

Département Amélioration des  
Méthodes pour l'Innovation  
Scientifique.

CIRAD-AMIS

**Mahangu (pearl millet) and sorghum consumption in  
urban areas in Namibie**

Rapport d'étape - 5 Juin 2002.

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**Cirad-Amis n° 32 / 2002-06-17**  
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## Résumé :

Deux missions ont été réalisées (11 au 13 avril puis 19 au 28 Mai) par Sandrine Dury (agro-économiste) dans le cadre du contrat entre le Service de Coopération et d'Action Culturelle de Windhoek et le Cirad-amis, relatif aux enquêtes de consommation des céréales locales dans les villes namibiennes. Les deux rapports de mission sont présentés ci après.

Sabine Leporrier, étudiante en nutrition, et Antoine Leveau, étudiant en agronomie spécialisé en technologie agro-alimentaire, ont commencé les enquêtes d'identification des produits et des pratiques depuis début Mai à Oshakati et à Windhoek. Ils sont accompagnés par des étudiants de l'Université de Namibie (UNAM), supervisés par Mme Naita Nghaamwa, économiste enseignante à l'UNAM. Le planning du travail (cf p 6) est jusqu'à présent respecté.

Les autorités municipales ainsi que les statisticiens du bureau central de la planification ont été rencontrés et sont prêts à collaborer pour la phase d'échantillonnage de l'enquête quantitative (fourniture de plan détaillé et suivi méthodologique).

Le mardi 28 Mai, s'est tenue à Windhoek une réunion de débriefing (cf diapositives P 31-36 ) avec les membres du MSTT<sup>1</sup> (NAB/MAWRD/CRIAA-DC). Il est ressorti que:

-malgré l'intérêt et l'abondance des transformatrices de sorgho en bière (tombo), l'objectif de cette étude doit se focaliser sur la consommation à domicile, puis dans les ménages collectifs (hôpitaux, restaurants scolaires). Quelques enquêtes qualitatives seront réalisées au niveau des consommateurs individuels de bière de sorgho.

Il a été rappelé l'intérêt d'interroger aussi des personnes non Ovambo tels que les personnes originaires du Kavango et de Caprivi, ainsi que des personnes jeunes, et des enfants.

Ben Bennet a précisé qu'une étude "blind test" avaient été déjà réalisées (qui montraient une forte préférence pour les produits fermentés), et que par conséquent, il n'était pas utile de les refaire.

Une date de réunion de restitution a été proposée: le 19 septembre (pour que Sabine puisse exposer ses résultats sur Oshakati). Selon C. Brock, il est inutile de faire de réunion car tous les

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<sup>1</sup> MSTT: Mahangu and Sorghum Task Team. NAB: Namibian Agronomic Board, MAWRD: Ministry of Agriculture, Water and Rural development, CRIAA SA-DC Southern Africa Development and consulting.

meuniers/transformateurs du "Nord" font partie soit du MSTT, soit du NAB, et seront invités à Windhoek, et il est facile pour eux de faire le déplacement.

Les étudiants Namibiens seront payés par le NAB, mais il faut une lettre officielle du MAWRD pour autoriser ces dépenses. Au total, les dépenses de fonctionnement (entretien des véhicules, essence, communications) vont excéder d'environ 5000 dollars namibiens le budget initialement prévu. Le MSTT s'engage à couvrir ces frais. Une proposition détaillée de budget révisé doit être soumise par Antoine et Sabine pour approbation.



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# RAPPORT DE MISSION 11 au 13 Avril

## Context

The Namibian Ministry of Agriculture, Water and Rural Development (MAWRD), the Namibian Agronomic Board (NAB) and CRIAA-SA-DC, worked together for a few years to promote Mahangu (pearl millet) and Sorghum in Namibia. In June 2000, the MAWRD organised a workshop to develop a Strategy for the Multiple Use of Mahangu and Sorghum<sup>2</sup>. These institutions have also created the Mahangu and Sorghum Task Team (MSTT) which meets once a month. In October 2000, the CIRAD-Food systems program conducted a first mission to contribute to the process of formulating strategies and action plans for the promotion of Mahangu, Sorghum and indigenous fruits in Namibia. It appeared that little was known about the marketing chains, and the consumption of Mahangu and Sorghum products (Who are the consumers/ non-consumers? How they consume? Which products ? Why do they choose this or this product? What they would prefer ? etc)

The Namibian Ministry of Agriculture, together with the French Cooperation asked CIRAD to conduct a study on Mahangu and Sorghum consumption in urban areas. The University of Namibia (UNAM) is also part of the project with one professor or lecturer and students (see terms of references). CIRAD will supervise two French students and conduct two 10-day missions: one in May (16-25) and one either in September or in November 2002.

## Objective of the mission

The objective of this short mission was to meet the different persons who are interested in « *the food consumption survey in Urban areas in Namibia* » and to prepare with them the arrival of the two CIRAD students: Sabine Leporrier and Antoine Leveau.

They will both arrive in Windhoek on May 4 (SA 70 flight). Sabine will stay 5 months (to Sept 26) and Antoine 6 months (to Oct. 29).

## People met

### Thursday 11

Ben Bennet (Ministry of Agriculture and Rural Development, Directorate of Planning),  
Michel Mallet (CRIAA SA-DC),  
Christof Brock (Namibian Agronomic Board) and  
Annie Zapke (Namibian Agronomic Board).

### Friday 12.

Flora Gheno (Service for Cooperation and Cultural Affaires- French Embassy)  
Thierry Dauplais (Ministry of Agriculture and Rural Development, Directorate of)  
Mr. P.H. Kanine (Central Bureau of Statistics),  
Deputy Director (Central Bureau of Statistics, National Planning Commission),  
Alwis Neerasinghe (Central Bureau of Statistics, National Planning Commission),  
Sigried Mwalaa and Saskia den Adel CRIAA SA-DC

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<sup>2</sup> The Output of this workshop is presented in a 69 pages document (MAWRD, NAB, CRIAA SA-DC, Jan. 2001).



