World Vision Institut für Forschung und Entwicklung

Theorie und Praxis

Wissenschaftliche Reihe zur Entwicklungszusammenarbeit, Humanitären Hilfe und entwicklungspolitischen Anwaltschaftsarbeit

Michaela Beck

Impact of Accumulating Savings and Credit Associations on Child Well-Being

Evidence from World Vision Groups in Mozambique

Nr. 11

World Vision
Zukunft für Kinder!

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Impact of Accumulating Savings and Credit Associations on Child Well-Being

Evidence from World Vision Groups in Mozambique

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Michaela Beck

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Preface

As an organization that works in development and humanitarian aid, World Vision is very interested in getting evidence on the effectiveness of certain programming approaches. This master thesis focuses on the "Accumulating Savings and Credit Associations" (ASCA), a programming model that supports economic development. The author Michaela Beck very well points out the positive and negative effects of this approach. Besides having a look on the economic outcomes of the ASCA the author also touches on the social impact of the individual and in the community. Being a child focused organization it was particular interesting for us to see what influence the ACSA model has on the wellbeing of children. The learning from this thesis will help us to improve our programming and is therefore an important contribution in the fight against poverty and improving the life of children

Stefan Sengstmann

Head of the technical advisory team (World Vision Germany)

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I owe my deepest gratitude to Angela Getiniel Mucambe and her family for their exceptional hospitality and for making me feel at home in Nampula.

I want to dedicate this thesis to the ASCA members of Nampula whose hospitality, generosity and patience with me during the interview phase left me speechless, and whose courage to join their efforts in the ASCA to provide a better future for their children is a great inspiration to me.

Last but not least I would like to thank my parents for their infinite love and support and for teaching me more than university ever could.

Abstract

Accumulating Savings and Credit Associations (ASCA) were developed in Niger within a program of the NGO CARE as a savings-based micro finance instrument fit for the African context. They provide an opportunity to join a group of people that trust each other, accumulate savings together, share experiences and take small flexible loans from the group's funds for investment, consumption, or emergencies. The system proved to be very popular and was spread fast by a number of NGOs. Data and research on the impact of these ASCA however are still very meagre and the majority of studies has no baseline data or control group, but relies on recall data by members.

This thesis investigates the impact of ASCA on child well-being by analyzing existing studies, as well as through specific research carried out within the World Vision ASCA program in rural Nampula, Mozambique. 30 groups and 150 individuals were interviewed.

Results show a positive influence of ASCA participation on income and on the funds available to the household. This seems to lead to greater spending on and ownership of household assets. However, in order to achieve an impact on income diversification, extensive business and agricultural trainings seem to be necessary. Most caregivers invest part of the funds that are made available to them through the ASCA in their children's well-being such as education and nutrition. Findings indicate though that caregivers' ASCA participation may increase children's workload, which might have negative influences on their time and energy available for studying. ASCA thus provide all the financial options they are expected to provide, but the way participants use them – on mere consumption, productive purposes or their children's well-being – depends on a number of external factors as well as each member's personal preferences.

Besides economic impact, ASCA shows strong potential for social impact, especially when combined with the respective training by the implementing NGO. Findings show that ASCA help families to better deal with hardships and to improve their economic resilience. Participants have a more positive view of the future and are less worried about providing for their families. ASCA promote shared decision-making between caretakers, which is assumed to lead to better decisions regarding their children's well-being. Participants gain confidence regarding their role and participation within civil society and various types of associations.

As a conclusion of this thesis, the ASCA proves to be a powerful and flexible tool to serve the needs of the rural and extreme poor, the great potential of which is by far not exhausted. Further systematic research is needed to grasp its impact and further develop and enhance the concept.

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List of Abbreviations

ADP	Area Development Programme(s)
ASCA	Accumulating Savings and Credit Association(s)
CARE	Cooperative for Assistance and Relief Everywhere, Inc.
CWBO	Child Well-Being Outcome(s)
DFID	British Department for International Development
GDP	Gross Domestic Product
IGA	Income Generating Activity/Activities
IMF	International Monetary Fund
INE	Instituto Nacional de Estatística (Mozambican National Institute of Statistics)
IRAM	Institut de recherches et d'applications des méthodes de développement, (Institute for research and application of development methods)
KAP	Knowledge, attitudes and practices
LDC	Least Developed Country
MFI	Micro finance institution(s)
MFRC	South African Micro Finance Regulatory Council
MPD	Ministério da Planificação e Desenvolvimento (Mozambican Ministry of Planning and Development)
Mt.	Metical/Meticais (Exchange rate during research period: 35.87 Mt./EUR)
n.d.	No date
NGO	Non-Governmental Organization(s)
ODES	Organização para o Desenvolvimento Sustentável (Organization for Sustainable Development)
PCR	Poupança e Crédito Rotativo (Rotating Savings and Credit)
PPI	Progress out of Poverty IndexTM
PPP	Purchasing Power Parity
PRA	Participatory Rapid Appraisal
RCRN	Rede de Caixas Rurais Nampula (Network of Rural Banks Nampula)

ROSCA	Rotating Savings and Credit Association(s)
SDC	Swiss Agency for Development Cooperation
SHG	Self Help Group(s)
SPSS	Statistical Package for the Social Sciences
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USD	United States Dollars (Exchange rate during research period: 1.32 USD/EUR)
VSLA	Village Savings and Loan Association(s)
WASH	Water, Sanitation and Hygiene
WV	World Vision

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1. Introduction

1.1 Background

Since 2006, when Muhammad Yunus and his Grameen Bank received the Nobel Peace Price "for their efforts to create economic and social development from below" (Nobel Foundation 2006), micro finance is becoming ever more popular as an instrument to alleviate poverty and empower clients in Least Developed Countries (LDCs) to become economically active. The idea, however, is much older. A popular example is Friedrich Raiffeissen's credit cooperative system for the rural poor in 19th century Germany, which started a fast-spreading movement all over the world. Towards the end of the 19th century, the British exported credit cooperatives to India and present-day Bangladesh, where one century later the Grameen Banks started a global microfinance hype.[1]

While micro credit institutions and research about their impact on poverty alleviation are spreading, millions of people still do not have access to these facilities or are not considered credit worthy. Others fail to repay their loans and run into debts, because they do not have a support network to encourage them and share best practices. Furthermore, the focus of most innovation and research on micro credit is in the cultural context of Asia. In Sub-Sahara Africa, the poor are often hesitant to take credits as they are more risk-averse or lack market opportunities or entrepreneurial skills to generate enough profit to pay back their loans. For this reason, over time, an increasing number of micro finance specialists started to advocate a shift of focus from credit to savings, as well as for a more culturally appropriate approach to micro finance for African clients. Group saving in the form of traditional Rotating Savings and Credit Associations (ROSCA) has a long tradition in Sub-Sahara Africa. In this system, each participant makes a regular contribution to a common fund, which at each meeting is lent out to a different member of the group until each member has profited from the fund once.

Based on this system, Accumulating Savings and Credit Associations (ASCA) were developed in Niger within a program of the NGO CARE. They provide an opportunity to join a group of people that trust each other, accumulate savings together, share experiences and take small flexible loans from the group's funds for investment, consumption, or emergencies. The system proved to be very popular and was spread out to other countries by a number of NGOs. Today, more than 2 million people around the world are ASCA members.

Data and research on the impact of these ASCA however are still very meagre, as most studies are internal project evaluations of CARE programs. Impact can hardly be measured as the majority of studies have no baseline data or control group and rely on recall data by members. Also, impact is mostly defined only in terms of increases in expenditures for consumption and asset ownership on individual and household level. What distinguishes World Vision's ASCA program from those of other NGOs is their focus on child well-being. The overall project goal for World Vision savings groups is "to increase the capacity of parents and

[1] For a more detailed comparison between Raiffeissen's credit cooperatives and modern ASCA see Armendáriz/Morduch 2007, p. 68 ff.

caregivers to provide well for their children" (WV, internal document, 2012, p.11). Naturally, there are even less studies on the impact of ASCA on children, and such indirect effects are even harder to measure.[2]

This thesis aims to find evidence about the impact of ASCA on child well-being by analyzing existing studies, as well as through specific research carried out within the World Vision ASCA program in Nampula, Mozambique. For this, group discussions and individual interviews were conducted with members of 30 ASCA from three different districts and five different WV Area Development Programmes (ADP).

Even though this study also had to operate without baseline and control group data due to constraints in time and resources, it gives an impression of the impact perceived by ASCA members. Thereby it extends the still meagre data available to give a clearer picture of what can and should be expected from the ASCA, and of its scope and position among other micro finance tools.

Possible impact areas include the economic situation of the family, education and nutrition provided to children as well as intangible factors such as confidence and optimism or a feeling of safety within families. The following chapter will stipulate the research hypotheses used in this thesis based on World Vision's claims.

For reasons of simplicity, the terms "sons", "daughters", or "children of participants" will always include other dependants like younger siblings, nieces and nephews or grandchildren of participants. Within the sample, about 78% are birth children and 22% are other dependants. The results between these two sub-groups do not vary significantly, which indicates that parents do not disadvantage other dependent children.

[2] For further discussion of methodological challenges in reporting impact of microfinance projects see Kargbo (2006).

1.2 Research Question and Hypotheses

To measure an impact on child well-being, the term needs to be clearly defined and divided into its different aspects, for which measurable indicators have to be found.

World Vision's goal as an organization is "sustained well-being of children and fulfilment of their rights within families and communities" (WV, internal document, n.d.). To define their understanding of the term "child well-being", the World Vision International Board in 2009 formulated four basic Child Well-being Aspirations and 15 operational Child Well-being Outcomes (CWBO) on how World Vision is planning to contribute to these aspirations, as shown in the table below. This thesis adopts World Vision's definition of child well-being.

Girls & Boys:	
… are cared for, protected and participating.	**… experience love of God and their neighbours.**
Children are cared for in a loving and safe family and community environment, with safe places to play.	Children grow in their awareness and experience of God's love in an environment that recognises their freedom.
Parents or caregivers provide well for their children.	Children enjoy positive relationships with peers, family and community members.
Children are celebrated and registered at birth.	Children value and care for others and the environment.
Children are respected participants in decisions that affect their lives.	Children have hope and vision for the future.
… enjoy good health.	**… are educated for life.**
Children are well-nourished.	Children read, write and use numeracy skills.
Children are protected from infection, disease and injury.	Children make good judgements, can protect themselves, manage emotions and communicate ideas.
Children and their caregivers access essential health services.	Adolescents are ready for economic opportunity.
	Children access and complete basic education.

Fig. 1: World Vision CWBOs and Aspirations, adapted from WV (n.d.)

Not all of these CWBO are addressed in each project, however they are believed to reinforce each other in support of World Vision's holistic approach to promote

> "healthy individual development (involving physical and mental health, social and spiritual dimensions), positive relationship and a context that provides safety, social justice, and participation in civil society" (WV n.d.).

Furthermore, World Vision formulated four Child Well-being Partnership Targets as strategic objectives for their programmes:

- Children report an increased level of well-being (ages 12–18)
- Increase in children who are well-nourished (ages 0–5)
- Increase in children protected from infection and disease (ages 0–5)
- Increase in children who can read (by age 11)

To measure their progress towards the CWBO, World Vision created a compendium of more than two hundred indicators their staff can chose from according to their specific programme models and goals. Indicators used in this thesis are aligned to this compendium wherever possible.

On the basis of early programme proposals stating which factors of child well-being might be addressed through the ASCA programme, three **hypotheses** are formulated:

1. ASCA enhance the ability of parents to generate income and improve the general economic situation of their family.
2. ASCA enable parents and caregivers to provide better education and nutrition for their children.
3. ASCA enable families to deal better with disasters and hardships and increase their feeling of safety and confidence.

Each of these research hypotheses is divided into three sub-hypotheses with their respective indicators to measure impact in an adecuate manner. The sub-hypotheses are listed in this chapter whereas their respective indicators are explained in detail in Chapter 4.

The sub-hypotheses are the following:

1. General economic situation:
    a. Participants increase their income while being an ASCA member.
    b. Participants increase their household assets or improve their housing situation with money from the ASCA.
    c. Participants use their savings and loans for the purchase of business-related assets or for working capital to start and maintain their business.

2. Education and nutrition:
    a. Parents are enabled to better manage their cash flow and therefore to cover irregular expenditures like school material and uniforms.
    b. Parents are less likely to use their children for labour, because the ASCA provides them with viable alternatives.
    c. By increasing and smoothing their income, parents can provide better and more regular nutrition for their children throughout the year.
3. Vulnerability and confidence:
    a. Parents and caregivers increase their economic resilience and are more optimistic about the future.
    b. Women and men have shared decision making powers over their finances.
    c. Parents are more confident regarding their status and participation in society.

Most of these sub-hypotheses are taken from claims within World Visions' project designs. This makes their assessment especially interesting.

To test these hypotheses, research was conducted among 30 ASCA groups founded by World Vision in three districts of Nampula, Mozambique. After brief group discussions, 150 individual interviews with qualitative and quantitative questions were conducted according to the research design described in Chapter 3.3. The data were analyzed using the SPSS statistics programme. Besides multiple linear regression analysis and checking for correlations of positive effects with the duration of the members' participation and the amount of loans taken by them, the recall method was used to find perceived changes or improvements in the participants' and their children's lives since the groups started.

In addition to this research data, evidence to support or weaken the hypotheses is collected from similar impact evaluations and studies among ASCA promoted in other sub-Saharan countries by other NGOs, though generalizations have to be considered with caution. Unfortunately, there is only limited research available, and most studies are commissioned by the respective implementing NGO and not by independent research institutes. Also, programmes by other NGOs have no clear focus on child well-being; therefore this is usually not specifically addressed in impact studies either. In consequence, existing field studies are mainly used to test the first hypothesis, focusing on general economic well-being of the household. The second and third hypotheses are mainly drawing from the Mozambican case study, though some of the aspects are included in similar studies from other regions.

1.3 Thesis Outline

In the second chapter, the theoretical background to the study is given. Chapter 2.1 describes the saving needs of the poor, especially in rural Mozambique, as well as traditional, informal options to satisfy these needs, explaining their shortcomings. Chapter 2.2 focuses on formal financial services provided to the poor by microfinance institutions, discussing why these mostly fail to meet the needs of the extreme poor.

Chapter 2.3 presents the ASCA model as one response to unmet savings needs of the poor and explores different roles that are consequently ascribed to the ASCA and expectations rising from them.

The third chapter presents the research conducted in Mozambique. Chapter 3.1 gives an overview of the current status of research and available studies with similar contexts. Chapter 3.2 outlines the geographical setting and the availability of financial services in the research area. The research design including methods of data collection and analysis as well as characteristics of the respondents is illustrated in Chapter 3.3. Finally, Chapter 3.4 concludes with a critical assessment of the research conditions, discussing problems of methods, timing and comprehension.

The core of this thesis focuses on the results presented in the fourth chapter, structured according to the underlying hypotheses into three sub-chapters, plus one for additional findings. In Chapter 4.1, general impact on economic well-being of the households is analysed. After considering effects on the participants' yearly income, findings on asset ownership and housing conditions will be discussed. To examine whether money from the ASCA is also used for productive purposes, in addition to increases in productive assets, effects on the number of income generating activities (IGA) are investigated. Chapter 4.2 focuses on the impact on education and nutrition. In addition to parents' ability to afford educational expenses, effects of ASCA on children's workload are explored, as it becomes clear that besides money, time can also be a constraining factor for education. Impact on nutrition includes both food quantity and diversification. In Chapter 4.3, effects on parents' perceptions and behaviour are analysed. The first paragraph discusses their capability of dealing with hardships and their view of the future, the second examines changes in decision making behaviour within families, and the third regards effects on their confidence and participation in civil society. Chapter 4.4 considers further effects found by other researchers that are important to child well-being, such as the impact on parents' awareness about children's rights, perceived child and family well-being, as well as effects on parenting practices.

Practical implications for World Vision drawn from these findings will be discussed briefly in Chapter 5, with a summary and outlook following in Chapter 6.

2. Savings and Credit Options for the Poor

2.1 Savings and the Poor

When the concept of micro finance first became popular, the term 'micro credit' was frequently used synonymously, as the poor's demand for savings services was widely overlooked. One reason for the success of the ASCA movement is their recognition that saving is at least equally important for the poor as borrowing.

Some authors, like Bhaduri (1977), argue that the poor would need all their money for subsistence and consumption and therefore are not able to save. To find a way out of their poverty trap, they would need to be offered a loan. Others, like Adams and van Pischke (1992), recognize the poor's ability to save, but not their ability to productively make use of loans, thus arguing that micro saving and not micro credit is of critical importance for the very poor.

In practice, the poor show the want and need to save, as well as the ability to do so when appropriate savings services are provided. Poor people's need for saving can be categorized into three groups. Firstly, lump sums are needed for life-cycle events like weddings, funerals, or the birth and initiation rite of a child. Secondly, savings offer security in case of unexpected emergencies like sickness or the death of a family's breadwinner, theft or natural disasters. Thirdly, savings create opportunities to start or maintain a business, and to purchase land or machinery for production (Frankiewicz/Churchill 2011, p. 75f.).

Most theories about household saving and consumption assume that saving rates mainly depend on income – either current disposable income as in the Keynesian absolute-income hypothesis, previous levels of income as in the Duesenberrey hypothesis of relative income, the permanent (as opposed to the transitory) part of income as Friedman suggested, or expected future income in other stages of life as in Modigliani's life-cycle hypothesis.[3] However, these models base their assumptions primarily on findings from industrialized countries and do not always hold true for developing countries. The life-cycle hypothesis, for instance, expects that young people have to borrow during the time of their formation, later accumulate savings during their productive time and use their savings during retirement, thereby smoothing their consumption over their life time. In developing countries, many people do not live in nuclear families for which this assumption holds true, but rather in extended multigenerational households with mutual financial responsibility, in which the average age and income remains fairly balanced at all times.

Also, retirement periods are much shorter as people mostly continue to work almost all through their lives. In this case, consumption smoothing would not be accomplished by borrowing and saving, but by transfer of money within the household, e.g. from adults to their elderly parents or to children.[4]

[3] A discussion of these models can be found in Perkins et al. (2006, p. 376-386).

[4] For further discussion of the applicability of the life-cycle hypothesis on traditional societies in developing countries, see Armendáriz/Morduch 2007, p. 151 ff.

In developing countries, savings can be influenced by a number of factors other than income. In addition to the different social and demographic structure, there might be a difference between urban and rural locations, as small farmers deal with higher risks and fluctuation than urban wage earners and therefore tend to save a higher fraction of their income as a precautionary measure. Some studies suggest that a lack of financial institutions might increase household saving, as people have to accumulate large amounts of saving to cover their needs and compensate for missing markets for mortgages, pensions, insurance and credit (Perkins et al. 2006., p. 387). Even though the empirical base to support this theory is still weak, it helps to explain the need for and the spreading of ASCA groups in rural Mozambique.

Poor people generally do not have access to formal institutions like banks and insurance companies and therefore rely on informal savings mechanisms such as hiding their cash at home, investing in-kind – in rural Mozambique mainly in livestock – or participating in informal savings groups. Storing cash at home is problematic as in the regions analyzed in this study, many houses do not have doors, not to mention locks, which increases the risk of theft. The main problem though, is money accessible at all times will probably be spent for trivial purposes or demanded by relatives to cover their needs (Rutherford 2005, p. 17).

In a household survey among 2,000 inhabitants in the slums of Hyderabad, India, Banerjee and Duflo (2007, p. 164) find that the poor are aware of their vulnerability to the temptation of trivial spending. 28% of their interview partners name at least one item they would like to cut from their expenses. Among these, 44% want to reduce the consumption of alcohol and tobacco, 9% of sugar, tea and snacks, 7% spending on festivals and 7% on other forms of entertainment.

Findings from the research conducted for this thesis in rural Mozambique support this theory, as many respondents claimed that before they participated in the ASCA, they did not know how to 'hold their money together' and 33% named learning to refrain from trivial spending as their main reason for entering the group.

The interview did not include a question about which product they would like to consume less, but anecdotal evidence suggests that most trivial spending is made on alcohol (beer and *capanga*, a beverage locally brewed out of maize), sugar and snacks. However, there was no evidence of the consumption of tobacco, and in remote areas opportunities to spend money on entertainment or festivals are rare.

Investing in livestock as an alternative to saving in cash has opposing disadvantages. Unlike cash, capital held in livestock is not divisible and can only be accessed in lump sums. In addition, animals are vulnerable to diseases. As an example, in 2011 many Mozambican farmers participating in the impact study lost all their chicken to an unidentified epidemic. When selling livestock, because of their remote location, many farmers have difficulties finding a buyer in times of need, or the transaction time and cost is very high as they have to wait for potential buyers from passing cars next to roads or travel to the next city or market location to sell their animals. While cash may suffer from inflation, the market price for animals is also subject to fluctuation (Frankiewicz/Churchill 2011, p. 75).

Due to these problems of saving in cash or in kind as well as due to the fact that poor people are facing constant risk of shortages and crises, and governments supply few risk mitigation mechanisms or safety nets, a number of informal financial systems emerged. According to Dichter, these systems started to evolve since the beginning of the use of money and were initially geared towards consumption smoothing, unlike more recently developed formal credit systems that aim for a growth of consumption (Dichter 2007, p. 189f.).

