Keio University
Graduate School of Media and Governance
Human Security and Communication-SD

Benedito Armando da Silva

Supervisor: Professor Lynn Thiesmeyer

Fieldwork report (2017/02/07)

Title: Social and economic factors in public health treatment issues in rural Mozambique- Access and adherence to HIV treatment: A case study of Chókwè district, Gaza province.

Background

Mozambique is one of the sub-Saharan African countries where the access to public health is still critical problem, especially for people living in rural areas where approximately seventy percent of the national population is concentrated (National Institute of Statistics, INE 2016). According to Ministry of Health of Mozambique, the national ratio of physician to population is 1/30,000 inhabitants against the recommended ratio of 1/1,000 inhabitants- WHO (World Health Organization).The ratio between population and health facilities is 22,000 inhabitants per each health facility.

On the other hand, according to Centers for Disease Control and Prevention (CDC), HIV/AIDS is the first main cause of deaths in Mozambique and it is contributing to increasing number of orphans and loss of human resources.

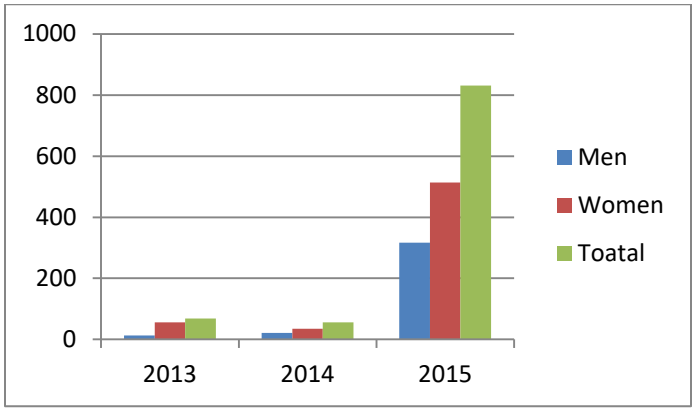
The INSIDA (National Survey of HIV/AIDS conducted in 2009) says Mozambique has one of the highest numbers of people living with HIV/AIDS in the world. 11.5 percent of its population is HIV positive. Within the country, Gaza province, located in the southern region of Mozambique has the highest HIV prevalence, 25.1 percent.

In addition to this, the number of AIDS-related deaths people abandoning HIV treatment, Antiretroviral Therapy (ART), has been increasing. The Provincial Public Department of Health had reported 1843 (1602 adults) AIDS-related in 2014 compared to 662 (571 adults) in 2013. In 2014, 2346 people (2156 adults) abandoned HIV treatment compared to 1391 (1244 adults) in 2013.

The Public Department of Health in Chokwe district had reported 56 abandonments of HIV treatment among adults over adults over 15 years old in 2014, and other 39 passed away due to AIDS-related diseases.

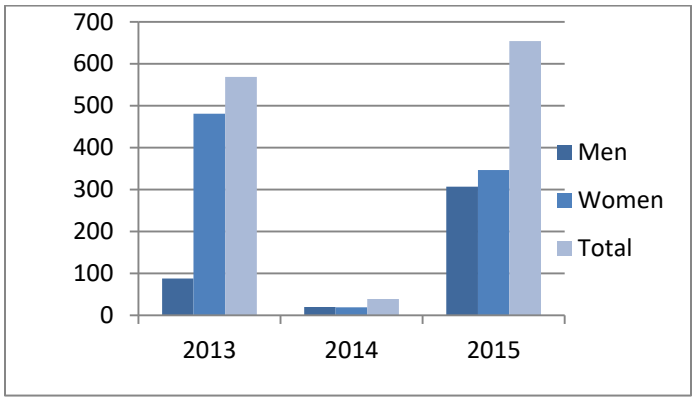
In 2015, the Public Department of Health reported 831 abandonments of HIV treatment among adults and 654 AIDS-related deaths.

Chart1. Number of adults who have abandoned HIV treatment in Chokwe district



Source: Public Department of Health of Chokwe District

Chart2. Number of AIDS-related deaths in Chokwe district



Source: Public Department of Health of Chokwe District

However, data collected from the focal-point of HIV/AIDS response in Chokwe district show different scenario within the same period. According to the focal point, 523 people had abandoned HIV treatment in 2014 and 214 other people died due to AIDS-related diseases.

The data are also different from the number of abandonment and AIDS-related deaths presented on August 19th, 2016, during the meeting of district commission of HIV/AIDS response in Chokwe that I have attended. According to the focal point of HIV/AIDS response in Chokwe, 585 people abandoned HIV treatment in 2015 and other 558 died duo AIDS-related diseases.

Difference in data may lead to poor understanding of the real number of people abandoning HIV treatment and others who have died due to HIV/AIDS.

Despite this situation, few studies and researches showing the specific factors behind the abandonment of HIV treatment in Gaza province and Chokwe district have been conducted and published, both at district and provincial level. This situation may lead to poor planning of activities and development of new strategies to improve the retention of patients in public health facilities and mitigate the social and economic impacts of AIDS among local communities, private sector and government institutions.

Problem statement

Despite the introduction of Antiretroviral Therapy (ART) in Mozambican Public Health System in order to suppress the viral load in HIV patients and protect their partners from HIV, still increasing the number of people abandoning HIV treatment and dying from AIDS in Chokwe district.

Research Objective

- ✓ To identify the social and economic factors behind the abandonment of HIV treatment in Chókwè district.

Research questions

- ✓ What are the social and economic factors affecting HIV treatment in Chokwe district?
- ✓ How does income of people living with HIV/AIDS affect their access and adherence to HIV treatment?

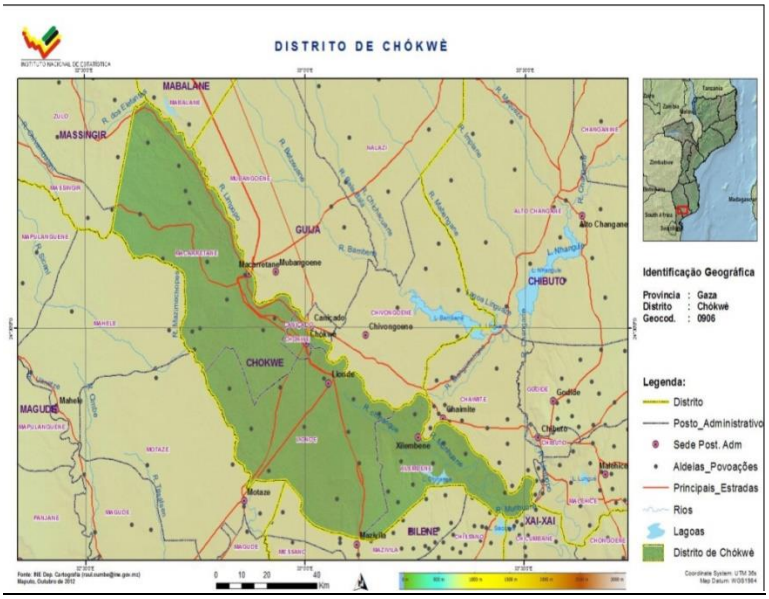
Hypotheses

- ✓ Does lack access to food affect the adherence to HIV treatment in Chokwe district?
- ✓ Does Community Antiretroviral Groups (CAG) improve the access and adherence to HIV treatment in Chokwe district?

Methodology

- ✓ Deductive method: from problem statement to observation (based on some reports and theories/studies)
- ✓ Grounded theory: inductive method (data collection and qualitative analysis)
- ✓ Interview (face to face)
- ✓ Meeting attendance
- ✓ Quantitative analysis

Research Location and population



Map of Chokwe district (National Institute of Statistics)

With an area of 2,443 km^2 (INE, 2013) Chokwe district is located about 230km north of Mozambique Capital City-Maputo and about 120km south of Gaza (province) Capital City- Xai-Xai.

It is crossed by Limpopo River (the main hydrographic resource of southern Mozambique) and its climate is Semi-arid and prone to cyclical drought and floods.

