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THESIS

The Co-operative as Institution for Human Development

The case study of COPPALJ, a primary co-operative in Maranhão State, Brazil

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*To Sofia, Diego and all the dearest creatures who will follow
You, Our Future*

Partilha

Partilharemos somente
o que em nós se
continua:
a singeleza
a luta
a esperança.

Partilharemos somente
esta maior intensidade:
absoluta palavra
que nos pertence integralmente.

Partilharemos somente
o pão unificado
e a água sem face.

Orides Fontela

(São João da Boa Vista, 1940 - Campos de Jordão, 1998)

Sharing

We will only share/ that which continues inside us:/ the simplicity/ the struggle/ the hope./ We will only share/ This highest intensity:/ the absolute word/ which entirely belongs to us./ We will only share/ the unified bread / and the water without face.

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PREAMBLE

Among the challenges of human beings living together, poverty and community development have probably become one of the most speculated issues, both by academics and policymakers. In the last decades tremendous improvements have been achieved in terms of the percentage of world's population having access to education, the increase in life expectancy and income per capita. Nevertheless, the achievement of the international community goals to reduce global poverty¹ have become increasingly distant, while the current global economy model is showing its vulnerability, pushing people back into poverty, along with creating new poverty risk groups.

Notably, in the last years, eminent academics have highlighted the need for rethinking the current economic model, in order to foster a new paradigm of development. Among them, surely one of the most influential is Amartya Sen, Nobel Prize Winner in Economics (1998), founder of the Human Development and Capability Approach (HDCA) and also Chair Advisor of the first report to be commissioned by a national government (France) aimed at identifying the limitations of the GDP as an indicator of economic performance and social progress, as well as the problems associated with its measurement (Stiglitz, Sen and Fitoussi, 2009).

Amartya Sen's approach, which has been studied and developed by a new generation of academics from various disciplines², is rooted in the concept that development cannot be reduced in terms of economic growth, but it "can be seen...as a process of expanding the real freedoms that people enjoy" (Sen, 1999).

Focusing on the opportunities for people to choose the lives that they *value* and *have reason to value*, this approach is concerned not only with achievement in terms of people's well-being, but also with the process and institutions which lead

¹ The Millennium Development Goals.

² Remarkable contributions come from, among others, Martha Nussbaum and Jean Dr  ze and scholars who gravitate around the Human Development and Capability Association (www.capabilityapproach.com) such as Sabina Alkire, Ingrid Robeyns, David Clark, David Crocker, Enrica Chiappero Martinetti, Mozaffar Qizilbash, etc.

and foster such human development, where they play a participatory and dynamic role. In fact, people are seen to be at the centre of the stage and active agents in their own development, aiming at increasing their real freedom, while GDP, production and distribution of commodities are considered relevant as well as important means to help in achieving this end.

Therefore, taking into consideration institutions able to foster human development, the thesis aims at exploring the co-operative, a unique enterprise that, when genuinely in operation, is characterised by placing people at the heart of its business and making participation its way of working.

Founded during the Industrial Revolution in Europe, the co-operative movement has received controversial recognition throughout its history, especially concerning its role in tackling poverty in developing countries. Literature expounding co-operative failures in reducing poverty is not lacking, while co-operative economic academics, from both neo-classical and institutional backgrounds, have mainly focused on evaluating co-operative performance under the lens of efficiency criteria.

Taking into account these considerations, the thesis is divided in two parts. The first part aims at investigating, theoretically, the co-operative enterprise as an institution able to foster at least some of the main dimensions of human development and, specifically, to reduce poverty in low human development communities, where poverty is seen as a deprivation of the real freedom that people enjoy (namely capabilities) and, as such, studied in its multi-dimensionality. This analysis will be undertaken adopting the Human Development and Capability Approach as an appropriate framework to evaluate the co-operative democratic nature, representing for such an institution a constitutive value, other than an instrumental one.

The second part will be devoted to a case study, showing the results of a field research carried out in 2008. Such empirical work aims at exploring whether participation in COPPALJ (a genuine primary co-operative in a rural area of Maranhão - one of the poorest states of Brazil), has improved the well-being of members and their families. The issue was tackled with a multi-dimensional

perspective in order to identify which dimensions of human development are more affected by co-operative membership. This case study was selected because the co-operative COPPALJ represents a good example of a genuine co-operative, set up 20 years ago by small-scale farmers who were struggling against the monopsonistic power of landowners, for access to land and natural resources.

This second section will also deal with methodological issues related to the operationalisation of the Capability Approach and impact evaluation of the project. The methodology includes both quantitative and qualitative techniques, namely a survey with data analysis with the application of the Propensity Score Matching and the implementation of Participatory Methods and open interviews. The triangulation of obtained findings represents an added value for this work.

The thesis attempts to evaluate what capabilities are fostered more by participating in the co-operative, analysing the impact of co-operative membership on basic capabilities, such as education, nutrition, health care, economic freedom (access to market and to land), shelter, sanitation and decent work, as well as on more complex ones, such as participation in community life and in household decision-making processes, the latter being an area particularly concerned with gender issues. Contextual factors which can facilitate the conversion from membership into increasing capabilities will also be explored.

Finally, the thesis has been carried out in an historical moment particularly sensitive to the issue of the role of co-operatives in poverty reduction. In December 2009 the United Nations declared 2012 the International Year of Co-operatives and the member states which promoted the resolution were mainly low and medium human development countries³. Such acknowledgment is a remarkable step in the re-evaluating of the role of co-operatives by international institutions, national governments and academics which had begun almost 15 years ago. Such interest seems to have grown even more in the last years, once the economic and financial

³ <http://social.un.org/coopsyear/>

crisis established co-operation, values and democratic institutions as key words for the sustainability of the global economy⁴.

The significance of this line of research was also affirmed in Amartya Sen's words. In fact, in an interview (Vicari, 2009), he confirmed that from the beginning co-operatives have dealt with capabilities, even if it was not the language used at that time. Thus, highlighting that co-operatives have always faced the structural causes of poverty and have been committed to the most vulnerable people, he suggested using the concept of capabilities to study in greater depth how effectively this commitment is carried through in affecting the quality of life of these people. Hopefully, the thesis will be a contribution to furthering this aim.

⁴ See, for instance, Stiglitz (2009)

PART ONE

CO-OPERATIVES AS INSTITUTIONS FOR HUMAN DEVELOPMENT

“The co-operative movement’s rich experience has a lot to offer to a world going beyond the mere relationships of production and trading and that covers the basic issue of the relationships among individuals. It is not a matter of expanding international aid but of acknowledging the interdependence among people through and beyond frontiers. Basically, it is a matter of reflecting clearly and effectively on the relationships between people and institutions. The future of the world might depend on it.”⁵

(Amartya Sen, 2000)

⁵ Author’s translation from the Italian version.

INTRODUCTION

The general aim of the thesis is to analyse the role of the co-operative as an institution able to foster at least some of the main dimensions of human development, thus representing a valuable means for poverty reduction. Consequently, to this aim, it is important to define both the co-operative enterprise and the concepts of poverty and development, thus, identifying the most appropriate evaluative framework.

Firstly, this part of the thesis attempts to contribute to the literature regarding the role of institutions in human development, therefore, aiming at investigating whether co-operatives may represent a relevant institution able to foster the expanding of capability and, more specifically, at identifying which dimensions are more affected by co-operative membership. In particular, it seems it is possible to identify a useful convergence between the literature on human development and capabilities (specifically regarding studies on the role of institutions) and literature on co-operative economics. In fact, on the one hand, the debate on Human Development⁶ has become increasingly concerned with the issue of the participation of people in their development, specifically regarding individuals and active group participation in shaping the future of their lives, and, therefore, with the associated issue of appropriate institutions which can foster such participatory processes. On the other hand, literature on co-operative economics is still predominantly focused on investigating co-operative performance based on efficiency criteria, thus undervaluing one of the most important co-operative features for development, that is, it being a participatory democratic form of enterprise.

Therefore, an evaluation of the role of co-operatives in development, based on the evaluative framework provided by the capability approach, could contribute, on the one hand, to identify which dimensions of well-being are most affected by co-operative membership, and consequently, on the other hand, to actually enhance the co-operative advantage, specifically relevant to potential in poverty reduction.

⁶ See e.g. Alkire, 2010

Based on these considerations, this theoretical part of the thesis is divided into four chapters. The first one will provide an overview of the Human Development and Capability Approach (HDCA), focusing on the role of institutions in Human Development, also revealing the different importance that they hold in such an approach compared with New and Old Institutional Economics.

Particularly, those features which characterise institutions for Human Development will be investigated, such as the instrumental role (guaranteeing a stable and sustainable economic development); the constitutive role (being able to foster human capabilities without any economic justification); the participatory approach (adopting a participatory way of working, whereby people are the main actors in social change, creating and modifying institutions themselves through deliberative processes). Therefore, based on the relevant literature, it will be shown how co-operatives hold these required features, thus, representing an institution able to foster human capabilities.

Chapter two will overview the literature on co-operative economics, mainly classified into two approaches: the neo-classical approach (Ward-Domar-Vanek and Meade) and the institutional one (Alchian and Demsetz, Grossman, Hart and Moore, Hansmann, Williamson, Hodgson). Despite substantial differences between the two approaches, both consider co-operatives as a residual component of the market economy and they are particularly concerned with the level of efficiency of co-operatives compared to that of conventional companies. While the “Ward model” considers co-operatives to be less efficient than conventional companies, at least in the short term, new institutional economists have tried to identify the main reasons why in fact co-operatives are so rare compared with conventional companies. The main conclusions concern the cost related to collective decision-making and under-investment, factors which impact co-operative efficiency. Both of these approaches are based on individualistic methodology, considering members as self-interested rational actors. A third approach has been developed, especially among Italian academics⁷, which considers the co-operative as an advanced form of business-

⁷ An eminent representative is Stefano Zamagni

making. Indeed, this thesis belongs to this line of thinking, specifically investigating this “advanced form of business” in the framework of the Human Development and Capability Approach (in chapter three). Consequently, Zamagni’s suggestion to go beyond efficiency as the only criteria in comparing co-operative and conventional companies will be followed. Indeed, member motivation and active participation will be considered as an important co-operative advantage, whereby co-operatives are considered the result of the common action of people who are moved to work together due to feelings of reciprocity and commitment.

Therefore, the main contribution of this thesis is to conceptualise the co-operative form of enterprise as an institution able to foster some of the main dimensions of Human Development. Here, some remarks on the mainstreaming of co-operative economics from the HDCA perspective will be provided. A particular comment points out that Hansmann has already acknowledged the importance of participation in co-operatives but, in his approach, democracy is considered a limitation since it negatively impacts co-operative efficiency. On the contrary, once we refer to HDCA, where social opportunities and institutions should be evaluated to the extent that they contribute to expanding people’s substantial freedom, Hansmann’s acknowledgment regarding participation becomes a constitutive component of co-operatives as institutions for Human Development, and not a limitation.

Finally, the fourth chapter deals with the role of co-operatives in poverty reduction. In studying the role of co-operatives in poverty reduction, only and exclusively “genuine co-operatives” will be considered, which are institutions for Human Development, authentically democratic, bottom-up and member-owned enterprises. In local communities in developing countries, these kinds of co-operatives especially hold the double identity of self-help associations and enterprises, generally bringing together people with similar needs and social values. Once poverty is defined in the HDCA as deprivation of capabilities, co-operative contribution to expanding capabilities will be explored, analysing the impact on its multi-dimensionality. In particular, basic capabilities will be investigated, such as

having adequate shelter, education, nourishment, access to healthcare, to decent work, to land and to the market (economic freedom). The impact of co-operative membership on more complex capabilities, such as participation in community life and in household decision-making, will also be studied.

In conclusion, a model will be drawn up, taking into account conversion factors as elements which can facilitate/enable the achievement of such capabilities through participation in co-operatives. These conversion factors can be personal, environmental or social ones. Social conversion factors are particularly relevant and gather social norms, the role of the state (including the legislation framework), the economic framework and participation in networking. Stressing the importance of conversion factors raises the important issue of not attaching any romantic idea to co-operatives, thus, underling the importance for the right policies in creating an environment able to foster genuine co-operatives and authentic participatory paths of development.

CHAPTER ONE

WHICH INSTITUTIONS FOR HUMAN DEVELOPMENT?

1.1 An overview on the Human Development and Capabilities Approach – HDCA

In the literature on development economics, generally speaking, three levels of development can be identified (De Muro and Tridico, 2008). The first one is *economic growth*, which only involves the GDP dimension. The second one – which can be called *economic development* – involves, along with GDP, the quality of growth, the process of institutional change, and other structural changes that go beyond GDP. The third level is *human development*, which is concerned with the improvement of people's well-being.

Specifically, human development is defined in terms of expanding the real freedoms that people enjoy in order to pursue the objectives that they have reason to value. Therefore, expanding human capabilities, and not income per-capita or GDP, is the central feature of the process of development⁸ (Sen, 1999; Drèze and Sen, 2002).

According to Sen, there are two main components of a person's well-being: "functionings" (or achieved component of well-being, their "beings and doings") and "capabilities" (their freedom or real opportunities to function in ways alternative to their current functionings). Concerning functionings, Sen (1992, p. 39) explains that "the well-being of a person can be seen in terms of the quality of the person's being. Living may be seen as consisting of a set of inter-related functionings, consisting of beings and doings. (...) The relevant functionings can vary from such elementary

⁸In *Development as Freedom* Sen (1999, p.6) affirms that "Development can be seen (...) as a process of expanding the real freedoms that people enjoy. Focusing on human freedoms contrasts with narrower views of development, such as identifying development with the growth of gross national product, or with the rise in personal incomes, or with industrialization, or with technological advance, or with social modernization. Growth of GNP or of individual incomes can, of course, be very important as *means* to expanding the freedoms enjoyed by the members of the society. But freedoms depend also on other determinants, such as social and economic arrangements (for example facilities for education and health care) as well as political and civil rights (for example, the liberty to participate in public discussion and scrutiny)".

things as being adequately nourished, being in a good health, avoiding escapable morbidity and premature mortality, etc., to more complex achievements such as being happy, having self respect, taking part in the life of the community, and so on. The claim is that functionings are constitutive of a person's being, and an evaluation of well-being has to take the form of an assessment of these constituent elements". Moreover, Sen himself (1992, p.40) defines a person's "capabilities", as "the various combinations of functionings (beings and doings) that the person can achieve. Capability is, thus, a set of vectors of functionings, reflecting the person's freedom to lead one type of life or another...to choose from possible living".

Thus, people's lives and capabilities represent the focal space in evaluating human development (Alkire, 2010). In fact, regarding this, it is important to underline that the HDCA is not a theory to explain poverty, inequality or well-being, although it does offer concepts that can be used in such explanations. HDCA provides concepts and normative frameworks within which to conceptualise, measure and evaluate these phenomena, as well as the institutions and policies that affect them. Therefore, in a narrower way, the HDCA provides information regarding what we should look at if we are to judge how well someone's life is going or has gone; what is the fundamental information in any account of human development, thus, also allowing for the inter-personal comparison of well-being. If adopted in a broader sense, the HDCA is more evaluative in nature and focuses on the agency and other explicitly normative considerations. Thus, it can be used as a normative framework within which to design and evaluate policies (Robeyns and Crocker, 2009).

In particular, the agency of the people is defined as "what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen, 1985, p.203). The concept of agency and the one of well-being (which represent, together with achievements and freedom, the two cross-cutting distinctions of the Capability Approach) are related but do not always move in the same direction, since acting to achieve a valued goal (and thus, expanding the agency of freedom and/or achievement) can expand a person's well-being but, at the same time,

it can also reduce it, as happens, for instance, with political prisoners who act pursuing valued objectives but sacrificing their personal present well-being (Sen, 1985, 1992). Thus, an expansion of agency does not always imply an expansion of well-being, as the goals that a person might value can be linked, or not, to their own well-being.

Such arguments regarding the HDCA, clearly show its difference to the welfarist approach since, as Robeyns (2005, p.97) points out, “while income generally is an important means to well-being and freedom, it can only serve as a rough proxy for what intrinsically matters, namely, people’s capabilities”. Conversely, Sen deeply criticises utilitarianism and related welfare economics, arguing that an analysis focused only on individual utilities is affected by an insufficiently rich informational base (Sen, 1982, 1985, 1999). In fact, what Sen is pointing out, along with all academics dealing with the multi-dimensional nature of development and poverty (e.g. Alkire, 2002a, 2002b; Comim, Qizilbash and Alkire, 2008; Robeyns, 2003, 2005) regards the fact that the same distribution of individual welfare may co-exist with very different rankings in other dimensions that are, instead, important for social evaluation.

Therefore, the HDCA is “essentially a people-centred approach, which puts the human agency (rather than the organisation, such as markets or governments) at the centre of the stage. The crucial role of social opportunities is to expand the realm of human agency and freedom, both as an end in itself, and as a means for the further expansion of freedom” (Drèze and Sen, 2002, p. 6). In fact, the HDCA is very concerned with the opportunities that people have to improve the quality of their lives. Moreover, such opportunities, as Kabeer (2003 p.83) points out, depend both on personal circumstances and on social constraints, since capabilities, representing elementary as well as more social complex aspects of people well-being, concern not only what a person can choose, but also what they are able to achieve.

Nevertheless, HDCA has been criticised for its too individualistic approach, thus, missing the relevance of people inter-connection and inter-dependence in expanding their own capabilities. This criticism could be appropriate to this

evaluation, when we aim at exploring social opportunities and institutional framework where people live and act.

In responding to this, Robeyns (2005, p. 108) argues that the “CA embraces ethical individualism, but does not rely on ontological individualism”. It means that even if HCDA is concerned with individual well-being, it does not imply that only individuals matter and all social entities can be identified by reducing them to individuals. Sen and Drèze (2002, p.6) clearly state that individuals and their opportunities are not to be considered in isolated terms. In fact, they argue that “the options that a person has depends greatly on relations with others and on what the state and other institutions do. We shall be particularly concerned with those opportunities that are strongly influenced by social circumstances and public policies”. Thus, it is believed here that the debate regarding collective capabilities⁹ should be reviewed with this argument in mind.

While some academics argue that, especially among the poorest, a person’s ability to choose the life that they have reason to value is greatly linked to their possibility of acting with others (Deneulin and Stewart, 2001; Evans, 2002; Stewart, 2005; Ibrahim, 2006), Sen (2002 p.85) argues that “the intrinsic satisfactions that *occur in* a life must occur in an individual’s life, but in terms of causal connections, they *depend* on social interaction with others”. Thus, while Sen rejects the concept of collective capabilities, he recognises the existence of “socially dependent individual capabilities” in every person’s life, and of “genuinely collective capabilities” as the ones related to humanity as a whole, such as the capability to cut drastically the world child mortality rate.

Clearly, Sen’s insistence on focusing on individuals is valuable considering that inequality in a group might affect individual achievement and the concept of collective capability might undervalue this aspect. In any case, HDCA does not

⁹ Collective capabilities are defined as the ones which “are only present through a process of collective action and that the collectivity at large – and not simply a single individual – can benefit from these newly generated capabilities.” (Ibrahim, 2006, p.398).

underestimate the institutional framework where people make choices and identify their opportunity set. Indeed, institutions are very important in HDCA.

1.2 Institutions and the Human Development and Capability Approach

Institutions are very important in HDCA, which is particularly concerned with processes, specifically, democratic and participatory ones, enabling people to expand their capabilities.

According to Sen (1999, p. 142):

“Individuals live and operate in a world of institutions. Our opportunities and prospects depend crucially on what institutions exist and how they function. Not only do institutions contribute to our freedoms, their roles can be sensibly evaluated in the light of their contributions to our freedom...”¹⁰

North strongly contributes to the spread of the idea that “the rules of the game in society, or the humanly devised constraints that shape human interaction” (1990, p. 3), namely institutions, are a key factor in development economics. In fact, ‘*Getting institutions right*’ has become a key priority in development policy. Thus the main focus of mainstream economists has been on particular rules, such as property rights, regulatory institutions, macro-economic stability and social insurance as the main institutions enabling the economy – especially markets – to work well (Johnson, 2009).

Broadly speaking, institutions entail “formal” and “informal” institutions. Informal institutions are behavioural rules, social customs, relations of trust and behaviour between economic agents and so on, while formal institutions include organisations, the legislative framework and the economic agents, themselves. Depending on the relative weight assigned to institutions, theoretical approaches to institutional economics vary consistently.

¹⁰ “...Even though different commentators have chosen to focus on particular institutions (such as market, or the democratic system, or the media, or the public distribution system), we have to view them together, to be able to see what they can or cannot do in combination with other institutions. It is in this integrated perspective that the different institutions can be reasonably assessed and examined” (Sen, 1999, p.142).

In the HDCA, institutions are particularly important as mediators between economic growth and human development. Economic growth plays a fundamental role for human development, as it is recognised, *inter alia*, by Ranis *et alii* (2000) who identify a bi-directional relation between economic growth and human development¹¹. The indirect role of institutions is vital - only appropriate formal and informal institutions can convert effectively and efficiently the resources generated by economic growth into sustainable human development. Although in the long term human development is generally associated to economic growth, the conversion is not automatic (UNDP, 1996).

De Muro and Tridico (2008) provide an extensive comparative analysis of the value of institutions between Old Institutional Economists (OIE), New Institutional Economists (NIE) and HDCA. As they explain, the OIE approach rejects the concept of *methodological individualism* and the concept of a rational individual who simply maximises his own utility. Instead OIE emphasises the role of habits, behavioural rules and social rules as the basis of the human action. The OIE develops an alternative concept of economic behaviour that finds its own origins in institutions. Institutions are the rules according to which enterprises and consumers respectively “satisfy”, but not “maximise” their own return and utility. In this approach of institutional economics, “*institution matters*”. The institutions are not necessarily created to be socially and economically efficient, but conversely they are created to serve and to preserve the interests of some social groups and to create new rules. Institutions, therefore, can be said to be efficient as long as they are committed to their original aims. On the other hand, the New Institutional Economics (NIE) “retains its general attachment to neo-classical economics with its emphasis on individual maximization and marginal analysis, but with attention on transaction costs, information problems, and bounded rationality” (Libecap, 1998) and

¹¹ We view human development as the central objective of human activity and economic growth as potentially a very important instrument for advancing it. At the same time, achievements in human development themselves can make a critical contribution to economic growth. There are thus two distinct causal chains to be examined: one runs from economic growth to human development, as the resources from national income are allocated to activities contributing to human development; the other runs from human development to economic growth, indicating how, in addition to being an end in itself, human development helps increase national income” (Ranis *et alii*, 2000).

“institutions (...) represent the way through which the several economics face the market failures” (North, 1990, p. 6).

While OIE shares with HDCA the rejection of methodological individualism and all the three approaches give importance to institutions in economic life, a significant difference between ONIE and HDCA is about the value assigned to institutions. For ONIE, institutions are merely instrumental in guaranteeing a stable and sustainable economic development, which could also be possibly translated into a better quality of life - institutions are valued in terms of their suitability to support economic performance. For HDCA, institutions play both an instrumental and a constitutive role. The instrumental role is the same as for ONIE, but there is also a constitutive role given to those institutions that foster human capabilities without having any necessary economic justification - their value is straightforward, not mediated by income or wealth. An example is the laws and organisations that protect workers' rights (ILO, 1998) - “being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers” (Nussbaum, 2000, p. 79-80) is a valuable capability that does not need any economic justification.

Another important difference between ONIE and HDCA regards people's agency and social change. In the ONIE, a “structuralist” approach prevails leading to a top-down institutional design, often based on mainstream/orthodox economics, on conventional wisdom, or finally on modernisation theories. According to the NIE, for instance, there are “sound” or “modern” institutions to introduce (such as property rights) through “institutional reforms” (such as Structural Adjustment) to replace “traditional” institutions (such as the commons) that hinder economic performance. According to other institutionalists, older social rules that prevail in “developing” or “transition” countries need to be changed because economic development also requires a cultural change.

In these views there is very little room for people to have a pro-active role. The need for structural/institutional change is prescribed by external experts. Quoting Sen (1999), people are considered as *patients* rather than as *agents*. On the contrary,

in the HDCA agency plays a central role in the development process - people are the main actors of social change. Changing institutions, i.e. older or traditional rules, social norms or culture, should be eventually decided on through public discussion and the participation of people in collective choices.

In fact, as Johnson (2009) underlines “The specific contribution of the human development and capability approach to this [institutional] framework is the recognition of the critical importance of political participation in creating and reforming institutions, whether market or non-market, so they can provide opportunities for people to live the lives they have reason to value”.

In this perspective the importance of democracy, particularly deliberative democracy clearly emerges. Indeed, Sen (1999 p.148) recognises that democracy has a direct importance in human living associated with capabilities (including that of political and social participation) and an instrumental and constructive role in enhancing the hearing that people receive in expressing and supporting their claims to political attention (including the claim of economic needs) and in the conceptualisation of “needs” (including the understanding of “economic needs” in a social context).

In conclusion, even if the human development approach is broadly known for being embedded in the Human Development Index, the concept of human development is much more complex and broader than its measure, and also those of UNDP recognize that human development is not equivalent to social development combined with equitable economic growth. To some extent, prioritising capabilities has policy implications, which correspond to a shift in focus from social and economic policies to political institutions and process.

It especially requires giving priority to those institutions that foster people participation. As Fakuda-Parr (2005) points out, strategies for human development must deal with expanding participation through democratic institutions within stronger governance. In fact, collective action has been the essential motor behind progress in achieving major policy shifts necessary for human development.

1.3 Exploring the co-operative enterprise as one of the possible relevant institutions for Human Development

Among the institutions which foster people's participation and expand people's well-being, it is the purpose here to explore a specific form of business organisation, that is, the co-operative enterprise, a particular business form that places people at the heart of its organisation and that is based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity (ICA, 1995). However, even though the International Co-operative Alliance¹² (1995) defines the co-operative as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise", literature on co-operative economics has usually devoted less attention to such a democratic way of working as a possible co-operative advantage, basically focusing their analysis of co-operative performance based on the criteria of efficiency.

Consequently, chapter two will provide a review on co-operative economics literature, referring in the next chapters to arguments regarding the opportunity to consider co-operatives as institutions for human development (chapter three) and, therefore, to consider the HDCA an appropriate evaluative framework to analyse the role of the co-operative in reducing poverty, understanding poverty as a deprivation of capabilities (chapter four).

¹² ICA is an independent, non-governmental association which unites, represents and serves co-operatives worldwide. Founded in 1895, ICA has 242 member organisations from 91 countries active in all sectors of the economy. Together these co-operatives represent nearly one billion individuals worldwide. (<http://www.ica.coop>).

CHAPTER TWO

CO-OPERATIVE ECONOMICS: A LITERATURE REVIEW

2.1 The early stage of co-operative economics

The first experience of a co-operative enterprise, recorded in modern times, dates back to 1844 in Great Britain, when the Pioneers of Rochdale set up the first consumer co-operative.

Since this experience, the central idea that underpins the co-operative movement is that member needs should be satisfied directly, through “mutual benefit” and not indirectly through the redistribution of dividends or the sharing of profits. Secondly, members should satisfy their needs by participating actively in the enterprise, so that they themselves are entrepreneurs and not mere recipients of assistance from benevolent philanthropists (Zamagni, 2005a).

Nevertheless, the role of the co-operative enterprise in the market economy has always been the focus of economic debate. As Raffaelli claimed (2000 p. 54), in the second half of the XIX century economists tried to overcome the hostility of workers towards the political economy, which was accused, not unjustly, of being more partial to the interests of governments. In fact, attention devoted to the co-operative movement was a part of the strategy of these economists. The theme of self-help was at the heart of the writings of many Victorian scholars and was the basis for the reform of the Poor Laws in 1834, aimed at substantially reducing the level of government assistance to the poor, holding that indiscriminate assistance served only to suppress the energies of workers and discourage their independence and active participation.

A first important acknowledgment of the co-operative form of business can be found in John Stuart Mill’s writings. Indeed, he still remains one of the most important economists to praise co-operatives. In the 1852 edition of the *Principles*, Sir J. S. Mill stated that “The form of association... which, if mankind [continued] to improve, must be expected in the end to predominate, is not that which can exist between a capitalist as a chief, and workpeople without a voice in the management,

but the association of labourers themselves on terms of equality, collectively owning the capital under which they carry on their operations, and working under managers elected and removable by themselves” (p. 772).

According to Mill, the “moral revolution in society” that co-operatives will accomplish is “the healing of the standing feud between capital and labour; the transformation of human life, from a conflict of classes struggling for opposite interests, to a friendly rivalry in the pursuit of a good common to all; the elevation of the dignity of labour; a new sense of security and independence in the labouring class; and the conversion of each human being's daily occupation into a school of the social sympathies and the practical intelligence.” Nevertheless, he identifies the risk that such co-operatives, once they have achieved some kind of success, they “abandon the essential principle system and become joint stock companies to a limited number of shareholders.” Mill points out that the unique real advantage that collective management has on individual management is the valuing of the “common interest of all the workers in the work”. Thus, co-operatives that decide to become joint stock companies, on the one hand, are not improving their company, and on the other hand, they will not succeed in the long run, since they are in fact abandoning the only competitive advantage they have over individually managed companies.

Other acknowledgements of co-operatives as advanced forms of business can be found in Marshall¹³ and Walras¹⁴.

Marshall emphasised the great potential of co-operatives as emancipatory forms of business, especially regarding the working classes (Raffaelli, 2000 p. 59). However, in Marshall's writings, problems related to management and lack of leadership in co-operatives emerged for the first time as critical factors, a forerunner of the theories of contemporary scholars of institutional economics (Borzaga and Tortia, 2005 p. 229).

¹³ Principles of Economics, 1890.

Industry and Trade. A Study of Industrial Technique and Business Organisation and of their Influence on the Conditions of Various Classes and Nations, 1920.

¹⁴ Les associations populaires de consommation, de production et de crédit, 1865.

On the other hand, Walras highlights that economic actors, such as co-operatives, are fully qualified to operate in market economies, and represent an advanced and innovative business form which is able to combine labour and capital in a way that is more favourable to working classes.

Criticisms of co-operatives can be found in writings of scholars in the period from the end of XIX century and the beginning of XX century, such as Pantaleoni and Pareto. They strongly criticised the co-operative form of business, highlighting that co-operatives do not differ from other typologies of enterprises, since members are motivated by feelings of self-interest as all economic rational actors. Moreover, they considered co-operatives as a residual component of the market economy.

2.2 Co-operatives and neo-classical economists

2.2.1 The Ward-Domar-Vanek model

Since the beginning of XX century up to the period after the Second World War, debate on co-operatives among economists did not reveal any important or innovative contributions. The most famous and innovative contribution dates back to Benjamin Ward in 1985. All of the authors mentioned in the previous section only recognised the importance of co-operatives, but they did not offer a proper theoretical framework. Ward was the first to propose a theoretical model, which has since been revised by others, mainly Domar (1966), Vanek (1970) and Meade (1972).

Referring to a neo-classical theoretical framework, the Ward-Domar-Vanek model of worker-management leaves aside issues of ownership and financing, by assuming them as a fixed price regarding capital or land, presumably rented by the enterprise but fixed in quantity in the short term. In contrast, the number of member workers is taken to be variable, and the enterprise's main decisional problem is to select a level of this input (Putterman, 2006a). Co-operatives (or better worker co-operatives, Labour Managed Firms) are defined in the mentioned model as enterprises which, instead of maximising profits, maximise the net income per

member worker. This is considered to be the only real difference between conventional companies and co-operative enterprises. Consequently, according to this model, co-operative members are considered as self-interested rational actors - everyone knows that maximising the total income means maximising their own income and related utility. These co-operatives are enterprises managed by members (workers) who hold the difference between the revenues and the costs. For Ward (1958), such a scenario implies two main “perverse” behaviours. Firstly, the co-operative’s short term supply curve is in negative, that is, if the sale price rises the volume of output falls, and with it the amount of labour employed. Secondly, the co-operative’s response to changes in market parameters – input prices and the form of the production function – runs counter to the conventional laws of micro-economic theory, thus, laying off workers when output price rises in order to divide increased profits among fewer members. In fact, Ward concludes that, even if in the long term (when profit in a conventional company is zero) *ceteris paribus*, the output of the co-operative is the same as for the conventional company, in the short term the co-operative performs less efficiently. As Jossa (2005) clarifies, the fact that an additional worker contributes to the total income of the co-operative in a higher measure than costs does not imply that also the net income per worker will increase. Thus, the co-operative’s level of output and employment will be, in the short term, less than in a conventional company.

However, these short term perverse supply responses could be caused by a variety of factors. A first analysis can be found in Domar (1966), who shows that the propensity of LMFs to take on additional workers as output prices fall or as net revenue is reduced by higher costs of fixed factors, could be annulled by including in the model the labour supply of the enterprise. Other factors tending to weaken or reverse the “perverse output supply response” are listed by Domar as: (a) use of variable inputs additional to labour, (b) flexibility of working hours, (c) reallocation of labour between product lines in multi-product firms, (d) reluctance to vote for the expulsion of incumbent members, perhaps because the voters face similar

probabilities of being selected for expulsion, and (e) tradable membership rights (Putterman, 2006a).

Vanek contributes to the debate begun by Ward and Domar on the efficiency of co-operatives, providing “The General Theory of Labour Managed Market Economies” (1970), considered one of the best textbooks on co-operative economics from a neo-classical perspective. As in Ward, the main objective in Vanek’s co-operative is assumed to be the maximisation of return per worker. The main characteristics of the form of enterprise that Vanek investigates can be summarised in collective partnership among workers to run the enterprise; hired capital; competitive behaviour on the market (that is, workers sell the products of the firm at the best prices they can obtain in the markets for inputs and outputs); and finally, the entrepreneurial risk is shared among workers, who distribute the possible surplus among themselves, each of them receiving an equal share of such surplus.

Vanek mainly identifies some differences between co-operative and conventional companies¹⁵. The first is related to incentives. Concerning this, Vanek asserts that the most efficient scale for a co-operative is likely to be smaller than for a conventional company. Even if a co-operator is supposed to have more financial incentive than a worker in a conventional company, due to the fact that he can participate in the surplus generated by his personal effort, this difference in term of incentive can become smaller once we consider an industry that needs large-scale economies in order to obtain technical advantages. In fact, the surplus should be divided among n individuals, and the larger the economy scale, the bigger the n , and the smaller the individual financial incentive. Thus, in the co-operative enterprise, according to Vanek, a reduction in the number of workers increases the direct economic incentives for an individual worker’s efficiency.

Furthermore, this difference apart, Vanek considers that in the long term, under the assumptions of a free and costless entry of the firms and of a perfect competition, the co-operative and conventional company, *ceteris paribus*, will reach

¹⁵ An exhaustive review is found in Meade (1972).

the same Pareto-optimal equilibrium situations¹⁶. However, differences between co-operative and conventional companies are evident, particularly, once we consider the short term - the assumption of free and costless entry of firms are modified, we operate in a non- competitive market.

In fact, Vanek confirms the Ward perverse effect that, in the short term, an increase in the selling price of the goods produced by the co-operative generates a reduction, not an increase, in the levels of employment and output, which will maximise the net income per member worker. However, Vanek (1970) highlights that this perverse effect can be restored admitting the free entry of new firms and this could contribute particularly to achieving full employment in the economic system. Meade (1972, p. 411) underlines that this analysis failed to consider the possible transactional costs. Regarding this, he claims that “free entry involves workers who are unemployed as a result of the contraction of the firms in the X-industry getting together with workers in other industries who are earning less than the X-industry workers, and setting up new firms in the X-industry. The costs and institutional problems involved in such company promotion are not analysed in Professor Vanek's book.”

A fourth difference underlined by Vanek is that, in a monopolistic situation, the co-operative will produce less than the conventional company. Thus, Vanek demonstrates that in conditions of monopolistic competition each co-operative will tend to be smaller than the corresponding conventional company. However, Vanek points out that in a co-operative system there will be more competing enterprises than in a capitalistic system. This argument is based on the assumption that in a system made up of co-operatives, unemployment is no greater than in the equivalent system made up of conventional companies. In fact, he argues that if there is the same number of enterprises in the two systems, considering that co-operatives are smaller, there would be more unemployment in the co-operative system. But, if these unemployed got together and set up new co-operatives, then there would be more,

¹⁶ That is, when the value of its marginal product is equal to the average earnings of the existing workers in that firm (Meade, 1972).

even if smaller, enterprises in the co-operative system than in the capitalistic system. Thus, as Meade points out (1972) “This in Professor Vanek's view justifies the view that in a very real, and desirable, sense the Co-operative economy will be more competitive than the Entrepreneurial economy”.

A last difference between co-operative and conventional companies regards the effect of macro-economic policies, being a direct consequence of the perverse effect of co-operatives in response to an increase in the selling price, that as we have already seen, implies a reduction in output and employment. In fact, consequently, expansive Keynesian policies which will lead to some degree of inflation, in a conventional company context, if there is any considerable initial volume of unemployment, will also lead, importantly, to increased employment and output. On the contrary, for the co-operative enterprises, in times of unemployment, such policies will be at best ineffective, and at worst, may lead to a reduction in output and employment. This is why Vanek argues that unemployment in a co-operative system may occur, but it should be faced through long term structural policies aimed at promoting the setting up of new co-operatives by the unemployed. Even if it is clear that in the short term the conventional company is supposed to provide a better answer to the issue of unemployment, Vanek points out that, in the long term period where the co-operative system has reached full employment, it will be much easier to maintain this full employment than would be the case in an ordinary conventional company system. This is due to the fact that fluctuations in total demand will no longer lead to large fluctuations in output and employment.

Summing up, in his work, Vanek (1970) admits that LMFs tend to employ less labour, use more capital-intensive techniques, and respond more sluggishly to the changes of the economic environment. However, the entry of new firms would consume the “extra-rents” from the economy, thus, restoring full employment. Moreover, since the LMF have weak incentives to grow, monopolistic competition and the welfare losses associated with it would be much smaller than in capitalistic economies. These arguments lead, in the first part of his book, to establish the equivalences of the two systems from a neo-classical efficiency perspective. Then, in

the second part of his book, he attempted to highlight the superiority of LMF compared to conventional companies because he considered the latter to be less “humane” (Kalmi, 2003). Even if this last assumption was not demonstrable through neo-classical tools, he argued that the real power of self-management lies in the incentives based on job effort and quality of work life. This last contribution, that Vanek (1971) elaborated also in his *The Participatory Economy*, will be considered as a starting point for further analysis in §2.4.

However, evidence supporting the paradoxical behaviour of co-operative enterprises is lacking. A review of the empirical economics literature is found in Bonin, Jones, and Putterman (1993), who gathered studies concentrated in Western Industrial countries focused on industrial production co-operatives. Specifically, their purpose was to verify, compared to conventional companies, whether such empirical studies have led to any conclusions regarding the existence of Ward’s perverse effects; the impact of participation in decision- making on worker motivation and productivity; and the impact of the co-operative assignment of property on investment and capital creation. In brief, they found that empirical work generated no evidence of short-term inefficiencies and rejected the notion of a negative supply curve in a direct test. Moreover, dividend-maximisation was rejected as the sole objective for the studied co-operatives and employment concerns were identified as having a significant influence on co-operative decision-making (Smith, 1984; Berman and Berman, 1989; Craig and Pancavel, 1992¹⁷). Concerning this, Hansmann (1996) highlights that the empirical evidence is missing because, in fact, the Ward-Doma-Vanek model relies on assumptions which are not observed in reality.

