

The Documentation of the Ensenada Cadastre and its use in Cartographic Reconstrucion

AMPARO FERRER RODRÍGUEZ

Universidad de Granada

Thanks to the wealth of documentation produced as a result of the verifications carried out for the introduction of the Single Tax, it is possible to proceed to the reconstruction of the "administrative demarcations" existing in the mid-eighteenth century and also to the reconstruction and cartographic representation of other geographical elements, such as the morphology of plots, the uses and applications of the land, the structure of property, the distribution of settlements and so on in the various territories making up the Crown of Castile.

As the cadastral documentation includes no cartography, the degree of accuracy of such reconstructions is, to a large extent, conditioned by the documentation used for the purpose and is determined by the territorial space to be covered. Obviously, there is a difference between establishing the territorial and cartographic limits of the territory of Andalusia as a whole and doing so for just one of the provinces, setting the limits and analysing the internal space of one its present-day municipal areas. Each of these objectives requires both different cadastral documentation and different analysis techniques.

This paper provides a succinct and systematic description of the different procedures used in each of the cases mentioned. These procedures are the subject matter of most of the research work in the field published to date.

1. The reconstruction of the "administrative" limits corresponding to the present territory of Andalusia as a whole

The cartography of this spacious territory has been prepared by consulting the Books of General Answers of the Ensenada Cadastre deriving from the work done in the area. Accordingly, two sources of reference have been used: on the one hand, the answers from towns then forming part of the four Andalusian kingdoms, Córdoba, Granada, Jaén and Seville, considered as the immediate antecedent of present Andalusian territory; and, on the other, the answers from towns and depopulated areas which now belong to Andalusia and then formed part of the neighbouring provinces and kingdoms, i.e., the provinces of Extremadura and La Mancha and the Kingdom of Murcia. The total number of books consulted, 798, breaks down as follows: Kingdom of Córdoba, 75; Kingdom of Granada, 398; Kingdom of Jaén, 74; Kingdom of Seville, 232; province of Extremadura, 8; La Mancha, 2; and Kindom of Murcia, 9.

The information contained in the answer to the third question which appears on Questionnaire A and is made up

of 40 items to be answered by the members of the local chapter and the technical experts appointed for the purpose has played a key role in the preparation of an elementary cartography of the territorial fragmentation of this spacious area in the mid-eighteenth century. Moreover, this information forms an integral part of the cadastre's documentation. The following questions are asked:

- What territory occupies the municipal area?
- What is the measurement from east to west and from north to south?
- How much does the circumference measure in terms of hours and leagues?
- What borders are there?
- What shape is it? (to be drawn in the margin)

Of all the information requested, that contained in Point 4 has proved fundamental when preparing the cartography for, when the limits between a given group of municipal areas are the same today as those described in the answer, it may be assumed, but not stated categorically, that it is highly likely that the dividing line has not undergone any significant modifications in the passing of time. Then again, when the limits do not match, it is to be supposed that they have changed, in which case it is necessary to suggest a delineation of these limits which matches the limits described in the documents. In these instances, we have availed ourselves of other information contained in other items in the General Answers.

The main problem lies in finding out exactly what was understood by *municipal district* at the time the cadastre was executed. The basic cadastral regulations, the *Instrucción* attached to the Royal Decree of October 10 1749, laid down that the basic territorial unit of the cadastre was the municipal district, the town or village, but it was unclear about what should be understood as such. This was perhaps because the complex territorial organisation of the Castiles made it extremely difficult to submit them to a common regulation of a general nature. It is probably this lack of definition that made it possible to adapt, not without success, to the territorial reality to be reflected in the cadastre, with such different systems of population and territorial organisation as those found in Galicia, with a scattered population and tiny parishes, and La Mancha, whose population was dense and centred in large towns and huge municipal areas. Although the Administration was, by and large, familiar with this organisation, there was a lack of detailed information, as would become apparent as the cadastral verifications were carried out.

