



---

Département amélioration  
des méthodes pour  
l'innovation scientifique  
Cirad-amis

Mission Report

Sorghum and Millet Consumption in Limpopo (ex-Northern)  
Province, South Africa.

April 5-15, 2002

Sandrine DURY  
Rapport Cirad-Amis n° 46-2003  
OM n° 40 07 2 065



MISSION REPORT .....	1
<b>1 OBJECTIVES OF THE MISSION .....</b>	<b>3</b>
<b>2 RESULTS ACHIEVED:.....</b>	<b>3</b>
2.1 PROGRESS OF THE PROJECT .....	3
2.2 WORKPLAN TO FINALISE THE PROJECT .....	4
2.3 PRESENTATION TO THE SCAC (SERVICE DE COOPÉRATION ET D’ACTION CULTURELLE) FROM THE FRENCH MINISTRY OF FOREIGN AFFAIRS .....	4
2.4 IDEAS TO MOVE FORWARD .....	5
2.4.1 Connecting small scale agriculture to the market .....	5
2.4.2 Who is going to benefit from the promotion of Sorghum and Millet products? The need for developing new relationship between urban consumers and small-scale producers.....	5
<b>3.....</b>	<b>7</b>
<b>3 ANNEXES .....</b>	<b>7</b>
3.1 REPORT OF THE FIELD VISIT TO THE LIMPOPO PROVINCE (APRIL 8).....	7
3.1.1 Visit to the farmers of MAMONE VILLAGE.....	7
3.1.2 Details on the sorghum products found in the supermarket .....	8
3.2 .....	9
3.2 STATISTICS ON CONSUMPTION/HOUSEHOLD EXPENDITURE IN SA .....	9
3.3 SORGHUM AND MILLET CHAIN IN SOUTH AFRICA. NOTES .....	10
3.4 SORGHUM MARKET CHAIN IN LIMPOPO PROVINCE .....	11
3.5 SCHEDULE OF THE MISSION.....	12
3.6 .....	13
3.6 ADDRESSES OF PERSONS MET.....	13
3.7 .....	14
3.7 REPORTS AND PAPERS CONSULTED .....	14
3.8 .....	15
3.8 GLOSSARY .....	15

# 1 Objectives of the mission

The mission aimed at

1. Assessing with the partners (CSIR) the progress of the project “*Une recherche participative sur les critères de qualité et les tendances de consommation des céréales de base. Formalisation d’une méthode de recherche et identification d’opportunités économiques dans la Province du Nord*”. This project is funded by the “Programme Franco-Sud Africain de Coopération en recherche scientifique. Appel d’Offre 1999”. The partners are CIRAD-Amis and CSIR-Foodteck.
2. Evaluating and organising the different tasks (data processing and analysis, writing) that have to be accomplished to finalise a report on millet and sorghum consumption.
3. Presenting the main results to the donor (MAE).
4. Based on the results of the project, and on the different stakeholders’ interests, developing a proposal for its continuation.

## 2 Results achieved:

### 2.1 PROGRESS OF THE PROJECT

The initial objectives of the project “*Une recherche participative sur les critères de qualité et les tendances de consommation des céréales de base. Formalisation d’une méthode de recherche et identification d’opportunités économiques dans la Province du Nord*” were cut back since only 50% of the initial budget was actually funded (about FF160,000/FF300,000).

The project was also delayed because the University of the North did not deliver either the report or the database related to the consumption surveys (qualitative and quantitative).

Early in 2002, CSIR decided to conduct new surveys and to do the analysis itself. The initial questionnaire, prepared with CIRAD, was adapted, and 60 interviews were conducted in four different areas (Giyani, Pietersburg, Louis Trichard, and Venda) in February 2002. Three students from the University of Pretoria were hired as surveyors. Since they were from Limpopo Province, they were able to speak the different languages. Ms Hester Adam (CSIR) did the descriptive analysis of the data using Excel. The tables are presented in a report (H. Adam, 2002). However this “final report” does not include any information on the characteristics of the region. Secondly, the sampling methodology is not explicit. The typology of the consumers, and the food patterns are not assessed. Finally, the comparison of the results between the different areas is not done. Last, but not least, the areas studied are mainly rural. The discussion with the students who did the survey and H. Adam, helped to better understand both the sampling methodology (based on contacts with extension services) and the difference between the studied areas (from rural to semi-urban settlements). This should be written by H. Adam, who will also present the tables to outline the difference between the rural/semi-urban areas).

