

One Thousand Years of Cooperation.
The Institutional Determinants of Resilient Common-Property Regimes
(Navarra, Spain, 14th-20th Centuries) ¹

José Miguel Lana Berasáin

Miguel Laborda Pemán

Vicente Cendrero Almodóvar

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1. INTRODUCTION.

In this paper we present a preliminary analysis of the regulations produced by several communities of northern Spain for the management of their economic and natural resources. Over the past years, these regulations, dating back to the 14th century, have been collected and codified under the umbrella of the project *Common Rules. The regulation for institutions managing commons in Europe, 1100-1800*. In contrast with most works on commons, we are able to study the evolution of the rules sustaining cooperation over the very long run.

2. DEBATES AND RESEARCH QUESTION.

This paper engages with three different debates. First of all, by analyzing the formal rules and the functioning of a set of several communities over the very long run, we aim

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at throwing some light on the institutional determinants of human cooperation. As several authors have stressed, human beings are also exceptional in their ability to cooperate beyond the narrow boundaries of the family. Within the discipline of biology, the study of what makes individuals to cooperate has become a booming field in recent years (see, for example, Novak, 2012). In this sense, hypotheses based on group selection (Arsuaga, 2001) or in the ‘egoist gen’ (Dawkins, 1976) are certainly able to explain altruism and cooperative behavior among relatives. However, these theories encounter important limitations when approaching cooperation among strangers, one of the very distinctive human features (Novak, 2012). In this situation, non-biological explanations become necessary, e.g. tit-for-tat strategies (Axelrod, 1984).

From an institutionalist perspective, the problem of cooperation has long been acknowledged as one of the most essential challenges in social life (North, 1990; Olson, 1965). In the end, if we think that individuals are fundamentally concerned with the maximization of their own utility, the danger of defecting mutually beneficial cooperation in order to obtain short-term gains becomes much more evident than when using other paradigms of human behavior (Hardin, 1968; Olson, 1965). Rather than on motivations, the approach to this problem from the social sciences has therefore relied more heavily on the notion of constraints. How to make people cooperate even if they do not want to do so? Designing rules and organizations to make cooperation possible is then one of the key challenges which keeps busy social scientists and policy-makers nowadays (Ostrom, 1990, 2005) – although, admittedly, it has been always central to the experience of human history. By analyzing how several human communities have established, maintained and adjusted the rules organizing their cooperation in environmental and economic matters over the long run, our aim is to provide some insights on this discussion.

Our very long-term perspective, which constitutes one of the distinctive features of our approach, unavoidably entails also a historical dimension. In this sense, our paper also contributes to the discussion on the institutional determinants of the European prosperity (Acemoglu and Robinson, 2012; Greif, 2006; North and Thomas, 1973; North, 1990; Van Zanden, 2009). Since the publication of the seminal book by North and Thomas (1973), the predominant narrative in the social sciences stresses the role of individual property rights in the European take-off during the mid-18th century. According to these authors and their subsequent disciples, by balancing individual effort and individual reward, the clear definition and enforcement of individual property rights from the 17th century onwards encouraged investment, innovation and market exchange, putting first England and then the rest of Continent on the path of modern economic growth. Emphasis on a centralized state is also a frequent dimension of this debate (Acemoglu and Robinson, 2012; Fukuyama, 2011; Ertman; 1997). After all, state centralism not only would have been the main coordination device among conflicting agents but, particularly, it would have also become the responsible for the definition and enforcement of the individual property rights sustaining growth. Eventually, the balance between individual property rights and centralized power in the long run –its existence and pre-conditions, but more often its absence in pre-industrial societies– has become a favorite topic among economic historians (North and Weingast, 1989).