Unfortunately, it was not possible to meet the people from UNAM, since neither Margareth Angula nor Professor Van Rooy (Head of the Social Science Department) were available.

## Great expectations

All the persons we met are very interested in the results of the survey. We discussed with Ben Bennet, M. Mallet, C. Brock, and T. Dauplais, regarding their expectations of the survey. B. Bennet, M. Mallet and T. Dauplais were particularly interested in an attitudinal survey, and a typology of behaviour. M. Mallet felt that the millet consumption pattern is in a stage of recombination. In contrast to some other products (such as maize), the socio-economic determinants for millet consumption are not clear. He would like to have a better understanding of the trends that underlie the current patterns as well as a typology of the consumers and their habits. B. Bennet gave us a presentation of the complexity of the Mahangu chain <sup>3</sup> and of the problems encountered in attempting to improve income from Mahangu production. These range from the production side (low yield and productivity, poor market access) to post-harvest and market access. The focus of our study is related to what was identified as "insufficient market for flour", and 5 bullet points: "market limited to traditional users, poor market penetration, competition with maize flour, rice and pasta, and short flour shelf-life". All these points should be properly documented.

C. Brock emphasised the price elasticity and the evaluation of the Willingness to pay for each quality attributes. Amongst the main attributes, he sets particular importance on the Unfermented/fermented type of flour. He also wishes to have a sensorial test, and to gather precise information on the behaviour of people in schools and hospitals. The shelf life issue (the fermented products do not last long in the store) was raised by Bennet, Mallet and Brock.

We also discussed the idea, in the quantitative part of the survey, of testing the receptivity of consumers to new high-value products such as "fermented packaged flour", or "fair trade products". The idea of taking advantage of the diversity and richness of traditional food preparation recipes was also proposed by M. Mallet. The results of the two first phases of the survey, will help to decide which products (and/or attributes) will be tested in priority.

It is not easy to say yet if it will be possible to answer all the questions. This will depend on the efficiency of the students and on the field conditions. Our ultimate aim is (to summarise the objectives of the terms of references) a detailed description of the different products, of the different ways to get access to them, to process them at the domestic level, and to consume them. (phase 1 and 2). The attitudes and expectations regarding the products will also be presented and analysed (phase 2). The main purpose of the quantitative phase (phase 3) is to confirm and quantify the relative importance of the different "types" of consumers found during the qualitative phase. Depending on the success of the implementation stage of the survey, and on the data analysis, it may be possible to assess the determinants of consumption versus non-consumption and secondly, amongst the consumers, to assess the relative importance of the different attributes. It will may eventually be possible to test the receptivity for a new product/concept, that would be identified after the two first stages.

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<sup>3</sup> see mahangu problem tree in MAWRD, NAB, CRIAA-SA-DC, 2001, p.23



The terms of references are explicit on the methodology, which consists of three phases:

1. Identification of the Mahangu suppliers and users, identification of Mahangu products (2 weeks)
2. Qualitative survey-: in-depth interviews with individual and focus groups from several different backgrounds (age, activities, districts...). 6 Weeks
3. Quantitative survey consists of
  - A) Sampling.
  - B) Recruitment of surveyors (7 to 10 in each city). Training of the surveyors.
  - C) Test of the questionnaires.
  - D) The survey itself (2 weeks) + data entry (1 week),
  - E) Data cleaning (1 week)
  - F) Data analysis (1-2 months)

In order to increase the efficiency of the two first phases, we suggest that the students stay in the areas where Mahangu consumers live, in the cities, but also spend a few days in the rural areas in the North.

The people from the Central Bureau of Statistics, National Planning Commission, are ready to help with the sampling methodology (phase 3). They need a formal letter of request from the Ministry of Agriculture.

## **PLANNING OF ACTIVITIES AND MEETINGS. MAY-SEPTEMBER** **(proposal subject to UNAM students own planning)**

April: Identification of 2 + 1 students and lecturer at UNAM

May 4: Arrival of the S. Leporrier and A. Leveau.

May 5-12: Meeting with partners (MAWNR, UNAM, NAB, CRIAA, MSTT...).

Identification of products/users/suppliers....

First individual interviews in Windhoek.

Preparation of focus group meeting.

May 13-20: Oshakati for all 4 students (with a vehicle if possible).

Meeting and identification of partners,

Identification of products/users.....

First individual interviews in Oshakati and in the producing rural areas (with a stay of several days in the villages)

Preparation of focus group meeting.

May 16: (Thursday): Arrival of S. Dury in Windhoek (in the evening)

May 17: Departure to Windhoek (flight)

May 17-20 Meeting with the students in Oshakati.

Field visit. Individual interviews and preparation of focus group meetings.  
Visit of small scale mills.

May 21: return to Windhoek (car) (Visit of small scale mills in Otavi on the way back)

May 22: individual interviews in Windhoek

May 23: (thursday): Meeting of the MSTT (afternoon)

May 25: Departure of S. Dury from Windhoek to Yaoundé.

Departure of S. Leporrier and counterpart from Windhoek to Oshakati..

May 27-31: continuation of individual interviews and preparation of focus group meetings,  
In Windhoek and Oshakati

June 1-15: focus group meetings

June 16-20: report on phase 2 (individual interviews and focus groups).  
Preparation of the "uantitative"questionnaire

June 24-28: meeting of the MSTT.

Discussion on the preliminary results, and on the proposed questionnaire, on the  
sampling methodology.  
Recruitment and training of surveyors.

July 1-5: test of the questionnaires

July 5-20: Quantitative survey in Windhoek and Oshakati.  
(+data entry.)

July 22-26: data cleaning

August: data analysis and final report writing.

August 26-30: Presentation of the results in Oshakati to the partners, key informants, including  
consumers (from the focus group for example)

15 September: final report to be finished for Oshakati.

15 October: final report to be completed for Windhoek.

## partnerships

### 1.1 UNAM

The counterparts from UNAM have not been clearly identified yet, nor have the students. Margareth Angula seems to be interested. It is urgent that students become involved in the next few weeks. We suggest that **two or three students** from UNAM could conduct their study together with Sabine and Antoine (counterparts): one in Oshakati and one in Windhoek (for the household/individual



consumption) and one for collective consumption (schools, hospitals...) both in Windhoek and Oshakati.