The village-by-village criterion was fundamental when it came to organising the cadastral verifications and, for this reason, the operations were focussed on villages and places. However, this criterion did not suffice because, if each individual or institution had been allowed to declare the property he owned throughout Castile in a single statement, it would have been impossible afterwards to check the accuracy of his statements or to avoid concealments as it would have been equally impossible to examine all the assets declared. For instance, if an inhabitant of Córdoba had property in Córdoba and in Ciudad Real and he included all of it in a sin-

gle statement, the Córdoba technical experts would have to travel to Ciudad Real to check the veracity of the statement or, failing this, a copy of the statement would have to be sent to Ciudad Real, where it would be checked and then returned to Córdoba. Obviously, this was not practical. In view of this, the *Instrucción* established explicitly that the property included in the Book of Property (*Libro de lo Real*) existing in each village should be any property situated in the municipal district of that village and should not be mixed with property owned by the inhabitants of the village in other districts, be they districts in the vicinity or further afield.

Hence, alongside the village-by-village criterion (i.e., one operation per village), there always appeared the district-by-district criterion (i.e., one operation per municipal district). Although the term, *district*, may at times seem ambiguous, it appears likely that, in most instances, it refers to the jurisdictional district; i.e., the territory which is legally assigned to a given village. The problem stems from the fact that, in the eighteenth century, highly diverse situations arose:

1. Areas which were depopulated and as such did not satisfy the twofold condition of having a population and district. In some cases, they were included in the operation for the populated district in which they were situated. This occurred in the operation for the city of Córdoba, which included 19 depopulated or almost depopulated jurisdictions, the answers corresponding to the city and the answers corresponding to each of the 19 depopulated areas being kept separate. In other cases, separate operations were carried out, as in Jerez de la Frontera, which has its own operation as a city belonging to the king while the depopulated area of Tempul, adjacent to the district of Jerez, has a separate operation and, therefore, its own General Answers: "... it is a feudal estate of the local corporation of this city in the form of a special donation made by His Majesty". Thus, Jerez, under the jurisdiction of the king, is distinguished from Tempul, under the jurisdiction of Jerez. There is also a different tax unit for the collection of provincial revenue, especially the sales tax.

2. Villages with no district but just the physical structure of the village itself. In this case, an independent operation was carried out, providing that sales tax and tithes were involved.

3. Villages with a district, divided into two types:

- a) Districts with only one village. Initially, they do not pose a problem because it is clear that a separate cadastral operation was to be undertaken for each of these population nuclei and accordingly, each one has its own Book of General Answers.

- b) Districts with several villages under a single jurisdiction but with two or more population nuclei. In cases such as these, a range of situations came about: a single operation would be appropriate if the jurisdictional, or district-by-district criterion was applied. For instance, Espiel, Segura de la Sierra and Fuenteovejuna would be eligible for the application of this criterion, perhaps because of the difficulty in separating the pieces of land belonging to the inhabitants of each nucleus and, in all probability, because they constituted a single area subject to sales tax. Then again, an operation per nucleus might be appropriate. The latter procedure was commoner, above all in that part of the Kingdom of Granada that was under Quartermaster Campoverde: Marbella, which also comprised Benahavis, Ojén and Instán, used the traditional economic-administrative divisions of areas subject to sales tax and tithes, as laid down in the regulations established on the matter once the operations had been set under way, as

we shall see below. A similar procedure was followed in the Borough of Darrical, where an operation was carried out in each of the three places by which it was formed - Darrical, Benínar and Lucainena de las Alpujarras despite the fact that, in the books, it is constantly pointed out that it is not possible to distinguish the part corresponding to each on the uncultivated land belonging to the members of the local council. We might also quote Benadalid and Benalauria and Velez-Blanco and Maria, or Cazorla and La Hiruela, where, in each case, the district is common to both towns, "both of them enjoying its advantages, pastures and hilly woodland for their livestock, it being optional for those living outside the villages to be considered as belonging to one or the other, there being no need to remove". However, for the purposes of the payment of sales taxes, hundreds and millions are two entirely separate units and, on this account, Cazorla was assessed at 22,000 *reales* per annum, paid by the inhabitants of the village and by those scattered over the district - shared with La Hiruela who had opted to be considered as inhabitants of the village and, therefore, pay their taxes accordingly.