According to the National Institute of Statistics of Mozambique (INE, 2013), Chokwe has 196,671 of population. From this number, 55.7% is female. The density of the district was 80.5 in 2013.

The Chokwe HIV prevalence is about 27 percent (Public Department of Health of Chokwe).

The research was conducted in two administrative posts of Chokwe district: Administrative Post of Lionde located in southeast of Chokwe city (the capital of Chokwe-8km) and Administrative Post of Macarretane located in Northern part of the capital (25km).

The study was conducted from August 12 to August 26, 2016.

Respondents

The study involved fifty one (51) respondents.
From this number, 27 were People Living with HIV/AIDS (PLWHA) twelve (12) community health workers (volunteers assisting PLWHA), one (1) traditional healer, three (3) health workers, focal point of HIV/AIDS response in Chokwe district (1), three (3) pastors from different churches, four (4) relatives of PLWHA, two (2) respondents from Non-Governmental Organizations, and two (2) respondents: one from Public Department of Economic Activities and another from Public Hydraulic Company of Chokwe (HICEP).
In this study, people living with HIV/AIDS are considered main respondents, meaning that the main analysis will be around them.

Both in Lionde and Macarretane, people living with HIV/AIDS were identified by Community-Based Associations, traditionally known as Association of People Living with HIV/AIDS (but know these associations integrate other members, not only people living with HIV/AIDS) through community health workers (activists) who usually assist HIV positive patients in local communities.

The research included also Chokwe city since most of the respondents from the Administrative Post of Lionde were taking HIV treatment at Carmelo Hospital, located in the capital city, and also some institutions and NGOs were based in Chokwe city.

Ethical consideration and research approval

Before conducting the study, a formal request was submitted via email to the director of Provincial Public Department of Health in Gaza asking for permission and explaining the purpose of the research. After the request approval, a document allowing the study was issued on August 9, 2016 and signed by the director Provincial Public Department of Health in Gaza, Dr. Isaias Ramiro Manuel and later by the administrator of Chokwe district.

After the provincial level, another document allowing the research was issued at district level, signed by the director of Public Department of Health in Chokwe district.

On the other hand, people living with HIV/AIDS were asked for their consent through the community-based associations involved in the study (contacted by focal point of HIV/AIDS response in Chokwe district).

Before the interview, even after the consent given to the community-based associations, all respondents were explained about the goal of the research and asked if they would like to participate (freely) in the study or not.

All audiovisual materials involving the image or voice of people living with HIV/AIDS and their relatives or household members will be preserved and not published on any media or study.

In addition, all main respondents (people living with HIV/AIDS) involved in this study are identified by numbers, from one (1) to twenty-seven (27), as is shown in the annex.

Gender (sex) distribution of PLWHA

From the total number of people living with HIV/AIDS involved in the study (27), only four were men. It will be explained later on the following pages.

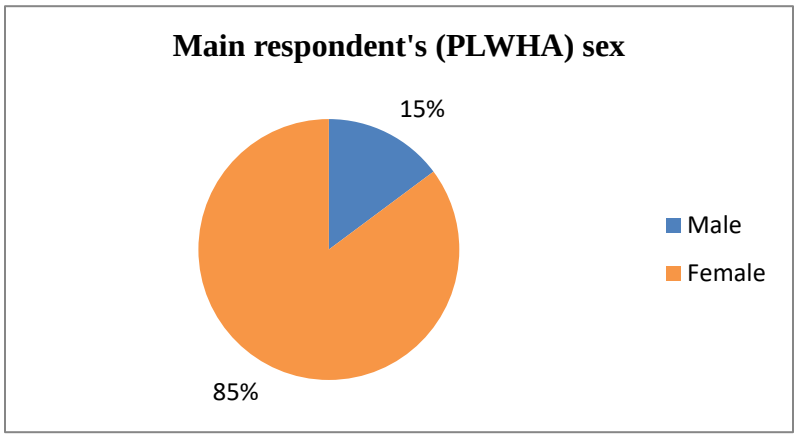


Chart 3. Percentage of female PLWHA and male PLWHA

FINDINGS

Social exclusion of people living with HIV and adherence to HIV treatment (Stigma and discrimination)

Studies from different countries have been associating stigma and discrimination of people living with HIV with the low access and adherence to HIV treatment.

A guidance document from Department for International Development (SFID, November 2007) shows how stigma and discrimination negatively affect HIV/AIDS response in the world, especially in developing countries and what actions can be taken in order to improve the prevention from HIV infection, and ensure better access and adherence to HIV treatment. The document defines stigma as "the beliefs and attitude that deeply discredit a person or group because of an association with HIV. This leads to discrimination-actions or omissions that harm or deny services or entitlements to stigmatized individuals", (DFID, pp2). According to DFID, "the consequences of stigma and discrimination, and often just the fear of these consequences, keep people from seeking HIV information, adopting preventive behavior, getting tested, disclosing their serostatus, and accessing treatment. In some cases, stigma prevents families from giving or accepting care. People living with HIV may not always take their drugs at the correct time or in the correct way, in order to conceal their positive status", (DFID, pp.2). The document

covers countries from different continents such as India, Tanzania, Zambia, Indonesia, Jamaica, South Africa, Botswana, Vietnam and some other countries.

A recent study conducted in Mozambique about the "Barriers to antiretroviral therapy in rural Mozambique" found also stigma related to HIV as one of the social factors that negatively affect HIV treatment. (Kate Groh, et al, pp.4).

In this study, stigma and discrimination associated with HIV positive status was not reported by patients from Chokwe district as big or main problem affecting HIV treatment or life of people living with HIV/AIDS, especially in Macarretane and Lionde Administrative Posts where the research was conducted (no one mentioned about it, neither in group meeting, nor individually). In general, this fact was associated with the activities promoted and headed by Community-Based Associations (traditionally known as Association of People Living with HIV/AIDS and "OCBs" in Portuguese) and some Non-Governmental Organizations (NGOs) working in the field of HIV/AIDS. The explanation from Apapurg Association, working and based in Macarretane since 2012, and Pfuneka Association working and based in Lionde since 2007, is that they (including some other associations and NGOs) usually promote several activities and programs, local community debates, and talk in local meetings about HIV/AIDS response, rights of people living with HIV/AIDS, the need of taking HIV treatment and living positively with HIV, take care of HIV positive patients in weak health condition, as well as how can HIV/AIDS become a problem of whole community if people continue ignoring it.

However, both associations have reported as one of their biggest challenges and difficulties, the involvement of significant number of men in such activities compared with women, which in some cases "*contributes to men's late initiation of HIV treatment*". Two factors were mentioned as some of the reasons behind this issue; one is related to male migration to South Africa and within Mozambique to seek job, and another was related to gender and social construction. Traditionally, Chokwe is known as one of the districts in Gaza province that provides significant number of Mozambican workers in South Africa. According to the "Strategic Plan of Development of Chokwe District-2010", a document from the Government of Chokwe District, significant number of men (youths and adults) annually migrates to South Africa to seek job in plantation, mining, and construction companies. (pp.9).

The Teba Development-Gaza Branch, a non-governmental organization recruiting miners from Gaza province to South Africa, and also involved in HIV/AIDS response, estimated that 2079 miners from Chokwe district were working in South Africa until August 2016.

The internal and external migration of men from Chokwe can be explained in different ways, such as level of education associated with access to formal job, household responsibilities, traditional and sociocultural characteristic of the district and the location of Gaza province, relatively near South Africa.

According to the "Strategic Plan of Development of Chokwe District-2010", Chokwe has "Changana" as the most predominant ethnic group, which is characterized by patrilineal system. In this group or system, man is traditionally considered the "breadwinner" and household head that has the duty and responsibility to control and support his "family", while woman or wife is responsible for agriculture and take care of home and children (housewife). This is the most predominant system in Gaza province and in Southern Mozambique.

Payment of bride-wealth (lobolo, in Portuguese) from man's family to woman's family for marriage can also be one of the reasons behind this movement (male migration), although without any previous study explaining this situation in Macarretane and Lionde.