## **1.2 Support from the Central Bureau of Statistics**

The data from the 2001 census are only preliminary (see annex). According to Dr. Kanine, from the Central Bureau of Statistics, and in charge of the Census, the details will not be available in the next few months for our study area.

The Permanent Secretary from the Central Bureau of Statistics can provide us with detailed maps of Oshakati and Windhoek, and can also help us to choose the sample for the third phase of the study (quantitative phase). They only require a formal letter of request from the Ministry of Agriculture.

## **Accommodation**

Sabine and Antoine have been invited to share the apartments of the French volunteers (CSN) in Windhoek and Oshakati. They will have to share the costs (water, electricity, rent, etc). However, they will also need to stay in the areas where Mahangu consumers live. In Windhoek, this will be Katutura, the former township. As far as we know, there is no hotel or guesthouse in these areas. According to our guides, Sigfried Mwaala and Saskia den Adel from CRIAA, it may be possible to rent a room for a week or a month in a private household.

We asked our colleagues to find out people from Katutura who might be interested. The students may change from one week to another.

It was also noted by M. Mallet that a few days in the production areas will provide Sabine and Antoine with information on the "traditional"/rural uses of Mahangu. It will also be harvest time.

We suggest that they go to the northern region one week after their arrival in Namibia. There, they will have to arrange with the local partners and authorities to stay a few days (3-5) in a village.

### **Car**

The students will have access to a car.

### **Financial arrangements**

The Namibian funds for the project (UNAM professor and students + local expenses) are managed by the Namibian Agronomic Board (Annie Zapke).

## **Field visit**

The Friday afternoon was devoted to a visit in Katutura, with Sigfried Mwaala and Saskia den Adel from CRIAA SA-DC. We went to two open markets : in Okuryangava and in "Single quarters" and to 4 different small supermarkets: STOP and SHOP in Okuryangava, SPAR in Okuryangava/ombili, ELAGO STORE and Oshanga King in Wanaheda. We also visited a supermarket in the centre of Windhoek.

In every place we visited we found Mahangu flour. In all supermarkets (large and small), we found

the flour processed and packaged by the Namibian mills. The most common form was the pure one, packaged in 2.5kg paper bags. We also found the mixed flour, and the two forms (pure and mixed) in 10kg paper bags. We also found some sorghum preparations for beer (made in South Africa). In the large supermarket in the centre of Windhoek, we found all the industrial processed and packaged products in large quantities. We did not see any other brand (in particular from the small scale milling companies).

These "modern" packaged products were not found on the open market, where women were selling un-packaged millet flour. These retailers were also proposing different products from sorghum and millet that are used for beer preparation. We also talked to young ladies selling a soft drink (*Oshikundu*) made out of millet. According to our colleagues, the flour from the Namibian mills is not fermented, while the flour from the open market is fermented. Mrs Mwaala gave us some translation of what we saw, in two Namibian languages: Oshidonga and Oshikwanyama.

**Lexicon (to be completed):**

Oshidonga	Oshikwanyama	English	French	Meaning
uusila	oufila	flour	farine	
omahangu	omahangu	millet	mil	
omushokolo	iilyalyaaka	sorghum	sorgho	
oshikundu	oshikundu	oshikundu	<i>idem</i>	made from sorghum and millet
uuhutu	ohkundu	bran	son	

We did not find sorghum beer in the supermarkets, or in the open markets. It is however produced and consumed (and given/sold ?) but at different places and different times of the day. This should not be forgotten during the phase 1 and 2 of the survey.



## Bibliography and notes

1. MAWRD, NAB, CRIAA SA-DC, 2001, Promoting Mahangu and Sorghum in Namibia. January. 69 p.

A reference.

Part one: Strategy and Action Plan

Part two: Workshop Proceedings

+Appendix

2. Mallet M. du Plessis P. 2001. **Mahangu Post-harvet Systems. A summary of current knowledge about pearl millet post- harvest issues in Namibia.** Research report. MAWRD, NAB. CRIAA SA-DC. march. 47 p. + maps.

A reference.

A comprehensive synthesis on what is existing on Millet and sorghum in Namibia. From Production to consumption. Very detailed bibliography.

3. Goli T., Ndiaye JL., 2000. **Mahangu, Sorghum and indigenous fruits processing and promotion in Namibia.** CIRAD AMIIS-PAA. Mission Report. November. 16 p + appendices.

Comments on the strategy and action plan.

4 Mendelsohn J., el Obeid S., Roberts C., 2000, **A profile of north-central Namibia.** Ministry of Environment and Tourism, Gamsberg Macmillan Publishers, Windhoek. 79 p.

Very beautiful and well documented document, with many references (see p. 77). Students should read carefully the chapters "farming" (pp 51-61) and "Household economies" (pp 62-68).

Amongst others a reference that we should found :

Keyler,S. 1996. **Economics of the Namibian millet subsector.** PhD thesis, Michigan State University, USA.

5. Kandando R.J., Ngwira T.N. 1999. **Consumption of Pearl Millet (Mahangu) products in Namibia.** A consultancy report to the FAO Namibia, Windhoek. DRAFT. August. 51 p.

This report gives some indications on the consumption of the mahangu products but since the sampling methodology is unclear and the sample size is very small, we can not give much confidence to the statistical results. ("60 family household were interviewed in towns such Oshakati, Ongwediva, Ondangwa and in Windhoek, and the respondents were randomly selected") Moreover, the sample was certainly not representative as "74.1% of the respondents were tertiary qualifications holders".