Rutherford classifies informal savings services into three categories: saving up, saving down, and saving through. Saving up means continuous saving over a period of time and withdrawing the lump sum afterwards. Specifically in urban slums in South-East Asia, where people are aggregated in large numbers and lack safe storage facilities, deposit collectors offer this kind of service, charging a fee for guarding these savings (Rutherford 2000, p. 13 f.). In contrast, saving down denotes receiving a loan once and then repaying this loan continuously over time, e.g. to a moneylender who is also charging interest on this service (ibid., p. 17 f.).

If savings are deposited continuously, and money is withdrawn at irregular intervals – e.g. as in insurance systems in case of emergencies, or for merry-go-round systems upon each member's turn – then Rutherford calls this system 'saving through'. These latter informal 'merry-go-round'-groups have been in place in Africa for hundreds of years in a number of variations. In the 1960's, academics started to analyze them under the term Rotating Savings and Credit Association (ROSCA).

Ardener (1964, p. 201) defines the ROSCA as

> "an association formed upon a core of participants who make regular contributions to a fund which is given, in whole or in part, to each contributor in rotation."

Typically, this type of group meets once a month and each member has to contribute the same agreed amount of money. Each month, a different member receives all of these contributions for investment or other purposes, and the cycle continues until each member received the lump sum once (Rutherford 2000, p. 43).

While the acronym ROSCA comprises the aspect of savings as well as credit, it is easy to underestimate the purpose of saving in this system and just focus on the merit of receiving a loan against a regularly paid contribution. According to Armendáriz and Morduch, the mere fact that ROSCA do not fall apart shows their essential value as a savings instrument. If it was just for the loan, the last person to receive the lump sum would not experience any benefit from participating, as they could rather accumulate their money at home, without participating in all the meetings, being tied to the group schedule and running the risk of other members' default. If no one wanted to be the last person, the groups would fall apart. Therefore, the prevalence of the ROSCA system can be seen as evidence that saving within a group is considered valuable in itself by members, given the above mentioned disadvantages of saving at home (Armendáriz/Morduch 2007, p. 65).

In Mozambique, the ROSCA system is mostly practiced in urban settings, such as the city of Nampula, and it is not uncommon that ROSCA (in Mozambique called 'X*itique*') only consist of two people, alternately giving and receiving every other month.

The advantage of ROSCA is that there is no need to store the money in a safe, and record-keeping is very simple (Collins et. al. 2009, p. 116). Still, ROSCA do not provide the flexibility to react fast to emergency situations and are mostly too small and inconsistent to accumulate large lump sums. Since they require fixed amounts to be paid at all times over a pre-agreed number of months, members cannot react to sudden changes in income and in turn are unable to pay their monthly share, which would cause the system to collapse (Frankiewicz/ Churchill 2011, p. 75).

The traditional ROSCA system served as a base for the development of the first ASCA in the early 1990s, as will be described in Chapter 2.3. ASCA can be seen as a semi-formal model between the informal ROSCA and formal microfinance institutions (MFI) or banks. Therefore, before turning to the ASCA, the following chapter will introduce formal savings options given to the poor and discuss why even NGO-promoted MFI are largely unwilling, unable, insufficient or inadequate to serve the extremely poor targeted by ASCA.

2.2 Financial Services for the Poor

The poor generally have insufficient access to formal financial institutions. Armendáriz and Morduch argue provocatively that, based on the simple economic principle of diminishing marginal returns on capital, money should flow naturally from rich investors to poor enterprises. According to this theory, by increasing their investment, poor entrepreneurs could increase their product output more than rich entrepreneurs with the same investment. Accordingly, the poor should earn higher returns on the same investment and have the capacity to repay banks with higher interest on loans, therefore being more attractive for investors (Amendáriz/Morduch 2007, p. 5f.).

The authors use New Institutional Economics to explain this discrepancy between the theory and the high unmet needs of financial services for the poor. Lending to poor customers is riskier for banks, as they are more vulnerable and often do not have any marketable assets as collateral. This risk might be compensated for by higher returns for investors. However, banks face the problem of adverse selection due to limited information. As they do not know which customers are more risky, they cannot charge higher interests to them, and by raising interest rates for everyone, lower risk customers are driven out of the credit market (ibid., p. 37 ff).

Furthermore, moral hazard is more likely in countries with weak contract enforcement and judicial systems. The borrower might not use the money for the expected investment, might not make suffient effort for the success of his project as liability is limited, or simply might not pay back his debt (ibid., p. 43 ff.). Transaction costs for financial institutions are much higher in poor and remote areas. Thus, including costs for information gathering and enforcing contracts, institutions struggle with sustainability and profitability in this customer segment.

Microfinance Institutions (MFI) therefore target the poor's needs for savings and loans in an attempt to substitute formal banks. Still, most MFI have a strong bias towards loans and therefore, savings are often called the "forgotten half of microfinance" (e.g. in Frankiewicz/Churchill 2011, p. 75). As described above, the poor primarily need saving services to keep their money safe from theft or fraud, destruction by fire or flood, and from relatives asking for financial support. Deposits as well as withdrawals are usually small and irregular, therefore low transaction costs – for example short distance to their homes, little bureaucracy and suitable opening hours – are important features for providing adequate saving services. This kind of passbook saving is rather cost intensive for MFI to manage, but meets most clients' needs (Johnson et al. 2002, p. 63).

In contrast, for the accumulation of larger sums, contractual savings systems may be suitable. Here a regular amount is deposited over a certain time period, after which the entire amount is withdrawn including interest. In this model, the client chooses the conditions regarding time and amount according to his abilities and needs. Premature withdrawal is either prohibited or penalized. The system, however, is not tied to a loan. So-called time deposits, where a one-time lump sum is deposited and not touched for some months, can be appropriate for farmers to smoothen their irregular cash flow (Hirschland 2005, p. 138 f.).

Compared to other clients, the poor seem to be relatively insensitive to interest rates, and mostly even accept negative real interest on their savings in return for security. Collins et al. (2009, p. 150 f.) found that poor people in India were willing to accumulate savings with deposit collectors that would pay them back their savings minus a service fee at the end of the year, thus generating a negative annual interest of up to minus 30%.

In their microfinance handbook, Frankiewicz and Churchill suggest MFI should offer different complementary savings products. For unexpected needs and emergencies, banks should offer accounts with voluntary deposits and unrestricted access; for expected life-cycle event needs, time-bound accounts with fixed regular deposits and limited access could help clients to accumulate the necessary lump sums. Banks can make saving compulsory, meaning that in order to be eligible for a loan or as a condition of membership in savings cooperatives, a certain amount of money has to be deposited over a certain period. This may increase clients' discipline to save and not spend their money for trivial purposes. Institutions can use those savings as a source of loan capital and accept savings as collateral for clients who otherwise only have social collateral (Frankiewicz/Churchill 2011, p. 77f.).

In case of emergencies, however, clients cannot access their savings and therefore may be forced to borrow from moneylenders at high costs, or they withdraw their savings and lose their eligibility for loans. Many MFI mainly lend to small groups rather than individuals. In these borrowing groups, the default of one member can make the whole group lose their savings as well as their eligibility for loans. In consequence, clients usually do not perceive compulsory saving as a service, but rather as costs of borrowing. In addition, tying savings to credit may make the savings service inaccessible for clients who are not in a position to borrow (ibid., p. 78).

Rippey (2007, p. 109) criticizes the approach of European and North American NGOs importing Asian microfinance models to Africa without adapting it to their local needs and circumstances.

He claims that Africans are naturally afraid of debt and therefore reluctant to take loans from financial institutions. In a KAP-assessment from Wilsken Agencies (2004) in Uganda, 59% of their respondents claimed that access to secure saving was more important to them than taking loans. However, media campaigns that promote loan taking and illustrate debt-averseness as a sign of weakness are changing these basic views.

According to Rippey, the MFI are thereby creating a market rather than satisfying an existing one (Rippey 2007, p. 116). In some cases, banks do not analyze poor people's absorptive capacity to generate profit from a loan before advertising their services to them. Many of the poor that are urged into taking up a loan therefore end up heavily indebted. The Micro Finance Regulatory Council (MFRC) of South Africa, that implemented a number of pro-consumer reforms, prohibits this practice called 'reckless lending', defined as

> "loans made in reliance on the borrower's collateral, without proper evaluation of, or reliance on, the borrower's independent ability to repay, with the possible or even intended result of foreclosure or the need to refinance under duress" (MFRC, cited in Rippey 2007, p. 115).

Rippey therefore calls for financial models adjusted to African culture and context, naming as one good practice example CARE's Village Saving and Loan Associations (VSLA) developed in Niger (Rippey 2007, p. 119). This model, which became the origin of the ASCA, will be discussed in detail in Chapter 2.3.

Still, most MFI also do not have purely commercial interests, but are committed to poverty reduction. The Grameen Foundations and others for example use the Progress out of Poverty Index™ (PPI) to evaluate their program's success. Ten baseline indicators to estimate an individual's likelihood to fall below the national poverty line are defined and adapted to the specific context of each country. Field staff visits households and calculates from these indicators a score from 0 to 100, which serves as a baseline from which client progress is measured. Clients are categorized in certain poverty bands that can be more specifically targeted by the programme (Progress out of Poverty, n.d.).

It would therefore be an oversimplification to argue that NGOs promoting the ASCA have completely altruistic motives whereas those promoting micro credits are completely revenue-driven. In contrast to formal banks, MFI also try to reach more difficult customer segments, like the rural poor.

Special challenges are faced when offering microfinance in rural areas, as rural clients are more vulnerable than their urban counterparts. Crops and livestock are affected by weather conditions and exposed to diseases. The markets for their products are unstable as prices are unpredictable. As there are often no land registers or credit bureaus, rural clients often have difficulties providing collateral for receiving loans. Besides these extra risks, farmers also have limited investment returns compared to traders, as typically they only have one crop per year and therefore a slow capital turnover. Additionally, their profit margins are low because of the market mechanisms.

As people in rural areas live distant from cities and from each other, MFI face high per-client costs to reach this target group. Communication infrastructure is poor as most areas have neither phone landlines nor mobile reception, or even electricity. Since secondary schools are mostly in distant cities, the most educated and talented are migrating, which leaves the rural poor with high levels of illiteracy and poor business skills (Miller 2004). NGOs willing to offer microfinance services to farmers should therefore, according to Christen and Pearce (2005, p. 10ff.) provide complementary training in agricultural practice and food security.

Loan terms and conditions should be adjusted to farmers' cash flows. Early in the season, lump sums are needed to buy seeds and fertilizer. During harvest time, larger amounts are needed to hire labour and transport the goods to the market. Revenue also comes in lump sums after the harvest or when livestock is sold. Additionally, farmers may want to invest in capital assets, such as a corn mill, that cost more than their annual income, but provide immediate income (ibid., p. 18).

Despite their efforts to serve the disadvantaged, Maes et al. (2006, p. 1) point out that MFI mostly do not target the extremely poor, but rather clients just above or just below the poverty line. The extremely poor – defined as those living on less than 1 USD per day or the bottom 50% of those living below the poverty line – are often not served by MFI because of the high risk of default as their livelihoods are often poorly diversified and therefore vulnerable, which threatens the MFI's sustainability or profitability.

Even NGOs offering microfinance services with the goal of poverty alleviation often fail to reach their intended market for a number of reasons. Their products, as mentioned above, may not be suitable for the extreme poor who are not able to comply with compulsory saving. Their focus on loans, income-generating activities and micro-enterprises, and their product designs in terms of loan amounts and repayment schedules are not adapted to the needs of the extreme poor who struggle to fulfil basic needs such as food security.

As MFI falsely assume that basic needs are met, loans intended to generate income are likely to be spent on food instead of invested in business. Also, MFI staff may be prejudiced or may unintentionally tend to prefer less poor clients who are easier to serve, or their institutions may have incentive cultures that reward large volumes of clients and high repayment rates, and therefore do not encourage staff to address the poorest.

Finally, most MFI who do not use instruments like PPI do not have a clear definition of who the "poorest" really are and therefore have no performance management on whether those are appropriately addressed (Maes et al. 2006, p 2).

The problem may also be on the clients' side, as they fear the consequences of borrowing and failing to pay back, e.g. loss of reputation or assets. They often lack the confidence to join borrowing groups or are excluded by other members because of the risk they present (ibid., p. 3).

Nitsch criticizes that MFI foster polarization between the rich and the poor, as they often try to cover large areas with little funding by systematically promoting the most aggressive clients, thereby creating a few examples of people making it 'from rags to riches' to present in the media, and leaving the others behind (Nitsch 2002, p. 132).

As a result of this assessment, Frankiewicz and Churchill claim that MFI products start on the 'fifth rung of the ladder', making access impossible for the extreme poor. They call NGOs willing to offer microfinance services to the poor to help clients meet their basic needs first, e.g. provide housing, water, clothing and health care in emergency situations. To ensure that money is not used on these basic needs, MFI can use food transfers, ration cards or cash transfers tied to conditions such as children staying enrolled in school. Still, he cautions that these relief efforts only fight symptoms of poverty and not their cause; therefore they can foster dependence (Frankiewicz/Churchill 2011, p. 293).

In conclusion, MFI with an exclusive focus on financial services, which do not provide a number of complementary relief and development activities, are ill suited for the rural poor and clients living in extreme poverty. As Section 3.3.2 shows, most of the interviewees belong to these two categories.

The following chapter will introduce the ASCA model and discuss its strengths and weaknesses. In order to determine what the ASCA's impact is, it is first necessary to have an idea about which possible impact can be expected from the system. These expectations depend on the role that is ascribed to the ASCA. Therefore, different images of the ASCA will be discussed in the subsequent chapter.

2.3 Accumulating Savings and Credit Associations (ASCA)

The term 'Accumulating Savings and Credit Association' was first introduced by Bouman (1995) to describe savings groups in which funds are not immediately withdrawn like in the ROSCA, but are left to grow for loan making. Usually, savings are accumulated in regular meetings throughout a cycle of six to twelve months. In the course of the cycle, the deposits are lent out in parts to group members and in some groups also to non-members, in the latter case mostly at a higher interest rate. Each group can agree on the duration of the cycle, the frequency of meetings, the amounts saved (and whether deposits are mandatory or optional), as well as loan conditions (amount, interest rate, payback period, etc.) according to their wants and needs. Most ASCA are time-bound and at the end of the cycle, the individual savings are cashed out and profits are distributed among all group members (Collins et al. 2009, p. 117 f.). This thesis aims to analyze the impact of ASCA participation on child well-being, and thus, it is important to understand what the ASCA is, what it was designed for and what kind of outcomes should be expected. This chapter will show that this is easier said than done, as there is a wide range of roles ascribed to the ASCA, such as being an enhancement of the ROSCA, an African version of the MFI, an independent alternative to formal finance or an NGO tool to promote social development.

2.3.1 The ASCA as enhancement of the ROSCA

The origin of the ASCA lies, as described above, in the much older concept of the ROSCA. In 1993, participants of CARE's Matu Masu Dubara ('Women on the Move')-programme in rural Niger added their own innovations to the already existing and widely used ROSCA model to develop so-called Village Savings and Loan Associations (VSLA), which became the first and most prominent ASCA. They formed time-bound associations for rural women and soon expanded the programme by training village agents that were hired by interested groups of women to teach them the ASCA system. By this approach, the ASCA spread fast and other big NGOs like Oxfam/Freedom from Hunger, Plan, Catholic Relief Services and World Vision soon adopted the system. According to estimates by CARE, in 2010, around 197,000 women in Niger participated in their groups. In total, around 2.3 million people around the world participated in ASCA promoted by different agencies, almost 90% thereof in Africa. WV serves about 21,000 ASCA members in five African countries (Allen/Panetta 2010, p. 3 f.).

Nevertheless, as described above, the ASCA did not replace the ROSCA and cannot be considered superior in every way. Compared to ROSCA, ASCA afford higher levels of trust, management and record keeping in order to function (Dean et al. 2005, p. 81).

Johnson and Sharma (2007, p. 64) also see a higher risk of illiterate members becoming victims of fraud or mismanagement in ASCA, as they may be overwhelmed by the complex system of bookkeeping. They cite a study of Wright and Mutesaira (2001, p. 9), according to which in ROSCA, 6% of the savings were lost over the course of a year, but in ASCA as much as 21%. However, this conclusion regarding the complexity of the system and possible fraud is not confirmed by the findings of this research in Mozambique. Even though there were cases of default within the analyzed groups, none of them reported any cases of irregularities in their bookkeeping or suspected fraud by any member. CARE's VSLA work with a simple memorization system for record-keeping, so that illiterate members are able to keep track of all transactions. WV groups use passbooks carried by their owners or stored in the lockbox for members' individual deposits and memorization only for ending balances. Other groups with a higher percentage of literate members work with ledgers and passbooks, allowing for more complex transactions and services (Allen/Panetta 2010, p. 8).

The ASCA thus did not render the ROSCA unnecessary, but rather complement them by being used in more remote areas and by poorer participants than the ROSCA, which is frequently used in urban and micro business settings. Because they reach these disadvantaged groups that MFI often do not serve, another role ascribed to the ASCA is to be a MFI substitute for the rural poor.

2.3.2 The ASCA as MFI substitute for the rural and extremely poor

Since ASCA are independent from external financial sources or organizational input, they can exist in remote, rural areas, and have very low transaction costs compared to other financial institutions. As group members agree on their individual savings and loan conditions, even people living in extreme poverty can participate, depositing however little they can spare. Group members typically know each other well and therefore, the above mentioned problems of adverse selection and moral hazard are reduced. In addition, members have relatively good information available to evaluate the risk of borrowing to each other. They share mutual trust and can monitor closely how the loans are used. Compliance is fostered by their close relationships and group pressure. Many ASCA in Nampula charge members an interest rate of 10% and non-members 20%, thus mitigating the higher risk. One of the interviewed groups applied flexible interest rates that are negotiated for each loan, depending on the expected returns. Thus, one member can be charged different interest rates on two loans if the purpose of one (e.g. buying a productive machine) is expected to return higher profits than the other (e.g. buying school material for their children).

Equivalently, two group members applying for loans for the same purpose, e.g. buying seeds for agriculture, might be charged different interest rates if one is deemed to be more capable of generating profit than the other, e.g. because of his skills or because he owns more fertile land. In a way, this thought is also reflected in the original ASCA model, where interest-free loans out of the social fund are given for non-productive purposes like covering health costs and coping with crises.

Farmers' groups in rural Nampula flexibly adapt their group cycles to seasonal conditions, for example pausing their group during the rainy season when money is scarce, and starting again after the harvest, or adjusting the savings amount according to the agricultural outcomes of the respective year. Therefore, ASCA are highly suitable for those living in extreme poverty as well as those living in rural areas regardless if they are poor or extreme poor.

2.3.3 The ASCA as 'African version' of Self Help Groups

As described in Chapter 2.2, many authors deem the MFI system developed in the Asian context not applicable within the African culture. The ASCA is therefore a welcome alternative. Although some similarities exist between the African ASCA and other financial models, especially Self Help Groups (SHG) in India that developed independently around the same time, there are also some fundamental differences.

ASCA promoted by CARE (and also World Vision, which largely adopted the VSLA approach) are usually provided with a three-lock-box to store the group's money. One group member keeps the box and three others keep the keys, so that at least four members must be involved in opening the safe. However, some groups – especially among petty-traders – maintain all the money lent out at all times and therefore operate without a safe. Groups influenced by the Asian model, in contrast, often cooperate with financial institutions and store their money on a common bank account. These groups may also jointly take loans from the bank as a group, much like in common micro credit models (Rutherford 2000, p. 43 f.). According to Allen and Panetta (2010, p. 37), more than 75% of Self Help Groups (SHG) in India are linked to banks, using the extensive financial infrastructure with banks in one out of every three or four villages. Also, banks in India are legally required to lend to the poor. Often, their parent agency gives long-term support and technical backup to these groups, so that more complex and sophisticated services can be provided. For Africa, this is not the case. ASCA founded by NGOs often are designed to graduate into group autonomy after only one or two savings cycles and cash-outs. One reason for this approach might be to reduce implementing costs for donors (Allen 2010, p. 197), but it also stems from the fact that NGOs aim to build capacity and empower the group by transfering control.

ASCA usually end their yearly cycle with a complete share-out of all savings and interest while SHG tend to pay profits and interest to their members and keep the savings stocks. SHG usually have lower savings rates than ASCA because they understand savings mostly as a required fee for obtaining access to credit, not as a merit in itself (Allen/Panetta 2010, p. 37).

Drawing from various household surveys, Banerjee and Duflo (2007, p. 156 f.) conclude that even in the Indian regions of Udaipur and Hyderabad, where SHG are highly visible, less than 10% of the poor participate in any kind of savings group, and that the majority of those who save deposit their money in banks. In contrast, Collins et al. (2009, p. 118) found in their research that 67% of respondents in South Africa use at least one type of community-based, informal savings club. An important factor for them is mutual obligations within the group that help them with the discipline necessary to save. Therefore, even those obtaining government grants through a savings account often withdraw the money in order to participate in a savings group (Collins et al. 2009, p. 113 f.). This shows that the ASCA not only serve as a substitute for missing financial institutions or, to use Frankiewicz and Churchill's metaphor, to serve as 'bottom rungs of the ladder' to give a chance of participation in financial institutions to those who otherwise are not eligible. ASCA can also be deliberately chosen as a preferred savings option because they offer services a bank could not.