Carlos Arnaldo found in his study conducted in Mozambique about "Ethnicity and Marriage Patterns in Mozambique" (African Population Studies, Vol.19, No.1, 2004, pp. 143-164) a correlation between payment of bride-wealth and late marriage of women, which in patrilineal system may force some men to migrate to Maputo city, the capital of Mozambique, and South Africa in order to gather resources to meet the cost of marriage.

The movement of men from Chokwe district to other places was considered by some community health workers as one of the reasons leading to low participation of men in local community meetings, which makes difficult to cover them by health campaigns.

On the other hand, masculinity and gender issues associated with social construction also appear as another reason that leads men to exclude themselves from such activities. A male community health worker from "Reprove Association" interviewed during the study said "*…men in Chokwe have many problems. Sometimes they know about these activities but they simply ignore it…You were lucky to find some (men) during your research"*.

"*They have a complex that such activities and contents are only for women. They prefer to sit among them and drink 'ngovo' (a local traditional alcoholic beverage) instead of participating in such meetings*"- stated a woman from the Foundation for Community Development (FDC), a non-governmental organization aimed to strengthen the capacity of disadvantaged communities to combat poverty and promote social justice in Mozambique.

As mentioned before in this study, from the 27 people taking HIV treatment interviewed during the research, only four respondents were men (three from Macarretane and one from Lionde).

The absence of stigma and discrimination as one of the main barriers to access and adherence to HIV treatment in rural Chokwe (Lionde and Macarretane) can be also explained by the fact that, in Macarretane, for example, many respondents are neighbors from each other and they have assumed to deal with almost the "same issue" in their community (HIV/AIDS). One of the respondents said during the meeting I had with some of the people assisted by Apapurg Association that "*it (stigma and discrimination) is not a problem for us because we know each other"*- stated a woman before starting the individual interview. Another male respondent said

that they (people in his community) are always helping each other and "*we don't see stigma and discrimination as big problem…it was in the past, but now isn't"*.

These answers were commonly repeated by others, especially when I asked them the permission to have individual interview.

One more respondent said "*…even if you don't mind, we can have the interview here and all together…I don't see any problem"*.

Despite this result, it was found that none of the respondents from Lionde said take HIV treatment at Lionde Health Centre-the nearest health centre providing HIV treatment. They are taking treatment in Chokwe city, which is approximately located 8km from Lionde and has the two biggest hospitals of the district, Carmelo Hospital and "Health Centre Chokwe City". The common explanation was associated with first consultation (the health centre where they started the treatment or got the HIV positive result) and also the availability and easy access to additional medicine for other diseases.

However, a physician working directly with HIV positive patients at Carmelo Hospital, one of the referral hospitals providing HIV treatment in Gaza province, associates this situation, first, with the problem of stigma and discrimination in the patients' communities, then with better services provided in the city compared to rural areas. According to him, many patients prefer to start the treatment far away from their home villages, fearing from social exclusion stigmatization, regardless the cost of transportation.

On the other hand, Carmelo is known as one of the hospitals providing better services to people living with HIV and patients with tuberculosis in southern Mozambique. In addition to drugs to suppress the replication of HIV in the body (also found in public hospitals and health facilities administrated by Mozambican State), Carmelo Hospital also provides free drugs for some other diseases, free hospital admission to HIV patients, home care to terminally ill, and sometimes food assistance during six months or more, to HIV patients in critical economic condition, based on certain criteria.

Carmelo Hospital is registered in the National Health System but is operated and administrated by the "Daughters of Charity" of St. Vincent de Paul in agreement with Ministry of Health (Hospital Carmelo homepage).

Community Antiretroviral Groups (GAC) and access to HIV treatment (transportation costs)

In general, transportation issue was not also reported by people living with HIV as main problem affecting HIV treatment both in Macarretane and Lionde however, five respondents have

reported it in Lionde and two in Macarretane. In both administrative posts, transportation problem was associated with lack of money.

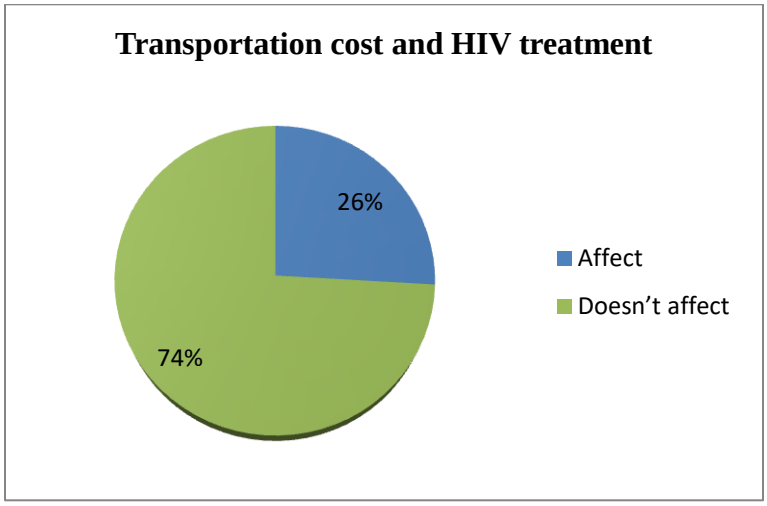


Chart4. Cost of transportation and access to HIV treatment

The non-report of transportation problem by majority of the respondents can be associated with the existence of Community Antiretroviral Groups (CAG) in Chokwe district.

According to the Ministry of Health of Mozambique, in its document entitled "Community ART Groups Strategy" published in 2015, the CAG strategy was firstly implemented in 2008, in Tete province, center region of the country and replicated in all provinces, as a way of improving the retention of patients in HIV treatment through their involvement in management of antiretrovirals and creation of community-based platform to strengthen the management of antiretroviral treatment. Specifically, CAG aims to reduce the demand of patients at health facilities, promote strong participation of patients in drugs collection and delivery, reduce the number of patients visiting health facilities, reduce the cost of transportation, improve the link and interaction among local communities and health facilities, and some other objectives.

In Chokwe district, Community ART Groups consist of group of six HIV patients (adults over fifteen) or less ($x \geq 3$, $x \leq 6$), usually living in same community and know each other, or are close to each other. All group members meet every month to discuss about the barriers to HIV treatment, to decide who is going to collect drugs for others, money for transportation, and also give report of health status of all members to the health workers. Each person visits health facility twice a year for consultation and collects drugs for three months, instead of going every month to hospital. However, they can visit health facility in case of any serious or urgent problem related to their health status, according to a health worker interviewed at Manjangue Health Centre, where all respondents from Macarretane are taking HIV treatment, except respondent number 11 (Carmelo Hospital, see the annex).

In Macarretane, all respondents, except respondent number 5 (see annex), belong to Community ART Groups and they described the benefits of being members of these groups. Most of the answers were associated with low cost of transportation and time saving. Two respondents from CAG (respondent number 2 and respondent number 7) reported problem of transportation to visit health facility. According to respondent number 2, in spite of being a member of CAG, she usually visits Manjangue Health Centre (approximately 5km from her home) for other purposes related to her health status. She did not say how many times per month she visits the health centre, but most of times she spends 20MTS=27.79 JPY (round trip), which is high for her. The respondent number 7 sometimes walks from her house to Manjangue Health Centre due to lack of money.

On the other hand, all respondents from Lionde did not belong to CAG. According to the focal point of HIV/AIDS response in Chokwe district, Mr. Agostinho Manhique, these respondents are taking treatment in different health centres in Chokwe city, and most of them live relatively far from each other (approximately 2km or more) compared to respondents in Macarretane (approximately 200 meters or less).