In recent years, however, several scholars have highlighted the role that, beyond this market-state approach, could have been played by self-governed communities in the institutional development of Europe (Greif, 2006; De Moor, 2008; Van Zanden, 2009). According to this recent scholarship, communities would have been the most important coordination and property protection devices for most pre-industrial times, when a centralized state was simply absent. Similarly, the advantages that these communities

would have had in terms of access to local information would have made them in many occasions a more efficient arrangement than distant bureaucracies. These claims have gone so far as to suggest that a high density of communities in all the realms of social and economic life could have been, precisely, one of the most distinctive features of the Continent in comparison with other regions of the world (China, Japan, the Islamic world) (see, for example, Kuran, 2012) . In this sense, commons as well as craft and merchant guilds or urban communes would be one of the most characteristic examples of this communities. By studying how a set of pre-industrial communities were able to articulate and regulate cooperation in the environmental and economic realms over the centuries, our aim is also to shed more light on what must have been the characteristic institutional infrastructure of the European continent for most of pre-industrial times.

The final debate we want to address relates to the history of common-property regimes and communal ownership in Europe during pre-industrial times. In line with the negative approach that usually has dominated the analysis of the collective exploitation of natural resources (e.g. Garrett Hardin, 1968), a majority of the studies on historical commons in Europe have been approached from the perspective of their enclosure and abolishment during early modern times (McCloskey, 1972, 1975; Allen, 1982, 1992; Humphries, 1990; Clark, 2001). In this sense, the impact that their abolishment could have had both on overall economic performance as well as on the status of the peasantry have been favorite topics in the historiography for a long time. Despite a few exceptions (e.g. De Moor, Warde and Shaw-Taylor, 2002), the origins and long-term development of these institutional arrangements have been, however, usually ignored by scholars. Questions such as which were the driving forces behind the expansion of communal arrangements from the late medieval period onwards or how communities were able to maintain these cooperative solutions over time remain largely

unanswered. In line with the recent reassessment experienced by communal property in the last years (most importantly: Ostrom, 1990), this paper adopts a relatively new approach by focusing on the internal functioning and organization of a set of communities over time.

Eventually, we therefore aim at contributing to three different but interrelated debates in the fields of economic history and institutional economics: (i) the institutional determinants of human cooperation, (ii) the institutional determinants of western European prosperity, and (iii) the long-term analysis of communal regimes in Europe. In the light of them, the research question addressed by this paper could be formulated in the following terms: which was the institutional design underlying cooperation in environmental and economic matters over the long run in the set of rural communities analyzed? To the implicit assumptions behind the research question and the preliminary theoretical framework we use to approach the empirical evidence I turn in the following section.

3. ASSUMPTIONS AND THEORETICAL FRAMEWORK.

In order to clarify the terms of discussion and analysis, it seems advisable from the beginning to make explicit which are the premises upon which our research question builds.

First of all, our analysis focuses on ‘institutions’ and ‘institutional design’, understanding these terms in the Northian sense of humanly-devised formal rules incentivizing and constraining human behavior. Admittedly, within the social sciences, the definition of institutions is not a straightforward one and we are somehow required to choose among competing candidates. By resorting to the Northian framework, we are therefore putting the weight on explicit regulations rather than on elements such as religious commands, social customs or moral precepts. We do not neglect the

importance of these other elements and, in fact, we are keen to take them on board when we consider they have certain explanatory power. In any case, however, our main documentary evidence are the formal regulations agreed by the communities over time and to this source material we restrict the bulk of our attention.

Secondly, we take for granted the existence of cooperation both between individuals and between organizations (e.g. village councils) over the centuries in the communities of analysis. Formal regulations would be, in this sense, both the outcome of past cooperative (or conflictual) behavior and an attempt to harmonize future interaction. At the core of this assumption lies the premise that individuals within these communities are interdependent, that is, their individual welfare (or utility, in purely economic terms) depends not only on their own behavior but also on the actions undertaken by the other members of the community. Which are the specific motives behind this interdependence in welfare are, to some extent, of secondary importance – although some hypotheses can be formulated (see next premise). The simplest premise is, in any case, that interdependence between agents brings cooperation and that cooperation is reflected in the production of regulations.