In other cases, as, for instance, in some of the towns and villages in the Kingdom of Córdoba, separate operations were similarly undertaken, not only for legal but also for practical reasons. Such is the case of the common district of Aguilar de la Frontera, Montalbán, Monturque, Montilla and Puente de Don Gonzalo. In the General Answers of Aguilar, it says that "... there is no indication of a district, for everything it has is general, *pro indiviso* and with no demarcation from the town of Montilla and hamlets of Puente de Don Gonzalo, Montalbán and Monturque, whose feudal estates are enjoyed by the Marquis of Priego..."; and the General Answers of Don Gonzalo state "... and all the more so when the possessions of the inhabitants of some villages are interpolated with those of others and the pasturelands are common...". Moreover, in this case, there are special circumstances: the town of Montilla, in addition to forming part of the common district, has 6,000 *fanegas* of land "with common and general separation" and the population nuclei are dense and a long way from one another. This would have complicated matters greatly when it came to verifying the declarations: if a common operation had been practised, it would have been necessary to create a large commission formed by technical experts from all the villages, each of whom would have been able to declare solely in connection with the inhabitants of his respective village as he would have no knowledge of the rest. Furthermore, once a place had been designated as the headquarters and administrative centre, many inhabitants would have had to present their declarations at a place other than their usual place of residence, which would have hindered the checking process. Also, the mandate of reading out the result of the verification in a public place would have been rendered useless, unless the reading were repeated in all the villages concerned, thus increasing the time devoted to the verification and the costs entailed. Added to this, they were areas subject to sales tax and tithes and thus it was compulsory to assess and record them separately, notwithstanding the huge size of the "common district". A similar procedure was followed in the Siete Villas de los Pedroches, also in Córdoba.

4. Boroughs with jurisdictional unity but with fragmented territory. Such is the case of the city of Jaén and its depopulated area of Mata de Ojix, or of Baeza, with its depopulated area of Martín Malo, or of Cortegana with its pastures of La Garnacha and El Pimpollar. In these cases, the commonest procedure was to effect a single operation if they were not too far apart and, if they were remote and contained pop-

ulation nuclei, an independent operation was practised because, in the main, they constituted an independent area subject to sales tax. This occurred with some of the populated districts in the northern hills of Huelva, which had their own operation, although the official papers state that their "streets and jurisdiction belong to Seville".

5. Lastly, we find a situation which is the reverse of the previous one: territorial unity and jurisdictional fragmentation. This is the case of the town of Ibros, Jaén, where two separate operations are effected and accordingly, there are two Books of General Answers, one corresponding to the territory under royal jurisdiction and the other, to the territory of the feudal estate.

Such diversity of situations is a great obstacle when it comes to establishing an adequate geographical relationship between the cadastral operations performed and, therefore, the existing Books of General Answers, and the territories to which they refer, because, in a fair number of cases, it is difficult to pinpoint these territories with any precision. For this reason, the aim of this cartographic reconstruction is to prepare a sketch enabling us to relate each answer to the approximate territory to which it really refers; and, therefore, to establish a starting point from which to introduce the appropriate corrections, based on new local, regional and provincial studies. In this way, an initial cartographic delimitation roughly approximate to the territorial organisation existing at the time of the cadastre would be created.

So as to proceed to the reconstruction of the municipal limits, the present limits have been used as the point of departure because our knowledge of them is accurate. However, this in no way implies that the limits of the municipal districts have remained the same, for we know for a fact that new towns and villages have been created while others have been split up, while still others have been integrated into towns which had their own, independent districts. All this makes it necessary to investigate the alterations caused by these actions to the delineation of the limits.

For the reconstruction of the map of Andalusia, the following procedure was used:

a) In the first place, a list was drawn up of the municipalities which, while existing at the present time, have no homonym in the Book of General Answers of the cadastre. When comparing the list of the 761 municipalities existing today in Andalusia with the nominal list of the General Answers catalogued in the General Archive of Simancas, where the answers obtained in all the operations executed are stored, a considerable number of discrepancies was found between the two.