Another explanation is that Carmelo Hospital, where most of the respondents from Lionde said take HIV treatment, doesn't have CAG system. A physician from Carmelo Hospital interviewed in this study, said that Community ART Groups system has advantage in terms of low cost of transportation and time saving, but it has huge disadvantages in terms of patients follow-up, since they visit health centre only twice a year, unless in case of emergency situation or patient's initiative. To him *"good ART adherence is not measured only by collecting or taking drugs, it involves also good contact and interaction among patients and physician within fifteen days or less, if possible, in order to monitor their progress, clinical status, immune system, and if he or she has any infection that requires an urgent intervention,…this is the reason why our hospital doesn't adopt CAG model…"*.

Insufficient income and lack of choices

The definition of income varies from author to author depending on the goal, purpose and context. In this study, income is defined according to World Bank (WB) perspective, based on its article "*Measuring Living Standards: Household Consumption and Wealth Indices*".

For World Bank, income refers to the earnings from productive activities and current transfers. *"It can be seen as comprising claims on goods and services by individuals or households. In other words, income permits people to obtain goods and services"*. (WB, pp.1)

In this study, income was considered as what people living with HIV usually earn from their daily activities or work, in order to support themselves, their household members, or to meet household's daily needs. It was also considered what other family or household members earn for the same purpose (meet households daily needs).

During the interview, many respondents found a difficulty to quantify or estimate the household income, daily or monthly expenses and needs, both in money or in product/goods. One of the respondents said *"I have never calculated what we spend or need per day or per month, even for myself. How can you calculate something that you don't often have? Even food for dinner, we are struggling to get it."*- stated a women from Macarretane. Similar answers were given by some other respondents in both places where the study was conducted.

However, for those who were working at someone's cultivation field (see the annex), they were more likely to quantify, only, how much money they usually earn per day, but not how much they spend. The most repeated amount of payment from the cultivation field was "Setenta e Cinco Meticais" (75,00MT) per day, in Mozambican currency, which is approximately equivalent to 105.22 JPY (August 18th, 2016). This amount was very far to meet respondents' household daily needs or some basic needs such as food, clothing, and health care, even without quantifying the total amount of expenditure. *"With this amount you only buy 1kg of rice just to feed your children, if possible take drugs, and sleep…then the rest (curry) you will see…sometimes we cook 'arroz-cebola' (rice cooked with onion and oil, without additional curry)"*- said a woman from Lionde. During the fieldwork, the average price of 1kg of rice (lowest quality) was "Cinquenta Meticais" (50 MTs approximately equivalent to 69.47 JPY).

Another respondent who was able to estimate what she usually earn and need per day, in terms of money, is from Macarretane. Petty trading (sweets, water- in the bottle, and biscuits) was her source of income, and usually sells less than 50 MTs/day (less than 69.47 JPY), which was also far from her daily needs estimation- over 200 MTS (277.83 JPY)/day. According to her, she used to ask for help in the neighborhood, in order to survive, which "*is not easy*".

A woman, also, from Macarretane who works at someone's cultivation field collecting tomato, said that she earns "Cinco Meticais" (5MT) per box, approximately equivalent to 7.47JPY. According to her, she usually collets 6 boxes per day, meaning that she approximately earns 44.82JPY per day. As other respondents, this amount of money was not also enough for her daily needs.

Most of the respondents were depending on agriculture as their source of income, particularly working for someone (see annex).

The respondents working and those who used to work in someone's cultivation field did not sign any contract and were paid based on what they produce per day, and according to the owner's decision and will. That means they did not have any fixed day to work and also to be paid. This situation leads them to unplanned life, and also to non-adherence to savings system, which consequently affects their access to food and adherence to HIV treatment.

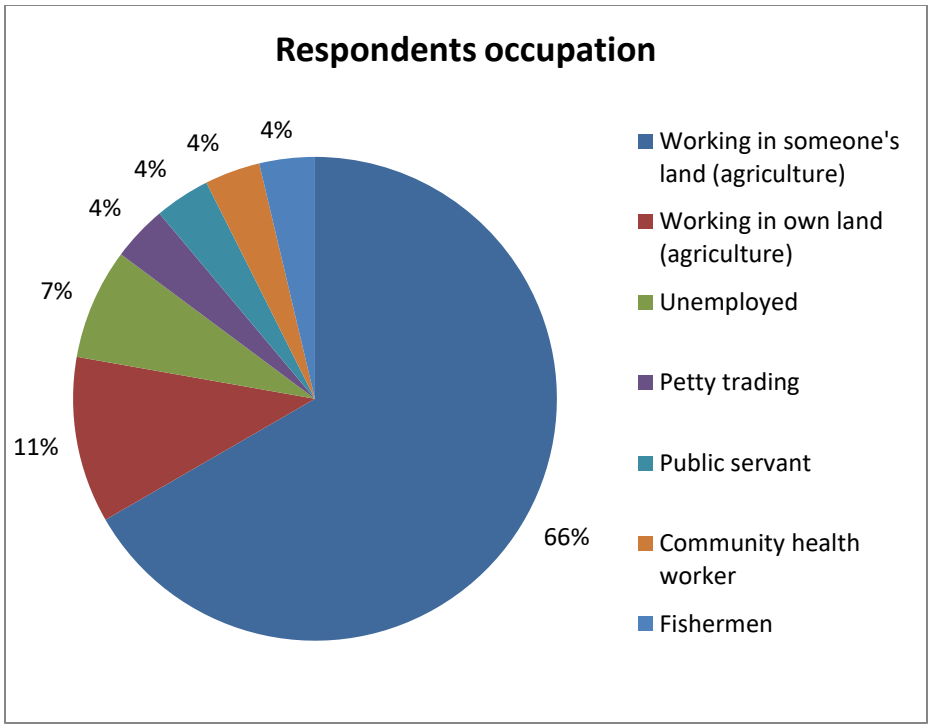


Chart5: Respondents daily occupation

Lack of choices was mentioned as the main reason forcing people living with HIV/AIDS to continue in agriculture and working for someone's land. They consider lack of choices as lack of job opportunities in different sectors and their dependency on someone's production.

This situation can be associated with level of education and the available types of institutions that may provide job.

All respondents (PLWHA) did not attend lower secondary school. From the total number of respondents, only two said dropped out in grade seven of primary school and most of them did not have opportunity to go to school. The most common explanation about this situation was lack of money to support school fees.

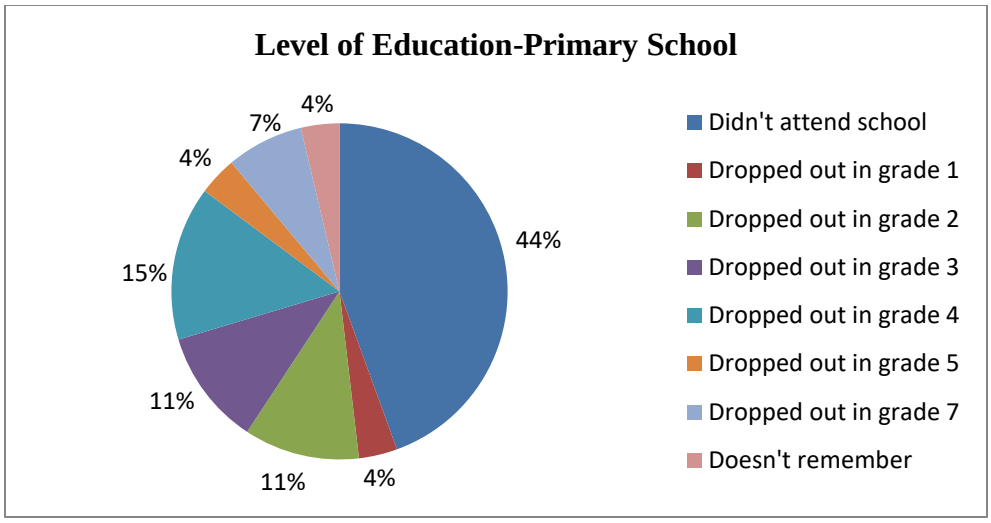


Chart6. Level of Education

Low level of education is depriving them of access to formal job, especially in public health and education sectors. These sectors are considered, by respondents, as the areas that sometimes provide formal job opportunities, *"but usually for people coming from outside such as teachers and nurses"*-said a respondent from Macarretane.

