

# The status of urban and peri-urban agriculture in Windhoek and Oshakati, Namibia

The survey report was prepared for the Integrated Support to Sustainable Development and Food Security Programme (IP) in Food and Agriculture Organization of the United Nations (FAO) by S.J. Dima, A.A. Ogunmokun and T. Nantanga, Department of Agricultural Economic and Extensions and Crops Science Faculty of Agricultural and Natural Resources, University of Namibia and the Ministry of Agriculture, Water and Rural Development  
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## Executive Summary

### Background

Urban and peri-urban agriculture is the practices of producing vegetables and fruits within urban environments for household consumption as well as for sale to the rapidly growing urban population. In some cities in Africa like Harare the practice has advanced to the production of maize the main staple. In Namibia urbanization attained explosive rates since independence in 1990 with Windhoek recording annual growth rates in excess of 5% from 1995. This is because of rapid migration of rural people in search of employment. The net result is the ever expanding shanties in the urban areas. As the driest country in Africa, Namibia's agricultural base is weak. Consequently most vegetables and fruits sold in Windhoek and Oshakati are imported from South Africa. Despite this, there is evidence of intensive farming activities both commercial and micro scale in backyards, open spaces and along river courses. Unfortunately there is very little information on the farming practiced in the urban and peri-urban areas in the country.

Because of the paucity of data on urban and peri-urban agriculture the objectives of this study were to:

- Produce a preliminary list of current farming activities in the urban and peri-urban areas of Windhoek and Oshakati;
- Assess the current levels of utilization of the produce;
- Explore the socio-cultural aspects of urban farming such as extent of poverty, food security and gender differentiation;
- Determine the gender specific constraints in urban and peri-urban agriculture; and
- Devise strategies for efficient peri-urban farming and transfer of the knowledge gained in Windhoek to other urban areas in Namibia.

### Methodology

The research has a detailed desk study prior to the field study which collected data in Windhoek and Oshakati using a detailed questionnaire (appendix 1). A total 244 respondents were interviewed (101 in Windhoek and 143 in Oshakati). The information collected included household demographic data, socio-economic and migratory characteristics, urban agriculture practices and the scale of the activities. In Windhoek the sample was selected from seven north and west informal settlements while in Oshakati, the sample was selected from six areas across the whole town. The data was collected by a total of eight enumerators and two supervisors working with the three consultants. Systematic random sampling was adopted in picking respondents to the sample. Four languages were used to conduct the interviews-vis English (22), Oshiwambo (214), Rukavango (7) and Afrikaans (1). The selected sample comprises of 161 female and 83 male respondents (Windhoek 54 female, 47 male and Oshakati 107 female, 36 male). The data collected was analysed using MINITAB statistical package. Throughout the analysis, the data was differentiated into town (Windhoek and Oshakati) and gender replies.

The desk study provided detailed information about the scope and extent of urban and peri-urban agriculture in a number of urban areas in Africa and other parts of the world. These include towns like Addis Ababa, Dar es Salaam, Harare, Kampala, Khartoum, Nairobi as well as Kisangati, West Africa (Ghana, Nigeria), Botswana, South Africa, Bolivia and China. The overall findings in these studies conclude that urban farmers and their families enjoy better diets, higher incomes, employment and a

combination of these benefits. They add that urban agriculture is a rational responses by the urban poor to the inability of the formal economy to provide them with sufficient real income for survival in the cities and other urban areas. The desk study also established that urban agriculture still remains unrecognised unassisted and discriminate against, when not outlawed. However the studies also revealed that many governments are creating agencies to manage urban agriculture for example Côte d' Ivoire, Ethiopia, Malawi, Kenya, Tanzania, Uganda, Nigeria, Zaire, China, Japan, Papua New Guinea, Argentina, the Phippines and Zimbabwe.

### **Key Findings**

The results of the survey show that the majority of the respondents are young people falling in the age range of 21-40 (66.3%), with 58% being single, 23.4% married and 13,5% cohabiting. The sample comprised of 78% male headed and 2% female headed. Up to 84.4% of the respondents originated from the central Northern Regions while 7.4% came from Kavango and 4.5% from the Karas Region. These figures confirm the migratory patterns in the country.

