

CASE STUDY

**BICYCLE PROJECT IN CHOCKWE,
MOZAMBIQUE**

**As Part of ITDG's Work on Gender and Access to More Efficient
Transport**

By:

Karen Overton, Institute for Transportation and Development Policy (ITDP)
Amelia Zambeze, National Mozambican Association for the Development of
Rural Women (AMRU)

Table of Contents

1.	PROJECT BACKGROUND.....	1
1.1	<i>Project Design</i>	1
1.2	<i>Project Site</i>	2
2.	RESEARCH METHODOLOGY.....	3
3.	TRANSPORT CHARACTERISTICS AND MODES OF TRAVEL.....	3
4.	GENDER AND TRANSPORT ACTIVITIES.....	4
5.	HOUSEHOLD CHARACTERISTICS AND TRANSPORT.....	5
6.	SELECTION PROCESS AND CREDIT PROGRAM.....	6
6.1	<i>Factors Affecting the Distribution of Bicycles</i>	6
7.	COMMUNITY PERCEPTIONS AND ATTITUDES ON TRANSPORT.....	8
8.	CHALLENGES IN THE BICYCLE PROJECT'S IMPLEMENTATION.....	9
9.	COSTS AND BENEFITS OF BICYCLE OWNERSHIP.....	11
10.	RECOMMENDATIONS FOR WOMEN TO BE INCLUDED AS PROJECT BENEFICIARIES.....	14
	GLOSSARY OF TERMS.....	15
	BIBLIOGRAPHY.....	15
	APPENDIX I.....	16

1. Project Background

The Projecto de Bicicletas (Bicycle Project) was conceived in 1992 by two non-governmental organizations (NGOs) based in Mozambique: the Institute for Transportation and Development Policy (ITDP) and the National Mozambican Association for the Development of Rural Women (AMRU). The project began after a representative from ITDP attended the inauguration of AMRU in which many women from the surrounding rural areas of Maputo came to describe their living conditions and present their ideas for community development. Among the issues they listed as priorities were, employment opportunities, land rights, and access to potable water, health care, education and transport. The idea of establishing a bicycle project to alleviate the transport burdens of rural women was discussed and approved by the members of this nascent NGO. The women felt that a bicycle was an appropriate and affordable means of transport that could alleviate the mundane tasks of rural Mozambican women who travel long distances to their small farm plots, and to fetch fuel and water for family consumption.

AMRU's founding responded to the Mozambican rural woman's position as one of the most disadvantaged groups in the country. Mozambique is one of the poorest countries in the world. The annual per capita income, calculated at US \$90 (UNICEF 1996, p. 90), hardly allows for a family to meet its basic needs. Destitution among women is particularly severe because they are the least educated and have very few employment opportunities in the formal sector. At home, the husband often controls family resources. Despite the woman's contribution to household maintenance and income, she is not likely to receive equal treatment in the distribution of household resources. In cases where women head the household, it is often because their husbands have migrated to the urban areas or South Africa in search of jobs. These women are left to support a large number of children by living off the land, pursuing whatever petty trade they have time for and the occasional remittance from the absent husband. Access to education and health care are limited or non-existent in rural areas for both men and women, and this reduces a rural woman's likelihood of improving her socio-economic status.

1.1 Project Design

To address the plight of Mozambican rural women, ITDP made a commitment to assist AMRU finance, design, and implement the Bicycle Project. This Project does not introduce a new technology into the villages. Rather, it makes an already accepted form of transport available to women. The Bicycle Project is designed to be sustainable. The key elements in project design are: provision of affordable, appropriate bicycles; a repair and maintenance facility to prolong the bicycle's life span; a credit scheme for women to make it an accessible technology, and; community support for the project. ITDP is responsible for the first element, and advises AMRU on the implementation of the other tasks.

The project design draws upon ITDP's experience implementing bicycle projects in Beira and other countries, and upon AMRU's experience managing credit programs in Maputo and Magude, and its good community relations in the rural areas of Chockwe. In 1995, ITDP secured the financing to purchase bicycles, spare parts, and tools to set up

Case study of Bicycle project in Mozambique

a bike shop. The two organizations decided that it was more cost effective to send used American bicycles than to buy the low quality, locally assembled bicycles¹. ITDP entered into partnership with Pedals for Progress (PfP), a New Jersey based not-for-profit organization whose mission is to recycle bicycles and send them to developing countries. PfP supplies the project with 375 used bicycles/shipment at a cost of \$5/bike to cover the administrative expenses. ITDP also arranged for the donation of free shipping through the U.S. government's Office for Humanitarian and Refugee Affairs. In the fall of 1995, ITDP sent two containers of bicycles and related material to Mozambique. It took three months to clear this material from customs, at which time a bicycle shop was established in Matola suburb, located near to AMRU's headquarters in Maputo. AMRU hired two staff: a local woman as project coordinator and a mechanic who previously assembled bicycles for the Mozambican bicycle factory. The bike shop was operational by the beginning of February. Bicycles were refurbished and, by April, seventy were sent to the villages in the rural areas surrounding the city of Chockwe where AMRU has established projects. The bicycles destined for rural women are sold for 300,000 MT (meticaís where US\$1=12,100MT). Thirty bicycles were sold in the urban area for 500,000 MT. The extra income generated from these sales serve as a cross-subsidy that contributes towards the payment of transport from the Matola repair shop to Chockwe.