According to the latest Census conducted by National Institute of Statistics (INE, 2007), the illiteracy rate of Chokwe district is 31.6% (Male: 18.9%, Female: 40.0%).

Access to cultivation field (land ownership) and access to food

Land ownership for agriculture was considered one of the biggest challenges of people in low socioeconomic class.

Fifty-two percent of the respondents living with HIV/AIDS stated lack of own land for agriculture and other reported having it but not in irrigated zone.

The difficult access to land and irrigated land in Chokwe district was associated with lack of money and its high cost, which makes people depend on entrepreneurs or private companies that have the easiest access to it.

The respondents did not specify the cost of the land (to buy), but according to them, for those who want to rent, the average price per month of using the land for agriculture was "Três mil e Quinhentos Meticais" (3,500 MT), which is approximately equivalent to 4,910.2 JPY and to the lowest official Mozambican minimum wage in 2016 (3,295 MT=4,626.87JPY/month).

A community health worker from Phuneka Association located in Lionde said "*… for example here in Lionde, some entrepreneurs take almost 40ha of land and deprive other people of using it. They do it because are rich and have money… and since you are poor, you have to work for them.*"

Another community health worker, also from Lionde, associated lack of land for agriculture with civil war (1977-1992). According to her, "*People who came to Chokwe during the civil war were less likely to find land because they did not have family here... some are trying to get it but not easily since a large portion of land is occupied by rich people. We don't know where they (rich people) buy it because the government says land in Mozambique is not sold"*.

The Mozambican Land Law says "*The State owns all land in Mozambique. Land rights may not be sold, mortgaged or otherwise alienated (GOMbLand Law 1997)"*- IS academie, pp. 3. "*The Land Law recognizes use right to land, known by the Portuguese acronym, DUAT (direito de uso e aproveitamento de terras). DUATs (land certificate) can be held individually or jointly."(pp. 4)*

However, many conflicts related to land tenure and use involving national and international investors and small farmers have been frequently reported in Mozambique, especially in productive areas (fertile land).

In Chokwe district, there are two public institutions responsible for management and distribution of land. One is the Department of Economic Activities and another is Public Hydraulic Company of Chokwe (HICEP).

The first institution represents, within the district, the Ministry of Agriculture and Food Security and the second is responsible for distribution and management of land in Chokwe Irrigation Scheme, the most important part for agriculture in Chokwe.

According to information from the Department of Economic Activities, Chokwe district has now 85,000 ha available for agriculture. From this number, 26,498 ha are being used by private and family sectors.

It was difficult to access information about the area being used by each sector, in whole district. However, the same department provided data about the area managed by HICEP and its distribution. Total area managed by HICEP: 33,948 ha (5,596.8 ha used by private sector and 20,900.75ha used by family sector). They did not mention which private sector.

According to the Department of Economic Activities of Chokwe, to access land, people need to submit a request paper and a copy of ID, then pay money approximately equivalent to 8,417.6 JPY (6,000 MT). The money is to pay DUATs, which certify the right use of the required land.

On the other hand, the HICEP says that is managing 33,848 ha of land for agriculture in Chokwe Irrigation Scheme. From this number, 10,000 ha are not used because of salinization problem. The available area of land for agriculture is 23,848 ha, however only 12,000 ha or less is been used every year and 90% of this area (12,000 ha) is used by family sector, according to HICEP. (oral data from an agronomist-HICEP).

Confronting the data from HICEP and the Public Department of Economic Activities, I found that there is a gap of 100 ha in terms of area managed or controlled by HICEP.

The Chokwe Irrigation Scheme is historically known as one of the most food productive areas in Southern Mozambique. This title makes the district very attractive for national and foreigner investments in agriculture sector, as well as the will of small famers to produce in this area compared to other parts of the district.

Because of this, access to land in Chokwe Irrigation Scheme has been difficult for people in low economic or financial position (people from local communities) or without any political influence (ruling party or some friends), according to some respondents.

According to HICEP, for small peasants, there is two ways of accessing land in Chokwe Irrigation Scheme. One is individually and another is through association of peasants. Individually, people must have Mozambican Nationality and submit a request at HICEP. For the association procedures, each community or group of people has to submit the request and explain the purpose of using the land.

A HICEP agronomist interviewed during the study said: "*The average size of land of each association is usually 4ha and each peasant can receive between 0.5 and 1.0ha from the president or vice-president, and has to pay tax for irrigation"*- HICEP.

According to him, there are 33 legal or official associations of small farmers.

During the fieldwork, only one respondent (from Macarretane) reported access land through association of peasants.

On the other hand, the agronomist also mentioned the existence of other two categories or groups of farmers (medium and large farmers). The medium farmers can usually access land between 4 and 16ha and the large farmers between 80 and 1000ha.

He did not specify the number and names of the large and medium farmers in Chokwe district, but according to his estimation, there are eight large farmers in the district.

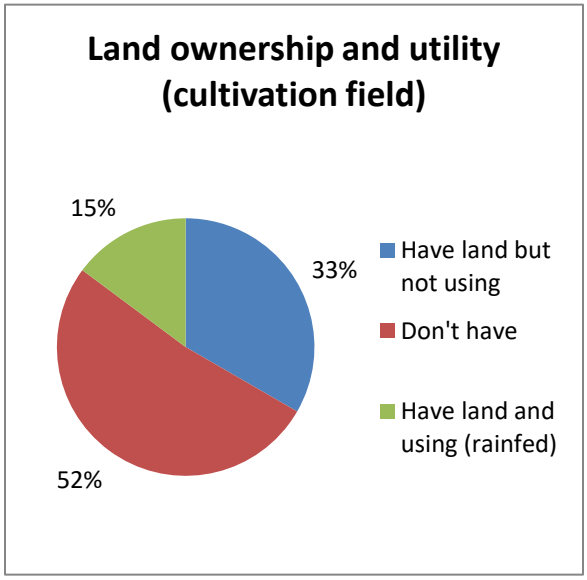


Chart8. Land ownership

Drought (access to food) and adherence to HIV treatment

Prolonged lack of water in cultivation fields was also mentioned as another problem affecting HIV treatment. The reason is that most of the respondents depend on agriculture and because of drought they cannot produce in their fields, even for those working at someone's land.

For respondents who have land for agriculture (14 from the 27 respondents)), only five were using it, however because of drought it is been difficult to grow some crops such as rice and some vegetables.

Respondents who have land but are not using (9 respondents), also mentioned the negative impact of drought on HIV treatment.

The main problems caused by drought were lack of food and hunger, that forces people living with HIV to take drugs irregularly.

"I have dizziness problem, especially after taking the medicine. I think it is because of hunger. Sometimes it forces me to not take drugs."-said a woman from Lionde.

Another woman from Macarretane said "Lack of water in cultivation field is a big problem, especially now…and it is forcing us to readjust the number of meals. As some of my friends, I usually have one meal per day and I try to make it coincide with the time I take drugs (21:00)."

However despite this problem, none respondent reported abandonment of HIV treatment, but some of them sometimes spend one or two days without taking drugs because of lack of food.

"*I've never abandoned the treatment and I don't have any plan to abandon because I know how it is important, but because of lack of food, sometimes I interrupt it for one or two days."*-said a women from Macarretane.

In Lionde, another respondent said: "*It is common to stay two days without food and it affects my treatment because it is hard to take medicine without eating, but I don't have another option."*

The drought in Chokwe is also affecting livestock, which is usually considered one of the alternatives sources of income in Chokwe district.

As one of the ways to minimize the effect of drought, the local government use to encourage people to sell or exchange cattle with other products or food.

From the total number of respondents, only one (from Lionde) said has cattle and uses it in agriculture activity. This respondent also reported lack of food associated with drought.

In addition to agriculture sector, the drought is also affecting fishermen. According to one respondent from Macarretane, the situation is getting worse because of lack of water in Limpopo River, one of the biggest and most important rivers in Southern Mozambique. It affects his income.

