INTRODUCTION

This paper intends to present some preliminary results of a research in progress on the rural producers’ cooperative associations in the rural district of Morrumbala (Zambezia, Mozambique). Our research is partly carried out within the Prin 2006 funding program named “Rural producers associations and grassroot development: the case of Morrumbala, Mozambique”. The project has been started and lead by Prof. Enrico Luzzati, who died few months ago. It was him who carried out this work until his illness allowed him to. Our research group thus decided to continue the work, starting from his notes and documents. Moreover, we think this could also be the best way to remember him, his work, his commitment to the study of grassroot development strategies and his strong relationship with Mozambique.

The object of this study are a certain number of rural producers’ associations that are members of Udcm (União Distrital dos Camponeses de Morrumbala), an organization federated with Unac (União Nacional dos Camponeses). The underlying question inspiring this research is whether, in that specific context, a cooperative organization (that is also “non-capitalistic”) can be an appropriate tool to foster income-generating and development processes. Here, we present some preliminary reflections and results of a work in progress, that doesn’t claim to answer this question, but that tries –starting from Prof. Luzzati’s field work and from the research team elaboration - to set out the basis for this inquiry to be continued in the following months.

Our method is clearly interdisciplinary: the constitution of our group, including skills both in economics and in anthropology, allows us to deepen the research tools and the employed concepts, with reference to more than one discipline.

After the civil war, Morrumbala district has been the target of a rural cooperative promotion project. According to a nowadays evaluation, this project seems to show very poor results. The first part of our work is devoted to the analysis of this failure.

In 2006, an Italian Ngo started a new project that aimed at strengthening some rural producers’ organizations in the same area. This new project, that is trying to take advantage of the lessons taught by previous experiences, represents the focus of our research, which can be seen also
as an on-going evaluation of it. Therefore, we are now going to present some preliminary results of our empirical investigation, supported by a discussion on some theoretical tools.

From a methodological point of view, we are trying to integrate qualitative and quantitative tools. The first step is the construction of a panel dataset at the association level, at the beginning of the project of new cooperatives promotion. From this dataset analysis, we will select those households that will be the object of a survey aimed at evaluating the impact of belonging to an association. The survey will be carried out with qualitative tools, by comparing households that are members of an association with households that are not.

The evaluation analysis will proceed following some thematic lines, among which we underline the importance of the role of the association as an engine of innovation, drawing both from the economic and from the anthropological literature on the domain. The contribution of this twofold approach is the match of an empirical test of the role of innovation with an evaluation of the proximity of the category of “innovation” itself to the analyzed context.

In the first chapter, we present some elements from the economic literature, namely the New-Institutionalist one, with a twofold aim: first of all, we want to explain why we use the category of “cooperative enterprise”, despite the fact it’s not the term used in our study context, discussing its definition. Then, we will suggest a short review of the literature on the possible advantages of a non-capitalistic producers’ organization in fostering grassroot development processes, besides the productive activity itself.

After a historical and social introduction of Morrumbala district (ch.2), in the third chapter, we are going to make a first attempt at analyzing the reasons of failure of the cooperative promotion project of the ‘90s, mainly relying on Prof. Luzzati’s direct observations.

In the fourth chapter, we are going to describe a today’s picture of our case study, the Udcm, in qualitative terms. In the fifth, we are going to enlarge this picture by a first glance at the dataset on associations: these are introductory descriptive figures, that may provide some interesting hints for the following research steps.

Finally, in the last chapter, we are going to introduce the core theme of our future work, that is the role of innovation, that, considered our interdisciplinary approach, we are going to address first of all by matching some different possible definitions.

2. RURAL PRODUCERS’ ORGANIZATIONS AS DEVELOPMENT TOOLS

Recently, in the economics debate, there has been a renewal of interest in institutions (in the definition given by Douglass North of «humanly devised constraints that shape human interaction» [North 1990], that means those norms that rule the functioning of society, shaping incentives and sanctions); among institutions we thus consider the alternative enterprise property regimes. The strictly neoclassical approach, by modelling the firm as a function of production, doesn’t pay attention to its governance structure and to its ownership pattern. The neo-institutionalist approach introduces (reintroduces, to be more correct) in the debate the effect of different ownership structures on the functioning of the firm and on its efficiency: the firm then ceases to be considered as a mere function of production to become a governance structure [Williamson, 1985]. Nevertheless, the capitalist enterprise is usually considered to be the one able to produce the better set of incentives, and the existence of other organizational forms is justified simply as a reaction to existing market failures.

On the contrary, our analysis inquires into the possibility that a productive non-capitalistic association, with a peculiar orientation towards the local community, could be an appropriate tool to trigger income-generating processes and development dynamics.

Now, we are going to discuss some elements in order to define a productive non-capitalistic organization, and then we are going to review some theoretical issues, that may suggest the need for
a deep analysis of various possible organizational and ownership structures of production, when inquiring development processes.

A. NON-CAPITALISTIC PRODUCTIVE ORGANIZATIONS

We start by introducing a definition of cooperative enterprise and by explaining the reason why we use this category, despite it doesn’t officially show up in our case study.

Non capitalistic firms are those firms where property rights are held by stakeholders that are not mainly capital investors, but that have another relationship with the firm (they are workers, producers, consumers…). Firms that belong to this category are defined as cooperative enterprises. It’s useful to refer to the literature on cooperative enterprises because of the similarity between what is defined as a producers’ cooperative and the features of the associations members of the Udcm: enterprises whose property rights belong to primary producers and that provide services to members (commercialization, credit, product stocking, training…). Among the purposes of the promoters of this network of cooperatives there is the idea that they can supply services for the community as a whole, besides the provision of services strictly directed towards producers-members. This means we can use, at least partially, the definition of multistakeholder cooperative, that is a kind of cooperative whose owners aren’t a single category of actors within the firm, but on the contrary, they can be workers, consumers, customers of cooperative’s services, etc. In these cases, the relationship between the cooperative and its members involves the local community and is linked to a certain geographical territory, rather than to a specific social group. Following some authors, this kind of firm has a great potential in terms of development of its local context [Levi, 1998].