Nonetheless, it must be kept in mind that, because of the previously mentioned easy adaptability of the ASCA system, this strict separation into categories only helps as a theoretical model. In practice, the boundaries between categories like 'African' ASCA and 'Asian' MFI become blurred. Apart from very basic, savings-focused ASCA formed by the rural poor, there are also some urban ASCA that tend to shift their focus towards the micro credit business. For example, while most groups focus on savings and loan needs within their association, Collins (2009, p. 146 ff.) in his research encountered groups in South Africa that required their members to act as moneylenders by offering credit to their neighbours outside the group at a monthly interest rate of as much as 30% in order to generate profit. If all money was lent out at all times and paid back in time, interest rates would greatly exceed returns from bank deposits. However, if borrowers defaulted, the respective group member had to pay back the loan plus interest themselves. In reality it is not possible to always keep all the money lent out at all times and default rates in this aggressive borrowing system are high. The average monthly rate of return achieved by respondents is only about 1%, which is still more than a bank would pay. Another common perception therefore is that the ASCA replaces formal financial institutions.

2.3.4 The ASCA for independence from financial institutions

Supporters of the ASCA model praise the large involvement of and innovations by the group members themselves, the fact that all the money is raised within the group and no money leaves the group, and that an 'action audit' at the end of each year guarantees transparency (Rippey 2007, p. 119). This way, savers are independent from formal banks which might either be considered exploitative or simply be unavailable to them.

However, Collins et al. (2009, p. 124 f.) see certain weaknesses in the ASCA model in comparison to formal financial institutions. ASCA are not as reliable, as members may fail to contribute their agreed savings amount or to repay their withdrawn credits to the group. In addition, the accumulated savings that are stored in one member's home might be stolen. Johnson and Sharma (2007, p. 64ff.) warn that local leaders and elders, if unsupervised, can abuse their traditional social position to dominate their groups and enrich themselves. If groups include relatives and friends, it may be difficult to pursue sanctions in case of default, or to decline a loan. Therefore, the system faces a tension between the mentioned possibility of abuse by traditional authorities, and the fact that cooperatives have the potential to work well exactly because of their relationships and solidarity within their local context. In conclusion, Johnson and Sharma recommend introducing rationalized accounting methods which "institutionalize suspicion", while the original trust among group members can be maintained.

In their research, Collins et al. (2009, p. 128) find that ASCA prove to work best on short life-spans, making them less useful for financing long-term savings plans like home mortgages and pension plans. Rutherford (2000, p. 41) agrees that time-bound ASCA which close their books regularly have more clarity and discipline and less risk of default than non-time-bound groups. Nevertheless, some NGOs aim for permanent groups instead of time-bound ones, as their intended 'impact' focuses on social factors rather than financial return. Groups need to exist for an extended time to make this impact measurable (Rutherford 2000, p. 83).

2.3.5 The ASCA as an NGO tool for social change

Often, ASCA promoted by NGOs have a very different focus from traditional savings groups. While unassisted groups normally aim to compile a large lump sum very fast, the primary objective of NGOs often is to support social development rather than provide financial services. Many accept only female members as they aim to empower women; require that a new group leader is elected annually for capacity building; include awareness raising campaigns regarding topics like family planning; or promote the development of group-based businesses (Rutherford 2000, p. 78 f.).

World Vision-promoted groups, like many others, usually have a social fund, to which each member contributes monthly and which members can access in case of emergency or hardships. This serves like an insurance system and aims for decreasing the poor's vulnerability. If funds are not exhausted at the end of the cycle, some groups decide to use the remaining amount for charitable purposes such as buying school material for orphans. WV trainings also include good practices in marriage and parenting, for example teaching the importance of making important decisions together with one's spouse or creating awareness about children's right to leisure time, as well as business and agricultural training, thus fostering social change. Many authors suggest that social paybacks resulting from members' participation in savings groups might greatly exceed benefits from the financial services the groups offer (cf. Wilson et al. 2010, p. 176; Hirschland 2006, p. 172).

Still, for World Vision, ASCA are not only a tool for influencing behaviour and society, but also a necessary financial tool for a certain segment of extreme poor. Fig. 2 shows that WV sees ASCA as an essential stepping stone out of extreme poverty. Whereas the destitute have no resources to work with and need direct food, cash or asset supply, the ASCA are a tool for the extreme poor to step out of chronic food insecurity. They are, however, not designed to replace MFI, rather, these remain, as Frankiewicz would say, a 'fifth rung of the ladder' for the poor and transient poor, which are being served by WV's microfinance subsidiary VisionFund.

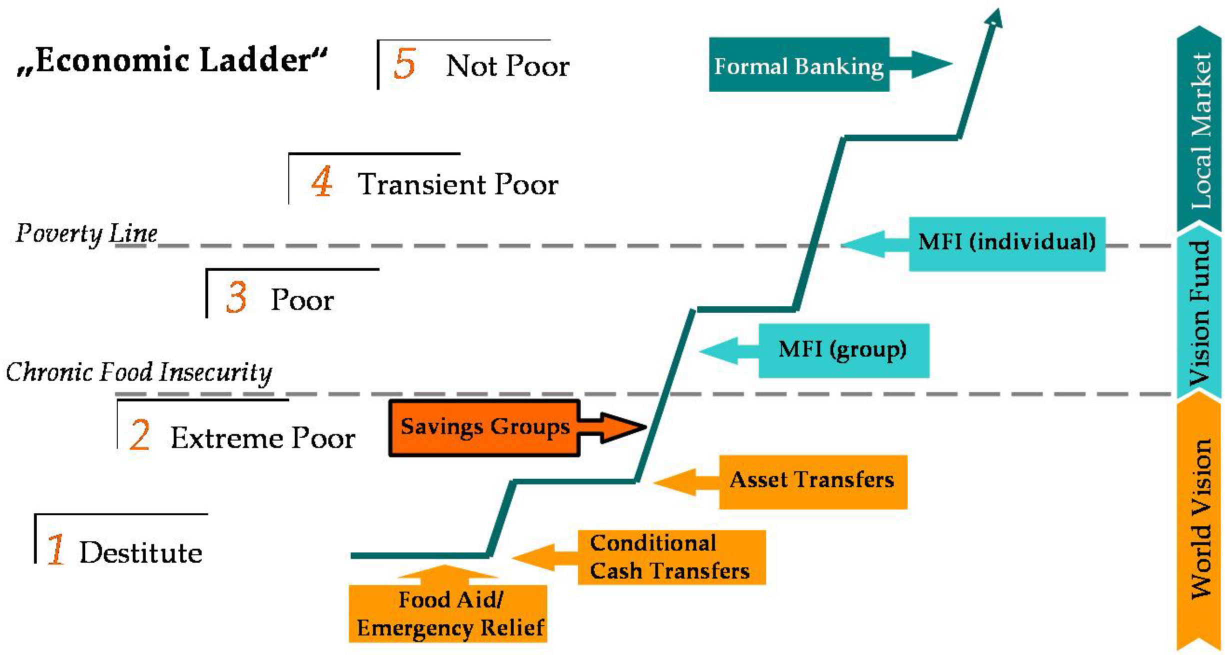


Fig. 2: Savings Groups and the Economic Ladder, adapted from WV (2012, p. 6)

In consequence, the underlying hypotheses of this thesis are based on the assumption that ASCA target the extreme poor and that child well-being can be positively affected by financial improvements as well as social paybacks.

3. Research Outline

3.1 Review of Relevant Field Studies

Until now, there are only a few impact studies on ASCA in sub-Sahara Africa, not to mention impact studies focusing on child well-being. Most studies are assessments of the financial performance of CARE's Village Savings and Loan Associations (VSLA), which serve as a model for most other organizations' ASCA programmes. Hartley and Rijali (2003) researched the impact of savings groups on financial management, livelihoods and the development of income-generating activities. However, their findings only drew from the participants' perceptions, as they had neither a baseline study nor a control group to compare the findings. While previous studies had been limited on focus group discussions giving mere impressions and anecdotal evidence, Allen and Hobane (2004) conducted the first full-scale household level survey in Zimbabwe, though also relying on recall data over a period of four years. One year later, Allen (2005) assessed the performance of VSLA in DFID's Financial Sector Deepening Uganda Project merely by focus group discussions and reviews of their financial records. Also among Ugandan VSLA, Beyene (2006) researched their impact on women's empowerment. Within four districts, 21 focus group discussions were conducted in which groups developed their own definition of socio-economic empowerment. Afterwards, impact was measured through 372 household surveys, relying on recall data as there was no baseline study.

Anyango (2005) conducted an impact assessment for CARE's VSLA within five Traditional Authorities in Malawi, focusing on economic and livelihood improvements as well as socio-economic and gender-related well-being. Focus group discussions paired with Participatory Rapid Appraisal (PRA) tools were applied among 313 participants from 21 groups and compared to 55 non-participants within 4 randomly selected control village groups, and also to findings from a baseline study conducted in 2002. The baseline study, however, was conducted at community level and therefore probably did not cover the same households. The following year, Anyango et al. (2006) conducted a similar study in Zanzibar, comparing impacts on those groups formed after CARE had left Tanzania to a sample of groups that had been formed before. However, their focus is more on group performance than on individual socio-economic impact. Brannen (2010) aims to extend and improve Anyango's research by re-examining the impact of the VSLA programme in Zanzibar, including improved economic and social well-being, development of income-generating activities, and empowerment of the members. Brannen uses a control group formed out of new members and a treatment group from Anyango's sample, including drop-outs to avoid attrition bias.

By running multiple linear and logistic regressions, she is probably the first to control for the significance of several influencing factors on outcome indicators. She also examines whether entering the ASCA provides a one-time positive effect, or if the impact is continuous over time of membership.

For the Tanzanian mainland, Allen (2009) researches the impact of ASCA implemented by the NGO "Plan", again working without a baseline or control group. However, he asks each respondent to select a non-ASCA member from his or her community to whom they considered themselves similar in terms of socio-economic status at the time of entering the ASCA, and then administers questionnaires to members and non-members to assess their situation based on recall data. Regrettably, his sample is very small, comprising 69 members and 35 non-members. Also, his oldest groups are less than two years old, which explains why his findings are less pronounced. Chapter 4.1 will discuss findings from these and other authors regarding economic impact on savings groups participants.

There are only few studies that focus on child well-being. In Burundi, the International Rescue Committee conducted an evaluation of their "New Generation" project aiming to improve the well-being of vulnerable children in areas with high numbers of returning refugees and high political instability. 40 VSLA were selected as a treatment group, half of which participated in a family-based discussion group for reconciliation and healing called "VSLA Plus". The outcomes of these groups were compared to each other and to a wait list control group of 37 associations that did not participate in any activities. The research consisted of household surveys and child surveys completed once as a baseline study in 2010, and again for a midterm evaluation in 2011. The final evaluation was planned for 2012 but unfortunately was not yet available by the time this thesis was completed (Bundervoet et al. 2011). The preliminary findings of this midterm evaluation will be discussed in the respective sections of Chapter 4.

Brandt et al. (2006) conducted 34 focus group interviews of eight World Vision MFI throughout the world[5] – half of them with clients and the other half with adolescent sons and daughters of clients in 17 communities – to analyze the relationship between micro-finance loans, education and child labour. Their findings will be discussed in Chapter 4.2, though they are not entirely applicable to the context of ASCA and sub-Sahara Africa.

[5] Armenia, Bolivia, Cambodia, Ethiopia, Honduras, Malawi, Philippines and Thailand.

3.2 Research Setting: WV ASCA in Nampula

3.2.1 Geographical Setting

Mozambique is situated in southeast Africa, bordering Tanzania and Malawi to the north, Zimbabwe and Zambia to the west, Swaziland and South Africa to the south and the Indian Ocean to the east. Mozambique is one of the poorest and least developed countries in the world. In the 2011 Human Development Report it ranked 184th out of 187 countries with comparable data. 79.3% of the population are considered poor according to the UN's Multidimensional Poverty Index and 60% of the population is living on less than 1.25 USD a day. The GDP per capita in PPP is 804 USD. With a life expectancy of 50.2 years, Mozambique scored among the bottom 10 countries (UNDP 2011).

The province of Nampula, situated in the northeast of Mozambique with an estimated population of more than 4.6 million residents, is the most populated province of the country (INE 2012). The province is divided into 18 districts, with World Vision implementing programmes in the districts of Muecate, Murrupula and Nacarôa, all three hosting WV ASCA groups.

Each district is divided into three administrative posts. World Vision organizes their activities on administrative post level in so-called 'Area Development Programmes' (ADP), each of them being sponsored and supported by a different donor country. Fig. 3 shows their location and the number of groups and individuals that were interviewed in each ADP. An overview is given in Table 1 (p. XIII).

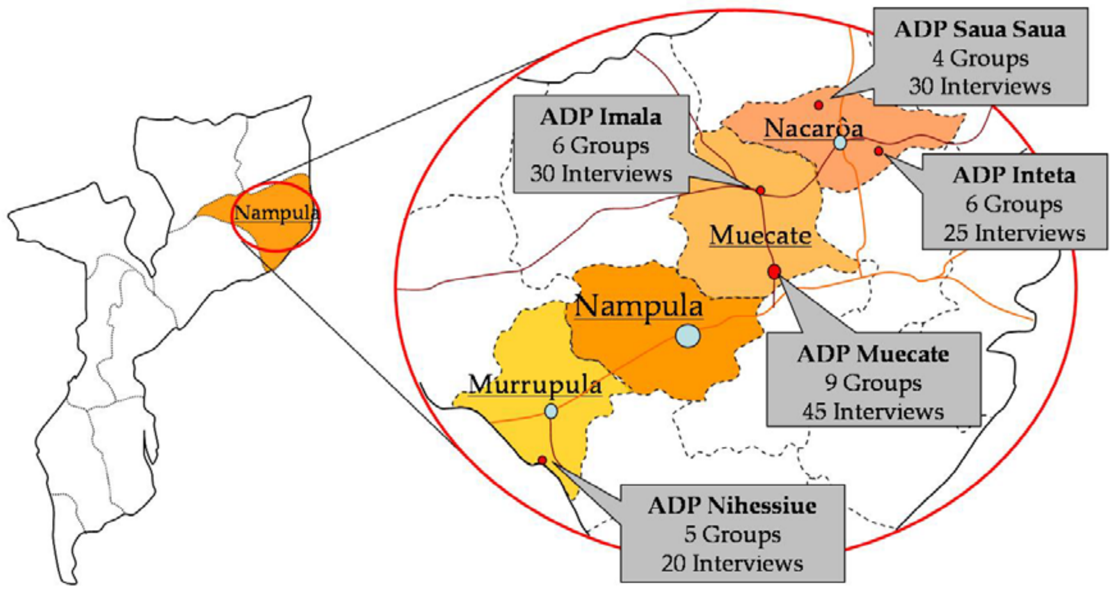


Fig. 3: Map of Mozambique, Research Areas in Nampula

The district of Nacarôa hosts the WV ADPs Saua Saua, Inteta and Mucotho. The latter was not included in this research as the ASCA programme there is fairly new. The ADP for the administrative post of Saua Saua is supported by WV Germany. Saua Saua is the most remote area included in the survey, situated about 33 km north of the district capital Nacarôa and about 190 km north east of Nampula. The interviewed savings groups are spread up to 20 km distance from the programme office. There is no electricity or running water supply and hardly any money transfer. The yearly income of the 30 interviewees from 4 groups ranges from 500 to 6,000 Mozambican Meticais (Mt.) with a median of 1,625 Mt., and their monthly ASCA savings amount ranges from 25 to 50 Mt[6]. The Australian supported Inteta ADP, 19 km east of the district capital Nacarôa, hosts notably more economic activities. Most groups are situated close to village markets – one of them founded by the ASCA group – and participants engage in petty trade. In contrast to Saua Saua, the yearly income among the 25 interviewees from 6 groups interviewed in Inteta ranges from 1,400 to 55,000 Mt. with a median of 9,000 Mt. and monthly savings between 50 and 300 Mt.

The neighbouring district of Muecate, about 68 km northeast of the city of Nampula, is divided into three administrative posts: Muecate Sede, Imala and Muculuone. Muecate Sede and Muculuone are grouped together into the Muecate ADP, supported by WV Switzerland, while the administrative post of Imala forms a separate ADP supported by WV Canada. In the Muecate ADP, 45 participants from 9 groups were interviewed. Their income varies extremely between 210 Mt. and 110,000 Mt. with a median of 3,000 Mt. Similarly, in Imala, about 35 km north of Muecate city, incomes vary between 0 (a woman who is fully dependent on her husband giving her money for participating in the ASCA) and 153,000 Mt. However, the median income is much higher at 10,000 Mt.

The district of Murrupula also consists of three administrative posts, Chinga, Murrupula and Nihessiue. World Vision only operates in the latter. The Nihessiue ADP, about 98 km southwest of Nampula, is funded by WV Austria. Amongst the 20 individuals of 5 groups interviewed, results were much more homogeneous than in other ADPs, with participants' incomes varying from 1,000 to 9,000 Mt. with a median of 3,000 Mt. and monthly ASCA savings between 100 and 200 Mt. per person. The median income among all groups is 4,000 Mt.

The regional analysis shows that there are gross differences between the different ADPs. Therefore, in regression analyses documented below, a dummy variable for the ADP is included. Clustered standard errors are applied to take influence factors on group level into consideration.

[6] The exchange rate during the research period was about 27.18 Mt./USD, or 35.87 Mt./EUR

3.2.2 Access to financial services

The Mozambican National Institute of Statistics (INE) states that in 2008, within the whole province of Nampula only 5 MFI were operating and none of those were within the districts of Muecate, Murrupula and Nacarôa (INE 2010, p. 17). From the field research, three organizations providing financial services in some of the ADPs could be identified: Ophavela, RCRN/IRAM and Olipa-ODES.

In the districts of Muecate and Murrupula, rural ASCA are promoted by a local NGO called Ophavela, which is Makua dialect for “to search” or “to intend”. Ophavela is financed and supported by prominent international donors like CARE International, the Dutch NGOs Hivos and Oxfam Novib, the International Fund for Agriculture Development and many more. Their groups are called PCR (Poupança e Crédito Rotativo, literally Rotating Savings and Credit, but used in Mozambique synonymously to the term ASCA). According to their own statement, they are serving about 50,000 savings clients in the region of Nampula. Ophavela promotes their ASCA through rural community trainers in Nampula since 2008 (Chipembere 2009, p. 2).

Two interview partners in Muecate and another one in Imala had each participated in an Ophavela group and left after the first year as one did not like the group, the second group dissolved because the project ended and the third group dissolved as it was not working properly. Four members in Nihessiue had been in the Ophavela group for three years before the programme ended and the group dissolved and formed as a new group under the supervision of a World Vision field staff member.

Olipa-ODES and IRAM are both subcontracted partners of the Swiss NGO Helvetas that implements the Rural Development Programme in Nampula for the Swiss Agency for Development Cooperation (SDC). Olipa-ODES (Organização para o Desenvolvimento Sustentável – Organization for Sustainable Development) is a local Community Based Organization that also promotes ASCA in the districts of Muecate and formerly Murrupula. Besides Helvetas, they also receive support from Hivos. Three WV ASCA members from the Nihessiue ADP in Murrupula reported to have been part of Olipa groups for one year. One left as he felt Olipa did not provide sufficient assistance and training and the other two members’ group dissolved when Olipa withdrew from the area and was resurrected by World Vision staff. The French IRAM (Institut de recherches et d’applications des méthodes de développement – Institute for research and application of development methods) manages the RCRN (Rede de Caixas Rurais Nampula – Network of Rural Banks Nampula) in Muecate and in four other districts not included in this research.

RCRN/IRAM offers microfinance services to solidarity groups of five people, comparable to Asian MFI systems. The MFI provides solidarity loans for small traders who have to repay the loan monthly over a period of four to six months, agricultural loans to farmers who have to pay off the whole principle plus interest after six to seven months, and agricultural trading loans for commodity traders, who have to pay off their monthly interest and to pay back the principle after 5 months. Interest for all loans is usually three percent monthly (CTA 2006, p. 37). RCRN/IRAM also promotes women’s savings clubs following the above mentioned PCR system. However, these ASCA share some typical MFI characteristics. Groups can borrow money from the bank that exceeds their accumulated savings, and the whole group becomes ineligible for further participation if one member fails to pay back a loan. Seven ASCA members from the district of Muecate (administrative posts of Muecate, Muculuone and Imala) have experience with IRAM groups. Three of them quit their IRAM membership when they entered the ASCA, three maintained both memberships and one woman from Muculuone has entered both the World Vision ASCA and an IRAM solidarity group simultaneously three years ago and stayed in both as she liked both systems.

Besides these three organisations, only very few financial services are available to the rural population of Nampula. One interviewee from Muecate had participated in a solidarity group by the MFI Unibanco in Nampula, but his group had become ineligible because of one member's default.

In total, only six of the 150 interviewed ASCA members have savings accounts at regular banks. All of them are petty traders from Inteta, Muecate or Imala who go to the city regularly to buy merchandise. Two of them opened their account when they were already participating in the ASCA. Only one of them had ever taken a loan from his bank.

Also, only six group members stated to have used the services of a moneylender before they joined an ASCA, and one participant did so during his ASCA membership. Among these seven, one was from Inteta and the rest from the three different administrative posts of Muecate district (Muecate, Muculuone and Imala). Many others were not even familiar with the concept, so the moneylender infrastructure also seems particularly less developed in the research area, especially in Saua Saua and Nihessiue.

None of the participants from Nihessiue and Saua Saua had used any savings instrument before, neither a bank or an MFI, nor taken a loan from a moneylender, nor participated in an ASCA.