## 2.2 WORKPLAN TO FINALISE THE PROJECT

Together with Ms Moroka and Ms Adam, we agreed to launch a second phase of the survey in one or two cities in Limpopo Province with 120 interviews, in the shopping centres. These will target women (since they are responsible for food purchase), both from Limpopo Province and from other provinces. This survey will make it possible to compare the habits and perceptions of people from rural and urban areas, and of people from other regions.

CIRAD proposes hiring, for 2 months, Anne Bichard who is doing her PhD thesis on consumption of local products, to conduct a qualitative survey. It would consist of interviews with individuals and focus groups, with people from different sociological backgrounds. The aim of this qualitative survey is to assess the products that are known and used by the different strata of the population, the different ways of obtaining these products (gift, purchase, etc.), the different “uses”, in terms of place, time, recipes, and the “occasions” on which they are consumed (when, where, how) and the perceptions of these products, and to try to estimate the acceptability of new products (such as muesli, or labelled products (certifying that they are produced by small-scale farmers, who received a fair price, or small-scale processors). This work will complement the quantitative surveys.

H. Adam is invited to Yaounde, where S. Dury is working (at IITA) to finish the data analysis and the report (CSIR will pay for that). This can be either in June or in September.

## 2.3 Presentation to the SCAC (Service de Coopération et d’Action Culturelle) from the French Ministry of Foreign Affairs.

A summary of the achievements of the project was presented to Patrick Le Fort, head of scientific co-operation in the SCAC<sup>1</sup>. He seemed to be concerned about the academic output of the project (diploma). We also presented the idea of developing connections between small farmers and the national commercial sector, through new products, new arrangements and new labels ( “fair trade” type). He said that it would be possible to apply to the **next Appel d’Offre du Programme Franco-Sud Africain en recherche Scientifique**. A meeting is to be held in April to discuss the guidelines, and the call for proposals may take place in June. The proposals should be ready in September. It seems it is possible to apply twice to this programme and the chances of obtaining funding seem to be high (according to JP Loyer and S. Perret). Biodiversity may be one of the themes proposed under which we could present a project.

Another opportunity to be explored is the “**FSP-small scale rural development**”. This is a 4-year research/development/training programme (1.2 millions euros) which will take place in the Provinces of Kwazulu Natal (2/3 of the budget) and Limpopo(1/3). In Limpopo province, a water management activity has been proposed the area of Venda, while around the University of the North, GRET will lead an activity to decentralise the rural development units. The detailed activities have not yet been set, and it may be possible to present an agri-food project in this framework. One of the initial key objectives of this FSP was training, and any proposed activities

---

<sup>1</sup> JP Gay is in charge of *development cooperation*.

should include this aspect.

## 2.4 IDEAS TO MOVE FORWARD

### 2.4.1 Connecting small scale agriculture to the market

One of the main development issues in SA is Equity. SA is one of the most unequal states in the world. The different national economic policies have not succeeded in sharing the benefit of economic growth. In spite of tremendous progress on democracy and human rights, most of the economic sectors remain dualistic. The agricultural and agri-food sector reflects this dualistic economy. A modern commercial sub-sector (including large estates, large processing companies, and big supermarkets) provides food and beverages for the major part of the local population (including “poor” people). A very large choice of food products, made in SA, is available in the supermarkets, including different kinds of bread, biscuits, muesli, wines, alcohol (*amarula*) meat preparations (including *biltong*), and milk products (yoghurts, cheese) etc. However, most of these products conform to “European” food habits and it is as if African preferences were not taken into account<sup>2</sup>. This large modern, industrialised sub-sector also contributes to exports (wine, alcohol, cotton, maize, etc.).