Among these discrepancies, there was one group where the difference was not great, for there exist towns which, while not having exactly the same name, have a single name or are spelt differently. In many cases, the correspondence is so evident that there is little point in making a specific comment. At the same time, there was another group of present municipalities for which there are no General Answers pertaining either to their exact or similar name. The list of these municipalities numbers 134 (17.6 percent) of those existing today. Initially, therefore, it must be accepted that these present-day municipalities did not exist when the cadastre was made or did not exist as independent districts and that, in consequence, their present limits did not exist then either. In view of this, they should be taken off the present map, a step which affects certain segments of the limits of each and every surrounding district, which are thus "broken up".

In order to reconstruct these incomplete limits, it is necessary to consult the answers corresponding to each of the municipalities affected. Map 1 shows both the municipalities which do not appear in the cadastre and those which are adjacent to the non-existent ones. The result is significant because the delineation of part of the districts of nearly three quarters of Andalusia's present municipalities could be different from what it is today. The blank municipalities are those which cannot be affected by the later creation of new municipalities in their immediate vicinity, in view of which there is room for thinking that the delineation of their respective municipal districts has remained unaltered.

For reasons of space and given the nature of this paper, it is not possible to describe each of the arguments put forward to justify the reconstruction of the "broken" limits which remain in the adjacent districts after the deletion of those corresponding to the 134 municipalities that did not exist in the mid-eighteenth century. Nevertheless, more detailed information will be found in the work mentioned at the start of this section.

b) In the second place, there is an important group of Books of Answers which does not correspond to any of the present-day municipalities. Initially, there could be two different explanations for this:

- It concerns depopulated jurisdictions which, after the administration demarcation of Javier de Burgos (1833), disappeared as exclusive jurisdictions and were integrated either into the municipal district where they were located or, if they were not situated in a municipal district, into one of the adjacent municipalities.
- It concerns populated jurisdictions which, in the course of time, have disappeared by coming to form part of adjacent municipal districts.

In neither of the two cases has the aim been to obtain an exact representation of the limits of these territories in the eighteenth century. The idea in view was simply to establish an approximate location and proportionate size for each one of them, based on the description of the pertinent operation and the descriptions provided in the operations concerning the adjacent villages. In total, this group consisted of 133 cadastral operations and, although efforts were made to locate them, in many cases, they referred to farmhouses or pastureland of too small a size to be represented on the maps presented here.

The result of the entire process described above is shown on Map 2, corresponding to the administrative organisation of Andalusian territory in the eighteenth century.

2. The cartographic representation of the territory of the present-day province of Jaén in the mid-eighteenth century

Although, in this case, the procedure followed was similar to the one used in the reconstruction of Andalusian territory, a greater degree of accuracy was nevertheless obtained. This is essentially because the space whose organisation we were interested in was smaller in terms of surface area. As a result, it was possible to consult different, complementary and fundamental documentation. In addition to the answers to the first questions on Questionnaire A, edicts and case papers included in the local documentation of the Ensenada Cadastre (now in the Provincial Historical Archive of Jaén) were consulted, along with the correspondence exchanged

by the people and bodies in charge of the Jaén cadastre, the Quartermaster and Commissioner and the Royal Single Tax Board. These documents are now kept at the General Archive of Simancas.

In this work, another source of reference was a document belonging to the period, published by Jesús Marina Barba. Titled *A compendium of the cities, towns, places, hamlets and other villages in the district of the Royal Chancellery of Granada*, it was prepared on the request presented by the President of the Royal Chancellery of Granada for the execution of a series of works of some importance. The request was answered by Royal Notification on June 25 1754, whereby the order was issued for the draughtsmen to start work and a budget to be drawn up. At the same time, proven information was requested as to "the number of villages in the district of the chancellery and specific details about the inhabitants of each one...". Accordingly, in 1775, the dossier was prepared, covering all the villages in the province and indicating the population of each, the legal authorities and officers, whether it was royal or feudal, and the administrative centre to which it belonged.