3.3 Methodological procedure

3.3.1 Data collection and analysis

Research was conducted in the above described five World Vision ADPs Saua Saua, Inteta, Nihessiue, Muecate and Imala in the province of Nampula, Mozambique between February 1st and April 30th 2012. The total number of ASCA in these ADPs was 61, and a sample of 30 groups was chosen for short focus group discussions and individual interviews. Out of the 448 members of these 30 groups, 150 were interviewed individually. It was not possible to select the groups and members totally randomly, as the time of the interviews had to be matched with regular ADP work and availability was a major factor in their selection. However, a representative sample was selected regarding the number of groups in more remote areas and groups closer to the city. Also, the proportion of female participants was adjusted to match their total proportion in ASCA membership, equalling 38% females and 62% males. As illustrated in Fig. 3, in the district of Nacarôa, four groups within the Saua Saua ADP and six groups within the Inteta ADP were interviewed. In Murrupula, five groups organized by the Nihessiue ADP were included, while in the district of Muecate, eight groups within the Muecate ADP and seven groups within the Imala ADP were interviewed. The questionnaires included mostly quantitative, but also qualitative questions to test the above listed hypotheses. 60% of the individual interviews were conducted in Portuguese, 40% in Makua with translation by a WV employee, facilitator or other group member. Group discussions covered the ways group operate and perform. They were always accompanied by an interpreter and conducted in a mixture of both languages.

Unfortunately, no baseline information was available and no wait list control group had been formed at the beginning of the programme, against which the results of a treatment group could be compared. As group membership is based on self-selection, forming a control group outside the ASCA would bear the risk of a selection bias. As there are no selection criteria besides the new member's interest and initiative, voluntary ASCA members might be more dedicated or financially more organized from the beginning than a random sample of non-participants. Therefore, a cross-sectional impact approach was chosen, which controls for differences in impact between more senior ASCA participants and members that recently joined and not yet benefited from their first pay-out.

Regarding microfinance impact studies, Karlan (2001, p. 79f.) cautions that there might be a reason why the new participants are only joining a couple of years after the 'veteran group' instead of joining in the beginning. They might not have similar degrees of resourcefulness and entrepreneurial spirit than earlier participants, as previously assumed.

However, as ASCA members in this research usually joined once the World Vision staff arrived in their location promoting the programme, this effect is not expected to be a significant factor. The possibility of a programme placement selection bias could be discussed, as World Vision might have started the programme in areas with more favourable conditions, e.g. closer to the next city and with better infrastructure, or the other way around. However, in this field research, there was no indication for a relation between the groups' location and initial situations and the year they were founded. As World Vision has been active in the chosen ADPs for many years, virtually all group members had previously benefited from other non-financial WV activities like trainings in horticulture and husbandry, preparing enriched porridge for children or the child sponsorship programme. All these activities are likely to have a positive impact on the households' economic situations and also the children's well-being. By not choosing an external control group, but comparing members within the beneficiaries of previous activities, their positive effect will be more or less equal among all participants.

Through multiple linear regression analysis, the significance of different factors influencing desired outcomes can be analyzed. To control for the impact of ASCA membership and saving, a variable for completed years of ASCA participation and therefore of experienced share outs is used. Another variable for the amount of loans taken controls for the impact of the credit component.

Additionally, recall data is used for members who completed at least one savings cycle, asking them to compare their current situation regarding different aspects to the situation before they joined the ASCA. Naturally, answers to these questions report more on the perceived effect of ASCA than on the actually measurable one, which is especially true for answers about the increase in income since the ASCA participation, as discussed below.

3.3.2 Characteristics of Respondents

As shown in Table 2 (p. XIII), the average age of the ASCA participants is 36 years. 65% of respondents claim to earn less than 6,500 Mt. a year, meaning they are living below the Mozambican national poverty line defined as 18 Mt. per day [7]. 57% of the interviewed ASCA members in rural Nampula earn more than 50% of their income through agriculture and all but two respondents rely on agriculture at least for subsistence farming.

This means that most interviewees can be classified as rural poor and/or living in extreme poverty. Many have petty trading businesses, which can range from adolescents selling cookies and chewing gum on the school yard to shop owners selling groceries, *capulanas* (traditional wrap-around skirts) and other items. Classic income generating activities for women are the production of clay bricks and brewing as well as selling *capanga*. Typical activities for men include the production and sale of charcoal and crafts like masonry or carpentry. Still, 57% of participants draw more than half of their income from farming. 25% earn most of their income trough petty trade, 6% through crafts and 3% through other activities. Only one of the participants is employed as a man-servant.

A special group amongst the participants are the World Vision facilitators. These 8% receive a monthly salary from the NGO for assisting their activities, e.g. by conducting monitoring visits to families whose

[7] Defined threshold for 2011, about 0.63 USD/day or 1.11 USD/day at PPP (IMF 2011, p. 6).

children take part in the sponsorship programme. In the ADPs of Inteta and Muecate, facilitators formed their own ASCA group as they had regular meetings at the WV office. Many also founded an additional ASCA group where they lived and participate in both. Out of 13 facilitators included in this research, eight are from facilitator groups, and five from regular groups.

The facilitators' incomes are not only more consistent than those of other participants, but also significantly higher. As they are paid 20,400 Mt. annually and and often additionally have other IGAs like farming and petty trade, the median annual income among facilitators is 23,850 Mt. For petty traders, the reported median annual income is only 5,000 Mt. and for farmers 2,900 Mt. In the following regression analyses, a dummy variable to control for the respective main income source will be included.

90% of participants are married, 7% single and 3% widowed or divorced. In total, 12 married couples, who were members of a savings group together, took part in the interviews. 96% of the participants have children, with an average of 3.6 children living in each household.

Overall, within the 30 groups included in this research, only 38% of the participants are women. Interestingly, among participants with the maximum amount of five years of membership, women only make up 5%, whereas in the group who did not complete their first year, 55% are women[8]. There are different explanations for this high variance. The disproportionately high representation of men in WV ASCA is a very uncommon phenomenon. In all available studies on ASCA promoted by other NGOs, women are overrepresented, ranging up to 99% among groups with voluntary membership, and some NGOs offer ASCA only to women.

This is either because the projects specifically aim for women empowerment, as many studies suggest female saving and borrowing is more beneficial for the household welfare, or because men perceive ASCA as a 'female' form of savings, preferring to save individually and not valuing the group experience as high as their female counterparts.

One example for this perception is the CARE VSLA programme in Malawi. According to Anyango (2005, p. 27), in the beginning, women were not specifically targeted, but it soon became clear that "men groups and mixed groups do not perform well", as men traditionally are not used to teamwork and left the groups once it became clear no external funds were to be expected. He claims that women already supported each other in groups before, and therefore the concept came to them more naturally. Today, CARE, like most others, specifically targets women. Thus, an overrepresentation of women would be the expected observation.

World Vision's unusually high percentage of male ASCA members, especially in their first ASCA, could be related to selection bias, as it is easier for technical staff to generate interest in men to participate in an unknown concept, with women being more insecure to embrace new and possibly initially complex ideas. Also, it could partly be attributed to the fact that the responsibility of promoting the ASCA system within

[8] However, there was no continuous decrease of the women's quota with years of participation.

the NGO is with the same technical staff that promotes agricultural initiatives for increased food security. As men are mostly perceived as responsible for decisions about the household's agricultural activities, they are also more likely to participate in the ASCA programme, and as the majority of agricultural experts at WV are men, they are more likely to unconsciously focus on male beneficiaries.

The reversal of this trend, in contrast, could be related to the general tendency of increasing awareness of the importance of women empowerment. Also, male participants in the programmes learn about the importance of joint decision making and change their behaviour, for example by encouraging their wives to also participate in the ASCA. Female participants become more confident about financial decision-making and interaction.

An alternative explanation, as this research does not include drop-outs, would be a higher attrition effect for women than for men, suggesting that significantly more women than men left the groups in the course of five years. However, anecdotal evidence from focus group discussions does not indicate higher drop-out rates or less commitment for women, and as the decrease over time is not continuous, this explanation seems less likely. Still, the question of differing impacts of the ASCA on women and men is to be kept in mind throughout this research.

3.4 Critical Assessment of the Research Design

To measure the impacts or benefits on members can be extremely difficult. In order to determine whether a rural household living from agriculture was able to raise their income because of their ASCA membership, a large number of variables has to be estimated, such as quantities of produce, product prices and external factors, e.g. weather influence. For non-tangible impacts like improved health or education, measurable proxies have to be designed. For this research, all participants had to be interviewed individually while the others had to wait, often for several hours. Therefore only a limited amount of questions could be included in the research, making it difficult to acquire information on all relevant factors.

As recall data was used to compare the members' current situation with the one prior to their participation, it can be expected that people exaggerate the positive impact of the programme as they expect this is what the interviewer wants. For example, people that had been working as World Vision facilitators with a fixed monthly salary before and after entering the group claimed to have doubled their yearly income, even though their salary demonstrably had not changed, and only their agricultural activities that accounted for about 10% of their income had been expanded through savings and loans from the ASCA. As more comprehensive analyses were not feasible, this study focuses mainly on perceived improvements by participants. It can be assumed that even if positive impacts only existed in the members' perception, this would still reflect positively on their attitude towards their children as they would feel more confident about the future, which should give children a feeling of security and optimism (cf. Hassan/Power 2002).

Besides methodological limits like missing baseline study and control group, the main challenges faced in this study were the timing and difficulties of comprehension.

3.4.1 Methods

To compensate for the missing baseline study and control group, a cross-sectional impact methodology was applied. One weakness of this method is that the 'veteran' group does not include dropouts, while the group of new participants includes future dropouts. Those who had left the group might in fact have been impacted negatively through participation, or they might be in a significant better position, that they switched to more sophisticated financial services. In any case, it cannot be assumed that their outcomes are identical to those who remain in the group. Karlan (2001, p. 77f.) calls this problem the 'incomplete sample bias'.

Within the 30 interviewed groups, 90 out of 468 initial members had dropped out and 70 had joined at a later stage. Most dropouts were reported to occur before or within the first savings cycle, as these participants had either not understood that no external funding was involved, or, according to remaining members, were 'not serious' about their savings efforts. To reduce this effect, the respective comparison was not only made between new members and senior ones, but continuously between participants that have concluded one or more savings cycles, as the number of dropouts decreases in later years. Amongst these late dropouts, besides those who moved away or died, some left the group because they felt they could not keep up with their saving or pay back loans. It can thus be assumed that a significant number of the dropout members was 'weaker', i.e. poorer, less skilled or less motivated than the average participant from the beginning. Therefore by disregarding them, positive effects might be portrayed higher than they actually are. This 'attrition bias' (see Karlan 2001, p. 78) also neglects the possible effect that benefits of ASCA participation might be higher for those who were already stronger from the beginning.

3.4.2 Timing

As many groups mainly consist of farmers, their savings cycles are often influenced by agricultural seasons. In December and January, farmers usually seed and plant their *machambas* (small plots of land), due to the rainy season which starts in January and lasts until March or April. During this time, the farmers' main effort goes into weeding the fields. The harvest takes place between April and July, and from August to November, the *machambas* are prepared for the next seed time. An exception from this schedule are Cashew nuts, which are harvested in December. The research thus was conducted during the pre-harvest rainy season which is a time of hardship and food shortages for the rural poor. In 2011, scarce rainfalls during this time led to a bad harvest, increasing the suffering of the farmers during the rainy season of 2012. Many groups interviewed in this research had closed their previous savings cycle in December and were waiting for the harvest to start their next cycle, as they currently had no money to save. Some of the groups had their cycles adapted to this rhythm every year, always saving for six to nine months, then pausing for the remaining three to six months. Others paused this year for the first time because of the financial drawback. Not only farmers suffered from the bad harvest, but also petty traders who were hit by the decrease in their clients' purchasing power. In consequence, it was difficult to review any financial records or measure current performances of the groups.

Also, as the year 2010 had produced a relatively good harvest compared to the scarce year of 2011, possible improvements in well-being through participation in the ASCA over this period might be overlaid by the negative effects of seasonal differences.

3.4.3 Comprehension

Using various interpreters that are unfamiliar with academic research, there is always the danger of errors in translation, as well as the problem of translators influencing the participants' answers, i.e. by naming possible answers to make the question understood. To reduce this risk, questions were often repeated in different phrasing to check the participants' understanding based on the consistency of their answers, though this sometimes prolonged interviews significantly. Problems of understanding did not only arise from language barriers, but also from unfamiliar concepts or the complexity of questions. Many participants had great difficulty remembering their age, not to mention the ages of their children. Pre-test answers were widely inconsistent, and as a result in later interviews respondents were asked to present identification papers for themselves and their children where possible.

Regarding annual income, most farmers knew exactly how much they could produce and sell at which price during one year and most petty traders knew how much profit they made within a year. However, while farmers named their gross income from the sales, petty traders usually listed only revenues (see discussion in Chapter 4.1). Furthermore, some married women named only the income they generated themselves while others included their husband's income.

Most participants also had great difficulties understanding questions regarding complex emotions like disappointments within the group or anxieties about the future, making lengthy explanations necessary that might have influenced their answers.

The influence of social desirability in answers or tactical answering appears to be lower than previously expected as respondents did not seem to associate the research project with World Vision's future actions towards them and participants proved to be equally open and communicative about their achievements as well as their failures within the ASCA.

4. Findings

4.1 Effects on Overall Economic Well-Being

The first hypothesis regarding the impact of ASCA on child well-being is that ASCA enhance the ability of parents to generate income and improve the general economic situation of their family. This hypothesis is divided into three sub-hypotheses to make impact more measurable:

a. Participants increase their income while being an ASCA member.
b. Participants increase their household assets or improve their housing situation with money from the ASCA.
c. Participants use their savings and loans for the purchase of business-related assets or for working capital to start and maintain their business.

a. Increase in income

According to World Vision's Savings Group Project Model, a main indicator for the project goal of increasing participants' capacity to provide well for their children is an "increase in household net assets and cash income" (WV 2012, p. 13). The assumption is that parents who are able to generate a higher income provide better for their children (ibid., p. 3). Studies commonly do not use monetary indicators to measure economic well-being, but rather focus on assets. Available studies on ASCA usually take asset accumulation as a proxy indicator for income, because the latter is difficult to measure and asset accumulation is seen as the higher goal (Matthews et al. 2010, p. 1).

However, one basic characteristic of ASCA is that they help abstaining from trivial spending and accumulating usefully large lump sums, e.g. to purchase assets. Increases in asset accumulation can therefore at least partly be attributed to a better use of one's income, and not necessarily to an increase. Before focusing on non-productive and productive assets in the following two paragraphs, it is therefore useful to have a look at income first. There are no studies available on ASCA that involve income as an indicator, as even statistical data from the INE measure economic well-being only based on housing and assets.[9]

Where monetary values are considered, consumption expenditures are used as a proxy for income. Bundervoet et al. (2011, p. 20) find highly significant increases in consumption expenditures for their treatment group compared to the baseline and to their control group, which attained a smaller increase.

Adjusted for observed increases in the control group, the researchers calculate a net increase on total expenditures through VSLA participation of 7 USD per household member per month. For an average household of 5.8 members this implies a monthly expenditure increase of 40.60 USD through the ASCA, marking a substantial 23% increase compared to baseline values. Assuming that expenditures are equal to income and using the World Bank poverty line definition of 1.25 USD a day (2005 PPP-rate), the

[9] See data available on http://www.ine.gov.mz/.

researchers find that for treatment households, the headcount of those living below the poverty line diminished from 67% to 63%, whereas in the control group the number of members below the poverty line increased from 65% to 75%, which marks a highly significant difference.

In this study, it was observed that in rural Mozambique people have more difficulties estimating their expenditures than estimating their income. This is due to the fact that people often trade farm produce for other items instead of buying them, so that they do not consider this a purchase and are not able to keep track of these numerous small trade activities. As the majority of respondents generate most of their income through seasonal farming activities, ASCA members were asked for their annual instead of their monthly income. Farmers usually know how many kilos of which farm produce and how many animals they sell at what price throughout a typical season, so income can be calculated fairly easily. Petty traders usually know how much profit they make per stock turnover and how many stock turnovers (i.e. trips to the city to buy new goods) they have per year. It is difficult to compare these numbers, as farmers calculate revenue, whereas traders count profit, meaning revenues minus expenses. However, it can be argued that farmers are practically calculating in terms of profit, too. Given the fact that the farming methods are very basic (lacking machines, fertilizer and other cost-intensive factors) and land is mostly owned by the farmers, their principal expenses are for seeds and reimbursing day labourers during harvest. Seeds are usually taken from own seed stock rather than bought, and day labourers are generally not paid in cash but in kind with farm produce or fish that was traded in for farm produce. Therefore, by only calculating what was gained with the produce remaining for sale after covering for seed and labourers, they also calculate their profit.

The issue of gender is highly important in responses concerning income. Some women include their husband's income from mutual agricultural activities, while others only see income from additional activities like making clay bricks or brewing *capanga* as their own, as their farming produce is sold by the husband. Obviously, caution is required as information concerning annual income cannot be more than a rough estimate, but it still helps to form a general idea of the impact of ASCA. Additionally, comparisons of the estimated increase in income for each member based on recall data can be used to support findings.

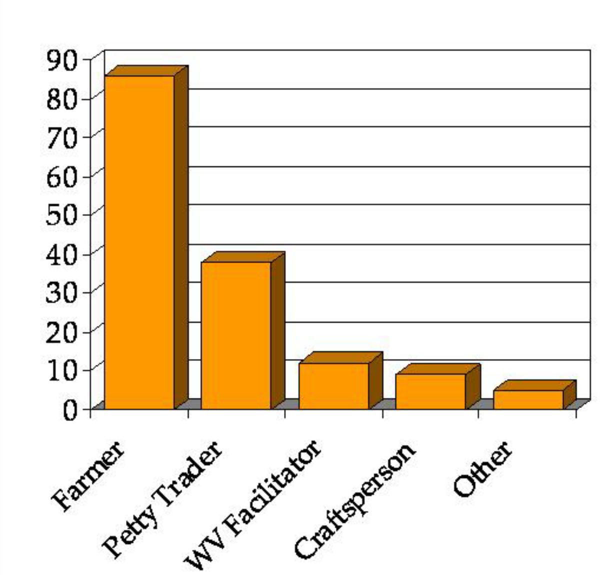
Table 3 (p. XIV) presents the results of multiple linear regression analysis to test for factors that influence income[10] and check whether there is a significant relation between ASCA participation or loan taking and annual income. It must be kept in mind for all analyses, though, that even statistically significant predictors do not prove any causal relation between the variables. Clustered standard errors on ASCA group level account for correlations within each group.

Results show that the coefficient for gender is highly significant for yearly income. Partly, this can be explained by the widespread gender inequality, but part of it can also be caused by women's response patterns. As mentioned above, women often do not include profits from family farming when calculating their own income, which can also lead to their disadvantage being highly significant on the 1%-level. The influence of age is less significant at the 10%-level, with the negative coefficient suggesting that income

[10] For regression analysis in this study, logged income is used as a variable.

decreases with age. Literacy of the interviewee does not seem to have a significant impact on their yearly income, with the negative coefficient even implying a small disadvantage of literate participants. This should be kept in mind when educational quality and children's motivation to attend school is discussed in Chapter 4.2.

A predictor with major importance is the source of income. As many participants have more than one income-generating activity, members are categorized via dummy variables according to the activity which generates the majority of their income.



Source of Income	n	%
Agriculture	86	57%
Petty Trade	38	25%
WV Facilitator	12	8%
Crafts	9	6%
Others	5	3%

Fig. 4: ASCA members' main sources of income (dummy variable)

Employment as a World Vision facilitator has, unsurprisingly, a highly significant positive influence on income, while farmers and petty traders earn significantly less. The disadvantage of farmers is significant at the 1%-level; and that of petty traders on the 5%-level compared to other sources of income.

There are also strong differences between certain ADPs. While dummy variables for Inteta and Nihessiue are not significantly different from Muecate, which represents the biggest share of participants and was coded with 0 in all location dummy variables, members in Saua Saua earn substantially less and in Imala substantially more than in the other ADPs. These differences are significant at the 1%-level. Possible explanations for this are summarized above in Section 3.2.

Taking all these factors into consideration, the net impact of the ASCA can be singled out. In theory, ASCA members benefit both from accumulating their savings and also from taking loans from the ASCA by using share-outs as well as loans to increase their income. Therefore, ASCA participation is measured in completed years and in consequence experienced share-outs, whereas the total amount of loans taken in the previous year by each member is taken as a proxy for loan-seeking behaviour of the ASCA member. Both the number of completed years of participation and the amount of loans taken in the previous year indicate remarkable positive impact on yearly income which is highly significant at the 1%-level. It can therefore be concluded that both the savings and the credit component have beneficial effects on the participant's income, which confirms the above hypothesis.[11]

The perceived – or at least the reported – increase in income seems to be even higher than the actual one. Participants were asked for their current annual income first and then asked to recall their annual income before ASCA participation. Often, they would claim to have earned only half the amount before, even if they had been facilitators whose salary had not changed. When confronted with this obvious contradiction, respondents insisted that they had 'twice the money available' now, showing that the response behaviour was not so much caused by social desirability bias, but by a different perception of the term income. Among those who had participated for at least one year (n=119), 64% reported an increase in income, with the average reported increase among all participants with at least one year experience being 107%, meaning they more than doubled their income. Only one participant reported a decrease in annual income, as she recently divorced from her husband and was now worse off.

