

Agriculture is the mainstay of the Ugandan economy. Due to the growing population and high demand for land, urban agriculture is a major issue. Currently, Kampala has an estimated population of over 2 million people. It is a city experiencing large migration flows in search of employment and better living conditions. Most of the migrants are poor young men and women searching for jobs and services like piped water and health facilities that are lacking in rural areas. They are landless and often their spouses and extended family members follow them, which results in slums developing in public resource areas, like urban wetlands. Without the security over the land they occupy, these families tend to carry out short-term investments like mushroom cultivation. Mushroom cultivation is a space-confined technology and requires relatively small capital input.



Women vegetable farmers in Burkina Faso

# Mushroom Cultivation in Urban Kampala, Uganda

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Urban dynamics and the market economy assign different gender roles and responsibilities to women and men. In Kampala, the poor women are well positioned to working closely with urban natural resources (Kigula 2001:32). These women form the majority of people who engage in urban agriculture. Because of the need to supplement household income, many wives start low-income generating activities. One of these activities is mushroom cultivation in the dark nooks of houses or the wetlands. Mushrooms fetch extra income and can be used to replace

**Women's mushroom cultivation reduces workload, increases income and food security and uplifts the status of women**

for other vegetables. It is also being included in micro-finance projects for urban women farmers to enhance sustainable livelihoods.

Mushroom growing utilises residues as substrate and requires limited land area. It is a cost effective way of growing food. Extensive research of improved

varieties is available, due to the involvement of the government in promoting programmes like the Plan for Modernisation of Agriculture (PMA). The PMA considers gender participation important for economic development, and mushroom farming enables the voices of women to be heard. Mushrooms are also a good food supplement as they contain minerals and vitamins (Beetz and Greer 1999). Mothers argue that mushrooms provide increased resistance and immunity against early childhood infections and diseases. They also enhance food security in times of hunger. Women have historically held knowledge on wild mushrooms, and can well adapt to cultivating them in limited spaces.

There is gender imbalance in land ownership (titled towards men) because of paternal inheritance traditions. Women make up 7% of all landowners in Uganda (Busingye 2002:4, Ovonji 1999), while 93% have access with usufruct rights or are landless. Typically, men determine decisions over land use and the control over farm produce. Land shortage is another reason for women to take up mushroom cultivation. It can be done inside a house or on open access (urban natural resource) areas. The house space is considered a

private sphere belonging to women. Men prefer to find work outside the home (due to traditional practices on the division of labour). Men also control income from farm produce, but mushrooms can be sold by women and needs little capital input, which attracts more women to this activity. However, female-headed households are on the increase due to high rate of divorce or HIV/AIDS.

Declining soil fertility is also a growing problem. Most poor men and women used to grow coco yams and vegetables in the wetlands, but climatic changes have led to the drying up of the swamps, while construction of houses or factories have displaced many, rendering them landless. Evictions and land insecurity is leading people to adapt to limited space agriculture. Soil degradation has meant that mushrooms can no longer be found in rotten wetland masses as the water table has decreased. Hence, the space at home is ideal for the cultivation of the introduced varieties of mushroom species from Kawanda research station.

## MUSHROOM CULTIVATION AS CONFINED-SPACE AGRICULTURE

Mushrooms are intensively grown indoors or outdoors in

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wetlands. The climatic conditions and dark rooms inside houses favour the growth of locally improved and available mushroom species, such as oysters and shiitake. Mushrooms have both a nutritional and medicinal value (Hobbs et al 1995). This makes them suitable for improving the diet of families in urban centres. Many people are knowledgeable about edible mushrooms and appreciate their consumption as part of traditional cooking, in central Uganda. There is also a ready domestic market for packaged fresh mushrooms by the quickly sprawling supermarkets in Kampala like Uchumi and Shoprite, originating from Kenya and South Africa.