If the more appropriate category, from the economists’ perspective, to define our case study is the “cooperative” one, why don’t we use it in the context we are analyzing? The reason why we don’t do it is the history of the term “cooperative”, that used to define the organizational form given to agriculture by the post-colonial government guided by Frelimo in Mozambique, and that was a pillar of its socialist economic policy. The former, jointly with the policy of forced “villagization” of peasants into the aldeias comunais, had a well-known negative outcome.

The literature on cooperative enterprises focuses mainly on worker cooperatives (labour-managed firms), that, in the more widespread definition, are defined as follows: «Labour managed firm is defined as a firm characterized by workers’ control, whose necessary and sufficient condition is the allocation of decision making rights to workers, with two consequent elements, that are profit sharing and workers having financial stake in the firm» [Bonin, Jones, Putterman 1993]. This definition can easily be extended to other categories of stakeholders different from workers.

Moreover, as underlined by Jossa and Cuomo [2000], despite the fact that its members are entitled with shares, they usually take decisions on a “one-member one-vote” basis, thus following the democratic principle. This characteristic is present in Udcm too, where decisions are taken by the members’ general assembly, which also elects the direction board.

It exist a wide literature, both neoclassical and neo-institutional, that explains the rarity of the cooperative enterprise with respect to the capitalist one, by looking for the inefficiencies of the former with respect to the latter, in a functionalist perspective. There is a wide literature; therefore, that analyzes the possible inefficiencies of the cooperatives. We cannot here review the whole amount of this literature, but it may be interesting to recall, among others, the contributions of the Principal-Agent approach concerning this issue [inter alia, Jensen and Meckling 1976, Holmström and Milgrom 1994]: it interprets the firm as a set of contracts, whose aim is to make compatible
otherwise conflicting interests, through the provision of an adequate incentive system. In this perspective, already Alchian and Demsetz [1972] argued that an individual, within the firm, has to be in charge of monitoring others’ activities, and that he has to be the one who appropriates of the residual outcome of production (what the firms gains, after having paid all the costs), because of the need of efficiently monitoring others’ effort. Following these two authors, it’s efficient that this monitoring and residual-claimancy role is taken by the capital-owner, in order to avoid the risk of opportunistic behaviour. This claim has been submitted to a number of criticisms: Jossa [2005] argues that, if worker (or producer)-members are allowed to appropriate of the residual gains of production, they will have efficient incentives to make efforts, regardless of the monitoring structure. More generally, it’s interesting to recall the analysis made by Pagano [1989], that compares the New-Institutionalist approach with the Labour Process literature [Bowles e Gintis, 1994]: in the former, the characteristics of the assets entering as inputs in the production process (asset characteristics are transaction costs and their “specificity” in a particular production process) determine the organization of production and its property rights structure; in the latter, on the contrary, it’s the form of the organization of production itself that determines the asset specificity and the cost of the transaction between them and the firm. In this approach, then, the establishing of a peculiar pattern of property rights is a path-dependent process, where the institutional setting is the outcome of a historical process, rather than being determined by the efficient combination of resources, given their characteristics.

B. NON-CAPITALISTIC PRODUCTIVE ORGANIZATIONS AS TOOLS FOR DEVELOPMENT

Without aiming at building up a theoretical model demonstrating it, we would like to recall some theoretical arguments suggesting that cooperative productive associations could be closer to some elements of the context of our case study than a capitalistic enterprise. They are not necessarily theoretical assumptions that are going to be employed as in our research; they are rather issues, present in the literature, that may be helpful in order to contextualize our work within the theoretical debate, and that may become tools of analysis when applied to the empirical case study.

Besides the possibility of exploiting economies of scale, an important issue is the bargaining power of rural producers: cooperatives may allow peasants to face monopsony or oligopsony conditions (buyers’ market power). This claim is also consistent with Hansamann’s model [1996]: producers, in this case, could have high market contracting costs when relating with the buyer on the market.

As observed by some authors, another aspect that makes cooperative organizations interesting is the possible presence, in some contexts, of social norms limiting processes of individual accumulation of wealth [Platteeu, 2000]. Being the capital accumulation a crucial element for the promotion of a productive activity, it’s worth analyzing whether some form of

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5 More precisely, the aim of the firm is to align the interests of the agent (in our case, the employee) to those of the principal (the employer), on behalf of whom the agent undertakes an action.

6 That is the moral hazard problem that would arise if workers appropriated residually of the product obtained through a capital (physical or financial) that doesn’t belong to them.

7 Transaction costs are the costs of the interaction among agents (thus different from production costs), such as coordination, monitoring and negotiating costs, and they are influenced by alternative governance structures of the firm (the main reference for this trend of literature is Williamson [1985]).

8 Asset specificity to a particular production indicates how high would be the cost for that asset to be transferred to an alternative use, that is to say to what extent it is bound to that specific production process.

9 Hansmann’s model is a recent formulation of the determination of the efficient pattern of ownership of the firm, on the basis of transaction costs: among various groups of patrons (stakeholders), the owner will be the one who minimizes the sum of the whole amount of transaction costs. These are costs of ownership (sustained by the owner) and costs of market contracting (sustained by other patrons, that are “bought” by the firm).
collective accumulation (that is without any kind of differentiation among group members) may be a more suitable tool for such contexts.

An enterprise organized in a cooperative form can moreover play a role in income support and provision of public goods for the community. In his considerable work on Tanzania, Putterman [1986] remarks that the distributive function of cooperatives (usually in the form of provision of public goods) can be considered as factor of participation in the enterprise.

On this topic, there are some interesting empirical works that distinguish between community-oriented and market-oriented peasants’ organizations in Sahelian countries [De Janvry, Sadoulet 2004 and Bernard, de Janvry, Sadoulet 2005]: even if authors don’t concentrate on this, there seems to be a wide overlapping area between these two sorts of organizations. This may indicate that it’s not rare to find market oriented organizations that carry out distributive and welfare tasks too.