As for the impact of participation on productivity, all studies reviewed by Bonin *et alii*, which were carried out in several countries, showed the common result that the various forms of participation taken together affected productivity. Nevertheless, effects of the various forms of participation varied across countries and industries (Jones, 1982; Jones and Svejnar, 1985; Lee, 1988)¹⁸. Finally, even if the

¹⁷ Quoted in Bonin, Jones and Putterman (1993)

¹⁸ Cfr. note 17

relatively small incidence of co-operatives in Western economies has been often attributed to a lack of capital financing, (as will be explored in next paragraph), no strong empirical support for the under-investment hypothesis has been found either in studies carried out in France or the UK (Jones and Backus, 1977; Estrin and Jones, 1988)¹⁹.

However, in co-operative economic literature, alternative behavioural models from a neo-classical perspective have been proposed. One of them is explained by Meade, who, with his conceptualisation of the inegalitarian co-operative and labour-capital partnership, attempts to overcome some of critical aspects of LMFs.

Before analysing Meade's (1972; 1989) and Sen's (1966) alternative models, the problem of the under-capitalisation of co-operatives will be briefly explored, whereby the institutional approach (to be presented in more detail in §2.3) will be looked at beforehand.

2.2.2 Under-capitalisation of co-operatives

Another difficult aspect that can be found in the literature regarding the behaviour of co-operatives is linked to the problem of co-operative "under-capitalisation". Furubotn and Pejovich (1970) show that whenever the time horizon of the average member (their remaining time within the co-operative) is shorter than the economic horizon of the investment (the time during which it generates positive returns), the democratic governance based upon the "one person-one vote" principle will produce a sub-optimal investment strategy, condemning co-operatives inevitably to small and niche roles. Furthermore, Furubotn and Pejovich (1970) identify a second reason for under-investment in a co-operative, based on the fact that investments, which can be profitable for a conventional company, are not for a co-operative, *ceteris paribus*. Regarding the tendency of co-operatives to under-invest, Vanek (1977) underlines that failure to consider the scarcity price of capital can lead to an inappropriate choice of technology and this argument could sufficiently explain the historical failure of experiments with worker management. He notes, however,

¹⁹ Cfr. note 17

that this is not necessarily a general feature of LMFs. In fact, the reduced revenue, considered when evaluating investments, is a result not of worker-control but of assuming that workers are deprived of any and all rights to their investment returns after leaving their enterprise. The problem could thus be ameliorated or eliminated entirely through several methods, for instance, the calculation of a severance payment based on the capitalised value of each worker's past contributions to their company's capital stock. Another possibility is for the worker to sell his position as a partner or member of the enterprise on the market. In a perfectly functioning membership market, the estimated remaining productivity or marketable value of physical and other assets created during the incumbent worker's career with the firm would be incorporated in the sale price of the membership right. Pencavel (2001) and Dow (2003), however, point out the rarity of such markets and evidence of their imperfect functioning, suggesting this as another place to search for possible explanations of why LMFs are not more common. However, these aspects of market failures will be analysed more in detail in chapter 2.3.

Finally, Bonin *et al* (1993), on this financial feature of co-operatives, consider that, on the basis of their empirical work, it could be arguable that “the explanation of the relative scarcity of production co-operatives lies in the nexus between decision- making and financial support. Worker control requires worker ownership for incentive reasons, but the latter conflicts with the workers' desire to hold a relatively low-risk diversified portfolio. External financiers with no direct control of company governance will not commit significant funds without receiving a substantial premium to reflect the risk involved.”

2.2.3 Meade and the inegalitarian co-operative

Meade (1972) examines behaviour of an “inegalitarian” LMF, demonstrating that such enterprises would not, even in theory, exhibit the Ward-Vanek effect. In fact, Meade (1972) questioning if the egalitarian principle should be considered an essential feature of worker co-operatives, analyses Ward's perverse effect, which leads to ineffective resource allocation in the short term, introducing the

Inegalitarian Co-operative. Concerning this, he considers a co-operative where the early members can decide if the surplus share is to be ascribed to later members. The possibility of paying lower incomes to later members compared to that of earlier members results in overcoming the Ward effect, since the optimal level of employment becomes that where labour marginal productivity equalises income that workers receive in enterprises where they earn less (thus, participation in the co-operative is just convenient). Therefore, in equilibrium the average income per worker will equalise his marginal productivity. As Meade (1972) says “the short-run adjustment process of the Inegalitarian Co-operative, unlike that of the Co-operative, becomes Pareto-optimal”.

Meade’s analysis went even further, since his inegalitarian co-operative was able to overcome issues linked to the short term, but not under-investment and financial matters. Thus, Meade (1989) in his *Agathotopia* explained the so-called “Discriminating Labour-Capital Partnership” (DLCP). In this economic institution, workers and those who provide the risk capital jointly manage the enterprise as partners. Features of capitalistic and co-operative enterprises are put together to create the “Agathopian” enterprise. In fact, capitalists own *capital shares* in the business, which are comparable to *ordinary shares* in a conventional company, while workers own *labour shares*, being entitled to obtain the same rate of dividend as the capital shares. However, labour shares belong to each individual worker partner and are eliminated when they leave the partnership. Furthermore, when part of the partnership’s income is not distributed in dividends but invested in the business, new capital shares are issued to all shareholders, both owners of capital and labour shares. The value of these new shares has to be equal to the value of income not distributed in dividends. This kind of partnership, as Meade points out (1993, p. 9) “greatly reduce(s) the areas of conflict of interest between workers and capitalists, since any decision which will improve the situation of one group by raising the rate of dividend on its shares will automatically raise the rate of dividend on the shares of the other group.” Another relevant aspect of the DLCP is that, in the case of a decrease in global demand, workers cannot be laid off. This is due to the fact that in a DLCP,

workers share the risk with capitalists, so the risk of being laid off is converted to the risk of income volatility. Indeed, a fall in product prices in a conventional company is translated into decreasing output and, consequently, into laying off workers, since the cost of labour is fixed; in a DLCP, the level of employment does not vary, and the decrease in revenues is translated into a decrease in dividends, also for the workers.

Summing up, the DLCP of Meade aims at fostering full employment, avoiding, at the same time, problems of inefficiency in resource allocation and under-investment which characterise the Ward-Domar-Vanek model. However, as a consequence, DLCP increases the risk of worker income volatility, that Meade solves by introducing the role of the state in guaranteeing a “basic income”, which implies fiscal policy measures.

Several critics have leaned towards the Agathopian institution, first of all, regarding it a real possibility to be implemented. Beyond this, an important point, for the aim of this study, concerns the issue of governance and the effective possibility of partnerships among workers and capitalists. Regarding this, Vanek (1993, p. 87) asserts that “partnership is a good and desirable thing; and Agathopia - if it could ever work – is better than capitalism, but inferior to true economic democracy”. In fact, Vanek evaluates the very difficult possibility of this kind of partnership, since capitalists have the incentive to maximise profit, while workers, in a democratic enterprise, aim at maximising their net income.

However, up to now, we have dealt with the Ward-Domar-Vanek model of the so- called “Illyrian firm” that, as Zamagni (1993) points out, even if interesting, is a line of inquiry with limited results involving a particular institutional set-up which they presuppose, namely, an economic system made up of pure co-operatives generated by political constraints excluding *de facto* conventional companies. Therefore, according to Zamagni (p. 95-96) “in the context of a market economy governed by voluntary contracts, where co-operative firms co-exist and compete with other forms of firms, the emphasis on the problems typical of the Illyrian world would be no longer justified”. In fact, in a mixed system, the problems of co-

operative efficiency, in order to be competitive with conventional companies, continue to exist even if such inefficiencies of the Ward-Domar-Vanek model are overcome by, for instance, the Agathopian institution.

2.2.4 Sen and member motivation in resource allocation

Another alternative model has been proposed by Sen (1966) who examines wages according to work and to need. The contribution of Sen to the debate on optimal allocation in a co-operative offers an important aspect in the analysis, that of including the inner motivation of members which could be other than the maximisation of individual net income, and thus, avoiding considering members as *homo oeconomicus*.

His essay regards the combination of congruent or conflicting interests that characterise allocation in a co-operative. In fact, with the objective of identifying the pareto-optimal allocation in a co-operative, considering that members provide the amount of work on voluntary basis; they can be paid both according to work (that is salary proportional to the amount of work provided) and according to need (that is a share of the co-operative total revenue); and they feel a sympathy for other co-operators leading to valuing the well-being of other co-operators to the same degree as their own. Sen (1966) makes the following conclusions:

- Distribution according to needs tends to result in under-allocation of labour in a co-operative enterprise.
- Distribution according to work tends to result in over-allocation of labour in a co-operative enterprise.
- Optimisation requires a mixed system of distribution according to needs and work.
- Generally, worker effort depends on social preferences.

In particular, in a system characterised by equal sharing, a degree of altruism or sympathy would help to raise incentives, although these would remain sub-optimal unless the high level that Sen called “complete sympathy” was obtained. But, it is in the case of the mixed system of payment-by-work and equal sharing that

Sen finds results which seem counter-intuitive. In fact, Sen demonstrates in his model that when sympathy is not complete, the optimal proportions of work-linked distribution and equal sharing are not a function of the degree of sympathy.

These findings suggest looking for an alternative form of inter-dependent preference that seems to play an even more important role in group behaviour, and which Putterman (2006b) identifies in the concept of reciprocity.

However, this aspect that introduces new theories in co-operative economics, will be analysed in more detail in § 2.4

At this stage, it is interesting to underline that, one of the main criticisms of the Illyrian model results, is that all the analyses on this issue rely on the assumption that members of co-operatives are only interested in maximising their personal income. Considering all the non-monetary benefits that member workers obtain in a co-operative, primarily the democratic control of the workplace, lead us to think about, for instance, the utility (of course, remaining in a neo-classical framework) function of dividends and the intensity of the labour supplied, taking into account the dis-utility of labour necessary to produce the dividends (Zamagni, 1993, p.97). Indeed, Ireland and Law (1981) and Sertel (1982) have shown that whenever the control variable is no longer the number of members of the co-operatives, but the number of working hours supplied by the members, the perverse effect of the Illyrian firm, linked to the negative trend of the supply curve is, in the short term, overcome.

However, we can find a second approach to co-operative economics, other than the neo-classical framework, in co-operative literature. Indeed, this other line of thinking inaugurated by Alchian and Demsetz (1972) and which is based on institutional economics, acknowledges the existence of non-capitalist forms of enterprises in a system actually dominated by conventional companies, even if these alternative forms, namely co-operatives, are considered as a response to market failures, existing only in certain markets and considered to be economically unsustainable in the long term.

2.3 Co-operatives between New and Old Institutional Economics

This second theoretical approach to co-operatives belongs principally to new institutionalist economics (NIE)²⁰. Such theorists attempt to explain why certain ownership structures are observed, attempting, in particular, to understand why co-operatives are not as widespread as we could expect. Here, academics mainly consider three institutional aspects of enterprises which may have an impact on their effectiveness - the problem of free-riding, the issue of property rights and the existence of transaction costs.

2.3.1 The problem of free-riding

Alchian and Demsetz (1972) provide one of the most exhaustive analyses regarding the reason why the capitalistic form of enterprise prevails over the co-operative one. Their argument regards the presence of certain behaviour among workers, such as “shirking”²¹, which can be avoided, in conventional company, by the presence of an entrepreneur who functions as inspector. In fact, this person’s role is to control workers, since they have the power over workers to employ and to fire them. Their incentive to control and, thus, to increase worker productivity relies on the fact that they control the difference between revenue and costs. The fact that in a co-operative the surplus is shared amongst workers, and, consequently, the monitoring activity is not in the hands of a single individual, explains why conventional companies are more widespread than co-operatives.

Two main criticisms can be identified in Alchian and Demsetz’s theory (Jossa, 2005). Firstly, since in a co-operative workers share the surplus amongst themselves, they, themselves, act as inspectors. Even if each member has fewer incentives to control than a capitalistic entrepreneur, it is also true that all members control each other. Thus, there is no reason to argue that a highly motivated

²⁰ For a review of institutional economics in comparison with HDCA see §1.2

²¹ The ‘shirking’ model relies on the fact that complete contracts rarely (or never) exist in the real world. This implies that both parties to the contract carry some discretion, but frequently, due to monitoring problems, it is the employee’s side of the bargain which is subject to the most discretion. Thus, the payment of a wage in excess of market-clearing may provide employees with cost-effective incentives to work rather than shirk. The simplest ‘shirking’ model is provided by Shapiro and Stiglitz (1985).

individual supervisor can monitor worker activity better than workers who reciprocally control each other, even if they are individually less motivated. Therefore, on the one hand, workers in a co-operative, being involved in the production process, are also more interested and so more effective than in a conventional company, overcoming the market failure of contracts²² that conventional companies must face. Moreover, in a co-operative the issue of reciprocity and trust among workers has a very strong impact on enterprise performance, surely more than in a conventional company. We will return to the importance of reciprocity in a co-operative in § 2.4.

A second criticism of Alchian and Demsetz is based on the argument that a co-operative, similarly to a conventional company, can hire an external inspector, who receives a wage for his job. In fact, stock companies usually hire a manager who also has the role to monitor worker activity, while shareholders are awarded the profits. It means that the monitoring activity is not only motivated only by profit. Experiences of an external supervisor in co-operatives can be found in Israeli kibbutzim and in the Basque Mondragon co-operatives.

A further approach on this issue, following on from Alchian and Demsetz, is found in Holmstrom (1982). He argues that, under the assumption that in team work there is a link between effort input and team output, whereby the latter is the only verifiable one, it is impossible to devise a contract that elicits efficient effort levels. In fact, there will always be a problem of free-riding, since as long as the entire output of the team must always be distributed among its members, increasing incentive for one team member necessarily decreases incentives for someone else. Thus, he asserts that the Alchian and Demsetz dilemma can be resolved by punishing all team members simultaneously when any individuals shirk their responsibilities.

²² This market failure is due to the fact that contracts cannot include all tasks which workers should carry out, thus productivity is not fully measurable.

2.3.2. Co-operatives and property rights

Property rights in co-operatives have mainly been investigated by Grossman, Hart and Moore. The starting point of their approach is that property and control are coincident. According to them, property is important because it is a source of power in the context of incomplete contracts and it focuses on enterprise assets. Indeed, in this situation, whoever holds the property rights decides on the physical and human capital in order to achieve the highest surplus in running the firm. In fact, in the case of incomplete contracts, the owner of an asset bears the residual return, that is, the difference between profit and what others receive as their right. Concerning this, Stiglitz (1994, p. 165) underlines that “the heart of ownership, Grossman and Hart contend, however, is not in residual returns, but residual control: all those rights to do particular things with the asset in different states of nature that are *not* stated in the contract belong to the owner; that is, if the contract does not *obligate* the owner to do a particular thing, then anything can be done with the asset”.

Thus, according to Hart and Moore (1996) the choice between conventional companies and co-operative enterprises depends on which of these two forms of business is more efficient with respect to investments to be made. In fact, as Dow (2003, p. 171) clarifies, we should expect a conventional company when investment in specialised machinery is more important for productivity than investment in specialised skills, as giving control to capitalists will enhance their bargaining position and increase the return on machinery investments. We should expect the opposite choice when investments in specialised skills are more important for productivity.

As Jossa (2005) points out, the difference between the property rights and transaction costs approach is that, in the former, incentives are connected to asset property rights, while, in the latter, this aspect is not the only one that matters. Therefore, an analysis of the transaction costs approach to co-operatives will now be provided that, mainly after Hansmann’s research, has become quite predominant.

2.3.3 Co-operatives and the costs of collective decision-making

One of the most important contributions in this literature is provided by Hansmann (1996), who argues that the enterprise chooses ownership structures that minimise transaction costs. The existence of market imperfections makes it convenient for “patron”, who is usually affected by the related costs, to own the property of the enterprise. These costs of contracting arise, for instance, from informational asymmetries and strategic behaviour (pp. 24-34). However, according to Hansmann (1996, p 35), every kind of ownership structure holds three different costs, associated to peculiar characteristics of this structure - agency costs (costs of controlling managers), costs of collective decision-making and costs of risk-bearing. Costs of controlling managers and of collective decision-making are associated with the exercise of control, while costs of risk-bearing are associated with the receipt of residual earnings.

As Hansmann points out (p. 47) “the efficient assignment of ownership minimizes the sum, over all the patrons of the firm, of the costs of market contracting and the costs of ownership. If the class of patrons for whom the costs of market contracting are highest is also the class for whom the costs of ownership are lowest, then those patrons are unambiguously the most efficient owners”. With regards to co-operatives, he points out that, among all mentioned costs, those related to collective decision-making are the most important. In fact, he observes that even if costs associated with collective governance are not a real problem, worker ownership should be much more widespread than it actually is. Hansmann specifically stresses that it may not be the case that the decisions taken by worker-owners are necessarily inefficient compared to decisions made by investor-owned firms, but, rather, the problem is the time-consuming and possibly time-inconsistent process of making decisions. Of course, he does not forget the benefits that participation in collective decision-making can also yield for the patrons involved. He identifies three benefits (p. 43): the intrinsic benefit associated with the experience of participating in collective decision-making, considering that such experience is valuable in itself; the psychological satisfaction linked to the experience of control; and the fact that on

behalf of worker ownership, participation in collective decision-making within the firm may be useful training for participation in the democratic political processes of the larger society. While the first two benefits are related to the individual, the latter is a benefit that involves the whole of society. This last benefit could be of such importance to warrant some kind of public subsidy, but, he concludes, it is not actually the case, due to the fact that costs, especially such costs associated with collective decision-making, are high.

All these arguments rely on the assumption that only efficient ownership configuration survives in the market. If a particularly inefficient ownership structure were adopted, the owners could benefit by selling the enterprise to more efficient owners and, in any case, less efficient ownership structures cannot survive in competitive markets. This assumption is clearly evident also with other NIE scholars. As Williamson (1980, p.35)²³ points out “it is not an accident that hierarchy is ubiquitous within all organisations of any size. In short, inveighing against hierarchy is rhetoric; both the logic of efficiency and the historical evidence disclose that non-hierarchical modes are mainly of ephemeral duration”.

These arguments have been criticised by the so-called Old Institutional Economists, such as Hodgson (1996). Beyond considering that “support for the proposition that participatory and co-operative firms enjoy greater productivity and longevity comes from a large amount of additional case studies and evidence”, he (1996, p. 100) asserts that the important point that Williamson ignores is that “the selection of the fitter in evolution is not simply relative to the less successful but it depends upon the general circumstances and environment in which selection takes place”. Indeed, Hodgson (1996, p. 109) suggests being generally very cautious with the idea that competitive natural selection works in favour of efficient firms. He points out the importance to focus on the institutional and cultural context in which competition takes place, since in the context of modern industrial structures, path-dependency may be relevant in the evolution of organisational form, and, as also

²³ quoted in Hodgson (1996)

North recognises (1990), surviving managements are not necessarily the most efficient.

These arguments are consistent with the perspective of OIE, that considers institutions as rules according to which enterprises and consumers respectively “satisfy” and not “maximise” their own return and utility, and which are not necessarily created to be socially and economically efficient, but to serve and to preserve the interests of some social groups and to create new rules.

2.4 New perspectives in co-operative economics: beyond efficiency as the only criteria of analysis

Together with the literature reviewed above, in the co-operative economics debate “there is a mood of reassessing features of co-operation that make the difference – in business terms and ethically” (Spear, 2000, p.507). In fact, Spear agrees that “the theoretical basis for co-operative advantage is unclear and so cannot inform such activities. It is essential that this is addressed to help tackle the problem and capture the spirit of reasserting co-operative advantage”.

To achieve this, both neo-classical and institutionalist approaches seem to be limited. They assume that members are self-interested and because of that, they cannot explain in-depth the social dimension of co-operative enterprises (Borzaga and Tortia, 2005). A third approach is developing in co-operative studies aimed at exploring the co-operative added value. As Zamagni (2005b) asserts, there are two possible ways to consider a co-operative enterprise. The first, relying on neo-classical and institutional economics, leads to the relegation of co-operatives to a residual position, destined to remain the exception to the rule. The alternative approach considers co-operatives as a more advanced form of doing business in socially advanced systems. Such an approach takes into account member motivation and, consequently, evaluates the co-operative enterprise as an organisational institution that enables workers to achieve self-realisation. The co-operative is

considered to be the result of a common action²⁴, whereby participants come together and organise themselves for a specific end. Thus, in a co-operative the interests of each person are pursued together with those of others, relying on the concept of reciprocity - each person commits to mutual support, helping others in their efforts so that the final result will be the best possible²⁵. Finally, this approach suggests the need for a “*different* economic theory of co-operatives, capable of suggesting a type of societal governance based on the symbolic medium of the commitment to value, on the interiorisation of the objectives by all the members, to which the media of capital and power are subordinated” (Zamagni, 2005b, p. 30). Thus, this approach evaluates differently the intrinsic motivation of members, not considering them as “selfish rational actors” but “social responsible agents”.

Regarding agent motivation in theories which deal with the organisation of production, Sen (1993, p. 279) has already stressed that “the usual characterisation of team work in decentralised decision-making raises deep questions of individual motivation and social psychology that are rarely addressed [by modern economic literature]”.

Vanek (1971, p. 30), himself, considered that all the results achieved by economic theories regarding a labour-managed economy were actually based on unrealistic assumptions, such as the fact that enterprises maximise income per person with each worker supplying work of equal and constant quality. He defines this assumption as “dehumanised” and incomplete, and, in fact, a part of his analysis is devoted to understanding the added value of participation in co-operatives regarding its contribution to the workers’ quality of life. He analysed the participatory economy as a possible strategy for economic development, since he considered it to be “an

²⁴ According to Viola (2004, quoted in Zamagni, 2005b), three elements distinguish a common action: (i) it cannot be concluded without all those who take part being conscious of what they are doing; (ii) each participant in the common action must retain title, and therefore responsibility, for that which he does; (iii) unification of the efforts on the part of participants in the common action for the achievement of the same objective.

²⁵ Zamagni (2005b, p.26) stresses that “this kind of reciprocal aid must manifest itself while the joint activity is being carried out, not *a latere*, nor at the end of the activity. Such a commitment should not be confused with self-interest, nor with disinterested altruism”.

inherent institutional structure that lends itself well to over-all direction towards socially desirable objectives” (Vanek, 1971, p. 34).

On the other hand, even if at least Hansmann, among New Institutional Economists, takes into account the individuals’ benefits linked to participation in decision-making, the cost-benefits approach adopted in his analysis leads him to consider the co-operative form of enterprise only as a response to specific market failures. Here, Zamagni (2005a) argues that there are three reasons why the comparison between co-operative and conventional companies should not be made only based on efficiency criteria. Firstly, the notion of efficiency is not exempt from value judgments since it is founded on the Benthamian concept of utility as an ethical assumption. Secondly, an analysis based on efficiency is built on the rational choice model, which is in clear contrast with the intrinsic motivation of agents who join co-operatives, thus, missing one of the main added values. Finally, efficiency analysis does not consider the social externalities generated by the enterprise’s actions, among which the promotion of democracy is surely the most important one.

Also Stiglitz (2009, p. 357) considers democracy one of the most important reasons for the success of co-operatives in a market economy. He argues that “greater internal democracy can foster not only a better workplace but also a more innovative workplace and a more innovative society.” According to him, worker participation in decision-making can enhance efficiency and productivity, but it is not enough, since the co-operative advantage can be identified, above all, in contributing to the increase in worker satisfaction and the well-being of society.

Thus, in order to examine the contribution of co-operatives to society’s well-being, and particularly, in reducing poverty, being the aim of this study, it is important to go beyond approaches based on methodological individualism and which consider income and utility as the measures of well-being. And it is here, that the Human Development and Capability Approach seems to be an appropriate evaluative framework able to take into account individual motivation and to evaluate co-operative added value, not in terms of efficiency, but in terms of expanding capabilities.

CHAPTER THREE

CO-OPERATIVES AS INSTITUTIONS FOR HUMAN DEVELOPMENT

3.1 Remarks to mainstreaming co-operative economics from a HDCA perspective

As explored in chapter two, mainstreaming theories on co-operative economics are concerned with efficiency as the only criteria to evaluate the performance of co-operatives. Concerning this, Zamagni (§ 2.4) highlights three main reasons why the comparison between co-operative and conventional companies should not be made based only on efficiency criteria. In this chapter, such criticisms from a HDCA perspective will be explored, commenting on why the HDCA seems to be an appropriate evaluative framework which is able to overcome the mentioned limitations of the mainstream approaches.

3.1.1 HDCA and the Benthamian concept of utility

Zamagni's first argument (2005a) is that the notion of efficiency is not exempt from value judgments, since it is founded on the Benthamian concept of utility as an ethical assumption.

Similarly, the HDCA provides an evaluative framework, based on the concept of substantial freedoms, which surpasses the Benthamian concept of utility as an ethical assumption. Indeed, as Sen points out in *Development as Freedom*, "in utilitarianism's classical form, as developed particularly by Jeremy Bentham, utility is defined as pleasure, or happiness, or satisfaction, and everything, thus, turns on these mental achievements. Such potentially momentous matters as individual freedom, the fulfilment or violation of recognized rights, aspects of quality of life not adequately reflected in the statistics of pleasure, cannot directly swing a normative evaluation in this utilitarian structure" (Sen, 1999, p.56). Briefly, the main criticisms of Sen (1999) regarding the utilitarian approach are related to the distributional

indifference, as this approach ignores the existent inequalities in the distribution of happiness; the presence of adaptive preference, because it is highly probable that people adapt their ability for desire depending on the context; and the neglect of rights, freedoms and other non-utility concerns because they are not considered to be of intrinsic value.

The last criticism particularly shows an interesting insight into this investigation. The non-utility information that is excluded by utilitarianism could also be social or moral, such as, the principle that men and women should be paid the same wage for the same work (Robeyns, 2005). Indeed, these social or moral issues may be the underpinning motivation for the decision of members to found or join a co-operative. This consideration leads to the second criticism.

3.1.2 Co-operatives and the inner motivation of members

Zamagni's second argument is that an analysis based on efficiency is built on the rational choice model, which is in clear contrast with the intrinsic motivation of agents who joint co-operatives, thus missing one of the main added values.

Birchall and Simmons (2004a) assume that members are motivated by a mixture of self-interest and concern for others. They base their analysis both on the individualistic approach, which assumes that people are motivated by individual rewards and punishments, and on the collectivistic approach, which interprets human behaviour very differently, assuming that people participate because of shared goals, shared values and a sense of community. They show that, from among the participants interviewed in the survey they carried out, collectivistic explanations were decisive, and that the influence of individualistic incentives was not necessarily unimportant, but definitely secondary. Furthermore, Hirschman (1988) sees participation in co-operatives as one of the manifestations of collective action. He suggests that motivation to found or join a co-operative can be observed also when there are not explicit reasons for collective action. In fact, it is evidence of what he defines as "Social Energy", that communities can conserve and mutate over time.

In his studies, Sen (1999) points out that individuals are not motivated only by reasons of self-interest, but also by sympathy and commitment, and these arguments had already been underlined by Smith in his *Theory of Moral Sentiments*. Indeed, Sen recognises that Smith had already emphasised the importance of broader motivations in dealing with problems such as distribution and equity and rule-following to generate productive efficiency. Sen also stresses the importance of a balance in considering behavioural assumptions. On the one hand, he suggests to avoid considering that everybody is noble-minded but, on the other hand, he does not agree that values and motivations have no impact on human actions and choices.

Economists studying co-operatives do not exclude that members could also be moved by altruistic feelings, but such a possibility is not taken into consideration in their models. Jossa (2005) argues that it is important to be prudent and to consider individuals as selfish rational actors in order to understand whether co-operatives can really work. He also admits that if, in reality, members are motivated by altruistic feelings, co-operatives could only perform better than what is forecasted in neo-classical theory. It means that in the latter approach, concern for the community or the individual value of solidarity and participation are not valuable outputs of co-operatives and nor can they be considered intrinsic motivations of their members. Jossa concludes admitting that other analyses including altruistic motivations might be an enrichment of those based on egoistic behaviours.

Also Sen, in his essay published in 1966, began to analyse, even if still from a neo-classical viewpoint, the allocation of resources in a co-operative considering member motivation, and in fact, he came to the conclusion that when there is “perfect social cohesion”, the co-operative allocation is pareto-optimal (cfr. § 2.2.4).

However, it might be observed that co-operatives must be able to satisfy two constraints - the one of solidarity and the one of managerial efficiency. Surely, the constraint of solidarity has prevailed over managerial efficiency in the past, allowing critics to assume a trade-off between solidarity and efficiency, but nowadays, as Zamagni (2000) argues, solidarity that is not able to match itself with efficiency, will

gradually disappear, as citizens would no longer be able to bear the costs of an inefficient way to practise solidarity.

Furthermore, as Alkire and Deneulin (2002 p.52) argue, “the assumption that motivation is exogenous and can be assumed to be self-interested can be actively detrimental to economic activity. Policy and incentive structures based on the assumption of exogenous and self-interested motivation can undermine other sources of motivation and have negative effects both on co-operative behaviour and also on economic efficiency.”

In brief, also assuming the concern for the managerial efficiency of a co-operative, the intrinsic motivations of the members should be properly taken into account as they are likely to enrich and clearly explain the co-operative advantage.

Moreover, since social arrangements should be evaluated on the basis of the freedom that people have to promote or achieve the objectives they value (Sen, 1992), the motivations of people must be considered.

Some motivations that might be at the basis of co-operative behaviour, and which seem to be especially valuable in a co-operative enterprise, are listed by Alkire and Deneulin (2002 p.72), such as:

- long term reciprocity, where self-interest is interpreted over the long term;
- *philia* and altruism, where the welfare of others is important to the individual;
- communitarian motivation where the “we” is important as well as the “I”
- identities where the cooperation among members to achieve group objectives (COOP) is a significant element of a person’s identity;
- social norms which favour the COOP;
- ethical convictions enhancing the COOP.

Clearly, referring to the *homo oeconomicus* in order to understand the co-operative advantage is definitely reductive. Thus, in referring to the co-operative enterprise, it could be affirmed that the co-operative business form is exactly the type of enterprise preferred by people who have reasons to value and appreciate their own autonomy and real freedoms. Indeed, because members are able to control their own

productive activity, this kind of enterprise enforces those principles of equality and freedom which distinguish the market economy. All these considerations make sense only by assuming that real freedoms have an intrinsic value, regardless of whether important economic performance is achieved or not (Zamagni, 2005a).

3.1.3 Co-operatives, participation and economic democracy from a HDCA perspective

Zamagni's third argument is that efficiency analysis does not consider the social externalities generated by the enterprise's actions, among which the promotion of democracy is surely the most important one.

In *Valuing Freedoms* Alkire (2002a p.129) affirms that "participation refers to the process of discussion, information gathering, conflict, and eventual decision-making, implementation, and evaluation by the group(s) directly affected by an activity." In the same essay she also points out that the purpose of participation is both to obtain outcomes that people value and choose, and to support a choice process that may be intrinsically valuable or "empowering".

Indeed, in Sen's conception of development, popular participation is one of the pillars and, in fact, he states that the idea of development cannot be dissociated from it. However, in assuming that participative freedoms are only related to the political sphere is certainly a mistaken interpretation, since, for Sen, participation has, first of all, an intrinsic value in itself, as Alkire also pointed out. Indeed, referring to co-operatives, in his presentation at the Legacoop International Congress held in Bologna in 1998, Sen (2000) praised the co-operative movement precisely for its ability to adopt participation as a way of working.

Thus, the same foundation of economic and political participation is recognised, *inter alia*, by Dahl (1989) and by Gould (1985). Gould (p.209) specifically asserts that "workers' self-management is therefore analogous to democracy in political life, in which the equal right to participate in decisions concerning common actions is recognised. The argument is similar in both cases: free agents have the right to self-determination or self-rule, which, therefore, implies

an equal right to co-determination concerning all social activities in which they engage, whether political or economic.” Worker participation is seen by the author as a requirement that emerges from a more general framework of the idea of justice, in which justice is understood as fundamentally involving equal positive freedoms. She underlines that economic justice pertains not only to the distribution of goods, but also to the distribution of rights and power that are involved in economic production, since these rights and powers are among the social conditions necessary for agency. Very important among such rights, is the right to participate in decisions or choices concerning the productive activities in which one engages jointly with others. This right to participate in decisions concerning joint production activities represents the right to the democratic sharing of authority in economic production, or, in other words, to economic democracy. The connection between economic and political democracy is evident not only in recognising the same justification, but also in considering that “there is strong evidence that economic and political freedom help to reinforce one another, rather than being hostile to one another (as they are sometimes taken to be) (Sen, 1999, p.xii).

On the one hand, political democracy is important for the spread of genuine co-operatives, as autonomous and own business enterprises. Attwood and Baviskar (1989), recognising that co-operatives created by local initiatives are the more successful, wonder what kind of social and political system allows these initiatives to emerge. They closely observed that successful experiences in India are related to the presence of a democratic regime, where co-operatives are integrated into the local political and economic life, based on an existing community and relying only partially on state support. On the other hand, economic democracy can be considered an essential component of political democracy, because democracy in working life may foster an attitude in workers promoting citizen participation in political debates, even more actively than what happens nowadays in a parliamentary democracy. Indeed, this aspect has been particularly stressed by Hansmann (1996)²⁶.

²⁶ See chapter 2.3

It might be argued that an effective participation could be observed only in primary co-operatives, where the number of members is kept down. Alkire and Deneulin (2002) assert that motivation for co-operative behaviour is likely to be a stronger determinant of action where the size of the group is relatively small and, therefore, social interaction and its effects are perceptible. On the other hand, the empirical research of Birchall and Simmons (2004b) has shown that despite the old generalisation about democracy – the larger the size of the organisation, the lower the level of participation – there might be some truth in this, but there may be room for here for larger co-operatives to improve their governance. Improvements could be especially made by providing members with sufficient resources to participate effectively, such as capacity-building in terms of education and training, adequate information to support their involvement in the governance structures, and sufficient compensation to ensure that opportunities are open to the widest pool of members.

Clearly, even if theoretically co-operatives are a democratic form of business, where it supposed that workers control the enterprise and decision-making based on the principle one person-one vote, empirically, the behaviour of different co-operatives can be quite varied.

As Zamagni (2008) underlines “a co-operative whose governance followed the hierarchical model rather than that of authority would deprive itself of its best chance to capitalize on its own specific identity”. This assumption merits to be explained better. Referring to Bratman (1999)²⁷, conditions for co-operation (which are mutual responsiveness, commitment to joint activity, commitment to mutual support), the author identifies two main actions which co-operatives must implement in order to actually operate in a co-operative way. The first one is communication as an essential requirement for the deliberative process, admitting the possibility of self-correction, resulting in a member changing their preference in the light of the arguments presented by others. The second one is the commitment to internal equity, which should be a direct consequence of the member’s motivation to join a co-operative. Here, Zamagni considers that every common action requires that someone

²⁷ Reference quoted in Zamagni (2008).

exercises the command function to get the will of the different individuals to converge. However, this command can flow from the power hierarchy, as happens in conventional companies, or it can depend on authority so that it is impossible for any one person to impose their own idea of common action on others, as should be the case in a co-operative enterprise.

Once co-operatives actually work genuinely, they can be a significant example of institutions that can foster Human Development. In fact, based on a participatory process, while contributing to the workers' incomes and a country's GDP, they can expand some members' capabilities, fostering more democratic communities.

3.2 Co-operatives as special institutions for Human Development

As Hodgson affirmed (2006), organisations are special institutions that involve (a) criteria to establish their boundaries and to distinguish their members from non-members, (b) principles of sovereignty concerning who is in charge, and (c) chains of command delineating responsibilities within the organisation. Thus, we can definitely say co-operatives are special institutions. The important point is that, once co-operatives actually act in a participatory way, and, thus, they can be considered genuine democratic forms of business, they are also important institutions which can foster Human Development. As explored in § 1.2, institutions for Human Development (De Muro and Tridico, 2008):

- play an instrumental role - they guarantee a stable and sustainable economic development;
- play a constitutive role - regarding those institutions which foster human capabilities without any economic justification;
- have a participatory approach - people are the main actors of social change and institutions should be created and modified by people themselves through deliberative processes.

Genuine co-operatives satisfy all of the above-mentioned features. We know that co-operatives are one of the main actors in local development, able to contribute to the creation of wealth, in a sustainable way, and to economic and social cohesion. In evaluating co-operatives as organisations of local development, deeply rooted in the local communities, Becattini (2000, p.228) affirms that “If the conditions for a local profitability are lacking, [the co-operative] will eventually close down but only after a long-fought resistance that has called upon all the reserves of its members. However if, at the end, it closes, this will not be simply mean the winding up of a distributive (or productive) apparatus in a place, but it will mean the coming apart of the weave of a network of ethical and socio-cultural relations on which it existed”.

Indeed, as Salani (2005) also points out, nowadays, co-operatives contribute to the creation of civic participation in a more sustainable way than other participatory organisations, due to the fact that co-operatives rely on their economic nature. In fact, Salani suggests considering co-operatives as catalysts of relational social capital, and so attributing to co-operatives and their members a new and broader role in community development.

This argument recalls the second and the third characteristics of institutions for Human Development. Indeed, the autonomy and the meaningful relations that members establish in a co-operative have an intrinsic value, without any economic justification, thus, representing one of the main motivations for members to join a co-operative. In this way, motivated members actively participate in the managing and decision-making of the co-operative, and through a deliberative process, they are actors of social change. Consequently, if these considerations are valuable for any community, at any level of human development, the intention here is to explore whether co-operatives can be a strategic means for expanding human capabilities (analysing specifically which capabilities) in communities at a low human development level, and, thus, becoming a tool to be acknowledged by policy makers in strategies to fight global poverty.

CHAPTER FOUR

CO-OPERATIVES AS A MEANS FOR POVERTY REDUCTION

4.1 Lessons from the past

The academic community (e.g. Sen 2000; Birchall 2003; 2004; 2006; Stiglitz 2004; Simmons and Birchall, 2008) and the international organisations (UN 1992-2009; ILO 2002) have taken a renewed interest in co-operative enterprises as a tool for fighting poverty, especially in a people-centred development setting.

