

The Institute of Economic Analysis and Prospective Studies (IEAPS)

***Women Empowerment through Microcredit
in the Rural Areas of Khénifra***

Oued Srou Association of Microcredit (AMOS)

A Microcredit Case Study

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I. Introduction

The Microcredit programs, intended to finance the economic activity of individuals who have low revenues, are new in Morocco. The active organizations in micro credit are banks and associations (non governmental organizations). Among the Moroccan banking institutions, “La Banque de Crédit Populaire” (BCP) and “La Caisse Nationale de Crédit Agricole” (CNCA) were the only banks having significant experience in the small credit domain and needed some institutional reforms to be efficient in their ability to provide micro credit loans (Duval, 2001). However, most micro credit programs were controlled by associations at the beginning. The Micro Credit domain knew different changes during the last decade contributing to the growth of the number of Micro credit associations which reached 12 institutions. This case aims at studying the Oued Srou Association of Microcredit (**AMOS**), its outreach and impact on the economic and social situation in the region it covers. A concentration is made especially over the impact of microcredit on rural women and their empowerment. The case study is based on information gathered during a fieldwork in rural areas around Khénifra, by Faiza Amahroq, and the assistance of El Kbab’s association office established in the rural area.

II. General information About AMOS:

AMOS is the Micro Credit Association of Oued Srou that was created on February 25th, 2000 with a non profit goal and with a legal status of Non Governmental Organization (NGO). This association is based in the region of Khénifra, in the central middle Atlas.

Before the existence of AMOS, the Oued Srou Association was among the first to be created in Morocco in July 10th, 1992 by Dahir n°1-58-376 of Joumada 1, 1378 (November 15th, 1958). The Oued Srou Association ‘AOS’ was created to improve the environmental, economic, health, infrastructural and educational conditions of this region’s population. This was done through organizing and supervising development projects that aim at alleviating rural poverty and promoting the socio-economic conditions of the rural people in general and rural women in particular. This association started its microfinance activities twelve months after its creation, which was in May 1993 with the help of AMSED (the Moroccan Association of Solidarity and Development).

Khénifra covers an area of 320 000 hectares which represents 15.6% of Méknès-Tafilalet region’s territory. This zone includes 3 urban municipalities, 35 rural districts including El Kbab zone, 13 annexes and 655 small rural villages. According to the last population census of 2004, the population of Khénifra municipality consists of 511 538 inhabitants, half of which live in rural areas. Khénifra’s population suffers from low income, isolation, growing demography, overexploitation of resources and high rate of illiteracy (Monographie de la région Méknès-Tafilalet, 2004). As to the activities financed by the microcredit in Khénifra, they are divided into four: craftwork 47.53%, commerce 26.00%, agriculture and animal breeding 23.89%, and service 2.58% (these are 2004 statistics of AMOS by Planet Finance).

AMOS seems to target the rural zones in opposition to other Moroccan associations that have a majority of active clients coming from urban areas. According to Planet Finance data, the Association of Micro Credit of Oued Srou intervenes in two major zones:

- Rural zone with 57.19% coverage, and
- Peripheral zone (semi-rural area) with 42.81% interventionsⁱ.

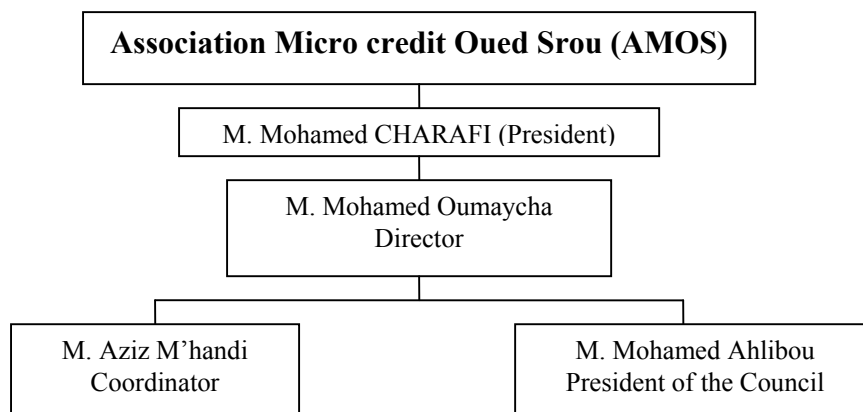
Women are the predominant clientele of this association representing 98.01% against 1.99% male clientsⁱ.



* Planet Finance Maroc, 2004 (Web site)

1. Structure of AMOS:

Figure 1: Structure of AMOS



ⁱ Planet Finance Maroc, 2004 (Web site)

AMOS is active within three provinces that are inside the Méknès-Tafilalet borders: Khénifra province, El Kbab province and Midelt province. Therefore, the association has three main agencies in each of these provinces and a total of 15 branches (offices) listed as follows:

Table 1: Implantation of AMOS in the Region of Méknès -Tafilalet

Agencies	Khénifra Agency	El Kbab Agency	Midelt Agency
Branches	-Aguelmous -Had Bouhssoussen -El Borj Center -El Heri Center -Khénifra Center and suburbs	-El Kbab Center -Kerrouchen Center -Sidi Yahya Ou Saad -Aghbalou	-Midelt Center -Boumia -Tounfite -Itzaer -Zaida -Rich

* Data gathered from the headquarters of AMOS in El Kbab

The association has three agencies based in different areas: El Kbab Office in the rural areas and Khénifra and Midelt agencies are based in urban areas. The association's personnel is composed of 22 employees in addition to the President and the Administrative Council Members. All employees hold B.A degrees from different disciplines: economy, biology, history, physics, Arabic literature, Islamic studies, etc. One of the employees is a PhD holder in economics. Their salaries vary between 2000 and 3000 Dhs.