Thirdly, and although the specific reasons for this interdependence are of less importance, we assume that certain environmental and social conditions may have pushed the members of these communities to interact. In line with Ostrom's analysis, the common-pool nature of many of the resources at the core of the productive life of the communities (e.g. pastures forests, irrigation ditches) is a good candidate to explain interdependence. Specifically, the non-excludable and subtractable nature of these resources implies that what is not taken by a user may be appropriated by another, decreasing the possibilities of consumption and leading to lower welfare. The characteristics of the productive basis are not, however, the only reason encouraging

cooperation in agrarian societies. Otherwise, it would be difficult to explain why, in face of similar environmental and bio-physical conditions, in certain communities it is possible to find a common-property regime whereas, in other, exploitation is organized along individual ownership. In this sense, the characteristics of the human group are probably equally important in creating the right conditions for cooperation. A relatively small size, a relative asymmetry in terms of power distribution and a particular level of interaction – beyond the family but below the state – are all factors probably strongly correlated with high levels of interaction between individuals.

Finally, we also assume that the communities analyzed have been successful in the organization and management of their cooperative practices over time. Evidently, the criteria to measure success in such pre-industrial agrarian communities are not related with growth or production but better associated with the idea of reproduction. That is, we understand that the institutional design of these communities, by allowing cooperation, has contributed to the preservation of the environmental and productive environment, therefore allowing the survival and reproduction, rather than the enlargement, of the human group over the centuries.

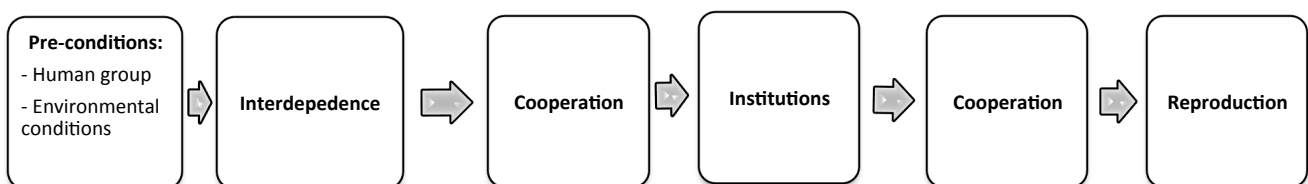
All this said, the preliminary theoretical framework we use as starting point in order to analyze our communities could be described in the following terms (see Figure below for a simple depiction). The environmental and bio-physical conditions partly define the system of economic exploitation deployed by the communities, a system which is fundamentally characterized by the nature of the resources employed (e.g. common-pool resources). Partly determined by this economic system and partly independent from it, the human group presents specific features in terms of size, scale, settlement patterns, homogeneity in terms of wealth and other sources of power. These

two main elements – on the one hand, the environmental and economic basis; on the other, the human group – create a distinctive level of interdependence among the members of the community. Consider, for example, the case of a mountain community, where factors such as altitude, steepness, temperature and rainfall make difficult agriculture but, however, encourage pastoral exploitation with seasonal migration between the winter and the summer pastures. Geo-physical features but also mobile flocks, risk diversification or scale economies may contribute to the common-pool nature of the most important resource of this community (i.e. pastures and meadows). Alternatively, think in an environment that makes possible agriculture in a small-scale basis and where each individual can own his own plot of land. Holding constant other factors, a pastoral nomadic economy probably creates higher interdependence among individuals (e.g. my flock may easily invade your pasture) and, therefore, makes much more pressing the need of managing potential conflict through the development of cooperative practices. Evidently, factors such as the size or the homogeneity of the group may increase or reduce this interdependence and the incentives to cooperate. If the interdependence among individuals is spread in a relatively even fashion (e.g. my flock invades your pasture *and* your flock also invades mine), then the incentives to develop this cooperation increase. Similarly, if the community is not too large and possibilities for communication and daily interaction are relatively high, possibilities for cooperation are probably expanded.