Notably Sen (2000, p.116) asserts that:

*“The co-operative movement’s rich experience has a lot to offer to a world going beyond the mere relationships of production and trading and that covers the basic issue of the relationships among individuals. It is not a matter of expanding international aid but of acknowledging the interdependence among people through and beyond frontiers. Basically, it is a matter of reflecting clearly and effectively on the relationships between people and institutions. The future of the world may depend on it.”*²⁸

Despite these recent acknowledgments, the idea that co-operatives have failed in their purpose is quite widespread, especially in developing countries, based on the experiences that those countries have had in the last half century. The main criticisms of the role of co-operatives in development were related to their inability to bring about structural change, thus benefiting the poor. Furthermore, critics asserted that co-operatives suffered from bad management and were limited by government interference (Lele, 1981; Attwood and Baviskar, 1989; Holmén, 1990; Thorp, 2002). However, it might be observed that, after the Second World War co-operatives were considered by national governments and international aid agencies as a tool to deliver economic growth and to that end they were used in a planned, top-down approach. The majority of those co-operatives closed down in the 1980s with the advent of ‘structural adjustment’ programs, thus in the minds of scholars and policy

²⁸ Author’s translation

makers there remained the idea that co-operatives as a tool for fostering development, had failed (Birchall, 2003; 2004). In fact, until the 1980s, co-operatives in developing countries did not exhibit the features which characterise “genuine” co-operatives as democratic forms of enterprise. As Birchall (2004, p.3) argues “co-operatives – as autonomous member-owned businesses - had rarely been tried. The form that had been promoted had never really developed into the kind of people-centred business that had, over the previous 150 years, produced such spectacular gains for farmers, consumers and workers in the now developed world.”

Thus, the renewed interest regarding co-operatives as a tool for fighting poverty is related to a genuine, participatory form of business, which often is the result of a common action. Consequently, in the analysis that follows, we will refer exclusively to genuine co-operatives.

4.2 Co-operatives as a means to expand human capabilities

In looking at basic capabilities, such as the opportunity to be well educated, nourished, sheltered, employed and provided with health care, it can be observed that, at least some of these can be achieved as they constitute the main objective of co-operatives. Birchall (2004) observes that co-operatives are essentially self-help groups of people who get together to meet their needs, and that they can come in several forms, according to the need that members would like to satisfy.

First of all, the frequent use of the word “need” in the language of the co-operative movement and academics begs for a more in-depth definition of that of basic capability given by Alkire. She asserts that “a basic capability is a capability to enjoy a functioning that is defined at a general level and refers to a basic need, in other words, a *capability to meet a basic need* (a capability to avoid malnourishment, a capability to be educated, and so on)” (Alkire, 2002a p.163).

Thus, different co-operatives can be realised with the aim of enhancing different basic capabilities. For instance, consumer co-operatives provide their members with food and other products they need, while housing co-operatives provide shelter and worker co-operatives provide decent work. Agricultural co-

operatives help farmers to organise the inputs they need to grow crops and keep livestock, to access the market and to process their products, while credit co-operatives provide savings and credit facilities (Birchall, 2004).

4.2.1 Co-operative contribution to expanding basic capabilities: a possible list

A possible list of basic capabilities which can be increased and improved through co-operative membership could include the following:

a) Economic freedom to access to market

One of the most recognised contributions co-operatives have made is related to market access (Torgerson, 2004). In fact, especially in rural areas, farmers join a co-operative in order to escape from the monopsonistic power of a very few business people, who buy their production (that is often a commodity production) for a very low price. Joining a co-operative allows small farmers to effectively access the market and to improve their contractual power. The importance of this on member capability is clearly visible once we refer to Sen's considerations about markets and economic unfreedom. He asserts (1999 p.7) that "The denial of access to product markets is often among the deprivations from which many small cultivators and struggling producers suffer under traditional arrangements and restrictions. The freedom to participate in economic interchange has a basic role in social living."

b) Nutrition

Co-operatives can also contribute to improve people's capability to be adequately nourished. This capability is well expressed by the concept of food security analysed at a household level (Burchi and De Muro, 2007). According to the definition given during the World Food Summit in 1996 "Food Security exists when all the people, at all times, have the physical and economic access to sufficient, safe, nutritious food for a healthy and active life". There are four components of food security:

1. Availability of food, which is a necessary but not sufficient condition for food security.
2. Physical access to food, which stresses the role of distance, infrastructures, transportation.
3. Economic access, which depends on the economic condition of the household or individual.
4. Utilisation, which focuses on different dietary needs of people, methods to cook food, and cultural acceptability of certain types of food.

The role of co-operatives in enhancing food security has been investigated mainly regarding agricultural co-operatives (e.g. Chambo, 2009) and consumer co-operatives (e.g. Birchall, 2004). Consumer co-operatives usually provide members with food of higher quality and at lower prices and, above all, when they are settled in isolated areas, they guarantee food availability - a precondition for food security. Agricultural co-operatives contribute to food security in several ways: by increasing members' incomes, they increase their purchasing power; by diversifying food production, they increase food availability, and they usually also increase the quality of food, since co-operatives are often committed to the production of organic foods, at least those linked to the fair trade chains. Moreover, training courses provided to members improve member knowledge regarding nutrition, and often leading to the adoption of better household dietary habits.

c) Decent work

The co-operative contribution to decent work has been particularly emphasised by researchers at ILO.²⁹ They have observed that, people organising themselves into a co-operative could be seen as one step on the path towards formalisation. Many co-operatives start as informal group enterprises and later, as

²⁹ Decent Work refers to opportunities for women and men to obtain work in conditions of freedom, equity, security and human dignity. According to the International Labour Organization ILO, Decent Work involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organise and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.

they grow and become viable businesses they are registered as companies. The advantage of co-operatives in the informal sector is that they can provide individuals with the same benefits as those of larger institutions (ILO, 2002b). In this sense, work provided by a co-operative is not just a source of income, but also of social protection and job security, and more in general, of a better quality of working conditions and environment. Furthermore, it is broadly recognized that employment can provide a sense of self-respect and fulfilment (Sen, 1975) and being a co-operative member may improve those outcomes underlined by Sen. Indeed, considering job activities as merely an execution of duties, as an employee usually does, is extremely different to considering these duties as an entrepreneur's actions, as a co-operative worker does. In fact, the participatory process of a co-operative enterprise may have a great impact on members' self-esteem and psychological well-being.

d) Health care and Education

Regarding the provision of social care assistance, health co-operatives provide people with the possibility to access affordable healthcare insurance, or they actually provide healthcare. Co-operatives have also been effective in the provision of primary healthcare. Social co-operatives³⁰, especially experimented with in developed countries, are an effective way to cater to members' welfare. While it is arguable that this kind of service should be provided by local government, co-operatives have often covered the lack of such services by public authorities, especially in rural areas. Indeed, a number of multi-purpose agricultural co-operatives have provided their own hospitals in rural areas. It is also the case for education as even if co-operatives are not usually directly involved in providing primary school education, they often use their own funds to build and support local

³⁰ Social co-operatives are very common in Italy and they are arousing the interest of developing countries. Their objective is the general benefit of the community and the social integration of citizens. Especially "Type B co-operatives" integrate disadvantaged people into the labour market. The categories of disadvantaged they target may include people with physical and mental disabilities, drug and alcohol addiction, developmental disorders and problems with the law. They do not include other factors of the disadvantaged such as race, sexual orientation or abuse

schools. However, co-operatives can contribute to the members' capability of being well educated providing support for adult education along with training in trades and as well, in understanding co-operative principles. Indeed, one of the co-operative principles concerns "Education, training and information"³¹ originating from the commitment of when the Rochdale Pioneers provided education courses for their illiterate members (Birchall; 2004). Furthermore, as it will be argued in the following paragraphs, in spite of using their own funds to build local schools or provide healthcare assistance, it appears to have been more important to value the co-operative contribution for member empowerment, that can also be observed in a higher sense of agency, enabling them to interact with policy-makers and to demand public services in their communities.

4.3 Co-operatives and complex capabilities

While the involvement of co-operatives as base service suppliers clearly shows their concrete contribution to many of the Millennium Goals linked to basic capabilities, as has already been broadly explored, the potential of co-operative enterprises, as one of the best known examples of a self-help group, emerges to its fullest when we look at the existing inequalities in more complex capabilities (Ibrahim; 2006; Birchall, 2004; 2006; 2008). Co-operatives can help in generating empowerment and giving a voice to the poor, also allowing them to organise federations and alliances. Efforts in promoting empowerment and participation of the poor in strategies aimed at reducing poverty should make use of the co-operative model because of its values and principles that place importance on social responsibility and community development. However, in literature the concept of empowerment is controversially defined. This is why, after looking at a literature review on empowerment, it would be more useful to shift the focus from the concept of empowerment to the more specific matter of participation in decision-making,

³¹Co-operatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their co-operatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of co-operation. (ICA, 1995)

which is sometimes considered hand-in-hand with the concept of empowerment, which will be analysed as a different aspect of well-being. In fact, the concept of participation in decision-making is more related to the issue of intra-household inequalities, which is a specific issue in most developing countries. The impact that participation in co-operatives can have on intra-household inequalities in the decision-making process will be analysed in detail.

4.3.1 Co-operatives and empowerment

Heyer *et al.* (2002, p.12) argue that groups based on co-operative behaviour “can develop and reinforce socially desirable characteristics in individuals and bring about socially desirable consequences. For example, they can contribute to empowerment, self-confidence, individual responsibility and within group equity.”

From the vast literature on empowerment³², we can find two major classifications of definitions of empowerment (Alsop *et al.*, 2006). The first one considers empowerment as an expansion of agency, that is, the ability to act on behalf of what you value and have reason to value (Rowlands, 1997; Ibrahim and Alkire, 2007). The second focuses on the concrete material, that is, the social and institutional preconditions required to exert agency (Narayan, 2002; Alsop and Heinsohn, 2005). This is the approach followed by the World Bank in the 2000-2001 World Development report, where empowerment is defined as a process of “enhancing the capacity of poor people to influence the state institutions that affect their lives, by strengthening their participation in political processes and local decision-making.” Similarly, Narayan (2002) defines empowerment as an “expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control and hold accountable institutions that affect their lives”. She develops this framework mainly into two blocks: institutional climate and social political structures (to build the opportunity structure); and poor people’s individual assets and capabilities and poor people’s collective assets and capabilities (to build agency). In this approach, empowerment is a product of the interaction of these two

³² For an accurate literature review on empowerment see Ibrahim and Alkire (2007)

blocks, while in the approach followed by Ibrahim and Alkire, empowerment is exclusively considered as an expansion of individual agency. Certainly, the institutional context where the choice is made and the power is wielded is extremely important, and concerning this, Ibrahim and Alkire (2007) agree that “clearly a process of empowerment is incomplete unless it attends to people’s abilities to act, the institutional structure, and the various non-institutional changes that are instrumental to increase agency”.

However, beyond this difference, it is important to underline that expansion of agency and empowerment cannot be considered as synonymous. In fact, according to Sen (1992, p.56) “a person’s agency achievement refers to the realization of goals and values she has reason to pursue, whether or not they are connected with her own well-being”. Agency differs from well-being in that agency does not only involve the goals resulting in an individual’s personal welfare, but in the totality of their considered goals (Crocker, 2008). This distinction is important as one can pursue objectives that may reduce one’s well-being, for example, when parents go without food in order to provide their children with enough food.

From this viewpoint, empowerment is a subset of agency - empowerment entails agency expansion, but not necessarily vice-versa (Alkire, 2005). According to Ibrahim and Alkire (2007), through the empowerment process, a person not only enlarges the opportunity to fulfil their goals, but also increases their ability to bring about change and gain control over the processes which affect their valued goals. Thus, this concept focuses on process freedom and can be related to all the domains of a person’s life. Empowerment can be described and measured relative to all the different domains of life, since these kinds of processes can be identified with a domain of one person’s life and not to that of another person’s. Moreover, an increase in agency in one domain can have spill-over effects on agency in other domains, or can have (or not) an impact on other aspects of well-being.

Certainly, as has already been pointed out, the HDCA is particularly concerned with people’s agency. Indeed, Sen (1999, pp.18-19) recognises that “Greater freedom enhances the ability of people to help themselves, and also to

influence the world, and these matters are central to the process of development”. However, it is also clear that agency differs from well-being and considering the expansion of agency, a component of a person’s well-being can lead to dangerous misunderstandings. Therefore, since a crucial part of empowerment evaluation is represented by a person’s possibility to participate in the household decision-making process, and considering that the family is one of the first places where empowerment can be observed, this aspect can be considered as a component of well-being to be evaluated as an outcome of co-operative membership.

However, before going into depth on the relation between co-operative membership and co-operative behaviour in the family, we will explore how co-operative membership can have an impact on member empowerment, still observing it from the viewpoint of Ibrahim and Alkire.

4.3.2 An analysis of concepts of power and related links to co-operatives

One could say, that the co-operative, which could be considered as an organisational asset and, so, be part of the opportunity structure in the definition of empowerment by the World Bank, is not an indicator of empowerment in itself, but is an important institution that can have an impact on people’s agency.

Seeing a person “not merely as the patient whose well-being commands attention, but also as the agent whose actions can transform society” (Drèze and Sen, 1989), is surely a fundamental requirement for a genuine co-operative, and it can be observed in all of the other domains of an individual’s life. Thus, considering empowerment of members as a dynamic and multi-domain process, participation in a co-operative may be considered the manifestation of agency in a particular domain, that is, the one of participation in collective actions. While the existence of this kind of agency could be considered as a precondition for a genuine co-operative, co-operative behaviour can foster changes in the power dynamics and could have a strong impact on the relational and individual dimensions.

However, it has to be recognised that the creation of a co-operative requires exerting agency, and thus, some preconditions are essential. Indeed, only has to only

look at Rowlands (1997, p.115) concerning the existence of a circular inter-relationship: “participation in the group may feed the process of a personal empowerment, and vice-versa”.

For this reason empowerment cannot be considered as a single variable but, in order to be explored and then measured, it must be declined in different domains of a person’s life.

Ibrahim and Alkire’s approach to empowerment derives from Rowlands’ conceptualisation of power. Rowlands (1997) introduced four categorisations of power: *power over* (the ability to resist manipulation); *power to* (creating new possibilities); *power with* (acting in a group) and *power from within* (enhancing self-respect and self-acceptance).

In order to understand the co-operative’s contribution to members’ empowerment it is very important to further explore the above-mentioned categorisations of power (Table 4.1).

The concept of “power over” is more static and does not evaluate the processes that may enable individuals to participate effectively in the decision-making process. It means that the economic democracy aspect of a co-operative, where the principle “one person-one vote” is followed, does not mean at all, that all members are aware of their role and vote freely and consciously, without any constraints. Thus, focusing on the process of how the co-operative works is extremely important, as it could undermine the effective achievement of members’ capabilities and it could make the difference between a successful and an unsuccessful co-operative.

The other three categorizations of power are surely more interesting in this analysis. As Rowlands points out (1997, p.14), empowerment, related to *power within*, *power with* and *power to* “is concerned with the process by which people become aware of their own interests and how those relate to the interests of others, in order both to participate from a position of greater strength in decision-making and actually to influence such a decision”.

Table 4.1 Impact of different typologies of power on co-operative member empowerment

Typology of POWER	Interpretation of power	Definition of empowerment	Co-operative members and empowerment.
POWER OVER	<i>Controlling power, which may be responded to with compliance, resistance or manipulation (Rowlands;1997:13)</i>	<i>Empowerment is bringing people who are outside the decision-making process into it. (Rowlands;1997: 13)</i>	Co-operative economic democracy allows members to participate in the decision-making of the enterprise, overcoming the unequal distribution of decisional power in other formal or informal typologies of employment
POWER WITHIN	<i>The spiritual strength and uniqueness that resides in each one of us and makes us truly human. Its basis is self-acceptance and self-respect which extend, in turn, to respect for and acceptance of others as equals (Rowlands;1997:13)</i>	<i>Empowerment is concerned with the process by which people become aware of their own interests and how those relate to the interests of others, in order both to participate from a position of greater strength in</i>	Effective participation in a co-operative may enable the person to feel the enterprise as their own business, whose sustainability depends on the efforts that each member undertakes. Participation in co-operative activities and achievement of co-operative goals may have an impact on member's self-esteem and perception of themselves.
POWER WITH	<i>A sense of the whole being greater than the sum of the individuals, especially when a group tackles problems together (Rowlands;1997:13)</i>	<i>decision-making and actually to influence such decision. (Rowlands;1997: 14)</i>	Undertaking efforts together enables members to create a sense of community and solidarity and feeling of inter-dependence to the extent that the co-operative is not just an individual's business, but the members' own business.
POWER TO	<i>Generative or productive power which creates new possibilities and actions without domination. It is a kind of leadership that comes from the wish to see a group achieve what it is capable of, where there is no conflict of interests, and the group setting its own collective agenda (Rowlands;1997:13)</i>		Co-operative behaviours experimented in a co-operative can be transmitted to other dimensions of people's lives, especially to household decision- making. It can also have an impact on members' bargaining ability with public authorities in requesting public services for the community.

While referring to co-operative members, a certain circularity can be identified in terms of *power with*, due to the fact that a genuine co-operative is, in itself, a result of a collective action, and categories of *power within* and *power to* can be evaluated as an outcome of member participation in a co-operative.

4.3.3 Co-operatives and household decision-making

As explored in § 4.3.2, participation in a co-operative may have an impact on people's "generative or productive power which creates new possibilities and actions without domination" (Rowlands, 1997, p. 13).

Hill (2005) points out that "the differences in the power relations of patriarchy and capitalism not only mean differing oppressive practices, but also create different modes of resistance. (...) Hence, resistance to power based on gender requires developing liberating theories of sexuality, while a new understanding of work is basic to transforming the workplace".

Thus, in contexts where the household decision-making process is affected by patriarchal dynamics, it is important to analyse how changes in the workplace, as occurs in creating a co-operative, might have an impact on household dynamics.

Sen, in studying intra-household inequalities, considered the importance of examining whether, and how, members of the household cooperate and share what they have with each other. He suggests that gender relations inside the household might best be understood as "co-operative conflict" (Sen, 1984, 1987, 1999). That is, as Hicks (2002) also underlined, the relations are marked by some degree of conflict and competition as well as by a degree of mutual cooperation. Even as bonds of kinship and care lead to sharing, individual persons are influenced by traditional gender roles and they retain a degree of self-regarding interests that produce conflicts among household members.

Thus, considering that "individuals reproduce social institutions over time as they behave in accord with accepted social practices [and that] change begins when individuals, who share a perception that change is necessary or desirable, initiate new practices" (Hill, 2005, p.126), the democratisation process, activated in the

workplace through the co-operative enterprise, may be transferred to the household. Thus, the same democratic practice and bargaining attitude, experimented with as a co-operative member, could promote a co-operative behaviour in household decision-making process, prompting men as well as women to share decisions and responsibilities and, thus, reduce household inequalities. This participation in decision-making can be explored in different domains, such as children's education, health, household spending and work tasks. Therefore, having the opportunity to participate in decisions regarding aspects of family life is an intrinsic value, as it is, in itself, a substantial freedom. It also holds an instrumental value, because a more participatory management in household decisions may have an impact, for instance, on more gender/age balanced resource allocation, improving the well-being of women and children (particularly girls). However, for a more accurate analysis of co-operative membership impact on people's well-being, it could be said that, in communities where patriarchal dynamics prevail, participation in a co-operative can enhance women's opportunity to participate in household decision-making, once male members adopt in the household the democratic process they have experimented with at work, and/or female members demand the democratic space that they have obtained (or are practicing) at work. This means that from the point of view of an individual's well-being, the outcome has to be analysed in terms of women's well-being.

4.4 Co-operatives as a source of community development?

Co-operative membership can have an impact not only on the level of participation in the household but it can also represent a fundamental resource for community development. In fact, participation in a co-operative can have a strong impact on community development to the extent that it stimulates public debate on power dynamics, not only in the co-operative and in the members' households, but also in the community. It may occur, for instance, in gender roles, where, once women, who are members, challenge power relations in the co-operative and demand more effective participation in their household, the outcome of that debate can also

spill over into community values concerning power relations between men and women. The same happens when poor farmers who are not co-operative members start to question power relations with dealers, because the existence of the co-operative in their community presents them with another way of working.

The indirect effects of a co-operative in a community could also be seen in the creation of new jobs and in new economic opportunities in areas that have often experienced economic hardship as a result of farming consolidation and depressed commodity prices (Leistriz, 2004). Furthermore, as underlined in § 4.2, sometimes, co-operatives use their own funds to build and support local schools and healthcare centres. However, it might be argued that this is not the best demonstration of co-operative added value and of its concern for the community. Despite this kind of commitment, it seems to be more important that some particular individuals in a co-operative use their sense of agency (related to the “power to”) in order to demand better public policies for their community and to attract the needed services. Indeed, this aspect is crucially important in understanding the co-operative potential for community development, also because, in considering the co-operative as a self-help group does not mean that the poor can help themselves, only by themselves, without any important changes in terms of organisation (Stewart, 2005; Berner and Phillips, 2005). As Berner and Phillips (2005, p.27) sum up, “The idea that poor communities can *develop themselves* – if it means that they require no redistribution of resources, if it means that the heterogeneity and inequities *within* a community can be glossed over, if it means that the macro structures of wealth and power distribution can be ignored –is flawed to the point of being harmful.” Stressing the role of the state is definitely important when dealing with co-operatives, because in rejecting the influence that state had in the past, imposing a top-down approach in co-operatives, must not lead to the misconception that the state has no role to play in development and people must help themselves, without any support. Indeed, first of all, the state plays a fundamental role in providing the legal framework enabling people to be free to participate and associate, and that can establish the legal framework that guarantees co-operative autonomy, avoiding the risk of being co-opted by the state or

other institutions. Furthermore, the role of the state, as we have already stressed, is fundamental in providing people with those services that are related to basic capabilities, such as education and healthcare, which are one of the most important preconditions for an effective participation in public life.

Furthermore, while the concept of “power with” might be associated to the definition of “bonding social capital”³³ and it may be observed in the members of a co-operative, the concept of “power to” in the domain of community participation might be the resource that enables the “bridging social capital”, stimulating further collaboration between co-operatives or local groups. This attitude for the “power to” is individuated by Krishna (2001) in particular persons in the community, activating the propensity for mutually beneficial collective action, embedded in the social capital. Comparing the results from 60 villages in Rajasthan, India, he observed that “when the intermediate links are weak, as they are when agency is not capable, social capital does not translate readily into good performance”. Surely, over-stressing the role of agency might be criticised to the extent that this leadership could be replaced by local oligarchies, which would reproduce an unequal distribution of power, knowledge and resources as long as they were in control of co-operatives. (Bianchi, 2002). But this is not the case of a “genuine co-operative”, where members are supposed to actively participate and be motivated, and the leaders are supposed to be identified from among the members.

Creating networks between co-operatives and/or local groups could be a powerful path in community development. As Narayan and Chambers (2000, p.283) argue, “Local organizational capacity is a key element in building grassroots democracy, but without bridging social capital to link similar social groups across community, or groups with complementary resources, organizing local groups by

³³ Narayan (1999) stresses that all societies are made up of social groups, but also of individuals, and that these groups determine the attitudes, beliefs, identity and values, as well as the access to resources and opportunities and power. Given that most societies are not similar, groups differ one from the other in accessing the resources and power. Much of social exclusion can be explained by the social capital as the same ties that unite, can also be those that exclude and the non-overlapping of the social networks of distinctive social groups leads to unequal opportunities in participation. The social capital within a group, even when it is solid (bonding social capital), is not necessarily a condition that allows it to link up with other groups (bridging social capital).

itself is unlikely to move poor people out of poverty”. This argument could also be an answer to the critics who argue that the poorest do not benefit from co-operatives. In fact, the links between co-operatives in the same region and between co-operatives from developed and developing countries are an interesting strategy, oriented to strengthen existent co-operatives which lack resources and skills, or to promote the creation of co-operatives where local organisations are ready to move on from the informality status.

Clearly, also this kind of relationship has to be analysed from the perspective of the distribution of power. Indeed, Stewart (2005, p.197) points out that “where external actors act as catalysts it is important that they do not, thereby, create dependency, but assist in the formation of important external links”.

Thus, the International Co-operative Alliance, jointly with the International Labour Organization, has allocated an important role to the co-operative movement in supporting human development in developing countries. Launching the campaign *Co-operating out of Poverty* (ILO and ICA, 2004), they individuated co-operatives from developed countries as strategic actors in development programs that are not aid-based but based on the sharing of common values and principles among co-operatives. Indeed, co-operatives from developed countries can provide capacity-building for co-operatives in developing countries, sharing co-operative entrepreneurial know-how, and facilitating access to international markets for co-operative produced products from developing countries.

4.5 Avoiding any romantic idea: conversion factors

In agreeing with the position of those who are disappointed in and who reject the romantic idea of co-operatives (Attwood and Baviskar, 1989, Holmèn, 1990), assuming that co-operatives are not a panacea for development, it could be argued that the capability approach could offer a useful framework to evaluate how effectively a motivated member could take on a valuable role, participating in a genuine co-operative. As clearly explained by Robeyns (2005), the relation between means, on the one hand, and functionings and capabilities, on the other hand, is

influenced by conversion factors. They are classified as personal, social and environmental, and explain how effectively characteristics of means (goods or services) can enable functionings. What is important, is that Robeyns' clarification that "goods and services are not the only means to people's capabilities. There are other means that function as inputs in the creation or expansion of capabilities, such as social institutions broadly defined". According to this, the co-operative enterprise could be considered as a means that enables the achievement of valuable beings and doings, and how effectively this happens, depends on the influence of conversion factors.

As it has already been pointed out, the enhancement of a member's capabilities through a co-operative is related to the enhancement of other members' capabilities. This means that the majority of capabilities can only be achieved collectively. For instance, a member who joins a producer co-operative can improve their capability to access the market, but it is a result of a collective action, as the member would not have been able to achieve this by acting alone. Each member can access the market only if members as a whole can reach that goal. This argument might suggest considering capabilities achieved through a co-operative as collective capabilities, defined as the ones that "are only present through a process of collective action and that the collectivity at large – and not simply a single individual – can benefit from these newly generated capabilities" (Ibrahim, 2006, p.398)³⁴.

In the analysis of a co-operative as a means for enhancing capabilities, collectiveness is obviously important, because, as has already been pointed out, some capabilities can exist for a member only if they exist for co-operative members as a whole. Clearly, Sen's insistence to focus on individuals is valuable in considering that inequality in a group might affect individual achievement and the concept of collective capability might undervalue this aspect. For instance, collective empowerment can be intrinsically valuable, as Stewart (2005 p.200) argues that "interaction among members of groups, including group culture (norms, values) are important for determining outcomes and transcend individual action". However it

³⁴ For a literature review on collective capabilities see §1.1

does not mean that every member who participates in a co-operative, can actually be individually empowered. For instance, a female member can participate in a co-operative collective action in order to achieve a common goal (e.g. a training course in a co-operative or a public school in the village) and her capability set is supposed to be enhanced, but it could be that she is not actually able to participate in the course because her husband will not allow it. Thus, while the concept of collective capabilities seems to be important in understanding the performance of a co-operative enterprise, the individual dimension has to be taken into account.

However, independently considering them as collective capabilities or socially dependent individual capabilities, conversion factors are definitely important in understanding how capabilities can be converted into achieved individual functionings.

As in figure 4.1, it is considered that it is possible to choose among different means, such as, a conventional enterprise, a co-operative enterprise or an informal local producer group, where it is assumed that the co-operative differs from the conventional enterprise in its level of economic democracy, and from the local producer group for its level of formality. Personal conversion factors are those that can impede individual participation in the social and economic life of a community, including their participation in a co-operative (e.g. physical condition, level of education, etc.). However, social co-operatives came about exactly for this reason, to include disadvantaged people in the labour market. Thus, some personal conversion factors, that might be generally considered to negatively impact the achievement of functionings, are not a constraint in the case of social co-operatives.

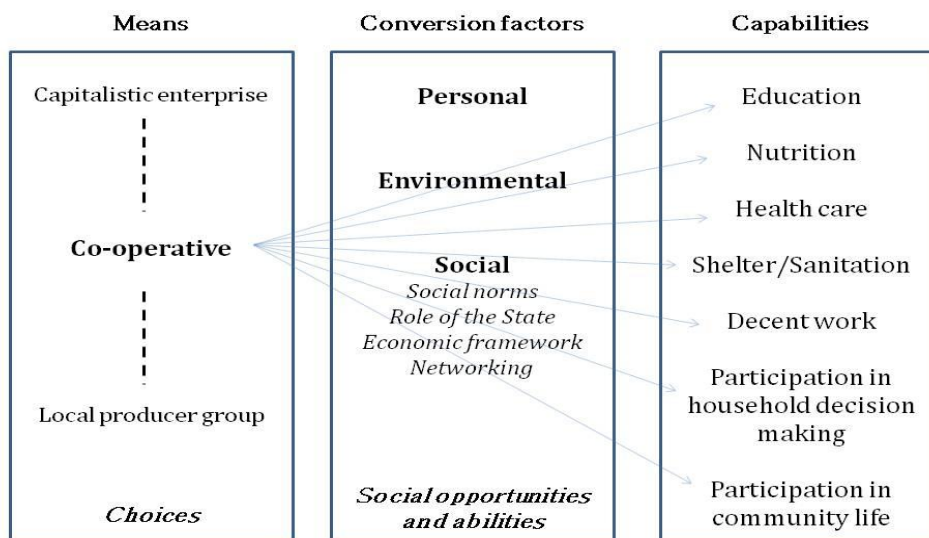
Environmental conversion factors (e.g. climate, geographic location), especially present in the rural context, can affect the regularity of an institution's activities, mainly due to the absence of infrastructures.

Finally, it would be very important to analyse in more depth those social conversion factors that could undermine the sustainability of a co-operative and the achievement of valuable functionings by its members.

A possible list of social conversion factors that could have an impact on a co-operative's potential to enhance its members' capabilities could include:

- Social norms (e.g. solidarity and/or egalitarian relations in the community; distribution of power among persons; gender relations).
- Role of the state (e.g. legal framework that guarantees freedom of association and that is favourable to co-operative autonomy and development, impeding co-optation).
- Economic framework (e.g. structural problems that affect markets; rules of international trade, such as *tariff escalation*).
- Networking – external links (e.g. connection with organisations, federations, alliances and other co-operatives in order to avoid isolation).

Figure 4.1 The impact of co-operative enterprises on members' well-being



Social norms could impact the process of member empowerment, affecting the distribution of power among members and impeding members consciously participating in the decision-making process, in feeling that they have no real possibility of influencing it. However, it is important to consider that debate within a co-operative could also stimulate debate outside, affecting social values and impacting people's lives in the co-operative and in the community.

As already analysed, motivated and aware members are the basis of a genuine co-operative. As well, absence of conflicts of interests, concern for the others and an attitude to collaborate may be crucial for sustainability. Surely, these attitudes are easier to find in an egalitarian society, but they can also be built up to the extent that people come together to demand their rights or to deal with common issues. While social norms and values conducive to co-operative behaviour are definitely important social preconditions for the spread of co-operatives in a community, the lack of egalitarian social norms and values may also be a source for fostering co-operatives, as is demonstrated by the evidence of co-operatives that were set up to challenge those dominant societal characteristics (Hirschman, 1988; Heyer et al., 2002; Bianchi; 2002).

The second conversion factor is broadly recognised in literature (Attwood and Baviskar, 1989; Holmès, 1990; Birchall, 2003; 2004), as well as in international institutions such as the UN and ILO, and is that the influence of the state can strongly impact the performance of co-operatives and past experience of failures prove this beyond doubt. ILO (2002b) has adopted a recommendation where the guidelines for national and international policies are indicated, aimed at drawing up a framework, particularly a legal one that is effective in promoting co-operative enterprises as one of the pillars of a nation's social and economic development. The main aim is to limit the possibilities for the state to co-opt co-operatives. As has already been investigated, a top-down co-operative undermines member participation and autonomy, denying added value even for the most important co-operatives and impeding the achievement of valuable capabilities. However, co-operatives can also impact the legal framework of a country. As Merrett and Walzer point out (2004, p.16) "co-ops and other forms of collective action can effectively generate political change, as exemplified in the evolution of laws related to co-ops".

The economic environment seems to be very important in order to understand broadly those structural problems which a co-operative has to tackle, and the way such problems could impact its performance and the achievement of its members' capabilities. For instance, the regulation of the global market, with the practice of

tariff escalation, prevents small producers from processing their commodity (for instance in a co-operative enterprise) and selling their final products competitively on international markets and so gaining the added value of their production. Bianchi (2002, p.108) argues that “producer associations which qualify them as exceptionally successful relative to other similar groups, focus on the issue of protected market niches that are at the heart of their economic development”. In fact, the strong link between co-operatives and fair trade movements³⁵ found an answer in the structural problem of market entry, as fair trade rules enable co-operatives to sell their processed products in the richer Western markets.

This issue recalls the fourth conversion factor. Participation in co-operatives, federations, alliances and also in international networks, enables members to interact with other entities, resulting in positive growth and wealth creation and increasing capacity-building and training. Simmons and Birchall (2008) explain, in detail, the fundamental role of the network aspect in appreciating the co-operative contribution to poverty reduction. According to them, “network perspectives can be applied at a number of levels – from local to global. Co-operatives generally represent networks of interest at the local level, as they need to network with various elites at the local level and beyond, in particular they need to maintain effective links with the state, and may benefit from becoming involved with global organisations. All of this means it is vital to understand the means by which networking happens successfully”. The autonomy of co-operatives is clearly important in their on-going effort to serve the interests of their members. However, equally important is their ability to network. Furthermore, this kind of participation seems to be an important in improving member empowerment and self-esteem, to the extent that they interact with public authorities, and they are involved in national/international meetings and conferences to exchange their experiences, to share strategies and perspectives and to find new business partners.

³⁵ For an in-depth analysis: Develtere and Pollet (2005)

PART TWO

THE CASE STUDY OF COPPALJ, A PRIMARY CO-OPERATIVE LOCATED IN MEARIM VALLEY, STATE OF MARANHÃO, BRAZIL

“For us, the co-operative is more than just selling, buying and getting the patronage refund at the end of the year. The co-operative regards our own quality of life. We work decently in order to enable our families, who practice family farming, to achieve food security, access to education, housing, health and leisure. For us, the co-operative is a means that enabled our families to live a dignified life”.

(Mr Raimundo Erminio Neto, member of COPPALJ, December 2008)

INTRODUCTION

In part one, the theoretical point of view was explored of how participation in a genuine co-operative can be a means to foster at least some of the main dimensions of human development, thus, representing a valuable means for reducing poverty, understood as a deprivation of capabilities, and examined in its multi-dimensionality.

This second part is devoted to the empirical study, aimed at verifying whether small-scale farmer participation in a primary agricultural co-operative in a medium/low human development area in Brazil had an impact on the members' quality of life, thus, exploring the impact on different dimensions of their well-being.

The history of this co-operative, called COPPALJ (Co-operative de Pequenos Produtores Agroextrativistas de Lago do Junco), started nearly 20 years ago, as a result of a common action carried out by the local population, affected by socio-economic exclusion and unequal power relations in the field, elements that still characterise many rural areas in Brazil today.

Therefore, chapter five will illustrate the context of the field work, including a general picture of human development in Brazil, focusing on the history of co-operatives in the country, and an explanation of poverty and inequality roots in the State of Maranhão located in Brazil's North-East. Finally, there will be outlined a presentation of the region where the co-operative works, providing information on the COPPALJ activities and the relative model for local development.

Following, before going into detail with the case study, methodological issues will be studied, reviewing the relevant literature on the operability of the capability approach and on the impact evaluation of the projects/programs. These two aspects, together with the important debate regarding qualitative and quantitative methods, represented the theoretical background on which the methodological framework was built. Thus, as will be illustrated, both qualitative and quantitative methods were adopted in order to justify the selected dimensions of well-being to be evaluated, to assess causal connections between co-operative membership and member well-being and to identify the co-operative's spill-over into community development.

Consequently, once the methodology has been illustrated in chapter six, chapter seven will deal with the survey carried out, including presentation of the sample and chosen variables to be assessed through an econometric method frequently adopted in impact evaluation literature, that is, Propensity Score Matching. In presenting the variables included in the questionnaire, some descriptive statistics will also be presented. These mainly involve contingent tables regarding every variable outcome and co-operative membership, and illustrating in more depth some characteristics of co-operative member participation, thus, providing the justification for COPPALJ to be considered a genuine co-operative.

Finally, chapter eight will deal with data analysis. Through the application of Propensity Score Matching techniques in the analysis of data collected in the survey and the application of participatory methods, together with open interviews, there will be an assessment on to what extent co-operative membership had an impact on member well-being, and on which dimensions of well-being, and as well as on community development.

CHAPTER FIVE

STUDY CONTEXT:

CO-OPERATIVES IN BRAZIL AND THE BABAÇU ECONOMIC SYSTEM IN THE REGION OF MEARIM (MARANHÃO STATE)

5.1 Human development and poverty in Brazil: an overview

According to the Human Development Report (UNDP, 2009), the HDI³⁶ for Brazil is 0.813, which ranks the country at 75th out of the 182 countries where data was supplied. Between 1980 and 2007 Brazil's HDI rose by 0.63% annually from 0.685 to 0.813 today. On the other hand, the HPI-1³⁷ value of 8.6% for Brazil, ranks 43rd among 135 countries for which the index has been calculated. Indicators related to gender equality in Brazil show that there is no significant inequality in access to basic capabilities, since Brazil's GDI³⁸ value (0.810) is 99.6% of its HDI value. Out of the 155 countries with both HDI and GDI values, 24 countries have a better ratio than Brazil's. Different information is given by GEM³⁹. In fact Brazil ranks 82nd out

³⁶ The Human Development Index (HDI) provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in education) and having a decent standard of living (measured by purchasing power parity, PPP, income). The index is not in any sense a comprehensive measure of human development. It does not, for example, include important indicators such as gender or income inequality nor more difficult to measure concepts like respect for human rights and political freedoms. What it does provide is a broadened prism for viewing human progress and the complex relationship between income and well-being. (UNDP, 2009)

³⁷ The Human Poverty Index (HPI-1) focuses on the proportion of people below certain threshold levels in each of the dimensions of the human development index - living a long and healthy life, having access to education, and a decent standard of living. By looking beyond income deprivation, the HPI-1 represents a multi-dimensional alternative to the \$1.25 a day (PPP US\$) poverty measure. (UNDP, 2009)

³⁸ The gender-related development index (GDI), introduced in Human Development Report 1995, measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is simply the HDI adjusted downward for gender inequality. The greater the gender disparity in basic human development, the lower is a country's GDI relative to its HDI. (UNDP, 2009).

³⁹ The gender empowerment measure (GEM) reveals whether women take an active part in economic and political life. It tracks the share of seats in parliament held by women; of female legislators, senior officials and managers; and of female professional and technical workers- and the gender disparity in earned income, reflecting economic independence. Differing from the GDI, the GEM exposes inequality in opportunities in selected areas (UNDP, 2009).

of 109 countries in the GEM, with a value of 0.504. It reveals that, even if there is gender equality in access to basic capabilities in Brazil, women do not hold the same opportunities as men in term of taking an active part in the economic and political life of the country.