The distributive function could also be a reason for an increased capacity in bearing the risk of the economic activity. One of the consequences of poverty, as it is often argued, is a low risk-bearing capacity [Fafchamps 2003, Bardhan 2005]: insurance and distributive practices can increase this capacity (for instance, Platteau and Seki [2001], show that income pooling practices play such a role in some Japanese fisheries).

Generally, looking at the literature on Developing Countries, the role of productive associations as insurance providers and promoters of risk-sharing practices, besides their income generating activity, is considerable (it’s important to recall, among others, Carter [1987]; more generally, on the insurance function of commons, Baland and François [2003])⁠ ¹⁰. In our case study, this function may be represented by credit provision directed to those who aren’t able to pay for field preparation before sowing, the creation of work groups, the building of common infrastructures.

Finally, we can analyze the cooperative project as closer to some contexts: some authors investigated the possibility that the cooperative enterprise represents an innovation from the point of view of the organization of production with less “uprooting” effects as compared to the capitalistic one. Without claiming to identify tout court “solidarity-oriented” contexts, these authors studied which context-specific elements and informal institutions can trigger the development of a cooperative mode of production (e.g. a collective land tenure or the collective ownership of irrigation structures). We can recall here the works of Ronald Dore [1971], Maxime Haubert [1981] and of Enrico Luzzati himself [2002].

We have so far recalled some elements taken from the economic literature that allow us to contextualize our work both with respect to the New-Institutionalist theories of the firm and to the microeconomic literature on institutions in Developing Countries. We have now come to our case study.

3. THE DISTRICT OF MORRUMBALA

A. HISTORICAL INTRODUCTION

Zambezia is the broad region that includes the district of Morrumbala. This region has been, until 1900, the most important part of the Portuguese settlement. The Zambezi River was an important channel for commercial purposes. The river, in the past, connected the Indian Ocean to the more inland area, which was under the control of Monomotapa Empire [Papagno, 1972]. When

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¹⁰ Risk is defined as “an external shock that affects the well being of people” [Fafchamps 2003].
the capital moved to Lourenço Marques (Maputo nowadays), the South of the country became the most important part.

The district of Morrumbala is in the heart of Zambezia. Its name probably came from the name of the mount Morrumbala, which means “barrier”, separating the district from the river Shire. The second hypothesis suggests its name came from a population called Amarambara, which lived around that mountain. Considering that Amarambara means “barrier’s population”, both versions look very similar.

We do not have clear data about the people that lived in this area, when the Portuguese arrived. Probably they were defined, by the first European visitors, al Lolo, a Makua’s population. Their language, now object of intensive research, has many similarities with the Chwabo language, spoken by a Lomwe’s descendent population, around Quelimane.

A particular kind of political model, called prazos da coroa, had big diffusion in Zambezia, starting from 1700. At the beginning, this model was only a land grant regulation. Later, the prazos became a more complex political structure [Papagno, 1972], with a regulation also for the transmission of the hereditary power title. Isaacman stated that the prazos could be considered as “state” [Isaacman, 1972]

One of these prazos, called Massingire, under the kinship of Mataquenha, was constituted on the Zambesi left side, and included all the land that nowadays is part of Morrumbala District. The Portuguese started to rule Massangire’s area only after an insurrection occurred in 1884. Mataquenha II was deposed. In the 1891, the Portuguese King granted the commercial right on Mozambique to Companhia de Mocambique. From this date on, we can say that the modern colonizing process started.

Massangire’s prazos was ruled, from 1896, by the Pereira, Dúlio e C.’s firm. Later the Companhia da Zambezia started to rule there, and realized a small agaves plantation near Pinda-Vila Bocage. This village became the main town of the district and in 1930 it was called local administration of Massingire [Saul Dias, 1981]. In that year we can state that the prazos’ time was definitively over.

The farming’s right, from 1933, was exclusively under the control of Lopes & Irmao’s firm, which improved the cotton cultivation [Negrao, 2005: 64]. On 17th November 1945, the district was called Morrumbala, and the main town was moved to M’bobo, that is the name of a small river, and now it is the place where Morrumbala’s town is placed.

An important consideration concerns the work of some Italian missionaries. Since 1947 Cappuccini and Dehoniani (two Italian religious orders) were present in the district. The Cappuccini from Bari created, in 1951, the San Giovanni Battista’s Mission in the village of Cumbabo, which is ten kilometres away from Morrumbala. Here they built a big church and the first secondary school of the district.

The civil war had a great impact on the district. Indeed, Zambezia was directly involved in the war from 1978. In 1982, Renamo started to control the capital, with great damage for the local population. Frelimo placed his stronghold in the Mecange, in the South part of the district. Part of the population took refuge there, but many people ran off to Malawi, where they found hospitality in some refugee camps. Few persons returned to the place they lived in before the war. Renamo administered almost the whole area.

B. AN OUTLINE ON DEMOGRAPHY, SOCIETY AND ECONOMIC SITUATION OF MORRUMBALA DISTRICT

Morrumbala district is the second district in terms of population in the region Zambezia. The population, according to the last population census in Mozambique (2007) was of 361,896 inhabitants with a female percentage of 51.4% of the total. Population density is 28 inhabitants per kilometer square.
The population is very young (46% population is less than 15 years old) and the urbanization rate is very low, about 4.12%. In the district, the main urban agglomerations are Vila de Morrumbala, capital of the district, Derre, Chire and Megaza where the main markets are.

86% of population does not know Portuguese: the most important local languages are Sena, Lolo and Lomué. Schooling rate is 15% and 89% of population is illiterate. In the district, there is a teacher per 160 scholars.

The human poverty index estimated in 2003 is 52%, and approximately around 72% of local consumption is devoted to food expenditures, followed by housing, transport and clothing. In Vila de Morrumbala, there is an electric and telephone network while in the rest of the district the access to these services is very partial and lacking in most of the areas. Health facilities are insufficient to satisfy the population needs, and approximately there is one health service for about 30,000 people, one bed in the hospital every 3,800 people, and a doctor or a nurse every 6,300 people.