An examination of this documentation shows that the present province of Jaén its demarcation resulted from the provincial division made by Javier de Burgos, as we stated earlier does not match the Quartermaster's District, Province or Kingdom of Jaén existing in the mid-eighteenth century. As will be seen from Map 3, the present province consists of:

1. The territory of the Jaén Quartermaster's District, responsibility for which was placed in the hands of Francisco Varona y Rozas, the Marquis of Villaitre, in 1750, save for the districts of Villafranca de las Agujas (now Villafranca de Córdoba) and Bélmez, both now part of the province of Córdoba and then belonging to the Kingdom of Jaén by virtue of their connection with the *Encomienda marteña* of the Order of Calatrava.

2. In 1750, the north-eastern segment of the present province, consisting of most of the Segura Sierra, formed part of the Kingdom of Murcia and all its towns and villages belonged to the *Encomienda* of the Order of Santiago, answerable to the Murcian administrative centre.

3. The towns of Beas de Segura and Chiclana, then included in the province of La Mancha and also belonging to the territories of the Order of Santiago, answerable to the administrative centre of *Los Infantes*.

4. Lastly, the towns of Solera and Bélmez de la Moraleda (or Moraleda de Bélmez), which were situated in the Kingdom of Granada, forming part of the administrative centre of *Las Villas*.

Therefore, the present-day province of Jaén should have been assessed and recorded for the purposes of the cadastre under the responsibility of four quartermasters: Francisco Varona y Rozas, Marquis of Villaitre, for the Kingdom of Jaén; Pedro Manuel de Aranda Santisteban, for the part corresponding to the province of La Mancha; Luis González Torres de Navarra, Marquis of Campoverde, for the two districts situated in the Kingdom of Granada; and Diego Manuel de Mesía y Barnuevo, for the part corresponding to the province of Murcia. This, however, was not entirely so. Although the territories of Granada and La Mancha were assessed and recorded by their respective quartermasters, the first assessment of Murcia was made by the Marquis of Malaspina and the second, by Juan Felipe Castaños, while the territory under the Jaén quartermaster was divided into two departments, one of which was managed by Commissioner Manuel

Velarde Cevallos and the other, by the quartermaster, the Marquis of Villaitre.

The cartographic basis used to delineate the limits of the municipal districts of Jaén was the one corresponding to the 1:800,000 scale applied in the Basic Atlas of Andalusia because, as stated above, it is the one we know well. In the towns for which we had no documentation about modifications to the limit, the present one has been preserved, whereas, in those others in which it is certain that the limits did not match the present ones, the places and toponyms contained in the cadastral documentation have been identified so as to delineate the appropriate division. In such cases, for the purpose of locating the places and toponyms, both the National Topographic Map, scale 1:25,000, of the National Geographic Institute, and, on occasion, the Topographic Map of Andalusia, scale 1:10,000, of the Institute of Cartography of Andalusia, have been used.

The result of this work is Map 4, showing the municipal districts assessed and recorded in the cadastre and the cadastral operations carried out in towns and villages without a district. Map 5 shows the delineation of the limits of all the cadastral operations. It will be seen that the municipal districts submitted to the cadastre, together with the cadastral operations effected in towns and villages without a district, are also shown. Detailed information as to how these limits came about is provided in the article on the territorial organisation of the province of Jaén, mentioned at the beginning of this section.