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2. Mission and Objectives:

Mission: AMOS was created to improve the revenues of the low-income population by financing income-generating activities. This institution aims also to bring a local solution to problems related to access to financing for the economically weak populations and to diversify its offer of financial products for the rural area in particular.

Vision: AMOS intends to mainstream interest in local development issues among the local community.

Objectives: First, AMOS aims at offering small loans to the active destitute people who live in the rural and semi-rural areas of this region and who are discarded from the traditional bank systems. Second, the association aims at providing non-financial services to its beneficiaries, such as technical assistance and counselling.

3. Products and Services:

The Micro Credit Association of Oued Srou grants two major products to its clients, in the Loans' category:

The Solidarity Group Loans are micro credits (**MC**) given to a group of individuals below the age of 60 years old, composed of a minimum of 4 women and a maximum of 8. The aim behind this product is to secure the repayment of the loan since each member of the group acts as guarantor of the others. By having each others' support, the solidarity group members manage more easily to respect their reimbursement timing which allows them to gain immediate access to the following loan instalments that vary according to the number of loans they have benefited from. In case a member of the group fails to repay her loan, three methods are used: a first warning is given by the credit officer in charge of the district the defaulter lives in, then a group of officers try to exercise pressure on the woman by listing to her all the problems she might face if she resists repayment and as a last resort, the association conducts a legal coercion (reimbursement of the loan, additional charges for late repayment and attorney fees).

Table 2: Levels of Credit Instalments for Solidarity Group Loans

Levels	Loan Instalments	Duration	Interest Rate	Savings Rate
Level 1	750-1500 Dhs	8 months Max	2.20% monthly flat	1.5% per month
Level 2	1501-2500 Dhs	8 months Max	2.20% monthly flat	1.5% per month
Level 3	2501-3500 Dhs	8 months Max	2.20% monthly flat	1.5% per month
Level 4	3501-5000 Dhs	8 months Max	2.20% monthly flat	1.5% per month

* Data gathered from the headquarters of AMOS in El Kbab

The Individual Loans are new products launched on November 2001 by AMOS. This loan is offered to old clients of the association who need funds to develop their respective enterprises or to new clients who have an already established activity. Individual loans require from the loan contractor to provide guarantees in the form of estate titles or the commitment of two guarantors who must provide a promissory note. People interested in this product may benefit, for free, from a "Business Management" training conducted by an economist from AMOS personnel members. Besides, the credit instalments of this loan are higher than the previous one:

Table 3: Levels of Credit Instalments for Individual Loans

Levels	Credit Instalments	Duration	Interest Rates
Level 1	3000-6500 Dhs	8 months Max	2.20%
Level 2	6501-8000 Dhs	8 months Max	2.10%
Level 3	8001-10 000 Dhs	8 months Max	2.00%
Level 4	10 001-13 000 Dhs	8 months Max	1.9%
Level 5	13 001-15 000 Dhs	8 months Max	1.8%

* Data gathered from the headquarters of AMOS in El Kbab

Since November 2001, the repayment cycle of the loan beneficiaries, in the category of *solidarity group loans*, starts from the first month following their credit allocation up to six or eight months. Each client must reimburse, every month, the principal of the money borrowed divided by 6 or 8 months, plus an interest rate of 2.20% applied to the total sum of the loan in question. The same conditions work for the category of *individual loans* with a difference in the interest rate applied to the total sum of the loan: the rates of interest diminish corresponding to the increase in the levels of loan instalments (Table 3).

Savings are forms of guarantee imposed on loan beneficiaries by the institution. It is a compulsory deposit that constitutes 1.5% of the total sum borrowed (Table 2). The aim behind this product is protect the association in case of client or solidarity group default. The total amount of savings is fully returned to the client as soon as she/he decides to stop using the association's services.

Other services provided are of social order that aim to improve the socio-economic situation in the rural areas of Khénifra. These services are offered by AOS, the Oued Srou Association, which works in close collaboration With AMOS to conduct some development programmes. Some of AOS's main development actions include literacy courses offered to interested women along with knitting and weaving courses with diplomas delivered. Berber songs about the importance of education and other have also been recorded in tapes and distributed to people. The laying out of several schools has also been improved by building toilets and creating gardens. Several wells have also been dug.

4. Funding:

Since its creation, AMOS received a set of financial aids from both Moroccan and international donors. The following table lists all the financial aids this microcredit association received:

Table 4: Financial Supports Received by AMOS (2002 – 2003)

	2002	2003
AMOS Capital	1 470 454.00	2 230 943.00
Exercise Result	470293.00	760 489.00
Delegated funds		
Hassan II	1 500 000.00	1 500 000.00
AMSED	1 400 000.00	1 479 000.00
CODESPA	1 479 000.00	67 635.00
FADES		
Loans	418 165.00	1 192 673.00
SIDI	150 000.00	150 000.00
Deposits and Caution	268 165.00	1 042 673.00

* Data gathered from the headquarters of AMOS in El Kbab

This capital has enabled the association to enhance its financial performance. AMOS lent this year a total sum of 5 806 379.00 Dhs and accumulated 1 393 757.00 Dhs of security. The Ministry of Finance has promulgated a law that requires from microcredit institutions five-year viability with their own funds starting from their date of creation. Otherwise, these organizations' licence would be suspended and their respective funds redistributed by the state to other active associations. This auto

financing phase is difficult for AMOS, for all the above-mentioned donations have already been distributed and the association is now providing loans only from last year's interest rates, which represent 1 500 000.00 Dhs. However, the only solution for the viability of the institution is to ask for further financial aid from Hassan II fund – the largest funder – to be disbursed among all Moroccan associations, according to the president of AMOS.

