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DEMOCRATIC REPUBLIC OF CONGO (DRC)

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Before this, he worked for 4 years as Provincial Coordinator and Branch Head of the National Rice Programme in Katanga, project piloted by UNOPS; 2 years as Technical Assistant and Chief of Service for Dissemination, Training and Research at the Agricultural Development of the Mining Hinterland of Katanga project, financed by IDA and IFAD; and 4 years as Head of the Entomology Section of the Maize Research Centre (CRM) of the Ministry of Agriculture and Scientific Research.

# Project for the Development of Urban and Peri-urban Horticulture (UPH) in Lubumbashi (DRC)



This document<sup>1</sup> gives an overview of the impact of the Project for the Development of Urban and Peri-urban Horticulture (UPH project) in the city of Lubumbashi by comparing the situation before (2000) and after (2008) the project was implemented in the city. The project focused on women in particular, as 73.7% of those benefiting from the UPH project's activities were female.

The UPH project was carried out by FAO via the National Service for Urban and Peri-Urban Horticulture (SENAHUP), a department of the Ministry of Agriculture and Development specialising in this particular area. Urban and peri-urban horticulture is an essential element of urban and peri-urban agriculture (UPA) as it offers the urban population real opportunities for jobs, income and a daily supply of fresh produce with high nutritional value.

The UPH project identified the following priorities:

- securing access to resources (land, high-quality water);
- guaranteeing sustainable, high-quality horticultural production;
- making the institutional context secure and allowing stakeholders in the domain to take ownership of UPH;
- securing future prospects, including promoting consumption;
- ensuring that information is disseminated and people have access to it.

## 1. Children's education

The number of children attending school has climbed significantly due to the increase in their parent's income, thanks to the good price vegetables fetch on the market. Furthermore, the number of girls in education is not lower than the number of boys, except at university level. With support from the UPH project, the situation is still improving. The emancipation of girls seems to be one of the benefits to the urban gardeners' families, but a more in-depth study would be required to examine the exact details of this phenomenon.

## 2. Food

The number of meals per day in households involved in the project has increased for all age groups. Children usually already ate more meals per day than adults (1.8 meals compared to 1.3 for adults) and this trend is continuing with the support of the UPH project (3.3 meals for children, 2.4 meals for adults).

## 3. Purchase of food with high nutritional value

Far more people are buying a range of foods viewed not as necessary provisions but as desirable foodstuffs, such as beans, fish, meat, rice, potatoes, caterpillars, mushrooms and game, on a monthly basis since the UPH project began supporting them. Families are now buying more of almost all of these foods and, to some extent, fish and rice are now an integral part of the diet in Lubumbashi. Purchase of meat, caterpillars and game has almost tripled, which gives some idea of the extra income that families have available for buying foodstuffs.

## 4. Ability to meet expenditure

% of families who are capable of meeting monthly expenditure	Before	After	Difference %
Medical care	40	100	60%
Costs related to childbirth	60	100	40%
Burial costs	64	89	25%
Costs related to marriage	58	83	25%
Buying clothes	80	100	20%
Buying a mobile phone	11	88	77%

If the data for costs related to marriage are not counted (as they are occasional and social, since the whole extended family makes a contribution), the table shows that market gardeners now have a higher financial margin. Their capacity to cover costs related to medical care and childbirth indicates more sustainable management of their financial resources and confirms their ability to increase their incomes as a result of market gardening activities in Lubumbashi.



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### 5. Saving

Support in the form of training for managing local savings banks has clearly increased beneficiaries' desire and ability to save: the percentage of project beneficiaries who were able to put money aside as savings increased from 18% before the UPH project to 98% after the project. The saving rate has also risen from 0.4% to 1.3%.

### 6. Opening a bank account

Several beneficiaries of the UPH project are now not only able to save money in their own micro savings bank, they have also decided to open bank accounts with credit unions or local banks.

### 7. Availability and use of land

	Before	After	Difference %
% of beneficiaries who rent land	38	23	-39%
% of beneficiaries who own land	36	58	61%
% of beneficiaries who are guaranteed use of land	76	92	21%

There has been some improvement to the situation of market gardeners as regards the land they work. Market gardeners want to own their land and are managing to do so. The drop in the number of beneficiaries renting land is due to the fact that they can use community and customary land.