4. Central Bureau of Statistics. (undated, 2002 ?) **Census Preliminary Results in Brief, Census 2001.** 19 p.

This document gives the following statistical results:

Concerning the whole country (p.(i)):

Number of Households:	347 916
Female population:	936 718
Male population:	890 136
Total Population:	1 826 854
Annual Average Growth Rate, 1991-2001 (%)	2.6
Average Size of Households	
(No of persons per Households):	5.1

Total Population by Sex and by constituency, Khomas Region, 2001 Census (p.10)

Constituency	No of HH	Population			Average HH size
		Total	Females	Males	
Hakahana	15 826	59 546	26 198	33 348	3.8
Katutura Central	4 074	20 988	11 536	9 452	5.2
Katutura East	3 165	17 737	9 536	8 201	5.6
Komasdal North	5 600	26 621	13 873	12 748	4.8
Soweto	2 553	13 809	7 210	6 599	5.4
Wanaheda	6 578	29 051	13 881	15 170	4.4
Windhoek East	5 627	16 643	8 536	8 107	3.0
Windhoek Rural	5 147	19 908	9 312	10 596	3.9
Windhoek West	10 005	38 969	20 435	18 534	3.9
<b>Total Household</b>					
Population	58 575	243 272	120 517	122 755	4.2
<u>Special Population*</u>		7 033	1 986	5 047	
Total Population	58 575	250 305	122 503	127 802	



Total Population by Sex and by constituency, Oshana Region, 2001 Census (p.15)

Constituency	No of HH	Population		Average HH size	
		Total	Females	Males	
Okaku	3 144	19 222	10 619	8 643	6.1
Okatana	2 426	15 562	8 575	6 987	6.4
Okatjali	426	2 815	1 541	1 274	6.6
Ompundja	713	4 423	2 451	1 972	6.2
Ondangwa	5 792	29 783	16 293	13 490	5.1
Ongwediva	5 166	27 396	15 368	12 028	5.3
Oshakati East	4 838	22 634	12 256	10 378	4.7
Oshakati West	4 309	20 015	10 955	9 060	4.6
Uukwiyu	2 933	11 894	6 491	5 403	4.1
Uuvudhiya	869	4 357	2 227	2 130	5.0
<hr/>					
Total Household					
Population	30 616	158 141	86 776	71 365	5.2
<u>Special Population*</u>		<u>3 836</u>	<u>914</u>	<u>2 922</u>	
Total Population	30 616	161 977	87 690	74 287	

*\*Special population consists of all those persons who did not belong to private households during the census reference night. These include the homeless, overnight travellers, persons in hospitals, prisons, hostels and lodges.*

Personal comments and questions:

1. The relevant constituency for the urban studied area have to be specified.
2. Women are more numerous than men, in all the Oshana Region (on average 1.22 women for one man), and in Windhoek (including Katutura central and East, Windhoek West). Is it related to labour migration of men, who according to Meldelsohn *et al* (2000, see map p. 62) go to Windhoek, Walvis Bay, Luderitz and Oranemund for work. Or to Cassinga, Kunene, Erongo, Otjozondjupa... to trade.
3. No socio-economic data is available, but the average household sizes show the disparities between one area to the other. For example, In the Oshana region (north) the average size is 5.2 while in Khomas region (around Windhoek) it is 4.2. Within the Khomas region, the Windhoek east HH average size is 3.0 while in Katutura east it reaches 5.6.

## Les détails pratiques

On trouve tout les biens de consommation en Namibie. On a aussi des pharmacies...

Les choses à prévoir :

En France

Acheter et LIRE le livre « La Namibie, Un peuple, Un devenir » Karthala. De Ingolf Diener. Paris. Si possible rencontrer Ingolf Diener (Prof à Paris).

Un stage d'anglais intensif avant de partir selon le niveau

Un permis de conduire international

Des habits d'été (il fait beau la journée) et des habits chauds (les nuits sont fraîches. Il peut geler)

Si traitement en cours, des médicaments particuliers.

Prendre un téléphone portable si vous en avez un.

En arrivant :

dire qu'on est touriste à la douane

louer un cellphone (portable) ou acheter une carte pour son portable.

pendant le séjour : attention au SIDA (prévalence : 1 personne sur quatre est HIV positive)

Au retour:

une correction de l'anglais des rapports

Important !: all reports have to be written in english.





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Scientifique. CIRAD-AMIS

**Mahangu (pearl Millet) and sorghum consumption in  
urban areas in Namibia.**

Rapport de mission. 19 au 28 Mai 2002

Sandrine DURY.  
30 MAY 2002

## Summary

The objective of this mission is to launch the survey on Mahangu and sorghum consumption in Namibia, together with the students from CIRAD and from UNAM, in Oshakati and in Windhoek. From Monday 20 until Friday 24, we made several interviews within households, one commercial mill (ABC), with the responsible of the kitchen at the hospital in Oshakati to assess the way people prepare Mahangu and Sorghum, and their opinion on these products. We also collected the prices in several places in Oshakati, and taste the products both in families/relatives of the UNAM students and in the open market and the “cuca” shops and “shebeen”<sup>4</sup>. We all drove back to Windhoek Sunday 26. On Monday we met with Otilie Mwazi and Alwis Neerasinghe, from the central bureau of Statistics at the national planning commission.

On Tuesday we had a “debriefing” meeting together with the MSTT at the NAB,

We met the authorities from the Oshana Region Council<sup>5</sup>, and from the town council (municipality of Oshakati). We inform them about the study, and ask for their support. Mr Shilunga gave us very interesting information about the population of the town, and send us to “Windhoek consulting engineers”, who supplied us with a detailed map of Oshakati.

Mr Ipinghe from MMIU (Mahangu Marketing Intelligence Unit) and his collaborators were very much concerned and helpful for all the organisation of the mission (transport, meeting arrangements, facilitation of the administrative approach....). Sabine will have an office at MMIU, and will develop the collaboration, by informing on a regular basis Mr. Ipinghe and his collaborators of the progress of her work and discuss with them the opportunity of the different choices she will have to do.

As expected, it appeared that Mahangu and Sorghum products, the way to access to these products are numerous, as well as the recipes and the opinion and preferences. It would be premature to draw a typology but it should be underlined that the same behaviour or the same idea, as expressed by the people (for instance “saving mahangu”) can be explained by different factors according to different people: limited resources in some cases, preference for one type of mahangu (the grain from the village) or a search for diversity. The analysis of the determinants of each behaviour should be handle with care.