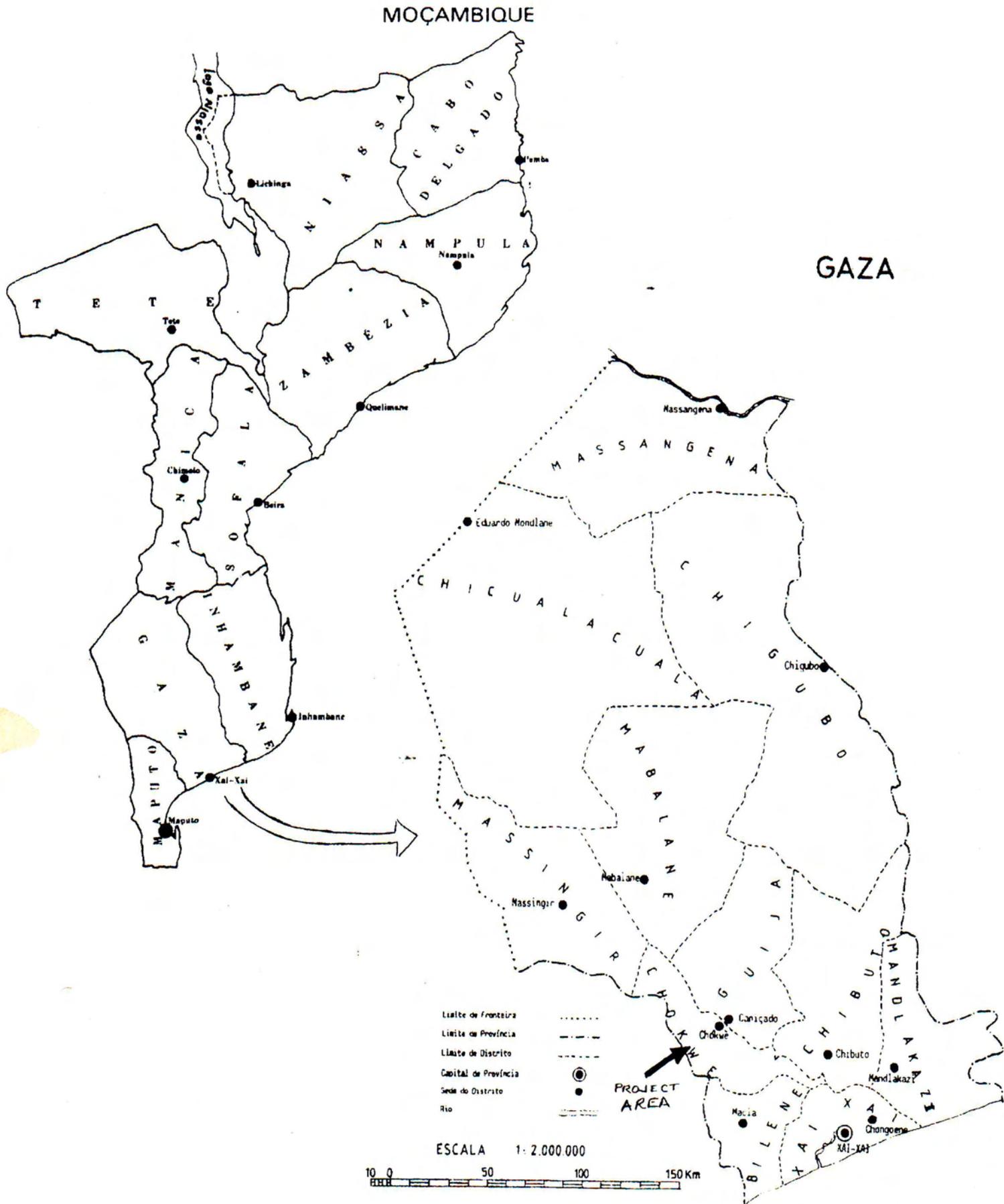
1.2 Project Site

Chockwe is a district of Gaza Province, located in the south of Mozambique. Chockwe is also the name of the district's principal city. It has a population of just under 11,000 and is the second largest city in the Gaza Province. The city's economy is based on its processing of agricultural produce and crops of rice, corn, and cotton. The land is flat and fertile, and Chockwe is often referred to as the "bread basket" of Mozambique. The majority of its residents live in huts, with little or no urban amenities, and rely on *chibolo* (work on the large landholding corporations like Lonhro and Lomaco), subsistence farming, and petty trade for their livelihood.