Drought and migration

Drought was also mentioned by health workers as one of the main problems affecting patients' adherence to HIV treatment in Chokwe district. For some of them, apart from causing lack of food, the drought is also contributing to internal migration of some patients, who move to other places looking for better life conditions, usually without informing their absence in health centres.

At Manjange Health Centre, where most of the respondents from Macarretane were taking HIV treatment, a health worker and also focal point of HIV/AIDS said that because of drought many patients are moving to other places to cut firewood and charcoal for their livelihood. According to him, this situation is contributing to abandonment of HIV treatment and/or low adherence to it.

At Manjangue Health Centre, abandonment was considered as absence of patient taking HIV treatment within sixty days or more.

The focal point of HIV/AIDS response at Manjangue Health Centre also explained that *"many patients usually say they cannot take drugs without eating. We understand this situation because it is true, but as health centre we try to encourage them to not interrupt the treatment, even with one meal per day…but we know and recognize that there is a problem of hunger in Chokwe".*

According to him, even without some statistics, the impact of hunger on HIV treatment became worse after the end of World Food Program (WFP) initiative, in 2012. The WFP used to support Ministry of Health by providing food basket for HIV patients, based on some criteria.

As a way of minimizing this situation, the Manjangue Health Centre is promoting nutritional education to the people living around the hospital, especially living with HIV. The main goal of the program is to teach patients how to use the available resources (food) to improve their diet in order to keep taking drugs. However, the adherence to this program still low since each patient is required to "*bring firewood and some products for demonstration*".

On the other hand, Manjangue Health Centre is also working in collaboration with some NGOs and community-based associations such as "Igreja Anglicana" (Anglican Church), Apapurg, and others in homecare and follow-up of some patients in order to ensure their adherence to HIV treatment.

Another factor contributing to ART abandonment at Manjangue Health Center is migration to South Africa. According to the focal point, *"We have some difficulties in patients working in South Africa. They normally start the treatment, but regularly come to health centre only during two or three months, after they feel better or without any symptom they disappear and return to South Africa. We usually advise them to report their absence before going back, but simply don't come".*

Lack of food associated with drought was also mentioned as one of the main hypotheses behind the abandonment and low adherence to HIV treatment at Carmelo Hospital, where most of the respondents from Lionde are taking treatment.

In this hospital, abandonment is defined as absence of patient within fifteen days or more, which is different from other hospitals or health centres administrated by state. The study did not find specific explanation about the different criteria of abandonment between Carmelo Hospital and other health centres or health facilities, but according to a physician working in HIV/AIDS sector, they used consider abandonment as the absence of patient within three months, but now changed the system to fifteen days. The criteria of three months were defined by Elisabeth Pediatric AIDS Foundation, a nonprofit American organization also working in HIV/AIDS response in Gaza province. This organization used to support HIV/AIDS activities at Carmelo Hospital.

According to the physician, most of patients having HIV treatment at Carmelo Hospital usually report lack of food as the main factor that forces them to not take ARVs. *"I need to conduct specific study to understand if there is a correlation between drought and ART adherence, but according to our experience in this hospital, most of the admitted patients living with HIV have problem of hunger, especially in this period (without water in the fields) since they depend on agriculture"*-said.

As strategy, the Carmelo hospital introduced a program to support patients in critical socioeconomic conditions discharged from the hospital. They provide food assistance during six months or more and free medicine for other illnesses. In order to know which patients needs assistance, the Carmelo Hospital uses community health workers (from the hospital) to follow up patients in their communities and home.

Currency inflation and financial crisis affecting access to food

In 2013, the government of Mozambique established a national tuna fishing company, "EMATUM´, aimed to catch and control management of tuna fish among the Mozambican coast. However, several public debates have been promoted about the lack of transparency during the creation and establishment of the company.

According to the Budget Monitoring Forum, a non-governmental platform headed by civil society organizations (pp.5), the fact is that the process of creation and establishment of EMATUM did not involve civil society, and some sovereignty public institutions such as National Assembly and Administrative Court, as recommends the Mozambican law.

To establish the company, the government of Mozambique took on debt with state guaranties 850 million dollars from some European Banks. This amount was first announced by European media channels in 2016 when the International Monetary Fund (IMF) started to investigate it and considered as hidden debt.

Because of unclear explanation from the government, the EMATUM debt led to the fall of confidence between Mozambican Government and international donors and suspension of all budget support to government from the so called G-14 group, United Kingdom, and reduction in some budget support from World Bank, IMF, and some other international donors.

As a consequence of this suspension, and also due to the low export of goods, and the political conflict in Center and North of the country, the Mozambican currency is experiencing a rapid depreciation against dollar, forcing the government to readjust budget allocation, services and prices of goods.

According to the Center of Public Integrity of Mozambique (CIP), the depreciation of Mozambican currency is resulting in *"higher prices of imported goods as well as of locally produced goods, and therefore increase overall inflation"* (pp.2). This situation is strongly affecting poor segments of Mozambican society who, according to CIP, have to deal with the same rate of inflation as do the rich segments.

"*The sudden need by the Government for more foreign exchange, as a result of its unprogrammed debt service payments, is causing depreciation of the Metical (local currency) and an increase in inflation, which creates a direct link to the common people. Through no fault*

of their own, they suddenly face an effective decrease in their income, because the things they buy cost more."-pp.2.

Data from CIP say that inflation for the twelve months May 2015 to May 2016 has reached 18.3% compared to 1.3% for the twelve months May 2014 to May 2015.

This situation can also have a huge negative impact on people living with HIV in Chokwe district, where the average payment from cultivation field was "Setenta e Cinco Meticais" (75,00MT) per day, approximately equivalent to 105.22 JPY (August 18th, 2016), amount very far to meet respondents' household daily needs.

"With this amount you only buy 1kg of rice just to feed your children, if possible take drugs, and sleep…then the rest (curry) you will see…sometimes we cook 'arroz-cebola' (rice cooked with onion and oil)"- said a woman from Lionde.

The average price of 1kg of rice (lowest quality) was "Cinquenta Meticais" (50 MTs approximately equivalent to 69.47 JPY), during the fieldwork.

Consequently, even without any reported case of abandonment among main respondents, lack of food may force people living with HIV to skip HIV treatment or to not take medicine regularly because of the stronger effect of the drugs.

Conclusion

In recent years, provision of free HIV treatment in public health facilities has been improving in Mozambique. However, access and adherence to the treatment remain as one of the biggest challenges among people living with HIV/AIDS, especially in rural areas.

Many researchers, Mozambican policy makers, NGOs, national and international agencies, and other stakeholders working in HIV/AIDS response in Mozambique have been emphasizing stigma and discrimination of people living with HIV/AIDS, women devaluation (social gender issues), lack of money for transportation associated with long distance as main factors behind the low access and adherence to HIV treatment.

In this study, lack access to food was found as main problem forcing people living with HIV/AIDS in Chokwe district to skip HIV treatment due to the side effect antiretrovirals (HIV/AIDS related drugs).

In both administrative posts where the research was conducted (Lionde and Macarretane), lack of access to food was basically associated with low income-related to lack of job opportunities and choices among people living with HIV/AIDS.

On the other hand, lack of land for agriculture associated with poverty and agro-industrial business is also depriving local communities in general and people living with HIV/AIDS, particularly, to access food. Combined with drought, this situation is leading to internal and external migration, which consequently forces people to skip or abandon HIV treatment.

Thus, HIV/AIDS response in Chokwe district should not focus only on medical and behavioral change approaches. It should also consider an economic approach, emphasizing the empowerment and entitlement of people living with HIV/AIDS and their dependents through community-based initiatives.

Local governments and stakeholders should interact more with community-based associations assisting people living with HIV/AIDS in order to find out, together, which sustainable project can be done to improve the financial aspect and HIV patients and their dependents.