There is, at the same time, another agri-food sub-sector, which is not industrialised, and relies mainly on small-scale farms offering specific services (retailers) and food products. This sub-sector is not very well known, and its contribution to the GDP, to employment and income generation has not yet been assessed. The national Department of Agriculture states that “*in emerging agricultural sector 1 million small-scale farmers and employers earn a living from agriculture. It is furthermore estimated that in South Africa 6 million people are dependant on agriculture for a livelihood.*” This sector, however, plays a key role in the food security of the poor and provides job opportunities for many poor people, especially women. It also contributes to creating social links amongst people since many rural/agricultural activities require a minimum of interaction and organisation between people. For Sorghum and Millet chains (see

people. annex 3.3) we do not have yet a clear picture of the different stakeholders and of the interaction and regulation mechanisms between them. The specific constraints at the different level of the chain have not been identified yet<sup>3</sup>. Prof. Kirsten (University of Pretoria) said he had supervised several thesis on different examples, but as far as he is concerned, he does not know any conceptual and exhaustive study (including all aspects of production/consumption) on a agri-food chain. This could be part of a future research project, in the FSP.

### 2.4.2 Who is going to benefit from the promotion of Sorghum and Millet products? The need for developing new relationship between urban consumers and small-scale producers.

---

<sup>2</sup> One can find some typically African food products, such as sorghum beer preparation, sorghum and millet flour for “meal” preparation, etc, but the space this occupies on supermarkets shelves is very small

<sup>3</sup> Mrs A. Bichard for the French Cooperation, and Dr. Dave Harcourt for CSIR, are both just starting a identification survey of people, NGO, Professional Organisation... who are active in the promotion of small scale food processing in the Limpopo Province.



The basic issue of rural development projects is to improve the income of the small farmers by connecting their production and processing activities to the markets. In that framework, promoting sorghum and millet may help the small farmers and small-scale processors to sell their products. As most of the South African sorghum is produced on large estates and processed by large milling companies (such as KING FOOD CORPORATION, see annex 3.1), the promotion of sorghum and millet products should focus on promoting at the same time a label that certifies the origin of the product. The different stakeholders of the chain should meet and make arrangements so that some of the final products can guarantee to the consumers that small-scale producers and millers have been paid a "fair price" for their work/products.

Several scenarios are possible: The small producers come to some fair agreements or contracts with the commercial millers who are ready to develop new and "fair" products. The connection can then occur before the milling stage. The producers may also develop their own chain, with their own mills and marketing chain. They may, together with other producers, get organised to sell directly to the shops, and even create some special stores. The connections will then occur directly with the retailer or with the consumer. This will reduce the distance between the consumers and the producers, and may be regarded as an opportunity to gain confidence, and make products more attractive (according to N.Bricas).

The results of the project will tell us who are the consumers and possibly what their expectations could be. Depending of the results of the consumption study, it may be interesting to develop a strategy not only in term of technology (new product, new packaging), but also in terms of organisation (production, process, place of sale) and in terms of commercial strategy (label).

To continue our project, we propose identifying both a new product (with CSIR) and a new commercial strategy currently being developed by small farmers/processors or organisations, and, with them, test the reaction of the consumers.

### 3 ANNEXES

#### 3.1 Report of the field visit to the Limpopo Province (April 8)

##### 3.1.1 Visit to the farmers of MAMONE VILLAGE.

Mamone is located near Pietersbourg, in a semi-mountainous dry area. From Pretoria, it was about a 2 ½ hour drive on a good tarred road. Before arriving at the village, we saw sorghum and millet fields ready to be harvested. Each field is less than 0.5 ha.

The meeting was organised by AFRICARE, an NGO funded by USAID. One person (Joyce) from the NGO was accompanying us. We met about 15 farmers, men and women, members of the “Mamone trading cooperative”. The discussion was organised in a group, and in the Northern Sotho (Pedi) language. Tshidi Moroka first explained the project in Pedi, then H. Adams gave in English the results of the consumer survey (Jonas translating). We presented the report from JL Ndiaye and G. Fliedel which was circulated amongst the people. Many women were happy to see the photographs. Tshidi promised to send a copy to the group. Then we had a discussion about production and marketing. In this kind of collective discussion, as a neophyte in (someone new to) the region, and with two different languages, it is difficult to get precise information. At the end of the collective discussion, we had a short discussion about the varieties with one of the oldest men, who seemed to be the president of the cooperative. I also asked if it would be possible to visit a field, to see a place where they store the crop, or to eat one of the sorghum products. Unfortunately, it was not possible and we had to go back. We stopped at a small shop in the village, where we could see the products sold : no millet/sorghum. Just rice and maize. Altogether, it lasted about two hours.