AMRU has implemented projects in four villages located within the administrative post of Machinho. These villages, with approximately 12,000 total inhabitants, lie 30 km to 45 km northwest of Chockwe. Here, AMRU has adopted an integrated approach to development. In conjunction with CEAR, a Spanish donor, AMRU has built two schools, drilled water holes, installed pit latrines throughout the villages, and initiated a goat and bee-keeping project to generate income for women. In 1996, AMRU introduced the Bicycle Project as a way to address the lack of transport in the villages of 25 de Setembro, Djodjo, Machinho, and Machua.

¹ A breakdown of costs shows that ITDP spent \$26 per bicycle in the USA and that AMRU spent \$19 per bicycle giving a total of \$46 per bicycle. These costs also include the establishment of a bicycle shop in Matola and a donation of tools and spare parts. The lowest price of a bicycle on the Mozambican market is \$70, not including the transport of bicycles to Gaza province nor the costs of establishing a bicycle shop.

Map of Mozambique and Gaza Province



2. Research Methodology

This study is based on ITDP and AMRU experience with and documentation of the Bicycle Project's implementation, an evaluation that was based on interviews with project recipients and focus groups in the community, and relevant academic studies. The project documents provide the details of project implementation described in this study. Experiences related by ITDP and AMRU staff are also incorporated into the study. The project evaluation was based on a field visit to the four villages by ITDP Project Director and AMRU's National Coordinator and Rural Extension Worker. This visit occurred four months after the first project bicycles were distributed, so shortly after project implementation started. During the evaluation, 9 of 67 women, and 1 of 3 men, who received bicycles were interviewed (See Appendix I). Additionally, focus groups were held with 47 women who expressed an interest in acquiring a bicycle through the project, and village elders were asked for their input on the project design.

3. Transport Characteristics and Modes of Travel

The road from Chockwe city to these villages is in very poor condition. The road runs northwest of Chockwe. It is raised above the agricultural fields, and paved for the first 15 kilometers. However it is full of potholes and many motorists opt to drive on a dirt road alongside the paved surface, in an attempt to save their vehicle from damage caused by such rugged conditions. The dirt road is in only slightly better condition than the paved road. When motorists chose this alternative they infringe upon space used by non-motorized vehicles and pedestrians. During the rainy season, both routes are often impassable. The paved road becomes dirt once it passes Barragem, which marks the last major settlement and the end of corporate farm land. From this point onward, the road is a two-track path with no drainage, and the government will not maintain it. During the dry season, the dirt road is passable by truck, but not by car. Once the rainy season begins, only those with a four wheel drive dare to attempt it.

A survey within the villages shows that residents, for the most part, walk to their local destinations. For those who go beyond the village boundaries, the alternatives to walking are the *chapa-cem* (mini-bus or pick-up truck that carries 15 or more people), a chance lift from a government or development worker, a bicycle, or ox cart.

The two motorized transport options do not meet the community's transport needs. The *chapa-cems* are privately operated and run four times a day between the villages and Chockwe. Their schedule limits travel as they pass through the villages between 7 A.M. and 5 P.M. They do not run on time, however, two operate in the morning and two in the afternoon when the weather is good. Most of the people interviewed said the *chapa-cem* was too expensive. A round trip fare to Chockwe costs 30,000 MT (US \$1 = 12,100 MT), and to the hospital 20,000 MT. The cost prohibits most travel by motor vehicle. A few people commented that they hitchhiked with government and development workers whenever the opportunity arises. However, this is an unreliable mode of transport and the opportunities are rare.

The two non-motorized transport options were viewed in much more favorable terms. The ox carts are used to transport heavy cargo; primarily wood for fuel and construction, and hay for livestock. They are also used in an emergency to take someone to the

hospital. Several people commented that this was also expensive. An average load-carrying trip to the source of wood and reeds cost 45,000 MT. Owners of ox carts do not run a service into town. However, when they travel to town, they sometimes offer to give people a lift.

Bicycles are very popular both in the villages and in the city of Chockwe. The environment is conducive to cycling: it is flat, the weather is generally pleasant, and there are few menacing motor vehicles due to poor road conditions. The bicycle is the only affordable mode of transport available to the villagers, and even this expense represents a sacrifice. The local price range starts from 800,000 MT for an Indian single speed to 1,300,000 MT for a mountain bike assembled by the *Fabrica de Bicicletas de Mocambique*. Mozambicans returning from the South African mines bring mountain bikes with them as well. People said that the bicycle's popularity is due to the independence and convenience that it offers: the cyclist can determine where and when to go, and the bicycle "reduces the long distances". Some people pointed out that the bicycle is easy to maintain, and does not require constant refueling.