Despite methodological weaknesses and inaccuracies in measurement, findings strongly suggest that savings and loans have a significant positive impact on income, supporting the first sub-hypothesis. After analyzing the income side, the following sections will focus on expenditures in different areas.

b. Household assets and housing situation

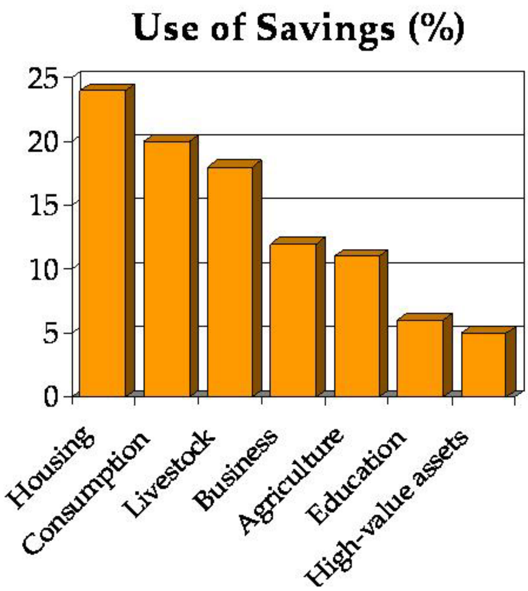
World Vision assumes that ASCA not only enable members to increase their income, but also to smooth it by improving their cash-flow management. Access to loans helps to cover irregular expenses like school fees or medical costs and members can accumulate lump sums to purchase assets or improve their housing at the time of share out (WV 2012, p. 3).

The importance of increasing household assets and improving their housing situation is reflected in the spending patterns of respondents in Mozambique. 24% of share-outs are used for housing improvement. These may range from purchasing small household items like plates and buckets to furniture such as chairs and beds to the actual construction of a corrugated sheet roof, a cement floor or an entire house. 20% are used for household consumption, including food, clothes and expenditures for ceremonies. Productive investment covers smaller shares, with 18% used to buy livestock, 12% to increase business, mostly through buying merchandise for petty trade or oil for fried pastry, and 11% for agricultural input such as seeds and day labourers. 6% of the pay-outs are spent on education, 5% on high value assets like bicycles, radios or cell phones, and the rest is kept for the following year or spent for health expenditures.

Loans are much more frequently used for productive purposes than share outs, as 77% are for business inputs and 9% for agricultural expenses. Only 8% are for housing improvements and the rest is divided among the above mentioned purposes. It is not a surprise that smaller continuous amounts like loans are

[11] Alternatively, the number of loans as well as a dummy variable for loan taking was considered, but did not render significant results.

used to maintain one's business and bigger lump sums as generated in the share-out are converted into livestock and other assets, or for consumption to 'reward' oneself for the saving discipline throughout the year. These consumption patterns are also reflected in other studies.



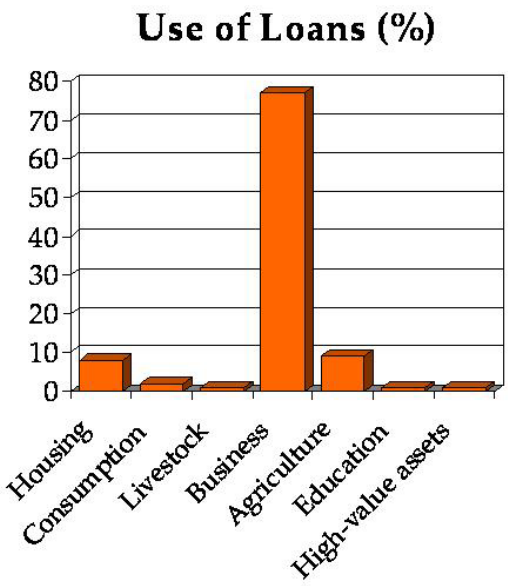


Fig. 5: Purpose of ASCA Savings and Loans

Among ASCA participants in Zimbabwe, Allen and Hobane (2004, p. 7) note a high increase in the ownership of non-productive assets such as plates and other kitchen utensils and moderate increase in productive assets such as livestock, that will be discussed further in the next paragraph. Housing conditions also improved slightly, but it is difficult to ascribe these changes to the VSLA, as investments in housing are long-term and high-volume expenses that are beyond the income change expected by a few years of VSLA participation. Also, findings are purely based on recall data of participants. They are not specified according to the duration of the group members' participation in the VSLA, which varies from less than one to up to four years, or their occupation, and they are not compared against any control group outside the VSLA. Allen (2005, p. 32) shows similar though less conclusive findings for a smaller-scale research within DFID Uganda.

As an indicator for household well-being, Anyango (2005, p. 23 ff.) uses the ownership of radios and bicycles as a proxy. However, this research is on group level and not household level. Due to economic hardships caused by droughts, control groups decreased their radio and bicycle ownership, while the treatment groups increased their radio ownership by six and bicycle ownership by 15 percentage points.

For housing improvements, findings cannot be rated as significant. While more VSLA own burnt brick houses and increased their valuable furniture ownership, the control groups own more iron sheet roofs and cement floors. Anyango explains this by the fact that 13% of control group members are men, but only 1% in the treatment group. However, this interpretation is very fragil.

In terms of livestock, the treatment groups was able to slightly increase their chicken ownership and keep their number of pigs on the same level, while the control groups had to deplete their stocks due to the economic shocks, which indicates that VSLA help to create economic resilience (see Chapter 4.3). It must be kept in mind that these findings only refer to overall group performance. It is possible that more vulnerable individuals within the groups fall behind without being accounted for in Anyango's research.

Based on recall data, Beyene (2006, p. 17) reports higher increases in small non-productive household assets like plates and cups and smaller changes in larger household items like bicycles. As the former are more commonly owned by women and the latter by men, she sees this as evidence that savings groups are more beneficial for women than for men (ibid., p. 20). One could alternatively also argue that this indicates that savings groups help to generate lump sums for smaller purchases, but are not sufficient for more expensive ones. Housing improvements are also fairly small in her research (ibid., p. 20).

Allen (2009, p. 18) finds minor improvements in non-productive asset ownership between his participants' and non-participants' groups, that are not consistent over all items included in the research, and small but indicative housing improvements of members compared to non-members.

In Burundi, Bundervoet et al. (2011, p. 26) find that both the treatment and the control group increased their asset ownership compared to the baseline, but the treatment group significantly more so. This also reflects on child well-being, as monthly expenditures on clothes per child in a household increased by 16% in the control group and by 27% for VSLA members. For the VSLA Plus members, who additionally took part in family based discussion groups, the increase was even 42% (ibid., p. 31).

In summary, there is evidence for increases in lower value assets, but less convincing evidence for more expensive assets and housing improvements, which can partly be attributed to methodological difficulties in measurement.

An alternative to the examination of actual asset ownership are annual expenditures on assets. Brannen (2010, p. 107) finds highly significant increases in expenditure levels for household assets, as male members spend about 106 USD more and women about 79 USD more than non-members. She suggests the smaller impact on women could be caused by the fact that they spend their additional income on education and health, rather than assets. However, the impact on household expenditure is discrete rather than continuous: within the group of participants, increases with the duration of membership are not statistically significant. Notably, when comparing actual asset ownership, there are only minor differences between the control and the treatment group. However, this could be because other items than those specified in the research were purchased, which again demonstrates the methodological difficulty (ibid., p. 86).

According to Brannen (ibid., p. 124), ASCA membership also has highly significant effects on home ownership, as 86% of treatment group members and only 60% of the control group own their homes.

Again, this effect is discrete rather than continuous. Still, increased investments in household improvements can be found with joining the group as well as with increased duration of membership. Her findings confirm previous, less statistically robust findings of Anyango et al. (2006).

In terms of valuable assets, participants in Mozambique had purchased 45 radios, 33 bicycles, 26 phones, three TVs with DVD players and sound systems, four motorbikes and one vehicle within the previous year. 79 participants had purchased at least one of these items. Among them, 89% claimed they could not have made this purchase without the ASCA, whereas 9% reported they could have afforded the item either way, and two respondents said they did not know (Table 4, p. XV).

Unfortunately, there is no baseline or control group to compare the results against and to make the effect of the ASCA measurable. Participants were not asked for asset ownership, but merely for purchases within the last year, thus data does not show whether those who did not purchase certain assets could not afford them, or whether they already had bought them in previous years. Thus, regression analysis could not be used in this case.

Data from Mozambique shows substantial investments in housing improvements. Since being a member of the ASCA, 52% have bought plates, cups or pans, 43% have bought doors, 41% furniture, 26% have invested to improve their roof either by installing new plastic foil and covering or by upgrading to corrugated iron sheets, and 19% have bought buckets or jerry cans to store water. Also, seven participants built a cement floor and six members built an entire new house. One participant acquired electricity for his house and another one purchased solar panels. Anecdotal evidence suggests that ASCA participation enabled these achievements, however, due to methodological limits, it cannot be proven by statistical data.

c. Productive Assets and Income Generating Activities (IGA)

According to World Vision, ASCA

> "provide the poorest members of the community with access to a lump sum (through the share out and the micro-loans) for investment in agriculture, other income generating activities or assets as they wish." (WV 2012, p.3)

A third sub-hypothesis regarding the increase of economic well-being is therefore that savings and loans are used for business-related assets, working capital and IGAs.

Allen/Hobane (2004, p. 7) ask their participants whether they increased their productive assets. They find notable increases in livestock and small increases in lower value tools like yokes and wheelbarrows. Findings for higher value machines are not conclusive, as they are dealing with very small numbers. For instance, peanut butter mills have increased from three to six and manual oil presses from four to six, while knitting machines and cars have each decreased from eight to four. Allen and Hobane argue that, since 87% of the interviewed VSLA members were women and that the largest increases were noted in 'femalecontrolled forms of wealth' such as chicken and goats or kitchen utensils and less in male dominated areas like carpentry tools, increased economic well-being probably is due to increased incomes in women's economic activities and therefore can be ascribed to the VSLA.

For Tanzania, however, Allen (2009, p. 16) does not find conclusive evidence for differences between his treatment and control group regarding ownership and increase of productive assets.

As seen in the previous chapter, it is hard to prove investments in high value assets in groups that exist for a relatively short time. Many available studies therefore also test for a diversification of income and creation of new income-generating activities (IGA).

Allen/Hobane (2004, p. 13) find the average number of IGAs per household considerably increased from 4.82 to 6.97. In Uganda, Allen (2005, p. 33) also finds a 30% increase in IGAs. Anyango (2005, p. 19ff.) finds that the total of different IGAs conducted by VSLA members increased from just above 20 to more than 30 compared to the baseline study. Only 11% of the participants were not engaged in any activities other than farming, compared to 49% in the control group. Anyango sees this as a proxy for idleness, assuming that not all work capacity is used for farming. He also finds that the number of people doing piecework decreased drastically from 53% to 12% among the VSLA groups but only from 60% to 58% in the control group compared to the baseline study.[12]

According to Allen (2009, p. 16), participants increased their IGAs from an average of 2.6 to 3.03, while the group of non-participants started off at a lower level and increased their IGAs from 1.03 to 1.31. Thus, even though participants had higher absolute increases, the relative increase was higher for non-participants (27% vs. 16%).

Brannen (2010, p. 104) finds significant increases in IGAs between VSLA members – both male and female – and non-members, but only insignificant effects of 'dosage', meaning the length of participation. Thus, the ASCA membership has an all-or-nothing effect on a household's number of economic activities and does not increase them with time. A possible explanation is that the effect is mainly caused by the initial training provided upon entry, not by continuous participation.

In Nampula, participants on average had 2.2 IGAs, with a maximum of four. Even though a number of respondents claimed that they started a new IGA through their ASCA participation – one petty trader increased his IGAs by building a carpenter's shop, a bakery and two market sheds – statistical results are not conclusive regarding the impact of membership on the number of IGAs.

[12] It is noteworthy that in Mozambique, none of ASCA participants is involved in this kind of piecework as all respondents have farming plots available. This might simply be due to a different regional context, but it could also indicate that World Vision ASCA are less successful in targeting the poorest members of society.

Since the major part of ASCA members in rural Mozambique earn most of their income in agriculture including animal husbandry, it is worth analyzing whether a diversification in agricultural activities has taken place. The vast majority of participants cultivates groundnuts, corn, manioc and different kinds of beans such as cowpeas, moth beans and mung beans (with groundnuts strictly speaking also being part of the bean family) either for sale or for consumption. Other popular seeds are – in descending order – cashew nuts, rice, horticulture products and sweet potatoes, sorghum, sesame, sugar cane and cotton. Few participants grow fruit, i.e. bananas, oranges and plums, and one member grows bamboo. In terms of livestock, 62% of participants own chicken or ducks, 58% goats or sheep, and 19% pigs. One participant owns a cow and two have rabbits. On average, participants grow 7.49 kinds of products or livestock, thereof 4.71 for sale.

In Table 5 (p. XVI) multiple linear regression analysis is used to measure whether programme participation has a significant impact on the number of agricultural activities in total and the number of agricultural activities for the purpose of vending. Column (1) and (2) show the factors influencing the number of total agricultural activities. The positive effects of age and literacy are significant at the 5%-level, indicating that older and literate people diversify their agricultural activities more.

Column (1) shows a strong negative correlation between loans and agricultural diversification. However, it would be wrong to conclude that loans have a negative influence on IGAs. Rather, this correlation can be explained by the fact that more and higher loans are mostly taken by petty traders who have a high money turnover, and because of their business are less active in agriculture.

Column (2) includes interaction terms for petty traders and farmers who rule out this misleading coefficient. There are also highly significant negative coefficients for members from Saua Saua and Inteta, the two ADPs situated in Nacarôa. There are a number of possible explanations. Saua Saua's geographic disadvantage has been previously described. Soils are less fertile in the zones situated closer to the coast, like Nacarôa, compared to the hilly inland where i.e. Nihessiue is located. In Inteta, many ASCA participants rely on their access to the city of Nacarôa and prefer diversifying in non-agricultural, trade-based activities.

Another reason is that the pre-test took place in Saua Saua. By this time, the list of possible agricultural activities was still in development, which means that members could have forgotten to mention certain activities, whereas in later interviews, respondents were reminded using the list, thus giving more complete answers.

Columns (3) and (4) focus on those agricultural products and livestock that are for sale. Surprisingly, age and literacy do not have significant influence on these, suggesting that older people and literates do not use their agricultural diversity for commercial purposes, possibly because they focus on other IGAs, or that younger people and illiterate people make up the gap in agricultural diversity in trading skills of their produce. The negative coefficient for Inteta is neutralized and the one for Saua Saua decreased, supporting the above suggested theories. Living in Imala shows a small positive effect significant at the 10%-level and in Nihessiue a larger one significant at the 5%-level.

Unsurprisingly, there is a highly significant positive relation between the percentage of the income that is earned through farming and agricultural diversity. There are products, like cotton or sesame, which are rarely used for consumption, so those using farming mainly for subsistence would not diversify to these products.

A surprising result is the negative coefficient for women, which is highly significant at the 1%-level. As this difference is not significant in the total number of agricultural activities and women would normally either name all family agricultural activities or none of them, it is possible that the reason for their differing answers are due to a different perception of the question. Often, for instance, female respondents claimed they did not produce manioc for sale, only for consumption and “to take some away when the children need school books or clothes”, which a male respondent would probably consider as vending.

Even though the World Vision programme in the ADPs includes agricultural activities like training in horticulture and livestock farming, and ASCA are encouraged to open group plots for farming, neither the length of ASCA participation nor the provision of loans showed any significant impact on agricultural diversity. As many respondents claimed to have gained agricultural and business skills through initial training, which in this research all respondents had already benefited from, the results seem to confirm Brannen’s theory that effects on IGA diversification can mainly be attributed to initial training, and not continuous ASCA participation. In any case, sub-hypothesis 1c cannot be proven by this research.

The overall picture from various studies gives the impression that ASCA – especially when accompanied by respective trainings – can support the creation and expansion of IGAs, but that there are a number of other mainly structural factors that play a greater role.

4.2 Effects on Education and Nutrition

The second hypothesis is that ASCA enable caregivers to provide better education and nutrition for their children. It is divided into the following sub-hypotheses:

a. Parents are enabled to better manage their cash flow and therefore to cover irregular expenditures like school material and uniforms.
b. Parents are less likely to use their children for labour, because the ASCA provides them with viable alternatives.
c. By increasing and smoothing their income, parents can provide better and more regular nutrition for their children throughout the year.

a. Education expenditures

World Vision assumes that by better managing their cash flow, members are enabled to pay for irregular expenditures such as school fees or uniforms, and that by improving their income, families can afford better education for their children (WV 2012, p. 3).

Allen and Hobane (2004, p. 12) show a sharp decrease in parents unable to pay their childrens school fees among households participating in CARE VSLA in Zimbabwe. Comparing the situation prior to the VSLA, the number fell from 24 to 2 children, though the sample was only 82 households. Similarly, in Uganda, Allen (2005, p. 33) found a decrease of 28% of affected children. Beyene (2006, p. 18) finds a decrease from 92 to 17 children within 133 households also in CARE VSLA in Uganda. However, as in all three cases there was no control group, changes are not necessarily related to ASCA participation. Still, Allen (2005, p. 33) finds that 7% of loans and 20% of shared-out savings are used for education expenses, suggesting that more money is made available for sending children to school. Contrarily, from his study in Tanzania, Allen (2009, p. 21) reports the ‘alarming tendency’ that the number of girls unable to attend school due to lack of money has more than doubled in the participants’ group, while it dropped to zero in the non-participant group. However this number has to be seen in perspective of Allen’s small survey sample – in total, only three girls are affected in over 100 households. Still, Allen sees in it a “consistent picture [that] may get worse as investment in IGAs continues to increase” (ibid.). The relation between a family’s IGAs and their children’s school attendance will be discussed further in the following section. Anyango (2005, p. 28) does not present any data on educational issues for Malawi, but he observes that both in VSLA households as well as in control group households there are children who do not attend school due to lack of interest. Conversations with their parents show that many do not see the benefit of encouraging their children to go to school, as there are no employment opportunities anyway.

Brannen (2010, p. 87) uses education expenditures as a proxy for educational attainment and quality, finding treatment households spend on average more on education than control group households, and collects anecdotal evidence in support of her theory. However, analyzing these findings using regression analysis does not render robust and significant results. She concludes that education expenditure may not be an adequate proxy after all. Bundervoet et al. (2011, p. 30) find dramatic increases in monthly educational expenses per child both in the control group (82%) as in the VSLA group (115%). However, the difference between groups again is not considered statistically significant.

In summary, all findings suggest that overall school attendance rates are improving, but there is no robust evidence for ASCA members having made greater progress than non-members, and changes cannot safely be attributed to ASCA.

According to World Vision, one of the indicators for the overall project goal is the "pro-portion of parents or caregivers who report having savings for their children's learning needs" (ibid., p. 13). Therefore, this aspect was included in the questionnaires for Nampula. Also, as one of the four Child Well-being Partnership Targets is to increase the proportion of children who can read by age 11, this indicator was included.

As Table 6 (p. XVII) shows, 64% of participants claim to have savings for their children's schooling. However these findings are not very conclusive as the question was not formulated clearly. Some respondents would respond affirmatively due to their membership in the ASCA, they would always have savings – or a loan – available to draw from to cover schooling needs. Others would respond negatively as they do not save up their money at home any more, but rather use their money for the ASCA. Therefore, both would give contrary answers for expressing the same idea. Among caregivers of schoolchildren who had completed at least one year in the ASCA (n=98), 93% reported that paying for their children's education has become easier since they joined the ASCA. Only one participant claimed it had become harder, with the rest mainly stating that paying for schooling had already been easy for them. Money, however, is not the only factor influencing school attendance.

In Mozambique participants were asked about the reasons for their children missing school. 11% of the parents claimed that their children sometimes miss school because they cannot afford school material or school uniforms, in which case they are sent home. Matriculation fees are only to be paid for secondary school, for which participants often have to send their children to relatives who live in the next town or in Nampula. One respondent had his son repeat the last year of primary school four times because he wanted him to go to school but could not afford matriculation fee for secondary school.

A more common reason for children to miss school seems to be that they are not interested in school or not motivated to make the effort to attend. Schools are often far away. In some communities of Saua Saua, children have to walk for two hours and during rainy season even cross small rivers to reach their school. Thus, for some, poor learning conditions and poorer perspectives for the future do not make school attendance worthwhile. 19% of the participants report this was occasionally the case for their children.

It seems legitimate to question the quality of available education when comparing numbers of school enrolment to literacy rates (see Table 7, p. XVII). In Mozambique, primary school is compulsory for children aged six onwards, and tuition free. The lower level comprises five years, the upper level two years.

After 7th grade, students can go to secondary school, which is divided into three years of junior secondary and two years of pre-university. School enrolment rates for lower primary school are found to be satisfactory, with 94% of participants' sons and 95% of daughters between 6 and 15 currently attending school. 97% of sons and 93% of daughters aged eleven or older have been attending school for at least three years. However, girls often quit school when they get married, with marriageable age starting from 14 years or even younger. Therefore, among sons older than eleven, 83% had finished lower primary education, but only 74% of daughters. Among those aged 13 and older, 51% of both boys and girls finished 7th grade, the level of upper primary school graduation.

However, only 69% of sons and 65% of daughters aged eleven are literate and it is not unusual for students to finish 7th grade without being able to read or write. This supports the general opinion that schooling in many cases lacks the desired quality.

Among the rural poor, it is unusual for children to directly enrol in secondary school after finishing primary school. As this is the age to marry and become financially independent, many young adults first start working for a few years before enrolling. Therefore, for secondary education, only sons and daughters aged 20 and older were compared. Within this quite small sample (n=46), 40% of boys finished junior-secondary and 15% finished pre-university, whereas only one girl passed 10th grade. These numbers are not reliable, as parents often were not sure about the exact age and schooling level of their children, but they give an impression of the challenges faced.