### Women's status as regards land

Of the 41 registered market gardens, women run 8 (20%), men run 12 (29%) and 21 are jointly run (51%). Thanks to the UPH project's cooperation with the Lubumbashi city authorities, through the Municipal Dialogue Committee, the land access situation has greatly improved and can be summarised as follows:

- 11% of women have family land;
- 13% have three to five-year rental contracts;
- 23% have been allocated land by the Congolese state;
- 47% have customary land in the peri-urban area around Lubumbashi;
- 6% do not have contracts.

## 8. More land cultivated

Increasing the area of land cultivated (from 129 to 524 ha) seems to be the first decision made by market gardeners who receive support from the UPH project and have access to the resources and inputs needed to do so. This trend is most noticeable in Lubumbashi, where cultivating more land is relatively unproblematic for the time being given the huge amount of land available. The total area of land exploited by market gardeners supported by the project now stands at 524 ha, of which 306 ha (58%) is exploited by women.

## 9. Availability and use of water

Access to water is a necessary condition for production in urban and peri-urban areas. While most market gardeners now have better access to water, the amount of time spent on irrigation is also increasing. Given that more land is being cultivated – and needing irrigated – it is obviously very important to improve irrigation.

Irrigation technology is something of an innovation in the DRC. Thanks to support from the UPH project, market gardeners are now familiar with several types of irrigation systems and at present, around 29% of market gardeners buy their own motor pumps to irrigate areas between 1 and 3 ha.

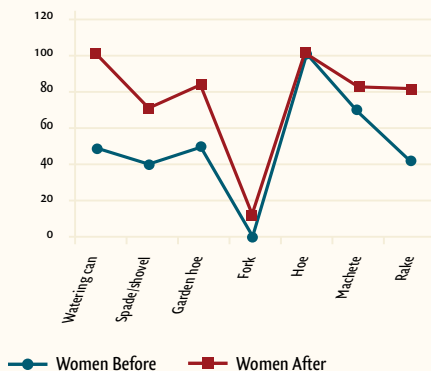
Access to water is not problematic from the point of view of gender discrimination as water is not really a constraint in Lubumbashi. However, inequalities persist in the quality of the water and the way it is used. Most women water their land using basins and watering cans. A small number of women have pedal pumps, and an even smaller number have motor pumps. Men are better equipped because the distribution of tasks in market gardens is such that 80% of irrigated crops are grown by men, who use irrigation systems such as sprinklers and furrows or tools like watering cans, basins, pedal pumps or motor pumps.

Only large firms can use drip irrigation systems, though some market gardeners manage to install such systems after making considerable sacrifices.

## 10. Availability and use of tools

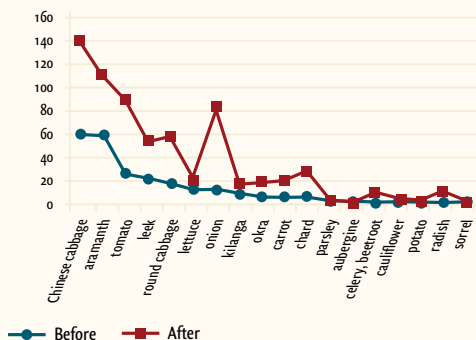
Support from the UPH project has enabled a greater number of market gardeners to acquire basic equipment such as hoes, watering cans and other tools that make it easier to develop and maintain flowerbeds. Before the project was launched, women did not have tools of their own. They

worked with tools belonging to their husbands or their families. Now, an average of 80% of women own tools thanks to the project's credit support:



## 11. Adoption of new crops by women

In Lubumbashi, the adoption of new crops has really taken off. This is especially true of Chinese cabbage and round cabbage. Market demand for crops such as lettuce, sorrel, onions, tomatoes and aubergines has increased now that mining activities have resumed in the province and the population is increasing. Carrots, okra, chard and leeks are also highly valued by market gardeners, who voluntarily decided to grow such crops in order to meet increased demand. The standard of production for amaranth remains high. Before the launch of the UPH project, women only grew four types of leafy vegetable. Now that they have received training from the project, they grow more than fifteen.