If the millet porridge and the oshikundu (the non alcoholic beverage) are most of the time prepared and consumed at home, the sorghum beer (Tombo) is usually prepared by specialised women and consumed in the street and in the “bars”. It seems that all these women are registered, and that it will be possible to know how many they are from the administrative services. However these figures will have to be verified, and a survey with some of these women should be conducted in order to assess the importance of the consumption out of the house. Depending on the data available, this survey can be conducted in the frame of the present study or not. However, together with the MSTT we decided it is not a priority.

Altogether, three different kinds of buyers/ final consumers and two categories of processors have to be interviewed:

- \* the households (usually ran by a woman, who is responsible both for the supply and the cooking)

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<sup>4</sup> Retailer shops, with or without a permanent structure. Can be one woman with one barrel of sorghum beer, and a few plastic glasses.

<sup>5</sup> Together with Ipinghe and Naita, we met Donna Magdalena K Endjala (Senior Chief Control Officer), Kaarin Jaafuu (personnel Officer) and Naemi N. Mukalele (Chief Clerk). These ladies will be please to talk about Mahangu.



- \* the kitchens of the institutions : hospital, schools...
- \* the individuals (who consume out of the house)
- \* the processors/sellers of beer (Tombo) or Oshinkundu, in the open markets and Shebeen/cuca shops
- \* the commercial millers

A different list of questions will be asked to each of them (see guidelines below).

In addition to the interviews, a list of the available products and their prices should be done, and updated during the period of the study. This will be done with consumers, and at the sale places.

All the students show good skills for the interviews, and everybody seem enthusiastic. The team in Oshakati consists in three young women (Magdalena and Sylvia Samuel, and Sabine Leporrier ) and one young man (Sakaria Shino). Two of them will not be able to work full time because they have other activities. Depending on the progress, special surveyors may be trained and hired for the quantitative phase. In Windhoek, the team will consist in 4 persons.

Naita Nghaamwa will insure the co-ordination, between the Oshakati and Windhoek teams. She will check if the two teams progress towards the same direction. A final workshop will be organised in Windhoek with all the stakeholders invited by the MSTT (Thursday 19 September).

## Guidelines for the interviews

### 1.3 Technical advises for the interviews.

1. Adapt you dress to the people you are going to meet, and be simple.
2. Explain precisely to the person why you want to interview her/him, and the purpose of the survey.
3. At the end of the interview, ask the person if she/he would like to join a focus group, and if yes, take the telephone number/adress.
4. Invite all the persons to the final workshop.
5. **During the interview, TURN OFF YOUR CELL PHONE !!!**
6. Record all the interviews. And report exactly what is recorded( including your questions, hesitations, laughs...) and body attitudes, environment, date, place, start time, end time. For each interview, report also any details from the environment that may help to characterise the person, or the group of person you talk to (age if not asked during the interview).
7. You need to have sufficient tapes and battery in advance to not run out of them during the interview.
8. Informal discussions or interviews that are not recorded, give sometimes very good and important information. Please, write as soon as possible what you learned.
9. **FIRST LET THE PEOPLE TALK FREELY AND THEN ASK QUESTIONS THAT ALLOW TO CROSS CHECK THE INFORMATION, and MAKE DIRECT AND VISUAL OBSERVATIONS TO ASSESS THE POSSIBLE CONTRADICTIONS (report that).**
10. IF YOU MISS AN IMPORTANT INFOMATION, AND YOU REALIZZE THIS IN THE EVENING WHEN YOU TYPE THE INTERVIEW, GO BACK TO THE PERSON.

### 1.4 Interviews within the households

In order to really understand the factors influencing the demand for mahangu and sorghum products, detailed and in-depth interviews have to be conducted. This first stage is essential and is a condition of success of the quantitative survey.

Conceptual frame to analyse food consumption:

Food consumption, food choices, and purchases can be analysed with different perspectives and tools coming from different disciplines (economics, sociology, marketing, psychology). N. Bricas from Cirad has developed an integrated approach, which aimed to be practical, so that both policy makers or small scale entrepreneurs can use it. This approach has been developed and tested in many countries, with many different case studies (cereals in Senegal, yam in West Africa, plantain in Cameroon, ....). One of the main highlights of these empirical studies is that food choices and consumption has to be put in a context, i. e. food intake is closely related to the consumer characteristics, to the products characteristics, but also to the final use and the context of the use. All the above information have to be properly documented.

1. The products (including intermediary products (purchased/received by the consumers) and final products (consumed: eaten/drunk):

- exact definition/description of each product including
- name
- its place in the local classification of food
- its packaging
- price
- way of supply (at the level of the consumer) : purchase/ gift/ bartering/selfproduction



- Process of preparation at the consumer level: recipes, substitutes

2.Context: the context can be characterised by

- the place
- the reason of the consumption (regular meal, special event, ...)
- the number of guests (individual or collective consumption)
- the time of consumption and the type of meal: breakfast, snack between meal), lunch, dinner (the definition of these terms should be specified in Oshakati and in Windhoek).
- Frequency (versus substitutes)
- quantity consumed

3. The consumers and cook characteristics and its perception/opinion on the product

- age, sex, duration in city, ethnic group....
- opinion on the product : historically, preferences, of oneself and for others (projective test)

All specific terms have to be reported in local languages (specify the language) with the related definition/explanation in English.

*The questions of the following check list must be addressed to a small sample (30 to 40) of very different people (in term of standard of living, ethnic group or geographical origin, age, sex, size of household). When no new information comes out of the interviews, this phase is over. The order and the formulation of the questions are not important at this stage.*

- Do you consume Mahangu products?
- If NO,
- Why?
- What different brand do you know?
- What would possibly make you consume Mahangu?
- if YES, what kind of Mahangu do you use?
  - . if flour specify the kind of flour (brand, quality....)?
  - . if grain specify the variety, the age, the quality characteristics
- Where and how do you get access to this product? Be very precise

Purchase? where? which quantity? How often?

Gift from whom? if a gift, how often do you receive this gift? and besides receiving it, do you buy it? do you produce it?

Bartering ? against what ? ....