Access to water is very difficult and often the unique sources are the several streams and rivers, but they have a very irregular flow. One third of the permanent source of water is concentrated in the capital of the district. In most part of the district, people have to walk approximately between 5 and 10 km to reach the nearest source of water. In Derre area, the only well available serves approximately 30,000 people.

The main mean of transport is the bicycle, used also for the transport of goods (trade is an economic activity), which is mainly a men responsibility. The population lives in houses made of mud or baked bricks while the roof is usually made of straw (there are very few cases of roof made of tin foil). The population is widespread in the district territory, and often you can find a single house where one family lives very far from other houses. There are also cases of more than one house in the same area and this happens especially in polygamical families where each little house corresponds to a wife and her children.

Polygamy is quite widespread in the district and it represents also one of the causes for large families. The average number of children per couple is 6 but there are also families that can have more than 20 children.

Most part of the working activities are carried out by women that are in fact responsible for agriculture activities, for getting the water from the well and all the other domestic activities. Even though women play a very fundamental role in the economy of the district, they are almost completely excluded from the management of the family wealth unless they own the piece of land they are working on.

The district economy is still very scarcely monetized as it is essentially based on agriculture which represents 95% of the source of employment in the district. Most of the commercial exchanges, especially in more remote areas, are in goods. The industrial and the tertiary sector employs respectively 2% and 3% of the population.

The average dimension of the field is one hectare but there is a very big unequal distribution of land ownership in the district. In fact, 72% of the population owns less than one hectare each, while 7% of the agricultural enterprises own 28% of the land. Agricultural techniques are very primordial and work is realized essentially by hand. Only near the boundary with Malawi, farmers use animal traction. There is some mechanical agricultural equipment but it represents a very small percentage and it’s mainly owned by the multinational cotton company in the district called Dunavant11 (the only big enterprise in the district since 1998). Before this company, there was a national enterprise called Agrimo.

Principal agricultural products are maize, several qualities of beans (boer, nhemba and manteiga are the most important), cassava, cotton, potato, sugar cane and sesame. The main elements of the population diet are wheat of maize, millet or cassava with beans and leaves of

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11 Dunavant Enterprises Inc. is the largest privately owned cotton merchandiser in the world, handling more than 6 million bales of US and foreign cotton per year. It has a long experience in supporting small scale farmers by providing crop inputs such as seeds and equipment on credit and by creating marketing linkages with the international market. Dunavant’s offices are located in the major cotton producing areas of the US and all over the world. It is a major player in small scale cotton production in Uganda, Zambia and Mozambique.
cassava or beans. Agricultural activity is mainly characterized by smallholder and subsistence productions. Farmers tend to grow more than one crop in the same field. This technique is used to enrich the land. The most important cash crops are cotton and maize (part of the people’s diet). In the most humid areas, the plots next to a stream usually grow rice and sweet potatoes too.

In the district, hunting and fishing also represent an important source of food for the population. Finally, in Boroma and Guerissa there are two stony quarries that are important sources of construction material for the district.

Before the country independence, there were two important commercial companies that produced rice and cotton, especially in the area of Megaza and Morire (Chire area). Commercialization of crops was realized through a network of *cantineiros rurais* that used to guarantee an efficient commercialization of agricultural products.

After the war, the infrastructures have been seriously damaged and the commercialization of agriculture products became a serious concern. Local markets and fairs are concentrated especially in Vila de Morrumbala, Derre and Chire. In this last area bordering Malawi, it is very widespread the cross-border trade. Because of very bad road conditions, many people would in fact prefer to sell their products over the border instead of selling them in Morrumbala district or in other areas of the Zambezia region.

The capital of the region Quelimane is approximately 200 km away from Vila de Morrumbala. It takes approximately 3 hours to get there by a car. There is also an informal private transport called *chapa* to Quelimane and another one linking different parts of the district, but both of them are irregular and expensive because of the high cost of fuel in the area.

The bad conditions of the roads, the very scarce public-private transport system and the high cost of fuel make very difficult the commercialization of products in the district and in general in the region. In fact, most of commercialization activity is carried out by smallholder producers by bike.

In the district, there were no banking and financial services until today. Now, Gapi Sarl\(^\text{12}\) works in the district only through the mediation of the multinational Dunavant. In the future, it is foreseen the opening of a new branch of Gapi. There are no Microfinance Institutions operating in the district now, but there is a traditional credit system, especially widespread between wage earners, called *Xitique*: that, in Mozambique, is the name given to the methodology generally referred as Rotating Credit and Saving Association (Rosca). Once, the most common technique used to be *makuti*, that is a version of Rosca based on labour force exchange. However, this methodology is nowadays disappearing because of lack of trust among peasants.

**C. DEVELOPMENT PROJECTS IN THE DISTRICT OF MORRUMBALA**

Apart from Dunavant and Gapi, the main enterprise working in the district, there are several national and international Non Governmental Organizations such as: World Vision, Oikos, Oram, Nexus-Progetto Sviluppo, Save the Children, Cruz Vermelha de Moçambique and Associação dos Deficientes Moçambicanos (Ademo).

The first three Ngos focus on rural development. The main common characteristic of all these actors is their work with communities through the creation of productive associations or working groups. It is a work methodology that tries to reduce transaction costs and takes advantage of the economies of scale in contexts where the population is sparsely distributed and communication systems are very scarce.

The first international development projects focused on rural development were realized in the Mid Nineties by the American Ngo World Vision and by the Italian Agency for Cooperation. The main objective of these projects was to promote the resettlement of refugees in Malawi during

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\(^{12}\) Founded in 1990, GAPI Sarl is a Mozambican investment company whose mission is to contribute to the social and economic development of Mozambique through the promotion of local small and medium-sized enterprises (SMEs) and micro-finance institutions. GAPI is also a banking institution. Their main financial products are loans to SMEs, wholesale credit for micro-credit institutions (MFIs), and venture capital.
the war. The main characteristics of World Vision methodology will be described below, while the project financed by the Italian Agency for Cooperation will be analysed in the following chapter.

In 1996, the American Ngo called World Vision started working in the district. They worked with communities focusing on several problems such as nutrition, childhood protection, literacy, hiv-aids programs and rural development.