5. Poverty Assessment:

The majority of the clientele of AMOS comes from the poorest rural areas around Khénifra. Thus, the poverty can be assessed among the clients by using the average household revenues. AMOS declares that a household gains on average around 1000 and 1500 Dhs /month, which is a very low amount. Also, since the number of active borrowers is 5138 clients and the total loan portfolio is 5 806 379.00 Dhs, the average loan balance per borrower is 1130.08 Dhs. This amount demonstrates the low loan amounts requested by the clients.

In addition, the number of savers in the association equals the number of borrowers from the solidarity groups' category. However, we can't compute the average savings balance per saver, since the total savings are not available for analysis.

III. OUTREACH

In order to evaluate the degree to which AMOS reaches the minority population (women, poor, illiterate and rural), a survey was conducted in the rural areas of Khénifra (April 29th - May 7th 2005). The choice of this region was motivated by the fact that the crashing majority of its women suffer from a high rate of illiteracy and low income. The fieldwork was conducted with 75 women who live in the peripheral districts of Khénifra such as Lassiri, Taabite, Lahri, Elmassira El Olya, Ait Khassa, Thazaret Iaraden, Boudraa, and Adakhsal. This choice of districts was done on purpose so as to verify to what extent these destitute women who live in isolated areas and lack some of the main facilities have been helped by microcredit to alleviate their poverty and that of their families by extension.

Clients below the poverty line are people living on less than US\$ 2 / day, meaning less than 20 Dhs / day. From the sample of women surveyed, 46.67% of the families live below the poverty line.

This fieldwork has focused exclusively on women borrowers because AMOS deals most predominantly with **women** (98.01%). The latter are given preference by the association because of their seriousness in so far as loan reimbursement is concerned.

Illiterate Clients in the sample represent 61.33% while 10.67% of women took literacy courses, 24% stopped at primary school and 4% left at secondary school.

The sample is composed of clients from rural areas and peripheral districts only: 100% **rural clients**.

Clients starting micro enterprises for the first time are those who started an activity after contracting micro credit from AMOS. This category represents 12% of the total sample.

Khénifra municipality is composed of 511 538 inhabitants (according to the last 2004 population census), 50% of which live in the rural areas. The rural population (241 608 inhabitants) is made up of 43 299 families or houses. As to the urban

population, it is made up of 269 823 inhabitants and 62 008 families. The *extent of outreach* is then 43 299 households.

Table 5: AMOS and Morocco's Outreach Averages for each Minority Category

	AMOS (Sample of 75 households)*	AMOS**	Country Average
Percentage Women	1	0.98	0.503 ⁱⁱ
Percentage Rural	1	0.90	0.45 ⁱⁱⁱ
Percentage Illiterate	0.61	0.76	0.55 ^{iv}
Percentage Poor	0.47	-	0.19

* Data gathered from fieldwork

** Data gathered from AMOS

Depth of Outreach Indicator (DOI Index) related to the sample of 75 beneficiaries served by AMOS is 1.39 meaning that the clientele sample served by AMOS is more rural, poor, female and illiterate than the average of the country.

IV. FINANCIAL SUSTAINABILITY:

To measure the financial sustainability of AMOS, a ratio analysis has been done on the available financial data (of 2003) gathered from the association.

AMOS should rely on itself, not only on donors to be financially viable and subsidize its operations:

Operational Self-Sufficiency:

AMOS had a performance of 106.59% in 2003 which implies that the association has long term provisions and that its costs are not high compared to the income generated.

Financial Self-Sufficiency:

In 2003, the association's financial self-sufficiency reached 106.17% which corresponds to the operational self-sufficiency, with the financial costs being low.

Table 6: Financial Sustainability (2003 Data)

	2003
Total Income (Dhs)	1 744 254,50
Subsidies (Dhs)	196 500,00
Operational Costs (Dhs)	1 446 729,49
Total Provisions (Dhs)	5 300,00
Financial costs (Dhs)	5 800,00
Gross Portfolio Outstanding (Dhs)	584 657,00
Volume Savings	-
Total Outstanding Loan Balance with at least an instalment past due (> 90 days) Dhs	475 446,00
Loan Loss Reserve	-
Portfolio at Risk > 30 days	-

ⁱⁱ United Nations. Economic and Social Affairs. World Population Prospects: The 2004 Revision. New York 2005.

ⁱⁱⁱ Haut Commissariat au Plan, 2004.

^{iv} Monographie de la Région Mekhnès – Tafilalet, 2004.

Total Loan Instalments Past Due (Dhs)	584 657,00
Total Deposits	-
Reserve Funds	-
Undistributed Profits (Dhs)	424 000,00
Paid-up Capital	-
Personnel Expenses (Salary, CNSS) Dhs	868 676,90
Total Assets (Dhs)	8 310 904,00
All Liabilities with "Market" Price (Dhs)	7 550 416,00
Operating Expenses (Dhs)	1 446 729,49
Average Number of Active Borrowers	4 693

In 2004, AMOS has lent to its members, whose number reached 5138 clients, a total sum of 5 806 379.00 Dhs. This microcredit association has also accumulated a total amount of security that equals 1 393 757.00 Dhs. The law promulgated by the Ministry of Finance that requires auto financing from microcredit institutions created a difficulty phase for AMOS since all the above-mentioned donations have already been distributed. The association is now providing loans only from last year's interest rates.