Self production.

- what are the different uses (final product) of Mahangu? can you explain your personal way to prepare (recipe)?

(If relevant) **Why** do you mix maize with Mahangu?

• Who eat the different products you mentioned in the family, do every members of the family eat the and why? What is the perception of every person?

• For each final product, do you have special occasion to consume it? (weddings, celebrations....)

If yes, and if the product was available in the shops, would you like to consume/buy it more often?

• How often do you eat mahangu per week (do it for each uses)?

• For each final product (use) do you have **a favourite primary product** and **why**? (specify the brand or the process if possible)

• For each of these uses, what are the **primary products cannot use and why**?

• For each of the primary products, **what are the advantages and what are the problems**?

First, let the consumer answer freely. Then, the following criteria can be suggested for comments :  
organoleptic characteristics

visual aspect : colour, homogeneity

smell

texture, thickness,

how it longs in the stomach

taste

safety aspects

nutritional value

effects on health/sexual performance

convenience

of packaging

of cooking

availability

any time

any place

quality consistency (steadiness)

last longer?

sale unit and packaging

duration of storage

modern or traditional

natural or chemical

rural or urban

interest for specific group of people (children, old people, men, women, pregnant women)

In the consumer opinion, who are the people who consume each specific product?

At what price, do you think Mahangu grain is too expensive and you do not buy it any more?

At what price, do you think Mahangu grain is too cheap and you do not buy it any more (*because the quality is suspect*)?

At what price, do you think Mahangu flour (specify the brand) is too expensive and you do not buy it any more?

At what price, do you think Mahangu flour (specify the brand) is too cheap and you do not buy it any more (*because the quality is suspect*)?

value for money

quantity for money

- What are the differences between present Mahangu consumption and the past?



## 1.5 Interviews with the institutions (hospital, school hostels, prison...):

The general guideline is the same, but in large institutions, the responsibilities are shared between different persons : one is responsible for the menu, one for the cooking, one do the cooking and one is responsible for the purchases. Depending on the person, only a part of the questions will be asked. In order not to bother the persons several times, one will try to have all the qualitative and quantitative information at the same time. However, it is always possible to come back, when an information is missing.

Do you prepare Mahangu and sorghum products here? If no, why?

If yes? what kind of final product?

How many times per week?

For which meal?

In which quantity? For how many persons? of what age?

To whom do you buy the raw product? Where do you buy it? At which frequency?

In which quantity?

Do you change from one season to another? why?

Do you find any problem for the supply? Is it easy to find the product you like?

Do you think the price is seasonal?

At what price do you think the mahangu flour is too expensive and you do not buy it?

Are you happy with the quality of the product you get? Please precise. (See guidelines households)

*(The information on supply and on cooking should be cross checked, and coherent. At the end of the interview, one should be able to say the quantity that is consumed every year in this institution, the amount of the purchase, the seasonality of the consumption, and the problems encountered regarding the supply and the quality of the product (and their expectations)*

## 1.6 Interviews with processors

This is important to see the owner, and if possible the person responsible for the quality and the sale (if not the same). Do the interview during the visit of the enterprise. Some questions will not be asked if it is possible to observe it directly. Crosscheck what you observe with what is said.

What product do you process?

What are your final products? (Describe it without omitting any details : size of the packaging, type of packaging)?

Where do you sell the products?

Who are your clients ?

Is it easy to sell?

Can you sell as much as you want? If not, why?

What quantity do you sell during one day / week / month (according to the size of the processor)?

Does it vary from one day/week to another?

Do you think your clients are satisfied by the quality of your products?

If yes, Why?

If no, Why?

What is the cause of the problem?

According to you, what are the solutions ?

## GLOSSARY

Oshindonga <sup>6</sup>	Oshikwanyama	English	French	Meaning
Omahangu	Omahangu	Pearl millet	mil	
Omushokolo	Illyavala	Sorghum	sorgho	
Uuhutu	Onghundu	Bran	son	! sometimes called <i>yellow flour or powder</i>
Uusila	Oufila	Flour	farine	
<b>PRODUCTS</b>				
Okatete	Okambobo or Okapilili	Thin porridge	Bouillie liquide	
Oshimbombo,	Oshifima	Thick or « <i>stiff</i> »	Bouilli	Mahangu flour cooked in

<sup>6</sup> Original Oshakati people are Kwambi. Oshikwambi is not written (*to be confirmed*). However, Ndonga and Kwa nyama people are very numerous in Oshakati. They are all part of the Ovambo (Aakwanbi, Aakwanyama, Aandonga, Aangandjera, Aakwaluudhi, Aakolonkadhi, Ambalantu are the “7 nations of Ovambo” + Aamandja from Angola)



Oshithima*		porridge	e épaisse (tô ou boule)	water
	Tombo	Sorghum beer	Bière de sorgho	Fermented beverage made of malted red sorghum and brown sugar
Onona	Omahola			Whole or dehulled sorghum grain boiled.
	Epwaka			« alcoholic Drink made out of the shells » (bran)
Ontaku	Oshikundu	Oshikundu	Oshiku ndu	Slightly fermented non- alcoholic beverage made from millet
Oshikwiila	Omungome			Sort of pancake//bread
	Olumbololo			Sour milk with uncooked flour
	Oshitaka			Sour milk+ stiff porridge
Okatokele				Alcoholic drink from maize
RELATED VOCABULARY				
	Oshipale	Threshing floor	Aire de battage	The place where you thresh the grain
Eshisha	Okaanda	Granary	Grenier	The place where you store the grain
	Oshini	Mill/pounding place	Lieu où l'on écrase pile le grain	The place where you grind (crush/pound) the grain (by extension, the place of the service mill)
	Oshako	Bag		
	1 Olata More eelata	Unit of measurement. 25 litres. 15 kg.	Unité de mesure. Seau de 25 litres.	