In conclusion, the ASCA system proves to be a convenient tool for providing access to lump sums to pay irregular schooling expenditures like books and clothing. There is only anecdotal evidence for participants financing matriculation fees for secondary school through the ASCA. Still, schooling quality and geographical availability leave much to be desired and seem to be bigger problems for children's education and literacy than finances.

b. Children's Workload

One ASCA impact expected by World Vision is that "parents with a livelihood have more choices and are less likely to be forced into using their children for labour" (WV 2012, p. 3). After having analyzed positive effects on livelihoods, it will therefore be interesting to see whether caregivers' ASCA participation has a positive impact on their children's workload.

Brandt et al. (2006, p. 7f.) discuss several studies showing that an increased workload adversely affects a child's education, as working children are more likely to quit school, do not find enough time to study or are often too tired to concentrate. Their research within different microfinance models promoted by World Vision in different countries however shows that the majority of children and youth report to work more since their parents take micro loans, as they have expanded their businesses. Others report no change or even work less, as they can afford to go to school now. Children throughout all groups report attending school more regularly and show better performance than before, as they could afford school enrolment and material, but also are better nourished and less fatigued, which improves their performance. However, during certain seasons, some parents make their children work in agriculture instead of sending them to school. The youth express a feeling of responsibility to support their parents to repay loans. The increased workload is thus seen as justified.

Common tasks for children are collecting firewood and helping around the house and farm, with boys typically doing more agricultural chores and girls doing domestic errands or caring for their younger siblings. They report to work on average three hours on a school day and more on the week-ends. Mostly, parents would give those children who wish to go to school lighter and fewer tasks to encourage their studying. However, children have little time for leisure or play as parents do not regard this as important (ibid, p.18).

Brandt's findings show that outcomes for children's workload can be mixed. As Brandt et al. do not specify their results to the respective region and research is conducted on three continents, it is quite possible that not all results can be applied to the Sub-Saharan African context, and as different MFI are included, the effect might not be the same for ASCA.

Beyene (2006, p. 19) reports that 80% of interviewed ASCA members in Uganda feel their workload eased with their participation as members volunteered to help each other on the fields and additional field workers could be paid through loans from the ASCA. Only 12% see their workload increased with the pressure of paying back their outstanding loans. Beyene does not research whether the effects on children's workloads are similar.

Allen (2009, p. 29) shows a trend of parents spending more time on group participation and IGAs, while 49% report reduced time they spend on housework and childcare. This could mean that household chores fall back on children which might be a reason for their above mentioned absence from school. Also, he finds that ASCA increase children's workload, especially for girls. Boys are employed in family IGAs in roughly one out of 20 households. For girls, this number increased from one out of eight households before ASCA participation to one out of three households. Allen writes that "What cannot be disputed is that VSL is probably responsible for increasing the burden of female child labour" (ibid., p. 24). It is not specified, however, how much workload is included in 'employment in the household IGA'. Allen admits that this could also just mean helping the mother to shell peas for the market, which as a simple errand in Brandt's more differentiated terminology would not be labelled as 'child labour'.

Bundervoet et al. (2011, p. 32) use UNICEF's definition of child labour, according to which for children from 5 to 11 years, it means at least one hour of economic work or more than 28 hours of domestic work per week. For older children from 12 to 14, more than 14 hours of economic work or more than 28 hours of domestic work per week is considered child labour. According to household surveys, there were minor decreases in child labour in the control group and increases in the treatment group. In parallel surveys, children themselves reported higher workloads than their parents would, with highest incidence of child labour in the VSLA plus group and lowest in the control group. However, according to their responses, all groups reduced the children's workload, treatment groups more than the control group. Even though these findings are contradictory and differences between groups are small and not statistically significant, the study again leaves room for a possible enhancing relation between VSLA participation and child labour. Once more, the researchers hope for more information from the final survey.

Results in Mozambique are also mixed. All children from a certain age were actively engaged in household work, younger children with simple tasks like sweeping the patio or washing dishes, older children and adolescents with other domestic or agricultural work and a smaller portion also in the sale of farm produce and petty trade. 31% of respondents say their children's workload increased since their ASCA participation, partly because parents were able to expand their farms or businesses and because their children developed a growing sense of responsibility of handling money and paying back loans, but partly also because of the simple fact that their children are older. 13% report that their children worked less now, either because they could afford to go to school now and had no time for work, or because their parents did not depend on their children's income any more.

A smaller number of participants claimed that during their ASCA training, World Vision had taught them about the importance of the children's right to have play time and subsequently reduced their workload. The majority of 56% reported no change.

Both the reduction and the increase in workload for their children are seen as a positive outcome by the respective parents. When asked whether their children sometimes had difficulties to find time for their homework, only one participant confirmed this. All others claimed that they never assigned work to their children before they had finished their homework. It was not possible to hear the children's opinion on this issue, but during the interviews, children were observed to have ample free time, apart from having to take care of younger siblings. Typically, children would accompany their parents to the *machamba* around five in the morning, do a couple of hours of weeding before going to school, then help with lunch and cleaning dishes and after doing their homework have most of the afternoon off for leisure.

When asked whether their children sometimes missed school because they had to work, only 4% responded affirmatively (Table 6, p. XVII). This is either the case during harvesting season when children have to help in agriculture, or when parents go to town, i.e. to buy new merchandise for their petty trade business and their children have to stay home to take care of their younger siblings.

The hypothesis that child work decreases through ASCA is contradicted by this and previous studies. The question whether the amount of work done by children is to be considered as 'child labour' would require further research. Anecdotal evidence does not indicate abusive workloads for children of ASCA members in Mozambique. Another interesting question would be whether parents are in fact "forced into using their children for labour" (WV 2012, p. 3; see above) or whether given viable alternatives, this would still be their choice, as findings in this research as well as Brannen's suggest that parents are actually proud of their children's growing industriousness and sense of responsibility and do not consider their children's workload too high.

c. Nutrition

One of the three indicators set by World Vision to measure the achievement of their project goal is the "proportion of children who consume three balanced meals a day" (WV 2012, p. 13). The hypothesis therefore is that ASCA members provide better nutrition for their children in terms of quantity, quality and stability.

Nutrition is an important issue for child well-being. Children in the rural north of Mozambique are suffer from chronic malnutrition (57%), underweight (23%) or severe/acute malnutrition (8%), as shown in the following chart (MPD 2010).

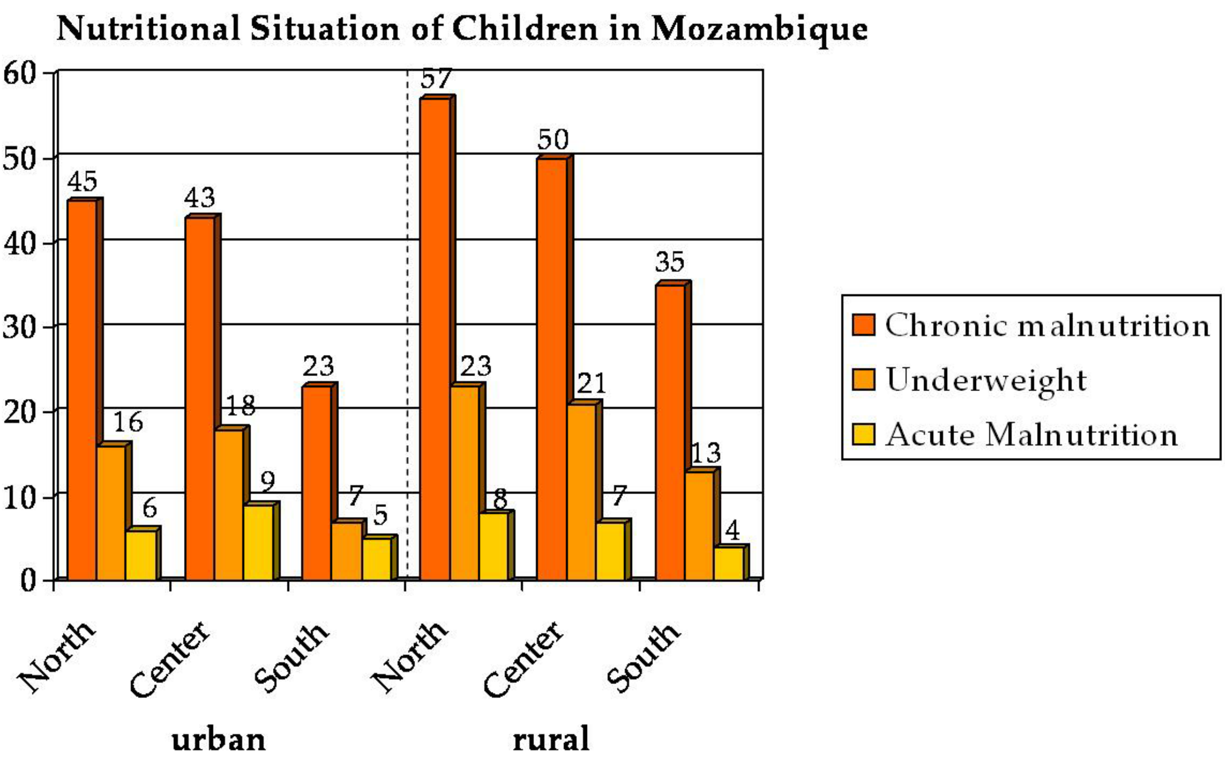


Fig. 6: Nutritional situation of children in Mozambique, adapted from MPD (2010)

Allen (2005, p. 33) shows mixed findings as 51 ASCA participants see the variety of their diet increased since their membership, 48 respondents consider it unchanged and 70 interviewees say it decreased. The author explains this by a severe drought in the two years previous to their assessment, but his methodological limits do not allow verification for this effect. In his previous study (Allen/Hobane 2004, p. 12), findings are more positive as a majority of people report increases in most consumption goods. However, there are always members who report decreases. Still, Allen and Hobane regard their evidence for increased food consumption as "unequivocal" and explain decreases away relating to general food shortages in Zimbabwe. Again, the impact is hard to be estimated.

Anyango (2005, p. 18) finds that due to increased farming activities, VSLA members are able to maintain their food stock and eat three meals per day for an average of eight months, while for control group members, it is only five months. He does not check for variety in nutrition.

Beyene (2006, p. 22) compares how many meals ASCA members eat per day to how many they ate before their participation. The number of people eating three meals per day increased from 24% to 68%, while those eating twice a day decreased from 53% to 31% and those eating only once a day from 23% to 1%.

General observations indicate that food intake per day in similar regions varies strongly between harvest season and scarce season. As this is not accounted for in the question, the accuracy of these generalized answers can be put into question.

Allen (2009, p. 21) finds that both members and non-members have been food secure at the beginning of the programme. Still, there were small increases in daily meals for ASCA members and small decreases for non-members. Changes in food consumption are mainly explained by changes in income or access to financial services, with changes in production only being named third. This supports Allen's theory that increased consumption and well-being can be explained by increased IGAs besides agriculture. In terms of food variety, Allen controls for changes in consumption of many different food groups, showing that participants are by far better situated than non-participants.

Brannen (2010, p. 113) finds a significant increase in daily meals per person for households of male VSLA members, but not for female members. However, households of female participants start on a higher level, so that VSLA membership seems to bring male participants' households 'in line' with them. Brannen sees this as a confirmation that women place more importance on their household's nutrition. Introducing 'dosage' into the regression, her results are inconsistent with this theory. As there is a small but significant negative coefficient, findings suggest that with more years in the group, the quantity of meals slightly decreases. According to the participants' own perception, 75% felt their household's diet has improved since joining the programme (ibid., p. 97)

As a proxy for quality of nutrition, Brannen (ibid., p. 116) only refers to the consumption of meat and fish. While both male and female ASCA members consume substantially more fish than control group members, the impact on the consumption of meat is only significant for female participants' households, but not for males. ASCA members claimed to have had significantly less problems satisfying their nutritional needs in the past year, compared to control group members. According to Bundervoet et al. (2011, p. 20), their treatment group increased their food expenditures, while their control group registered decreases.

The staple food for participants in Nampula is *xima*, a traditional porridge made either from maize meal (*xima de milho*, *xima branca* or *xima celeste*) or from cassava flour (*xima de mandioca*, *xima preta* or *caracata*). Typically, lunch and dinner consist of *xima* with leaves from cassava, pumpkin or bean plants mixed with cooked groundnuts in the rainy season and beans in the dry season. Whenever they can afford it, they eat chicken, goat meat or dried fish, or buy some rice for variance. Adults often do not eat breakfast, as they go to the *machamba* early in the morning, but some carry along dried or raw manioc roots depending on the season, and some raw or cooked groundnuts.

For their children, some ASCA members cook sweet porridge in the morning; others also give them manioc roots, groundnuts or bananas to take to school. Apart from that, eating fruits is not common in rural Nampula, despite the vast availability. Few interview partners report to eat bread on a regular basis, mostly participants from groups of petty traders living close to one of the district capitals, as bread is not available in remote areas. Virtually no dairy products are available, and even people with chicken seldom eat eggs, because this means 'wasting chicken', as participants explained.

When asked how many days in a year their children go without three meals a day, 56% of caregivers say less than 20 days, 18% say between 20 and 50 days and 26% say more than once a week. Food is mostly scarce during the rainy season of February to April, before the harvest, which is when participants reduce to two meals a day. Findings are not very comparable, as some participants would define a dried manioc root as breakfast, whereas others only count days with porridge as days with three meals, and manioc roots as a stopgap.

61% of the participants report an increase in food consumption in general since they joined the ASCA. 64% eat more meat and fish than before, 51% more vegetables, 50% more fruit and 45% more eggs. 5% report a decrease in vegetable consumption, as they replace their daily leaves more often with meat. In all other categories, only one participant reported a decrease (Table 8, p. XVIII).

Parallel to nutrition, many studies check for positive impact on health in general or access to health services. Even though World Vision does not target effects on health in their ASCA concept, health is an important aspect in their definition of child well-being (see above, p. 3) and will therefore be considered in this chapter.

In terms of their ability to access health services, interviewees in the assessment of Allen/Hobane (2004, p. 12) claim by 64% that their access increased, 25% reported no change and 11% saw it decreased. Similarly, in Allen (2005, p. 33) 55% reported increased access, 18% felt no change and 27% claimed their access decreased. Again, findings are mixed and it is difficult to attribute all positive effects to ASCA participation and all negative ones to external hardships. In Beyene (2006, p. 21), 79% report increased access to medical care and 75% increased access to medication. Increases in access to hospital delivery and immunization were less evident.

Brannen (2010, p. 88) also does not find robust results about the access to health services. A small but significant increase in children sleeping under a mosquito net could be measured, which is used as an indicator for the exposure to malaria and, due to the high prevalence, for the overall health of a household. Also, health expenditures of ASCA members are significantly higher (almost double) than those of non-members. 80% of ASCA members believe their household members' health had been positively affected by their participation.

The findings by Bundervoet et al. (2011, p. 30) on health expenditures per child in the household are even more puzzling, as these expenditures dropped by 11% for the control group and even by 19% for VSLA members, even though, as mentioned above, spending on assets, clothing, education and nutrition increased. The authors make no attempt to explain, as this is only the mid-term review and more clarification is hoped for from the final results.

In the worst case, parents might disregard their children’s health or have less health services available to spend money on; in a best case scenario children’s needs for health care are reduced as children are healthier. The research shows an increase in mosquito net ownership of 24% for both the control and the treatment group that cannot be related to the VSLA programme. For numbers of children under five sleeping under mosquito nets, however, the increase in the VSLA and VSLA plus groups is significantly higher than in the control group (25 and 29 percentage points vs. 19 percentage points). The use of mosquito nets is expected to reduce the rate of malaria infections substantially. As malaria treatment is an important share of total health expenditures, the increase in mosquito nets could explain the decrease in health expenditures. However, when asked about the number of children that fell ill with a fewer within two weeks before the interview, Bundervoet et al. (2011, p. 54) find only small decreases, from 51% at baseline to 46% at the midterm survey, which weakens this thesis. Still, the authors find that 14% of parents within the VSLA and 16% in the VSLA plus sought the help of a qualified medical care provider for their child’s fever, compared to only 7.5% within the control group.

In Mozambique, for 94% of the participants, covering for health expenses became easier since they joined the ASCA, for 6% it remained the same.

Summarizing these findings, it can be assumed that ASCA indeed have a positive impact on nutrition, even though the impact cannot be quantified from available data. Findings regarding health are mixed, as access to health services, similarly to the access to education discussed above, is not only a matter of financial resources, but is heavily influenced by a general lack of infrastructure in rural Nampula and similar regions as analyzed in other studies. Still, ASCA at least in this study seem to fulfil their part of enabling members to cover health expenses once they arise. This is also an important aspect regarding the family’s vulnerability, which will be discussed in the next chapter.

4.3 Effects on Vulnerability and Confidence

The third hypothesis is that ASCA enable families to deal better with disasters and hardships and increase their feeling of safety and confidence. Three sub-hypotheses can be derived from this hypothesis:

a. Parents and caregivers increase their economic resilience and are more optimistic about the future.
b. Women and men have shared decision making powers over their finances.
c. Parents are more confident regarding their status and participation in society.

a. Economic Resilience and Optimism about Future

In their Savings Group Project Model, World Vision claims that through ASCA participation,

> "members are more resilient to cope with emergencies and economic shocks, both from the group insurance fund and the gradual build up of their savings assets" (WV 2012, p. 3).

Most researchers take increased asset ownership as an indicator for economic resilience, as increased savings and assets provide a cushion during economic shocks and times of hardship. For instance, Allen and Hobane (2004, p. 8) conclude that with Zimbabwe's economy in turmoil, increased asset ownership among VSLA members shows that they improved their household livelihood security. The question of assets has already been analyzed in Chapter 4.1.

Another indicator for increased economic resilience according to World Vision is the share of caregivers who "faced a disaster and were able to employ an effective disaster risk reduction or positive coping strategy" (WV 2012, p. 13).

In this research, 56 respondents experienced some form of hardship during their ASCA membership (Table 9, p. XVIII). Most of the mentioned cases were family funerals, adding up to 40 cases. Besides the grief of losing a family member, contributing to the funeral and travelling a long distance to attend can pose a large financial burden. 11 ASCA participants lost their homes due to storms or heavy rains. Interestingly, one respondent named as a hardship for himself that his neighbour lost his home, because after it happened, he offered him half of his money to help him recover. This is anecdotal evidence for the growing sense of mutual help and responsibility in civil society that ASCA members can develop.

Two participants had relatives falling ill and needing expensive health care. One participant had an accident on his way back home from town and lost most of his merchandise, and one had two bicycles burnt down.

To recover from or to overcome their hardships, 32% took a loan from the social fund and 14% a normal loan from the ASCA. 9% received other help from the group, e.g. a plastic foil financed by the social fund and help in reconstructing their roof. 30% had enough financial resources or farm produce to sell to deal with their hardship, and others did not specify why they did not ask the group for help. Only two ASCA participants were not able to access the social fund, in one case because the president was travelling and the next meeting therefore postponed, and in the other because it was outside the savings cycle.

The results indicate that ASCA membership has positive effects on economic resilience, both through savings and through loan, but even more so through the social fund. All 56 participants confirm this by stating that their ASCA membership helped them to deal better with hardships. Unfortunately, these findings could not be compared to any control group.

The influence of vulnerability on child well-being is not only of economic nature. World Vision expects the ASCA to support their objective of children being 'cared for, protected and participating' as they assume that

> "parents are more able to provide consistent love and support if they have hope and a meaningful livelihood to provide for their children" (WV 2012, p. 3).

Though it is difficult to prove this assumption by measuring the quantity, quality or consistence of love and support that caregivers provide for their children, it can be analyzed whether the listed prerequisites are given. As evidence for positive effects on livelihoods is shown above, this paragraph will examine positive effects on caregivers' view of the future, or hope, as it is called by World Vision. Few researchers mention this aspect. According to Allen (2009, p. 32), 96% of ASCA participants in Tanzania have a positive and 2% a negative view of the future, whereas only 68% of non-participants are optimistic and 26% pessimistic about the future.

To be more specific, ASCA members in Mozambique were asked whether they are worried that their income might not be sufficient to provide for their families. 9% said they were 'always' worried, 21% often, 23% sometimes, 16% rarely and 30% never. However, 58% of members that had been in the ASCA for a year or longer (n=119) reported that they are less worried than before they joined, mostly because of the security provided by their savings and the option to receive money from the social fund in case of emergency, but also because the group is there for mutual help.

In contrast, 4% of the participants are more worried now because they have 'something to lose' now, or because of the increased responsibility of doing business with other people's money (Table 10, p. XIX).

Even though this aspect is difficult to quantify, ASCA membership seems to have a generally positive impact on members' view of the future.

b. Decision Making

As mentioned above, ASCA groups are assumed to empower women by enabling them to gain financial experience and encouraging them to express their opinion in their group, but also in their family and society. World Vision ASCA training includes creating awareness of the benefits of couples or families making decisions together, in order to make better decisions for their children. Qualitative research gives reason to assume that shared decision making between husband and wife benefits the overall well-being of the household as well as harmonious relationships within the family. Women, when included in the decision making, are supposed to divert more money to their children's well-being, health, nutrition and education (cf. Hoddinot/Haddad 1995; Dufro/Udry 2004; Kenney 2008).