In reality, even if nowadays Brazil ranks among high human development countries, the issue of inequality is still a major factor in the Brazilian economic system. In fact, once we analyse Brazilian HDI divided into regions (UNDP, 2008), we observe significant disparities, with the north-east region showing the lowest HDI (0,716). Among the states belonging to this region, the states of Alagoas and Maranhão show the lowest HDI, respectively 0.677 and 0.683 (index values comparable with countries ranked 128th and considered as medium human development countries). Dividing by component of HDI, these two states show medium human development levels in terms of education and life expectancy and a low human development level in terms of income. The situation is even worse when we look at single municipalities, since 15% of these (636 out of 5,507) are ranked with an HDI lower than 0.6 and, specifically, 21 municipalities are ranked as low human development⁴⁰.

Brazil has certainly undergone significant changes in the twentieth century and it is broadly recognised as “the country of the future”. Nevertheless, it also confronts an historical continuity in the form of severe social inequalities, rooted mainly in an arcane system of rural land tenure and production. Enduring poverty, widespread violence and the persistence of informal work arrangements (over half of Brazilian workers are in the informal sector, which includes street vendors and day labourers) are the major challenges in Brazil’s re-democratization (Dávila, 2009 pp.vii-viii).

As far as income inequality is concerned, the Gini co-efficient for the distribution of household income per capita shows that it rose from 0.574 in 1981 to 0.625 in 1989. After this five-point (or 9%) increase during the 1980s, Brazil’s

⁴⁰ [http://www.pnud.org.br/atlas/ranking/IDH-M%2091%2000%20Ranking%20decrecente%20\(pelos%20dados%20de%202000\).htm](http://www.pnud.org.br/atlas/ranking/IDH-M%2091%2000%20Ranking%20decrecente%20(pelos%20dados%20de%202000).htm) (last access on 24 September 2010).

income inequality was the second highest in the world, closely behind Sierra Leone's Gini of 0.629. From its peak of 0.625 in 1989, Brazil's Gini fell by six points, or roughly 10%, to 0.564 in 2004. (Ferreira *et alii*, 2007, p.1). According to the World Bank (2005), the 2004 figure would place Brazil as the 10th most unequal country in the world, behind Bolivia, Botswana, the Central African Republic, Guatemala, Haiti, Lesotho, Namibia, South Africa, and Zimbabwe.

Despite recent improvements in income distribution, the problems of income inequality and social exclusion remain at the root for explaining poverty in Brazil, above all, in rural areas. In fact, poverty levels and human development indicators in poor rural areas are comparable to those in the poorest countries of Latin America. In the country as a whole, about 35% of the population lives in poverty, on less than two dollars a day (Rocha, 2003). But in Brazil's rural areas poverty affects about 51% of the population, so that even though, over the past thirty years, in part due to rural urban migration, poverty has increasingly become an urban and metropolitan phenomenon, and its incidence continues to be higher in the rural areas (Ribas and Machado, 2007). Since approximately 19% of the total population, or about 36 million people, live in rural areas, this means that Brazil has about 18 million poor rural people, the largest number in the Western Hemisphere. And Brazil's north-east region has the single largest concentration of rural poverty in Latin America. In this region, 58% of the total population and 67% of the rural population can be classified as poor (ECLAC, 2007).

One of the main causes of poverty is linked to the extreme inequality in land tenure, especially in the north-east and in the country's central regions. An Agrarian Reform implemented in the past years has accelerated under the current federal government. The reform improves the conditions of the rural poor, but much work remains to be done. The majority of the 4 million farms in Brazil are very small, and many are at subsistence level. Yet small-scale agriculture, which is known as "family agriculture" in Brazil and which includes poor small-scale farmers, accounts for about 70% of the country's food production and a significant share of food exports. This means that family agriculture has a strong potential as a means of overcoming

poverty in Brazil (IFAD, 2009). Nevertheless, a significant debate exists about the future of the rural world in Brazil. As Garcia and Palmeira (2009 pp. 20-21) summed up, rural Brazil changed profoundly in the course of the 20th century and the “agricultural world” is no longer seen as a cohesive whole throughout Brazil’s vast territory. In fact, the image of unity of the agricultural world, sought at the beginning of the 20th century, is cut across by players from “family agriculture”, “corporate agriculture”, and so forth. This results in a competition for land, for financial resources, for the workforce, and, ultimately, for the right to decide the future of relations both within the rural world and between the city and country.

A recent field research carried out by UNDP in the poorest municipalities of Brazil and aimed at gathering people’s opinions about methods and strategies for overcoming poverty⁴¹, identified opportunities for income generation, followed by education and health, as the issues in most demand by people living in such municipalities. The majority of participants in such field research were small-scale farmers. They complained about the vulnerability of their work, especially when production is not diversified, the difficult working conditions and the absence of opportunities for income generation, especially in obtaining fair prices and better bargaining power. Among the various proposals, they identified the creation of a co-operative as a viable strategy for overcoming poverty.

5.2 Co-operatives in Brazil

Co-operatives in Brazil have a long history, comparable with some European countries, even if differences linked to political and economic contexts led to a Brazilian co-operative movement with its own peculiarities.

The Brazilian co-operatives were first set up at the end of 19th century, by people concerned about the difficult relationship between workers and landlords after the abolition of slavery. As Pinho (1962) explained, the co-operative movement in Brazil did not grow in the context of Industrial Revolution, as happened in most

⁴¹ The research aimed at including in the forthcoming Human Development Report of Brazil, the point of view of citizens from the 10 municipalities with the lowest HDI. Such opinions were collected through participatory methods (Frediani, 2009).

European countries. Here, not only the workers were interested in co-operatives, but also the landlords, who saw co-operatives as a business form that could help them to reduce their responsibilities towards their workers, as happened, for instance, with the consumer co-operatives, where by lowering the cost of living, they were able to maintain low worker salaries (Maurer Junior, 1966). Thus, from these early stages of co-operative development in Brazil we can understand the complex system of the Brazilian co-operative movement that, up to today, has been identified into two major typologies of co-operatives - genuine and “spurious” ones.

The first co-operative law was passed in 1932, during the Great Depression and the following international crisis. This act was evidence of the interest of the Brazilian state in co-operatives, which were considered a tool for economic development policies. As Fleury (1983) asserts, by facilitating the creation of co-operatives and benefiting them with tax relief, the Brazilian government began to grant extensive incentives to co-operative development. However, this involvement of the state actually prevented the co-operative movement from taking a true leading role in proposing social change and, so, co-operatives became a tool for reproducing the *status quo* of income and land concentration and of power relations (Rios, 1987; Bursztyn, 1985). During the 1940s, the social and co-operative movements joined forces with the small-scale farmers and producers suffering from the cruel repression practised by the national and international elite, where their demands for agrarian reform and freedom of economic and social association met with opposition (Teixeira and Domingo, 2002). The following decades represented the period when, in this alliance between the state and a certain typology of co-operative, these enterprises increased in size and took on a crucial role in the process of the modernisation of Brazilian agriculture, developing in agri-business and increasing the export market, especially in commodities such as coffee, rice, wheat and soya, as well as sugar cane.

In 1969 the co-operative representative organisation OCB (Organização Brasileira das Cooperativas) was created, and in 1971 a new co-operative law was passed. This act, promulgated under the military dictatorship and which is still,

today, in force, states that only co-operatives affiliated to OCB can be legally recognised. However, at the beginning of the 1980s, due to the international economic crisis, co-operatives involved in exporting suffered heavily. This is the time when new co-operatives, characterised by popular initiatives and participation and mainly involved in poverty reduction began to be set-up. The principle of co-operation had been rediscovered by those sectors of the population excluded from the “Brazilian economic miracle”, addressing entrepreneurial initiatives for socio-economic inclusion and cohesion (Teixeira and Domingo, 2002).

Following these new experiences of co-operation aimed at poverty reduction strategies, two new co-operative associations were set-up, UNISOL, for worker co-operatives, and UNICAFES, for co-operatives set-up by small-scale rural workers.

According to the *Departamento Nacional de Registro Comercial*, in 1999 there were 4,660 co-operatives in Brazil, increasing to 20,779 in 2000 and exceeding 25,000 units in 2005. The OCB has 7,136 co-operatives, with 6.160 million members, while UNICAFES has 648 co-operatives nationwide and UNISOL 230 member co-operatives. There are numerous other co-operatives which do not belong to any representative co-operative organisations, and they could be genuine or spurious.

Since the election of President Lula, with the growth of a strong Solidarity Economy, the federal government has become progressively committed to providing public policies in support of associations and co-operatives, aimed at poverty reduction. Some of these programmes are listed below:

- Establishment of Inter-ministerial Working Group, in charge of drawing up a proposal for implementing a National Plan for co-operative development;
- Re-formation of DENACOOOP, Department of MAPA (Ministry of Agriculture), to support the development of co-operatives in every activity sector, mainly through capacity-building and training;

- Creation of a National Secretary in the Ministry of Labour, called “Secretaria Nacional da Economia Solidaria – SENAES”, in charge of promoting associations and co-operatives in urban areas;
- Strengthening of MDA (Ministry of Agricultural Development), mainly involved in developing programmes for small-scale farmers active in so-called “family agriculture”. Among these programmes, it is important to underline: COOPERSOL, which supports associations and co-operatives in rural areas as a poverty reduction strategy; PRONAF, which supports market access for small-scale farmers, also through providing access to credit; and PRONERA, which promotes access to education for youth and adults living in rural areas benefitting from the Agrarian Reform.

COPPALJ, the co-operative subject of this investigation, is one of these co-operatives set up in the 1980s, as a spontaneous initiative of the rural population searching for a way out of poverty and to shake off the oppression of the landowners. It is a member of UNICAFES and is owned by 136 members, who are small-scale farmers and “Babaçu breaker women”, involved in family agriculture and extractive activities in the Mearim Region, located at the centre of Maranhão State.

5.3 The Babaçu Economic System in Maranhão State

Babaçu is one of the most important species of Brazilian palms. This palm, which is more highly concentrated in the States of Maranhão, Pará, Piauí and Tocantins, had been very important for the indigenous peoples of the area, before the arrival of the Europeans. The explorer, Claude d’Abbeville, spoke of the importance of “palm fruits” in the “native diet”, in the North Eastern part of Brazil. Most probably, that palm was the “Babaçu”, called “uauaçu” in the Tupi language.

These old Babaçu forests are scattered over areas with a high biological complexity and variety, differently from what usually happens, where vast homogeneous expanses usually grow uninterruptedly over areas. As May (1990) affirms, especially in the north-east region of Brazil, the principle reasons for the Babaçu forests enormous increase, was due to their periodical destruction along with

the subsequent burn-offs. This custom, combined with an itinerant agriculture, has often been used to try to eliminate the Babaçu forests, but, instead, has ended up with the opposite result. Babaçu Palm is an extremely resistant plant, immune to granivorous and a fast regenerator.

The nuts found in the Babaçu shell (the coconuts), are the most important part extracted, with good market value, as well as industrial value. Usually three to six nuts are found in each coconut, extracted by hand using a traditional system practiced in a subsistence economy. This is the only means of income for a great majority of the families not owning land, living in the region where the Babaçu grows - in Maranhão State, there is a greater concentration of Babaçu forests, 10.3 million hectares from the 18.5 hectares existing in Brazil. Extracting the nut involves about 300,000 families, even though the census has enormously underestimated this entity (MIQCB - GERUR, 2001).

The harvesting of the Babaçu is carried out by small-scale workers, mainly women called Babaçu Breaker Women, who utilise this palm based on its use and exchange value. In the former case, some parts of the coconut and palm are transformed into domestic products. The epicarp is made into fuel (coal) and used as a domestic energy source, the oil from the nuts is used in food preparation, the mesocarp in animal food and as a nutritional base for food, and palm leaves for roofing and to make mats, baskets etc. In the latter case, selling nuts and sometimes the fuel as a last resort, can provide for the needs of the family in bad periods when production is low (Amaral Filho 1990).

The agricultural work and the Babaçu extractive activities are complementary and determine a precise work division in the family. Harvesting and breaking the coconuts is done only by the women, with the help of their children. Some have devised a type of stockpiling strategy to enable them to cope with the leaner periods.

A MIQCB-GERUR (2001) research shows that women try to work harder during the summer months, benefiting from the higher prices that dealers pay for the nuts in that season and not having to depend on other activities in the difficult periods of winter or the rainy season, in January, February and March. It is more

difficult to break coconuts during this period and the agricultural production has finished. Breaking coconuts in this season is extremely tiring and dangerous because the coconuts are muddy and slippery and a higher number of accidents occur. Wet coconuts can slip through the women's hands as they are hitting them with the axe resulting in frequent cuts and gashes on their hands. However, even in these periods, women have worked out strategies, such as the building of boxes to place the coconuts for desiccation, and apart from the advantage of reducing the risks to themselves, they know quite well that the nuts extracted from dry coconuts are of higher quality.

This Babaçu extractive method has been used for many years and it is still done in the same laborious way, despite numerous attempts to introduce a better technique. The outer shell is extremely hard and so the traditional method used is as follows: the coconut is balanced on top of the axe blade which is positioned between the women's thighs, she hits the coconut with a stick with great force, many times and, finally, the coconut splits open revealing the nuts.

All the local oil pressing mills which produce refined and unprocessed oil are the main receivers of the Babaçu nuts. This oil which makes up about 60% of the nuts weight, is used to produce soap, shampoo, anti-ageing creams, special fats and edible oil. The residue from the pressing process which contains 8% of oil is used by companies to produce animal food, fuel from the epicarp is used by the iron foundries and, lastly, the palm fibres are used by the cellulose industries. It has been calculated that at least 68 by-products come from the nuts.

Selling Babaçu nuts to dealers, women, on average, earn 80% of the household income, representing a fundamental component of household subsistence.

The high concentration of land reached in the 1980s, together with the destruction of the Babaçu Palms and the privatisation of the forests, caused violent conflicts between landowners and small producers, who had dominated, with their own force, the work fields for a decade. The most serious problem was to define property rights. Landowners wanted to extend their property into the Babaçu forests.

Fig. 5.1 Babaçu forests



Fig. 5.2 Babaçu palm



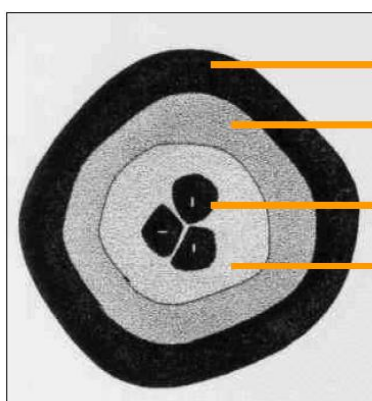
Fig. 5.3 “Quebradeira” at work



Fig. 5.4 Detail



Fig. 5.5 Industrial utilisation of Babaçu coconuts



Epicarp (12%): Energy source

Mesocarp (22%): Flour and alcohol

Nuts (6%): Oil

Endocarp (50%): Coal

The struggle for the land and natural resources began in the late 1960s when the “Lei de Terras do Estado” (state-owned Lands Law) was passed. This law considered the areas of agricultural frontiers as available and restructured the land market, favouring the interests of the bigger enterprises, which had moved to the Maranhão State to start up agri-business, such as sheep farming, mining and wood exploitation projects, fencing off land and destroying the Babaçu palms.

Amaral Filho (1990) recognised the three reasons why the landowners opted for the destruction of the Babaçu forests: the unfavourable market conditions in terms of relative prices of agricultural products and breeding; rising land prices which meant a potential increase in capitalistic income and a change in the use of the land in many different entrepreneurial activities; and availability of financial and fiscal incentives offered by the state to stimulate landowner investment.

The last Agricultural Census showed that the Gini Index in Maranhão State regarding land distribution is 0.864, one of the highest in Brazil.

Table 5.1 Land distribution in Maranhão State

Owner		<i>Assentado</i> *		Tenant		Sharecropper		Occupier		Landless	
Establishment	Area-he	Establishment	Area-he	Establishment	Area-he	Establishment	Area-he	Establishment	Area-he	Establishment	Area-he
123,287	11,612,781	17,059	436,343	32,790	295,448	10,071	116,022	44,847	530,854	58,983	

Source: IBGE, 2006 - * people benefited by Agrarian Reform

5.4 COPPALJ (Co-operative of Small Farmers in Lago do Junco Municipality) and the cluster of Mearim

In the Mearim Valley communities⁴² the long and difficult battle was initiated by the Babaçu Breaker Women and their families who fought for the so-called “stolen coconut liberation”. It meant that the fencing off of land for cattle breeding prevented access to the Babaçu forests and so, hindered the working of the land and

⁴² Mearim Valley is a transitional region between the Amazon and the North East, second in the Maranhão State for Babaçu forests

the harvesting of the nuts. The only option for the workers was to give half of their harvest to the landowners and sell the other half to the self-same landowners who also decided on the price paid to the workers for the nuts.

The privatisation of the larger forests also meant a decrease in the areas used for home-grown vegetable gardens and, thus, changing family subsistence patterns. In other words, some families were forced to rent the land and some rural workers had to find work in the mines, while others fought for access to the land and natural resources.

The mobilisation of the Babaçu Breaker Women and their families to have the right to access the land and natural resources was carried out mainly during the 1980s, culminating, towards the end of the decade, in the expropriation of vast expanses of land, allotted to the so-called “agrarian reform settlements” (assentamentos). This was the result of the state’s intervention in the great conflicts between the rural workers and the landowners.

In 1989, the NGO ASSEMA was founded on the initiative of rural community leaders and the rural workers’ unions of the Mearim Valley. This was part of a broad strategy to improve the living and working conditions of the rural workers.

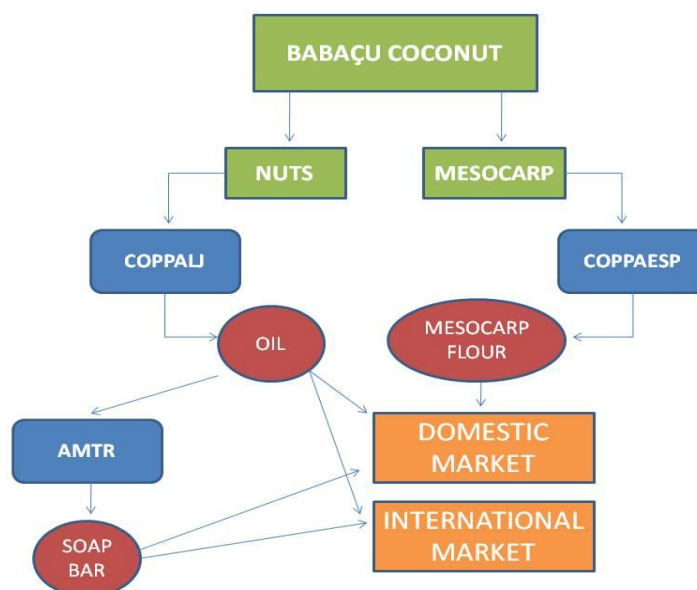
ASSEMA (Association for agrarian reform settlements in the Maranhão State) is a non-governmental, non-profit regional organisation, which is attempting, through technical, juridical and political support, to strengthen the position of the rural workers and their families who survive thanks to agriculture and the related activities. The aim is, that they, as a group, will be able to propose to the public authority and private enterprises strategies for sustainable development. One of the most important objectives achieved by “quebradeiras” and farmers in municipalities where ASSEMA works is the adoption of the municipal law, “Babaçu Livre” (Free Babaçu), which guarantees the free access to landowners’ lands for the harvesting of Babaçu nuts.

The Babaçu related activities are organised and managed by two co-operatives, the COPPALJ – the co-operative of small agro-producers in Lago do

Junco -, which is the case study under investigation, and the COPPAESP – the co-operative of small agro-producers in Esperatinópolis- and, as well, an association of women, AMTR – an association of rural women workers.

In speaking about the Local Rural System (made up of COPPALJ, together with the other two producer organisations, the co-operative COPPAESP, which produces the mesocarp flour, used in local cooking, and AMTR, a group which produces soap bars transforming the Babaçu oil produced by COPPALJ), the SEBRAE (Support Service for Micro and Small Enterprises) declared that “the model which the region is developing is a cluster, an island of specialisation and excellence in Babaçu utilisation.” The organisation of the supply chain can be seen in the diagram below.

Fig. 5.6 Organisation of Babaçu supply chain



COPPALJ (Cooperativa de Pequenos Produtores Agro-extrativista de Lago do Junco) is an agricultural primary co-operative, set up in 1992 and active in six rural communities of the Municipality of Lago do Junco, in the Mearim region. The HDI of this municipality is 0.567 and it ranks 5,163th out of 5,507 Brazilian

municipalities, thus representing one of the poorest municipalities in Brazil⁴³. Its level of human development could be compared to that of Angola (HDI = 0.56).

The main activity of the co-operative is to buy the members' production, that is, the nuts from the Babaçu coconuts and other products, such as rice, beans and corn. While the latter products are traded in local markets, the transformation of the Babaçu nuts and selling of the derived oil represent the co-operatives main economic activity. Moreover, the co-operative owns farmland which members can collectively cultivate, practicing agro-ecological and organic methods, where organic input is gradually substituting the use of pesticides, heavy machinery, such as tractors, and the traditional custom of land burn-off. At the moment, 43 families of COPPALJ members are involved in a specific training/productive program aimed at encouraging organic production, with the specific objective of food security for the families. These families are cultivating annual crops (such as rice, corn, beans and manioc) along with the Babaçu palms - 60 palms per hectare of land, as suggested by recent studies carried out in the region by ASSEMA. Such methods provide a solution also for gender conflicts in the families related to production, as the men were used to destroying Babaçu palms in favour of land to cultivate and, thus, the women were forced to go longer distances to collect the Babaçu nuts. Moreover, the co-operative's commitment to agro-ecological and organic production has enabled it to place the organic label of oil on its products, being the main output of COPPALJ.

Basically, COPPALJ has been set up by its members to overcome the monopolistic power of the dealers who had been the only buyers of the Babaçu nuts. Thus, they have developed a productive trading model that is able to challenge the low price of the Babaçu nuts previously offered by the landowners.

As Ms Sebastiana Sirquiera (Dona Sebá), ex-president of Coppalj reported:

"In the town of Lago do Junco the conflict for the land was very fierce in the '80s, and it was a very hard struggle. We won. But it was only after the conflict was over, did we realise that we had achieved freedom from the landowners, even though the Babaçu production was still in their hands, as

⁴³ [http://www.pnud.org.br/atlas/ranking/IDH-M%2091%2000%20Ranking%20decrecente%20\(pelos%20dados%20de%202000\).htm](http://www.pnud.org.br/atlas/ranking/IDH-M%2091%2000%20Ranking%20decrecente%20(pelos%20dados%20de%202000).htm)

they were the only buyers and their price for the nuts was incredibly low. How could we solve our problem?, we asked ourselves. We thought about creating an association, which we called “commercialisation”. Then, after many discussions, we discovered it to be the co-operative form of business. This idea came from the necessity to free ourselves from the dealers. United, we formed a group, of men and women, aimed at continuing our struggle to survive”.

According to the model, as shown in figure 5.7, nuts are collected through the “cantina”, that is, a kind of shop, where members, as well as non-members, can sell their nuts and buy goods at lower prices. Clearly, members have the right to more profitable conditions, such as buying goods at a 20% lower price and receiving the member refunds at the end of the year. However, both members and non-members can sell their nuts for a price that is 50% higher than the average prices offered in the region (ASSEMA, 2008). The main difference is reported by Ms Ivete, currently president of the co-operative, according whom “before the existence of the co-operative, 10 kg of Babaçu nuts (our individual average daily production) were just enough to buy one kg of rice, an insufficient quantity for feeding our families. After the co-operative was set up, the same quantity of nuts enabled us to buy 3 kg of rice, plus one kg of coffee, one kg of sugar and other goods.” In fact, in 2007, according to ASSEMA’s reports, COPPALJ traded 316,263 kg of Babaçu nuts, bought by 840 people from the communities where the co-operative operates, involving 142 members and 698 non-members. Moreover, in the same year, the average nut price offered by the co-operative was 0.96 R\$ for non-members and 1.49 R\$ for members, the latter including member refunds distributed at the end of the year. A significant component of co-operative performance is made up of the exportation of oil, (51,840 kg in 2007), sold to the USA, as well as the EU, mainly the United Kingdom (Body Shop) and Italy (Cooperativa Mondo Solidale). The oil is used as an ingredient in cosmetic products and detergents by enterprises committed to Corporate Social Responsibility (CSR). In particular, the inter-co-operative relationship between COPPALJ and Mondo Solidale has taken on an important value from the viewpoint

of the role of Western co-operatives in fostering development. In fact, it represents a significant example of North/South co-operative networking promoting reciprocal opportunities for development (the so-called “co-development”)⁴⁴ on the basis of common values and principles.

However, the access to external markets was a crucial turning point in the history of COPPALJ, where the co-operative was able to sell its oil for a price that was three times higher than the average market price. An example of this can be seen in the oil exportation from Maranhão in 1997 - while the “Oleaginosas Maranhense SA” exported 103,000 kg of Babaçu oil for 154,280 US\$, COPPALJ exported 33,000 kg for 106,070 US\$ (MIQCB-GERUR, 2000). This shows the marketing strategy of COPPALJ aimed at incorporating in the final price the benefits of the organic feature of the oil, as well as the history of the social struggle and the development of the local communities. This higher price is then converted into a higher revenue for the co-operative and, thus, a higher income distributed among its members. After almost 15 years since COPPALJ was set up, it is still financially sound with a turnover of 1,531,771 R\$ (year 2007).

Returning to the community units of this model, the “cantina”, it is important to underline that they have an important role also concerning the co-operative’s governance, since each of them works as a representative group of the co-operative. Being closer to each community, the “cantina” is the place where members of that area meet up and discuss the issues regarding co-operative management, but also regarding community problems. Every community is represented on the Board by a Board member who organises twice monthly a meeting in the “cantina”, together with the manager of the local shop and the co-operative members from that community. In this way, all members are aware of all the current issues that the co-operative is facing and are able to communicate their opinions to the Board. Then, as is usual, all members participate in the General Assembly, that takes place twice a

⁴⁴ For a theoretical insight on co-operatives and co-development see: Bellanca, Biggeri, De Muro and Vicari (2011)

year, and is the proper location where decisions are taken through the one person-one vote principle.

Fig. 5.7 Model of the co-operative's local development



CHAPTER SIX

METHODOLOGY FOR EVALUATING THE IMPACT OF CO-OPERATIVE MEMBERSHIP ON MEMBER WELL-BEING

6.1 Methodology: an introduction

Since the aim of this case study is to evaluate the impact that participation in a co-operative has on member well-being in a selected low human development area, challenges encountered in carrying out this work are similar to those found in the literature regarding the impact evaluation of development projects on poverty. In fact, impact evaluation implies “to determine more broadly whether the program had the desired effects on individuals, households, and institutions and whether those effects are attributable to the program intervention” (Baker, 2000 p. 1). Similarly, the aim of this study is to evaluate whether being a member of a co-operative results in enjoying some valuable benefits at an individual level (the co-operative member), involving their families and their communities, and whether these benefits are attributable to co-operative membership. Furthermore, consistently with the adopted framework of HDCA, the mentioned benefits for individuals should be evaluated in terms of their functionings and/or capabilities.

Thus, the methodological issues are related to both the micro-assessment of development projects and to the operationalisation of the CA. Before illustrating the adopted methodology, the most common issues usually developed and debated in literature regarding such methodological aspects will be outlined in the following sections.

6.2 Studying the impact of the co-operative on what? Operationalising the CA

A vast debate exists surrounding the fact that, even if the CA seems a very appropriate framework to evaluate multi-dimensional poverty from a theoretical point of view, according to some scholars (e.g. Sugden, 1993; Ysander, 1993;

Srinivasan, 1994; Roemer, 1996)⁴⁵ it seems to be inadequate in practically measuring such multi-dimensional aspects of poverty. As Comim (2008, p.160) summarises, such scholars underline “the *multi-dimensional-context-dependent-conterfactual-normative* nature of the CA, [that] might prevent it from having a practical and operational significance”.

Some scholars, such as Alkire (2002b, 2008), Robeyns (2003, 2005, 2006) and Comim (2001, 2008), confirmed that CA is under-specified and they contributed to this debate, providing important indications for researchers undertaking empirical applications of CA. In fact, while CA provides a justification for taking into account the multiplicity of aspects of human life in normative evaluations, it does not offer any guidance about how such different aspects can be selected and measured. As suggested by Robeyns (2006), three specifications emerge as particularly important - the selection of relevant capabilities; the choice between functioning and capabilities; the issue of weighing the different capabilities in an overall assessment.

The selection of the relevant capabilities is closely connected to the multi-dimensional aspect of poverty. Once agreed, that poverty is not synonymous for lack of income, the problem remains how to choose the dimensions concerned. As Alkire (2008, p. 1) asserts, “if poverty is conceived as capability deprivation, and if the task is to identify multi-dimensional poverty, what are the legitimate ways of defining dimensions? By what methods should researchers decide 'what matter'? ”.

Concerning this, the debate between Sen and Nussbaum on the existence of a universal list of capabilities⁴⁶, clearly points out the difficulty, on the one hand, to be consistent with the bottom-up nature of the CA that requires participation and involvement of those people who are agents of development change and thus, who are the protagonists in selecting their valued capabilities; and on the other hand, the urgency to identify a universally comparable framework that led Nussbaum to elaborate her well-known list of capabilities. It is important to underline here that

⁴⁵ Quoted in Comim, 2008

⁴⁶ A review of this debate is provided by Alkire (2002b) and Robeyns (2005)

Sen is not contrary to a list of capabilities, but he has rejected the idea of having a universal list, that can be used in any circumstances, independently from the context.

Nevertheless, the problem related to the lack of systematic guidance in selecting capabilities still remains. Both Alkire (2008) and Robeyns (2003) provide very helpful instructions for researchers who deal with the process of selecting capabilities.

Following the five criteria identified by Robeyns (2003), the chosen list of capabilities should be explicit, discussed and defended (*the criterion of explicit formulation*); the method adopted to generate the list should be clarified, scrutinised and justified as appropriate for the issue at hand (*the criterion of methodological justification*); the level of abstraction should be appropriate for reaching the objectives for which we are seeking to use the CA, that is, in drawing up the list it is important to use the language of the debate in which we wish to be involved (*the criterion of sensitivity to the context*); if drawn up for empirical application, the list should be identified in two stages, a first one, more idealistic, and a second one, more pragmatic taking into account the constraints such as limitation of data, measurement design, etc. (*the criterion of different levels of generality*); and finally, the listed capabilities should include all the important elements, and the elements included should not be reducible to other elements (*the criterion of exhaustion and non-reduction*). As Robeyns (2006, p. 356) herself comments, “these criteria are merely a sort of ‘check and balance’ for the fact that every policy-maker or researcher is situated in a personal context and, therefore, needs to pay special attention to avoid biases that are introduced by their (personal and disciplinary) background”.

In addition to these criteria, Alkire (2008) identifies the five most common methods adopted for selecting capabilities, used singularly or in tandem. According to her, dimensions are chosen for convenience, due to existing data, or for convention; selection can be based on implicit or explicit assumptions about what people value; the chosen list can be justified because of the legitimacy achieved through public consensus, as happened with MDGs; the list can be drawn up on the basis of participatory methods involving values and perspectives of stakeholders; and

dimensions can be justified on the basis of empirical evidence regarding people value. In any case, as also Comim (2008, p. 166) highlights, even if *a priori* specification of capabilities should be avoided, because value selection and discrimination are an intrinsic part of the CA, there are circumstances, such as those related to poverty assessment, where a compromise with an *a priori* assessment is possible.

A second problem is linked more to the measurement phase and regards the decision of whether to focus on capabilities or functioning. Clearly, opting for capabilities has a great significance, since it means enhancing the concept that every person should have the same real opportunity, even if they decide to choose for one of the possible functionings.

Nevertheless, difficulties in measuring capabilities are linked to their counterfactual nature and frequently the distinction between functionings and capabilities is often blurred or not consistently clear in some of the work carried out using the CA (Comim, 2008). This means that functioning observed is only one of the potential achievements that a person could choose, given their capability space. However, sometimes, especially when the objective is to measure well-being outcomes, focusing directly on functionings can be more appropriate. The same information on achieved functioning sometimes can be used to derive conclusions about people's capabilities (Robeyns, 2006). Such a compromise seems to be found particularly in deep poverty assessment, where, as Sen (1992, p. 66) argues, "even simple observations of the realised states may have direct relevance to the analysis of the freedom enjoyed".

A closely related aspect will be explored here concerned with missing dimensions investigated in surveys carried out by national and international institutions. In fact, even if, theoretically, researchers adopt the HDCA framework, thus considering poverty as a process of expanding the freedom that people value and have reason to value (Sen, 1999), once they have dealt with measurement, they are not able to find data relevant to the valuable dimensions of poverty, such as employment quality and empowerment. In fact, also in going beyond the dimensions

usually included in the Human Development Index (income, longevity and education), which do not cover all the dimensions of poverty, Alkire (2007) asserts that “it is at times necessary to conduct empirical studies using individual or household data level on multi-dimensional poverty”. She goes on to report, in all the most well-known surveys, such as the World Bank Living Standards and Measurement Survey (LSMS), that some important dimensions for multi-dimensional poverty are largely absent.

Thus, in order to complete such surveys with the “missing dimensions”, the Oxford Poverty Human Development Initiative (OPHI), proposes numerous indicators and related questionnaires to represent them, namely: Employment Quality (Lugo, 2007); Agency and Empowerment (Ibrahim and Alkire, 2007); Physical Safety (Diprose, 2007); The Ability to Go About Without Shame (Reyles, 2007); and Psychological and Subjective Well-being (Samman, 2007). Though such indicators and questionnaires proposed are still being elaborated, they aim at extending the questions asked in internationally-comparable individual and household surveys that are nationally representative and, thus, at supporting research and policy issues that could be analysed with this data.

Finally, regarding the issue of aggregation, two considerations should be made. The first, is that the index functioning is not always the most appropriate procedure. As Robeyns (2006, p. 357) argues: “not all applications of the capability approach require intra-personal aggregation. For example, if one’s goal is to provide a relatively fine-grained description of the distribution of well-being in a particular population, or the nature of group inequality, then that goal is often better served by *not* indexing the different functionings, as this amounts to a loss of information”. Secondly, if case indexing is appropriate, the issue of weighting has to be undertaken. In CA literature, as Robeyns (2006) reports, weighting systems can be the simple allocation of certain weights (justifying them); the derivation of weights statistically; and the use of participatory techniques in order to let the relevant group of people decide on the weights. Such weights are used for weighting different

variables into a functioning; for weighting different functioning into an individual well-being indicator, or for weighting inter-personally.

6.3 How to assess whether the co-operative actually caused any improvements in member well-being?

Beyond the methodological challenge related to the operationalisation of CA, the other methodological aspect to be taken into consideration was how to assess the outcomes as generated by participation in the co-operative. Here, the proposed analysis could be considered as an impact evaluation of the project, where the treatment group is represented by co-operative members.

As shown in relevant literature (e.g. Baker, 2000; Ravallion, 2008; Khandker *et alii*, 2010), one of the most challenging aspects of impact evaluation is related to identifying the causality between observed outcomes and program intervention, as there may be other factors or events that are correlated with outcomes, but not caused by participation in the program/project, that is here, the participation in the co-operative. Therefore, to ensure methodological accuracy, an impact evaluation must estimate the counter-factual, that is, what would have happened if the project had never taken place. This is why, in these kinds of empirical studies, comparison or control groups⁴⁷ are usually adopted in order to compare the outcomes with those found in the treatment group.

Generally, evaluation design can be based on several methodologies, which can be of experimental (randomised) or quasi-experimental (non-randomised) design.

Experimental designs, also known as randomisation, are generally considered the strongest of the evaluation methodologies. By randomly allocating the intervention among the eligible beneficiaries, the assignment process itself creates comparable treatment and control groups that are statistically equivalent to one another, given appropriate sample sizes. This is a very powerful outcome because, in

⁴⁷ The control group is made up of people who do not participate in the project under study but who are selected randomly from the same population of the treatment group, while the comparison group is simply made up of people who do not receive the treatment. However, it is of crucial importance that “both the comparison and control groups should resemble the treatment group in every way, the only difference between groups being program participation” (Baker, 2000 p.2).

theory, the control groups generated through random assignment serve as a perfect counter-factual, free from the problematic selection bias that exist in all evaluations. Clearly, this kind of methodology is not appropriate for this analysis, since co-operative membership is the result of a voluntary choice, not of some random attribution, and the evaluation carried out in this study was implemented ex-post, about twenty years after the set-up of the co-operative. Thus, for the aim of this study, quasi-experimental design techniques had to be adopted, with all their consequent difficulties.

Quasi-experimental designs are considered a second best methodological alternative and they are adopted when it is not possible to carry out an experimental design. Comparison and control groups are created after the treatment by using non-random methods. Therefore, statistical controls must be applied to address the differences between the treatment and control groups and specific matching techniques must be used to construct a control group that is as similar as possible to the treatment group. As Baker (2000) sums up, “the main benefit of quasi-experimental designs is that they can draw on existing data sources and are, thus, often quicker and cheaper to implement, and they can be performed after a program has been implemented, given sufficient existing data. The principal disadvantages of quasi-experimental techniques are that: the reliability of the results is often reduced as the methodology is less robust statistically; the methods can be statistically complex; and there is a problem of selection bias”.

There are two types of bias - those due to differences in observables or something in the data, and those due to differences in unobservables (not in the data), often called selection bias. An observable bias could include the selection criteria through which an individual is targeted, such as geographic location, school attendance, or participation in the labour market. Unobservables that may bias program outcomes could include individual ability, willingness to work, family connections, and a subjective (often politically driven) process of selecting individuals for a program. Of course, bias in this case study is not linked to selection criteria for targeting people, since as it has been already underlined, co-operative

membership is voluntary. Thus, bias is linked to observables and unobservables which can influence an individual's decision to join, or not, a co-operative, and, if not rigorously taken into account, they can lead to over-estimated or under-estimated conclusions regarding the impact of participation in a co-operative on people's well-being.

To net out the impact evaluation from the counter-factual conditions which can depend on history, selection bias, and contamination, is extremely complicated. However, relevant literature highlights the crucial role of qualitative and participatory methods in identifying the causality between outcomes and the intervention under study and to provide more information regarding the process that led to observed individual's well-being (Baker, 2000; Khandker *et alii*, 2010). In fact, findings from such qualitative methods should be triangulated with findings from quantitative methods.

Before dealing with the current debate on qualitative/quantitative methods, it is necessary to illustrate the propensity score matching technique, an econometric technique usually adopted in literature regarding project and program impact evaluation that aims at reducing bias.

6.4 Propensity Score Matching technique for impact evaluation

In order to try to assess the causal relationships between participation in a certain program/project (or in the co-operative in this case study) on selected outcomes, when participation cannot be randomised, we should try to have an observational analogue to a randomised experiment, thus, isolating the possible effects of other factors which could influence such participation, and then evaluating the difference in outcomes among the members and the control group. Co-operative members, for example, may have been already more educated before creating/joining the co-operative, therefore, an average higher level of education among members could not mean that membership has a significant effect.