References

Budget Monitoring Forum (Forum de Monitoria de Orçamento), 2015. *Análise do Impacto da Dívida EMATUM nas Contas Públicas Nacionais*. pp. 5

Carlos Arnaldo, 2004. *Ethnicity and Marriage Patterns in Mozambique" (African Population Studies*, Vol.19, No.1. pp. 143-164

Center for Disease Control and Prevention, *"Global Health Mozambique"*, www.cdc.gov/globalhealth/countries/mozambique/

Center of Public Integrity of Mozambique (CIP), 2016. *The impact of Mozambique's hidden debt service payments*. pp.2.

Deanne Langlois-Klassen et al., 2007. *Use of Traditional Herbal Medicine by AIDS Patients in Kabarole District, Western Uganda.* pp. 757, 762.

Public Department of Economic Activities of Chokwe District, 2016.

GOMbLand Law 1997- IS academie. *Food Security and Land Governance Factsheet*. pp. 3

INSIDA, 2010. *National Survey of HIV and AIDS Prevalence, Risks and Information about HIV/AIDS*, pp. 19, 185.

Instituto Nacional de Estatísticas: http://www.ine.gov.mz/

Kate Groh, et al, BMC Public Health, 2011. *Barriers to antiretroviral therapy adherence in rural Mozambique*. pp.4.

Ministry of Health of Mozambique, 2015. *Community ART Groups Strategy*.pp17.

National Institute of Statistics of Mozambique, 2013. *Statistics of Chokwe District*. pp.10.

Provincial Department of Health-Gaza, 2015. *Annual Report of HIV/AIDS activities in Gaza province*-2014, pp. 33-34.

Public Hydraulic Company of Chokwe (HICEP), 2016.

Public Health Department of Chokwe District, 2016. *Annual reports of HIV/AIDS in Chokwe District (2013-2015).*

SFID- Department for International Development (SDID), 2007. *Taking Action Against HIV Stigma and Discrimination: Guidance Document and Supporting Resources.*pp.2.

Strategic Plan of Development-Chokwe District-2010.pp9.

TEBA, 2016. *Number of miners from Chokwe district working in South Africa*.

World Bank. *Measuring Living Standards: Households Consumptions and Wealth Indices.*pp.1.

Annex 3. Fieldwork pictures


Photo 1 & 2: Drought affecting one of the most important canals that drains water to the farming area in Chockwe

Photo 3 Limpopo River in Chokwe district affected by drought.


Photo 4 and 5: Lack of water affecting people and livestock.

Photo 6: Women working at someone cultivation field (machamba) in Macarretane

Photo 7: Access to firewood is also difficult in Chokwe. A woman in Macarretane chopping firewood to prepare dinner

Photo 8: District HIV/AIDS response meeting (government, civil society, private sector, and other stakeholders)

Annex1. Respondent information- Administrative Post of Macarretane

Respondent No.	Sex	Year of Birth	Marital status	Level of education	Occupation	House ownership	Household members	Household supporter	Land for agriculture	Income and daily expenses	Started HIV treatment	Why the person started HIV treatment	Problem related to HIV treatment
1	F	1978	Single without boyfriend, but she was in marital union in South Africa	Dropped out in grade 4 Primary School (doesn't remember when)	Petty trading (water, some sweets and biscuits)	Own house (local material)	1	Herself	No land (She never asked for it)	She doesn't know how much, but she usually sells less than 50 MTs/day (less than 69.47 JPY) and needs	2015	She was very sick and went to health facility ask for HIV test	She asks neighbors (sometimes) for food when lack it. So far she feels better, but it she can't take drugs without eating

										over 200 MTS (277.83 JPY) /day			
2	F	1962	Widow (1987 1st relation), and divorced 2nd relation	Didn't attend school	She was working at someone's cultivation field but now she stopped due to drought	Own house (local material)	4	She	Doesn't have (It's difficult to get)	(75MT/day=105.22 JPY) Not enough	2001	She was very sick and was visited by community health workers	Side effects associated with lack of food and money for transportation to health facility (5km; 20MTS=27.79 JPY)
3	F	1994	Single but still in relationship with her son's father who is married with another woman	Dropped out in grade 7, Primary School (2010) because of lack of money	She is working at someone's cultivation field (the owner has irrigation system)	Mothers' house (local material)	5	Her mother (sells call-small amount)	Grandmother's cultivation field but now they are not producing because of	She doesn't know but usually receives 75MT/day=105.22 JPY	April 2016	She had problems of uterus and during the treatment she was submitted to HIV test	So far she doesn't have any problem

									lack of water				
4	F	1977	Widow (2003), but now she is in marital union as a second wife	Didn't attend school	She is working at someone's cultivation field	Own house (local material)	7	Herself	Loaned cultivation field but now she stopped because of drought	She usually receives 75MT/day=105.22 JPY	2012	She was pregnant and had problems of uterus	Lack of food /hunger. She usually takes two meals a day (breakfast and dinner), which sometimes affect her treatment (take drugs without eating enough)
5	F	1999	Single without boyfriend	Dropped out in grade 7 primary school in 2015	She is working at someone's cultivation field	Father's house (orphan)	7	Her brother working in South Africa	No land	Depends on what the owner of the cultivation field gives to	2015	She was pregnant and made HIV test in the hospital	So far doesn't have any problem, however she would like to return to school but what she receives from her work is not enough

										her (it can be in products or money- not fixed)			
6	F	1960	Widow (1980), and she was in second marital union (1 son) but divorced	Didn't attend school	She was working at someone's cultivation field	Own house (local material)	11	Son living in South Africa	No land (difficult to get)	She used receive 75MT/day=105.22 JPY	2015	She was sick (rheumatism, legs' pain) and was advised to do HIV test (CHW)	Now she doesn't have problem but she would like to get some funds to start her business in order to improve her diet, which is not very good for her treatment
7	F	1988	Marital union	Stopped at grade 1 Primary School	She was working at someone's cultivation field	Own house (conventional)	10	Husband (hair saloon)	No land (difficult to get)	She used receive 75MT/day=105.22	2006	She was very sick and pregnant	Lack of food affecting her treatment, transportation problem , her husband doesn't accept use condom

										JPY, and does n't know how much her husb and earn and how much they spen d per day			(he did HIV test in November 2015 and but he was negative) (she needs financial help to buy food and pay transportation
8	M	1959	Marital union	Droppe d out in grade 5 Primary School	Public servant	Has two houses (local material- one in Chokwe, another in Maputo)	3	He	Has land (rainf ed agric ultur e)	He recei ves pensi on as milit ary (retir ed)	2015	Was tested at home by some during the health campaign promoted by Anglican Association	Doesn't have any problem
9	F	1983	Marital union	Didn't attend school	She works at someone's cultivation field (collect tomato)	Own house (local material)	5	Husb and (part- time charc	Loan ed land (but now	5MT /box =7.4 7JPY (she	2013	Was tested at home by some during the health	She doesn't have any problem, but still dependent on husband's

								oal)	there is problem of drought)	usually collet 6 boxes per day= 44.82JPY), not enough for her daily needs but doesn't have other choices		campaign promoted by Anglican Association	part-time since colleting tomato doesn't help so much, especially to buy food.
10	F	1948	Widow (1987)	Didn't attend school	She is working at someone cultivation field	Own house (local material)	9	Her son (driver of private bus)	Has land (rainfed agriculture) not producing	She doesn't know how much, but is not enough	2014	She felt weak with low immunity and went to hospital through Community Health workers	Lack of food to take ARVs (very strong). She usually has one meal per day (she always tries to make it coincide with the time of