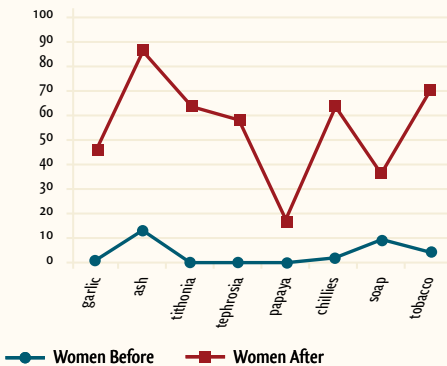


## 12. Use of natural and chemical fertilisers and pesticides

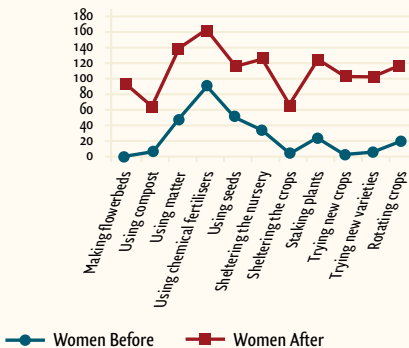
There is a clear increase in the number of market gardeners using natural fertilisers. Use of chicken droppings (+56%), pig manure (+20%) and compost (+52%) has grown considerably. Before the launch of the UPH project, people were not familiar with natural pesticides, but now their use is also spreading. On the other hand, use of chemical fertilisers and pesticides, which are difficult to find and more expensive, is declining.

Market gardeners are receptive to Integrated Production and Pest Management (IPPM) techniques and have adopted a range of good practices promoted by the UPH project while using fewer chemical fertilisers and pesticides. In this way, the IPPM concept has become a visible and effective reality in the field.

### Use of natural pesticides by women:



### Adoption of good growing practices promoted by the UPH project:



Several women are currently playing a very important part in the sector as they are leading field schools with a view to passing on their training in good growing practices to other women.

## 13. Organising groups

Women have an excellent position in the market gardening sector:

- some market gardening organisations are chaired by women;
- there are several women chairing the management committees of local micro savings banks within the framework of microcredit systems;
- the Comité des Maraîchers de Lubumbashi (COMALU – Lubumbashi Market Gardeners' Committee), a platform for the horticultural industry in Lubumbashi, has two female vice-chairs;
- the Board of Directors of the Coopération d'Approvisionnement et des Consommations (COOPACO – Supply and Consumption Union) is chaired by a woman;
- the Board of Directors of the Filière Horticole de micro-Finances (FHF – Horticultural Sector of Microfinance) is chaired by a woman.

Market gardeners have organised the various branches of urban horticulture within COMALU, an umbrella organisation representing over 8,308 market gardeners, of whom 74% are female and 26% male. The committee comprises twelve members, and seven of them are women.

### a) Organisation meetings and frequency of attendance

Before the UPH project began offering support in the area, the concept of groups and organisations did not really exist. Market gardening organisations were not even legally recognised and they did not have notarised articles of association. Now, however, all such groups have official documents such as a Certificate of Recognition and a Registration Certificate.

The project also underlined the importance of organising and attending meetings and encouraged people to do so. Members meet at least four times a month and attendance has risen by 58% (from an average of 38 participants to 96).

### b) Capacity for internal reorganisation

The groups have been strengthened in all aspects of internal organisation, ranging from their ability to meet their mem-

bers' needs (resolving internal conflicts, offering services such as loans and savings, etc.) to their ability to provide a decent level of support with technical and socio-economic matters or the way they manage community property.

#### **Results:**

- organisation of joint purchasing by groups;
- better communication of information on selling prices for vegetables and purchase prices for seeds;
- structuring of the sector through the organisation of a cooperative – with its own capital – for the sale of seeds and equipment and the creation of an umbrella organisation for savings and loans against equity;
- general improvement in market gardeners' wellbeing;
- better access to water.

#### **14. Impact on incomes**

Net income per are of cultivated land has grown considerably for exotic crops (e.g. carrots, potatoes, celery, round cabbages) while net income for traditional crops (such as kilanga) is stagnating.

There are considerable differences in producers' net monthly incomes and these are due to the relative profitability of various crops (in the current technical conditions). The crops that generate the most income are: peppers, chard, celery, lettuce and tomatoes. The crops with a medium level of profitability are: leeks, Chinese cabbages, okra, pumpkins, cucumbers, courgettes, round cabbages and amaranth. It is not terribly lucrative to grow marrows, kilanga or sorrel.