4. Gender and Transport Activities

Where and when people travel is often determined by the roles each family member plays at home. Women are responsible for the maintenance of the household. The typical morning tasks of a woman in rural Chockwe is to rise with the sun and fetch water, make breakfast, prepare the children for school, tend to the animals, and spend between 4 to 6 hours farming a small plot of land. The afternoon is spent doing household chores which include fetching more water and fuel, preparing food, doing laundry, and pursuing miscellaneous activities that will generate money in any "spare time". The women are responsible for childcare. Since many daily tasks require up to four hours walking to various destinations, a woman often carries a child on her back as well as headloads whatever else she needs to carry. A woman's role within the family is essentially that of a beast of burden. Young girls are expected to assist their mother with the household chores, childcare and farming. For the sake of family subsistence, many young girls are not allowed to go to school since it is considered a luxury to pay school fees while sacrificing this source of labor.

Men are responsible for generating a cash income, building the family huts, putting meat on the table, and participating in community politics. In Chockwe, the most financially rewarding job is a nine month contract to work in the mines of South Africa. However, men also migrate to Maputo to try their luck at finding a job, despite an unemployment rate over 50%. For those who stay behind in the rural villages, the most common possibilities for making money are: the cutting and selling fuelwood, thatch and poles (used in the construction of huts), or working as wage laborers on large farming estates. Men will farm cash crops, and will help to clear and plough the family's plot of land. They will hunt wild game or fish to provide the family with meat. They will also sit in the village discussing community affairs, many times doing so over a traditional alcoholic drink. Their transport patterns vary from those of women in that they do not travel to any specific destination on a daily basis. Nor do they have the burden of carrying children and heavy objects on their head. Nonetheless, men are more likely to utilize a bicycle or take a *chapa-cem*. Young boys are given the responsibility of herding the family's livestock. They are more likely to be sent to school than the girls.

Given the transport needs described above, it is ironic that women have little or no technology to alleviate the transport burden imposed by their many domestic chores. Recently, wheelbarrows have been introduced into the rural villages of Chockwe and are used by the women to fetch water. A common sight at the water pump is a group of women waiting to fill two or three 25 liter jugs to load into their wheelbarrow. Others, however, have only a jug that will be placed on their head to bring home. These latter women spend more time on this chore because they will have to make repeated trips to the pump and must endure weight on their heads which can lead to back and ankle injuries. The jugs are made from tin, plastic and dried gourds, few of which have covers. The cost of a wheelbarrow is 600,000 MT and is beyond the price range of many women. One person said that men returning from the mines bring wheelbarrows back as gifts to please their wives or to present to the parents of the woman they wish to marry.

5. Household Characteristics and Transport

The people of Chockwe are descendents of the Tsonga ethnic group. Their native language is Changana. The Tsonga family structure is patrilineal. This means that the father's line determines the family name and that it is the men who are able to inherit the family wealth. When a man marries, he must be able to offer the woman a small plot of land to farm, which is generally expected to be at least a half hectare. The wife moves in with the husband in his parents' family compound. Until she bears children, she must follow the orders of her mother-in-law. Once she bears her first child, the couple will move and start their own home.

Despite the fact that polygny was banned at the time of Mozambican independence, it is still prevalent in rural areas and in the northern region. *Lobolo*, or bride's wealth, is the manner in which two families arrange a marriage. A price is negotiated, in which the man pays to compensate the bride's parents for the cost of raising the daughter and the loss of her productive contribution to the household. *Lobolo* also symbolizes the bond formed between the two families. (Lardinois 1992 p. 12) Currently, *lobolo* costs up to 6,000,000 MT and may be paid in a variety of forms: cash, livestock, or manufactured goods. This price is very high by Mozambican standards, and it is not uncommon for men to default. Over the past two decades, *lobolo* has been influenced by government policy. Because of the official ban, the perception of *lobolo* has shifted from obligatory payment to "gift". In part, this contributes to the increasing default rate of *lobolo* payment among men offering marriage. It also contributes to an increasing number of rejected marital arrangements by young women who feel it is now their right to chose a husband.

A typical household in Gaza villages consists of a husband, two wives, and several offspring. In Gaza, men have up to five wives. Each wife has her own hut and is responsible for the subsistence of herself and her children. The huts are clustered or arranged in a circle to facilitate the sharing of work. The oldest wife has seniority and organizes the division of labor among the wives. Each wife cooks for her own children, and the husband samples the food of each. He sleeps with his wives on a rotating basis.

Patriarchy, polygyny and *lobolo* all work to the overall disempowerment of women. While the system of *lobolo* assures that a woman is married to a man who can offer her a plot of land to work and polygyny offers certain social and economic advantages such as sharing domestic chores and companionship, these benefits do not necessarily outweigh the disadvantages. If a woman is unhappy with her situation, whether it is because of her mother-in-law, husband or her co-wives, she has little recourse. It is difficult for a women to divorce, as she must repay the price of *lobolo*, which is extremely difficult if not impossible. Women have few options to marriage. They have little education, and therefore few employable skills. Given the limited opportunities for employment, the few qualified women are not likely to be employed because their role is seen to be played in the home.