In a first phase, cooperation takes place in a rather informal way; subsequently, a formalization of the rules managing interdependences among individuals takes place. The need to make explicit the rules may be consequence of increased levels of complexity in the interaction among individuals (e.g. higher size) but also be the result of external factors. Additionally, social customs, moral commands and religious

precepts, despite maintaining their original role, are also probably embedded with additional connotations in line with the need for cooperation within the community. Eventually, this institutional design can be approached from a double perspective. Usually, the development of these implicit norms may be seen as the outcome of past cooperation itself – since the intervention and agreement of several individuals, with a more or less different distribution of interests and power, must have been needed to develop them. But these rules act also as a constraint on future behavior and, therefore, direct in a particular direction future cooperation. Rules are, therefore, the attempt of a particular set of interests acting within a specific socio-economic environment at a given time period to manage interdependences and cooperation in a given direction also in the future, partly extending their present status and ambitions in time.

The reproduction of the socio-economic system would be, then, the outcome of a particular set of interests and the rules they have been able to design and put into practice within the community. It is important to stress that the survival of the human group over time is not the outcome of cooperative practices *per se* but the result of certain cooperative practices. In this sense, the original environmental and human pre-conditions, and the specific interests and rules they give rise to, are probably decisive in determining the ability of the human community to perpetuate itself over time.



4. FIRST APPROACH TO THE ANALYSIS OF THE RULES: THE GRAMMAR OF THE COMMONS.

At this stage of our research we are just able to offer a preliminary overview of our analysis, It is interesting, however, to show some preliminary results as well as to present a first impression of the methodology and type of analysis performed.

For the analysis of the regulations contained in the database, we have selected a few cases located in northern Spain (Navarra). These are four little villages (Ancín, Etayo, Murieta and Olejua) and a large forest co-owned by 25 villages (Sierra de Lokiz). The rest of the cases included in the database will be incorporated to the analysis at a later stage.

The database differentiates between two rule levels. “Original rules” refer to the regulations as they appear, organized in different paragraphs and items, in the original sources. Some of these ‘original rules’ just comprise a single idea, but in many cases the same item includes more than one. We therefore individualize each one of these ideas as “individual rules”. Let’s see an example. The “*Apeo y Concordia*” (‘Measurement and Agreement’, a sort of byelaws) of Lokiz forest in 1357 delimited some areas inside the mountain for the exclusive use (during a specific time period) by each one of the entitled villages. For each of them the original rule states: “the said council ... have in tenancy and possession of grazing the grass and drinking the water, eating the fruits of the trees, cutting firewood and timber, appointing monitors and guards, taking pawns, closing and disclosing, as in its own property without participation, obstruction or contradiction of the Five Valleys” [“*tenencia e posesión de pacer las yerbas e beber las agoas, comer el fruto de los árboles, talar leña e madera, poner costieros e goardas, prender, caloniar, vedar e soltar como en cosa propia sin parte, embargo ni contraste de las Cinco Comarcas*”]. In other words, one original rule contains, in this case, ten individual rules: permission to use and/or collect (1) grasslands, (2) sources of water, (3) acorn, (4) firewood and (5) timber, as well as (6) to appoint guards, (7) to take

pawns, and (8) to enclose and (9) to open the borders of the delimited area. Additionally, it is also understood that the rest of the entitled villages (10) cannot go against the rights. The number of individual rules is therefore always larger than the number of original rules. As it can be seen in Table 1, our sample includes 421 original rules, disaggregated in 977 individual rules, offering a ratio of 2.32 individual rules per original rule (1.88 if we exclude the peculiar case of Lokiz forest 1357).