In the case of the Kingdom of Jaén, it will have been observed that the cadastral operation was executed in all cities, towns and hamlets-cum-places with the exception of the hamlet of Santa Olalla, part of the city of Úbeda. Together with Úbeda, it was declared liable to contribute to Provincial Revenue and was included in the latter as an almost depopulated hamlet and, therefore, was not eligible for an independent cadastral operation. As for the rest of the places or hamlets that existed in the mid-eighteenth century and clearly belonged to other cities or towns, thereby having no independent jurisdiction or separate district, it was ordered (as, in some cases, shown by the documentation) that a demarcation be made of the territory belonging to them, providing that they constituted an independent area subject to sales tax. This is what happened in the place of Castellar and in the place of Las Navas, whose district was *pro indiviso* with the town of Santisteban. Having consulted the commissioner, who in turn consulted the Royal Board, the deputy delegate responsible for the operation gave instructions for the technical experts to establish the "theoretical" limits of both places, solely for cadastral purposes. A similar procedure was followed in the case of the Cuatro Villas del Adelantamiento de Cazorla (Villanueva del Arzobispo, Villacarrillo, Iznatoraf and Sorihuela), which also possessed common land. None of the areas divided into farms was treated with an independent cadastral operation. Instead, for cadastral purposes, they were considered as forming part of the cities or towns to which they belonged.

It remains to be known what regulation was used to distinguish between a place-cum-hamlet and a farmstead area for although, as stated above, the village-by-village criterion probably prevailed, we can nonetheless see that, in some instances, this was not so. Indeed, there were towns and villages which, despite being classified as farmstead areas, had a population higher than that of others classified as places. This occurs, for instance, in the farmstead area of Los Frailes, in the district of Alcalá la Real, which had, according to the cadastre itself, 150 inhabitants, as against the place or ham-

let of Lupi3n, whose population totalled a mere 87. It would therefore appear that both terms were in use in the various places and that, probably, the term used in a given case was a matter of custom or had something to do with the origin of the population nucleus, etc.

Nor does the other criterion, the jurisdictional one, seem to have proved easy to apply in all cases, as a result of which countless consultations were received by the Single Tax Board from the various provinces. In light of this, once the verifications were under way, the board established a regulation and sent out a general notification to all the quartermasters and commissioners, stating that the key criterion for the constitution of a cadastral unit was that the place, regardless of whether it shared its district with another, be an independent area for the purposes of sales tax and tithes. In the case of the Kingdom of Ja3n, this criterion seems to have been clearly understood by Commissioner Velarde when he set about his operations for, in the letter in which he informs the board that he has chosen Carhelejo and C3rcel as his pilot operation, he explains that, "in essence, they form but one, constituting a single area for the purposes of sales tax and tithes, a parish, a curacy, and a council, and a demarcation of a single district, because, although it is true that they are divided by a distance of just over half a quarter of a league, it is equally true that the second is known as a quarter of the first". So as to leave no room for doubt as to the fact that he understood that the two places should constitute a single operation and that that was precisely what he was doing, he goes on to say: "in accordance with this true concept, I am executing the operation which has been assigned to me". Quartermaster Villaitre addressed no consultations to the board in this regard, either because he felt more confident about it than Velarde or because the cases under his management, which were the majority, were even more obvious.

In the rest of the districts that now make up the province of Ja3n and were managed by other quartermasters and deputy delegates, the criterion described above was applied. However, in no way must it be inferred from this that such was the case in all the areas to be submitted to the cadastre under the Crown of Castile for, as stated previously, it appears that the criteria might have varied in some cases. In the province of Ja3n, the problems were fewer. There are two reasons for this: one, the fact that, in general, the population was not scattered; and two, the excellent performance and co-ordination shown by the Marquis of Villaitre as Quartermaster of the Kingdom.

3. The reconstruction of the map of plots of Alhama de Granada from the documentation of the Ensenada Cadastre

In this case, the aim of the task was to reconstruct the internal organisation of the space formed by the municipal district proper and accordingly, both the cartographic and the documentary bases were different from those used in the two previous cases.

The main documentary source used in this work was the Books of Property, or *Libros de lo real*, also known, according to the province, as *master books*, *real estate books*, *estate books*, *registers* and so on. These books were neat copies of the entries of property made in the declarations of each one of the declarers. There were two types: one for laymen and the other, for churchmen.