6. Selection Process and Credit Program

The Bicycle Project sent 70 bicycles to Chockwe in April 1996. The selection process was managed by AMRU's rural extension worker, employed in Chokwe, who advised the *secretario da aldeia* (village government official elected by the community) of the villages of 25 de Setembro, Djodjo, Machinho, and Machua, that bicycles would soon become available for distribution to rural women in their villages. The two criteria applied in selecting participants were that candidates be female and were able to pay for the bicycle. The bicycles were sold, at AMRU's cost of 300,000 MT per bike. The price covers AMRU's expenditures on customs, local transport charges, and bicycle repair. It represents a substantial subsidy, since it is less than one half the price of the cheapest bicycle on the market.

The *secretarios da aldeia* were asked to prepare a list of women who were interested in purchasing a bicycle and capable of making two payments totalling the 300,000 MT. When the bicycles were delivered to Chockwe, the women who expressed interest were informed where and when they should appear to make the down payment of 150,000 MT. The bicycles were held in storage until the second payment was made, at which time they could ride their bicycle home.

Of the seventy Bicycle Projects participants, 67 were female. Forty percent of the women paid the full amount and immediately chose their bicycle to ride home. This was done on a first come, first serve basis for those who were on the sign up list. Sixty percent of the women paid the second installment within two months. Three bicycles were distributed to the *secretarios da aldeia*. These have not yet been paid for. The extension worker was confident that they would do so, however, AMRU and ITDP recognised the value in writing these payments off as a donation in recognition of their support for the project.

6.1 Factors Affecting the Distribution of Bicycles

The manner in which the project was announced affected the selection process. The *secretario da aldeia* was in a position to inform his male friends that their wives were eligible for a bicycle. Of the 10 women interviewed, 9 had a husband currently living in the village.

Case study of Bicycle project in Mozambique

The two criteria applied in the selection process, being female and able to pay, also influenced the distribution. Women with access to cash, whether they undertake income generating activities or have husbands willing to assist with the payment, are representative of the first group of beneficiaries.

A study on poverty in Mozambique concludes that most Mozambicans consider themselves poor. Two explanations are offered. First, a culture of dependency exists due to the government's reliance on international aid. This creates a competitive environment to attract aid, and gives communities and government officials the incentive to depict themselves as poor. Second, the devastation of two decades of war affected everyone: the social fabric and economic infrastructure was destroyed; and, non-partisan peasants were targeted as victims of the conflict - losing community members and property. A decade of drought exacerbated this situation. (Adam, Coimbra, Owen, 1995, p. 6)

In Gaza Province the measure of wealth is classified into four categories: the miserable, poor, neither rich nor poor, and rich. The miserable people are those who do nothing and whose subsistence relies on the generosity of others. The poor are those who do not have cattle, a brick house or car, and those who have a physical handicap. The people who are neither rich nor poor are those who own oxen, a plot of land larger than 400 square meters, are married to one or more wives, and have children, goats, chickens, and ducks. The rich people are those who earn a salary and own a brick house, a large amount of land to produce cash crops and cattle, a car, and an electric water pump. Wealth is also a function of power. (Document 16 p.10) The majority of people who fall within the category of rich are the men who worked in the South African mines and have accumulated money and consumer items.

Based on the interviews and focus groups held during the project evaluation, the women who acquired bicycles fall within the neither rich nor poor or rich classifications. Only one woman among the twelve interviewed was the sole wife of the household. All of the women had access to cash and were able to make the full payment within two months. All of the women had income-generating activities that contributed to the purchase of the bicycle. All but one, said that her husband was living at home in the village - meaning that they had a man around who could contribute to certain household activities. In a subsistence economy, this information indicates that the wealthier households in the community were the first to benefit.

The *secretarios da aldeia* announced the Bicycle Project and determined who was placed on the sign-up list. For this reason, it is highly probable that the first women to benefit were those married to men who belong to the communities' local government and tribal leadership. However, the benefits of the Bicycle Project extended beyond the wealthiest villagers because: there were initially more than enough bicycles to distribute among the rich; many of the neither poor nor rich and rich had already acquired an Indian, South African or Mozambican bicycle, and: the Bicycle Project's price of 300.000 MT is subsidized and puts a bicycle within the range of affordability for a greater number of villagers, and for female headed households.