Last year, they grew a collective plot of 15ha of sorghum, in addition to their private fields. They explained to us that they did not do it again this year because they could not sell the harvest last year, which was a very good season.. They do not have a market place, nor customers, a warehouse or a place to store their product. They said that a great quantity of the harvest was lost due to bad storage conditions.

All the production is now gone and they can not bridge the gap between the two cropping seasons. They have to buy food in the stores.

In the village shop, we just found maize flour and rice. The seller said that they rarely have sorghum/millet products because they stay on the shelves too long (nobody buys them). We did, however, find these products in a small supermarket (SHARP) in the nearby town (Groblersdal).

They do not have formal or regular contacts with commercial farmers. They said that they sometimes had some contacts through the NGO, but nothing successful. They found a customer but the quantity he wanted was too big and they could not provide enough.

They said that part of the production was sold (50kg = R100, R2/kg) to neighbours.

The varieties that are grown have several origins: they can be taken from the last harvest or



bought in the market. A farmer showed us a catalogue from a seed company “PANNAR” which had several varieties of sorghum, such as PAN8446 or PAN283. All of these sorghums have specific colours and properties. It seems that commercial companies have specific requirements. The price of the seeds was R207 for 25 kg (R8.3/kg).

### 3.1.2 Details on the sorghum products found in the supermarket

We found

- 1) a product labelled “beer powder” (sorghum malt ?) packaged in a 750gr plastic bag (brand MNANTI) price: R.4.99
- 2) another product based on pre-cooked sorghum flour, packaged in a 1 kg plastic bag, with a lot of information on the label. The brand is MORVITE, and on the front of the bag it says: “INSTANT ENERGY BREAKFAST. No cooking-just add milk or water”. On the back of the bag, the ingredients are listed (pre-cooked sorghum, Sugar, Citric Acid, Salt, Vitamin supplement, Sweetener) and detailed nutritional information is given, with more than 30 different macro and micro nutrients. It also says, in big letters: “Based on the original Phuza Amandla recipe”.

And “**MOMS-Give your family the perfect start to the day with Morvite Instant Energy Breakfast!**” etc. Then, a kind of ribbon with KING FOOD “Your Guarantee of quality”.

On the side, it says: “best before MAY02”.

Price :

- 3) A third product found was KING KORN in 1kg paper packets. MTOMBO-MMELA. Home brew

**Price: R 5.50**

These three products are made by **KING FOOD CORPORATION, Curlewis Street, PO box 63, Potchefstroom 2520 South Africa. A Division of Tiger Food Industries Ltd.** It seems that they have a commercial strategy and target different consumers: women and children, me.

## 3.2 Statistics on consumption/household expenditure in SA

The National Department of Agriculture (NDA), on its website, gives general information on agriculture in South Africa.

“As far as the per capita consumption for 2000 is concerned, maize once again heads the list of major consumer products (more than 93.2 kg/person/year). Wheat has the second largest annual consumption of 44 kg, followed by potatoes and sugar with consumption rates of 31kg/person/year.”<sup>4</sup> South African consumers spent a total amount of R1 09,006 million during 2000 on food commodities. Expenditure on meat products represented almost a third of this amount, while that on coffee, tea and other beverages came to only R 32,349 million.

The Central Statistics Service (CSS) is a very important source of information. An Income and expenditure of households survey was conducted in the Northern Province in 1995. Another survey was conducted in 2001 but the results are not available yet.

Average household expenditure on food for the survey year. Households : particulars according to population group (in the Northern Province).