In order to account for the selection bias in observables, Rosenbaum and Rubin (1983; 1985) proposed *propensity score matching* (PSM) as a method to

reduce the bias in estimating the treatment effects with observational data sets. These methods have become increasingly popular in medical trials (e.g. D’Agostino, 1998) and in the evaluation of economic policy programs (e.g. Dehejia and Wahba, 1999, 2002). The same techniques have been applied to evaluate specifically anti-poverty programs/projects (e.g. Baker, 2000; Pradhan and Rawlings, 2002; Jalan and Ravallion, 2003; Maertens and Swinnen, 2006; Ravallion, 2008; Setboonsarng and Parpiev, 2010). In a few cases the Propensity Score Matching has been used to study the impact of participation in rural co-operatives, but mainly regarding “economic” factors, such as product price and commercialization (e.g. Bernard *et al.*, 2007, in Ethiopia).

Matching methods contribute to developing a counter-factual or control group that is as similar to the member group as possible in terms of observed characteristics. Thus, the Propensity Score Matching builds a statistical comparison group by modelling the probability of participating in the co-operative on the basis of observed characteristics unaffected by the participation. Co-operative members are then matched on the basis of this probability, or propensity score, to non-participants. The average treatment effect of participation in the co-operative is then calculated as the mean difference in outcomes across these two groups (Khandker *et alii*, 2010). Therefore, summing up, this technique “corrects” the estimation of the treatment effects checking for the existence of confounding factors, based on the idea that the bias is reduced when the comparison of outcomes is performed using treated and control units who are as similar as possible. Therefore, this method proposes to summarise pre-treatment characteristics of each unit into a single-index variable, that is, the propensity score, which renders the matching feasible.

The propensity score is defined by Rosenbaum and Rubin (1983) as the conditional probability of receiving a treatment given pre-treatment characteristics:

$$p(X) \equiv \Pr\{D = 1|X\} = E\{D|X\}$$

where $D = \{0, 1\}$ is the indicator of exposure to treatment and X is the multi-dimensional vector of pre-treatment characteristics. Thus, given a population of units

denoted by i , if the propensity score $p(X_i)$ is known, the Average Effect of Treatment on the Treated (ATT) can be estimated as follows:

$$\begin{aligned}\tau &\equiv E\{Y_{1i} - Y_{0i} | D_i = 1\} \\ &= E\{E\{Y_{1i} - Y_{0i} | D_i = 1, p(X_i)\}\} \\ &= E\{E\{Y_{1i} | D_i = 1, p(X_i)\} - E\{Y_{0i} | D_i = 0, p(X_i)\} | D_i = 1\}\end{aligned}$$

where the outer expectation is over the distribution of $(p(X_i) | D_i = 1)$ and Y_{1i} and Y_{0i} are the potential outcomes in the two counter-factual situations of (respectively) treatment and non-treatment.

The Average Effect of Treatment on the Treated (ATT) can be estimated adopting various methods, such as the Nearest Neighbor Matching⁴⁸, which results in matching the treated and control units, taking each treated unit and searching for the control unit with the closest propensity score. Once each treated unit is matched with a control unit, the difference between the outcome of the treated units and the outcome of the matched control units is computed. Thus, the ATT of interest is obtained by averaging these differences (Becker and Ichino, 2002).

This method relies on two crucial assumptions, namely the Conditional Independence, also called *Unconfoundedness*, and the Common Support.

Unconfoundedness generically maintains that we have enough controls – usually pre-treatment co-variables and outcomes – so that, conditional on these controls, treatment assignment is essentially randomised (Wooldridge, 2009). This assumption requires that given a set of observable co-variables X , that are not affected by treatment, potential outcomes Y are independent of treatment assignment D . If Y_{1i} represent outcomes for participants and Y_{0i} outcomes for non-participants, conditional independence implies

$$Y_1, Y_0 \perp D \mid X$$

⁴⁸ Nearest Neighbor Matching is one of the most widely used methods proposed in literature to match units once the propensity score is computed. Let T be the set of treated units and C the set of control units, and Y_{Ti} and Y_{Ci} be the observed outcomes of the treated and control units, respectively. Denote by $C(i)$ the set of control units matched to the treated unit i with an estimated value of the propensity score of p_i . Nearest neighbor matching sets:

$$C(i) = \min_j \| p_i - p_j \|$$

Other methods are: Radius Matching, Kernel Matching and Stratification Matching (See Becker and Ichino, 2000)

Then, assignment to treatment is unconfounded given the propensity score, i.e.

$$Y1, Y0 \perp D \mid p(X)$$

The assumption of Common Support, or Overlap, concerns the similarity of the co-variate distributions for the treated and untreated groups. It implies that

$$D \perp X \mid p(X).$$

When this assumption is satisfied, observations with the same propensity score must have the same distribution of observable (and unobservable) characteristics independent of the treatment status. In other words, for a given propensity score, exposure to treatment is random and, therefore, treated and control units should be on average observationally identical (Becker and Ichino, 2002).

On its own, propensity score matching is useful when only observed characteristics are believed to affect program participation, however, this characteristic also represents its main limitation. Unconfoundedness is fundamentally untestable, thus, this condition requires the careful examination of the causality connection between participation and outcomes. As already pointed out in § 6.3, mixed methods represent a significant contribution.

6.5 Quantitative or qualitative methods? Towards achievable complementarities

The debate between advocates of quantitative methods and qualitative ones in poverty analysis is widespread. Nonetheless, in the last decade literature regarding the importance and convenience of merging the two approaches has developed (e.g. Carvalho and White, 1997; White, 2002; Kanbur, 2003). In fact, while quantitative approaches have been dominant, especially in policy-making circles, the use of qualitative approaches has been increasing. Surely, the perception that quantitative techniques provide more “rigor” than qualitative techniques is especially widespread among economists, and probably, it is particularly true for scholars interested in monetary poverty rather than those concerned with its multi-dimensionality (e.g. White, 2002; Sahn, 2003).

However, a first fundamental element of the debate concerns the meaning attributed to the terms of “qualitative” and “quantitative”. As Kanbur (2003) sums

up, the general picture we have in mind regarding “Qualitative” or “Quantitative” in a general sense is as following: analyses which are based on non-numerical information, which are specific and targeted in their population coverage, which in their design require active involvement of the population covered, which use inductive methods of inference and which operate in the broad framework of social sciences other than economics, we tend to label as “Qualitative”; instead, those which are based on numerical information, which are general in their population coverage, which require only passive involvement of the population covered, which use deductive (usually statistical) methods of inference and which rely on the neo-classical economic framework, we tend to label as “Quantitative.”

Beyond such generalisations, we can find many examples in situations which mix and match techniques. For example, Kanbur (2003) proposes five dimensions we should keep in mind when addressing qualitative-quantitative methods. The dimensions, which capture most of the key features of information collection and analysis, are:

1. Type of Information on Population: Non-Numerical to Numerical.
2. Type of Population Coverage: Specific to General.
3. Type of Population Involvement: Active to Passive.
4. Type of Inference Methodology: Inductive to Deductive.
5. Type of Disciplinary Framework: Broad Social Sciences to Neo-classical Economics.

In fact, for instance, general household surveys (usually labelled as quantitative) can collect non-numerical (thus, labelled as qualitative) information while participatory methods can also generate numerical data.

Surely, both “qualitative” and “quantitative” methods have their strengths as well as weaknesses.

Thus, the key is, as Kanbur (2003) asserts, how to make the best of complementarities while minimising trade-offs. When considering ways to combine quantitative and qualitative methods and data, it is important to be aware of their comparative advantages and to recognise that ‘strong fences make good neighbours’

(Appleton and Booth, 2005). In short, while quantitative methods produce data that can be aggregated and analysed to describe and predict relationships, qualitative research can help to probe and explain those relationships and to explain contextual differences in the quality of those relationships. Qualitative research is able to use social analytical frameworks to interpret observed patterns and trends—including analysis of socially differentiated outcomes—and to analyse poverty as a dynamic process rather than a static outcome (Garbarino and Holland, 2009).

Finally, from this viewpoint, it is broadly recognised that there has been limits to how much of such “simultaneous mixing” could be done without losing the essence and the strengths of both methods. Sequential mixing and integration between the results of the two approaches seem to be more appropriate (Kanbur, 2003).

6.6 Capability Approach and Participatory Methods

According to Alkire (2008) “the capability approach engages with and draws upon a plethora of methodologies and analytical techniques. (...) [It] can draw on quantitative, qualitative, participatory, or subjective data”. Surely, since the CA entails concern for the multi-dimensionality of poverty, household surveys should deal both with quantitative and qualitative variables. Furthermore, the CA has been particularly advanced by participatory methods (Duraiappah, Roddy and Parry, 2005).

Participatory methods have become central tools for community development since their introduction in the 1970s. A particular set of participatory methods, evolved in the early 1990s, is represented by the Participatory Rural Appraisal, that Chambers (1997) describes as “a growing family of approaches and methods to enable local people to share, enhance and analyse their knowledge of life and conditions, and to plan, act, monitor and evaluate”. Among these methods, there are included group activities, visual diagrams and mapping.

Specifically, participatory methods share with the CA the critique of income as the only definition of poverty, the view of people as active agents, and the contextualisation of poverty (Frediani, 2006).

Regarding the comparison between participatory methods and Sen's capability approach, Alkire (2002a) identifies four major issues in common:

1. They aim at obtaining outcomes that people value while empowering participants;
2. They consider the issue of 'who decides' as important as 'what is decided';
3. They recognise that the process might not identify a 'best' choice, but that discussion is an effective means of separating the 'better' from 'worse' choices;
4. And reasoned deliberation is supported as an explicit and valid method for evaluating and making policy.

Thus, innovative combination between participatory methods and CA have been experimented with over the last years. These qualitative and participatory techniques are often used alongside quantitative techniques at every stage – in the selection of dimensions, in the triangulation of findings, in the identification of research hypotheses, and in the mobilisation of a local response to deprivation (Deneulin and Shahani, 2009).

Interesting applications of participatory methods in the CA can be found in literature. Some examples include: Alkire (2002a), who used them both for the selection of the functioning and also for the assessment of well-being changes after project implementation in Pakistan; Frediani (2007), who used them (and, particularly, the card game) to identify housing freedom and to evaluate the impact on them of a squatter upgrading programme in Salvador da Bahia, Brazil; and finally, Biggeri, who used participatory methods for identifying a tentative list of important capabilities for children (Biggeri *et alii*, 2006), for involving children in the evaluation of their well-being, including the evaluation of services they are provided with in India (Biggeri and Bonfanti, 2009) and collecting information on children's

living conditions and experiences on the streets in Uganda, triangulating them with an ad hoc survey (Biggeri and Anich, 2009).

6.7 Adopted methodology

As previously outlined, both types of literature on the measurement of capabilities and on impact evaluation recognise the importance in overcoming the fierce cross-discipline debate on the value of different data collection methods, namely qualitative and quantitative methods. Indeed, it is clearly recognised that, due to the complexity and multi-dimensionality of concepts such as capabilities, and the difficulty in identifying differences in individual well-being as a consequence of participation in a project (that is, being member of a co-operative in this case study), in most situations a mix of data collection tools provides a more reliable and complete picture of the phenomenon under study (Baker, 2000; Narayan, 2005; Comim, 2008).

Thus, due to these considerations, the empirical work adopted in this study was both qualitative and quantitative, divided into the following sequences:

1. **Drawing up the draft questionnaire** (Annex A), based on questions adopted in LSMS and in studies published by Oxford Poverty Human Development Initiative. The questionnaire has been drawn up under the supervision of the OPHI staff, mainly Dr. Sabina Alkire and Dr. Emma Samman. The questionnaire is divided into 7 sections: section 1 and 2 regard general information on the people interviewed, education included; section 3, work and assets holding; section 4, health; section 5, participation in the co-operative and, generally speaking, local organisations; section 6, participation in community life; and section 7 regards individual achievements and aspirations. The chosen dimensions of poverty regarded basic capabilities, such as education, health, access to sanitation and shelter, decent work. Moreover, beyond such relative questions drawn up in line with LSMS and surveys on micro- assessment adopting CA (e.g. Pillai and Alkire, 2007) and more contextualised

questions regarding participation in the co-operative and information on the Babaçu economy, some questions extracted from “missing dimensions” were added, about the quality of work (Lugo, 2007) and participation in household decision-making in the domains of health, household expenditure, children’s education and tasks at work (Ibrahim and Alkire, 2007).

2. **Identification of population to be analysed and extracting the sample and relative control group.** The population regards rural workers who live in the communities where the co-operative under study operates. They are men and women, who share the household with a partner (where at least one of them is the head of the household), whose main job is linked to co-operative activity and who hold some of the characteristics which are considered important to participate in the co-operative. A simple random sampling was adopted with a significance of 8%. Specific details are provided in § 7.1.
3. **Discussion of selected capabilities with the local community.** In line with Robeyns and Alkire suggestions (see § 6.2), the selected capabilities were discussed with local communities through a focus group. This focus group was held in the community of Ludovico with 10 members of the co-operative participating. Participants were asked to draw a map of their values, placing themselves at the centre, surrounded by what they felt to be more important in their daily lives, while at the outer extremities what they felt to be less important or more distant from their values. This activity was used as a starting point for fostering a debate and, thus, for identifying the valued dimensions of well-being. The identified dimensions made it possible to draw up the final version of the survey questionnaire and to prepare cards used in the adopted participatory method, that is, the card game.
4. **Drawing up the final version of the questionnaire and testing through a pilot survey.** The final version of the questionnaire was also approved

by the personnel of ASSEMA NGO and the Board Members of the COPPALJ. The questionnaire was tested through a pilot survey in the community of Ludovico. Furthermore, a staff of 6 high-school and university students (children of co-operative members) were trained to provide assistance in carrying out the field work.

5. **Carrying out the survey.** The survey was carried out from November to December 2008 in 6 communities of the municipality of Lago do Junco, where the co-operative operates. In total, 63 members and 84 non-members were interviewed.
6. **Use of the card game.** This is a participatory method used in order to explore the impact of the co-operative on valued capabilities⁴⁹. The author was trained to use this technique in the International Workshop “Children’s Capabilities and Project Why”, held in Delhi, on 4-9 September 2008, promoted by the Human Development and Capability Association Thematic Groups, respectively on Participatory Methods and on Children’s Capabilities. The technique was used with 4 groups: two with co-operative members (one with only women, one with both women and men); one with a control group (both with women and men); and one with a comparison group (only women from the community of Riachão, a community where there are no co-operatives).
7. **Interviews with key members of the co-operative.** Seven co-operative members, holding (or who had held) managerial positions were interviewed through open interviews. Answers were recorded but not codified.
8. **Data Analysis** triangulating the survey findings obtained by elaborating the dataset through the application of Propensity Score Matching, with qualitative findings obtained through the participatory technique and open interviews.

⁴⁹ A first application of the card game in CA is found in Frediani (2007).

CHAPTER SEVEN

SAMPLE DESCRIPTION AND CHOSEN VARIABLES

7.1 Population and sample size

According to the IBGE census (2000), in the Municipality of Lago do Junco there are 9,833 inhabitants, with a male population of 5,007 units, and a female of 4,826 units. There are 2,297 households in the municipality, 80% with a man as the family head, and in 96% of these cases, the household is shared with a female partner. In the residual households led by a woman, only in 4% of cases is there also a man. It means that women mainly head the households in the absence of a man. Thus, according to this data, 78% of the households in the municipality have both partners present.

As already shown in § 5.4, COPPALJ is active in six rural communities of the Municipality of Lago do Junco, namely Ludovico, São Manoel, Centrinho de Acrisio, Centro de Aguiar, Santa Zita and Sitio Novo. In these communities there are 377 households. For the sample, we assumed that the male and female population in these communities is distributed as for the population in the municipality. The same assumption was made regarding the distribution of households where both the man and the woman are present. In fact, units of our survey are men and women who share the household with his/her spouse and that are members (for the members group) or potentially members (for the control group) of the co-operative. Population and sample size are listed in table 7.1. The population of co-operators is 78% of COPPALJ members. The population of the control group is made up of men and women of 78% of households in the communities (377), where the population of co-operators was subtracted.

Finally, sample weights⁵⁰ were used to make population estimates from the survey sample. Even if the sample was designed with a significance of 8%, in

⁵⁰ Sampling weights are adjustment factors applied to each case in tabulations to adjust for differences in probability of selection and interviews between the cases in a sample, either due to design or happenstance

carrying out the survey, it was not possible to interview all the desired units due to time and weather constraints. In particular, the number of men in the control group would have been under-estimated without using the sample weights.

According to the statutes of COPPALJ, co-operative members can be small-scale farmers and “quebradeiras de coco babaçu” - rural workers called Babaçu Breaker Women linked to the agro-forestry activities of the Babaçu Palm.

Units of the co-operative member group were selected through a simple random sampling. Units of the control group were selected from among people living in the same communities and with the same characteristics considered important in becoming a potential co-operative member. Thus, they did not hold land or they held only up to 10 hectares; their main work was related to agriculture and/or the agro-forestry activity of the Babaçu palm; and they lived with their own partner and the couple (or one of partners) was the head of the household.

Table 7.1. Population and sample size

	Co-operative members group		Sample weights	Control group		Sample weights
	N	n		N	n	
Men	46	29	1.6	254	21	12.1
Women	60	34	1.8	228	63	3.6
Total	106	63		482	84	

The average age was 44.4 for co-operators and 35.4 for the control group, as shown in table 7.2. It was assumed that all units were married or shared the household with a partner (Table 7.3). Table 7.4 shows the respondents’ religious belief (the majority affiliated to the Catholic Church, an aspect that they considered very important, also for their socio-economic organizational life, as will be explained in Chapter 8). The sample distribution according to communities is shown in table 7.5. Finally, three last tables show respondents’ main employment, average hectares of land they cultivate and relative land entitlements. Information from the first two tables will confirm the assumption (units were small-scale farmers and Babaçu

breaker women, cultivating land less than 10 hectares). The last table provides further information showing that there is a higher percentage of co-operators (86.1%) owning their land, compared to non- co-operators (66.5%).

Table 7.2 Average age of men and women co-operators and control group

Members of COPPALJ	Sex	Mean	N	Std. Deviation
Yes	Woman	41,9	60	13,0
	Man	48,0	41	13,7
	Total	44,4	101	13,6
No	Woman	34,0	228	10,6
	Man	36,6	254	15,1
	Total	35,4	482	13,2
Total	Woman	35,7	288	11,6
	Man	38,2	295	15,4
	Total	36,9	583	13,7

Table 7.3 Civil status of men and women co-operators and control group

Members of COPPALJ				Civil Status		Total
				Married	Cohabitant	
Yes	Sex	Woman	Count	39	21	60
			% within Sex	65,0%	35,0%	100,0%
	Man		Count	40	6	46
			% within Sex	87,0%	13,0%	100,0%
	Total		Count	79	27	106
			% within Sex	74,5%	25,5%	100,0%
No	Sex	Woman	Count	105	123	228
			% within Sex	46,1%	53,9%	100,0%
	Man		Count	109	145	254
			% within Sex	42,9%	57,1%	100,0%
	Total		Count	214	268	482
			% within Sex	44,4%	55,6%	100,0%

Table 7.4. Respondents' religious belief

Members of COPPALJ				Religion		Total
				Catholic	Evangelical	
Yes	Sex	Woman	Count	60		60
			% within Sex	100,0%		100,0%
	Man		Count	46		46
			% within Sex	100,0%		100,0%
	Total		Count	106		106
			% within Sex	100,0%		100,0%
No	Sex	Woman	Count	221	7	228
			% within Sex	96,9%	3,1%	100,0%
	Man		Count	206	36	242
			% within Sex	85,1%	14,9%	100,0%
	Total		Count	427	43	470
			% within Sex	90,9%	9,1%	100,0%

Table 7.5 Sample distribution among communities

Members of COPPALJ				Community of Residence						Total
				Ludovico	Sao Manoel	Centrinho da Acrisio	Santa Zita - Bertulino	Centro de Aguiar	Sítio Novo	
Yes	Sex	Woman	Count	21	7	16	11	4	2	61
			% within Sex	34,4%	11,5%	26,2%	18,0%	6,6%	3,3%	100,0%
	Man		Count	6	11	10	10	6	2	45
			% within Sex	13,3%	24,4%	22,2%	22,2%	13,3%	4,4%	100,0%
	Total		Count	27	18	26	21	10	4	106
			% within Sex	25,5%	17,0%	24,5%	19,8%	9,4%	3,8%	100,0%
No	Sex	Woman	Count	51	40	22	36	47	33	229
			% within Sex	22,3%	17,5%	9,6%	15,7%	20,5%	14,4%	100,0%
	Man		Count	12	48	12	48	97	36	253
			% within Sex	4,7%	19,0%	4,7%	19,0%	38,3%	14,2%	100,0%
	Total		Count	63	88	34	84	144	69	482
			% within Sex	13,1%	18,3%	7,1%	17,4%	29,9%	14,3%	100,0%

Table 7.6 Main occupation

Sex				Main occupation		Total
				Small farmer	Quebradeira/or	
Woman	Member of COPPALJ	Yes	Count	7	53	60
			% within Member of COPPALJ	11,7%	88,3%	100,0%
		No	Count	18	210	228
			% within Member of COPPALJ	7,9%	92,1%	100,0%
	Total		Count	25	263	288
			% within Member of COPPALJ	8,7%	91,3%	100,0%
Man	Member of COPPALJ	Yes	Count	44	2	46
			% within Member of COPPALJ	95,7%	4,3%	100,0%
		No	Count	254	0	254
			% within Member of COPPALJ	100,0%	,0%	100,0%
	Total		Count	298	2	300
			% within Member of COPPALJ	99,3%	,7%	100,0%

Table 7.7 Average land size (he)

Member of COPPALJ	Mean	N	Std. Deviation
Yes	2,1	92	3,8
No	1,5	404	1,3
Total	1,6	496	2,0

Table 7.8 Land entitlement

			Entitlement		Total
			Owned	Rented/others	
Member of COPPALJ	Yes	Count	87	14	101
		% within Member of COPPALJ	86,1%	13,9%	100,0%
	No	Count	280	141	421
		% within Member of COPPALJ	66,5%	33,5%	100,0%
Total		Count	367	155	522
		% within Member of COPPALJ	70,3%	29,7%	100,0%

7.2 Selected indicators and variables

As explained in §6.7, the questionnaire was devised in order to collect information on dimensions that, in the theoretical framework, were considered to be relevant in evaluating the impact that participation in the co-operative could have on an individual's well-being. The same dimensions were subjected to evaluation and debate by the local population during the focus group meeting.

Therefore, chosen variables provide information on basic capabilities, such as education, nutrition, health, shelter and sanitation, access to land, decent work and more complex capabilities, such as, participation in household decision-making and participation in the community life contributing with voluntary work. The majority of related variables will be tested through econometrics methods. In the following these variables will be described and the outcomes will also be provided regarding frequencies and contingent tables, studying the possible correlation between each variable and co-operative membership.

7.2.1 Education

This capability was evaluated using two variables. The first, is a dummy and regards the effective achievement of being able to read, write and count. The second, was asked as a nominal variable, regarding the educational level attained. For the data analysis, this variable was transformed into in a numerical point, considering for the incomplete level, the average years for that level of education.

A) *Do you know how to read/write?*

Codes: Yes[1]; No [2];

B) *What educational level have you reached at the moment?*

Codes: No education / illiterate [1]; Literate – can just read / write [2]; Elementary - incomplete(According to the Brazilian educational system, it refers to the “Ensino primario”) [3]; Elementary – completed [4]; Secondary – incomplete (according to the Brazilian educational system, it refers to the “Segundo grau”) [5]; Secondary – completed [6]; University [7];

Substantially, co-operative members able to read and write are 11.4% more than non-members. This percentage difference increases for women, up to 22.9%, while no difference exists among men (table 7.9). Looking at years of schooling, co-operators studied on average 4.7 years and non-co-operators 4.3, being the mean difference non-statistically significant in accordance with T-test.

Table 7.9 Ability to read and write

Sex				Ability to read and write		Total
				Yes	No	
Woman	Member of COPPALJ	Yes	Count	49	11	60
			% within Member of COPPALJ	81,7%	18,3%	100,0%
		No	Count	134	94	228
			% within Member of COPPALJ	58,8%	41,2%	100,0%
	Total		Count	183	105	288
			% within Member of COPPALJ	63,5%	36,5%	100,0%
Man	Member of COPPALJ	Yes	Count	35	11	46
			% within Member of COPPALJ	76,1%	23,9%	100,0%
		No	Count	194	60	254
			% within Member of COPPALJ	76,4%	23,6%	100,0%
	Total		Count	229	71	300
			% within Member of COPPALJ	76,3%	23,7%	100,0%

Chi-Square Tests					
Sex		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Woman	Pearson Chi-Square	10,748 ^a	1	,001	
	N of Valid Cases	288			
Man	Pearson Chi-Square	,002 ^b	1	,966	
	N of Valid Cases	300			

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 21,88.

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 10,89.

Table 7.10 Average of schooling years

Group Statistics				
	Member of COPPALJ	N	Mean	Std. Deviation
Year of schooling	Yes	106	4,7	4,1
	No	482	4,3	3,8

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
									95% Confidence Interval of the Difference
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower
Year of schooling	Equal variances assumed	1,039	,309	,965	586	,335	,398	,413	-,412
	Equal variances not assumed			,911	145,997	,364	,398	,437	-,466

7.2.2 Nutrition

Since the basic daily diet in rural communities in Brazil is rice and beans, this indicator aims at identifying the capability that households of interviewed people have to diversify their diet. As all households eat rice and beans seven days per week, they were asked how often they eat meat/fish and vegetables/fruits. These are numerical variables.

A) <i>How many times per week in your household do you eat meat/fish?</i>	B) <i>How many times per week in your household do you eat vegetables/fruit?</i>
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As the tables below show, the mean difference is statistically significant both for the meat/fish variable and for the vegetables/fruit one. It was found that co-operators eat meat/fish 1.3 days more than non-co-operators, and 0.6 more regarding vegetables/fruit.

Table 7.11 Times per week meat/fish consumed in the household

Group Statistics									
		Member of COPPA LJ	N	Mean	Std. Deviation	Std. Error Mean			
Times per week meat/fish consumed	Yes		106	4,8	1,9	,2			
	No		482	3,5	1,6	,1			

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
									95% Confidence Interval of the Difference
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower Upper
Times per week meat/fish consumed	Equal variances assumed	19,523	,000	7,059	586	,000	1,2702	,1799	,9168 1,6235
	Equal variances not assumed			6,313	139,294	,000	1,2702	,2012	,8723 1,6680

Table 7.12 Times per week fruit/vegetables consumed in the household

Group Statistics					
	Member of COPPA LJ	N	Mean	Std. Deviation	Std. Error Mean
Times per week	Si	106	3,6	2,2	,2
fruits/vegetables consumed	No	482	2,8	1,9	,1

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
										95% Confidence Interval of the Difference
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Times per week	Equal variances assumed	12,622	,000	3,491	586	,001	,7372	,2112	,3225	1,1520
fruits/vegetables consumed	Equal variances not assumed			3,169	141,062	,002	,7372	,2326	,2774	1,1971

7.2.3 Health

This well-being dimension has been investigated, on the one hand, by analysing the respondents' health status, and on the other hand, their possibility to access health care. The questions asked were the following:

A) *In the last 12 months, have you suffered from any illness, disability or other physical or mental health problem?*

Codes: Yes [1]; No [2]; I don't know [3]

B) *How did you or would you respond to a serious health problem for yourself or your family?*

Codes: Do nothing [1]; Go to a health centre [2]; Go to a "rezador" [3]; Go to a public hospital [4]; Go to a private hospital [5] Other [6]

The descriptive analysis shows that there is not a statistically significant correlation between membership and health status (table 7.13). Though, a correlation emerges when analysing access to health care. In fact, specifically as table 7.15 shows, a higher percentage of members can access more appropriate health care, namely public and private hospitals, while very few of them (less than 8%) have access to non-appropriate health care, i.e. not having access at all, but referring to a *rezador* (literally, somebody who prays, i.e. local people pretending to be medicine men but having bad reputations, they are locally considered quacks). Interestingly, as table 7.14 shows, a higher percentage of members can access private hospitals, considered the best option for severe health problems.

Table 7.13 Health problems had in last year

			In the last 12 months, have you suffered from any illness		Total
			Yes	No	
Member of COPPALJ	Yes	Count	55	51	106
		% within member of COPPALJ	51,9%	48,1%	100,0%
	No	Count	225	257	482
		% within member of COPPALJ	46,7%	53,3%	100,0%
Total		Count	280	308	588
		% within member of COPPALJ	47,6%	52,4%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,944 ^a	1	,331		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 50,48

Table 7.14 Access to health care

			How did you or would you respond to a serious health problem for yourself or your family?						
			nothing	health centre	"rezador"	public hospital	private hospital	other	
Member of COPPALJ	Yes	Count	0	8	0	71	24	2	105
		% within Member of COPPALJ	,0%	7,6%	,0%	67,6%	22,9%	1,9%	100,0%
	No	Count	4	87	19	325	31	0	466
		% within Member of COPPALJ	,9%	18,7%	4,1%	69,7%	6,7%	,0%	100,0%
Total		Count	4	95	19	396	55	2	571
		% within Member of COPPALJ	,7%	16,6%	3,3%	69,4%	9,6%	,4%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43,765 ^a	5	,000
N of Valid Cases	571		

a. 5 cells (41,7%) have expected count less than 5. The minimum expected count is ,37.

Table 7.15 Access to appropriate/not appropriate health care

			Access to health care		Total
			Appropriate (Hospital)	Not appropriate	
Member of COPPALJ	Yes	Count	96	8	104
		% within Member of COPPALJ	92,3%	7,7%	100,0%
	No	Count	356	110	466
		% within Member of COPPALJ	76,4%	23,6%	100,0%
Total		Count	452	118	570
		% within Member of COPPALJ	79,3%	20,7%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	13,115 ^a	1	,000		
N of Valid Cases	570				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 21,53

7.2.4 Shelter and sanitation

These variables evaluated the quality of shelter, sanitation and water facilities of sample units' households.

Poor shelters in the region usually are made from mud and Babaçu fiber, a better shelter has a tiled roof and the best shelter is made using bricks and tiles. However, the second option is considered by local people to be a decent shelter.

Concerning sanitation, some households have no sanitary facilities and use the surrounding land or neighbours' facilities. The most frequently installed sanitary facilities are latrines or, facilities connected to a septic tank.

For water sanitation, there are two possibilities: piped water to the individual household or water drawn from a well. The questions involved:

A) Typology of shelter

Codes: Bricks and Tiles[1]; Mud and tiles [2]; mud and straw [3]

B) Typology sanitary services

Codes: Septic tank [1]; Latrine [2]; None [3]

C) Typology of water sanitation

Codes: Pipe [1]; Well [2];

For the shelter typology, co-operators exhibit a better situation than non-co-operators, with decent housing in 71.4% of the cases compared to the latter with 55.6% (Table 7.16-7.17). Regarding sanitation facilities, 21.1% of non-co-operator households have no facilities compared to 6.6% for co-operator homes (Table 7.18). Finally, pipe water is provided to 25.5% of co-operator households compared to 7.7% of non-co-operator homes (Table 7.19).

Table 7.16 Typology of shelter

			Shelter Typology			Total
			Bricks and tiles	Mud and tiles	Mud and straw	
Member of COPPALJ	Yes	Count	27	48	30	105
		% within Member of COPPALJ	25,7%	45,7%	28,6%	100,0%
	No	Count	93	175	214	482
		% within Member of COPPALJ	19,3%	36,3%	44,4%	100,0%
Total	Count		120	223	244	587
	% within Member of COPPALJ		20,4%	38,0%	41,6%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8,942 ^a	2	,011
N of Valid Cases	587		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 21,47.

Table 7.17 Typology of shelter, classified as decent (answers code 1-2) and not decent (answers code 3).

			Shelter		Total
			Decent	Not decent	
Member of COPPALJ	Yes	Count	76	30	106
		% within Member of COPPALJ	71,7%	28,3%	100,0%
	No	Count	268	214	482
		% within Member of COPPALJ	55,6%	44,4%	100,0%
Total		Count	344	244	588
		% within Member of COPPALJ	58,5%	41,5%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9,273 ^a	1	,002		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 43,99.

Table 7.18 Toilet facilities

			Toilet facilities		Total
			present	not present	
Member of COPPALJ	Yes	Count	99	7	106
		% within Member of COPPALJ	93,4%	6,6%	100,0%
	No	Count	377	101	478
		% within Member of COPPALJ	78,9%	21,1%	100,0%
Total		Count	476	108	584
		% within Member of COPPALJ	81,5%	18,5%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12,145 ^a	1	,000		
N of Valid Cases	584				

Table 7.19 Water sanitation

			Water sanitation		Total
			Well	Pipe	
Member of COPPALJ	Yes	Count	79	27	106
		% within Member of COPPALJ	74,5%	25,5%	100,0%
	No	Count	441	37	478
		% within Member of COPPALJ	92,3%	7,7%	100,0%
Total		Count	520	64	584
		% within Member of COPPALJ	89,0%	11,0%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	27,953 ^a	1	,000		
N of Valid Cases	584				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 11,62.

7.2.5 Decent work

As already investigated in § 4.2, according to the ILO, Decent Work involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organise and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.

Three groups of variables were selected here, each of them analysing an aspect of decent work. A first group is related to protection at work, mainly referring to social protection. A second group refers to safety in the workplace, mainly referring to the capability to be able to protect the worker physically from exposure to danger. A third group is related to the workers' psychological well-being and is related to the capability to express personal abilities and to be respected in the workplace. Economic variables, such as income and commodity prices, have not been considered here since they are already documented outcomes (cfr. § 5.4).

1) Protection at work

A) For this work, do you receive a retirement pension?

Codes: Yes [1]; No [2];

B) For this work, will you receive a retirement pension?

Codes: Yes [1]; No [2];

C) Did you borrow money in the past three year?

Codes: Yes [1]; No [2];

D) Which source did you borrow from?

Codes: Co-operative [1]; Bank [2]; Family/Friends [3]; Others [4]

E) How did you use the loan?

Codes: Production [1]; Health [2]; Education [3]; Food [4]; House [5];
Other[6];

F) If you were to be severely affected by a negative shock to your income-generating activity (such as a drastic fall in demand/price of your good, drought or flood affecting your crops, death or theft of your livestock, loss of your employment, or business failure) what would be your response to try to maintain your welfare level?(list up to 3 by order of importance)

Codes: Spend saving or sell assets/land[1]; Start a new activity/ look for a new job[2]; Borrow money from family or friends [3]; Borrow money from co-operative [4]; Receive money from banks [5]; Other members of HH previously not working go to work [6]; Reduce consumption[7]; Do nothing[8]; Other[9]

As shown in table 7.20, there is no difference in the percentage of receiving a retirement pension between co-operators and non-co-operators. However, those co-operators who have not yet accessed their pensions, seem to be more confident in receiving it in the future compared to non-co-operators (Table 7.21).

Table 7.20 Receiving a retirement pension

			Receiving retirement pension		Total
			Yes	No	
Member of COPPALJ	Yes	Count	22	84	106
		% within Member of COPPALJ	20,8%	79,2%	100,0%
	No	Count	97	385	482
		% within Member of COPPALJ	20,1%	79,9%	100,0%
Total		Count	119	469	588
		% within Member of COPPALJ	20,2%	79,8%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,021 ^a	1	,884		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 21,45.

Table 7.21 Being confident to receive a retirement pension in the future

			Being confident to receive a retirement pension in the future		Total
			Yes, probably	Not probably	
Member of COPPALJ	Yes	Count	71	11	82
		% within Member of COPPALJ	86,6%	13,4%	100,0%
	No	Count	278	108	386
		% within Member of COPPALJ	72,0%	28,0%	100,0%
Total		Count	349	119	468
		% within Member of COPPALJ	74,6%	25,4%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7,566 ^a	1	,006		
N of Valid Cases	468				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 20,85.

Regarding access to credit, the interviewees were asked whether they had received a loan in the last three years. This variable result highly correlated with co-operative membership. The majority of members borrowed money from the bank, while the majority of non-members from family or friends. Moreover, the majority of members invested the loan in their production, while the majority of non-members used it to cover health expenses (tables 7.22-7.23-7.24). Furthermore, as showed in tables 7.25-7.26-7.27, the majority of co-operators and non-co-operators identified the same first and third choice to cope with a negative shock that could affect their

income, namely spending savings or selling assets/land as a first choice and reducing consumption as a third choice. Interesting findings concern the second choice. In fact, the majority of co-operators would borrow money from the co-operative, while non-co-operators would borrow from family or friends. Thus, such qualitative findings suggest that co-operatives could work for members also as a social protection network.

Table 7.22 Loans borrowed in the last three year

			Did you borrow money in the past three year?		Total
			Yes	No	
Member of COPPALJ	Yes	Count	69	37	106
		% within Member of COPPALJ	65,1%	34,9%	100,0%
	No	Count	227	255	482
		% within Member of COPPALJ	47,1%	52,9%	100,0%
Total		Count	296	292	588
		% within Member of COPPALJ	50,3%	49,7%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11,260 ^a	1	,001		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 52,64.