7. Community Perceptions and Attitudes on Transport

The roles that each family member plays and how that translates into travel patterns is directly tied to perceptions of work. The general rule is that tasks done on behalf of the household's subsistence is considered women's and children's work, while the more lucrative money making activities and heavy domestic chores are considered men's work. This means that women are expected to toil on a daily basis. They sometimes take on additional activities that will generate a small amount of cash in order to pay for basic household items like soap, basic cooking items (oil and salt), clothing, and school supplies. Women listed bee-keeping, brewing, marketing excess agricultural produce and livestock, selling firewood or charcoal, weaving mats, and hiring out as farm hands once or twice a week as income generating activities. Commonly, the decision on how to spend this extra income is made by the woman herself. However, most women do not have much time to dedicate to these activities. Children are expected to contribute their unpaid labor. Girls will work on the small farm plots and assist with the household chores. Boys herd goats and cattle. Families are large as more children represent a greater number of helping hands at home. (Interviewed women had from between three to eight children, and there was an average of two wives per family)

The two major factors in determining whether a person walks or is able to take one of the alternatives are related to economics and health care. Income generating activities are valued more than domestic chores. When alternatives to walking are available, the person who generates cash for the household is given priority access to a bicycle or to money for the *chapa-cem*. Oxen are driven by male members of the family, and they are used for plowing the fields, hauling heavy loads such as hay for the livestock and wood to sell for hut construction and fuel, or taking trips into the city to buy provisions.

The husband typically has the ultimate authority to make family decisions, and has greater access to income generating opportunities. Therefore, he is generally the one who first benefits in the household regarding transport decisions. However, the husband does not generally travel on a daily basis so there is some flexibility in who may access a bicycle or *chapa-cem* within the household. When there is more than one wife, the first wife, who is generally the oldest woman, is the one who has the decision-making power over domestic decisions. All the women interviewed stated that the decision-making process about who would ride the bicycle was democratic and based on discussion among the wives. Interestingly enough, the one man interviewed did not hesitate to claim to make the final decision on who rides the bicycle.

Health care was viewed as an important factor that merits access to the bicycle or *chapa-cem*. There are no rural clinics in the villages, and the nearest hospital is located in Barragem, which is between 20 to 40 kilometers away depending on the village in question. If a person falls ill and has to be taken to the hospital, then a person would take a bicycle or *chapa-cem* if it is within their means to accompany the sick person to Barragem. If a small child is sick, then the mother is responsible for taking the trip. If it is an older child or wife, and the bicycle is the selected mode of transport, then the husband assumes this responsibility. If the husband falls ill and needs to be transported by bicycle, then another male family member will be asked to ride him on the cross bar or bike rack. It was clear that these villagers feel an acute need to resolve their lack of access to health care. When asked how AMRU could improve the Bicycle Project, the

Case study of Bicycle project in Mozambique

majority of people interviewed suggested that AMRU build a local health clinic so that they could avoid making this trip.

It is culturally acceptable for women to cycle in Chockwe. This is contrary to ITDP's experience in Beira, located in the central region of Mozambique, where women were discouraged and even intimidated from cycling. (Overton, 1996 p. 116.) When the villagers of Chockwe asked whether their husbands allowed them to cycle, the general reaction was of surprise and dismay that such behaviour might be forbidden. Two women separately offered, as proof, that it was their husbands who taught them how to ride. In fact, all of the women interviewed knew how to ride a bicycle prior to purchasing one. Many others said that they learned before the war, when bicycles were abundant. When men were asked if they accepted women riding bicycles, there were no objections. Several answered with, "But why should I mind?". The men understood the direct relationship between the women's productivity with access to a bicycle.

As one explanation for this cultural difference from other regions of Mozambique, it must be noted that a large number of men leave the villages to work in South African mines or in the capitol city. It has been estimated that, at any given time, between 40% to 60% of the families are headed by women. The men are often absent for extended periods of time, and the women have no alternative but to act as heads of the household and principal economic actors. It is interesting, nevertheless, that the women will say that their husbands are heads of the household regardless of their presence in the village.

A waiting list of over 47 women who wanted to purchase a bicycle was drawn up during the project evaluation. These women were asked about terms of credit. The majority responded that it was within their means to pay over a three month period. They suggested that given the price of 300,000 MT, it was possible to make one payment, but then they would have to "tighten their belts" and do without some basic goods. Only two of the 47 women said that they would need five or six months to make their payments. One woman was very anxious about missing out on the opportunity to buy a bicycle, and said she would pay cash immediately to guarantee one for herself.

8. Challenges in the Bicycle Project's Implementation

Prior ITDP experience in Beira, where the intended female beneficiaries were denied access to bicycles and, in one case beaten, alerted project designers to the potential problems associated with gender. To assure that women would truly benefit, several measures were taken. For ITDP, this meant that the partner organization selected had to be run by and dedicated to the empowerment of women. This assures that women are involved in the planning process, that implementation is less likely to be complicated by gender conflict, and that feedback from the beneficiaries is more likely to reflect and be sensitive to women's issues. In this regard, AMRU meets all the above criteria. It is directed by women, and the Bicycle Project coordinator and extension worker are female. The coordinator is being trained as a bike mechanic by the man hired as master mechanic. All of the women speak Changana, and are able to directly get feedback from the project beneficiaries.

AMRU works in many communities located in the provinces of Maputo, Gaza, and Manica. The organization chose to implement the Bicycle Project in a community that

Case study of Bicycle project in Mozambique

made a commitment to improving women's mobility. The factors AMRU employed to determine the project site are that it be located: in a rural area where bicycles are a popular form of transport; in the southern region of Mozambique where women are often in the position of being the head of the household, and; in a community where AMRU has strong ties with the leadership that has demonstrated its commitment to improving the lives of women.