The main source of income for poor women has been growing cocoyams and selling sweets and tobacco on the streets. However, with the government focus on micro finance schemes, (funded by the World Bank), a number of women acquire loans to grow mushrooms. Marginalized poor and landless male migrants are also able to find work as casual labourers in households growing mushrooms and assist with farming or selling.

prepared in the cultural laboratory at 25-28°C. Black plastic bags of 3 to 4 Kg capacity containing agro-industrial residues, like cotton seed hulls or sugarcane trash, are prepared. A drum or boiler is used for pasteurising the substrate by steaming and is then stored on a raised rack as it cools, retaining 70% moisture. Spawn is added and the bag sealed for incubation for 3 weeks. During this period, the mycelia from the spawn grows and colonises the substrate. This is then moved to a humid room with light and holes made in the bag. In 2 weeks, mushrooms are ready. 4 kg of substrate produce 3 Kg fresh mushrooms. As entrepreneurial agriculture, it is estimated that a small farmer produces 15 Kg each period, harvesting 5 times a year, earning U.Shs.150.000 (about 80 USD) per year.

Mushroom cultivation reduces the workload of women, because they don't travel long distances in search of free pieces of land. The improved mushroom growing technology that increases income and food security, uplifts the status of women in decision-making.

Mushroom cultivation has encouraged the increase of women's associations. Women organise themselves and pool resources to establish rotating funds. They also share knowledge on mushrooms or entrepreneurial skills. Mushroom cultivation has the added advantage of providing employment and income for housewives.

HIV/AIDS is having widespread impact on the agricultural sector, affecting people and the household income. If a husband is taken ill, the wife stays at home to look after him. With the decline in household income and subsequent suffering of family nutrition, women are forced to seek employment like mushroom cultivation.

## CHALLENGES

Some farmers state that there is no secure market for mushrooms. For example, African Growth Opportunity Act (AGOA), that enhances the sale of finished products from third world countries, does not include mushrooms. Still, growers need to step up their production if they are to satisfy a ready market like AGOA.

Due to the lack of dryers for the drying of mushrooms, farmers tend to sell only fresh ones. As these poor farmers cannot afford refrigerators, their produce rots. Although, the solar drying of mushrooms is well accepted, farmers do not have the capital to invest into these machines, as they produce on a very small scale. There is also a lack of information being disseminated on mushroom processing.

There is limited knowledge on the nutritional characteristics of mushrooms amongst consumers and many farmers. Information on growing is shared only within small groups of farmers (some farmers give out photocopied mushroom growing manuals). The high illiteracy level among women, bars them from travelling to increase education and obtain improved seed varieties. There are only few urban extension workers, due to low levels of resources and retrenchment in the public service sector. Those remaining are mostly male and target male farmers.

Technologies at the Kawanda research station need to be fine-tuned to fit into advanced farming systems. With the advent of decentralisation, local leaders need to be assisted to play a leading role of modernizing agriculture in their particular localities. Mushroom cultivators, if adequately empowered, can also play a very vital role. Realisation of women's rights to land and household property, may further improve investment in mushroom cultivation.



**Irrigation of the crops by hand is mostly done by women**

People believe that wild mushrooms are rare today, because increasingly, on the market, are the oyster and shiitake species introduced by the scientists. The small type of wild ones with names like *Obubala*, *Obunaka naka*, *Ggudu*, *Kinyulwa* and *Nampama*, can still be found, but are seasonal, as they grow in wet areas, bushes, rotting tree trunks, or in debris of banana gardens and anthills. The farmers grow mushrooms for sale or home consumption.

Oysters are the most commonly grown mushroom species. The spawn is

## REFERENCES

- Busingye, Harriet, 2002, Ensuring Women's Land Access: lobby and advocacy for the recognition of women's rights to land in legislation, Regional Workshop paper on Land Issues in Africa and the Middle East, Kampala, April 29-May 2, p.1-6
- Beetz, Alice and Lane Greer, 1999, Mushroom Cultivation and Marketing Horticulture production Guide, Appropriate technology transfer for Rural Areas, Fayetteville.
- Hobbs, Christopher and Michael Miovic (ed.), 1995. Medicinal Mushrooms: an exploration of traditional healing and culture, 3<sup>rd</sup> Ed., Botanical Press.
- Kigula, John, 2001, Women's Common Property Rights in an Urban Context: the Jinja urban Women's wetland Innovations, Unpublished manuscript, P.32.
- Uvungi Odida, I.F. et al, 2000, Land, gender and Poverty Eradication, is there a case for Spousal Co-ownership of primary household property? Land Act Implementation project, Ministry of Water, land and Environment, Kampala.