On the one hand, the increase in market gardeners' incomes is a result of their decision to cultivate larger areas, but on the other hand, growing more profitable crops has also contributed to this rise in incomes. Initial research indicates that the average net income of an average market gardener (working 5 ares) is, in theory, approximately \$120 per month.

#### **15. Access to training and information**

Market gardeners are trained in field schools, where they learn to make their own observations, analyse and find solutions themselves, take important decisions and work independently. Field schools are a framework for learning and information exchange where producers learn by both activity and experience while making optimum use of their knowledge and expertise.

Thanks to information and training tools from the field school, the UPH project has not only improved techniques for horticultural production, it has also helped women to learn French, making it the ideal framework for horticultural literacy campaigns.

To help market gardeners hone their skills, a 'Hortivar café' equipped with two computers was made available to producers three times a week so they could:

- enter information into the Hortivar database; research varieties and cultivars that could be used in their production ecosystem;
- find information on new horticultural technology.

#### **16. The impact of the UPH project on women**

##### **a) Access to technology**

Since it was launched, the UPH project has been assisting female market gardeners throughout the production process by providing a range of training programmes allowing them to access new production techniques and helping them to cast off local practices, which are often less productive. Furthermore, the project was responsible for hydro-agricultural developments in different areas, giving women access to irrigation systems that simplify the difficult task of watering the land with pedal pumps.

##### **b) Access to credit**

Giving women access to credit enables them to increase their income, diversify their activities and be responsible for their own food security. Over 6,124 women have received support from the UPH via local micro savings banks. These are self-managed by the groups, with the help of the NGO SADRI, which provided high-quality follow-up of management and training. The support was valued at an average of \$150 per person.

The financial support the women received was used to buy the necessary inputs, equipment and seeds for market gardening. When women have access to credit, they develop their market gardening activities with a focus on the following:

##### **\* Production of vegetables**

Women stand out by producing 'traditional' crops such as amaranths, nightshade, sweet potatoes, marrows, Chinese cabbages, non-hybrid tomatoes, peppers, sorrel, cucumbers, aubergines, okra, carrots and celery, while men con-



concentrate on more exotic vegetables. Women produce around 12 of the 39 vegetables grown in Lubumbashi (31%).

#### ✿ *Sale*

Women sell their produce in bulk and to individuals. They either sell it near the fields or travel to do so ('mummy carrot' as opposed to 'daddy amaranth').

#### ✿ *Diversification of income*

- several women combine animal breeding with UPH activities;
- one woman has set up a day-care centre;
- several women sell things other than ordinary agricultural products;
- several women have set up sewing businesses using the income from their market gardening activities;
- other women have begun processing and conserving tomatoes so they can sell them off season.

#### ✿ *Access to high-quality seeds*

Out of all the land occupied by women performing horticultural activities (306 ha), only 36% (i.e. 116 ha) is sown with high-performance seeds. This is because women specialise in producing local vegetables and using self-produced seeds for crops such as amaranth, okra, nightshade, sorrel, leafy

sweet potato, leafy marrow, aubergines and a few exotic crops (tomatoes, Chinese cabbages, round cabbages, celery and chard) for which they need to buy seeds. Women choose the seeds themselves, and they prefer to produce traditional vegetables that are easy to grow.

83% of the 181 ha that men use for horticultural activities is sown with high-performance seeds for producing exotic vegetables. This means that the yield/area ratio is higher for men's crops, even though women cultivate more land.

The UPH project has played a vital role in organising the sector at all production stages – it also supports people reselling seeds and manufacturers of ploughing tools, (there were only 12 in 2000, but this had increased to 44 in 2008).

#### *c) Transport methods for selling vegetables*

- Carrying on the head: 94% of women, 6% of men;
  - Transport by bicycle: 16% of women, 84 % of men;
  - Transport by vehicle: 64% of women, 36% of men.
- The project is currently playing a key role in the sale system. Research is underway into ways to further alleviate the women's task of transporting fresh vegetables to commercial areas. The project has so far built seven stalls in markets near the market gardens.

1. Due to space constraints, this document has had to be condensed. The original document (in French), showing all the tables, is available upon request.