The project focused on rural development is called Ovata. The methodology used envisaged the creation of working groups of maximum 15-20 people. The main objective of this program was to improve the commercialization of agricultural products. The Ngo action focused mainly on three areas of the district that were particularly active from a commercial point of view: Vila de Morrumbala (60%), Derre (20%) and Megaza (20%). It is important to notice that some of the associations now members of the Uniao Distrital dos Camponeses de Morrumbala, object of our case study, were groups firstly created by the Ovata project.

In 2006-2007, a project of the World Bank called “Market-Led Smallholder Development in the Zambezi Valley” was approved and it allowed an increase in the number of development actors. The Ngo Rural Association for Mutual Support (Oram) is in the district since 2006 and it works with local communities that tend to be organized in associations. The main objective of the institution is to try to protect the communities’ right to their land through registration and delimitation of the land in various regulados\textsuperscript{13} and through the spread of the law on land protecting the communities’ right to use their land. The association also organizes courses on the controlled use of the slash and burn technique, which is very common in that area and which has frequently caused big fires.

The Portuguese Ngo Oikos is in Morrumbala and Mutarara since April 2007 for an emergency project financed by the European Commission Humanitarian Aid Department (Echo), as consequence of a water-flood that seriously damaged the agriculture production of the district. OIKOS main responsibilities were the distribution of maize, vegetables, hens and the provision of courses in dietary education and in natural disaster management. The Ngo created some associations to distribute their material and their future aim is to introduce some small economic activities that could guarantee the sustainability of the associations thus created.

Moreover, since 2006, the Mozambican Government has been granting to all districts a monetary fund whose objective is to promote their development. The fund is devoted to finance small loans for activities which aim at creating employment creation and improving the agricultural production and farming. The regulation adopted by the Administration of the district of Morrumbala states the creation of an association as a condition to have access to such credit.

In 2006, the Italian Ngo Nexus-Progetto Sviluppo started a project that aimed at strengthening the associativism movement in the district of Morrumbala and at giving technical assistance to the associations created by the previous projects. The project realized by Nexus-Progetto Sviluppo constitutes our case study.

In the next chapters, we will focus firstly on the analysis of the project of the Italian Embassy and secondly on the project realized by Progetto Sviluppo and the current situation of the Udcm.

\textbf{4. HISTORY AND ANALYSIS OF THE PROJECTS IN MORRUMBALA TO SUPPORT UDCM}

On 8\textsuperscript{th} September 1994, the Italian Embassy of Maputo approved the project called \textit{Costituzione di Associazioni di servizio nel distretto di Morrumbala}. The objective of this project was to bring the associative movement in the rural areas too. The idea of this project gets his inspiration by Padre Prosperino’s work, an Italian priest who devoted his work to the promotion of

\textsuperscript{13} It corresponds to the smallest administrative unit. The term regulado describes the territory that is controlled by a traditional leader called regulo.
peasants’ conditions in Mozambique. He developed several initiatives in the country that have as common background the creation of productive associations as tools for development. The most important of his initiatives is certainly the União Geral das Cooperativas (Ugc) of Maputo.

The local partner of the project was the União Nacional dos Camponeses (Unac). From 1994 to 2000, training and technical assistance of the associations were responsibility of the Unac, which has its headquarters in Maputo. These were cooperative that were no more related to the State-led cooperative movement promoted by post-independence Frelimo government (mentioned in the first chapter).

In 1998, in order to better involve the population of the district, the União Distrital dos Camponeses de Morrumbala was constituted and in 2000 it was held the first general assembly of the Udcm. It was composed approximately of 30 rural associations in the whole territory of the district from Derre to Chire. From to 2000 to 2006, the associations that were members of the Udcm were left alone and their number decreased to 24 in 2006, when Progetto Sviluppo intervened.

The project was financed directly by the Italian Embassy, for an amount of $457,490. The expected duration of the project was 12 months but its real duration has been three years. In the meantime, many other institutions started to operate in this area. For example, during the starting stage of the Italian project, the Swiss Ngo Terre des Hommes approved the purchase of a farm tractor for the Association Nhamodo, which cost about $25,000.

The Spanish cooperation too, considering it was engaged with the Unac, approved the funding for the Italian project continuation, with the same aims and methodologies. The Iepala Ngo, from Madrid, realized the project. On 18th April 1995, the Spanish Ministry of Foreign Affairs approved a project for rural development in the Morrumbala district. The duration of the project was 18 months and the funds were $689,849. This time as well, aims and methodologies were the same of the Italian project.

As a whole, we can state that from 1995 to 2003, in the district of Morrumabala, international cooperation has spent $2,126,381, in monetary terms. If we divide this amount by an estimation of the number of beneficiaries14, we observe that the expense made by international cooperation has been of $292 per capita, that is an important amount of money, given that the GdP (PPP) per capita of Mozambique is estimated at $88515.

However, the evaluation of these projects, trying to assess investments and results, must focus on the problem that occurred. The Udcm’s association continued to exists, but the members’ number was decreasing as well as the association’s work. Therefore, in this paper, we will try to analyze some events occurred during these years. Our analysis will be based on direct observations of Professor Enrico Luzzati.

If we ask the project’s beneficiaries which are the main problems from their point of view, they will answer unanimously the lack of training. This is due to the fact that these projects were not based on a research which studied the local context. The primary aim was the production’s increase, but who outlined this project did not consider the lack of skills of the local population. The introduction of farm tractors is an emblematic example. Indeed, among the local people there was not anyone trained for their maintenance and the result was the deterioration and the abandon of those facilities.

Another lack of skills concerns the veterinary training. For example, in 2002, many chickens were brought to Muanembize, and all of them died of Newcastle disease. The local animal husbandry office did not provide any assistance and no vaccines were available anyway. Another important issue was the very little knowledge of market oriented production. Some examples are farm tractors, rented for a drastically reduced price and without any kind of regulation, or the

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14 This number is estimated on the basis of the nowadays number of members of Udcm (1039), multiplied by the average number of members of a household (7), thus assuming that only one member of a household is part of the association, and that the benefits of it are spread on all the members.