## NOTES ON THE SUPPLY SOURCES AND PRODUCTS

The main final mahangu products consumed in Oshakati consist in porridges : thin and thick, and in an non alcoholic beverage (Oshikundu). The sorghum beer (Tombo) is also very common. Different preparations made out of mahangu and sour milk are also consumed. Finally, some women prepare different kinds of pancakes/bread. Most of the transfers (exchanges) concern grain but flour is also sold and given, and some ready to consume products are also exchanged. The importance of all these forms of exchange may be assess in the next phase (quantitative).

The supply forms (at the level of the consumer) are very numerous: some products are brought directly from the farm (own village or others), some are bought in supermarkets or shops, in the street, to traders



in the city (people who sells in their house). Some products are given by friends or purchased from the churchess.

### **Omahangu grain**

Place of access	Way of access	Prices
Own village (own farm – neighbours...)	Own – Exchange – Purchase - Given	20 – 30 N\$ / olata <sup>7</sup> TO BE ASSESSED
Others villages (trader)	Own – Exchange – Purchase - Given	
friend	Given	
Open market	Purchase	
Traders in city <sup>8</sup>	Purchase	
Churches	Purchase (The churches are sometimes paid in kind. They resell the grain they received as a payment)	N\$20

### **Sorghum grain**

Place of access	Way of access	Prices
Own village (own farm – neighbours...)	Own – Exchange – Purchase - Given	~30 N\$
Others villages (trader)	Own – Exchange – Purchase - Given	
Friend in the city	Given	
Open market	Purchase	
Supermarkets	Purchase	(malted)
Traders in city	Purchase	

### **Mahangu flour**

Place of access	Way of access	Type of flour	Prices
Own village (own farm – neighbours...)	Own – Exchange – Given	All	N.A
Others villages (trader)	Own – Exchange – Given	All	N.A
friend	given	All	
On the street	purchase		
Commercial mil			
Open market ( Omatala, oneshila)	purchase		
Traders in city	purchase		
Supermarket	Purchase	Washed/unwashed flour, shell partially unshelled and unshelled, fermented and unfermented. (with label) Some supermarket make their own blend, with no label.	Cf. table attached Opinion : Comparaison with maïze « It is the same price, but prefer buy maïze because you use less »

<sup>7</sup> In the service mill, you can pay N\$8 to grind an olata.

<sup>8</sup> « Trader in city » refer to people who sell products not at a special place (bar, market...) but at home.

### Sorghum flour

Place of access	Way of access	Type of flour	Prices
Own village (own farm – neighbours...)	Own – Exchange - Given		N.A
Others villages (trader)	Own – Exchange - Given		N.A
friend	Given		
On the street	Purchase		
Commercial mil			
Open market (Omatala, oneshila)	Purchase		
Traders in city	Purchase		

### Oshikundu

Place of access	Way of access	Type	Prices
Own village (own farm – neighbours...)	Own – Given -	Sieved or un-sieved	N.A
Others villages (trader)	Own - Given		N.A
Friend	given		
On the street	purchase		
Open market (Omatala, oneshila)	purchase		1 N\$/ liter
Cuca shop	purchase		
Shebeen	purchase		
Traders in city	purchase		

### Tombo

Place of access	Way of access	Type	Prices
Own village (own farm – neighbours...)	Own – Given -		N.A
Others villages (trader)	Own - Given		N.A
friend	given		
On the street	NO WAY		
Cuca shop	purchase		0,5 N\$/Liter
Shebeen	purchase		
Traders in city	purchase		

### Omalovu

Place of access	Way of access	Type	Prices
Own village (own farm – neighbours...)	Own – Given for special occasion		N.A
Others villages (trader)	Own – Given for special occasion		N.A
friend	Given special occasion		
On the street	NO WAY		
Cuca shop	NO WAY		Not Sell
Shebeen	NO WAY		
Liquors market	purchase	Different flavour From Namibian Breweries	



**Olumbololo + Oshitaka**

Place of access	Way of access	Type	Prices
Own village (own farm – neighbours...)	Own – Given		N.A
Others villages (trader)	Own – Given		N.A
friend	Given		
Home Made	Home made		

**Omongome – Cake**

Place of access	Way of access	Type	Prices
Own village (own farm – neighbours...)	Own – Given		N.A
Others villages (trader)	Own – Given		N.A
Friend	Given		
Open market	Purchase		
Supermarket	purchase		
Bakery			
Trade fair			
Commercial mills			
Home Made	NA		

**Bread**

Place of access	Way of access	Type	Prices
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**Oshifima**

Place of access	Way of access	Type	Prices

**NOTES ON QUALITY CHARACTERISTICS AND PROBLEMS.**To be completed

Nature of the product	Nature of the problem	Who consider it as a problem?	Who do not consider it as a problem	Cause of the problem	Proposed solutions
Grain	Old, with insects and rejection			Long storage, Bad storage condition	
	Difficult to find during all the year				
	Expensive				
Improved variety/local varieties					
Flour	Sand				
	Too bitter				
	Dark colour				
Meme Mahangu	Bad taste			Not fermented	
	Color				
	Too coarse				