ITDP provides the funds to acquire used bicycles from Pedals for Progress. AMRU and ITDP decided that donations of used bicycles are the best source because they are: affordable because of the low cost (US \$5/bike) and donated international shipping from the US Office for Humanitarian and Refugee Affairs; the bicycles are appropriate to the terrain, and; their repair will generate several jobs in Mozambique. Single and three speed bicycles are more durable in rough conditions, they are easy to repair, and because the terrain is flat in Chockwe. Tools and supplies were shipped along with the bicycles to start-up the repair facility. A bike shop in South Africa has been identified to serve as a regional supplier of spare parts, covering the items that are not sent in the ITDP shipments.

The greatest challenge faced in supplying bicycles to AMRU has been dealing with the issue of customs. Theoretically, a Mozambican NGO may apply for and receive a tax exemption on customs duties for donated goods. AMRU's first application was granted partial exemption from the Ministry of Planning and Finance. However, because AMRU failed to pay a bribe, the process was complicated and additional fees, totalling US \$10,000, were charged as a result of the delay in claiming the bicycles. With the assistance of the United States Embassy, AMRU removed the two containers of bicycles paying only the partial customs fee and the port's storage fee. The Ministry of Planning and Finance has denied AMRU exemption for the second shipment of bicycles. AMRU is in the process of appealing this decision, as a full customs payment will mean that the women will pay a higher price for the bicycle. If the appeal process fails, then AMRU will have to increase the cost per bicycle and extend the period of credit accordingly. Mozambican customs charge 30% of the value of goods being imported.

During the Bicycle Project evaluation, several women pointed out that the lack of spare parts and a good mechanic presented a problem to the project's sustainability. Currently, AMRU is establishing a local repair facility to ensure that the bicycles distributed to women in the community have a long life. Land for construction of a bike shop was donated by the village elders. The site chosen is located next to the elementary school in Djodjo. This decision was based on Djodjo's central location among the four villages benefitting from the project, and in recognition that the bike shop will be the second public building in the community. A small grant from the World Bank was obtained to construct a secure building in which future shipments of bicycles will be stored and repaired until the time the women make their final payments and where bikes owned by community members can be kept running in good shape.

The bike shop staff will be employed by AMRU. The Matola shop will be responsible for refurbishing bicycles before their arrival in Djodjo. The bike shop will be a monopoly in that there is no competition around but AMRU expects that being located in a rural village, the elders and the AMRU members will complain if they think they are being exploited by overcharging.

A bicycle parts supplier has been identified in Johannesburg who is willing to supply AMRU with parts that do not come with the ITDP shipment. In the next few years, ITDP will fundraise to continue sending bicycles to Mozambique. However, in the long term, it would be ideal if the shop accumulated the capital to become independent of ITDP and sell new bicycles and parts acquired from one of the bicycle industries based in Southern Africa. There are no plans for AMRU to hand over this project to a private operator as the potential income from this project is seen as a way to cross-subsidize other development projects in the villages.

9. Costs and Benefits of Bicycle Ownership

The bicycle is a status symbol in rural areas of Mozambique. It offers mobility where there are few alternatives, and provides an indication of a family's material wealth. When answering what benefits a bicycle brings to a household, one woman who aspires to own a bicycle responded by saying that the greatest benefit for her would be to have the villagers watch her ride by and know that they would now consider her important.

The majority of women who have already acquired a bicycle stated that the bicycle "reduced distances". This meant that the bicycle facilitated women's work: fetching fuel and water, preparing food, farming/harvesting, cleaning, and getting kids ready for school. For 40% of the women interviewed, the bicycle created a time savings and meant that they could go to sleep earlier. One woman said she doesn't feel as tired now that she rides a bicycle. Given the long, arduous workday of a Mozambican woman, this represents a considerable improvement in their quality of life.

All of the women earn some income. However, income generating opportunities are generally tied to the harvesting of crops that will either be sold as produce, or processed. Therefore, it was difficult for women to say how much they earn on a monthly basis as there are many variables involved. The range of income earned by women (8 of 10 offered an estimate) was between 45,000 MT to 700,000 MT. The average earned was 309,374 MT, slightly more than the cost of a project bicycle. Their economic activities included bee-keeping, mat weaving, selling charcoal and wood as fuel, brewing traditional alcoholic beverages, selling produce and livestock, and working as wage laborers on other peasants' farm plots.

The bicycle contributed to savings in 50% of the households. The range of the women's savings per month is from 5,000 MT to 150,000 MT, with an average of 41,500 MT/month. Assuming that a woman is able to dedicate all her savings toward the purchase of a bicycle, the average project bicycle will repay itself in less than 7 months.