Expenditure	Africans/blacks	Coloured	Indians/Asia ns	Whites	Total
Number of households	2448	17	9	194	2668
Sorghum meal or powder	17.4	0	0	10.97	17.07
Total Cereal Products	2101	2039	2097	1932	2094
Total Food	6215	7878	20102	12954	6523
Budget share of sorghum product in cereal budget	0.8%	0.0%	0.0%	0.6%	0.8%
in food budget	0.3%	0.0%	0.0%	0.1%	0.3%

Source : CSS the Statistical release P0111.9. P46-50

Theses statistics show that sorghum represents on average 0.8 % of the cereal budget of the households, and about 0.3% of the total food budget. It appears that both Black and White people buy sorghum products, while Coloured, Indians, and Asians do not. Finally, we do not know if the survey takes into account the production of the household and gives a value to it.

Average income for the survey year

Income	Africans/blacks	Coloured	Indians/Asia ns	Whites	Total
Number of households	2448	17	9	194	2668
Total Income	27,325	62,034	138,666	116,733	31,348

Source : CSS the Statistical release P0111.9. P75

In the Northern province, in 1995, the average income (including direct and indirect incomes)

<sup>4</sup> <http://www.nda.agric.za/history/>

is 4.3 greater in white households than in black households.

### 3.3 Sorghum and Millet Chain in South Africa. NOTES

#### **SORGHUM : Annual production ranges from 200,000 to 400,000 tons**

Human consumption: 250,000 tons

Mabele meal: 55-60,000 tons,

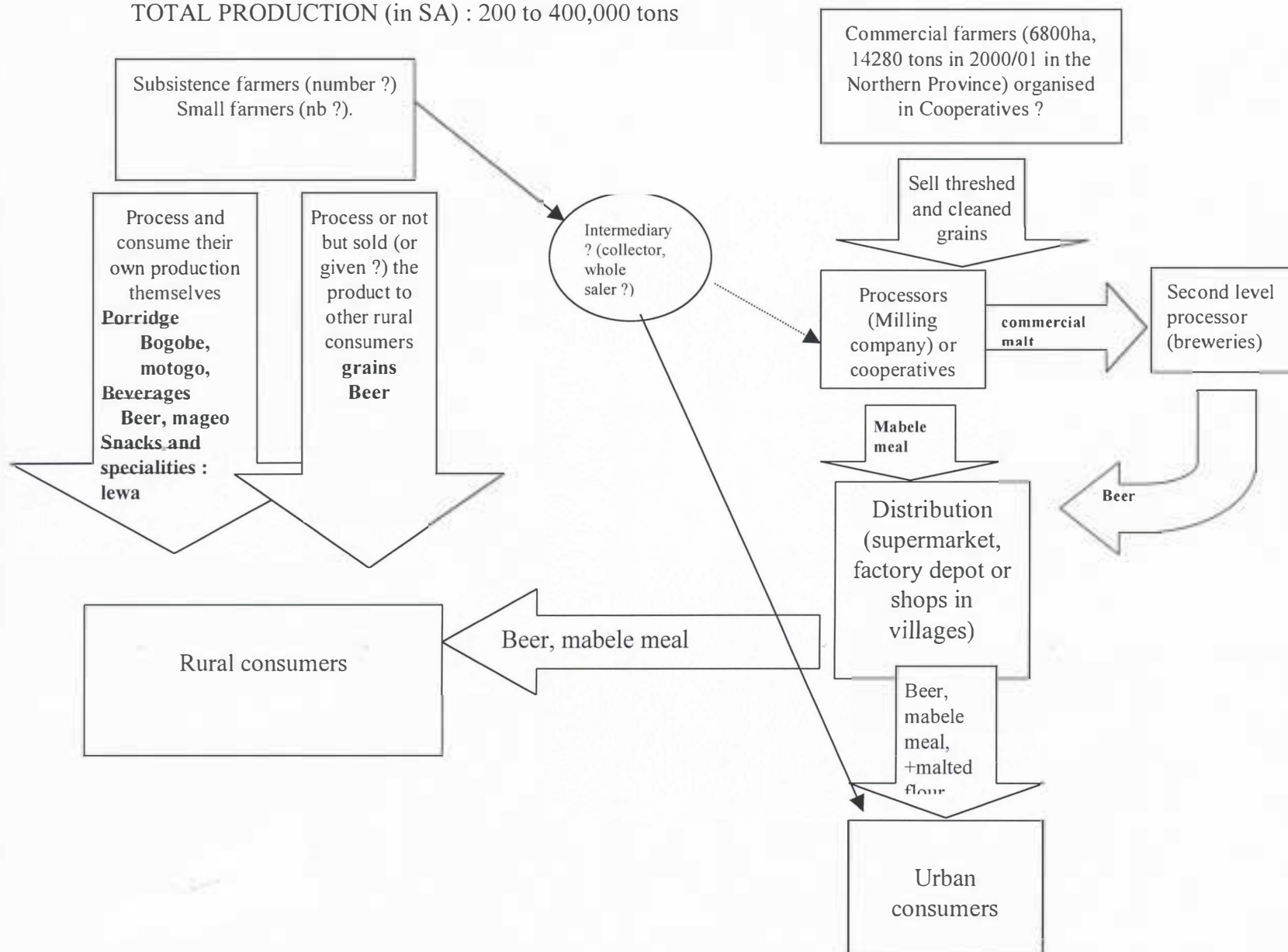
Commercial beer: 85,000 tons (???)