15 World Economic Outlook, IMF, 2008.
products’ sale at non competitive prices. In conclusion, we can state that the overestimation of human capital was one of the key issue in understanding the problem related to these projects.

We have indeed thought about other issues as well that had an important impact on the project’s results. For instance, the use of the association’s facilities and capital for private purposes. We could easily define these practices as related to corruption, but we are trying to understand the deeper motivations\textsuperscript{16}. As we will try to state, one of this research aims is understanding how the local social and political systems are related to the associations work.

We have many examples that can be considered as results of “corruption”. They are concerned mainly with the private use of the association’s capital. In most of the cases, people motivation was linked to kinship and the money was usually used to assist other family members. The way other association members accept these cases is astounding.

Finally, we must also underline the lack of skills in accounting, which favoured the occurrence of mistakes and of capital misappropriation.

The data we proposed are discouraging, as concerns the relationship between Ngos and the local context. However, we should bear in mind that there were many cases of members protesting against this kind of dishonesties, members that always paid their membership fees and continued to offer their work. The so called corruption’s phenomenon is nevertheless important and it suggests the existence of other reasons which favour its spread or its easy acceptance.

The analysis of these data is still quite complex and needs further field work to be carried on. Nevertheless, we can affirm that the main problem in the project we are analyzing is human capital overestimation, and this statement seems to be shared both by local people and by external observers. These data also oblige us to consider in a broader way the process through which the new associative models are linked to the local context.

Here, the example of corruption is emblematic. For a European observer the aforementioned cases could be defined as a consequence of corruption and dishonesty, while for the inhabitants of Morrumbala it can simply represent the respect of their moral code. For instance, the use of the association capital to help a relative can be the proper way to act for an association member without feeling guilty (he may feel guilty, on the contrary, if he chooses not to help his relative). However, this significant consideration still needs an empirical verification. Our hypothesis is that the association model is an innovation but that the pre-existing social models are important to understand which could be the results of this process. For example, the distribution and redistribution practices could be the results of social forms, which in turn could be harmful for the association model.

The issue of how the local people would react to the introduction of an innovation is primary. In Morrumbala, as in many other African contexts, we can identify difficulties in the use of some innovations, for example a long term production strategy, but we can also notice the fascination and appeal on them of other modern items, like cars or other symbols of a desirable modernity. Spread and use of an innovation in the local context seems to be a key issue especially for what concerns the results of development projects. A more detailed analysis will be proposed in the last section.

5. THE ACTUAL SITUATION OF UDCM

Our case study is represented by the associations’ part of Udem that we already introduced; we focus mainly on the period that goes from 2006 to 2008.

In 2006, the Italian Ngo Nexus-Progetto Sviluppo started a programme to strengthen the associative movement in the district of Morrumbala. Beneficiaries of this programme are the

\textsuperscript{16} Here we can refer to the debate, that mainly developed in the 70s, over the persistence of social relationships in the realm of economic transactions and on the existence of a “moral economy” (inter alia, Hyden [1983] and the Scott [1976] vs. Popkin [1979] debate).
productive associations that were constituted by the project above described, to which new associations were subsequently added during the years. The main objective of this project is to improve the living and working conditions of farmers, actually organized in associations according to the geographical part of the district to which they belong. Together, they constitute Udcm, the local partner of this initiative.

As outlined in the previous chapter, the main working methodology used in the district envisaged the creation of groups of people as a condition to participate in development projects. Creation of such groups does not necessarily constitute organizations that we can define as cooperatives. The experience previously described seems to show that the grant of infrastructures (tractors, mills, poultry house and warehouses) constitutes a sufficient motivation to put people together but it is not enough to create mechanisms of production and utilization of collective goods nor to prime the redistributive function of a productive association.

Nexus-Progetto Sviluppo, not to repeat the same past mistakes, starting from the analysis of the actual situation of the cooperatives, adopted a more participatory work methodology, using a much smaller budget and giving more importance to training rather than to the introduction of capital.

In 2006, the associations were analysed with a questionnaire called “Rural Participatory Appraisal”. It was a list of questions that gave the observer an image of the characteristics of the associations involved and it was useful to identify the biggest problems according to the associations members, from the point of view of resources and organization.

The picture arising from this analysis is quite alarming as only a very small number of associations have the minimum characteristics that would allow them to be considered as a cooperative: the presence of social bodies and the election for their selection, the presence of a statute and the registration of the association at the local authorities office. Therefore, one of the first actions taken by Nexus-Progetto Sviluppo was the registration of the associations.

The most important problems (in terms of production) arising from the former analysis were the lack of seeds to produce some crops, the very low productivity, the insufficient field crop and the unaffordable costs for the preparation of the crop field to be cultivated. Particularly difficult was the issue of the commercialization of products mainly because of the scarce presence of warehouses and the fact that commercialization is mainly carried on individually. It is important to notice that these are issues that seem to systematically characterize the agrarian “poverty traps”, by constraining peasants at low productivity levels and by preventing incentives to increased productivity to arise.

In order to answer these problems, the Ngo created a rotating fund, managed by Udcm, that allows to finance several activities realized by the associations or by the Udcm itself. It doesn’t really aim at guaranteeing the sustainability of the activities but at making the beneficiaries understand the credit mechanism through this symbolic value. The applied interest rate is 5% for credit in cash and 25% for credit in goods to be paid at the end of the loan period.

It is important to notice that credit does not cover the total cost of the activities but it is added to the funds of the associations to finance these activities.

Two credit typologies are used:

1. In cash: a) credit for lavoura e sasha, to finance the payment of the labour force necessary during the period of the field preparation before sowing and to pull weeds when the crops start growing; b) credit for negocios to finance a series of small trade activities; c) credit for commercialization, only given to associations with a warehouse. Associations without a warehouse can store their products in Udcm warehouse, so that Udcm will be responsible for the commercialization of those products.