Delinquency:

The reimbursement rate of microcredits is very high namely among women. For example, in 2004 it reached 99.86%. The President of AMOS stated that the association prefers to deal with women more than men because they are more serious in terms of repaying their debts.

Portfolio at Risk (PAR):

Since the association grants solidarity group loans among other products with an almost inexistent delinquency rate among women, the portfolio at risk should be low. However, AMOS gives individual loans as well and welcomes male loan contractors among its clients. The portfolio at risk in 2003 represented 0.81.

Interest Rates:

Concerning the interest rates, AMOS uses different strategies depending on the product tested. For the solidarity group loans, the interest rate (2.20% monthly flat) is constant for all levels of loan amounts, as specified in the earlier section dealing with this product. However, in the case of individual loans, the interest rate differs according the loan amounts' levels (Table 7). An increase in the level of credit instalments leads to a decrease in the interest rate.

Table 7: Interest Rates Corresponding to the Levels of Credit Instalments

Credit Instalments	Interest Rates
3000-6500 Dhs	2.20%
6501-8000 Dhs	2.10%
8001-10 000 Dhs	2.00%
10 001-13 000 Dhs	1.9%
13 001-15 000 Dhs	1.8%

* Data gathered from the headquarters of AMOS in El Kbab

Starting from November 2001, a deadline of 6 to 8 months was given to the beneficiaries to launch their repayment cycle starting from the first month following their grant. Every client has to start reimbursing, every month, the principal money borrowed divided by 6 or 8 months, plus interest rates (of 2.20% for solidarity group loans and from 2.20% to 1.80% for individual loans) applied to the total sum of the loan in question. A 10 Dhs membership fee is also applied.

Personnel Expense Ratio:

AMOS spends money on its staff salaries, training and transportation costs to different Khénifra regions in order to search for potential clients. The distribution cost of the microcredit, according to Mr. Mohamed Charafi, the President of AMOS, is very high. “We have to look for our clients in the mountains and keep travelling to get the reimbursements”. “If people spend on travelling to reach us, they will never be able to afford the credit”, AMOS President added pointing to the heavy transportation and personnel efforts’ costs. In addition, the association bears heavy rental costs of its 15 regional offices. However, AMOS has a small personnel expense ratio representing 10.45% over the association’s total assets in 2003.

Table 8: Result of Ratio Analysis (2003)

	2003
Operational Self-Sufficiency	106,59%
Financial Self-Sufficiency	106,17%
Portfolio at risk (PAR)	0,81
Monthly Nominal Interest Rate	2,20%
Personnel Expense Ratio	10,45%
Cost Per Borrower	308,27
Active borrowers/ Number of Personnel	204,04

Cost per Borrower:

AMOS spent 308.27 Dhs per borrower in 2003. Since the number of clients increased to 5138 borrowers in 2004, the cost per borrower is expected to diminish in case the operating expenses decrease.

Active Borrowers / Number of Personnel:

This ratio represents the level of clients each employee is responsible for. In 2003, every employee dealt with 204 clients approximately. While the number of borrowers increased to 5138 clients in 2004, the number of personnel decreased to 22 employees (instead of 23 in 2003) making each employee deal with a greater number of clients (234).

V. IMPACT:

A. Impact of Microcredit on Women Income and Household Income by Extension:

To analyze the impact of Micro credit on the beneficiaries’ income, the revenue yield was used:

$$\text{Income Yield} = \frac{\text{revenues after microcredit} - \text{revenue before microcredit}}{\text{Monthly loans}}$$

The aim behind this is to account for the impact of the amount of loans on the monthly revenues generated after microcredit. Indeed, the research has revealed that 64% of the sample managed to improve their incomes after microcredit as opposed to the remaining 36% whose financial yields have not really been enhanced. The reasons behind this lack of improvement can be explained following three categories:

- The first category whose revenues after microcredit are hardly superior to their incomes before they were granted the loans encompasses 4% of the sample, even though these women benefited from important loan amounts.

Example 1:

Client: 40 years old woman, 6 children,

Activity: craftwork and livestock breeding,

Revenues before MC: 600.00 Dhs,

Revenues after MC: 800.00 Dhs,

Total amount of microcredit: 5500.00 Dhs (458.33 Dhs every month),

Income Yield: $(800 - 600) / 458.33 = 0.44$.

This low yield is due to the fact that the woman didn't inject all the credits in her activities. Besides, she used a portion of these loans to alleviate her children's school expenses and those of her disabled daughter. Also, the loans enabled her to improve her family's staple diet and allowed them to pay for transportation. So, the woman used part of the instalments as a social compensation to the economic benefits she could have earned if she had injected the total loan instalments in her activities.

- The second category includes women whose revenues after microcredit are lower than their income before they obtained the loans. This group includes 12 women representing 14.67% of the sample three of whom had income-generating activities before microcredit, yet ceased them for several reasons.