Table 1. General description of the sample of rules

Name	Type	Year	Original rules	Individual rules	Ratio
Olejua	Village common	1542	31	37	1.19
Etayo	Village common	1540	54	73	1.35
Etayo	Village common	1545	24	36	1.50
Etayo	Village common	1717	46	111	2.41
Etayo	Village common	1739	40	104	2.60
Ancín	Village common	1692	26	59	2.27
Ancín	Village common	1799	5	10	2
Ancín	Village common	1825	33	64	1.94
Murieta	Village common	1686	52	93	1.79
Murieta	Village common	1713	8	13	1.62
Murieta	Village common	1847	35	77	2.20
Sierra de Lokiz	Intercommon (25 villages)	1357	46	270	5.87
Sierra de Lokiz	Intercommon (25 villages)	1788	15	23	1.53
Sierra de Lokiz	Intercommon (25 villages)	1824	6	7	1.17
Total			421	977	2.32

Source: Common Rules Project Database

For this analysis we exclusively focus on two of the different criteria employed for the codification of the rules. These are “Rule Category” and “Rule Form”, and provide a first approach to the ‘grammar of the commons’. Rule Category identifies the main objective or content of the rule. The categories are Access, Use, Management, and Governance Structure. We could say that they try to answer questions such as who (access, governance structure), how (management) and what (use). Rule Form relates to the action implicit in the rule. The main forms are: permission, obligation, prohibition, appointment, rejection, and a residual general form. It mainly defines actions such as “can”, “must” or “cannot”.

As it can be seen in Table 2, management and use categories encompass the majority of individual rules, representing 36 and 39% of the total rules respectively.

Exceptionally (Murieta 1686 and Ancin 1825), it is access that concentrates the larger number of rules, but in general it just amounts to 11 and 14%, while governance structure represents less than 7% of the rules. Concerning rule form, Table 3 shows the results. As a consequence of the rather exceptional case of 1357 Lokiz forest rules, the main form used is permission (34%); when we omit it, it is the obligation category the one which reaches the larger percentage (36%), followed by prohibition (30%). Exceptionally, other forms, such as appointment (Ancin 1692) and rejection (Etayo 1545), also show significant numbers.

Table 2. Classification by Rule category: individual rules

Common	Year	Access	Use	Management	Governance	Other	Total
Olejua	1542	5	16	3	11	2	37
Etayo	1540	4	13	45	4	7	73
Etayo	1545	0	5	28	2	1	36
Etayo	1717	3	55	35	16	2	111
Etayo	1739	3	46	44	11	0	104
Ancin	1692	11	7	20	13	8	59
Ancin	1799	8	1	1	0	0	10
Ancin	1825	20	19	20	1	4	64
Murieta	1686	41	19	24	8	1	93
Murieta	1713	0	2	11	0	0	13
Murieta	1847	0	42	35	0	0	77
Lokiz	1357	4	140	76	1	49	270
Lokiz	1788	5	8	10	0	0	23
Lokiz	1824	0	7	0	0	0	7
Total	Nº	104	380	352	67	74	977
	%	10.6	38.9	36.0	6.8	7.6	100

Source: Common Rules Project Database

Table 3. Classification by Rule form: individual rules

Common	Year	Permission	Obligation	Prohibition	Appointment	Rejection	General	Total
Olejua	1542	4	19	13	0	0	1	37
Etayo	1540	7	32	27	4	1	2	73
Etayo	1545	2	7	5	1	7	14	36
Etayo	1717	27	37	30	5	0	12	111
Etayo	1739	25	36	25	7	0	11	104
Ancin	1692	7	17	13	15	3	4	59
Ancin	1799	0	6	0	0	1	3	10
Ancin	1825	10	26	24	1	1	2	64
Murieta	1686	15	38	33	1	1	5	93
Murieta	1713	0	7	1	0	0	5	13
Murieta	1847	12	24	33	0	0	8	77
Lokiz	1357	209	3	2	2	0	54	270
Lokiz	1788	8	7	4	0	0	4	23
Lokiz	1824	3	0	4	0	0	0	7
Total	Nº	329	259	214	36	14	125	977
	%	33.7	26.5	21.9	3.7	1.4	12.8	100