2. In goods: the goal is to introduce or strengthen the production of some crops, in particular sesame, peanuts, maize and bean quality boer.
Udcm is responsible for the coordination activity: the collection of the membership fee, the revenues from commercialization, from renting the rooms of Udcm buildings and from the provision of several training courses for the association members.

Udcm staff is elected by the general assembly and it composed by the president, the vice-president, the treasurer, the secretary, the administration and commercialization manager and the agronomist in charge of the credit in goods.

Nexus-Progetto Sviluppo’s goal is to make the associations composing Udcm a landmark for the whole community in which they are working and to provide Udcm with instruments that would allow them to find the proper solutions for the main difficulties of their farmers.

The associations constituting Udcm were created in different years, starting from 1994, and their number has been constantly increasing (see next section). Every association has three social bodies: the general assembly, the fiscal council and the board of governors. Furthermore, every association votes for a president, a vice-president, a secretary and a treasurer.

Since the beginning of the project, there were some improvements in the functioning system of the associations part of Udcm: for instance, they are all legally registered and the number of the members and associations has been increasing over time. These are signals that Udcm has the capacity to attract farmers of the area. The government of the province has also recognized Udcm as the institution representing the district farmers. The President of Udcm has been appointed for two years as the representative of the Zambezi Valley Authority, which includes the provinces of Tete, Zambezia, Manica and Sofala.

The data collected by Udcm and by Progetto Sviluppo – in particular through the “Participatory Rural Appraisal” – allow us to create a dataset constituting the base of our quantitative analysis.

6. DESCRIPTIVE FIGURES OF THE DATASET ON ASSOCIATIONS

We now introduce some preliminary figures of the dataset we built, using the data collected by -- Udcm in their periodic monitoring of -- first-level cooperatives. We managed to access -- these data thanks to Nexus-Progetto Sviluppo Ngo.

For the time being, we just have two “waves” of a panel dataset, that we will enlarge with next waves, as soon as they will be available, in order to have more information on the diachronic evolution of associations. These first data aim at providing a first picture of the cooperatives that are members of Udcm, starting from their geographical location and from their accessibility, with respect to basic services and infrastructures and to the main urban centre of the area.

Table 1. Average distance of the association from basic facilities.

| Distance from water (a)         | 44,3 | 54,8 | 3   | 300 |
| Distance from primary school (a) | 26,9 | 23,8 | 2   | 100 |
| Distance from health care centre (a) | 174,9 | 205,8 | 5   | 900 |
| Distance from Morrumbala (b)     | 193,2 | 197,8 | 5   | 720 |

(a) = distance measured in minutes on foot; (b) = distance measured in minutes by bicycle.

At first sight, the high variance of these data is striking, suggesting that cooperatives are spread around in a vast area. The less diffused welfare service seems to be the health care one: on average, almost a 3 hours walk is needed in order to reach a posto de saude. The distance from Morrumbala (the main urban centre of the district) is high too (more than 3 hours by bicycle). However, we have to say these are subjective measures of the distance, that may present some non negligible error with respect to real topographic information.
For what concerns the evolution between the beginning of the cooperative promotion project by Nexus-Progetto Sviluppo Ngo and the following monitoring survey one year later, first of all we have to remark the increase in the number of associations members of Udcm: in 2006, they were 27, while in 2007 they were 34. This increase is clearly due to the intervention of the cooperative support project. If we look at the number of associations founded in each year (table 2), it is striking to notice that the years when most of the associations were founded are the same years of the start of some international cooperation programs.

Table 2. Number of associations founded in each year.

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<tbody>
<tr>
<td>Number of associations founded by year</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
<td>n. of associations members of Udcm</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td>n. of total members</td>
<td>737</td>
<td>1039</td>
</tr>
<tr>
<td>n. of associations with a statute</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>n. of associations legally recognized</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>n. of associations with the election of board members</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Average n. of members in each association</td>
<td>28,35</td>
<td>41,56</td>
</tr>
<tr>
<td>Average share of women in each association</td>
<td>37,9%</td>
<td>47,7%</td>
</tr>
<tr>
<td>Average share of literates in each association</td>
<td>27,2%</td>
<td>28,1%</td>
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</table>

As we can see from table 3, both the total number of members and the average number of members per association increased in 2007 with respect to 2006. The average number of members went from 28 to 42; if we perform a *t* test on mean differences, the difference between the average number of members is significant at 95% level.

The average percentage of women in each cooperative has also increased from 37,9% to 47,7% (again, by performing a *t* test, this difference shows to be significant at 99% level). On the contrary, the average number of literate people, that is those declaring to be able to read and write, doesn’t change much (and indeed the difference between 2006 mean and 2007 mean isn’t significantly different from zero). On average, 27-28% of members are literate.

In terms of production, first of all we know that the associations field is almost completely divided into individual fields (*machambas*), that have an average extension of a little less than 2 hectares per member. Moreover, we have two interesting data: the number of cultivated crops, and the number of members in each cooperative that produces, sells, and buys every single crop.

Table 4. Average number of cultivated crops in each association, in 2006 and 2007.

<table>
<thead>
<tr>
<th>Number of cultivated crops in each association</th>
<th>2006</th>
<th>2007</th>
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<tbody>
<tr>
<td>mean</td>
<td>11,8</td>
<td>10,4</td>
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<tr>
<td>variance</td>
<td>5,8</td>
<td>5,3</td>
</tr>
<tr>
<td>min</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max</td>
<td>22</td>
<td>18</td>
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</table>

The number of cultivated crops seemed to decrease a little between 2006 and 2007, but it’s not a statistically significant difference. The crops that showed up to be more relevant are 10, that

means that every association seemed to produce all of them; at this very preliminary observation stage, this could stand for low productive specialization among groups.

The data we have, unfortunately only for year 2006, allow us to try and build up an indicator of self-sufficiency in agricultural production. The information about the number of members that produce and the number of those who buy each of the 10 main crops, suggest that members may not produce enough of those crops to satisfy their need; for this reason, they may be obliged to buy the same product -- they are producing. It may be also, on the contrary, a consequence of productive specialization within the cooperative (some of the members produce that crop, and some others buy it).