In both Windhoek and Oshakati the main home language among the respondents is Oshiwambo (74%), 92% respectively. Other languages spoken are Rukavango, Damara-Nama and Lozi.

As far as shelter is concerned 2% of the respondents in Windhoek have moved recently to their plots. This confirms the high migratory rate into Windhoek in the last six years when the Municipality started to accommodate squatters due to political pressure. In Oshakati 54% of the respondents have been living in their plots prior to independence and 29% moved into their plots in the last five years. On ownership 48% of the respondents owned the houses, while 52% were found to be tenants. Windhoek respondents owned more houses (72%) then Oshakati (31%). In Windhoek 66% obtained their plots through the municipality and the remaining 34% through other means, while in Oshakati 51% acquired their plots through headmen and 47% through the Local Council.

On employment 51% and 26% of men and women respondents in Windhoek are employed. The corresponding figures for Oshakati are 36% and 26%, leaving the rest unemployed. The main source of income is employment in private companies (48%), government 18% and self employment (17%). Up to 9% of the respondent spouses get their income from farming (urban agriculture). In Oshakati 35% of household heads are employed by government, 19% in private companies, 13% in farming (urban and peri-urban agriculture) and 8% self employed. On the other hand 6% of spouses are employed by government, 6% in private institutions and 21% in farming.

In both Windhoek and Oshakati, not all the school going female children are in school -11% in Windhoek and 6% in Oshakati. No reasons were given for this situation, but could be attributed to either teenage pregnancy or use of girls to assist their mothers in looking after babies. The level of education of the respondents varied widely with 48% and 40% in Oshakati and Windhoek who had had no formal education.

Post secondary education holders form 23% in Windhoek, but only 6% in Oshakati.

On expenditure, the study found that over 70% of all respondents spent less than N\$300-00 per month on basic needs. This points out the high level of poverty among the respondents. This is further highlighted by the large number of respondents without any savings (68%). The situation of poverty is aggravated by the fact that the majority of respondents buy their food supplies in the same supermarkets with those with higher incomes.

Given this rather dismal situation, the study examined the availability of credit, which could be used to pull the respondents out of poverty. This study came up with the shocking results that 95% and 96% of respondents in Windhoek and Oshakati respectively have no access to credit. Only 4.5% of respondents in Windhoek reported having received credit of up to N\$400-00! In Oshakati the figure is only 1.7%.

On control of produce and other household resources, the study established that in both Windhoek and Oshakati, land is mostly controlled by men (63% and 27%), and respectively for women controlling 17% in Windhoek and 9% in Oshakati. The situation is slightly better when we look at joint ownership of land 20% and 64%, tools 35% and 51% and produce 48% and 45% in Windhoek and Oshakati in that order.

The study further reveals that in Windhoek men control most of the cash (39%), compared to women (16%). Unfortunately no comparative figures were obtained for Oshakati.

Having established the above parameters the investigation then wanted to see the involvement of the respondents in urban agriculture. This indicates that 72% of all respondents had had previous experience in farming. The majority produced crops (72%), but 5% had both crops and livestock.

Further detailed investigation revealed that women constitute the majority of urban farmers (Windhoek 54% and Oshakati 58%). The proportion of men farming is higher in Windhoek (31%) than in Oshakati (13%). A higher proportion of other household members are involved in farming in Oshakati (29%), than in Windhoek (15%).

Most of the other farmers in Oshakati (22%) are school children who learned their gardening in school. Over 80% of the respondents pointed out that they started their gardens out of their own initiatives, without any outside influence. These respondents also had gardening experience from the rural areas before they moved to either Windhoek or Oshakati.