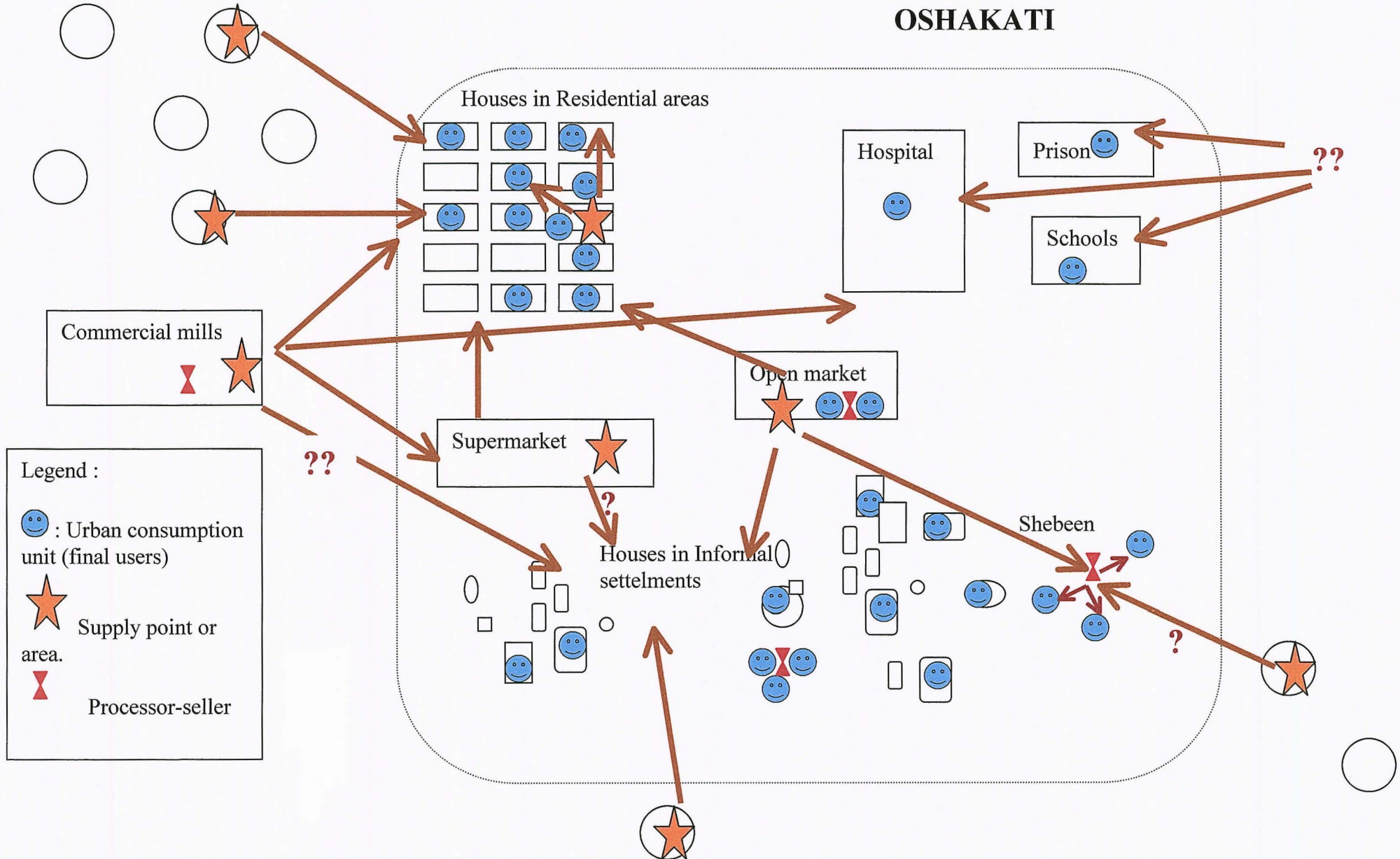
Tumbo					



# DIAGRAM OF FINAL USERS/CONSUMERS AND SUPPLIERS OF MAHANGU AND SORGHUM PRODUCTS IN OSHAKATI .

VILLAGES. HOMESTEAD.

OSHAKATI



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SLIDES FOR THE PRESENTATION TO THE MAHANGU  
AND SORGHUM TASK TEAM. 28 MAY 2002.

Slide 1

**Mahangu and sorghum  
consumption in urban areas in  
Namibia.**

Progress report. 28 May 2002  
CIRAD/UNAM

Slide 2

**Objectives of the study.**

- To assess the importance of local cereals consumption in the cities,
- To assess the determinants of the consumption for each identified product and consumer,
- To identify the conditions for improving the competitiveness of local cereals on urban markets.



## Slide 3

### An integrated approach.

- Related to economics, sociology, marketing tools.
- Qualitative approach:
  - to identify products, actors, places and modalities of exchanges,
  - to understand the determinants of consumption
- Quantitative approach to measure:
  - The relative importance of each behaviour
  - The quantity that is consumed in each city
  - The relative importance of the different sources of supply of the consumed products

## Slide 4

### Survey with the commercial millers

- Consumers' perceptions/expectations?
- Constraints and opportunities,
- Strategies to target these expectations.

*By-product: Inform them about our study.*

## Slide 5

### Identification of the products.

- place and modality of supply (purchase, gift, self-production, exchange)
- nature:
  - raw (different types of grains as described by consumers)
  - secondary (different type of flour, bran, malted grains...)
  - final (ready to eat/drink)
- consumer price
- packaging
- final uses (porridge, beverages, ...)

## Slide 6

### Identification the uses/context.

- Where and with who are the products consumed ?
  - In your own home
  - In the home of someone else
  - Out of home
    - bars/cuca shop/shebeen/open market/streets
    - restaurants
    - schools...(institutional market)
- When ?
  - Everyday or special events,
  - Seasonnality



### Who are the users?

- Final consumers ? Individuals
- Intermediate consumers
  - Millers
  - Bakeries
  - Drink processors/sellers: breweries, cuca shops, shebeens, street food, ...

### Identification of the factors of supply

What do the consumers expect in terms of

- Disponibility
- Prices
- Quality
  - nutritional value,
  - organoleptic criterias,
  - symbolic representation of the products,
  - convenience of utilisation,
  - etc...

## BUILDING A TYPOLOGY OF FINAL CONSUMERS

Cross-linking all the informations obtained  
from the qualitative phase to determine the  
main types of behaviour.

## METHOD FOR QUANTIFICATION

- Consumption at home --> sample of households
- Consumption out of home--> sample of processors/sellers (cuca shops).
- Consumption in institutions (schools, hospitals, ....). Exhaustif study.



## Slide 11

### Planning

- 2 weeks: identification of the actors in Windhoek and Oshakati, elaboration of the methodology
- 1 week: training of the students and beginning of the qualitative survey in Oshakati
- 5 weeks: continuation of the interviews in the two cities, preliminary questionnaire for the quantitative phase and elaboration of the typology
- (beginning of July): 1 week : pre-test of the questionnaire, training of the surveyors and supervisors

## Slide 12

- 2 weeks: running of the questionnaire and data capture
- 1 week: cleaning of the data
- (August): 1 month: data analysis
- (September): 1 month: redaction of the final report and debriefing meetings