Table 7.23 Source of loaning

			Source of loaning				Total
			Co-operative	Bank	Family or friends	Other	
Member of COPPALJ	Yes	Count	15	31	20	4	70
		% within Member of COPPALJ	21,4%	44,3%	28,6%	5,8%	100,0%
	No	Count	7	92	100	28	227
		% within Member of COPPALJ	3,1%	40,5%	44,1%	12,3%	100,0%
Total		Count	22	123	120	32	297
		% within Member of COPPALJ	7,4%	41,4%	40,4%	10,8%	100,0%

Table 7.24 Use of loan

			Use of loan						Total
			production	health	education	nutrition	shelter	other	
Member of COPPALJ	Yes	Count	28	14	6	5	10	7	70
		% within Member of COPPALJ	40,0%	20,0%	8,6%	7,1%	14,3%	10,0%	100,0%
	No	Count	74	100	0	16	27	39	256
		% within Member of COPPALJ	28,9%	39,1%	,0%	6,3%	10,5%	15,2%	100,0%
Total		Count	102	114	6	21	37	46	326
		% within Member of COPPALJ	31,3%	35,0%	1,8%	6,4%	11,3%	14,1%	100,0%

Table 7.25 Response to a negative shock on income: first choice⁵¹

		Response to a negative shock on income: first choice								Total
		1	2	3	4	5	6	7	8	
Member of COPPALJ	Yes Count	32	10	22	18	5	2	17	0	106
	% within Member of COPPALJ	30,2%	9,4%	20,8%	17,0%	4,7%	1,9%	16,0%	,0%	100,0%
	No Count	129	83	72	24	51	31	63	28	481
	% within Member of COPPALJ	26,8%	17,3%	15,0%	5,0%	10,6%	6,4%	13,1%	5,8%	100,0%
Total	Count	161	93	94	42	56	33	80	28	587
	% within Member of COPPALJ	27,4%	15,8%	16,0%	7,2%	9,5%	5,6%	13,6%	4,8%	100,0%

Table 7.26 Response to a negative shock on income: second choice

		Response to a negative shock on income: second choice								Total
		1	2	3	4	5	6	7	8	
Member of COPPALJ	Yes Count	2	24	18	30	5	10	9	2	100
	% within Member of COPPALJ	2,0%	24,0%	18,0%	30,0%	5,0%	10,0%	9,0%	2,0%	100,0%
	No Count	65	69	103	27	31	30	57	0	382
	% within Member of COPPALJ	17,0%	18,1%	27,0%	7,1%	8,1%	7,9%	14,9%	,0%	100,0%
Total	Count	67	93	121	57	36	40	66	2	482
	% within Member of COPPALJ	13,9%	19,3%	25,1%	11,8%	7,5%	8,3%	13,7%	,4%	100,0%

⁵¹ Codes (valid also for tables 3.23 and 3.24): Spend saving or sell assets/land[1]; Start a new activity/ look for a new job[2]; Borrow money from family or friends [3]; Borrow money from co-operative [4]; Receive money from banks [5]; Other members of HH previously not working go to work [6]; Reduce consumption[7]; Do nothing[8]; Other[9]

Table 7.27 Response to a negative shock on income: third choice

		Response to a negative shock on income: third choice								Total
		1	2	3	4	5	6	7	8	
Member of COPPALJ	Yes Count	9	5	5	10	3	7	25	2	66
	% within Member of COPPALJ	13,6%	7,6%	7,6%	15,2%	4,5%	10,6%	37,9%	3,0%	100,0%
	No Count	4	39	23	0	14	7	118	0	205
	% within Member of COPPALJ	2,0%	19,0%	11,2%	,0%	6,8%	3,4%	57,6%	,0%	100,0%
Total	Count	161	13	44	28	10	17	14	143	2
	% within Member of COPPALJ	27,4%	4,8%	16,2%	10,3%	3,7%	6,3%	5,2%	52,8%	,7%

2) Safety at work

A) *Thinking about the place you work, please indicate if the following hazards are present, not present or you don't know:*

- *exposure to harmful chemical without protection*
- *uncomfortable work posture*
- *intimidation or physical or verbal abuse by work colleagues or public*

Codes: Present [1]; Not present or don't know [2]

The following table shows that almost all interviewed members (93.4%) and the majority of non-members (86.3%) declared they were not exposed to harmful chemicals. Furthermore, about the same percentage (approx. 85%) of members and non-members declared to work adopting an uncomfortable posture and a similar high percentage declared they were not intimidated or abused in the workplace.

Table 7.28 Exposure to harmful chemicals without protection

			exposure to harmful chemicals without protection		Total
			Present	Not present	
Member ofCOPPALJ	Yes	Count	7	99	106
		% within Member of COPPALJ	6,6%	93,4%	100,0%
	No	Count	66	416	482
		% within Member of COPPALJ	13,7%	86,3%	100,0%
Total		Count	73	515	588
		% within Member of COPPALJ	12,4%	87,6%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,016 ^a	1	,045		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 13,16.

Table 7.29 Uncomfortable working posture

			Uncomfortable working posture		Total
			Present	Not present	
Member of COPPALJ	Yes	Count	91	15	106
		% within Member of COPPALJ	85,8%	14,2%	100,0%
	No	Count	402	68	470
		% within Member of COPPALJ	85,5%	14,5%	100,0%
Total		Count	493	83	576
		% within Member of COPPALJ	85,6%	14,4%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,007 ^a	1	,933		
N of Valid Cases	576				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 15,27.

Table 7.30 Intimidation or physical or verbal abuse

			Intimidation or physical or verbal abuse		Total
			Present	Not present	
Member of COPPALJ	Yes	Count	20	86	106
		% within Member of COPPALJ	18,9%	81,1%	100,0%
	No	Count	114	368	482
		% within Member of COPPALJ	23,7%	76,3%	100,0%
Total		Count	134	454	588
		% within Member of COPPALJ	22,8%	77,2%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1,130 ^a	1	,288		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 24,16.

3) Psychological well-being at work

A) *To what extent do you feel that people treat you with respect at work?*

Codes: Always [1]; Frequently [2]; Occasionally [3]; Never [4]; I don't know [5]

B) *To what extent do you feel that that you make good use of your knowledge and you have the opportunity to advance and improve at work?*

Codes: Always [1]; Frequently [2]; Occasionally [3]; Never [4]; I don't know [5]

Regarding the psychological well-being variables, it emerges that 73.3% of members (and 65.4% of non-members) feel they are treated with respect at work. Similarly, 67% of members (and 54.5% of non-members) feel they have the opportunity to advance and improve their work.

Table 7.31 Being treated with respect at work

			Treated with respect at work		Total
			High	Scarce or absent	
Member of COPPALJ	Yes	Count	77	28	105
		% within Member of COPPALJ	73,3%	26,7%	100,0%
	No	Count	315	167	482
		% within Member of COPPALJ	65,4%	34,6%	100,0%
Total		Count	392	195	587
		% within Member of COPPALJ	66,8%	33,2%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2,475 ^a	1	,116		
N of Valid Cases	587				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 34,88.

Table 7.32 Being able to improve and to be enhanced at work

			Improving and being enhanced at work		Total
			high	Scarce or absent	
Member of COPPALJ	Yes	Count	71	35	106
		% within Member of COPPALJ	67,0%	33,0%	100,0%
	No	Count	267	215	482
		% within Member of COPPALJ	55,4%	44,6%	100,0%
Total		Count	338	250	588
		% within Member of COPPALJ	57,5%	42,5%	100,0%

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,773 ^a	1	,029		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 45,07.

7.2.6 Access to land

This economic freedom was investigated analysing the ownership status of land where respondents work. As shown by table 7.33, all people interviewed can be considered small –scale farmers, cultivating land no larger than 2.1 hectares, on an average, for members and 1.5 for non-members. However, due to extreme disparities in Brazil regarding the access to land, and, specifically, in Maranhão State, investigating the opportunity to access land is crucial.

A) What is the “ownership status” of the land you work?

Codes: Owned [1]; Distributed from Agrarian Reform [2]; Rented [3]
Other [4]; Without land [5]

People were asked about the ownership status of land they cultivate, if it was owned (bought or obtained through Agrarian Reform) or rented (or other solutions, such as using family or neighbours’ land). A percentage of respondents do not hold land at all, and in that case, their livelihood relies entirely on the Babaçu production.

From table 7.34, where answers were gathered in two codes, i.e. owned land and other opportunities to access land, it clearly emerges that members show the higher percentage regarding cultivating owned land, being a statistically significant correlation between land ownership status and membership.

Table 7.33 Land ownership status

			Ownership status of land					Total
			Owned	Agrarian Reform	Rented	Other	Without land	
Member of COPPALJ	Yes	Count	29	58	10	4	3	104
		% within Member of COPPALJ	27,9%	55,8%	9,6%	3,8%	2,9%	100,0%
	No	Count	92	188	104	37	37	458
		% within Member of COPPALJ	20,1%	41,0%	22,7%	8,1%	8,1%	100,0%
Total		Count	121	246	114	41	40	562
		% within Member of COPPALJ	21,5%	43,8%	20,3%	7,3%	7,1%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19,045 ^a	4	,001
N of Valid Cases	562		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 7.40.

Table 7.34 Land ownership status (owned or not)

			Ownership Status of land		Total
			Owned (included by Agrarian Reform)	Rented or other	
Member of COPPALJ	Yes	Count	87	14	101
		% within Member of COPPALJ	86,1%	13,9%	100,0%
	No	Count	280	141	421
		% within Member of COPPALJ	66,5%	33,5%	100,0%
Total		Count	367	155	522
		% within Member of COPPALJ	70,3%	29,7%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	15,036 ^a	1	,000		
N of Valid Cases	522				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 29,99.

7.2.7 Gender inequalities in household decision-making

National statistics on heads of households (as illustrated in § 7.1) together with the relevant literature on gender relations in rural Brazil (Albuquerque de Melo, 2002; Deere, 2004) and information gathered using participatory methods, showed that co-operative behaviour in household decision-making is not common in the context of this empirical work. Thus, it would be interesting to evaluate whether participation in the co-operative democratic process can lead women, as well men, to becoming more participatory in their behaviour in household decision-making.

This part of the questionnaire was mainly designed following the guidelines provided by Ibrahim and Alkire (2007) regarding empowerment. Therefore,

questions covered the issues of “empowerment as control” (power over), “empowerment as choice” (power to), “empowerment in community” (power with), and “empowerment as change” (power from within) (Ibrahim and Alkire, 2007, p. 388). The measurement of empowerment is even more debated than multi-dimensional poverty measurement, since it is closely connected to the adopted definition and, due to its multi-dimensional and broad definition, it can generate significant problems of causality. Furthermore, since empowerment is a latent phenomenon, its presence can only be deduced through its action or its results (Narayan, 2005). Even if, as explored in § 4.3.1, empowerment can be defined as an expansion of agency, measurement of human agency can be extremely complex, since agency is a process and not an observable variable, and furthermore, it is not a component of well-being, as Sen (1992) explained in detail. Indeed, even if here the indicators proposed by Alkire and Ibrahim (2007) as a measurement of empowerment, meant as expansion of agency, are adopted, it would be more accurate in this case to consider such indicators as the measurement of the most known capability related to agency, that is, “participation in household decision-making”.

Five domains have been included: household expenditure, health, children’s education, respondent’s job, and participation in community life. The first two are common to many studies (e.g. Alsop and Heinsohn, 2005; Ibrahim and Alkire, 2007), while the third has been considered, among others, by Jejeebhoy (2000) and Pillai and Alkire (2007). The domains related to the respondent’s work activity and participation in community life have rarely been utilised, however, it was felt to be important to include information on spheres of life that could strongly impact an individual’s well-being.

Two typologies of questions for each domain were included in the questionnaire and both of them were taken from Alsop and Heinsohn (2005). The first, aims at understanding who decides in the family. Using Amartya Sen’s language it can be considered as a proxy for the *functioning* “participating in household decision- making”, while using a language more common in empowerment literature, it is an “achievement” of choice/empowerment (Alsop and

Heinsohn, 2005). The second question tries to sort out the *capability* to participate in “the household decision-making process” in the different domains.

A) <i>Who decides how to spend the money that you earn?</i>	B) <i>When decisions are made regarding what to do if you have a serious health problem, who is it that normally takes the decision?</i>	C) <i>When decisions are made regarding what kind of job or tasks you will do, who is it that normally takes the decision?</i>
Codes: Respondent [1]; Partner [2]; Respondent and Partner jointly [3]; Someone else [4]; Jointly with someone else [5]; Other [6]		

A) <i>To what extent do you feel you can make your own personal decisions regarding how to spend the money that you earn if you want to?</i>	B) <i>To what extent do you feel you can make your own personal decisions regarding what to do if you have a serious health problem if you want to?</i>	C) <i>To what extent do you feel you can make your own personal decisions regarding what kind of job or tasks you will do if you want to?</i>
Codes: Not at all [1]; To a low extent [2]; To a middle extent [3]; To a high extent [4]		

Both sets of questions are very important because it could theoretically be that a person has a high possibility to make a decision in a domain and *chooses* not to take any decision in that sphere. Descriptive statistics about these variables suggest that the majority of members who share decisions with a partner in the three domains, in fact, have the freedom to choose autonomously. The main differences emerge with reference to male members since it seems that, for every considered domain, men co-operators are more likely to share decisions with partners than male non-co-operators and women co-operators, representing the highest percentage.

Moreover, as shown in tables 7.37 and 7.40, it seems that members who do not share decisions with partners, at least in the domains of household expenditure and tasks at work, in fact, have the freedom to choose other options. This does not occur for non-members who do not have this freedom of choice.

Table 7.35 Functioning related to decision-making in the domain of household expenditures

Sex				Household expenditures		Total
				Joint with the partner	Other	
Woman	Member of COPPALJ	Yes	Count	35	25	60
			% within Member of COPPALJ	58,3%	41,7%	100,0%
		No	Count	127	101	228
			% within Member of COPPALJ	55,7%	44,3%	100,0%
	Total		Count	162	126	288
			% within Member of COPPALJ	56,3%	43,8%	100,0%
Man	Member of COPPALJ	Yes	Count	36	10	46
			% within Member of COPPALJ	78,3%	21,7%	100,0%
		No	Count	169	85	254
			% within Member of COPPALJ	66,5%	33,5%	100,0%
	Total		Count	205	95	300
			% within Member of COPPALJ	68,3%	31,7%	100,0%

Table 7.36 Capability related to decision-making in the domain of household expenditures

Sex				CAPABILITY DM household expenditures		Total
				Medium-high	Scarse-absent	
Woman	Member of COPPALJ	Yes	Count	30	7	37
			% within member of COPPALJ	81,1%	18,9%	100,0%
		No	Count	109	40	149
			% within member of COPPALJ	73,2%	26,8%	100,0%
	Total		Count	139	47	186
			% within member of COPPALJ	74,7%	25,3%	100,0%
Man	Member of COPPALJ	Yes	Count	36	5	41
			% within member of COPPALJ	87,8%	12,2%	100,0%
		No	Count	145	73	218
			% within member of COPPALJ	66,5%	33,5%	100,0%
	Total		Count	181	78	259
			% within member of COPPALJ	69,9%	30,1%	100,0%

Table 7.37 Crossing between functioning and capabilities – household expenditure

Member of COPPALJ				Capability DM Household expenditures		Total
				Medium-high	Scarse-absent	
Yes	Functioning Household expenditures	Joint with partner	Count	60	12	72
			% within functioning	83,3%	16,7%	100,0%
		Other	Count	7	0	7
			% within functioning	100,0%	,0%	100,0%
	Total		Count	67	12	79
			% within functioning	84,8%	15,2%	100,0%
No	Functioning Household expenditures	Joint with partner	Count	207	89	296
			% within functioning	69,9%	30,1%	100,0%
		Other	Count	47	23	70
			% within functioning	67,1%	32,9%	100,0%
	Total		Count	254	112	366
			% within functioning	69,4%	30,6%	100,0%

Table 7.38 Functioning related to decision-making in the domain of tasks at work

Sex				Tasks at work		Total
				Joint with partner	Other	
Woman	Member of COPPALJ	Yes	Count	16	44	60
			% within Member of COPPALJ	26,7%	73,3%	100,0%
		No	Count	51	177	228
			% within Member of COPPALJ	22,4%	77,6%	100,0%
	Total		Count	67	221	288
			% within Member of COPPALJ	23,3%	76,7%	100,0%
Man	Member of COPPALJ	Yes	Count	21	25	46
			% within Member of COPPALJ	45,7%	54,3%	100,0%
		No	Count	48	194	242
			% within Member of COPPALJ	19,8%	80,2%	100,0%
	Total		Count	69	219	288
			% within Member of COPPALJ	24,0%	76,0%	100,0%

Table 7.39 Capability related to decision-making in the domain of tasks at work

Sex				Tasks at work		Total
				Medium - high	Scarce - absent	
Woman	Member of COPPALJ	Yes	Count	26	2	28
			% within member of COPPALJ	92,9%	7,1%	100,0%
		No	Count	80	18	98
			% within member of COPPALJ	81,6%	18,4%	100,0%
	Total		Count	106	20	126
			% within member of COPPALJ	84,1%	15,9%	100,0%
Man	Member of COPPALJ	Yes	Count	30	2	32
			% within member of COPPALJ	93,8%	6,3%	100,0%
		No	Count	97	36	133
			% within member of COPPALJ	72,9%	27,1%	100,0%
	Total		Count	127	38	165
			% within member of COPPALJ	77,0%	23,0%	100,0%

Table 7.40 Crossing between functioning and capabilities – tasks at work

				CAPABILITY DM Tasks at work		Total
				Medium - high	Scarce - absent	
Member of COPPALJ						
Yes	Functioning Tasks at work	Join with partner	Count	33	3	36
			% within functioning	91,7%	8,3%	100,0%
	Other	Count		23	0	23
			% within functioning	100,0%	,0%	100,0%
	Total	Count		56	3	59
			% within functioning	94,9%	5,1%	100,0%
No	Functioning Tasks at work	Join with partner	Count	68	31	99
			% within functioning	68,7%	31,3%	100,0%
	Other	Count		97	23	120
			% within functioning	80,8%	19,2%	100,0%
	Total	Count		165	54	219
			% within functioning	75,3%	24,7%	100,0%

Table 7.41 Functioning related to decision-making in the domain of health care

Sex				Health care		Total
				Joint with partner	Other	
Woman	Member of COPPALJ	Yes	Count	32	28	60
			% within Member of COPPALJ	53,3%	46,7%	100,0%
		No	Count	116	112	228
			% within Member of COPPALJ	50,9%	49,1%	100,0%
	Total		Count	148	140	288
			% within Member of COPPALJ	51,4%	48,6%	100,0%
Man	Member of COPPALJ	Yes	Count	36	10	46
			% within Member of COPPALJ	78,3%	21,7%	100,0%
		No	Count	157	97	254
			% within Member of COPPALJ	61,8%	38,2%	100,0%
	Total		Count	193	107	300
			% within Member of COPPALJ	64,3%	35,7%	100,0%

Table 7.42 Capability related to decision-making in the domain of health care

Sex				Health care		Total
				Medium – high	Scarce - absent	
Woman	Member of COPPALJ	Yes	Count	39	5	44
			% within Member of COPPALJ	88,6%	11,4%	100,0%
		No	Count	116	43	159
			% within Member of COPPALJ	73,0%	27,0%	100,0%
	Total		Count	155	48	203
			% within Member of COPPALJ	76,4%	23,6%	100,0%
Uomo	Socio della COPPALJ	Yes	Count	40	2	42
			% within Member of COPPALJ	95,2%	4,8%	100,0%
		No	Count	145	36	181
			% within Member of COPPALJ	80,1%	19,9%	100,0%
	Total		Count	185	38	223
			% within Member of COPPALJ	83,0%	17,0%	100,0%

Table 7.43 Crossing between functioning and capabilities – health care

Member of COPPALJ				Capability DM Health care		Total
				Medium-high	Scarce-absent	
Yes	Functioning DM health care	Joint with partner	Count	65	4	69
			% within functioning	94,2%	5,8%	100,0%
		Other	Count	14	3	17
			% within functioning	82,4%	17,6%	100,0%
	Total		Count	79	7	86
			% within functioning	91,9%	8,1%	100,0%
No	Functioning DM health care	Joint with partner	Count	215	58	273
			% within functioning	78,8%	21,2%	100,0%
		Other	Count	46	22	68
			% within functioning	67,6%	32,4%	100,0%
	Total		Count	261	80	341
			% within functioning	76,5%	23,5%	100,0%

7.2.8 Participation in the community life

This dimension was explored asking whether they had ever carried out voluntary activities for the community.

A) In the past 12 months, have you worked with others in your community to do something for the benefit of the community?

Codes: Yes [1]; No [2]

As shown in table 7.44, the majority of members interviewed were used to participating in voluntary activities for the benefit of the community, while for non-members it was the opposite.

Table 7.44 Participation in voluntary activities for the community

			Participation in voluntary activities for the community		Total
			Yes	No	
Member of COPPALJ	Yes	Count	75	31	106
		% within Member of COPPALJ	70,8%	29,2%	100,0%
	No	Count	175	307	482
		% within Member of COPPALJ	36,3%	63,7%	100,0%
Total		Count	250	338	588
		% within Member of COPPALJ	42,5%	57,5%	100,0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	42,188 ^a	1	,000		
N of Valid Cases	588				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 45,07.

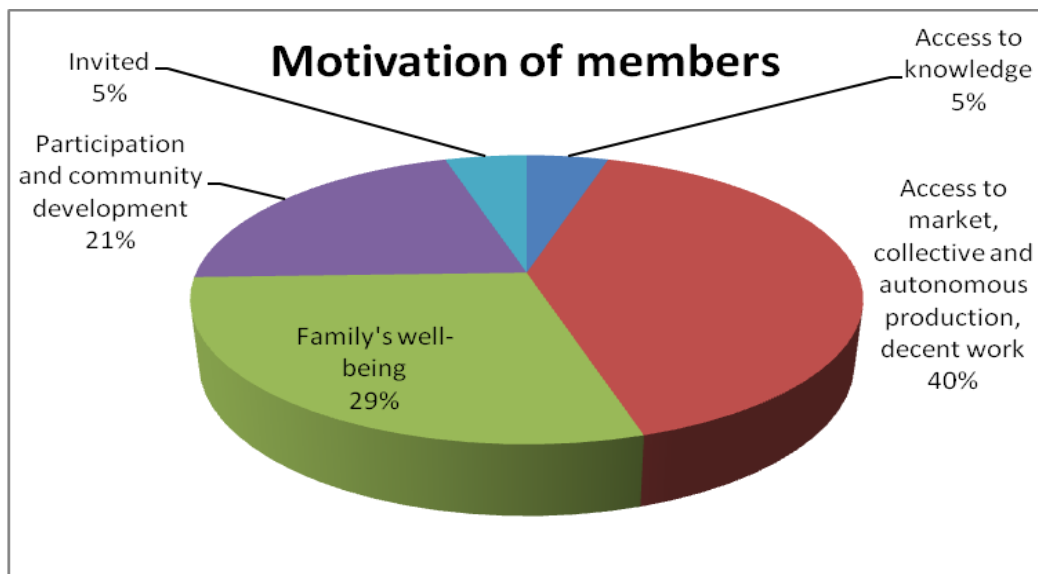
Finally, a group of variables concerning participation in the co-operative will be studied. Participation in the co-operative was measured using a dummy (being or not being a member). Then, for co-operative members, more information regarding the quality of participation was collected (years of membership, number of meetings attended per year, important responsibilities undertaken in the co-operative; years of responsibility). These variables are particularly important in evaluating the level of genuineness of the co-operative, being a pre-condition of this study. Such

information must be triangulated with findings from the participatory methods (cfr. §8.2). Below are the results regarding participation in the co-operative. Of course, they refer only to co-operative members.

7.2 Some considerations about COPPALJ as a genuine co-operative

As previously outlined in the theoretical part of this thesis, the assumption to consider COPPALJ as a genuine co-operative is a fundamental prerequisite for the significance of the outcomes of the analysis. To achieve this, information was collected using both participatory methods and the questionnaire. This paragraph illustrates the descriptive findings from the questionnaire data, which have been confirmed by findings from the participatory methods (cfr. § 8.2). From the questionnaire data, it emerges, first of all, that COPPALJ members are moved mainly by reciprocity, the need to produce collectively and autonomously and advance in their work. Moreover, they highly value the improvement of their families' well-being and community development.

Figure 7.1 Motivation of members to join the co-operative



As possible evidence of the principle of open door, 30% of interviewed members reported to have been invited to join the co-operative while 70% decided autonomously (table 7.45).

Table 7.45 Modality of joining the co-operative

			Member of COPPALJ	
			Si	Total
Modality of join the co- operative	Invited	Count	32	32
		% within member of COPPALJ	30,8%	30,8%
	Voluntary decision	Count	72	72
		% within member of COPPALJ	69,2%	69,2%
Total		Count	104	104
		% within member of COPPALJ	100,0%	100,0%

With reference to democratic participation, all interviewed confirmed that decisions are taken by the majority through the principle of one person-one vote. Nearly 40% of members held a decision-making position - 36% of women and 45.7% of men. However, correlation between gender and participation in decision-making positions is not significant, thus, presumably also showing the absence of significant gender bias in decision-making. Moreover, the average length of a decision-making position is no more than 4 years suggesting the existence of a real turnover.

Table 7.46 Responsibilities performed in the co-operative

Member of COPPALJ				Sex		Total
				Woman	Man	
Yes	Responsibility performed	yes	Count	21	21	42
			% within Sex	36.2%	45.7%	40.4%
		No	Count	37	25	62
			% within Sex	63.8%	54.3%	59.6%
	Total		Count	58	46	104
			% within Sex	100.0%	100.0%	100.0%

Chi-Square Tests						
Member of COPPALJ		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Yes	Pearson Chi-Square	,951 ^a	1	,330		
	N of Valid Cases	104				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 18,58.

Table 7.47 Modality of participation according to years of responsibility in decision-making positions

Typology of participation	Mean	N	Std. Deviation
Leader	4,0	7	,0
Very active	3,3	13	1,5
Somewhat active	2,6	17	,8
Do not participate in DM process	2,0	2	,0
Total	3,0	39	1,1

Quality of participation can be seen in the table 7.48. The data suggests that active participation involves 56.6% of co-operators, even if the absence of participation is registered only in a very few percentage of cases. However, quality of participation does not seem to be linked to the years of membership, except in the case of leaders, who are, in fact, the founders of the co-operative. Furthermore, more than 70% of those interviewed felt that they had the power to select co-operative leaders. As far as the level of participation is concerned, differences in motivation for joining the co-operative do not emerge.

Table 7.48 Quality of participation in the co-operative

			Member of COPPALJ	
			Yes	Total
Subjective consideration on quality of participation	Leader	Count	13	13
		% within Member of COPPALJ	12,9%	12,9%
	very active	Count	34	34
		% within Member of COPPALJ	33,7%	33,7%
	Somewhat active	Count	49	49
		% within Member of COPPALJ	48,5%	48,5%
	Do not participate in decision making process	Count	5	5
		% within Member of COPPALJ	5,0%	5,0%
Total	Count	101	101	
	% within Member of COPPALJ	100,0%	100,0%	

Table 7.49 Crossing quality of participation with membership duration

Typology of participation / Years of membership	Mean	N	Std. Deviation
leader	14,5	13	4,1
Very active	9,5	34	5,8
Somewhat active	9,1	49	5,2
Do not participate in DM process	9,4	5	5,1
Total	9,9	101	5,5

Table 7.50 Crossing typology of participation with gender of members

Members of COPPALJ				Sex		Total
				Woman	Man	
Yes	Typology of participation	leader	Count	2	11	13
			% within Sex	3,4%	25,6%	12,7%
		Very active	Count	23	11	34
			% within Sex	39,0%	25,6%	33,3%
		Somewhat active	Count	30	19	49
			% within Sex	50,8%	44,2%	48,0%
		Do not participate in decision making process	Count	4	2	6
			% within Sex	6,8%	4,7%	5,9%
		Total	Count	59	43	102
			% within Sex	100,0%	100,0%	100,0%

Table 7.51 Members' evaluation of leadership effectiveness

			Member of COPPALJ	Total
			Yes	
Leadership evaluation	Very effective	Count	26	26
		% within Member of COPPALJ	24,8%	24,8%
	Fairly effective	Count	52	52
		% within Member of COPPALJ	49,5%	49,5%
	Somewhat effective	Count	25	25
		% within Member of COPPALJ	23,8%	23,8%
	Not effective	Count	2	2
		% within Member of COPPALJ	1,9%	1,9%
Total		Count	105	105
		% within Member of COPPALJ	100,0%	100,0%

Table 7.52 Members' influence on leadership's election

			Member of COPPALJ	Total
			Yes	
Level of influence	A lot	Count	30	30
		% within Member of COPPALJ	28,6%	28,6%
	Some	Count	31	31
		% within Member of COPPALJ	29,5%	29,5%
	A little	Count	39	39
		% within Member of COPPALJ	37,1%	37,1%
	None	Count	5	5
		% within Member of COPPALJ	4,8%	4,8%
Total	Count	105	105	
	% within Member of COPPALJ	100,0%	100,0%	

Table 7.53 Crossing level of influence on leadership election and gender

				Sex		Total	
				Woman	Man		
Member of COPPALJ							
Yes	Level of influence	A lot	Count	18	13	31	
			% within Sex	31,0%	28,3%	29,8%	
		Some	Count	19	11	30	
			% within Sex	32,8%	23,9%	28,8%	
		A little	Count	21	17	38	
			% within Sex	36,2%	37,0%	36,5%	
		None	Count	0	5	5	
			% within Sex	,0%	10,9%	4,8%	
	Total			Count	58	46	104
				% within Sex	100,0%	100,0%	100,0%

CHAPTER EIGHT

DATA ANALYSIS THROUGH PARTICIPATORY AND ECONOMETRIC METHODS

8.1 Introduction to data analysis

As explained in the methodological section, both qualitative and quantitative methods were adopted in order to assess the impact that co-operative membership had on the well-being of member and their families.

In the following, the main findings from the field work will be presented, enhancing the added value of merging results by participatory and econometric methods. In fact, the implementation of the methodologies highlighted their complementarity in responding to the main research question, i.e. whether and how the co-operative influenced member well-being. In particular, participatory methods helped in understanding the local context and the causal connection between co-operative membership and well-being. Participants were asked whether they considered dimensions studied achieved (or not), however, these results cannot be considered representative for the whole population. This was the role of the quantitative methods. The survey revealed statistically significant results regarding achieved (or not) well-being dimensions.

Therefore, in the following point results from the participatory methods will be shown, and then the following point will show the data results from the survey, analysed using the Propensity Score Matching technique, confirming the existence of a statistically significant difference between members and non-members in many dimensions of well-being, presumably attributable to co-operative participation. Therefore, some main conclusions emerging from the case study will be drawn up, outlining the main findings emerging from the triangulation methods and, thus, going into more detail regarding the role of the conversion factors in how much the co-operative influenced (or not) the outcomes presented.

8.2 The application of participatory methods: findings from the card game

8.2.1 Method application

In the empirical work the card game was used to explore more thoroughly the dimensions of well-being that co-operative members value and the impact of COPPALJ on them.

This method involves using 30 cards⁵², previously designed according to the well-being dimensions which emerged in the focus group of 10 co-operators from the community of Ludovico. Every card represents people, places, activities and feelings familiar to members of COPPALJ and to local people, in general. The cards were designed with the collaboration of teenagers from the community of Ludovico. In table 8.1, the important well-being and agency dimensions are listed matched with respective cards and some explanations of issues usually reported by focus group participants regarding such dimensions.

The application of the card game basically involved the group's participants collectively choosing 14 cards out of the total of 30. They were asked to select those cards representing the well-being dimensions which they considered particularly important for their life. Afterwards, they had to explain their interpretation of every card and to decide jointly whether such card represented a dimension of their life that they had achieved (or not achieved). While explaining their arguments, the participants were also asked to explain whether participating in the co-operative had had any impact on the well-being and agency dimensions achieved (or not achieved). The discussions which emerged during the first phase of the game, that is, when they have to unanimously choose the 14 cards, led to a deliberative debate, with participants expressing their opinions, and usually dissenting with each other. This process allows participants to think about their dimensions of well-being and their historical background that has led to their current situation. At the same time, a lot of information emerges which could be very helpful also in interpreting the quantitative findings from the survey.

⁵² See Annex B

Four groups participated in the game, each of them made up of an average of 10 people. The first group meeting was held in the community of Centrinho do Acrisio, with only women co-operative members participating; a second was held in the community of São Manoel, with the participation of both men and women co-operative members; a third was held in the community of Ludovico, with a control group made up of both men and women non-co-operators; and a fourth group was held with women of the community of Riachão, a community where COPPALJ does not work. This last group worked as a comparison group.

It is important to underline that all groups met with the fundamental support of a staff made up of high school and university students from the communities, whose parents were co-operative members or who, in general, were committed to the social movement in the region.

8.2.2 Results

Data collected showed a very interesting scenario, providing significant information regarding differences in well-being dimensions, not only between co-operators and non-co-operators, but also among people living in communities where the co-operative worked, thus revealing the spill-over effects of the co-operative. Furthermore, opinions expressed during the group work led to understanding the causality link pertaining to co-operative participation and people's quality of life. Firstly, we will begin by commenting on the cards chosen by all the groups.

They were cards related to youth education; gender relationships at home (particularly the violence aspect); the daily activities related to collecting and breaking Babaçu nuts, with the aid of animals, such as donkeys; the fights for land and free access to Babaçu palms; and the church.

For youth education, both the cards showing public schools and the one showing schools set up under the social movement were chosen. In both cases, co-operators and non-co-operators living in the communities where COPPALJ works judged this dimension to be achieved, while people from the comparison group complained about the absence of appropriate opportunities for youth education in

their community. Specifically, regarding public schools, it was highlighted how the co-operative, together with other organisations, such as the NGO ASSEMA, had fought to have education until high school level provided in their communities. In referring to the “Escola Familia”, they underlined its fundamental role in providing a high quality education for young people and in creating the future leaders of the co-operative. This school (which was also written up in the English newspaper “The Guardian”, 27th October 2007) was promoted by the local social movements, COPPALJ included, and provides youth education, especially on agro-ecology and co-operative production. Ms Maria Alaide commented, “The co-operative supports the family school, both with donations and training provided by co-operative board members. It is important that co-operators transfer their knowledge and experience to the new generation. Indeed, they are the future of our history of self-reliance”.

Another card chosen by all groups showed a man beating a woman. This means that the gender issue is actually a very sensitive topic in the region. All groups pointed out that the problem does not concern physical violence (which, however, happens in a very small percentage of families), but regards power relations in the household. Co-operators, both women and men, pointed out that the situation of women has changed significantly since the foundation of COPPALJ. At the beginning, men did not allow their wives and daughters to participate in the meetings, but this situation gradually changed, mostly due to the increasing awareness of women regarding their rights. In fact, COPPALJ has worked a lot on the gender issue and some results are, for instance, a balanced gender representativeness in the Board (42% women, 58% men), and the fact, that two presidents in the last 10 years have been women. Nonetheless, women co-operators complain that not all the gender bias has changed, since there is still a problem of inequality regarding working hours. In fact, women are still the first to wake up and the last to go to bed in their households and when they hold a managing position in the co-operative, they feel overwhelmed by their tasks and duties. On the other hand, participants of the control group and the comparison group underlined that cases of

physical violence are less frequent, but, however, express their concern for aggressive behaviour and for the lack of space where women can express themselves.

The other card chosen by all groups regards the activity of collecting and breaking Babaçu nuts, mainly carried out by women. This was the opportunity to underline the tremendous importance of the Babaçu palms for community subsistence. All of them pointed out how Babaçu is at the heart of local economy and, as well, the role of the co-operative in enhancing its value. In fact, participants from communities where the co-operative operates, reported that before the setting up of COPPALJ, they needed 10 kg of Babaçu nuts to buy 1 kg of rice, instead, afterwards, 1 kg of nuts for 1 kg of rice was enough. The important fact is that the presence of COPPALJ changed this situation for all people in those communities and not only for its members. Nowadays, both members and non-members can take advantage of the higher prices offered by COPPALJ and, as a consequence, the dealers had to also increase their price in order to be more competitive. This, however, is not the situation reported by people of the comparison group, since in their community dealers still decide the price of the Babaçu nuts. This was confirmed by the card showing the co-operative shops (called 'cantina', cfr. § 5.4), selected by one group of members and the two groups of non-members, where the only group complaining about the absence of such shops was, in fact, the comparison group. Moreover, this group complained about the lack of access to land and to the Babaçu palms.

These last issues (access to land and to palms) were represented by another two cards selected by all groups. Once again, the first three groups pointed out the achievements obtained through COPPALJ and the local movements, while the comparison group reported the difficult situation that they faced. In particular, co-operators told how they had succeeded in not only holding on to land after the 1980 battles, but also in promoting the municipal law, "Free Babaçu", that legally enforced the free access of the small farmers to the Babaçu palms, even if they were located on landowner property.

Ms Maria Alaide, a member of COPPALJ, reported: “I myself was one of the municipality counselors when the Babaçu Law was passed. It was a fundamental step for the sustainability of our development. This law guarantees not only that the Babaçu cannot be destroyed, but also that it has to be preserved, without cultivating other plants nearby which could damage it (as landowners are used to doing), as well as, cultivating without the use of chemicals. Moreover, it states that coconuts, as a whole, cannot be sold, preventing the use of the Babaçu for other than local development. Before the adoption of this law, the members of COPPALJ also discussed the law and they contributed in drawing it up.”

Conversely, the community of Riachão still shows a situation that other communities faced before COPPALJ had been set-up - landowners fencing off land; using land for pasture and not allowing small-scale farmers to cultivate it; forbidding women to collect Babaçu nuts, threatening and abusing them.

The last card unanimously chosen shows a church. However, groups attributed different meanings to this card. For co-operators it meant the origins of their common action, since during the dictatorship it was the place where they found support and were given the incentive to react and organise themselves. For non-co-operators it represented the place where they expressed their spirituality and met with other people.

For the cards chosen by groups from the communities where COPPALJ works, three cards deserve a specific mention. The first one is related to the word “cooperativism”. This card was expressly designed with the purpose of exploring exactly how people perceive the co-operative and being a co-operative member. Interesting findings emerged from the debate in the two groups made up of co-operators. In fact, they stressed the significance of “being a member”, that is, working in autonomy and in reciprocity; owning the enterprise; having the control over their business, even if they are not Board members, as, at any moment, they can have access to any information they require and they can actively participate in the meetings, addressing the co-operative activities; and having the opportunities to improve their knowledge and know-how, also being directly involved in managerial

activities. All these arguments could not be found in the non-co-operators' answers. The co-operators also made a specific reference to how the co-operative had increased their quality of life.

Another card concerns the relationship with the state and federal government. Here, all the three groups pointed out their feeling of being closer only to the federal government (and not with the state government), stressing projects and opportunities for rural people and the poorer part of the population, in general. Specifically, co-operators highlighted the commitment of the federal government in enhancing co-operatives and their role in fighting poverty.

Finally, the third card considered shows a drawing of a truck. It is the co-operative truck that improved the mobility of all people living in the communities where the co-operative operates. In fact, all of them reported that before COPPALJ had bought the truck, going to the urban centre was extremely difficult since it took hours on foot. Now, the truck provides transport services and, moreover, support for production transportation, improving the access to market.

The last cards that deserve to be mentioned are cards showing education and training opportunities for adults, which were selected only by co-operators, confirming the connection between being a co-operative member and having training and education opportunities (provided also by other organisations, such as the NGO ASSEMA); the card showing the COPPALJ oil plant, obviously chosen only by co-operators, and confirming the importance of the co-operative in increasing the added value of Babaçu, since it is the plant where Babaçu nuts are processed into organic oil, and sold as an ingredient in cosmetic products and detergents on Brazilian and European markets.

The last two cards to be commented on are those selected only by non-co-operators: one showing a decent shelter, which they did not have, and the other showing the opportunity to access credit. Here, they reported to having opportunities provided by banks offering loans at low interest rates. Probably, they were referring to PRONAF, a public policy tool available for the poorer Brazilians living in rural areas (cfr. §5.2).