We thus build up a self-sufficiency indicator as follows\textsuperscript{18}: we construct a dummy variable, that takes a value of 1 when the number of those who buy that product is less than the number of those who do not produce it (that means: when it may possibly be the case for productive specialization: the set of those who buy the crop may be a subset of those who don’t produce it). On the contrary, our dummy takes a value of 0 when those who buy the crop are more than those who do not produce it (there is somebody who produces, but not enough to fulfil their needs). The value of 1 of our dummy variable means “it’s possible that all members are self-sufficient regarding that crop” (we cannot exclude that they are), while the value of 0 means that there is for sure someone who produces, but who is obliged to buy again that product (that means he is not self-sufficient).

We then look at the ratio between the number of crops for which an association is considered to be self-sufficient (in the definition given above), and the number of the main crops (10); the distribution of our “self-sufficiency indicator”, that takes values between 0 and 1, is the following:

On average, the associations are self-sufficient for 41% of their main crops, but the range of variation of these data is wide; by looking at the distribution, we see that it’s left-skewed, that is most of the observations are in the left side of the distribution (low self-sufficiency).

If we look for the determinants of this indicator, we do not obtain significant results, but this may be also due to the limits of our dataset at this stage, making inference difficult. For the time being, we only highlighted some interesting correlations, calculated using the Spearman correlation

\textsuperscript{18} The source of these data is the Participatory Rural Appraisal carried on by Udcim and Nexus Ngo mainly in 2006. We don’t have the information on the amount of crop that is produced or bought; we simply know how many association members do produce or buy it, but we know that they are regular producers or buyers, and not occasional ones.
index (that allows us not to assume a linear correlation among variables): besides a negative correlation with the number of cultivated crops, that can be quite intuitive, we see a negative correlation with the association age (the oldest cooperatives are those who have a lower number of crops in which they are self-sufficient). On the other hand, the number of crops the cooperative is self-sufficient for is positively correlated with the number of members and the share of women on the total membership. The topics of self-sufficiency, of productive specialization and of integration in market networks may well be some of the parameters for the selection of the associations for the qualitative survey subsample.

7. TOWARDS AN INTERDISCIPLINARY APPROACH TO INNOVATION

In this section, we are proposing an outline of an approach to innovation. The relevance of this issue is crucial in the local context we are analyzing. As we have already stated, it is important the way with which new production models and organization systems are accepted or not by the Morrumbala district inhabitants. Indeed, the study of this process is important for the project evaluation and its new implementations. Communication of researchers with the actors promoting these projects is indeed a primary aim of our research.

As we will try to demonstrate, the issue of innovation seems to be an important object of analysis, in between anthropological and economic sciences. An interdisciplinary approach could therefore provide important results avoiding some over-interpretation, sometimes deriving from these single disciplines. The aim of the perspective we are proposing is to focus on the local context using both a qualitative and quantitative approach in order to produce comparable results. As Rao stated, «by engaging in an anthropological case study, letting that inform a quantitative model of human behaviour, and then conducting a statistical analysis where the hypothesis are tested by means of the quantitative behavioural model, we arrive at a clearer and more holistic view of household decision-making in this community» [Rao, 1997: 837].

The first step is to underline some definitions of innovation. From an economic point of view, it is interesting Schumpeter’s definition «a new combination of means of production, or a new function of production, generated by spontaneous and discontinuous changes» [Zanini, 2000]. Besides the sphere of production, the schumpeterian definition includes changes in organization and selling patterns, and in the market structure, but clearly stays within the economic field. The definition provided by the anthropologist Olivier De Sardan includes a wider range of phenomena: he states that innovation is «a graft of new technologies, knowledge and organization's model, on known technologies, knowledge and organization's model» [De Sardan, 1995]. This second theoretical perspective points out the process-like pattern of innovation diffusion. This means that every innovation will be grafted on an already existing cultural-system [Amselle, 1990]. Local society must be considered, also from a development perspective, as a context in a process of continuous evolution. The topic of this process dimension is primary also in economics, especially in that area focusing on innovation as a “path-dependent” process. Here, this process is not linear but discontinuous and its engine is the interaction between the variation of system conditions and the actors’ limited rationality [Antonelli, 2003]. The analysis of innovation diffusion must consider those discontinuities that could be understood with the understanding of the local context.

The analyses of the local context of Morrumbala allow us to consider some issues linked to innovation. The first is the agency of the so called “social carriers” [De Sardan, 1995: 78], that are the individuals that allow the innovation diffusion process in a local context. The second theme is the creation of public knowledge, which is the process through which some members of a social network share information, thus transferring it from a private to a public sphere.

These topics will be investigated using a case study methodology. A sample of families will be chosen using the dataset introduced in the previous section. These families will be studied using

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19 We report here only those correlations for which we can exclude, at a confidence level of at least 90%, that the two variables are statistically independent.
interviews and participant observation. As well as the topics that we have already described, with this methodology it will be possible to evaluate the impact of the associations on the life of families. The association will be considered as a particular innovation that a family could decide to use or not. In this way, the role of the Morrumbala rural association will be analyzed from two different points of view.

The first issue concerns the possible “returns to innovation”, which is the set of the possible future benefits that a domestic homestead could have after the use of an innovation. After a survey on a sample of domestic homesteads we will be able to understand if the benefits are a sufficient incentive for adoption. Besides, it will be necessary to investigate the kind of benefit Morrumbala habitants look for. This could be useful also to understand if these benefits are the same that the development agencies suppose.

Secondly, we will to understand if the associations are social relationship systems useful to spread information. We will try to understand if and in which way the association members are more inclined to diffuse information. The comparison of the data collected among members and non-members will provide important results.

The issue of construction of public knowledge lies behind both these research lines.

Finally, we will try to investigate to the issue of risk sharing. During the survey it will be possible to understand what are the kinds of risk perceived in the local context. Indeed, as in many African contexts, the risk issue is linked to other wide spheres like for example religion. The relationship between the benefit derived from the use of an innovation and the way with which information is shared and spread will also be useful to understand if the risks are shared or not.

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