*The main reasons for urban farming is to provide food to family members.* But some respondents are in farming to generate extra income (Windhoek 13%, Oshakati 17%). In Oshakati 33% of the respondents stated that they are farming as a hobby. The farming practices adopted include land preparation, planting, weeding and harvesting. The majority of respondents stated that they produce vegetables only during the summer so as to benefit from the summer rains. (Windhoek 90%), Oshakati 72%). However, 27% of the respondents in Oshakati cultivate both in summer and winter. The main production inputs investigated are soil type, water, seeds, tools and fertilizers. Both male and female producers in Windhoek describe their soils as stony, while those in Oshakati are described as sandy. Water has been reported to be a serious limiting factor. The main source of water to respondents in Windhoek (91%) and Oshakati (57%) is tap water. The high usage of tap water is probably because the water tariff has been fixed at a flat rate of N\$30 per month. But in the last two years the two municipalities have adopted the use of water card metres in the informal settlement areas. Consequently in Oshakati have been reported not using tap water for growing vegetables. A few farmers have suggested the use of rainwater and wastewater. Unfortunately 77% of Windhoek respondents and 43% of Oshakati perceive waste water as bad for growing crops. This may have some negative repercussions on the sale of the products.

On seeds, the study found that 85% of the gardeners in Winhoek and Oshakati source their own seeds, with 51% of those in Oshakati buying their seeds from local shops, whilst 25% get their seed from relatives and 2% from friends. In Windhoek 33% of urban gardeners buy their own seed and 53%, get their seeds from various ways. Over 62% of growers in Windhoek perceive that seeds are cheap and readily available. The figure for Oshakati is 51%. The tools that farmers own include pigaxe (65,08) spades (62%,67%), handshoes (25%,85%) and rakes (6% Windhoek and 51% of Oshakati). The majority of the farmers own the tools. More people in Oshakati use fertilizers than in Windhoek (52% against 33%). The commonest fertilizer is digested manure from the Gammans Water Works. Its usage is an indication that the people do not have any health and cultural worries about this. The other sources of household waste are fresh manure and inorganic fertilizers. In Oshakati, 23% of the producers use fresh manure followed compost, household waste, inorganic manure and digested manure in that order. Examined for gender differentiation, the study established that there is no difference in the use of fertilizers between men and women. However, the study points out that more women than men use compost for urban and peri-urban agricultural production.

Pests and disease control was reported to be mainly from corn crickets, American bollworm and spiders in Windhoek, while in Oshakati, it is the American bollworm and aphids. There is not much demand for chemicals both in Windhoek (5%) and Oshakati (9%). This is because the plots are very small and pests and infected parts of plants can be controlled by picking of pest and removal of the damaged parts. The limited number of pests reported and small number of diseases identified may be due to the fact that the farmers lack the ability to identify them.

The study found that urban and peri-urban producers grow a wide range of crops and fruit trees. The most common crop grown in both towns is maize (88%), followed by beans (42%), tomatoes (41%), pumpkins (26%), water melons (24%), sweet potatoes (23%), red peppers (17%). A list of favourite crops produced are consumed by household members. Some of the produce is given away to friends (Windhoek 42%, Oshakati 42%). Only 25% of the farmers in Windhoek and Oshakati reported some selling of their products to augment household income. Sales take place in the producers homes or in the bus stops.

Regarding the husbandry practices in use, 87% of respondents in Windhoek practiced intercropping. In Oshakati the figure is 90%. Intercropping is popular. This is because the plots are small and it ensures optimum use of available resources such as manure, labour and capital. All the popular crops are intercropped.

### **Legal status of urban agriculture**

The study contacted the Ministry of Agriculture, Water and Rural Development but the Municipal Authorities of Windhoek and Oshakati and established that there is no policy on urban and peri-urban agriculture. When the Ministries of Health and Social Services and Environment and Tourism were approached, they informed the investigators that they do not consider urban and peri-urban agriculture as their responsibility.

### **Constraints to urban and peri-urban agriculture**

Urban and peri-urban agriculture producers are faced by numerous problems. These include shortage of water (41%, 51%) pests attacks (40%,38%), that theft of the produce (31%, 24%) for Windhoek and Oshakati respectively. Another important problem facing urban farmers is the lack of information regarding the type of crops to grow, the chemicals to use and the prices, producers would receive for their products. This is partly because of the absence of Extension Services to the producers. (Windhoek 64% and Oshakati 70%). Similarly the majority of the farmers are inward looking and do not give any assistance to other producers.