									-lack of water				taking medicine 9PM)
11	M	1958	Single	Dropped out in grade 4 primary school	Farmer, and he was soldier	Own house (local material)	1	He	He has land (rainfed agriculture)		2007	He was very sick and was advised by community health workers	The only problem he has is hunger associated with lack of water (drought)
12	F	Over 50 (2016)	Marital union	Didn't attend school	She was working at someone's cultivation field, but now she stopped because of drought	Own house (local material)	5	Husband (fishermen) and sons' part-time	The family has land but they are not producing because of drought	She doesn't know how much, but isn't enough	2015	She was very sick (tuberculosis and couldn't speak)	She has chest pain, she doesn't take medicine regularly because of lack of food (sometimes two days)
13	F	1962	Widow (1990)	She didn't attend school	Unemployed (she used sell some vegetables)	Own house (local material)	5	Sons' part-time (informal busin	She has land in rainfed but is	She doesn't know how much	2010	She was very sick and was advised to do HIV test-CHW	Lack of money and food ("sometimes I have the will of stop taking medicine, but that is not good

								ess)	not producing because of lack of water				choice")
14	F	1984	Widow (2004), now in marital union	Dropped out in grade 4 primary school	Working as Community Health Works (Apapurg Association)	Own house (local material)	4	Herself	She has land in rainfed but doesn't produce (lack of water)	She receives subsidy (2,500MT/month=3,507.3JPY and her monthly need is about 3,000MT=4,208JPY)	2010	She had tuberculosis and went to hospital to be treated, then did HIV test	Lack of food is the main problem, "especially now with this crisis, everything is expensive". Sometimes it affects the treatment, but not always.
15	M	1971	Married	Droppe	Fisherman	Own	5	He	No	It's	2015	He was	Side effects

				d out in grade 2 primary school		house (local material)	(including stepchildren)		land (difficult to get)	difficult to estimate, especially with problem of drought. There is no water in Limpopo River		tested in his community by community health workers	(diarrhea, especially after changing the medicine)

Annex 2. Respondent information- Administrative Post of Lionde

Respondent No.	Sex	Year of Birth	Marital status	Level of education	Occupation	House ownership	Household members	Household supporter	Land for agriculture	Income and daily expenses	Started HIV treatment	Why the person started HIV treatment	Problem related to HIV treatment
16	F	1959	Marital union	Dropped out in grade 3 Primary School (doesn't remember when)	Working at someone's cultivation field	Own house (local material)	5	She and her daughter in law	No land (they never asked for because they think it's difficult to get.)	(80MT/day=112.2345 JPY) x2=224.47 JPY	2015	She was very sick and was advised by community health workers to do HIV test	She frequently has headache, difficult to buy additional medicine, lack of food and strong side effect from medicine
17	F	1962	Marital union, but her husband is living in South Africa for long time	Dropped out in grade 3 Primary School (doesn't remember when)	Peasant in her cultivation field	Conventional (built by her husband)	4	Her Son (part-time) and sometimes she	Has land (produces corn)	She doesn't know how much. They also use cow	2015	She was very sick and was visited by community health workers	Lack of food because of drought, the medicine is very strong

										as source of their income (sometimes).			
18	F	1952	Widow (many years ago)	She didn't attend school	She is working at someone's cultivation field-farming (the owner has irrigation system)	Parents' house (local material)	2	She (She is supporting her father (with legs problems)	No land	She usually receives 70MT/day=98.205JPY (when she feels "healthy"-better) and has to buy food and pay	2012	She was very sick, with some allergy problems	Her life improved after meeting CHW and joining "savings program" promoted by Pfuneka Association, but now it is getting worse because of lack of food (she often spend one day without eating anything and also without taking medicine)

										water (50 MTs/ month= 69.47 JPY).			
19	F	1963	Widow	Dropped out at grade 3 primary school (doesn't remember when)	She is working at someone's cultivation field	She lives at mother's house (local material); She lost her house during 2013 floods	6	She	No land (difficult to get, they ask 3,500 MT =4,910JPY/month for rent)	She usually receives 70MT/day=98.205JPY or food. She doesn't know how much she spend per month/day but	2014	She was very sick and one CHW took her to Carmelo Hospital (Chokwe city)	She feels vertigo and dizziness after taking the medicine because of lack of food, which sometimes forces her to not take drugs. She also has problem of money to visit hospital (transportation 20MTS=27.79 JPY), even going once a month.

										she used stay with out food, water and electricity (most of times)			
20	F	1964	Widow	She didn't attend school	Peasant working in her land, but now she stopped	Own house built by her daughters	5 (she and her grandchildren)	She	Has land in rainfed but she is not using because of drought and health problems	It is difficult to estimate; especially now that is sick. But she has to pay water (150 MT/	More than five years ago	She was very sick (prolonged coughing and chest problem) and one CHW took her to Carmelo Hospital	Now she feels better than before but still the problem of lack of food and money for transportation (it is normal spend two days without meal and also walk 20km to hospital -round trip).

										month=210.44 JPY) and feed her grandchildren (four)			
21	F	1984	Widow (2005), and she was in second marital union (1 son) but divorced	Dropped out in grade 2, primary school	She is working at someone's cultivation field	Own house (local material)	3 (she and her children)	She	No land (difficult to get)	She usually receives 70MT/day=98.205JPY, not enough	2014	She was sick, then visited by CHW who advised her to go to hospital	She is doing well but it is difficult to take medicine with lack of food (she didn't have lunch and nothing for dinner during the interview), especially for her who is breastfeeding (her baby is six months), she has prolonged fever and weakness. It is also difficult to go to hospital

													because of lack of money (sometimes she walks more than 20km but isn't easy)
22	F	1964	Marital union	Didn't attend school	She was working at someone's cultivation field, but now stopped because of drought	Own house (local material)	4	Husband (fishermen and sometimes part-time at someone's cultivation field	No land (difficult to get)	She doesn't know how much	2015	She was very sick and advised by CHW	She feels pain when does hard work (domestic activities) "since my husband cannot do such kind of activities (he doesn't know)", and sometimes the lack of food causes dizziness but she never interrupted the treatment.
23	F	1967	Divorced	Didn't attend school	She was working at someone's cultivation field, but now stopped because of lack of water in the field	Own house (local material)	8 (children and grandchildren)	She, but now depends on sons' part-time	She has land in Chibuto district but	She usually receives 70MT/day=98.205J	2015	She was visited by CHW and advised to do HIV test	So far she is getting better, but she has foot pain and is facing food problem (it is normal to take only a cup of tea a day, then

									does n't use (no financial conditions)	PY, not enough			take drugs, which cases dizziness)
24	F	1962	Widow (1988)	Dropped out in grade 4, primary school	Peasant in her cultivation field	Own house (local material)	7	Daughters (working at cultivation field and part-time)	Has cultivation field (beans and corn)	She does n't know how much	2012	She was sick and couldn't go cultivation field, then was visited by CHW	So far she hasn't any problem but one of her granddaughter was diagnosed with malnutrition
25	F	1963	Widow	Dropped out in grade 2, primary school	She is working at someone's cultivation field but the drought doesn't help (it reduced the number of working days)	Own house (local material)	3 (she and grandchildren)	She	No land	She usually receives 80MT/day=112.23JPY, not enou	2013	She was very sick and was visited by CHW- she went to Carmelo Hospital	Poverty and hunger, especially now with lack of water in the canal. It's hard to take medicine without food

										gh to buy food, pay transportation and other expenses			
26	F	1983	Marital union	Didn't attend school	She was working at someone's cultivation field, but stopped because of health problems	Own house from her parents(conventional)	7	Use to be her husband but now is she and most of times her neighbor (woman)	They have land but don't produce because of health problem and lack of water (drought)	She doesn't know how much because usually receives in product (food), which is difficult to quant	2006	She was asked in hospital to do HIV test after her husband (miner) being diagnosed with HIV	She doesn't have any problem related to treatment (but the CHW told me that she was taking same drugs with her husband and sometimes she has blood pressure) Hunger associated with lack of water (drought) Their children don't go to school because of lack of

										ify.			money, even for those who were in primary school (which is free)- lack of school material
27	M	1982	Marital union	He doesn't know	He worked three years as miner in South Africa, now he is unemployed	Own house from wife's parents(conventional)	7	Use to be him but now is his wife and most of times her neighbor (woman)	They have land but don't produce because of health problem of water (drought)	They depend on neighbor's help and sometimes wife's part-time	2006	He was very sick and was advised by his neighbors to HIV test (after returning from South Africa)	He can't walk (I found him in bed), and he used to be unconscious, especially after taking drugs without eat. His wife brings drugs from hospital, when they have money for transportation