Industrial beer: 40,000 tons (?)

<b><u>SORGHUM</u></b>	<b><u>MILLET</u></b>	<b><u>MAIZE</u></b>
<b>PRODUCTION</b>		
In the northern region: small scale farmers Pedi, Songa, Venda) Seasonal variation Quantity : Quality (several varieties)		
In the regions: Kwazulu and Mpumalanga... : Large estates (Afrikaners+ ?) Others ?		
<b>DISTRIBUTION/SUPPLY</b>		
Local market for grain (producer to consumer) <i>what about the intermediaries ?</i> . Some are sold to big agrifood companies ( <i>quantity ? prices ? conditions ?</i> )		
<b>PROCESSING</b>		
Hand processing (women)		
<b>CONSUMPTION</b>		
<i>Rural households</i>		
Self consumption mainly.  But also purchase sorghum grains at local market ( <i>what kind of market ? when ?</i> )	Millet preferred to sorghum ( <i>Why ?</i> )but threshing is more time consuming and tiring. 100% self produce.  No purchase.	
<i>Urban households</i>		
Consumption of sorghum soft porridge ( <i>Mabele meal</i> ) + fermented drink or soft porridge ( <i>tin</i> )	No consumption of MILLET	Thick maize porridge ( <i>pap</i> )

### 3.4 SORGHUM MARKET CHAIN IN LIMPOPO PROVINCE

TOTAL PRODUCTION (in SA) : 200 to 400,000 tons



### 3.5 Schedule of the mission

Thursday, April 4: 20:50 departure from Montpellier

Friday, April 5: 10:30 Arrival at Johannesburg

12:30 Arrival at Pretoria

16:00 Meeting with **Tshidi Moroka (CSIR)**

Saturday, April 6: meeting with **Anne Bichard** (Food technologist) and Hervé Lévite (IWMI)

Sunday, April 7: Bibliography.

Monday, 8:

**Field visit** to Mamone village (Limpopo Province) with **Tschidi Moroka (CSIR)**, **Hester Adam (CSIR)** and **Jonas Raphela** (Student from Un. Pretoria).

Meeting with **Africare (NGO)** and a organised **group of farmers** in Mamome village.

Tuesday, 9:

9:00 meeting with Patrick **Le Fort. SCAC.** with JP Loyer, Anne Bichard and Tschidi Moroka

10:30 meeting with **Sylvain Perret.** Univ. Pretoria/CIRAD.