The expectations of the producers in Windhoek (67%) and Oshakati (41%) is to expand the area under vegetables. A higher proportion of Oshakati farmers would like to increase the number of crops they are growing in their gardens. Regarding livestock and fish activities, very few urban producers are involved in keeping livestock (Windhoek 6% and Oshakati 24%). The types of livestock kept are chickens, goats and turkeys. As regards fishing this was reported to be an irregular, seasonal activity limited largely to the collection of mud fish in the iishona.

### **Socio-Economic and Gender Analysis (SEAGA)**

To supplement the information obtained from the questionnaire, the study undertook two sessions on Socio-Economic and Gender Analysis (SEAGA) in Windhoek and Oshakati with a focus on peri-urban farming groups. Because of a number of constraints, the session in Oshakati on the Tukondjeni is included in this report. The Tukondjeni project started in 1993 with the main objective to establish a vegetable garden. In 1998 the garden was established with twelve women members. The enterprises undertaken were tomatoes, spinach, sweet potatoes, chillis, maize and carrots. The study applied a number of SEAGA tools such as the Daily Activity Clock Tool and Problem Analysis chart tool. On the Daily Activity Clock Tool was applied to income generating activities, organization of social and community events for example marriages, funerals, cultural shows and religions festivals. The analysis provides an insight into how individual members of households or communities are occupied within their social mileau. Hence any development activity should understand this clearly before introducing new

innovations to the communities. The study found out that while women carry both productive and reproductive activities, they are not given recognition or economic benefits. In this regard any development interventions should focus on time reduction or time spent on specific activities e.g. hammer mills - to reduce the time spent on pounding grain; a planter - to reduce the time spent on planting. Thus knowing who does what in a household is important for development planners and promoters of urban and peri-urban agriculture.

The Problem Analysis chart tool was used to identify problems experienced by participants. It provides potential for solution such as coping strategies and untapped knowledge. For example land and labour management. Here the requirement is for a systematic way of managing productive resources like Agricultural Extension Technicians advice. They go systematically on practices, and operations to make sure the recipients or participants understand the cultural practices to be followed in producing a crop eg. Cultivation methods. The Problem Analysis Chart Tool identified Marketing as the main problem of the Tukondjeni Project.

Under others, the exercise identified other income generating activities such as traditional baskets, pottery, marula oil and the use of market gardening plots for teaching.

### **Conclusions and Recommendations**

Urban and peri-urban agriculture is practised by over 70% of the residents of Windhoek and Oshakati. Over twenty three types of vegetables and fruit trees are grown on tiny plots, but the main ones are maize, beans, tomatoes, pumpkin, watermelon, sweet potatoes and pepper. Most of the produce is consumed by the household and contribute to improvement of their nutritional status. Many producers are willing to expand their plots if they are assisted with some inputs, similarly those with no gardens have expressed interest to start vegetable gardens, if they are provided with space and initial capital. Existing marketing outlets are limited to the locality and hence not reliable. Most vegetable production takes place during the summer rains supplemented, iishona and municipal water taps which have now become very expensive. Animal production is limited to small stock and poultry, while fishing is seasonal activity.

The absence of policy on urban and peri-urban agriculture is seen as a serious constraint towards its intensification and development. It is therefore recommended that the Ministry of Agriculture, Water and Rural Development in consultation with the municipalities and the Ministries of Environment and Tourism and Regional and Local Government and Housing and other stakeholders evolve a policy on urban and peri-urban agriculture. This would ensure the development of a production system that results in the production of healthy fruits and vegetables and use of biodegradable chemicals to minimize air water and soil pollution. Furthermore it is recommended that the small growers be assisted to organize themselves into producer cooperatives so that they can break into the main market.

Finally this study has demonstrated clearly that urban and peri-urban agriculture as practiced in Oshakati and Windhoek can be viable though at a very low scale. If its potential is to be exploited to the full, government, the municipalities and the private sector should be involved. The former should evolve a policy that encourages the production of high value fruits and vegetables for the market. While the latter should inject micro loans to enable producers to purchase inputs including appropriate technology. The policy should include allocation of responsibilities amongst the concerned authorities in respect of legal recognition, guidelines on the correct husbandry practices and the protection of the environment for sustainable production.