Example 2:

Client: 52-year-old widow, 6 children,

Total amount of loans: 13 500.00 Dhs in four years (281.25 Dhs/ month),

Retirement pension: 1373.00 Dhs,

Activity before MC: Craftwork,

Revenues before MC: 200.00 Dhs per month,

Revenues after MC: 0.00 Dhs,

Income Yield = - 0.71

This negative yield is due to the fact that this woman used the loan instalments for other purposes: paid her children's school fees and other expenses, build her household's staircase and tiled the whole place, paid for the installation of water and improved her family's food consumption.

Although these credit amounts have not been reflected on the other women's revenues, they have been used to enhance their relatives' income, which is a contribution to the improvement of the whole household's revenues. This represents a social compensation.

Other major reasons for this negative yield can be the small loan amounts the woman chooses to borrow, the seasonal nature of her activity, multiple indebtedness and the reduction of the purchasing power caused by the bad agricultural year.

- The third category represents women whose revenues after microcredit remain unchanged (17.33% of the sample). These women have not been able to raise their incomes after microcredit. The reason behind this inefficient financial performance results from the use of the loan instalments for other purposes than the development of the woman's activity (for husband's activity, water installation fees or house building). Although these women do not have any revenues of their own, they have compensated this financial loss with the overall benefit of the whole family socially and economically.

To test the relationship between women's revenues and the total household revenues in the sample, the following variables have been used in the regression analysis that is presented below.

- Dependent variable: household monthly revenues.
- Variable 1: Women's monthly revenues.

The following table encompasses the regression analysis results of the above variables:

Table 9: Impact of the Women's Income on the Household Revenues

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0,688406729							
R Square	0,473903824							
Adjusted R Square	0,466697027							
Standard Error	2,189740571							
Observations	75							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	315,3067	315,31	65,7579	8,7824E-12			
Residual	73	350,0324	4,795					
Total	74	665,3391						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	1,528506509	0,38381	3,9825	0,00016	0,76357418	2,2934	0,764	2,2934
Women's revenues (1000 Dhs)	1,481624695	0,182711	8,1091	8,8 ^E -12	1,11748258	1,8458	1,117	1,8458

The above results are represented in table 10 and equation 1 below:

Table 10: Regression Results 1

	R²	Intercept	Women Revenues
Household Revenues	0.47	1.53 t-stat: 3.98	1.48 t-stat: 8.11

Equation 1: $Household\ Revenues = 1.53 + 1.48 * (Women\ Revenues)$

These results demonstrate that women revenues have an impact on the household income: Any increase or decrease of women revenues by 1 unit results in an increase or decrease of the household income by 1.48. This analysis shows the existence of acceptable relationships between the women and household revenues.

To link the revenues after microcredit to the number of loans requested by women and the revenues generated after microcredit, a regression analysis is done with the following variables:

- Dependent Variable : Revenues after microcredit,
- Variable 1: Number of loans the microcredit members benefit from,
- Variable 2: Women’s revenues gained before contracting microcredit.

The outputs of these regressions are represented in Table 11 & 12 and Equation 2:

Table 11: Impact on the Revenues after Microcredit

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0,554364063							
R Square	0,307319515							
Adjusted R Square	0,28807839							
Standard Error	1,175516283							
Observations	75							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	2	44,14149	22,07	15,972	1,8163E-06			
Residual	72	99,49237	1,382					
Total	74	143,6339						
<i>Coefficients</i>								
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0,333150372	0,324171	1,028	0,30753	0,31307221	0,979	-0,313	0,9794
# of loans	0,193693022	0,090019	2,152	0,03478	0,014244	0,373	0,0142	0,3731
Rev. Before MC (1000 Dhs)	0,77331405	0,181854	4,252	6,3E-05	0,4107955	1,136	0,4108	1,1358

Table 12: Regression Results 2

	R ²	Intercept	Number of Loans (NL)	Revenues before Microcredit (RBMC)
Revenues after Microcredit (RAMC)	0.31	0.33 t-stat: 1.03	0.19 t-stat: 2.15	0.77 t-stat: 4.25

Equation 2: RAMC= 0.33 + 0.9 (NL) + 0.77 (RBMC)

These results mean that the revenues after microcredit are affected by the number of loans and the revenues before microcredit. Any increase or decrease of the number of loans by one unit leads to an increase or decrease in revenues after microcredit by 0.19. Any increase or decrease of the revenues before microcredit leads to an increase or decrease of the revenue after microcredit by 0.77.

The reimbursement rate of microcredits contracted by the sample's women is very high. For example, in 2004, it reached 99.86%. AMOS president stated that the association prefers to deal with women more than men because they are more serious in terms of repaying their debts. This high repayment rate demonstrates the indirect impact of micro loans on household income.

B. Impact of Microcredit on Assets:

1- Livestock, Land, Equipment, Jewelry and House:

It is of major importance to know if microcredit has an impact on the ability of women to invest in capital and in different fixed or movable assets, such as houses, land, equipment or livestock. Asset ownership plays an important part in strengthening people's business activities and providing immediate financings in moments of crisis or for reinvestment purposes. Therefore, asset ownership represents a kind of security against the unpredictable circumstances that may ruin the activity of the person who does not plan for potential activity hazards. Taking control over material assets does not only stand as an opaque shield against possible crises, but can also lead to the woman's empowerment. In order to exercise social power in the household, it is necessary for the women to have asset ownership.

Within the sample of 75 women, 31% of them have been able to make an investment. 56% of women owning assets invested in livestock, 13.04% invested in land and another 13.04% in jewelry. People who bought houses represent a rate of 8.70 %, and those who purchased equipment, such as sewing machines, stand for 8.70% as well (Table 13).