12:00 lunch with **JP Loyer** and **A. Bichard (CIRAD)**

14:00 meeting with **H. Adam (CSIR)** to work on the consumption report

Wednesday, 10 :

9:00-12h Discussion with **H. Adam (CSIR)** and the students (**Jonas Raphela** and **Ngwako Moses Sefoto**) to work on the consumption report

13:00 purchase of the products with H. Adam

14:00 meeting with **David Harcourt CSIR.**

16:00 meeting with **Tschidi Moroka. CSIR**

17:00 meeting with **Professor Johann Kirsten. University of Pretoria.**

[Thursay, 11 : 8h00 Departure from Johannesburg to Windhoek (Namibia)

Friday 12 : MISSION IN NAMIBIA]

Saturday 13 : 15h. Back from Windhoek

Work with **Hester Adams.**

Sunday 14: Work with **Anne Bichard.**

Monday 15: Work with **Anne Bichard and Hester Adams**

20h00 Departure from Johannesburg to Paris

### 3.6 Addresses of persons met.

**Matshidiso Tshidi Moroka:** CSIR FOODTECK.

Tel : 12 841 2649 secr.(Queen) 841 37 25

[mmoroka@csir.co.za](mailto:mmoroka@csir.co.za)

**Hester Adam** CSIR FOODTECK

Email : [hadam@csir.co.za](mailto:hadam@csir.co.za)

Tel : 27 12 841 4117 (work) 27 82 872 6332 (cell)

**Ngwako Moses Sefoto.** Student implied in the CSIR survey.

Tel: 072368-4415 (012) 420-4584

Email: [s9725258@tuks.co.za](mailto:s9725258@tuks.co.za)

**Jonas Raphela** Student implied in the CSIR survey.

072 368-4415

Email: [jonasraphela@wclomail.co.za](mailto:jonasraphela@wclomail.co.za)

**Sylvain Perret.** Ag. Economist (CIRAD)

University of Pretoria. Department of Agric. Economist. Chair of Rural department.

Main Campus. Land and Education Building.

Tel : 082 960 7189 / 012 420 5021

[sylvain.perret@cirad.fr](mailto:sylvain.perret@cirad.fr)

**Patrick Le Fort.** Attaché Scientifique au SCAC. Tel: 012 429 7000 (work)

[Le-fort@diplomatie.gouv.fr](mailto:Le-fort@diplomatie.gouv.fr)

**Jean Paul Loyer.** CIRAD representative. Tel: 082 950 2535 (cell)

[Loyer@cirad.fr](mailto:Loyer@cirad.fr)

**Anne Bichard,**

tel 012 346 31 97

(cell) 083 69 377 15

[annebichard@yahoo.fr](mailto:annebichard@yahoo.fr)

**Dave Harcourt.** CSIR. Manager of Strengthening African Food Processing Project (SAFPP)

012 841 3097

[dharcourt@csir.co.za](mailto:dharcourt@csir.co.za)

**Johann Kirsten.** University of Pretoria. Head: Department of Agricultural Economics, Extension and Rural Development

Tel (+27-12) 420-3248 (W) [420-7579\(H\)jkirsten@postino.up.ac.za](mailto:420-7579(H)jkirsten@postino.up.ac.za)

**GUEST HOUSE** of ARC.LNR. Manager : Alta van Zyl

1134 Park Street, Hatfield, Pretoria Tel: (012) 342 [4728Altavz@arc.agric.za](mailto:4728Altavz@arc.agric.za)



### 3.7 Reports and papers consulted

Ndiaye JL, Fliedel G, 2000, **Mission report in South Africa on Sorghum and Millet Consumption Project in the Northern Province**. CIRAD AMIS. Rapport n°50. 2000.

Dendy D, 1997, **A Study of grain processing in the Northern Province of South Africa**. Division of Food Science and Technology. Food and Beverage Processing Programme (Foodtek) CSIR. July. 52 p.

SA 2000-01. **South Africa at a glance**. Editions Inc. Craighall. SA. 192 p.

### 3.8 Glossary

ANGLAIS	FRANÇAIS
Threshing	Battage
Winnowing	Vannage
Shelling	Pilonnage
Stone mill	Pierre à écraser
Hammer mill	Machine (moulin) à marteaux
Hawker	Colporteur
Sieve	Tamis
To hull	Décortiquer
To grind	Moudre, écraser
Coarser/finer flour	Farine plus grossière ou plus fine
Stalks	Tiges
Bran	Son
Roller-mill	