In the books, the name of each one of the declarers was recorded, specifying in each case the property situated within the village limits and adding a detailed description of each and every piece of land, indicating the payment or the admin-

istrative centre to which it belonged, the distance from the village, its capacity (in *fanegas*, *celemines*, *aranzadas*), its borders to the east, west, north and south, the use and purpose of the land (vines, olive trees, wheat, barley, lentils), and the rotation system applied (cultivated one year and left fallow for two, two crops a year). The different agricultural qualities of each piece of land were described if more than one were owned, the product applicable, whether there were any trees and, if so, whether they were arranged in rows or without any order at all, and so on. In addition, a figure of the piece of land was drawn in the margin of the page on which it has been entered and described.

Thanks to all this information, it is possible to take the first step towards the reconstruction of the district's plots. Taking this reconstruction as a starting point, the next step is to study the spatial organisation of the crops and uses of the land and to analyse the arrangement of the structure of the property and even the structure of the farm itself and the different ways in which the land was exploited. It should be pointed out, however, that the reconstruction of the plots poses a certain amount of difficulty.

The three problems arising prior to the reconstruction of the area of plots are as follows:

- a) The limits of the district: in the case of the reconstruction of the district of Alhama, the planimetric diagram of the Geographic and Cadastral Institute (now the National Geographic Institute) was used, with the 1931 scale of 1:25,000. In addition to the municipal district of Alhama de Granada, the document covered a good number of the adjacent municipalities, while they excluded the districts on whose limits there was detailed information in the individual descriptions, with references to geographical places appearing on the maps of today and accordingly, there was no doubt as to their demarcation in respect of the limit of the municipal district.
- b) The delineation of pathways, irrigation channels and other elements: after a close and thorough analysis, it was concluded that a good point of departure would be the delineation appearing in the above-mentioned planimetric diagram and that, if contradictions appeared between the borders of the plots and those of the pathways or irrigation channels, then fieldwork would be done to establish the possible pre-existence of a different delineation.
- c) The scale representation of the plots: to do this, the planimetric diagram was ruled in squares so that each square represented one of the units of measurement used in the cadastre. In this case, the *fanega* of 666 *estadales* and two thirds of 11 thirds squared, as described in the ninth answer on the questionnaire, were used. Once the squares had been ruled, the space occupied by the district, divided into *fanegas*, could be seen. Now it was possible to proceed with the cartographic representation.

The siting of the lots was started from a piece of land for which the requirement was that it have two adjacent or parallel limits, defined by elements visible on the planimetric diagram. Next, the appropriate cadastral file was consulted to find the other plots which were said to border on the previous one. At this stage, a range of problems arises, among which we might quote:

- duplicate adjacent plots.
- the loss or relative concealment of a plot.
- a name other than that of the owner: for instance, a chaplaincy is recorded for cadastral purposes under

the name of the person who owns it at the time and benefits from its lands. However, when the neighbouring owner of a piece of land adjacent to that chaplaincy declares his own and states the bordering plots, in his reference to the one belonging to the chaplaincy, he gives the name of the person who founded it and not the name of the current owner.

- multiple plots bordering on another of greater size.
- the appearance of imprecise limits.

In addition to the difficulties in dovetailing the limits, another kind of problem may arise, this time concerning the need to preserve the surface area:

- either because there is not enough room on the map to give a complete scale representation of the surface area by a given group of plots marked off by inalterable geographical lines. Initially, this may be due to two factors: on the one hand, their small size and the accuracy of their measurement, which, coupled with

the slightly mountainous nature of the land, may mean that its actual surface area is greater than the flat surface area represented on the map. It thus becomes necessary to reduce the size of the plot in proportion to the gradient of the land on which it is situated;

- or because, if the borders established by the cadastre are respected, then the surface area contained within them may be greater than that assessed in the cadastre. This usually happens in the case of large plots with irregular topography, where the technical expert's interest in the accuracy of the measurement was probably not so great, in view of the fact that the plot might belong to the royal estate, to private individuals or to the neighbourhood as a whole, added to which the land was, more often than not, almost completely barren.

As the case may be, despite the difficulties described, this procedure is the only one which permits a detailed, spatial analysis to ease the understanding of the organisation of the landscape as it existed in the mid-eighteenth century. ■