Table 13: Beneficiaries Investment after Microcredit

Investments	% of Owners
Jewelry	13.04%
Equipment	8.70%
House	8.70%
Livestock	56.52%
Land	13.04%

Knowing that investment requires extra capital and cumulating extra revenue that the person wouldn't use but rather save until assembling the sum of money necessary for the purchase of an estate, we realize that only few people of this sample have the potential to save and invest. This unveils the reality that most of AMOS members hardly manage to make ends meet, let alone save money for future investment. Assuming the difficulty of saving among this sample and the small potential of these people to invest, we wonder who these people who have been able to invest are. Most of the people who have invested in this sample are those who had pre-established activities before they opted for microcredit (Table 14).

Table 14: Investments of Women with Pre-established Vs. Newly Established Activities

Investments	Pre-established	Newly Established
None	60.00%	10.67%
Jewelry	4.00%	0.00%
Equipment	2.67%	0.00%
House	2.67%	0.00%
Livestock	14.67%	2.67%
Land	1.33%	2,67%

2- Media, New technologies, Electricity, Water and Energy:

The objective is also to investigate to what extent microcredit has allowed its beneficiaries to improve their access to media and new technologies.

28% of the interviewees have been able to afford buying a TV and also sometimes a radio or a tape recorder after they started being granted the association's instalments. In attempt to link these new acquisitions to revenue, the investigation has shown that people who can have **access to media**, have incomes that vary between 1000.00 Dhs and 3000.00 Dhs. Therefore, accessory needs such as TV or radio can only be purchased by people who can afford them. To illustrate this argument, we need to stress the astoundingly different rates of use of media between the people whose income is below 1000.00 Dhs and those who have higher revenues. While the former have a rate of accessibility of 13%, the latter reach 36% up to 50%. One can therefore advance that microcredit has, to some extent, contributed to allowing its members further ease of access to media (Table 15).

Other than media, microcredit influences the **access to new technologies**, such as computers, internet, printers, satellite dishes, compact disk players (DVDs), videos, mobile phones and others. The analysis revealed that 38.67% of the sample did indeed acquire some of these new technologies, namely those related to entertainment. Only those whose revenues are beyond 1000.00 Dhs have bigger access to these new technologies (55.56% and 75%). In fact, the more revenue grows the more interest in the new technologies rises.

Among the primary conditions to decent life is the availability of **water, electricity and energy** in the household. Most women belonging to the sample live in rural districts where water and electricity supplies are not always available, either because

the local authorities have supplied only part of the district or because the interviewee in question has not yet been able to afford them. The rate of people who managed to have access to water thanks to microcredit is of 10.67% and those who supplied themselves with electricity are of 14.67%. As to those who used energy, they represent 8% of the sample.

Relating these supplies with the interviewees' revenues reveals that those with bigger revenues have been able to supply themselves with these facilities more than those with lower incomes (Table 15). If among the higher revenue categories we found out a lower rate of accessibility to water, it is due to the fact that many households had access to water and electricity before microcredit.

Table 15: Access to Facilities after Microcredit

Income (Dhs / Month)	Media	New Technologies	Water	Electricity	Energy
Less than 1000	12,90%	9,68%	12,90%	9,68%	3,23%
1000 to 3000	36,11%	55,56%	11,11%	16,67%	8,33%
3000 and more	50,00%	75,00%	0,00%	25,00%	25,00%

* The percentages represent the rate of women having access to the facility among those belonging to a certain income margin.

C. Impact of Microcredit on Education:

1- Education Level of Household Heads, Adults and Children:

The purpose is to demonstrate the importance of the parents' education in promoting the household incomes. In other words, the more the parents are educated, the more they will gain better revenues. Moreover, the more the parents are educated, the more their household members will benefit from longer years of schooling and hence better chances of employment and better salaries.

In comparing the revenues of women who are illiterate with those who are literate, there is no big revenue difference. The literates trespass the illiterates only with 80.00 Dhs per month. This closeness in revenue is caused by closeness in education. Representing only 38% of the whole sample, 62% of these literate women halted their education at the primary school level, 10% have the secondary school level and 27% took an average of four months of literacy courses. Hence, one may say that the criterion of literacy here is not at all significant, for the level of education of the literate women remains very low.

To test the impact of the level of education of parents or heads of the household on the household revenues, a comparison between literate and illiterate household heads' income has been made. Families, whose heads are literate, gain average monthly revenue of 4249.96 Dhs while families whose heads are illiterate gain a monthly income of 3656.31 Dhs (Table 16).

Table 16: Comparison between Revenues of Literate and Illiterate Family Heads

Family Heads	Illiterate	Literate
Average Revenues	3656,31	4249,96
% of cases in the sample	64,00%	36,00%

Within the sample, the number of adults is 254 among 441 household members. 48% of these adults are literate. However, the education level in the household is represented in Table 17:

Table 17: Level of Education in the Sample's Households

Level of Education (Household)	Number of individuals	% of individuals at each level	% literacy
Illiterate	172	39,00%	39,00%
Below Age of School	39	8,84%	61,00%
Primary School	181	41,04%	
Secondary School	32	7,26%	
University	9	2,04%	
Literacy Courses	8	1,81%	

2- Total Amount of Loans' Relationship with the Educational Level of Household and Revenues after Microcredit:

This relationship is tested using a regression analysis on the following variables:

- Dependent variable: household monthly revenues.
- Variable 1: the expected revenue after microcredit.
- Variable 2: the average level of education in the household. It represents the average years of schooling of each member of the family.