Allen and Hobane (2004, p. 18) find that the number of women having their spouse decide on the use of household resources and income declined by 57% in favour of couples deciding together and, in fewer cases, together with their children. In qualitative interviews, it was expressed that wives grew more into the role of equal partners through the ASCA, taking decisions and contributing to the household income. Respondents report to have happier and more harmonious marriages and families because of this shift. For instance, they claim that as their wives have more to offer (e.g. better food), husbands spend less time in bars and even drop girlfriends to spend more time at home. As money is available for making plans, budgets are made together. Husbands are more willing to use their money for household assets and wives have their own money available for purchases, so there is less fighting over the lack of money. Anyango (2005, p. 26) reports women gain self-confidence as they do not have to beg for money any more and they perceive to be better off than before joining the VSLA. He gives the example of a woman who built her own house from VSLA funds, which made her husband, who had left her, return to her (ibid., p. 28). Women who participate in VSLA are involved in household decisions, e.g. which crops are to be planted on which land, whereas the majority of women in the control group report their husbands decided everything themselves.

In contrast, research in Tanzania shows that there is already an existing culture of sharing decisions between men and women which is not changed significantly by the ASCA (Allen 2009, p. 28).

In Nampula, 84% of the participants decide together with their partner, sometimes including their children, about financial resources of the household. 7% decide alone (half of them being widowed or single, half despite being married), 5% have their partner decide, and 4% among the younger participants decide together with their parents. Regarding decisions related to the ASCA, 77% decide jointly with their partner and/or children, 21% alone (thereof one quarter because they are single/widowed and three quarters despite being married) and 2% have their parents decide.

24% of the participants (26 men and 10 women) changed their financial decision making because of the ASCA. Before, they had decided alone, but through the ASCA men learned to include their wife in decisions and women who before were afraid to handle money became more experienced and learned to express their opinion towards their husband. However, one participant stated that he and his wife formerly made decisions together, but when he became an ASCA member, his wife became worried about him depositing their money outside their home, and as a result he started to make decisions on his own (Table 11, p. XIX).

Apart from this exception, ASCA participation generally seems to positively influence financial decision making. Still, there are a few households who make their general financial decisions together but their

ASCA decisions separately, as the ASCA system is deemed too complicated for a spouse who did not participate in the training. A possible solution would be to include family members of participants in those parts of the trainings that concern the entire household.

c. Participation in Civil Society

As mentioned above, women's position in civil society is changed by ASCA membership. In focus group discussions within the analyzed studies, they report to have more self-esteem, to feel encouraged to state their opinion in public, be more included in household decision making, and to earn their own money. This often leads to a more harmonic atmosphere in families as women do not have to ask their husbands for money to purchase small items and they contribute to the household income, thus reducing arguments about the lack of money. Men also report positive effects like increased confidence about their social standing and increased commitment to participate in associations and take responsibility for voluntary tasks and functions (see for instance Allen/Hobane 2004, Beyene 2006).

Allen and Hobane (2004, p. 17) report that 81% of their respondents see their status in their community improved as a direct result of VSLA participation, and members' participation in other social groups increased by 83%. Members reported to feel more respected by other people in their community and are asked for advice more often. Some are also asked for material or financial assistance by community members. Respondents feel better off in relation to neighbours which they would compare themselves to at the beginning of their ASCA membership – based on recall data.

Beyene (2006, p. 16) reports similarly positive findings from her research in Uganda. However, in one of her research districts, respondents unanimously claim they do not feel empowered in their community, as they would need financial assistance from the NGO to kick-start their activities, and on their own did not feel to have the means to improve their socio-economic status. Beyene explains these conflicting results by the fact that the Moyo district of the West Nile Region had long been suffering from civil war and conflict. In the 70's and 80's, many residents had fled into Sudan or D.R. Congo where they received refugee assistance, and were only repatriated in the 1990's. Beyene assumes that this is the reason for their donation-recipient mentality.

While in Allen's study (2009, p. 25) 88% of ASCA members feel that their social status improved, interestingly, 68% of non-members report the same. The majority of them name as a reason for this improvement their positive attitude and treatment of others and other non-financial reasons, while only 18% relate their social status change to improved access to financial resources. However, the majority of the 1% of participants and 15% of non-participants who see their status decreased, attribute this to a reduced access to material assets and financial services as well as a decreased income.

According to Brannen (2010, p. 96), 84% of VSLA members in Zanzibar believe their programme participation improved their status within their family and community, and 89% have an increased self-confidence since joining the programme.

Anyango (2005, p. 28) finds that the perceived increase in social status, especially for women, leads to an increase in participation in civil society. While women in both the VSLA and the control group are members of various committees, e.g. for funerals, health or water management, VSLA members are much more likely to occupy leading positions, especially the function of treasurer.

For Uganda, Allen (2005, p. 34) also finds that ASCA members increased their membership in other associations. For Tanzania, however, he finds that membership has mainly increased in political and financial associations, while participation in 'social' associations concerned with education, health, or the women's guild stagnates on a very low level and participation in agricultural associations is even reduced.

At the same time, the control group increased their participation in agricultural associations, again supporting Allen's thesis on the participants' shift from agriculture to other IGAs (Allen 2009, p. 30).

58% of ASCA members in Mozambique are active in at least one other association than the ASCA. 35% have an office in their church or mosque, 20% are members of community development initiatives like WASH committees or mothers' nutrition programmes, 9% are political party members and 6% participate in agricultural associations.

66% of the participants claim they have increased their participation in civil society since becoming a member of the ASCA, thereof 40% because of new ideas and experiences they acquired from participating and interacting in the ASCA groups, 27% because they learned about the importance of helping each other and performing joint group programmes, and 15% because their acquired knowledge gave them pride, social prestige and higher self-esteem. Others claimed that through the generally positive economic development, more community projects are done, or that their group is regularly asked for help (Table 12, p. XX). For example one group is invited and hired by their communal government to clean their facilities once every few months. Again, there is no control group to compare participants' answers to, but at least perceived participation in civil society has strongly grown.

In summary, 'social' factors and skills like optimism, cooperation in decision making, self esteem and courage to express ones opinion and interact with society seems to be affected by ASCA participation at least to the same degree with economic factors. It is shown that the part of World Vision training that focuses on values and behavioural change is seen by participants as equally important as the pure ASCA instruction.

Other studies, especially Bundervoet et al. (2011), who also researched a 'VSLA plus' programme featuring even more of these latter aspects, support this thesis. Additional findings regarding the awareness of children's rights, educational practices by caregivers and self-perceived child and family well-being will therefore shortly be presented in the next section, though they are not part of this study's research hypotheses.

4.4 Other Findings on Child Well-Being

The above mentioned hypotheses do not cover all aspects relevant to child well-being that can be influenced through ASCA participation. Some remarkable additional findings by Allen (2009) from Tanzania and especially Bundervoet et al. (2011) in Burundi regarding children's rights, good parenting practices and perceived child- and family well-being will be presented in this chapter. Unfortunately, the scope of the research in Mozambique did not permit to analyze these aspects for the WV programme.

Allen (2009, p. 29) controls how aware ASCA participants are about their children's rights, such as the right to food, education, shelter and to be heard, compared to non-participants' awareness. ASCA members showed to be clearly more aware of all listed rights except the right to play, which only 25% of participants and 29% of non-participants recognize.

Bundervoet et al. (2011, p. 33f.) researches the use of harsh physical or psychological child discipline by caregivers. Harsh discipline has a strong negative effect on child well-being, as documented by their baseline study. In the control group as well as the treatment group, decreases in the use of harsh methods could be noticed, though they are slightly more modest for the VSLA group than for non-members. On the child discipline scale suggested by UNICEF that controls for the use of nine discipline methods and therefore ranges from 0 to 9, control households showed a reduction of 0.3 and VSLA groups of 0.2.

Dramatic improvements however are registered for the VSLA plus households, which can be explained by the "Healing Families and Communities"-discussion group component included in the VSLA plus programme addressing the issue of child discipline. In six of the categories, these groups showed substantial, statistically significant improvements. The number of caregivers who insulted their child by calling it dumb, lazy or the like, as well as the number of those yelling or screaming at their child, decreased by almost 20 percentage points. Large reductions were found in physical discipline, such as shaking, spanking or slapping the child as well as hitting the child with a belt, stick or similar. The overall score on the discipline scale dropped by 0.8, which is a highly significant improvement.

Also, in their mid-term survey, the authors control for examples of good parenting behaviour and found that VSLA plus households use techniques like explaining their children why their behaviour was wrong or giving them a time-out away from the group significantly more often than others.

They are also significantly more likely to set out rules for their child's behaviour at home and compliment their children when they have done something good (Bundervoet et al. 2011, p. 36).

The answers of the surveys issued to children support the findings from the household surveys. For those children who participated in the baseline and the mid-term survey, the VSLA group was better off than the control group, but improvements made in the VSLA plus group were substantially higher (ibid., p. 39). Further questions revealed other improvements such as significant decreases of the distress and aggression levels of children in the VSLA plus group compared to other children (ibid., p. 44 f.). Children in VSLA plus groups felt substantially more comfortable discussing problems and emotions with their parents than other children. Children in the VSLA also felt more comfortable compared to control group children, however, the difference is not statistically significant (ibid., p. 52).

These findings indicate that, while the impacts on material well-being reported above were mainly related to VSLA participation and not the "plus" component, desired behavioural changes in parenting have to be fostered in specific programme components, like the family-based discussion groups.

Bundervoet et al. (2011, p. 41f.) also research child well-being as perceived by their caregivers, using a scale based on seven indicators they derived from qualitative interviews with parents. Child well-being indicators are that the child can eat when it is hungry, is well-dressed, studies without problems, is in good health and shows good behaviour, feels happy and receives support when needed. According to caregivers, on a scale from 0 to 14, treatment and control group children started at a value of 4.7 and 4.9 respectively at baseline, scoring 7.5 and 7 at mid-term. VSLA households therefore improved slightly more, but the difference is not statistically significant. As it is not very probable that the overall situation of child well-being in Burundi increased that strongly in the last years to explain the substantial improvements in both groups, the authors assume that control group households either benefited from other NGO activities in the region or that the knowledge about the existence of a programme for child well-being increased their awareness of their behaviour towards their children and therefore had a positive effect on control group caregivers.

When children were asked to rate their own well-being, control group children were fairly constant with 8.4 at baseline and 8.5 at the mid-term survey, while VSLA group children improved slightly from 8.6 to 9.1, and VSLA plus group children showed highly significant increases from 8.3 to 10.

The researchers conclude that, while the household survey shows significant improvements of well-being through the VSLA participation and insignificant additional impact through the VSLA, for children it is not the VSLA but the additional family discussion group component that enhances their perceived well-being significantly (Bundervoet et al. 2011, p. 43).

In the same manner, qualitative interviews with caregivers and children are used to construct a scale for family well-being, indicated by good understanding among family members, dividing work together, and getting along well with neighbours. A second scale with family problems was created, with indicators including violence among family members, intoxication, and family members selling household assets without consent. Overall, the family situation deteriorated between the baseline and the mid-term survey. Well-being decreased by about 12% in the control group, 7% in the VSLA plus and 2% in the VSLA group. While the difference is not as pronounced here, control groups show significantly worse-off regarding family problems: while problems increased by 45% among non-participants, problems for VLSA plus members increased by 10% and for VSLA members stayed the same (ibid., p. 47).

When children were asked to rate their family well-being, they painted a different picture: All groups scored at around 4.6 of 6 at midterm, which did not mark a significant change to the baseline, and children reported a reduction in family problems. While the problem scale decreased just above 21% for control group and VSLA group households, the VSLA plus group reported a 49% decrease in problems. Again, children report a much higher impact of the VSLA plus family discussion groups than their parents do (ibid., p. 48).

Bundervoet's findings indicate that NGOs aiming to improve children's emotional well-being should use the ASCA not as a stand-alone concept but as a basis for integrated additional project components aiming for awareness building and behavioural change. These and other implications for World Vision will be discussed in the next chapter.

5. Specific Implications for World Vision ASCA in Mozambique

This study primarily aims to evaluate the impact of the ASCA system in general, independent from the implementing organization or the respective county. However, there are findings that specifically apply to the World Vision program in Nampula and differ from findings in other studies. One aspect is the low rate of women, which was previously discussed. This chapter will briefly address other relevant differences and give suggestions for the further improvement of WV savings groups.

World Vision seems to place a higher emphasis than other organizations on teaching and practicing life skills. Unsurprisingly, the most frequently named motivations for joining the ASCA were to improve participants' living standard and become wealthier, to learn how to accumulate large lump sums and not spend the money on trivial purposes, as well as to follow the positive example seen with and being told by other ASCA members. However, 15% claimed their main reason for joining was to be part of a group and experience the mutual help and safety as well as the sense of community of being a member (Table 13, p. XX).

When asked about the biggest advantage of ASCA membership besides financial gains, the most common answer was the exchange of ideas and knowledge among group members as well as knowledge and ideas they learned from the ASCA training. A great strength of WV ASCA compared to other financial instruments is the teamwork experience, providing a feeling of security and a system of mutual help in case of emergencies, but also a forum to conduct further group activities like planting a group garden and storing seeds together. Many people named friendship, trust and conviviality with other ASCA members as the biggest non-financial advantage, some even talking of the experience as a 'family' or 'brotherhood'. 18 people found behavioural changes most important, as this is a strong focus of World Vision trainings. Mentioned changes include aspects like how to act and speak out in a group or civil society in general, how to love and respect other people and work together for a common cause, how to interact and make common decisions in marriage and how to be a good parent, e.g. ensuring children have enough leisure time. Many statements of participants combine several of these points. For instance, one interviewee said: "Before, I was afraid because I did not trust anyone. Now I trust in the group!" Only 27 participants of 150 saw financial aspects as the only advantage of the group or did not respond to this question.

World Vision shows great capacities on this aspect and as many CWBOs relate to these life skills and soft factors, e.g. "children enjoy positive relationships with peers, family and community members" or "children value and care for others and the environment" (WV n.d.; also see p. 3).

Therefore, it should be considered to include these outcomes into the ASCA logframe and not only hard factors such as education and nutrition. Training material could be specifically adapted to target clearly defined outcomes regarding child well-being and be distributed centrally to all ASCA trainers. In general, training of WV staff should be more centralized and standardized, as so far some employees did not receive any training and just apply general knowledge they read in documents, heard from colleagues or saw with similar programs such as Ophavela or values and skills they personally feel strongly about.

Regarding their performance as perceived by the groups, WV ASCA also prove successful. 14% of the participants saw their initial expectations partly fulfilled, 65% fulfilled and 15% even exceeded. The remaining nine respondents said it was still too early to tell, as they have not started saving yet. In general, participants rated the ASCA very positive. 97% of the participants who completed at least one savings cycle saw their quality of life improved by the ASCA, for the remaining four participants it was unchanged. Interestingly, among newer members 55% also reported an improved quality of life through their ASCA membership, even though they had not concluded their first savings cycle yet. Reasons for this can probably be found in the non-monetary benefits discussed above. It must be kept in mind though that drop-outs have not been included in the study and might feel very differently about the group.

When asked for their greatest success in the ASCA, more than two thirds of respondents named some kind of investment they made, like purchases of assets, sending their children to school or expanding their business. However, six people said that learning how to save money and 'hold it together' over a longer period was their biggest success, four people named their increased knowledge and capacities, and seven people the increased feeling of safety, ability to deal with emergencies and shocks and being able to receive a loan without collateral when hardships are faced. 21%, mostly members that only recently joined the ASCA, did not mention any success.

Contrarily, when asked about their biggest disappointment in their group membership, 78% said there was not a single negative aspect, even when possible answers were suggested. 13% were disappointed by other group members who delayed or even failed to pay back their loans or who did not deposit the amount agreed upon. Three interviewees were disappointed about themselves, because they did not manage to deposit the planned amount or pay back in time.

Seven people were disappointed by World Vision, thereof two because they did not receive regular visits from WV staff any more, one because he thought WV would support them in kind, three because World Vision did not hand out T-shirts to them as they had seen with other groups and one because he expected WV to help them to legalize their group, i.e. to register it as an official association.

The last results show a pronounced dependence on World Vision and a certain recipient mentality that contradicts the ASCA principles of independence and self-sustainability. This attitude is not surprising, given the fact that World Vision started their activities in Mozambique with disaster response to the severe droughts in 1984 and are therefore known by the population for their emergency relief programs as well as the distribution of food, assets and seeds. Many organizations face difficulties when conducting programs at the threshold between humanitarian aid and development activities, as they are required to change how their organization is perceived by their beneficiaries.

In most of the group discussions, this issue was discussed and groups mainly agreed that they did not wish to graduate into autonomy after the planned two years, but rather receive continuous visits from their WV staff for every meeting. Participants do not consider group autonomy a desirable objective in itself. Groups also wished to continue attending yearly ASCA trainings and requested further trainings regarding aspects like business activities, new agricultural techniques, e.g. regarding horticulture and livestock, or child education and nutrition, e.g. the preparation of enriched porridge. Trainings are fairly popular among WV beneficiaries as they are get-togethers with free lunches or snacks and perceived as entertaining. As practically all visited groups that exist two years or longer had no difficulties in understanding the ASCA system, the true need for these further trainings is questionable. Some groups claimed that they wanted the training mainly for new members. Even though the groups considered themselves experienced enough to explain the ASCA system to outsiders, they felt that new members would better listen to WV staff. This again shows the strong dependence on their respective ASCA coordinator. It might be recommendable to charge a small participation fee for all additional trainings that are provided after the second year, so members are aware of the value of these trainings and review the true need of them.

Partly, the fact that group autonomy and independence is not valued highly can be explained by cultural differences of traditional communities in Sub-Saharan Africa compared to Western or Asian cultures. But still, interestingly, studies from programs promoted by other NGOs in other Sub-Saharan countries do not emphasize this problem of dependence.

As a counter-example, Anyango et al. (2006) found that all of the groups that CARE had founded six years before in Zanzibar and supported for two years had survived without CARE's presence for another four years. Only twelve out of the initial 1,500 members had dropped out, and new groups had formed independently from CARE.

One important difference between World Vision and other facilitating agencies is the way of promoting the system. WV in Nampula forms and trains new groups via paid staff, usually field officers responsible for the food security programs. Therefore, these staff members are required to visit the communities and groups regularly for a number of other activities, such as providing seeds and training in horticultural practices. The VSLA as promoted by CARE on the other hand uses village agents. Starting their program with field officers comparable to those of WV, capable ASCA members are selected, trained and supervised by them to become village agents. These village agents train other groups in return for a fee, so the implementing NGO is not required to pay for their services. A slightly different approach was used by Oxfam in Mali, where observers from potential new groups were invited to other groups in training and then informed their own communities about it. Also, each group committed to teach at least one new group. With this approach, new groups spread fast, but as it did not permit much control, Oxfam shifted to teaching and certifying replicators, equipping them with pictorial manuals for the training. Experience shows that groups trained by villagers achieve similar results to groups trained by field officers (Allen/Panetta 2012, p. 21 f.). As new groups are being trained by 'one of their own' for the payment of a fee, they naturally have more interest in achieving sustainability and autonomy as soon as possible, whereas groups supervised by WV staff providing them with all kinds of additional support for free have an interest in maintaining this close relationship.

It would be a simple solution to recommend WV adopt another NGO's replication model. However, it is World Vision's way of training and close supervision that renders their great influence on social issues, as explored at the beginning of this chapter, possible. World Vision therefore will have to decide how to position itself in the trade-off between educating groups socially or releasing them into autonomy and thereby empowering them. Again, by clearly defining which Child Well-being Outcomes shall be achieved through their ASCA, the right strategy to address these will become clear. For this strategy to be put into action, it will be important to communicate it clearly to all staff involved.

The last chapter will give a summary on the findings of this study and give a short outlook on related questions which it might be interesting to explore in further research.

6. Summary and Concluding Remarks

The underlying research in Mozambique as well as the comparison to existing studies demonstrated a great lack of available data and a number of challenges in applying adequate research methods. Nevertheless, some important conclusions can be drawn from the study. Based on the results of this study it can be assumed that ASCA participation has a positive influence on income and on the funds available to the household. This seems to lead to greater spending on and ownership of household assets. The findings are more robust for small value assets and small improvements in housing conditions, rather than larger or long term investments. The same holds true for productive assets, though they are of minor priority in members' spending patterns. Some studies suggest a diversification of income generating activities; others, like this research, do not. One study sees an increase of IGA with the ASCA entry, but not with length of participation, suggesting that the effect is rather due to initial training than due to ongoing ASCA activities.

In general, findings support the first hypothesis, that the ASCA enhances the ability of parents to generate income and improve the general economic situation of their family. However, extensive business and agricultural trainings are probably needed to achieve an impact on IGA. The fact that apparently financial resources are not the only factor lacking to diversify IGA might support those arguing that an entrepreneurial drive of poor credit users as it was witnessed in the Asian MFI boom is not a part of African culture. The ASCA presents as an adequate and reliable tool to balance cash flows and accumulate at least small lump sums for the purchase of assets.

Most caregivers invest part of the funds that are made available to them through the ASCA in their children's well-being. Studies show an overall improvement in school enrolment rates both in the control and treatment groups, so an impact of the ASCA cannot be shown. Even though parents report that paying school fees became easier for them because they can manage their cash flow better, money does not seem to be the primary constraint on school attendance. Poor availability and quality of schools, which is also reflected in poor literacy rates among school attendants, is a bigger problem that the ASCA cannot address. Findings indicate though that caregivers' ASCA participation may increase children's workload, which might have negative influences on their time and energy available for studying. However, most respondents claim that their children's work time would have no negative effect as they still have enough time for school. The question is how accurate the parents' evaluations are and how much the answer was distorted by social desirability.

The ASCA appears to have a positive impact on nutrition, although available data is scarce and not sufficient to determine how pronounced is this effect.