The average annual cost of bicycle maintenance and repair is calculated at 10% the cost of the bicycle, or 30,000 MT/bike. This calculation is based on the cost of fixing six flat tires by a mechanic working in the informal sector (the most common repair) at 5,000 MT/flat tire. Since the distribution of project bicycles occurred only four months prior to the interviews, few people reported breakdowns aside from flat tires. The only other repair noted was a damaged rear wheel resulting from an accident. However, when they do occur, people are required to find their own spare parts in Chockwe and then pay for

Case study of Bicycle project in Mozambique

the mechanic's labor. Until the AMRU bike shop begins to operate, bicycle repair is a time consuming activity and often has to be postponed until the spare part is procured.

The ITDP specifications for bikes destined for AMRU are that they are single or three speed bicycles that are not missing any parts. Some of the bicycles sent (approximately 10) were cannibalized for their parts because the frames were damaged or rusty). Approximately two thirds of the bicycles donated from the USA have ladies' frames. Each type of frame has its advantage: men's frames have the advantage that a child may be carried on the top tube and are stronger for loadcarrying, while ladies' frames have the advantage that it is easier to ride in typical dress: a capulana or skirt. Male frames are probably in higher demand.

Given the cost of purchasing a bicycle and the cost of maintaining and repairing it, only the women who fall within the neither poor nor rich and rich category can purchase a bicycle. These are the women who have the spare time to dedicate to earning their own income which they determine how to spend. Or, it is the women who have supportive husbands, who earn an income and are willing to pay for the bicycle to help ease the burden of domestic chores. Based on the answers from the study on who rides the bicycle, men have the right to use the bicycle regardless of who buys it. Women are, in many respects, still considered property of the men and therefore must cede to their demands. However, men do not appear to use the bicycle on a regular basis, in which case the woman who buys it with her own money has a greater say in when she rides it. In the case where there are several wives and it is purchased by one wife, she has the right to decide who rides it amongst the other wives.

Relationships forged within the household determine intra-familial travel patterns. In households with several wives, the women claimed that a group decision was taken to determine who rides the bicycle. However, within the family structure, the husband followed by the senior wife has greatest authority. Several women, whose household had already purchased one bicycle, put their name on the waiting list. They were dissatisfied with sharing the bicycle - deferring to either their husband or other wives. Often wives travel together to their farming plots, and one woman said it would be preferable to bicycle together for the sake of companionship. In another case, a woman said she would buy the bicycle herself and would not be willing to share unless there were dramatic circumstances to convince her otherwise - indicating that there was conflict in the household. In yet another case with two wives in the household, the older woman had no desire to cycle and was happy to send the younger one on errands that required long trips.

The Bicycle Project promises to be sustainable. The source of bicycles is reliable as there is an abundance of used bicycles to be collected in the United States. The bicycles are affordable to the target group - women. Even with the potential increase in the price of a bicycle due to higher customs fees, the credit scheme can be modified to adjust for the increase in cost. As it is currently designed, the credit scheme functions with no default among its female participants. The single and three speed bicycles are appropriate to the rugged road conditions and flat terrain. Provisions are being made by AMRU to facilitate the maintenance and repair of bicycles for villagers. There are no cultural barriers prohibiting women to ride bicycles. However, the sustainability of this approach is reliant on the long term commitment made by both AMRU and ITDP to this

Case study of Bicycle project in Mozambique

project. ITDP is willing to supply AMRU with one container (approximately 350 bicycles) per year as long as it has access to the free shipping program.

Bicycles are an accepted mode of transport. The Bicycle Project seeks to make the purchase of bicycles more accessible and, in this way, dramatically increase the number of riders. This is achieved by offering bicycles into the community at an affordable price. As the number of bicycles increases per household, reducing intra-household conflict over who cycles, a greater number of women will be able to rely on bicycling as their everyday mode of transport.

RECOMMENDATIONS FOR WOMEN TO BE INCLUDED AS PROJECT BENEFICIARIES

To ensure that women benefit equally from a transport project, ITDP and AMRU recommend that the project must:

1. make this goal explicit;
2. be managed by an organization dedicated to women's issues that is run by women, or at least by an organization sympathetic to the issues;
3. include the participation of women who are the intended beneficiaries in the planning process;
4. educate community leaders, government officials, and husbands about its goals and obtain their support;
5. employ female staff to implement the project;
6. create a credit mechanism that allows for the participation of women, and explore the possibility of cross-subsidies that will benefit the poorer segment of the population;
7. create income-generating opportunities under the auspices of the project or in association with organizations that offer women opportunities in micro-enterprise development to enable project participants a way in which to repay their loans;
7. address the issue of maintenance and repair to ensure that the lack of service or fear of discrimination by service providers does not negatively affect the project goal;
8. address the issue of safe cycling (ie. offering a workshop on traffic laws, how to ride and how to maintain and do basic repairs);
9. monitor and evaluate the project on a regular basis to avoid conflict that could lead to domestic violence, and;
10. call upon the community to intervene as a mediator in cases that result in gender conflict.