The outputs of these regressions are shown in Table 18 & 19 and Equation 3:

Table 18: Impact of Expected Revenues and Education Level on Loan Amounts

SUMMARY OUTPUT							
<i>Regression Statistics</i>							
Multiple R	0,50703888						
R Square	0,25708843						
Adjusted R Square	0,236452						
Standard Error	3,71347552						
Observations	75						
ANOVA							

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	2	343,5888	171,794	12,458	2,25806 ^E -05			
Residual	72	992,8728	13,7899					
Total	74	1336,462						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	3,32529292	0,828854	4,01191	0,00015	1,67300179	4,9776	1,673	4,9776
Revenues After MC (1000 Dhs)	1,30954777	0,31042	4,21864	7,1E-05	0,690737411	1,9284	0,6907	1,9284
Avg. Level of education in Household	0,3639155	0,150833	2,4127	0,01838	0,063235303	0,6646	0,0632	0,6646

Table 19: Impact on the total amounts of loans

	R²	Intercept	Expected Revenues after Microcredit (Exp. RAMC)	Average Level of Education in the Household (Avg. LEH)
Total Amount of Loans	0.26	3.32 t-stat: 4.01	0.7 t-stat: 4.21	0.06 t-stat: 2.41

Equation 3: Total Amount of Loans = 3.32 + 0.7 (Exp. RAMC) + 0.06 (Avg. LEH)

These results mean that the total amount of loans is affected by the expected revenue after microcredit and the level of education in the household. Any increase or decrease of the expected revenue after microcredit by one unit leads to an increase or decrease in the total amounts of loans by 0.7 units. Moreover, any increase or decrease of the level of education in the household by 1 unit leads to an increase or decrease in the total amounts of loans by 6%.

D. Impact on Local Community Development:

The first and primary condition to credit eligibility is forming into a 'solidarity group' whose members act as guarantors for each other. That is, the beneficiaries have to constitute a group of at least 4 to 8 people who are required to reimburse each others' instalment in case of the default one of their peers. This experience does not only create a moral obligation to honour the reimbursement amounts but also creates a feeling of belonging to a community with common interests and objectives, among the group of borrowers.

One of the main objectives of AMOS is to provide non-financial services to its beneficiaries, such as technical assistance and counselling. Besides, the association's vision is to stress interest in local development issues among the local community. In fact imprisoned by the heavy shackles of poverty, illiteracy and

unemployment, the rural women of Khénifra have no alternative to investment but microcredit.

In addition, before the promulgation of the 2000 law (following the Dahir n°1-99-16 of Chaoual 18th, 1419 supporting the promulgation of the law n°18-97 relating to microcredit) that limited the microfinance institutions to microcredit activities only, there was the Oued Srou association that dealt with the microcredit and the social aspects. This latter association was divided to two independent associations:

1. The Oued Srou Association for Development, Environment and Cooperation (AOS) and,
2. The Oued Srou Association for Microcredit (AMOS)^v.

So, the Oued Srou Association for Development, Environment and Cooperation organizes itself around five main axes: basic education, sanitary education, economic promotion, natural resource preservation and local association training. To promote child schooling namely among girls who suffer from a high rate of illiteracy, the Oued Srou Association improved the laying out of 25 local schools, by building the surrounding school walls, building boys and girls restrooms, and planting grass and trees inside the schools. This makes the place more convenient and encourages parents to send their girls to school, which most of them refused to do because of lack of toilets. The association also distributed 15 000 school bags filled with primary school furniture to encourage families to send their children to school. With the collaboration of the “Committee for Schooling Support” in Rabat, an Italian NGO for development of emerging countries “COSPE” and a foodstuff bank in Casablanca, three accommodation centres for girls have been built and thoroughly equipped to receive 24 girls each. Everything these girls need is taken in charge by AOS: food, lodging, books, and even remedial courses. Beside these efforts, the association provides environmental trainings to school professors who, on their turn, deliver courses and organise extra-school environmental activities. During the years 1999, 2000, and 2001, functional literacy courses were offered to 35 women classes. The course curriculum was based on providing literacy courses and getting women familiar with some legal principles such as their rights and duties, and teaching them calculation. However, only one class is made available since 2002.

Since 1997, this association provides courses in health awareness to women who benefit from literacy programmes. The association has one person in charge of prostitute accompaniment to warn them against the dangers of contracting the aids illness. Courses on sexuality and sexual protection are also provided to high-school girls and boys in the form of “peer educators”. That is, only a small group of high-school children are trained and made responsible for dispersing sex-related information to their peers. AOS has a centre of counselling and orientation since 1997 in charge of providing sex-related information and even distributing condoms and contraceptives. The association is planning to create a listening centre for assaulted women.

To promote the economic insertion of Khénifra population, AOS, with the financial support of Co-operation for the Development of Emerging Countries (COSPE), has created a communication office that is in charge of providing technical information

^v AMOS obtained the permission to exercise on March 31st, 2000 by the Ministry of Economy and Finance, n°515-00, published in the official bulletin of May 4th, 2000, n° 4792.

and training to young entrepreneurs or people who express interest in starting their own businesses. 120 people have benefited from these training programs. But, this programme has come to an end as soon as the contract period with COSPE was over. Similar to other development projects financed by development partners, none of them is pursued due to financial constraints. Another travelling sewing centre was also created with the financial assistance of COSPE. This centre used to spend three months per village at the end of which it delivers sewing diplomas to women (in embroidery, designing, etc).