Table 8.1 Dimensions explored with the participatory method and description of related cards

WELL-BEING AND AGENCY DIMENSIONS	ASPECTS OF DAILY LIFE RELATED TO THOSE DIMENSIONS	CARDS (pictures in Anex B)
HEALTH	Possibility to receive health assistance in the community Use of popular natural medicine	1) Health centre in a rural area 2) Woman preparing herb infusion
EDUCATION	Possibility to have access to education in the rural communities, both in terms of public school and quality education provided by social movement (“escola familia”: family school) Possibility for adults to be educated and attending training courses	3) School in rural areas 4) School provided by social movement 5) Adults studying 6) Adults receiving training on their agricultural activities
SHELTER	Possibility to have a decent house, that according to the local standards, means not having a straw roof, and having electricity and piped water.	7) Decent house
GENDER RELATIONS AT HOME (LOVE/VIOLENCE)	Typology of relationships in the household, care feelings or male oppressive and violent behaviour.	8) Couple with child caring for each other in the family 9) A man beating a woman
ECONOMIC FREEDOM	Possibility to have free access to natural resources, as babaçu; to sell fairly their products, avoiding dealers’ power; to access fair markets also abroad and having fair relationships with other producers around the globe. Possibility to organise collectively and autonomously their productive activities, providing themselves with decent work.	10) Only the word “cooperativism”, that evokes co-operatives and related movement. 11) Woman breaking babaçu nuts, with closeby a donkey, important animal for the extractive activity 12) People borrowing money from institutions 13) COPPALJ Babaçu oil plant 14) Local shops of the COPPALJ (called cantina) where people sell their

		<p>production</p> <p>15) A Babaçu Breaker Woman selling her production to the dealer</p> <p>16) A globe with arrows starting from Maranhão and going around the world</p> <p>17) Producers holding hands around the globe</p>
MOBILITY	Possibility to reach the urban centre without walking for hours or waking up very early in the morning, that is the only time when public transport passes.	18) COPPALJ truck
ENVIRONMENT	Concern for the environment, especially regarding forest destruction and water pollution	<p>19) Fires and destruction of Babaçu palms</p> <p>20) Lakes in the forest</p>
AGENCY	Collective and individual activities to claim rights regarding access to natural resources (land, babaçu palms) and relevant institutions considered in some way reference points for such claims.	<p>21) Women leaders talking</p> <p>22) Fights against landlords (fazendeiros)</p> <p>23) Women claims for free access to the babaçu palms against the landlords</p> <p>24) Municipality of Lago do Junco</p> <p>25) State/Federal Government</p>
LEISURE IN THE COMMUNITY	Leisure/recreation activities held in the community such as carnival festivities	26) Carnival parties held in the communities
PARTICIPATION IN COMMUNITY ORGANISATIONS	Participation in community organisations, such as the co-operative and the church Qualification of the level of participation and relationships among members	<p>27) Co-operative General Assembly</p> <p>28) Co-operative Board meeting</p> <p>29) Church</p> <p>30) Disunion among people</p>


Table 8.2 Cards selected by groups


CARDS	GROUP1 Women Co-operative Members	GROUP 2 Mixed Co-operative Members	GROUP 3 Control group (mixed)	GROUP 4 Comparison group (women)
1) Health centre in a rural area				-
2) Woman preparing herb infusion				
3) Schools in rural areas	+	+	+	-
4) School provided by social movement	+	+	+	-
5) Adults studying 6) Adults receiving training in their agricultural activities	+	+		
7) Decent house			-	-
8) Couple with child caring for each other in the family			+	
9) A man beating a woman	-/+	-/+	+/-	+
10) Only the word: "cooperativism", that evokes co-operatives and related movement.	+	+	+/-	
11) Woman breaking babaçu nuts, with nearby a donkey, important animal for the extractive activity	+	+	+	+
12) People borrowing money from institutions			+	+
13) COPPALJ Babaçu oil plant	+	+		
14) Local shops of the COPPALJ (called cantina) where people sell their production	+		+	-


15) A Babaçu Breaker Woman selling her production to the dealer				
16) A globe with arrows starting from Maranhão and going around the world				
17) Producers holding hands around the globe	+			
18) COPPALJ truck	+	+	+	
19) Fires and destruction of Babaçu palms			+	+
20) Lakes in the forest		+		-
21) Women leaders talking				
22) Fights against landlords 23) Women claims for free access to the Babaçu Palms	+	+	+	-
24) Municipality of Lago do Junco		+		
25) State/Federal Government	-/+	-/+	-/+	
26) Carnival parties held in the communities				
27) Co-operative General Assembly		+		-
28) Co-operative Board meeting				
29) Church	+	+	+	+
30) Disunion among people	+			

Legend

 Cards selected by all groups

 Cards selected by members and control group

 Cards selected only by co-operative members

 Cards selected only by control and comparison group

+ Dimension of well-being considered achieved by participants

- Dimension of well-being considered not achieved by participants

+/- The majority of participants considered that dimension achieved

-/+ The majority of participants considered that dimension not achieved

8.3 The application of Propensity Score Matching to this case study

As described in chapter 6 (§ 6.4), by using the Propensity Score Matching technique, we can reduce the bias in the estimation of treatment effects with observational data sets. An attempt was made, adopting this technique to estimate how participating in COPPALJ could have had an impact on members' capabilities. Co-operative members were considered as the treatment group, while non-treated units were obviously the control group units.

The co-variates taken into consideration were: community in which respondent lives; gender; age; civil status and main occupation. They were used to calculate the Propensity Score, being pre-treatment variables which could have influenced participation in the co-operative but not the outcome variables. Specifically, the Propensity Score attributes to the units the probability of being co-operative members. Matching was done using the Nearest Neighbor Matching method, resulting in the matching of treated and control units, taking each treated unit and searching for the control unit with the closest propensity score.

Table 8.3 Logit regression

VARIABLE	COEFF	STAND. ERROR
Community2	- 0.681	0.654
Community3	0.436	0.693
Community4	- 0.466	0.639
Community5	- 1.093**	0.766
Community6	- 2.565***	0.976
Sex	0.333	0.952
Age	0.168*	0.092
Age2	- 0.001	0.001
Civil Status	- 0.635	0.477
Main occupation	- 0.590	0.927
Constant	- 3.496*	1.998
n	142	
Pseudo R ²	0.2403	

Note: *** p-value<0.01; ** p-value<0.05; * p-value<0.1

As required by theory, after calculating the Propensity Score (using a logit model), the Balancing Hypothesis had to be checked to ascertain that it was satisfied, a condition implying that observations with same propensity score must have the same distribution of observable characteristics, independently of treatment status.

Table 8.4 Table of the balancing property

INFERIOR OF BLOCK PSCORE	NON-MEMBER	MEMBER	TOTAL
0.04	20	5	25
0.2	34	12	46
0.4	11	10	21
0.6	9	3	12
0.7	1	12	13
0.8	0	17	17
TOTAL	75	59	134

Therefore, once each treated unit has been matched with a control unit with the closest propensity score, the difference between the outcome of treated units and the outcome of the matched control units is calculated. The ATT is then obtained by averaging these differences. Thus, by calculating the ATT for every variable of interest, the impact that participating in COPPALJ could have on selected outcomes was estimated. It must be noted that the ATT was calculated for every singular variable, without aggregating them in a single indicator, since indexing variables would have probably reduced the available information.

8.3.1 Findings on selected variables

Chosen variables tested by this econometric method have already been illustrated in § 7.2. They concern the following dimensions of well-being: nutrition, education, health, shelter and sanitation, decent work, access to land, participation in household decision-making, and participation in community life.

Results suggest that being a COPPALJ member, on average, has presumably had the following impact on the following variables⁵³:

⁵³ ATT estimations computed with Nearest Neighbour Matching method and bootstrapped standard error.

- 1 **Nutrition:** COPPALJ members show a statistically significant higher value concerning this dimension of well-being. In fact, the average difference between the co-operators and the control group is approximately more than one day per week for the consumption of both meat/fish and vegetables/fruit. The ATT is respectively 1.059 and 1.119, the former being statistically significant with a p-value of 8.6% and, the latter, not so significant (p-value=15.5%), but, however, showing a strong significance once analysed for women only. In fact, the data shows that households of women co-operators have the tendency, on average, to eat fruit and vegetables two times more per week than households of women non-co-operators, with a significance of 1.9%.
- 2 **Education:** Statistically significant higher values regard the ability of women members to read and write and to obtain a qualification. In fact, on average, women co-operators have a 38.2% higher probability than women from the control group to be literate (p-value=8.6%). Moreover, they have a 41.2% higher probability than women of control group to obtain a qualification (p-value=3.9%). No significant findings emerge concerning years of schooling.
- 3 **Health:** This well-being dimension does not show any statistically significant difference between co-operators and non-co-operators, neither concerning their health status (i.e. the possibility to have had severe health problems in last year), nor for accessing to health care.
- 4 **Shelter and sanitation:** There is not a statistically significant difference regarding shelter, access to water and toilet facilities. However, findings concerning access to decent shelter and toilet facilities become statistically significant once computed for women. In fact, women co-operators have, on average, a higher probability than women from the control group to have access to decent shelter (ATT=0.324; p-value=9.1%) and to toilet facilities (ATT=0.471; p-value=1.6%).

- 5 **Access to land:** COPPALJ members showed a higher probability (56.6%) to cultivate their own land (private property or distributed through Agrarian Reform) and the difference is statistically significant (p-value=0.4%). This outcome is significant also concerning women co-operators. In fact, it seems that women co-operators have a 57.8% higher probability than women non-co-operators in having access to their own land (p-value=0.8%).
- 6 **Decent work:** COPPALJ members show a higher probability to achieve psychological well-being, regarding the possibility of expressing themselves and having the opportunity to advance and to improve at work (ATT= 0.39; p-value=8.4%). Another significant outcome concerns access to credit. In fact, co-operative members show a higher probability (35.6%) in having accessed credit in last three years (p-value=3.6%). Finally, no significant findings emerge with regard to protection in the workplace and access to retirement pensions.
- 7 **Participation in community life:** COPPALJ members show a higher propensity to participate in community life. In fact, on average, co-operators have a 46.6% higher probability than non-co-operators to carry out voluntary work for the benefit of the community as a whole (p-value=3.7%).
- 8 **Participation in household decision-making:** co-operative members show a significantly higher probability in being capable of autonomously taking decisions regarding household expenditure (59.8%; p-value=1.3%). However, there is not a significant result on the propensity of co-operators to share decisions with their partners. In fact, the only domain where members showed a statistically significant higher value regarding the propensity to share decisions with partners concerns tasks at work, with a probability of 23.7%.

Table 8.5 Estimation results - Outcome Nutrition

Variable		n. treat	n. control g	ATT	Std. Err.	t
Times eating meat/fish		59	29	1.059	0.607	1.746*
Times eating meat/fish (women)		34	19	0.618	0.803	0.770
<i>Not computable for men</i>						
Times eating fruits/vegetables		59	29	1.119	0.776	1.442
Times eating fruits/vegetables (women)		34	19	2.132	0.871	2.448**
<i>Not computable for men</i>						

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.6 Estimation results – Outcome Education

Variable		n. treat	n. control g	ATT	Std. Err.	t
Being literate		59	29	0.102	0.219	0.464
Being literate (women)		34	19	0.382	0.217	1.765*
Being literate (men)		24	6	- 0.125	0.305	- 0.409
Education		59	29	0.085	0.206	0.411
Education (women)		34	19	0.412	0.192	2.149**
Education (men)		24	6	- 0.208	0.271	-0.770
Education/years of schooling		59	29	0.525	1.600	0.328
Education/years of schooling (women)		34	19	1.676	2.165	0.774
Education/years of schooling (men)		24	6	-0.208	1.883	-0.111

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.7 Estimation results: Outcome Health

Variable	n. treat	n. control g	ATT	Std. Err.	t
Serious health problems in the last year	59	29	- 0.161	0.214	- 0.753
Serious health problems in the last year (women)	34	19	0.250	0.197	1.270
<i>Not computable for men</i>					
Access health care	59	29	0.027	0.161	0.167
Access health care (women)	34	19	-0.059	0.195	-0.302
<i>Not computable for men</i>					

Table 8.8 Estimation results: Outcome Shelter and Sanitation

Variable	n. treat	n. control g	ATT	Std. Err.	t
Shelter	59	29	-0.008	0.191	-0.044
Shelter (women)	34	19	0.324	0.186	1.742*
<i>Not computable for men</i>					
Toilet facilities	59	29	0.059	0.155	0.382
Toilet facilities (women)	34	19	0.471	0.186	2.525**
<i>Not computable for men</i>					
Water	59	28	-0.212	0.183	-1.155
Water (women)	34	19	0.147	0.144	1.019
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.9 Estimation results: Outcome Access to land

Variable	n. treat	n. control g	ATT	Std. Err.	t
Access to land	59	24	0.566	0.198	2.980***
Access to land (women)	34	13	0.578	0.208	2.781***
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.10 Estimation results: outcome Participation in Community Life

Variable	n. treat	n. control g	ATT	Std. Err.	t
Voluntary activity for the community	59	29	0.466	0.219	2.127**
Voluntary activity for the community (women)	34	19	0.206	0.226	0.913
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.11a Estimation results – Outcome Decent Work (security)

Variable	n. treat	n. control g	ATT	Std. Err.	t
Retirement pension	59	29	0.153	0.150	1.014
Retirement pension (women)	34	19	-0.088	0.158	-0.558
Retirement pension (men)	24	6	-0.125	0.344	-0.364
Retirement pension in the future	59	29	-0.169	0.168	- 1.008
Retirement pension in the future (women)	34	17	-0.073	0.174	-0.420
Retirement pension in the future (men)	24	6	0.169	0.230	0.733
Access to credit	59	29	0.356	0.167	2.135**
Access to credit (women)	34	19	0.250	0.186	1.343
Access to credit (men)	24	6	0.500	0.355	1.408

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.11b Estimation results – Outcome Decent Work (protection in the workplace)

Variable	n. treat	n. control g	ATT	Std. Err.	t
Chemical	59	29	0.051	0.107	0.477
Chemical (women)	34	19	0.000	0.098	0.000
<i>Not computable for men</i>					
Uncomfortable work posture	63	29	0.053	0.122	0.435
Uncomfortable work posture (women)	34	19	0.118	0.143	0.824
Uncomfortable work posture (men)	24	6	0.083	0.327	0.255
Intimidations	59	29	0.119	0.159	0.748
Intimidations (women)	34	19	0.162	0.159	1.019
Intimidations (men)	24	6	0.083	0.279	0.298

Table 8.11c Estimation results: Outcome Decent Work (psychological well-being)

Variable	n. treat	n. control g	ATT	Std. Err.	t
Opportunity to express potentiality and to improve	59	29	0.390	0.222	1.758*
Opportunity to express potentiality and to improve (women)	34	19	0.191	0.185	1.033
<i>Not computable for men</i>					
Treated with respect	59	29	-0.157	0.187	-0.840
Treated with respect (women)	34	19	-0.231	0.186	-1.243
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.12 Estimation results: Outcome Participation in Household decision-making – Domain Household Expenditures

Variable	n. treat	n. control g	ATT	Std. Err.	t
Functioning DM Household expenditures	59	29	-0.119	0.172	-0.688
Functioning DM Household expenditures (women)	34	19	0.176	0.212	0.831
<i>Not computable for men</i>					
Capability DM Household expenditures	59	28	0.598	0.233	2.562**
Capability DM Household expenditures (women)	34	9	-0.119	0.203	-0.586
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.13 Estimation results: Outcome Participation in Household decision-making – Domain Tasks at work

Variable	n. treat	n. control g	ATT	Std. Err.	t
Functioning DM Tasks at work	59	29	0.237	0.132	1.802*
Functioning DM Tasks at work (women)	34	19	0.147	0.166	0.886
<i>Not computable for men</i>					
Capability DM Tasks at work	59	12	0.057	0.144	0.393
Capability DM Tasks at work (women)	34	7	-0.062	0.202	-0.310
<i>Not computable for men</i>					

*p-value<0.1; **p-value<0.05; ***p-value<0.01

Table 8.14 Estimation results: Outcome Participation in Household decision-making – Domain Health

Variable	n. treat	n. control g	ATT	Std. Err.	t
Functioning DM Health	59	24	0.154	0.201	0.766
Functioning DM Health (women)	34	13	0.094	0.209	0.452
<i>Not computable for men</i>					
Capability DM Health	59	29	0.331	0.207	1.595
Capability DM Health (women)	34	19	0.221	0.214	1.032
<i>Not computable for men</i>					

8.4 Conclusions on the case study

8.4.1 Triangulating findings from qualitative and quantitative data

Triangulation between findings from participatory and econometric methods led to outlining some conclusions regarding how participation in the co-operative COPPALJ has affected member well-being. On the one hand, using the participatory method the well-being dimensions valued by co-operators and non- co-operators could be highlighted, and as well, the understanding of the causal link between co-operative membership and well-being, including the co-operative spill-over effect onto the community, as a whole. Nevertheless, there is no guarantee of representativeness, since this methodology was implemented with only small groups of participants. On the other hand, the survey results led to identifying well-being dimensions where members showed statistically significant differences over non- co-operators. However, in using Propensity Score Matching we can reduce the bias on observables, but not on unobservables, and by only looking at ATT outcomes, it is not enough to affirm causal connections for co-operative membership and well-being. Therefore, using the two methods together resulted in being a successful methodology to understand the role that COPPALJ plays in local poverty reduction strategy.

Specifically, well-being dimensions, presumably influenced by co-operative membership, are as follows:

a) Education

Concerning education, it seems that participation in the co-operative contributed to expanding member capability. On the one hand, only co-operators participating in the focus groups selected cards showing adult education and training, reporting on the importance of the co-operative's commitment, together with the NGO ASSEMA, in providing them with training opportunities and adult courses to attain a higher qualification. On the other hand, PSM results showed better performance in terms of education, particularly among women co-operators, who have a statistically significant higher probability to be literate and to attend schools.

In fact, in a rural area where access to education was very difficult among small-scale farmers, and even more difficult in the case of women, interviewed co-operators pointed out that participating in the management of the co-operative constituted a significant opportunity for practicing and improving their educational skills, especially for illiterate members, thus, representing a daily school in itself. Moreover, the co-operative commitment with the NGO ASSEMA opened up opportunities for members to participate in PRONERA⁵⁴, thus, enabling co-operators at least to complete their basic qualifications.

Women's findings are particularly important, due to the widely recognised key role that education plays as a basic capability for both personal human development and also for the well-being of families and children. Participatory methods particularly revealed the importance of member participation in the co-operative regarding their children's education, a dimension that was not thoroughly explored in the questionnaire. Through the use of the card game, the importance of the co-operative in having schools provided in every community was revealed. This was carried out by the co-operative pressuring public authorities, stressing the right for their children to have the opportunity to be educated without being forced to move to urban areas. However, since it is broadly recognised that accessing

⁵⁴ Cfr. §5.2

education is not synonymous with accessing quality education, COPPALJ contributed actively in establishing a school, recognised by the public authority, and inspired by agro-ecology and co-operative principles, namely the “*escola familia*”, where children remain for 15 days, learning traditional subjects together with innovative agro-ecological ways of production, co-operative management and furthermore, living a communal life. Then, they spend the second part of the month at home, transferring their know-how to parents and contributing to the household well-being.

Interestingly, as emerged from the card game, all these contributions in terms of youth education involved not only member households, but also those of non-members, who could also send their children to the “*escola familia*”. This underlined the significant role of the co-operative in the development of the community as a whole.

b) Nutrition

The co-operative’s commitment to food security clearly arose from the focus groups and interviews. With reference to the FAO definition of food security⁵⁵, we could say that COPPALJ has a significant role both in making more food available, selling member production in community shops (*cantinas*), and in improving member purchasing power through income distribution. Furthermore, fostering organic production, has increased food safety and promoted training in nutrition, educating member in diet diversification.

These results, were revealed through the participatory methods and interviews, and found their confirmation in the quantitative findings, showing the higher propensity of members in the consumption meat/fish and vegetables/fruit. Notably, this last domain was statistically significant only with reference to women. In fact, on the one hand, the result regarding the meat/fish consumption could represent a proxy of household income, since, usually, such food is bought and, probably, a higher income enables members to buy and, thus, consume this food more frequently. On the other hand, the increased consumption of vegetables/fruit

⁵⁵ See §4.2.1.

could suggest the role of the co-operative in raising women members' awareness of the importance of a diversified diet, as well as, of a diversified agricultural production contributing to household food security, as emerged in the group debates and open interviews. Interestingly, these findings also underline the crucial role of women in household food security.

c) Health

Health care in the region is not sufficiently developed, as pointed out by all those interviewed, who complained about the absence of decent public health assistance providers in rural areas, as well as, in urban areas. In fact, they widely agreed that, for serious health problems, the best option was a private hospital, since public assistance was not effective. However, even if the co-operative is not directly involved in healthcare assistance, members interviewed reported that it supports them through lending money when they cannot immediately afford the health costs for private hospitals. Nevertheless, quantitative methods do not show statistically significant differences between co-operators and non-co-operators concerning severe diseases reported in the last year and access to decent healthcare, leading to the conclusion that health is one of the well-being dimensions not yet adequately achieved and, however, the co-operative has not particularly contributed to expanding this capability.

d) Shelter and sanitation

The importance in having access to decent housing and related facilities was reported by all those interviewed. Using participatory methods, the debate around this well-being dimension reported a difference between co-operators and non-co-operators. In fact, during the card game, both the control group and the comparison group selected the card showing decent housing, identifying the need for a decent shelter as one of their most important priorities. This card, instead, was not selected by members, even though, during discussions they expressed satisfaction in their homes, recounting how they had been able to build them, especially thanks to the member refund from the co-operative at the end of every year. Quantitative findings confirm such differences between co-operators and non-co-operator outcomes

regarding women, showing that women co-operators have a higher probability to access decent housing and also toilet facilities. No significant findings emerged for access to water.

Therefore, the co-operative role in this well-being dimension could be seen, considering the fact that one of the priority areas where members invest their annual co-operative member refund is, in fact, in their home. This confirms the important role of the co-operative in shelter achievement, not directly, but indirectly through monetary benefits. The fact that the quantitative findings revealed a statistically significant difference for women could confirm this income-related explanation, since women co-operators, being involved in the Babaçu activity, usually receive the highest amount of member refunds, being proportional to the amount of Babaçu nuts sold to the co-operative in the year.

e) Decent work

During the participatory methods, all groups belonging to the communities where COPPALJ works, chose the card showing the word “cooperativismo”. Co-operators immediately explained their idea and their experience of what being a member has meant, outlining their feelings about being autonomous, and, thus, not being exploited by the landowners; being able to address their business activity and to control management information, but, moreover, being able to improve their work. Specifically for women, as they reported, participation in COPPALJ has meant, first of all, the opportunity to enhance their identity as women, agricultural producer and “Babaçu breakers”, without shame or feelings of being useless and invisible. In fact, many women reported that, before setting up the COPPALJ, they had denied their work activity and had not been aware of their fundamental contribution to the household economy, attributing value only to the men’s work.

This result was confirmed in the quantitative data analysis, where there was a statistically significant difference between members and non-members with reference to psychological well-being at work, specifically with regard to the opportunity to express their own potential and to improve.

Concerning protection at work, at different moments during group activities and individual interviews, members underlined that participating in the co-operative contributed to improving their way of working, increasing their knowledge regarding agro-ecology principles, trying to produce without using pesticides and burning off fields. Dona Sibà, ex-president of the co-operative, reported that “even if this commitment has met a strong resistance among members, some changes have been achieved, enabling the co-operative to obtain the organic certification for the Babaçu oil, originating from nuts not exposed to chemicals”. However, PSM shows that there is not a significant difference between members’ and non-members’ concerns regarding the possibility of being exposed to chemicals, with the majority of those interviewed declaring not to be concerned. Nevertheless, in discussing the topic in the focus groups, it clearly emerged that using chemicals is the norm in local agricultural production, while organic production has been promoted only by the co-operative, though, with many difficulties.

No improvements resulting from co-operative membership regard comfort of work posture. In fact, even if the co-operative members have found a way to trade their products fairly, to transform them increasing their added value and to manage autonomously and commonly their business, it does not mean that their daily work, cultivating the land, and collecting and breaking the Babaçu coconuts, is not physically exhausting. As members, especially women members, reported, technologies at least for alleviating difficulties of breaking coconuts with axes have been tried, but up to now appropriate technologies which allow them to fully exploit the coconuts have not been discovered. Moreover, women evaluated very carefully such new technologies since in the majority of cases, they are not developed for improving their work, but for supporting industrial activities which look at the Babaçu coconuts as input for iron and bio-diesel production, ignoring the socio-economic context where Babaçu palms grow. Quantitative findings confirm this result, showing no significant difference between members and non-members regarding comfort of work posture, with the majority of respondents declaring its uncomfortableness.

With reference to the risk of exposure to intimidation or physical and verbal abuse, co-operators reported that COPPALJ activities for the last 20 years, together with other social movements, have contributed in improving social relations in the field, especially with the landowners, eliminating the probability to be abused. Nevertheless, they declared that much has still to be done, demanding respect for the law, especially regarding free access to the Babaçu forests. Moreover, there have been signals of deterioration in relations over the last years, as a landowner, against whom members had fought fiercely 20 years ago, has been elected mayor of the municipality of Lago do Junco. This situation is consistent with quantitative outcomes, showing no statistically significant difference between members and non-members for this indicator, and with descriptive statistics showing the majority of respondents declaring not to have been subjected to intimidation, but still with about 20% of respondents affirming the opposite.

Finally, some considerations concerning decent work in the dimension of security. From the quantitative data there emerges that there is not a significant impact of membership on access to retirement pensions. This aspect did not emerge during the focus group discussions, but, it should be underlined that even if the co-operative pays the trade union fee on behalf of its members, access to a pension depends on the trade unions and there is not a close relation, in fact, with co-operative membership.

To complete the analysis concerning findings on decent work, an interesting variable investigated both by participatory methods and quantitative methods is access to credit. It was investigated in the survey through a variable expressing the fact that people have borrowed money for last three years. Descriptive statistics show that a higher percentage of members than non-members borrowed money in the last three years (see table 7.22-7.23-7.24) and the PSM showed the difference to be statistically significant, highlighting that, in fact, co-operators show a higher probability to having accessed credit than non-co-operators. Still descriptive statistics showed that the majority of members used the loan for production, while non-members for covering health expenses (it is interesting also to observe that 8% of

members used the loan for education while non-members did not). Moreover, regarding the source of lending, family and friends represent the most significant source for non- members, while it is the bank for members, followed by the co-operative.

Nevertheless, through participatory methods, access to credit was selected as an important dimension only by non-members, who particularly stressed their satisfaction in accessing some credit opportunities provided by the federal government in the last years, such as the credit program PRONAF, complaining about being previously excluded from official credit sources.

Therefore, it could be concluded that co-operative membership presumably expands member opportunities in accessing credit, on the one hand, itself providing members with small loans and, on the other hand, facilitating the access to official sources, but only indirectly, increasing their access to owned land, an important condition required by banks.

f) Access to land

Concerning owned land, the data showed that members have a statistically significant higher probability of holding such property, both as private individual entitlement or as a consequence of land distribution through the Agrarian Reform. In this case, direct causality between co-operative membership and access to land cannot be taken into account because, as the qualitative results showed, the majority of co-operative members participated in the fight for land, well before the co-operative had been set up and it was only after they took over the land, that the co-operative came into being. Nevertheless, one of the most important challenges underlined in the literature is that, access to land does not only mean legal entitlement to that land, but also the possibility to remain in rural areas and to cultivate the land over time, accessing the market and other important services for production and household livelihoods. Thus, in this regard, members strongly asserted the role of COPPALJ, not only in continuing the struggle for land access but also after, when the co-operative was set-up, and above all, enabling members to

continue holding their land and cultivating it. As well, it also provided them with technical assistance and access to local, domestic and international markets.

g) Participation in household decision-making

In a region deeply affected by gender bias, where women are mainly considered for their reproductive role, it was interesting to analyse whether and how the co-operative influenced this aspect. Participatory methods clearly reported that co-operative membership has significantly increased the members' attitude to participating in the decision-making process, at work and, as well as, in the household. This was shown to be particularly evident for women. As already shown in paragraph 8.2.2., all groups selected the card showing a man beating a woman, explaining that the problem does not necessarily concern physical violence, but an unbalanced relationship, with women not being allowed to participate and decide autonomously. In fact, co-operators stated that this was the case before the co-operative was set up, and that, even if there was still much to be done, the situation had considerably improved. In fact, it clearly emerged that by working on gender equality issues in the co-operative, women empowered themselves, growing in self-confidence and awareness concerning their rights, thus, taking on important decision-making and managerial positions and asserting themselves in decisions made in the household. On the other hand, experimenting with gender equality behaviour in the co-operative constitutes an important education for men, who have carried over some changes in this regard into their family life. However, it should be noted that even if some changes have been observed in decision-making in such domains, working tasks included, women members still complain about the unequal distribution of tasks among partners in the household. Therefore, the women's achievements in terms of participation in the co-operative management are often translated into an overload in their daily life, thus, seeing their participation as often losing time that could have been devoted to themselves or some kind of leisure. Nevertheless, despite these interesting qualitative findings, the data analysis does not show that there results in being any specific attitude of co-operators in decision sharing in the home, except for the dimension of tasks at work. Other dimensions where cooperative

attitude does not emerge, is where co-operators show a higher probability in having the freedom to decide autonomously, specifically regarding household expenditure.

h) Participation in community life

The research question regarding this dimension was to understand whether members were able to spread the bonding social capital created in the co-operative, to the communities where they lived, thus, creating that bridging social capital so important for the sustainability of a development process. Participatory methods highlighted a high level of member participation, specifically in the co-operative, but also in other organisations existing in the area, such as, for instance, the church, the “*escola familias*” and the NGO ASSEMA. Members reported how they always felt committed to improving the well-being of their community, and not only their own, specifically attracting and/or conquering the public services for community well-being (such as public schools; Babaçu Free Law) or providing, themselves, services for the benefit of their communities as a whole (such as transportation, local shops). However, beyond this important spill-over offered by the co-operative to the community, it was important to understand, if, by actually participating in the co-operative enabled members to increase their individual commitment to the community, through providing voluntary work. Consequently, this dimension was analysed in the survey. Here, the PSM revealed that there is a statistically significant difference between co-operators and non-co-operators. However, even if the PSM shows a high percentage of probability for members to be committed to community voluntary work, this is one of the variables where unobservable factors can have a strong interference and, therefore, it is necessary to be very careful in affirming the causality direction. Indeed, the co-operative has played a very important role in community development and also in developing the members’ sense of agency. Participating in the co-operative does not only generate a stronger social capital among members but it also fosters their sense of agency, thus, spreading the opportunity for community development, in general. This attitude to promote not only the bonding social capital inside the co-operative, but also, the bridging social capital, connecting the co-operative to the communities, as well as, to groups

belonging to other communities and relevant institutions, represents a winning strategy in fighting poverty and enabling a sustainable development over time. However, it is also important to take into consideration that the people most committed to improving the community, were those who fought for land and access to natural resources, and were also the people who were most probably motivated to participate in the co-operative. However, this is a circular self-reinforcing process, and, presumably, participation in the co-operative could have increased the participation in the community of members who had not been used to it before becoming members.

8.4.2 The role of the conversion factors

All results outlined above pointed out which well-being dimensions have been presumably most affected by participating in the co-operative, and which dimensions were not. At this stage, it is important to wonder whether there were any specific conversion factors⁵⁶, which facilitated/impeded that participation in co-operative that could be transformed into expanding member well-being. Specifically, the challenge is to try to understand, in the case of dimensions where the co-operative seems to have had no impact, and if it depended on conversion factors in not enabling the co-operative to work on these dimensions, or because the co-operative model is not, in itself, able to work on them.

Briefly summing up, the well-being dimensions which presumably have been most affected by co-operative membership are: women's literacy and education; nutrition; access to markets and land; shelter and sanitation (for women); decent work (mainly in its dimension of psychological well-being and access to credit); and more complex dimensions, such as participation in community life and participation in household decision-making (as functioning in the domain of tasks at work and as capability in the domain of household expenditure).

⁵⁶ See chapter 4

Well-being dimensions where the co-operative seems not to have had any impact are: health and access to water; security and protection at work; participation in household decision-making in the domain of health and household expenditure.

A first group of dimensions could be grouped being linked to state welfare as one of the conversion factors. They are: education, health, water, shelter and sanitation and retirement (i.e. security at work). None of these well-being dimensions are the main mutual aim of the co-operative, i.e. the reason why members decided to set up the co-operative. In fact, the objective for this co-operative was and is market access for their production, where these services were found to be lacking from the state. Nevertheless, as seen, the area where the co-operative is located cannot rely on state effectiveness in the automatic achievement of these well-being dimensions. The low HDI of the municipality of Lago do Junco is a confirmation of this. In this situation, the co-operatives, being interested in the general well-being of their members and communities, can decide to play a role, basically, in three ways: a) providing directly the needed service; b) demanding from public institutions to receive the services required; c) cooperating with other organisations which can provide such services.

Concerning education, the field work revealed that public schools were provided, but, at the beginning, only in the urban areas. In its 20 years of activity, the co-operative adopted all three of the strategies: demanding public schools in all communities, up to high school in some areas, enabling members to increase their literacy skills through “learning by doing”, being involved in the co-operative management and motivating them to attend schools; cooperating with other organisations, such as the NGO ASSEMA, or MST, in order to provide communities with educational services, such as “escola familia” and PRONERA.

As far as access to health care is concerned, the ineffectiveness of public assistance emerges from the absence of health centres in rural communities and the lack of trust in public hospitals. In fact, as already pointed out, private hospitals are considered the best option in case of severe illnesses. Health assistance is not one of co-operative’s priorities, and, in fact, the only contribution regards small loans to

members who urgently need to go to private hospitals, however, it is not enough to observe as a significant impact on this well-being dimension. The same could be said referring to access to water, shelter and sanitation where public provision is absent, though it should be one of public authority duties, and people solve this problem autonomously, building wells and sharing them with neighbours and building their own shelter and sanitation, depending on co-operative action only as an indirect consequence, due to the income effect. Regarding the possibility to receive a retirement pension, in Brazil, such services are provided by the state and, in the case of rural workers, among the many bureaucratic procedures, they have to prove they carried out their activity, and for this reason affiliation to trade unions is fundamental. The co-operative contributes in this respect by paying trade union annual fees on behalf of their members.

As a conclusion, it seems that, where the state was lacking in providing these services, the co-operative, in fact, contributed to expanding all these well-being dimensions, even if they are not among its mutual aims, and acting in the three ways mentioned above. However, among the four dimensions investigated, it seems that education is the one that can be expanded through co-operative membership independently of the institutional context. In fact, "learning by doing" is inherent in all co-operatives where member participation is high, enabling members to expand their knowledge and skills despite their educational level. The more the institutional context lacks in providing this opportunity, the more the co-operative contribution will be appreciated.

Another conversion factor to be taken into account is the economic and legal framework. It is a fundamental conversion factor to examine in order to properly evaluate the co-operative impact on dimensions such as access to markets and natural resources, access to credit, decent work (here meant mainly as a fair income, but also as psychological well-being), and also to one of the most important market and natural resources related dimensions, that is, nutrition. The economic framework is closely linked to geographical factors, as it is in remote rural areas that the pre-conditions for the monopsonistic power of landowners are created. Landowners were

able to exploit the small-scale farmers and rural workers taking advantage of the difficult access to communities, as well as the distance from the markets and urban areas. The legal framework providing incentives to large properties, and impeding small rural workers from accessing natural resources, such as land and the Babaçu palms, strengthened a situation of inequality and land exploitation. In this situation, prior to the setting up of the co-operative, people were extremely deprived in terms of well-being and freedom to improve their lives. They also lived under a fear factor as landowners used to engage violent armed people to impede access to their land.

In this context, the co-operative has played a fundamental role. In fact, access to markets and, therefore, earning a fair income were the mutual aim underlying the members' willingness to join the co-operative. These aims have been pursued together with defending their source of livelihood, i.e. the land and the Babaçu forests. In fact, both the members' commitment and collaboration with other social movements led to the local municipality passing the law which declared the free access to Babaçu, and the co-operative has continued to help members to defend and to preserve lands obtained through the National Agricultural Reform. By conquering the domestic and international markets, the co-operative has increased the members' incomes, and, consequently, their nutritional level, contributing, as well, to improving their knowledge about healthy diets, reinforcing the impact on this dimension. Access to credit is a linked dimension, since even if there is not an institutional framework particularly favourable to small-land holders, access to land and properties is a fundamental requirement for access to credit. However, even where the state provides credit means favourable to small-scale workers, as is the case of PRONAF in Brazil, the co-operative has had an important role in attracting funds and project initiatives. Finally, achieving the freedom to market their products, to access natural resources and to collectively self-manage their own production, represented for the workers an inestimable source of psychological well-being, which could be considered one of the most important outcomes of co-operative membership.

Therefore, it can be argued that in rural contexts affected by economic and legal inequalities, co-operatives can have a crucial role to play in changing power relations, enabling members to autonomously manage their production, accessing productive factors, natural resources and markets, also international ones, which often represent a driver for local development, as happened in this case study. In fact, this aspect recalls another important conversion factor, which is the ability to network, and where, in this case, it strengthened the ability of the co-operative to impact on the above-studied dimensions. Participating in national and international fairs is an important opportunity for co-operatives in remote contexts, enabling them, not only to access markets, but also to create powerful relations and alliances with other co-operatives, organisations, and institutions, from developed countries, as well as in the national context. This happened to COPPALJ, which over 20 years has been able to create an impressive network, improving their access to markets and attracting important development projects.

From these conversion factors, two seem to be fundamentally important, as prerequisites of cooperative action. The first is the state position regarding the autonomy of co-operatives and social norms, which can favour or impede democratic participatory processes. In Brazil, co-operative law recognises the autonomy of co-operatives, thus, resulting in the development of an important co-operative movement. The acknowledgment of co-operatives in poverty reduction strategies mainly concerns the federal government, and COPPALJ has benefited, in part, from this attention, for instance, by participating in many international fairs thanks to support from the Ministry of Agricultural Development.

In referring to social conversion factors, in the case of COPPALJ, the unequal relations which dominated the region and the effort of the local population to defend their livelihoods played an important role as powerful source of social capital among workers, underlying the common action that fostered the setting up of the co-operative. It is also important to outline that in the communities where COPPALJ was set up, there were also close and collaborative relations, at least, among some groups of people. As reported by some members interviewed, this feeling of cooperation and

self-reliance increased starting from the '70s-'80s, when activists of the Catholic Church, practicing Paulo Freire's so-called "Pedagogy of the Oppressed", started educating and raising the awareness of many poor rural workers. Such factors played an important role in creating the 'glue' among members which guaranteed its success. However, this bonding social capital must be continuously renewed by members, and not taken for granted, since it can always be threatened by new external and internal factors. Internal democratic debate represents an important tool for this aim. Moreover, the presence of bonding social capital does not necessarily imply an equally developed bridging social capital. The co-operative can represent an enclave in the communities, or a source of development for all. It depends on the relations which members establish with others in the communities where the co-operative works. Personal attitude and social norms in the community can influence both people's choice to become members, and member participation in community life. As already mentioned in the previous point, both aspects were important in this case study.

Finally, another social conversion factor to be taken into account regards gender relations in the field. In fact, male domination could have reduced the impact of the co-operative on the well-being of women by impeding the women to participate or under-valuing the role they could play. In the COPPALJ experience, the gender issue was deeply worked into the co-operative in order to raise the awareness of the men and to foster the women's self-esteem, and therefore, enabling the co-operative to play a crucial role, especially in the well-being of the women. Nevertheless, it is important to consider that the effect was strengthened due to the fact that the co-operative, by placing importance on and improving Babaçu production, has directly enhanced the role of women, who are much more involved in this activity than men.