Source: Common Rules Project Database

One could ask whether a trend in the evolution of rule categories and forms over time is visible or not. The size of the sample does not allow us to make too general claims; it is possible, however, to provide a more detailed image of the content of the sample. Table 4 confirms the singularity of the regulations of Lokiz forest in 1357. Recently affected by the Black Death crisis, the peasants of the entitled villages were awarded the confirmation of the property rights over the forest by the King and, subsequently, they agreed on the regulations for the management of the forest. As a consequence of this, by then, use category and permission form were the main the focus of the rules. Use category became again the center of the regulations during the eighteenth and nineteenth centuries, access category rose in the critical seventeenth century, and management focused the attention during the brilliant sixteenth century. Regarding rule forms, obligation was the main one from the sixteenth to the nineteenth centuries, although the percentage seems to have gradually declined. The increase in the prohibition form during the nineteenth century could be perhaps related to increasing pressure on the CPR due to population growth and expansion in the market demand (see also Table 6), but this development should be confirmed with other cases and further research.

Table 4. Evolution of Rule categories and forms in the sample of Spanish commons (%)

		XIVth	XVIth	XVIIth	XVIIIth	XIXth
Rule Category	Access	1.5	6.2	34.2	7.3	13.5
	Use	51.9	23.3	17.1	42.9	45.9
	Management	28.1	52.1	28.9	38.7	37.2
	Governance	0.4	11.6	13.8	10.3	0.7
	Other	18.1	6.8	5.9	0.8	2.7
	Total	100	100	100	100	100
Rule Form	Permission	77.0	8.9	14.5	23.0	16.9
	Obligation	1.1	39.7	36.2	35.6	33.8
	Prohibition	0.7	30.8	30.3	23.0	41.2
	Appointment	0.7	3.4	10.5	4.6	0.7
	Rejection	0	5.5	2.6	0.4	0.7
	General	20.0	11.7	6.0	13.4	6.8
Total	100	100	100	100	100	
Individual rules	Number	270	146	152	261	148

Source: Common Rules Project Database

To finish this descriptive statistical approach, Table 5 presents the combination of specific categories and forms. The selected variables are use permissions and prohibitions, management permissions and obligations, access prohibitions, and governance structure appointments. In seven of the fourteen cases these combinations represent more than 70% of the rules. However, each one of the cases shows different combinations, even when we look at the same village but at different moments in time. This reinforces the idea of the diverse nature of local regulations, emerging from very specific spatial and historical contexts, and providing answers to particular challenges and conflicts.

Table 5. Combination of rule categories and forms (% of total individual rules)

Common	Year	Use		Management		Access	Governance	Residual
		Permission	Prohibition	Permis.	Obligation	Prohib.	Appointment	
Lokiz	1357	51.1	-	25.6	1.1	0.4	0.4	21.4
Etayo	1540	1.4	15.1	8.2	38.3	5.5	2.7	28.8
Olejua	1542	2.7	29.7	-	8.1	2.7	-	56.8
Etayo	1545	-	11.1	5.5	16.7	-	2.8	63.9
Murieta	1686	4.3	7.5	2.1	20.4	24.7	-	41.0
Ancín	1692	5.0	3.4	1.7	18.6	11.9	20.3	39.1
Murieta	1713	-	-	-	53.8	-	-	46.2
Etayo	1717	17.1	23.4	3.6	20.7	1.8	4.5	28.9
Etayo	1739	17.3	19.2	5.8	27.9	1.9	6.7	21.2
Lokiz	1788	21.7	-	8.7	21.7	17.4	-	30.5
Ancín	1799	-	-	-	10.0	-	-	90.0
Lokiz	1824	42.8	57.2	-	-	-	-	0
Ancín	1825	6.2	10.9	1.6	25.0	21.9	-	34.4
Murieta	1847	10.4	39.0	5.2	26.0	-	-	19.4