In collaboration with other national and international partners, AOS provides training programmes to other local associations. Trainings in participative approaches and constructive management of conflicts are also provided by AOS for local association trainers. This institution has also participated in several seminars and round tables with other national and international partners.

Other efforts are made by this association to create income-generating activities and preserve the natural resources and biodiversity of the region. In fact, an experimental project has been launched in Ait Ali Ou Assou village to encourage sustainable management of the natural resources of this area. AOS engaged several local families in the apple tree growing business by financing 50% of these projects and providing technical training in this field.

To enhance the value of the local culture, the AOS with the collaboration of COSPE is building an eco-museum where it intends to open a centre of documentation and expose the local craft work. The association has also distributed a number of tapes with Berber songs sensitising people as to the importance of literary and spurring them to be environment friendly. AOS and AMOS share few social activities such as reserving 100 000.00 Dhs to fighting little girls work. These two interdependent associations provide loans to mothers free of interest rates to encourage them to start income-generating activities that would improve their revenues and hence allow them to send their girls to school rather than to work.

E. Women's Empowerment:

The gender-based impact of microcredit needs also to be exposed to demonstrate the improvement of women's control over loans and their bargaining position after access to microcredit. Being members of 'solidarity groups' who form prior to benefiting from the loans, the microcredit beneficiaries manage to not only empower themselves financially but also socially. In other words, microcredit has both direct and indirect impacts on its users. For the direct impacts, they are financial in the sense that women manage to start their own income generating activities or promote their pre-established enterprises, which most often enables them to become financially autonomous.

As to the indirect impacts of microcredit, they are non-financial and related to all the benefits that are generated by the improvement of the financial situation of the woman. These indirect impacts could be related to the improvement of their social status indoors and outdoors. This social empowerment is engendered by women's behavioural changes, which occur as a result of 'the transfer of new knowledge and

skills, and the development of solidarity among women involved in income-generating projects. The personal empowerment of microcredit beneficiaries is hence 'defined as the ability of women to make decisions in various project activities' (Maimunah Ismail, 2001). Women's empowerment is also embodied by the enhancement of their participation in decision making in the household. This empowerment is tested among the present sample of women by assessing their rate of freedom in the household.

The majority of AMOS's loan contractors are women (98.01%). In the sample of 75 women, 82.67% of them get an effective control of their loan use. So, these women inject their loan instalments in their personal activities while the other 17.33% of women don't exercise control over loan use. They, instead, give their loan amounts to husbands, male children or other relatives (Table 20).

Table 20: Rate of Women Related to the Kind of Projects using Microcredit

Microcredit used for Projects related to	Number of women	Percentage of women
Women themselves	62	82,67%
Husbands	9	12,00%
Family	2	2,67%
Children	2	2,67%

The analysis of the 75 women's responses resulted in the consideration of their freedom of activity or bargaining position before and after microcredit (Table 21). These results demonstrated that women got more freedom after their access to microcredit (MC) since the percentage of freedom after MC increased in relation with their freedom before MC except for the freedom to take literacy courses which stayed stagnant. Besides, the percentage of women who lacked freedom decreased in all cases. However, the percentage of women who decide mutually with their husbands or any other relative authority in the house didn't change much from before microcredit instalments.

Table 21: Women's Level of Freedom Before and After Microcredit

Freedom		Buy	Sell	Go Out/ Travel	Household Expenses	Savings	Contract the Loan	Decide about Meals	Decide about Equipment
Concerted	Before	28,00%	28,00%	41,33%	22,67%	14,67%	56,00%	9,33%	34,67%
	After	30,67%	30,67%	46,67%	28,00%	17,33%	56,00%	9,33%	34,67%
No	Before	28,00%	25,33%	28,00%	32,00%	28,00%	17,33%	13,33%	28,00%
	After	8,00%	6,67%	6,67%	10,67%	10,67%	9,33%	9,33%	13,33%
Yes	Before	44,00%	45,33%	30,67%	45,33%	57,33%	26,67%	77,33%	37,33%
	After	61,33%	61,33%	46,67%	61,33%	72,00%	34,67%	81,33%	52,00%

Freedom		Literacy Courses	Children's Schooling	Visit a Doctor	Socializing
Concerted	Before	8,00%	22,67%	32,00%	0,00%
	After	8,00%	22,67%	32,00%	0,00%
No	Before	78,67%	52,00%	28,00%	66,67%
	After	78,67%	42,67%	20,00%	12,00%
Yes	Before	13,33%	25,33%	40,00%	33,33%
	After	13,33%	34,67%	48,00%	88,00%

The presence of microcredit in these women's lives has tremendously decreased their submissiveness and empowered them in terms of taking decisions in the household. These results are very significant since they mean that without economic empowerment, women cannot challenge gender ideologies that have long been spinning their environment and hence restricting their social and economic performances to domestic chores. The above-mentioned findings suggest that the potential in empowering women lies in the enhancement of their economic situation and the alleviation of their poverty. These rates imply that loan institutions have contributed a great deal to enhancing women's bargaining position.

A sustainable rural development should not ignore the important role of women in promoting their families revenues. Women's role in sustainable rural development is also important as earners in the income-generating activities. Women's work has an important impact on reducing poverty, promoting their skills, opening up employment opportunities for women, and empowering them in terms of status, decision-making power and self-confidence. Women continue to strive as heads of families responsible for achieving economic as well as social needs. The above roles of women should be taken into account when formulating policies and programs towards sustainability in rural development.

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