CONCLUSIONS AND AGENDA FOR FURTHER RESEARCH

The main conclusions of this thesis basically concern three aspects. Firstly, the fact that the Human Development and Capability Approach (HDCA) represents an appropriate framework to evaluate the co-operative enterprise, thus, going beyond a mere evaluation based on efficiency criteria. Secondly, the co-operative form of business can be considered an institution able to foster at least some of the main dimensions of human development, thus, representing a valuable means for poverty reduction, understood as a deprivation of capabilities. Thirdly, case studies, based both on quantitative and qualitative methods and aimed at evaluating the impact of co-operative membership on member well-being, analysed in its multi-dimensionality, constitute an important step in understanding which capabilities are most affected by participation in co-operatives and which conversion factors are more important.

Literature on co-operative economics has developed various frameworks, mainly based on neo-classical and institutional economic backgrounds, and they have been basically aimed at evaluating co-operative performance according to efficiency criteria. In the first part of the thesis it was shown how, in comparison with such approaches, the framework provided by the Human Development and Capability Approach seems to be the most suitable for the analysis of this peculiar form of enterprise, especially, when the analysis regards the role of co-operatives in poverty reduction. The main reason lies in the full recognition given by this approach to participation. Participation in political/social/community life helps to achieve commonly valued results, but it is also a process, intrinsically valid, because as such it enlarges the real freedom enjoyed by people. Within a genuine co-operative, members have the right to self-determination, working together, sharing common interests and values, participating in decision-making and, finally, taking decisions in a “democratic” way. It follows that participation is a core element of well-functioning co-operatives.

Co-operatives, which actually act in a participatory and democratic way, can be defined as institutions which can contribute to fostering human development. In fact, co-operatives held all the three main features required by these kinds of institutions. Specifically, co-operatives, set-up by members and rooted in local communities, are one of the main actors in local development, and thus, they can contribute to creating wealth, in a sustainable way, and to promoting economic and social cohesion. Furthermore, co-operatives contribute to creating civic participation in a more sustainable way than other participatory organisations, due to the fact that they are based on their economic nature. This argument recalls the second and the third characteristics of institutions for human development. Indeed, the autonomy and the meaningful relations which members establish in a co-operative have an intrinsic value, without any economic justification, thus, representing one of the main motivations for members to join a co-operative. As such, motivated members actively participate in co-operative management and decision-making, and through a deliberative process, they are the protagonists of social change.

The thesis proposes the HDCA as an appropriate evaluative framework for investigating co-operative success in fighting poverty, examined in terms of member multi-dimensional well-being. Even if the HDCA is criticised for being an “individualistic approach” and, thus, for not being appropriate to evaluate collective phenomena, the thesis supports the argument that the HDCA is an evaluative framework that embraces ethical individualism, but does not rely on ontological individualism. This means that even if the HCDA is concerned with individual well-being, it does not imply that only individuals matter and all social entities can be identified by reducing them to individuals. On the contrary, the HDCA is particularly concerned with those opportunities that are strongly influenced by social circumstances and public policies, and by focusing on the individuals’ well-being it provides a framework for shifting attention from monetary parameters to multi-dimensional aspects of poverty and examining how institutions impact expanding the different real freedoms of people, being the main aim of development. With reference to co-operative assessment, evaluating its performance in terms of member

well-being does not mean under-valuing its productive/entrepreneurial features, thus, risking placing co-operatives on the same level as conventional companies. In fact, many indicators of well-being are closely connected to the successful economic performance of the enterprise, but this economic performance also represents a means for human development, rather than its end.

It is very important to analyse the co-operative impact from a multi-dimensional perspective. In fact, co-operatives, as enterprises, are not required to expand all people's capabilities, thus, undermining the role of other important institutions in poverty reduction, such as the state, local institutions and other governmental and no-governmental organisations. First of all, co-operatives should expand the capability related to the mutual aim, the main reason they have been set up. Looking at basic capabilities, such as the opportunity to be well educated, nourished, sheltered, employed and provided with health care, it can be observed that, at least some of them can be achieved because, in fact, they constitute the main objective of the co-operative. In an agricultural co-operative it is food safety/security or in a housing co-operative, shelter, and so on. Other basic capabilities, such as education, or more complex ones, such as participation in community life or in household decision-making, can be the result of the participatory nature of the co-operative or of member commitment to their well-being and community development. In any case, the multi-dimensional approach in assessing a co-operative is crucial, as well as, the context analysis where the co-operative has been set up.

It is here that conversion factors play a crucial role as they are contextual features which can impede/facilitate the transformation of co-operative membership into capability expansion. In particular, social conversion factors regard social norms, the role of the state, the legal and economic framework and the ability of the co-operative to create networks.

The case study was focused on providing an empirical analysis, verifying how participation in a co-operative located in a low human development

municipality in Brazil could have affected the well-being of member and their families.

However, despite the literature asserting that co-operatives do not benefit the poor, the case study showed that the co-operative COPPALJ worked successfully in improving member well-being, examined in its multi-dimensionality, thus, enabling disadvantaged people, from a socio-economic point of view, to fully take part in socio-economic life. Dimensions of well-being presumably mostly affected by the co-operative membership regard basic capabilities, such as women's education; nutrition; access to markets and land; shelter and sanitation; decent work (mainly in its dimension of psychological well-being and access to credit); and more complex ones, such as participation in community life and participation in household decision-making (at least, in some domains).

All outcomes were obtained both through quantitative methods (survey data elaborated with Propensity Score Matching) and qualitative ones (participatory method, i.e. the card game and open interviews). Such methods hold a complementary role and triangulating them represented a crucial methodology in investigating how the co-operative influenced member well-being. In particular, participatory methods helped in understanding the local context and causal connection between co-operative membership and well-being. Participants were asked whether they considered the dimensions investigated achieved (or not), however, these results could not be considered representative of the whole population. In fact, this was the role of the quantitative methods. By analysing data collected through the survey, statistically significant results were found regarding achieved (or not) well-being dimensions.

We can note some interesting findings by looking at them from a gender point of view. The most significant results concern, first of all, the outcomes related to education, nutrition and shelter. In fact, this study showed how by participating in a co-operative women have a higher probability to be literate and to attend school. Moreover, they are the main channel for household food security, considering that women co-operators' households have a higher probability to diversify their diet with

reference to fruits and vegetables, which can be cultivated but which usually do not represent a fundamental component in the local daily diet. Finally, women co-operators' households show a higher probability in living in a decent shelter and this could be explained due to the fact that women are the most involved in Babaçu production and, therefore, women co-operators' families are those who most benefit from the annual distribution of member refunds (calculated as a percentage of Babaçu nuts sold to the co-operative during the year). Finally, regarding decision-making in the household, quantitative methods do not show any significant impact regarding co-operative membership on these women's capabilities. However, participatory methods highlighted that women co-operators participating in co-operatives improved their life mainly in two directions: firstly, in improving the Babaçu, it enhanced their work and their identity as Babaçu Breaker rural workers, thus, escaping from the invisibility and under-evaluation they had suffered in the time of the dealers. Moreover, the active participation they achieved in the co-operative increased their self-confidence and self-esteem, helping to change the gender relations in households, as well as in the communities.

As well as gender aspects, the important contribution of the co-operative emerges in that it improved member psychological well-being, thus, representing an institution which can foster member capabilities, such as “being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers”.⁵⁷ Furthermore, co-operative membership has improved the members' economic freedom, through improving their access to markets, credit and land. It has also fostered community development, because the member agency was usually addressed to attracting public infrastructures and services (for instance, schools, electricity, transport) for the benefit of the community as a whole. Moreover, improved member well-being seems to have played a significant role in the sustainability of the co-operative over time. As Ms Sebà, ex-president of COPPALJ, said “The co-operative success depends on the members’

⁵⁷ Nussbaum, 2000. See § 1.2, where such capability is considered an important characteristic hold by institutions which foster human development.

satisfaction and motivation. COPPALJ survived because members deeply felt the relative importance for their well-being and of that of their families and communities. It did not happen to other co-operatives in the region where member participation was not that active. Today, we are reaping the fruits of our labour in the past, and we are still working to maintain it sustainable over time. In this process, the new generations have a crucial role to play, since they are the future, and we are doing our best to educate them to become conscious future managers and members”.

Indeed, conversion factors play an important role in understanding the reason why this co-operative was presumably successful in expanding member capabilities, while others have failed. An analysis of the economic and legal framework where the co-operative operates, was very important in understanding the existing power relations that the co-operative had to face, while an analysis of the co-operative legislative framework leads to understanding the possibility of the co-operative to work as a genuine democratic enterprise. Investigating the level of public welfare provision is important in evaluating the effort of the co-operative in expanding basic capabilities, considering that, in this case study, they are not the mutual aim of the co-operative. In fact, here it is possible to identify three ways of co-operative action: a) providing the needed service directly; b) demanding public institutions provide the services required; c) cooperating with other organisations which can provide these services.

The social norms also represented a fundamental conversion factor to be taken into account. In fact, the economic and power inequality which dominated in the field in the ‘80s and the consequent battles to access natural resources was an important catalyst in generating a strong bonding social capital among members, a crucial factor for the success of this co-operative. Moreover, the ability of co-operators to work on gender aspects and to expand bridging social capital, including the co-operative in national and international networks, enabled the positive impact of the co-operative on member well-being, avoiding the possible limitations represented by the traditional social norms and geographical isolation, which could have resulted in social inequalities within the co-operative.

However, despite the interesting results revealed by this case study, it would be useful to encourage other empirical studies on this topic, thus, verifying, in other contexts, which well-being dimensions are more (or less) affected by participation in a co-operative, and which conversion factors seem to be more important where co-operative membership becomes a means for expanding individual well-being.

In conclusion, the UN resolution which declared 2012 the International Year of Co-operatives confirmed the importance of this field of research. The thesis has aimed at contributing to understanding the added value of the co-operative form of business, specifically in a poverty context. In particular, in applying the human development and capability approach to co-operative economics, and therefore, linking co-operatives to the concept of well-being, aimed at contributing to shifting co-operative thinking beyond the *homo oeconomicus* rational choice perspective, and bringing it closer to the reason why people adhere to collective livelihood strategies, thus, providing greater insight for policies and practice.

Furthermore, this thesis, showing how triangulating quantitative and qualitative methods applied to the analysis of co-operatives in a human development and capability approach setting, presented a valuable methodology in order to obtain an assessment of co-operative impact on member well-being, as well as, understanding in depth the democraticity of the co-operative process and its impact on community development. This is important in overcoming the evaluation of co-operative performance based only on monetary indicators and, instead, enhancing the concrete contribution that co-operatives can bring to human development and poverty reduction.

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ANNEX A - QUESTIONNAIRE

Enumerator: _____ Date _____
Respondent code number _____ Name _____

Section 1: Location details

1.1 Community _____

1.2 Who is present during the interview? [*Observation only*]

- 1 Respondent only
- 2 Respondent and spouse
- 3 Respondent and other household member(s)
- 4 Respondent and Neighbours

Section 2: Respondent details

2.1 Sex of respondent [*Observation only*]

- 1 Female
- 2 Male

2.2 Can you please tell me your age?

2.3 What is your marital status?

- 1 Married
- 2 Living with domestic partner
- 3 Single
- 4 Widowed
- 5 Separated/Divorced

2.4 What is your religion?

- 1 Catholic
- 2 Evangelical
- 3 Atheist
- 4 Other: _____

2.5 Do you know how to read/write?

- 1 Yes
- 2 No
- 3 I don't know

2.6 What educational level have you reached at the moment?

- 1 No education / illiterate
- 2 Literate – can just read / write
- 3 Primary level (incomplete)
- 4 Primary level complete
- 5 High school incomplete
- 6 High school complete
- 7 University
- 8 Other _____

2.7 Are you still studying?

1 Yes

2 No

2.8 If yes, where? _____

2.9 How many people do you share your house with?

2.10 Description of the household:

Sex	Relation with the respondent	Age	Education (see list Q2.6)	Are you studying? 1.yes 2.no	If yes, where?	Main Occupation	Monthly income	Second Occupation	Monthly income	Coopall Member

2.11 How many times per week in your household do you eat?

meat/fish vegetables/fruit rice/corn beans

2.12 When decisions are made regarding whether to send your children to school, who is it that normally takes the decision?

1 Respondent (go to 2.14)

2 Spouse

3 Respondent and Spouse jointly

4 Someone else

5 Jointly with someone else

2.13 To what extent do you feel you can make your own personal decisions regarding whether to send your children to school if you want to?

1 To a high extent

2 To a medium extent

3 To a small extent

8 Not at all

2.14 I am now going to describe possible reasons why your children go (went) to school and ask you to rank how well each fits with your own reasons

	1. Not at all true	2. Not very true/ Somewhat true	3. Completely true
1. I have no say in whether I send (or not) my children to school (No control)			
2 Someone else insisted that my children go to school and study (stay at home) (External pressure)			
3 I (do not) send my children to school so those around me would approve of me and respect (So people approve me)			
4 I (do not) send my children to school because I personally believed that it is important and valuable for them to receive an education (I think it is important)			

Section 3: Job and assets

3.1 Are you member of COPPALJ ?

1 Yes 2 No

3.2 (If yes) for how long have you been member?

3.3 Why did you decide to join the co-operative (or not)?

3.4 What is your main occupation?

1 Farmer

2 Babaçu Breaker Worker (Quebradeira/or)

3 Other _____

3.5 If any, what is your secondary occupation?

1 Farmer

2 Babaçu Breaker Worker (Quebradeira/or)

2 Juquira

3 Teacher

4 Breeder

5 Retailer

6 Other _____

3.6 In case of secondary occupation, how much do you earn monthly?

3.7 What is the “ownership status” of the land you work?

1 Owned

2 Distributed from Agrarian Reform

3 Rented

4 Other _____

3.8 In case of answering 1 or 2, in whose name is the property?

1 Respondent

2 Spouse

3 Respondent and spouse jointly

4 Other _____

3.9 How many hectares?

3.10 If any, which animals do you own?

1 Horse

2 Cattle

3 Goat

4 Pig

5 Donkey

6 Poultry

7 Sheep

3.11 Other information regarding production

Cultivation	Production(Kg)	For sale 2for consumption 3both	If 1 or 3, do you sell to?	Quantity sold	Last price received	If 1 or 3, is production enough for household consumption until next harvest? 1 Yes 2 No	If no, how many month do you need to buy food until next harvest?
Babagi	In a week:						
Rice							
Corn							
Beans							
Manioc							

3.12 How is this money usually spent?

1 Expenditure for basic needs of the household (food, daily purchases)

2 Expenditure for children's education

3 Health expenditures

4 Personal expenditure of the respondent

5 Personal expenditure of the respondent's spouse

6 Other (specify) _____

First choice	
Second choice	
Third choice	

3.13 Who decides how to spend the money that you earn?

1 Respondent (go to 3.15)

2 Spouse

3 Respondent and Spouse jointly

4 Someone else

5 Jointly with someone else

6 Other

3.14 To what extent do you feel you can make your own personal decisions regarding how to spend your money if you want to?

1 To a high extent

2 To a medium extent

3 To a small extent

4 Not at all

3.15 I am now going to describe possible reasons why you make certain purchases with your money

	1. Not at all true	2. Not very true/ Somewhat true	3. Completely true
1. I not make choices in making purchases; there are no choices to make (No control)			
2 I make purchases according to what my spouse or someone else insists on (External pressure)			
3 I make purchases that other people expect and so they will approve me (So people approve me)			
4 I make purchases in line with what I personally believe it is important and valuable (I think it is important)			

3.16 Do you receive a retirement pension? 1 Yes 2 No

3.17 If not, will you receive a retirement pension? 1 Yes 2 No

3.18 Do you have the right of health or social insurance? 1 Yes 2 No

3.19 How likely do you think it is that you will lose your job/income generating activity in the next 6 months?

1 very likely

2 somewhat likely

3 not likely

4 I don't know

3.20 If you were to be severely affected by a negative shock to your income-generating activity (such as a drastic fall in demand/price of your good, drought or flood affecting your crops, death or theft of your livestock, loss of your employment, or business failure) or if you were to fall sick what would be your response to try to maintain your welfare level? (list up to 3 by order of importance)

1 Spend saving or sell assets/land

2 Start a new activity/ look for a new job

3 Borrow money from family or friends

4 Borrow money from the co-operative

5 Borrow money from banks

6 Other members of HH previously not working go to work

7 Reduce consumption

8 Do nothing

9 Other (specify) _____

First choice	
Second choice	
Third choice	

Safety- Workplace exposure

3.21 Thinking about the place you work in, please indicate if the following hazards are present, not present or don't know:

	Present	Not present	I don't know
exposure to harmful chemical, without appropriate protection			
uncomfortable work posture/long hours of standing			
intimidation or physical or verbal abuse			
other (specify)			

Psychological well-being at work

3.22 To what extent do you feel that people treat you with respect at work?

1 always

2 frequently

3 occasionally

4 never

5 I don't know

3.23 To what extent do you feel that people treat you have the opportunity to express your potentiality and improve at work?

- 1 always
- 2 frequently
- 3 occasionally
- 4 never
- 5 I don't know

3.24 When decisions are made regarding what kind of job or tasks you will do, who is it that normally takes the decision?

- 1 Respondent (go to 3.26)
- 2 Spouse
- 3 Respondent and Spouse jointly
- 4 Someone else
- 5 Jointly with someone else
- 6 Other

3.25 To what extent do you feel you can make your own personal decisions regarding what kind of job or tasks you will do if you want to?

- 1 To a high extent
- 2 To a medium extent
- 3 To a small extent
- 4 Not at all

3.26 I am now going to describe possible reasons why you might engage (or not engage) in outside work or task at home

	1. Not at all true	2. Not very true/ Somewhat true	3. Completely true
1. I have no say in whether I work; it is necessary to get by (No control)			
2 I work because my spouse or someone else insists upon it (External pressure)			
3 I work because others expect it and so they will approve me (So people approve me)			
4 I work because I personally believe it is important and right to do so (I think it is important)			

Shelter and sanitation

3.27 Is your home...

- 1 Owned and completely paid for
- 2 Owned with a mortgage
- 3 Rented
- 4 Given in exchange for services
- 5 Other _____

3.28 In whose name?

- 1 Respondent
- 2 Spouse
- 3 Respondent and spouse jointly
- 4 Other _____

3.29 Type of house [*Observation only*]

- 1 Bricks and Tiles
- 2 Mud and tiles
- 3 Mud and straw
- 4 Other _____

3.30 What type of sanitary services does this household use?

- 1 Septic tank
- 2 Latrine
- 3 None

3.31 What is the primary source of water for this household?

- 1 Pipe
- 2 Well
- 3 Other

3.32 What type of lighting does this household use?

- 1 Electricity (public source)
- 2 Electricity (private source)
- 3 Only kerosene, gas, candles
- 4 Other _____

3.33 Which of the following items do you own, if any?

- 1 Bicycle
- 2 Television
- 3 Radio
- 4 Refrigerator
- 5 Motor bike, car
- 6 Phone

Y	N
Y	N
Y	N
Y	N
Y	N
Y	N

Access to credit

3.34 Did you borrow money in the last three years?

- 1 Yes 2 No

3.35 If yes, how did you use the loan?

- 1 Production
- 2 Health
- 3 Education
- 4 Food
- 5 House
- 6 Other _____

3.36 Which source did you borrow from?

- 1 Co-operative
- 2 Bank
- 3 Family/ Friends
- 4 Others _____

3.37 Why did you choose to borrow from this source?

- 1 Close location
- 2 Interest rates
- 3 Easy requirements and procedures
- 4 No formal requirements or procedures
- 5 Other _____

3.38 Are there any other sources of credit for people in your area which you feel are not available to you?

- 1 Yes 2 No 3 Don't know

3.39 Why are these not accessible by you?

- 1 Lack of collateral
- 2 I don't trust
- 3 Interest rates too high
- 4 Other _____

Section 4: Health

4.1 How would you rate your overall health status?

- 1 Very good
- 2 Good
- 3 Fairly good
- 4 Worse
- 5 Severe

4.2 In the last 12 months, have you suffered from any illness, disability or other physical or mental health problem? 1 yes 2 no 3 don't know

4.3 If yes, could they be caused or made worse by work done in the past?

- 1 yes 2 no 3 don't know

4.4 Thinking about the most serious of these health problems, how would you describe it?

- 1 bone, joint or muscle problem
- 2 breathing or lung problems
- 3 skin problems
- 4 hearing problem
- 5 reproductive system problems
- 6 stress, depression or anxiety
- 7 headache or eyes strain
- 8 heart disease/attack, other circulatory system
- 9 infection disease

- 10 yellow fever
- 11 sexually transmitted disease
- 12 hepatitis
- 13 other (specificity)_____

4.5 When decisions are made regarding what to do if you have a serious health problem, who is it that normally takes the decision?

- 1 Respondent (go to 4.7)
- 2 Spouse
- 3 Respondent and Spouse jointly
- 4 Someone else
- 5 Jointly with someone else
- 6 Other

4.6 To what extent do you feel you can make your own personal decisions regarding what to do if you have a serious health problem if you want to?

- 1 To a high extent
- 2 To a medium extent
- 3 To a small extent
- 4 Not at all

4.7 How did you or would you respond to a serious health problem for yourself or your family?

- 1 Did not anything
- 2 Went to health centre
- 3 Went to “rezador”
- 4 Went to public hospital
- 5 Went to private hospital
- 6 Other _____

4.8 Now I am going to describe possible reasons that you (would) respond this way to health crises

	1. Not at all true	2. Not very true/ Somewhat true	3. Completely true
1. I do not have the ability to protect health of myself or my family (No control)			
2 I do whatever my spouse or someone else suggests (External pressure)			
3 I act in the way that other expect and approve (So people approve me)			
4 I do what I personally believe (I think it is important)			

Section 5: Social relations and networking

5.1 Are you a member of any organisation or group?

1 Yes 2 No 3 Don't know

(If no, go to 5.14 – 5.16 and then section 6)

5.2 Which of the following groups are you a member of?

1 COPPALJ

2 AMTR

3 AJR

4 ACEMEP

5 “Escola família” (Family School)

6 “Sindicato dos trabalhadores e trabalhadoras rurais” (Trade Union)

7 Club de maes (Mother group)

8 Church

9 PT (Worker Party)

10 Other _____

5.3 Which of these organisations is the most important to you? _____

5.4 (If not COPPALJ) Is there any overlap among members of this group and of the co-op?

1 Little overlap

2 Some overlap

3 Much overlap

4 I don't know

5.5 Do COPPALJ members mostly hold the same political values or belong to the same political party?

1 All with the same political values or belonging to the same political party

2 Mainly from the same political values or belonging to the same political party

3 With different political values or belonging to a few different political parties

4 I don't know

5.6 How many times in the past 12 months did you participate in COPPALJ activities, e.g. by attending meetings or doing group work? (number)

5.7 How does one become a member of the co-operative?

1 Invited

2 Voluntary choice

3 Other _____

5.8 Have you ever had a position of responsibility in this group? 1 Yes 2 No

5.9 If yes, for how long?

5.10 How actively do you participate in the group's decision- making?

- 1 Leader
- 2 Very active
- 3 Somewhat active
- 4 do not participate in decision making

5.11 How effective overall is the co-operative's leadership?

- 1 Very effective
- 2 Fairly effective
- 3 Somewhat effective
- 4 Not effective

5.12 How are leaders selected?

- 1 By an outside person or entity
- 2 Each leader chooses his/her successor
- 3 By a small group of members
- 4 By decision or vote of all members
- 5 Other _____

5.13 How much influence do you think you have when each group chooses its leaders?

- 1 A lot of influence
- 2 Some influence
- 3 A little influence
- 4 No influence

5.14 When decisions are made regarding if participating or not in the co-operative, who is it that normally takes the decision?

- 1 Respondent (go to 5.16)
- 2 Spouse
- 3 Respondent and Spouse jointly
- 4 Someone else
- 5 Jointly with someone else
- 6 Other

5.15 To what extent do you feel you can make your own personal decisions regarding what to do if you have a serious health problem if you want to?

- 1 To a high extent
- 2 To a medium extent
- 3 To a small extent
- 4 Not at all

5.16 Now I am going to describe possible reasons that you (would) participate in the co-operative (or not)

	1. Not at all true	2. Not very true/ Somewhat true	3. Completely true
1. I do not have the ability to participate in the co-operative I can't decide (No control)			
2 I do whatever my spouse or someone else suggests (External pressure)			
3 I act in the way that other expect and approve (So people approve me)			
4 I do what I personally believe (I think it is important)			

5.17 How much does being a member of the co-operative benefit you individually?

- 1 Greatly
- 2 Fairly
- 3 A little
- 4 Not at all
- 5 I don't know

5.18 In your opinion, how much do the co-operative benefit your community?

- 1 Enormemente
- 2 Bastante
- 3 Um pouco
- 4 Por nada
- 5 Nao sei

5.19 What are the most important benefits, if any, that you feel you gain from being a co-operative member?

First benefit	Second benefit	Third benefit

5.20 What are the most important benefits, if any, that you feel your community gains from the co-operative?

First benefit	Second benefit	Third benefit

6. Collective action - cooperation

6.1 In the past 12 months, have you worked with others in your village/neighbourhood to do something for the benefit of the community? 1 Yes 2 No

6.2 What were the three main such activities in the past 12 months? Was participation in these voluntary or required?

Activities	Voluntary	Required

6.3 How likely is it that people who do not participate in community activities will be criticized or sanctioned?

- 1 Very likely
- 2 Somewhat likely
- 3 Somewhat unlikely
- 4 Very unlikely
- 5 I don't know

6.4 Do you feel that people like yourself can generally change things in your community if they want to?

- 1 Yes, very easily
- 2 Yes, but with a little difficulty
- 3 Yes, but with a great deal of difficulty
- 4 No, not at all
- 5 I don't know

Section 7: Realizations and Aspiration

7.1 How much control do you feel you have in making personal decisions that affect your everyday activities?

- 1 control over all decisions
- 2 control over most decisions
- 3 control over some decisions
- 4 control over very few decisions
- 5 no control at all

7.2 Imagine a six step ladder, where on the bottom, the first step, stand people who are completely powerless, and on the highest step, the sixth, stand the most powerful

On which step are you today?	On which step are most of your neighbours?	On which step are most of your friends today?

7.3 Would you like to change anything in your life at this point in time?

- 1 yes 2 no 3 don't know

7.4 At this point in time, what three thing(s) would you most like to change in your life?

1 _____

2 _____

3 _____

7.5 Who do you think will contribute most to any change in your own life? (list up 2 reasons)

- | | |
|--------------------|----------------------------|
| 1 Myself | 5 Local government |
| 2 My family | 6 State/federal government |
| 3 the co-operative | 7 Other (Specify) _____ |
| 4 Our community | |

7.6 (maximum positive = 10; minimum negative =1)

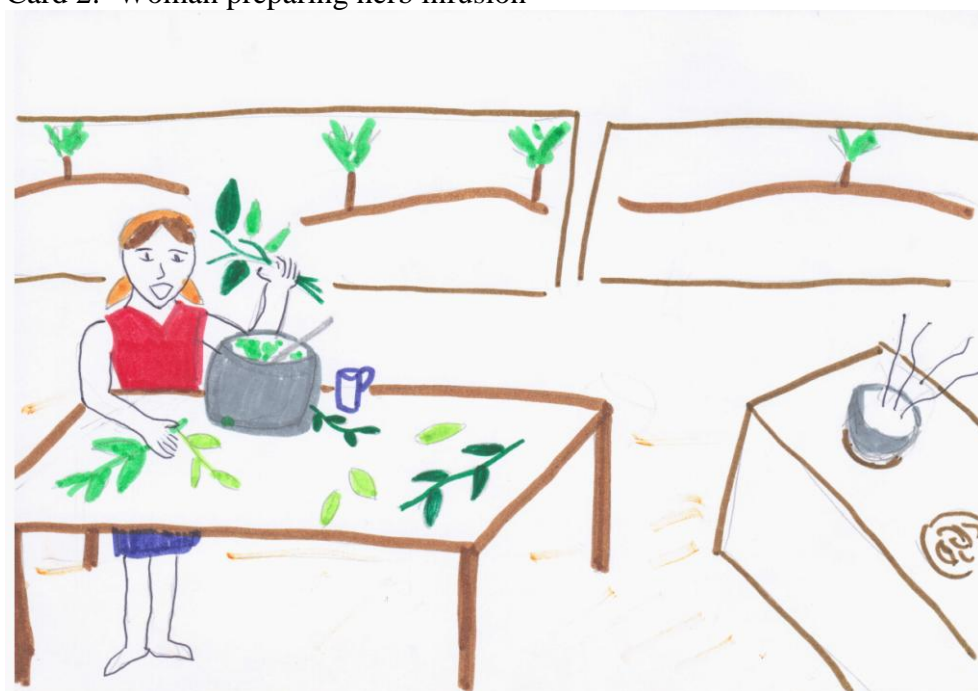
	Up to now, have you been able to:												Did COPPALJ contribute to:											
												don't know	yes	If yes, how much										don't know
	10	9	8	7	6	5	4	3	2	1	23		2/10	10	9	8	7	6	5	4	3	2	1	23
Increase consumption																								
Continue to study																								
Send your children to school																								
Have a decent shelter																								
Have access to adequate health care																								
Have adequate nutrition																								
Participate in your community life																								
Be thought more highly by your family																								
Be thought more highly by your community																								
Be more powerful in respect of institutions																								
Be more appreciated at work																								

ANNEX B - CARD GAME

Card 1: Health centre in a rural area



Card 2: Woman preparing herb infusion



Card 3: Schools in rural area



Card 4: School provided by social movement



Card 5: Adults studying



Card 6: Adults receiving training in their agricultural activities



Card 7: Decent house



Card 8: Couple with child caring for each other in the family



Card 9: A man beating a woman



Card 10: Only the word “cooperativism”, that evokes co-operatives and related movement



Card 11: Woman breaking Babaçu nuts, with nearby a donkey, important animal for the extractive activity



Card 12: People borrowing money from institutions



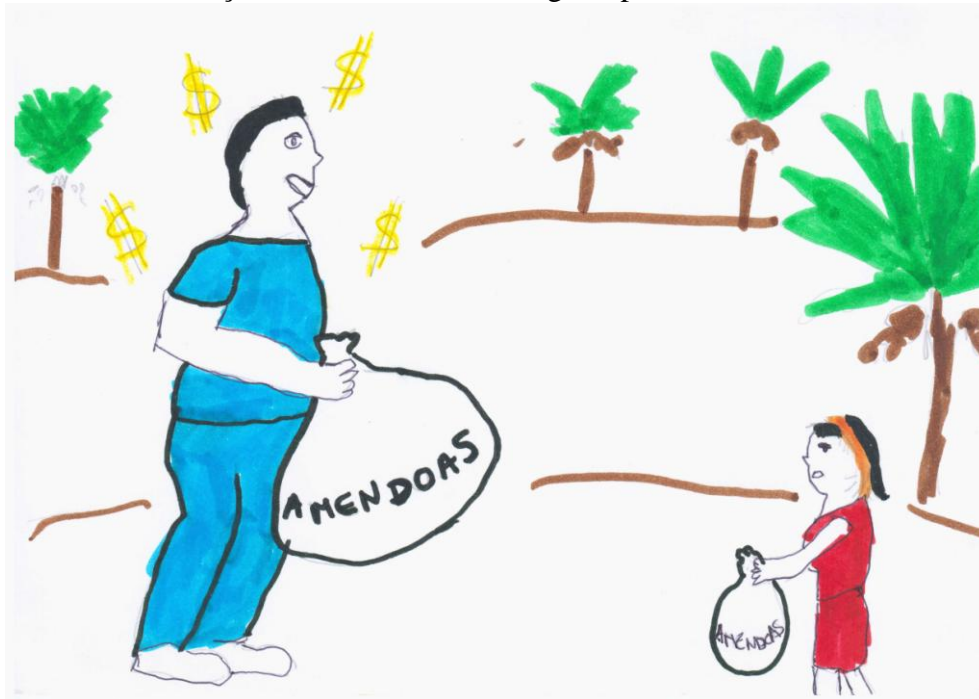
Card 13: COPPALJ Babaçu oil plant



Card 14: Local shops of the COPPALJ (called cantina) where people sell their production



Card 15: A Babaçu Breaker Woman selling her production to the dealer



Card 16: A globe with arrows starting from Maranhão and going around the world



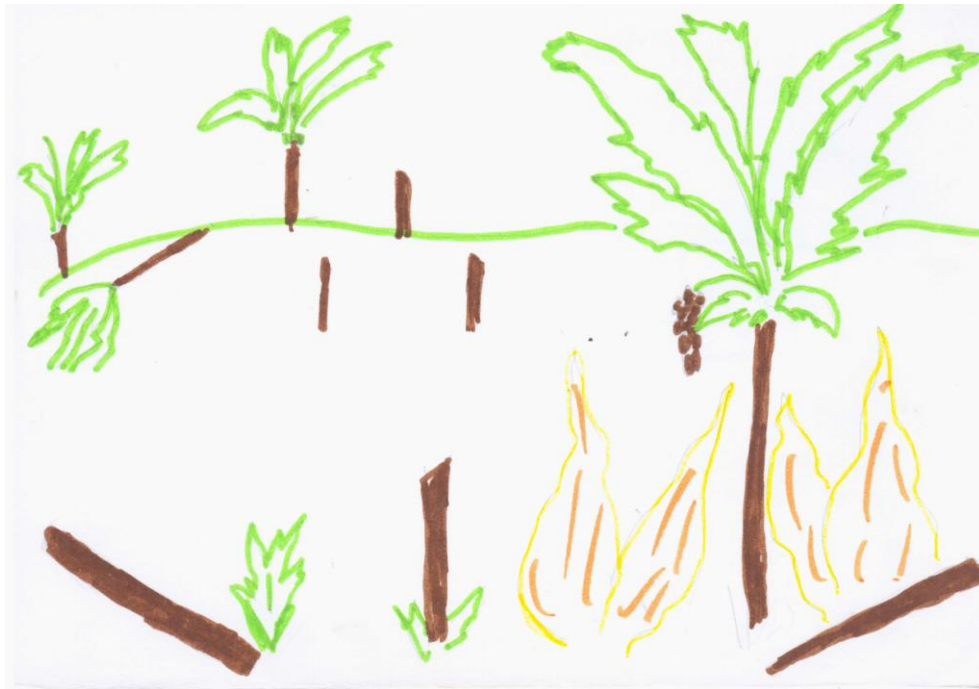
Card 17: Producers holding hands around the globe



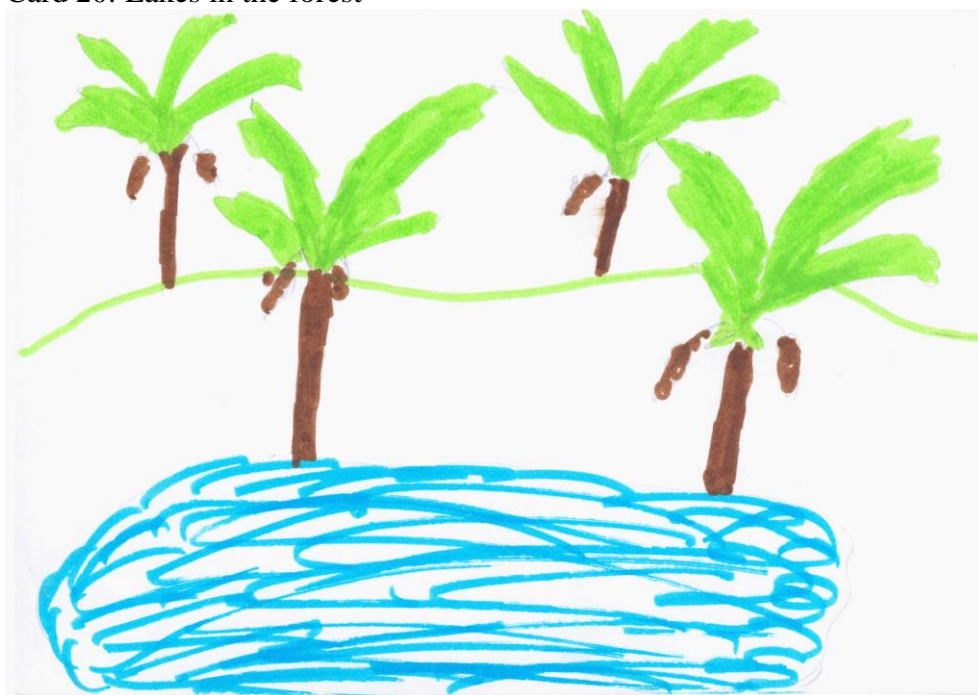
Card 18: COPPALJ truck



Card 19: Fires and destruction of Babaçu palms



Card 20: Lakes in the forest



Card 21: Women leaders talking



Card 22: Fights against landlords (fazendeiros)



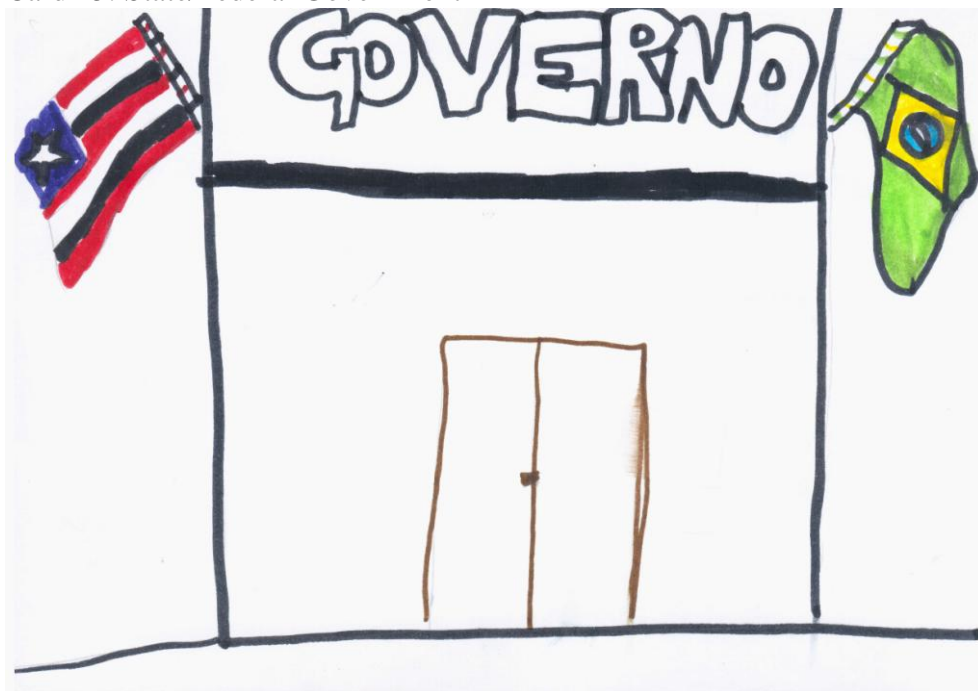
Card 23: Women claims for free access to the Babaçu palms



Card 24: Municipality of Lago do Junco



Card 25: State/Federal Government



Card 26: Carnival parties held in the communities



Card 27: Co-operative General Assembly



Card 28: Co-operative Board meeting



Card 29: Church



Card 30: Disunion among people

