor’s residence. The composite nature of Lagaš in the Early Dynastic period is however attested in a lexical text from Ebla, MEE 3, 44, which lists a series of Mesopotamian cities, ending with Elam, Dilmun and Susa. In this list, the entry referring to Lagaš specifies -kul-, probably intended as a Semitic term alluding to a totality, thus betraying the polycentric nature of Lagaš, which at the same time was felt to be a single unit (Pettinato 2003, 43).

subsequent extensive building activities essentially attributable to the Second Dynasty of Lagaš. According to Maekawa,<sup>94</sup> the rulers of the First Dynasty are likely to have developed a particular theocratic concept, according to which the ruler and his family were in charge on behalf of the city god and guardians of his properties, as evidenced by the spirit pervading the reforms enacted during the reign of URUKAGINA, last ruler of this dynasty.<sup>95</sup> In his reforms indeed he claims to have made Ninġirsu master of the house and of the fields of the governor, BaU, consort of the city god Ninġirsu, mistress of the house and of the fields of the governor's wife, and Šulsaga, son of the divine couple, master of the house and of the fields of the governor's sons.<sup>96</sup> Further, Gregoire<sup>97</sup> suggested that the assets of Šulsaga (and of URUKAGINA's sons) may have pertained to the temple of NinMAR.KI in the Gu'aba district. This situation seems to have persisted in the Neo-Sumerian Ĝirsu, where, during the governorship of Ur-Lamma, one of the governor's sons, Ur-BaU, was the administrator (saġġa) of NinMAR.KI's temple, while Geme-Lamma, perhaps the governor's wife, was the high priestess (ereš-diġir) of the goddess BaU.<sup>98</sup> It thus seems possible that in the same province at the end of third millennium the distribution of offices of power was based on an ancient tradition, dating back to URUKAGINA.

During the end of URUKAGINA's reign, Lagaš lost its independence after being conquered by Lugal-zagesi of Umma, who took possession of the sea routes of the Persian Gulf and established his capital in Uruk.

During the subsequent Sargonic period, the Lagaš province became part of the empire and, according to Foster,<sup>99</sup> it was in this period that Ĝirsu developed as the most important administrative center of the region. From the victory stele of one of the kings of Akkad<sup>100</sup> we know that in this period the province reached 1,600 km<sup>2</sup> (444,505 ¼ iku) and embraced at least 17 urban centers (iri saġ), of which the most relevant and best documented were Ĝirsu and Niġin, and eight minor centers (maš-ga-na saġ).<sup>101</sup> After the fall of Akkad, as well as during the Gutean interregnum, the names of some kings are attested for the Lagašite territory, although the sources start again to be descriptive with Ur-BaU, founder of the Second Dynasty of Lagaš. This ruler devoted a part of his reign to the reconstruction of the shrines of the different centers.<sup>102</sup> However, under this dynasty,<sup>103</sup> especially during the reign of one of its rulers, Gudea, the state of Lagaš reached a high level of wealth and prosperity.<sup>104</sup>

<sup>94</sup> Maekawa 1973/74, 130-131 and 136-139.

<sup>95</sup> For the economic consolidation by the reforms of URUKAGINA, see e.g. Hruška 1973, 4-13 and 104-132.

<sup>96</sup> See Maekawa 1973/74.

<sup>97</sup> Gregoire 1962, 24.

<sup>98</sup> In this regard, see Maekawa 1996b, 171-179; Steinkeller 1999b, 120-124. In particular Maekawa noted that in the Mesopotamian world the wives of the governors lacked any particular relevance, except in Lagaš, where seals of high officials bearing her name are attested, a kind of privilege normally limited to the governors. This scholar also emphasized the secular character of the high priestess and affirmed that, in the Neo-Sumerian period, the household of this priestess could be identified as the temple of BaU.

<sup>99</sup> Foster 1993, 25-39.

<sup>100</sup> Grégoire 1962, 29, with previous literature.

<sup>101</sup> According to Steinkeller for the third millennium it is possible to draft a list of about 160 hamlets for the Ĝirsu province, solely on the basis of the principal editions of texts, while the actual number can be higher (Steinkeller 2007, 195). As stressed by van Driel, the majority of the small settlements, also those occupied for short periods, have hardly left evident traces that can be detected by archaeological surveys (see van Driel 2001, 111-112).

<sup>102</sup> Grégoire 1962, 31-32.

<sup>103</sup> The internal chronology of this dynasty is still uncertain, as well as the succession lines. The most accredited proposal is that advanced by Sallaberger (Sallaberger 2005b, 15-43). On this topic, see also Michalowski 2013, 177-181.

<sup>104</sup> Grégoire 1962, 44. According to the author, it can be inferred, the state of Lagaš can be understood as having maintained a monopoly over the Persian Gulf, a privilege that continued even during the reign of Utu-heġal of Uruk, thanks to the alliance between Lagaš and Uruk against Ur. This situation came to an end with the rise of Ur-Namma, founder of the Third Dynasty of Ur, who diverted traffic to his capital.