It can be drawn from this that the ASCA provides all the financial options it is expected to provide, but that the way participants use them – on mere consumption, productive purposes or their children's well-being – depends on a number of external factors as well as each member's personal preferences.

An external observer might easily reach the conclusion that the ASCA is a less successful alternative compared to the Asian SHG and MFI models in terms of extent and consistency of their economic impact. However, it can just as well be considered one of the great strengths of the ASCA that they cover a wide range of needs. On the one hand, it serves to help industrious and innovative entrepreneurs to expand their business activities through credits and possibly move to the next 'step of the ladder' by opening access to MFI or formal banks. On the other hand, it also provides a secure way of saving for more traditional and risk averse farmers who merely seek to accumulate large lump sums to cover their needs or build economic resilience.

Besides this adaptability to a variety of contexts, the second important feature of the ASCA is its social impact, especially when combined with the respective training by the implementing NGO. Findings support the hypothesis that ASCA help families to better deal with emergencies and hardships as well as improve their economic resilience. Participants have a more positive view of the future and are less worried about providing for their families. It can safely be assumed that this also reflects positively on the children in their household. Another indirect impact can be expected from the ASCA promoting shared decision-making between caretakers, which is assumed to lead to better decisions regarding their children's well-being. Besides a growing confidence of mothers speaking out in their family, there is also a general trend for participants of both sexes regarding their role and participation in civil society and various types of associations. Further behavioural impact analyzed by other studies includes good parenting practices, awareness of children's rights, as well as perceived family well-being from the viewpoint of parents and children. As there is reason to believe that these effects are at least as important as the economic impact of the ASCA, it would be interesting to conduct further qualitative research from a psychological or sociological point of view to explore how children are actually affected. The significance and size of these intangible effects can hardly be captured through quantitative questionnaires as applied in this study. Furthermore, it would be necessary to directly include children in this research instead of relying on caregivers' statements.

As a conclusion of this thesis, the ASCA proves to be a powerful and flexible tool to serve the needs of the rural and extreme poor and even give them a chance to escape from poverty. As the ASCA's great potential is by far not exhausted, further systematic research is needed to grasp its impact and further develop and enhance the concept.

Appendix 1: Interview Guides[13]

ID: _______   Language: _____________

(Coding for all questions: "I don't know"=88, does not apply/no answer=99)

Personal Data

1. Name: _____________________   2.Date: ____________   3. Group: _______________________

4. Sex (m=0, f=1): ___   5. Age: ________

6. Marital Status (married=1, single=2, widowed/divorced=3): _______

7. Children (sons and daughters, other dependents):

Sex (m=0, f=1)	Age	Years in School	Profession (none/infant=0, student=1)	Relation (son/daughter=1, other: describe!)	Do they live with you? (no=0, yes=1)

8. Other household members: ____

P1. Sources of Income

	9. What are your main sources of income?	Estimate % of total income	Did you already have them before joining an ASCA? (no=0, yes=1)
1.			
2.			
3.			

10. If 9. = agriculture: What products do you grow? Do you also sell them? (grow=0, sell=1)

	Peanut		Sorghum bicolor		Cotton		Pigs
	Corn		Sesame		Sugar cane		Chicken
	Manioc		Rice		Sweet potatoe		Goats
	Beans		Cashew		Horticulture		Others:

[13] The original interview guide in Portuguese is available from the author upon request.

11. Do you receive money e.g. from relatives living abroad? (no=0, yes=1)__→ yes: ________Mt.

12. What is your total annual income? ____________ Mt.

13. Did your annual income change since you participate in an ASCA? (no change=0, it increased=1, it decreased=2) _____ (estimated value before participation: ____________ Mt.)

P2. Experience with ASCA Groups

14. How long have you been participating in this ASCA group (years)?: _________

15. Did you participate in other ASCA before? (no=0, yes=1) __ → yes: ___ groups, ___ years

Remarks (experiences, reasons for leaving the group,…): ___________________________________

16. How much money did you deposit in the previous cycle? _______Mt.

(duration of cycle: _______ months)

17. Loans received during the last cycle:

Amount (Mt.)	Purpose	Payback period (months)	Paid back in time? (no=0, yes=1, in course=2)

18. Did you at some point have problems repaying your credits? (no=0, yes=1) ________

Remarks (reasons, handling of situation, consequences):_____________________________________

19. Do you perceive the service fee as adequate? (yes=1, it is too high=2, it is too low=3) ________

20. Do or did you use other savings or credit instruments? (no=0, yes=1)

Now /before participating in the ASCA   Now /before participating in the ASCA

		Private savings			Private loan (family,...)
		Savings account (bank)			Loan from bank
		Microfinance Institution			Moneylender
		Others:			

P3. Investments

	21. On what do you usually spend most of your savings after reimbursement?	Estimate %
1.		
2.		
3.		

22. Since you joined the ASCA, did you invest in housing improvements? Which ones?

____

____

23. In the last year, did you make other major investments (mobile phone, bicycle, radio,...)? Which?
____

24. Do you think you would have made the same investments without participating in the ASCA? (no=0, yes=1) ______ Remarks: ____

P4. Nutrition and Health

25. If your annual income increased (21.=1) → How much of your additional income do you spend on the well-being of your children? (e.g. education, health, nutrition): about _________%

26. What kind of food do you serve for your children for breakfast/lunch/dinner?
____

27. Are there seasonal differences? (no=0, yes=1) _____ → yes: describe! __________________________

____

28. Are there days in which you do not serve three meals to your children?

(<24 days/year=1, 24-52 days/year =2, >52 days/year =3) _________

29. Since you became an ASCA-member, did your children's food habits change?

(no change=0, increase=1, decrease=2) _____

	Food quantity in general		Fruit
	Meat		Vegetables
	Fish		Eggs

30. Since you are an ASCA-member, did your capacity to pay for medical care for your family change? (no=0, increase =1, decrease =2) _______ (Remarks:___________________________________)

P5. Education

31. How many members of your family know how to read and write? (none=0, number≥1)

____ interviewee; ____ partner; ____ of ____ sons ≥11 years; ____ of ____ daughters ≥11 years

32. How many of your children between 6 and 15 do *not* go to school? ____ sons, ____ daughters

33. Did your children sometimes miss school? (no=0, yes=1) → yes: For what reasons?

	They were sick		They did not want to go/ did not care
	We could not pay for school materials		They had to work
	Others:		

34. Do you have savings for your children's education? (no=0, yes=1) _______

Remarks (only for some time, only for the boys...) ____

35. Since you participate in the ASCA, did it become easier/harder for you to pay for the school material for your children? (no change=0, easier=1, harder=2) ______

36. Do your children also work in your home, farm or business? (no=0, yes=1) _______

→ yes: What are their tasks? ____

→ yes: Did their workload change since the ASCA? (no=0, increase =1, decrease =2) ______

→ increase: Is this negatively affecting their homework? (no=0, sometimes =1, yes =2) _______

P6. Taking Decisions and Participation in Civil Society; Vulnerability

37. In your household, who decides about finances and resources? (interviewee=1, partner=2, both together=3, together with children=4, none of the above=0) ________

38. Who decides about the use of savings and credits from the ASCA? (interviewee=1, partner=2, both together=3, together with children=4, none of the above=0) ________

39. Did this change since you participate in the ASCA? (no=0, yes=1) _____ → yes: why?____

40. Are you a member of other groups or associations (social, political, syndicate, church group...)? (no=0, yes=1) ______ → yes: Which ones? What is your function? _____________________

41. Did your participation in society change with the ASCA? (no=0, increase=1, decrease=2) ______ Remarks: ____

42. Since you participate in the ASCA, did you experience some form of hardship, emergency or disaster? (no=0, yes=1) __ → yes: which? ____

→ How did you deal with this situation?____

43. Does your ASCA membership help you handle this kind of situations better? (no=0, yes=1) _

44. Are you worried that your income might not be sufficient to provide for your family? (never=0, very rarely=1, sometimes=2, very often=3, always=4) ________

45. Since you participate in the ASCA, did the frequency of having this feeling change? (no change=0, increase=1, decrease=2) _____

P7. Conclusion and Proposals for Improvement

46. What were your motivations and expectations for participating in the ASCA? _______________

47. Were your expectations met? (no=0, partly=1, yes=2, they were exceeded=3) _________________

48. What was your biggest success in the ASCA? ____

49. What was your biggest disappointment in the ASCA? ____

50. In general, do you think your quality of life changed with your participation in an ASCA?

(no=0, increase=1, decrease=2) ______

____

51. Besides offering financial services, do you see other advantages in participating in an ASCA?

____

52. If you could change something in the ASCA system so it would better meet your needs, what would be your changes? ____

53. How would the ASCA system have to change for your children to better benefit from your participation?

____

ID: ______ Language:________________

Group Interview Guide for ASCA

1. How was your group created? (pre-existing group, formed by WV…) ______________________

2. How much time does it already exist? _____ years; _____ cycles

3. How many members does your group have? ________ total (____ m., ____ f.)

4. Did new members join the group later? (no=0, yes ≥1) _____

5. Were there members that left the group? (no=0, yes≥1) _____ → why? ______________________

6. How much money is deposited in each meeting? _____Mt. 7. In which intervals? ________

8. What is the service fee applied for taking a credit? ___% for members, ___% non-members

9. In the previous cycle, how many credits were given? ________ credits, _________ Mt.

10. At the end of the cycle, how much money did you accumulate? ___Mt. (cycle of ___ months)

11. At the end of the cycle, did you pay out all funds (=1) or continue without share-out (=2)? __

12. Do you have special funds (emergency, social, ...)? (no=0, yes=1) _____ → yes: describe! ____

13. Does your group have a seed bank or food reserves? (no=0, yes=1) ____→ yes: describe! ____

14. Do you offer the option to save money for participant's children? (no=0, yes=1)______

15. Did your group experience cases of default or irregularities with the safe? (no=0, yes=1)___

16. Which other problems emerged?____

17. Did your group change their regulations over time or add new rules? (no=0, yes=1) _____

→ yes: which? ____

18. Which trainings or capacity buildings did your group receive from World Vision? Where they useful? (useless=0, not very useful=1, useful=2, very useful=3) __________________________

19. Which other trainings should WV offer to strengthen your capacities? _____________________

20. Do you have a success story from within your group that you could tell me? (record answer, file name: ___________.mp3)

Appendix 2: Regression Tables

Table 1: Group Characteristics

ADP	*District*	*No. of groups interviewed*	*Individuals interviewed*	*Median annual income (Mt.)*	*Monthly savings p.p.*
Saua Saua	Nacarôa	4	30	1.750	25 – 50
Inteta	Nacarôa	6	25	9.000	50 – 300
Nihessiue	Murrupula	5	20	3.250	100 – 200
Muecate	Muecate	9	45	3.000	*voluntary*
Imala	Muecate	6	30	7.000	*voluntary*
Total		**30**	**150**	**3.000**	**0 – 300**

Table 2: Respondent Characteristics

Variable	*All respondents*	*Years of Participation*			
		<1 year	*1-2 years*	*3-4 years*	*5 years*
n	150	31	62	37	20
gender (%)					
male	93 (62%)	14 (45%)	40 (65%)	20 (54%)	19 (95%)
female	57 (38%)	17 (55%)	22 (35%)	17 (46%)	1 (5%)
age (years ø)	35.6	33.9	34.6	39.5	34.3
marital status					
married	135 (90%)	26 (84%)	54 (87%)	37 (100%)	18 (90%)
single	11 (7%)	4 (13%)	5 (8%)	0 (0%)	2 (10%)
widowed/divorced	4 (3%)	1 (3%)	3 (5%)	0 (0%)	0 (0%)
main source of income					

farming	86 (57%)	15 (48%)	37 (60%)	30 (81%)	4 (20%)
petty trade	38 (25%)	10 (32%)	15 (24%)	3 (8%)	10 (50%)
WV facilitator	12 (8%)	3 (10%)	4 (6%)	2 (5%)	3 (15%)
crafts	9 (6%)	2 (7%)	2 (3%)	2 (5%)	0 (0%)
other	5 (3%)	1 (3%)	4 (6%)	0 (0%)	3 (15%)
median annual income	4,000	2,500	4,000	2,400	25,450

Table 3: Logged Annual Income

	(1)	*(2)*
Gender	-3.193***	-2.382**
	(-0.129)	(0.219)
Age	-1.853*	-1.895*
	(0.005)	(0.005)
Literacy	-1.05	-0.934
	(0.122)	(0.081)
Number of Children	-0.152	-0.040
	(0.031)	(0.031)
Farmer	-3.189***	3.125***
	(0.214)	(0.219)
Petty Trader	-2.445**	-2.465**
	(0.224)	(0.219)
WV Facilitator	4.134***	3.769***
	(0.235)	(0.250)
Saua Saua	-4.120***	-4.254***
	(0.222)	(0.219)
Inteta	1.269	1.371
	(0.260)	(0.259)
Imala	3.147***	3.145***
	(0.251)	(0.250)
Nihessiue	0.479	0.423
	(0.226)	(0.223)
Years of Participation	3.859***	2.909***
	(0.050)	(0.059)
Loans (previous year)	2.788***	2.770***
	(0.000)	(0.000)
Years X Gender		0.738
		(0.081)

Observations	147	147
R^2	0.552	0.553
Adjusted R^2	0.508	0.506

n= 147 as "Ausreisser" with annual income >100,000 Mt. were excluded

robust standard errors in parentheses clustered on ASCA group level

Column *(1)* without interaction term; *(2)* including the interaction term

***p<0.01; **p<0.05; *p<0.1

Table 4: Investments in Assets

In the last year, did you make other major investments (mobile phone, bicycle, radio,...)? [1]		
no		47%
yes		53%
	Do you think you would have made the same investments without participating in the ASCA? [2]	
	no	89%
	yes	9%
	I don't know	2%
Since you joined the ASCA, did you invest in housing improvements? [2]		
no		8%
yes	*(multiple answers possible)*	52%
	plates, cups, pans	52%
	doors	43%
	furniture	41%
	roof improvement (plastic foil/corrugated iron sheets)	26%
	buckets, jerry cans	19%
	construction (new house, cement floor, electricity…)	14%

n_1 = 150, n_2 = 142 (participants > 1 month)

Table 5: Agricultural Activities

	Total Activities		*Activities for Sale*	
	(1)	*(2)*	*(3)*	*(4)*
Gender	-1.249	-1.225	-2.057***	-2.941***
	(0.372)	(0.380)	(0.616)	(0.621)
Age	2.142**	2.130**	0.018	0.027
	(0.016)	(0.016)	(0.025)	(0.025)
Literacy	2.550**	2.521**	-0.304	-0.277
	(0.329)	(0.337)	(0.443)	(0.445)
Number of Children	0.466	0.500	-0.987	-0.997
	(0.090)	(0.088)	(0.105)	(0.104)
Saua Saua	-7.414***	-7.328***	-1.793*	-1.775*
	(0.493)	(0.490)	(0.664)	(0.674)
Inteta	-6.013***	-6.285***	0.307	0.365
	(0.525)	(0.504)	(0.888)	(0.875)
Imala	0.881	1.130	1.762*	1.873*
	(0.457)	(0.463)	(0.854)	(0.841)
Nihessiue	1.155	1.192	2.122**	2.088**
	(0.579)	(0.573)	(1.189)	(1,195)
% Income through Agriculture	1.359	1.787*	6.049***	5.733***
	(0.453)	(0.442)	(0.634)	(0.677)
Years of Participation	0.787	0.622	1.272	1.274
	(0.117)	(0.122)	(0.168)	(0.172)
Loans (previous year)	-5.463***	1.479	-1.496	-0.204
	(0.000)	(0.000)	(0.000)	(0.000)
Loans X Petty Trader		-1.739*		0.970
		(0.000)		(0.000)
Loans X Farmer		-1.626		-0.359
		(0.000)		(0.000)

Observations	150	150	150	150
R^2	0.489	0.496	0.397	0.397
Adjusted R^2	0.448	0.448	0.348	0.340

Robust standard errors in parentheses clustered on ASCA group level

Columns *(1)* and *(3)* without interaction terms; *(2)* and *(4)* including interaction terms

***p<0.01; **p<0.05; *p<0.1

Table 6: Education expenditures and workload

Since you participate in the ASCA, did it become easier/harder for you to pay for the school material for your children?	
no change	6%
easier	93%
harder	1%
Do you have savings for your children's education?	
yes	64%
no	36%
My children sometimes miss school because…	
… they do not want to go/ do not care	19%
…we cannot pay for school materials	11%
… they have to work	4%
Did your children's workload change since the ASCA?	
no change	56%
increase	31%
decrease	13%
Is this negatively affecting their homework?	
yes	1%
no	99%

n= 98, only caregivers of 6 – 15 year-olds that have been in the ASCA ≥ 1 year

Table 7: Children's education level

Schooling level (finished)	*Boys*	*Girls*
min. 3 years (≤11 years old)	97%	93%
lower primary education (≤11 years)	83%	74%
upper primary education (≤13 years)	51%	51%
junior secondary (≤20 years)	40%	2%
pre-university (≤20 years)	15%	0%

currently attending school (6 – 15 years)	94%	95%
literacy rate (≤11 years old)	69%	65%

N= 121, only caregivers

Table 8: Nutrition and Health

Children consume less than three meals on…			
< 20 days per year			56%
20-50 days per year			18%
> 50 days per year			26%
Since the ASCA, did your children's food habits change?			
	no change	Increase	Decrease
food in general	38%	61%	1%
meat	35%	64%	1%
fish	35%	64%	1%
fruit	48%	51%	1%
vegetables	45%	50%	5%
eggs	54%	45%	1%
Since you are an ASCA-member, did your capacity to pay for medical care for your family change?			
no change			6%
increase			94%
decrease			0%

n= 121, only caregivers

Table 9: Vulnerability

Since you participate in the ASCA, did you experience some form of hardship, emergency or disaster? [1]		
no		56%
yes		37%
	family funeral	73%
	loss of housing	19%
	other	8%
	How did you deal with this situation? [2]	
	loan from social fund	32%
	regular loan from ASCA	14%

other help from ASCA group	9%
own resources	30%
other / none	15%
Do you think ASCA membership helps you handle this kind of situations better? [2]	
no	0%
yes	100%

n_1 = 150, n_2 = 56 (participants that had experienced hardships)

Table 10: View of the Future

Are you worried that your income might not be sufficient to provide for your family? [1]	
always	9%
often	21%
sometimes	23%
rarely	16%
never	30%
Since you participate in the ASCA, did the frequency of having this feeling change? [2]	
no change	38%
increase	4%
decrease	58%

n_1 = 150, n_2 = 119 (participants ≥ 1 year)

Table 11: Decision Making

	men (n = 93)	*women (n = 57)*	*total (n = 150)*
Who decides about household finances and resources?			
interviewee alone	4%	11%	7%
partner alone	0%	12%	5%
couple together (w/ children)	91%	74%	84%
other (together with parents…)	5%	4%	4%

Who decides about use of ASCA savings and loans?			
interviewee alone	20%	21%	21%
partner alone	0%	0%	0%
couple together (w/ children)	77%	77%	77%
other (together with parents…)	2%	2%	2%
Did your financial decision making change because of the ASCA?			
yes	28%	18%	24%
no	72%	82%	76%

Table 12: Participation in Civil Society

Are you a member of other groups or associations? [1]		
no		42%
yes	(multiple answers possible)	58%
	church/mosque	35%
	community development	20%
	political party	9%
	agricultural organization	6%
Did your participation in society change with the ASCA? [2]		
no		34%
decrease		0%
increase …		66%
	… because of new ideas/experiences	40%
	… as one learned about importance of helping each other and working together	27%
	… because of acquired prestige/self-esteem	15%
	… for other reasons	18%

n_1 = 150, n_2 = 119 (participants ≥ 1 year)

Table 13: Evaluation by Group Members

What were your motivations and expectations for participating in the ASCA?	
(multiple answers allowed)	
improve living standard / become wealthier	33%
saw or heard of success of others	27%
gain knowledge / learn how to handle money better	26%
belong to a group / interaction / mutual help, security in need	15%
because there is no bank or safe place to store money	5%
Were your expectations met?	
no / not yet	6%

partly	14%
yes	65%
they were exceeded	15%

In general, do you think your quality of life changed with your participation in an ASCA?

	new members <1 year [1]	*participants ≥ 1 year* [2]
no change	45%	3%
increase	55%	97%
decrease	0%	0%

n_1 = 31 (participants < 1 year) , n_2 = 119 (participants ≥ 1 year)

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Ehrenwörtliche Erklärung

Hiermit erkläre ich, dass ich meine Masterarbeit zur Erlangung des Grades Master of Arts (M.A.) mit dem Thema

Impact of Accumulating Savings and Credit Associations on Child Well-Being

Evidence from World Vision Groups in Mozambique

selbstständig und ohne unerlaubte Hilfe verfasst, ganz oder in Teilen noch nicht als Prüfungsleistung vorgelegt und keine anderen als die angegebenen Hilfsmittel benutzt habe. Die Stellen der Arbeit, die anderen Quellen (einschließlich des World Wide Web und anderen elektronischen Text- und Datensammlungen) im Wortlaut oder dem Sinn nach entnommen wurden, sind durch Angabe der Herkunft kenntlich gemacht. Mir ist bewusst, dass ich im nachgewiesenen Betrugsfall die eventuell entstehenden Kosten eines Rechtsstreits zu übernehmen sowie mit weiteren Sanktionen zu rechnen habe.

Marburg, 29. Oktober 2012

Michaela Beck

Theorie und Praxis

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