Source: Common Rules Project Database

We have already offered an example of individual rules related to permission, in both use and management (Lokiz 1357). Olejua 1542 could give us an example of ‘use prohibition’ rules. These are 11 rules and represent almost 30% of all of them in the village. Most of these rules forbid access by the livestock to some areas and circumstances (differentiated by place, time, and/or number and kind of animals), indicating precisely when, where and how the cattle, horses, sheep and goats of the neighbors could graze within the village district. Examples of management obligation rules can be found in Etayo 1540, where it was ordered that all the neighbors must

attend the village assembly (also in Olejua 1542 and Ancín 1692). By these means, cooperation was often enforced. The rules also obliged to join everyone's animals to the common herd of the village and to contribute to the salary of the village shepherd. In order to avoid problems related to the movement of flocks, all the farmers were obliged to enclose and fence some cultivated areas (orchards, vineyards, and the fields surrounding the village called 'corseras', a sort of infield). The prohibition of access can be found, for instance, in Ancín 1692 where sheep flocks were forbidden to enter the village district from 20th of May until the 8th of August, being obliged to leave to the summer pastures of Sierra de Lokiz (co-owned by 25 villages). Examples of 'access obligation' rules can be found in Murieta 1686 and Ancín 1799 where the individual who wished to become full member must request it to the assembly, and once admitted he must pay the entrance fee (3 ducados in Murieta 1686, 4 ducados and acostumed meal in Ancín 1799) and serve as officer during his first year. It is also in Ancín 1692 where a significant number of rules are devoted to define appointment terms in governance structure. The jurors ('jurados') must be elected every year on 29th September by household turn, and once elected they must designate other two persons as aldermen ('regidores') as assistants.

In a nutshell, the nature of the rules revolves around a double axis: the interaction between the members of the community, and their relation with the natural resources within a well-defined area. The interdependence between the human group and environmental conditions incentives the search for cooperation. Three objectives could be identified:

- a. Enforcing community bonds.
- b. Guaranteeing the long-term sustainability of the natural resource.

- c. Avoiding conflict, both within the community and between the community and external agents.

In order to ensure the fulfillment of these objectives, a set of instructions, permissions, obligations and prohibitions were designed. Cooperation is, by these means, enforced and institutionalized. In the end, the reproduction of both the human group and the environment represent the long-term, underlying concern. As it can be seen in Table 6, achieving these objectives was not an easy task. Human groups were exposed to waves of growth and decline, in which they probably felt the need of changing the rules in order to adapt them to the new circumstances. The combination of permissions, obligations and prohibitions in fields such as access, use, management and governance structure tried to guarantee those reproductive goals.

Table 6. Population in the four villages of the sample through time.

Village	Households								Inhabitants		
	1350	1514	1553	1647	1677	1724	1802	1852	1768	1787	1857
Ancín	17	29	49	24	21	24	39	62	133	182	235
Etayo	22	20	31	42	35	38	44	64	205	229	296
Murieta	6	25	39	47	51	62	45	81	322	258	389
Olejua	7	11	34	28	27	25	28	58	136	150	203
Total	52	85	153	141	134	149	156	265	796	819	1123
Δ%	-	+0.30	+1.47	-0.09	-0.16	+0.22	+0.06	+1.04		+0.14	+0.44

Sources: Carrasco-Pérez (1973), Monteano-Sorbet (2000), Floristán-Imízcoz (1982), García-Zúñiga (1996: 190-193), Comisión de Estadística General del Reino (1858).

5. CONCLUSION.

The aim of this paper is to offer a long-term overview of the changing regulations produced by rural communities for the management of their resources, contributing by this way to three different but interrelated debates: (1) the institutional determinants of human cooperation, (2) the institutional determinants of western European prosperity, and (3) the long-term analysis of communal regimes in Europe. The theoretical scheme adopted here considers the interdependence between human group and environmental conditions as a driver of informal cooperation which, in turn,

produce institutions (understood in a Northian sense) that reinforce this cooperation, and, eventually, guarantee the long-term reproduction of the community. More specifically, we have defined rules as the attempt of a particular set of interests within a specific socio-economic environment at a given time period to manage interdependences and cooperation in a given direction, partly extending their present status and ambitions further in time.

At the current stage of our research we are just able to show a few empirical results. Anyway, it could be enough to highlight the potential outcome of the database built in the context of the research project *Common Rules*. Here we have tried to offer some results regarding the grammar of the commons for some of the Spanish villages included in the database.

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