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Urban agriculture faces very stiff competition from other urban land uses.

IWMI-Ghana

Availability, Access and Usability of Land for Urban Agriculture

Editorial

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Land is an important resource for urban agriculture. Urban farming requires some land space, irrespective of whether the farming system is soil-based or not. Therefore land is and will remain a resource of particular concern to urban farmers. But land, or rather the adequate use of the land, is of increasing concern also to planners and municipal policymakers who have to consider the various demands on the land and its functions in and around the city.

Urban agriculture has always been part of urban settlements. In the past and even today many urban inhabitants turn to it as part of their livelihood strategy. Although the quantity of food produced by city farming does not match up to that outside the city, its impact is quite considerable. Yet, national and municipal policy do not acknowledge this important role, but consider urban agriculture as something of the past, and one that does not have a place in modern urban design. This poses several key challenges for urban farming: urban land is either not *available* or not *accessible;* and when available, it is most often not *suitable*.

Availability refers to the existence of land that can be utilised for urban agriculture, in the short-, medium- or long-term.

Accessibility refers to the opportunity for actual use of available land by needy households or groups, taking into account administrative procedures and conflict resolution mechanisms. In the past few years, programmes for urban agriculture have emerged, but existing laws have largely ignored the existence of urban agriculture or prevented its official integration into city planning. The ***usability*** of the land for urban agriculture is a function of topography, soil texture and fertility, moisture and other environmental qualities.

Access to suitable and adequate land within a conducive legislative framework will ensure sustainable urban agriculture. The questions we ask and try to get answered in this issue of the *UA-Magazine* are whether suitable land is available and how it is accessed for urban agriculture, especially by the urban resource-poor. In order to further articulate and elaborate on these and other related issues, we have drawn on the rich experiences presented in the recent e-conference reported on page 4.

AVAILABILITY

A city is a dynamic entity that develops continuously; new spatial structures are

created while others go to decay. Consequently, most cities often have a lot of (temporary) vacant open space that could be used for urban agriculture. Urban agriculture takes place *on-plot* and *off-plot,* and in *periurban* areas. Agriculture on-plot is limited by the amount of non-built-up space, and additional space created by rooftops and verandas. The challenge here is to determine suitable plot sizes for various income groups in urban design. Off-plot urban agriculture takes place on road, rail and power-line reservations; land reserved for development; and institutional land reserves. Access to such land is determined by many factors, including informal networks and information. Periurban land is the most freely available category. Here, rules of access are often determined by the land ownership patterns and are subject to a mix of traditional and modern rules.
Yet, in most cities and towns, there is no land zoned specifically for urban farming. Only in a few countries, for example Botswana, urban agriculture has only recently been considered as part of environmental municipal planning. It is crucial to incorporate agriculture in other programmes aimed at poverty reduction, local economic growth, employment, urban youth initiatives, or managing HIV and AIDS at the community level through community gardens.
However, there is high demand for land within urban areas for residential, institutional, commercial and industrial development uses. The cases on Kano, Nigeria; Tanzania; Setif, Algeria and Bamako, Mali show that urban agriculture faces very stiff competition from other 'legal' urban land uses. Therefore, it is not a coincidence that urban farming is being undertaken in marginal areas with fragile ecosystems such as wetlands, hill-slopes, or that it is being pushed to the boundaries of the city, where it is tolerated until other development ventures take over (as is illustrated in the Bamako case). Unfortunately, urban agriculture cannot compete strongly enough against other uses for the land, and often loses out. This calls for policies that do not provide land for urban agriculture on the basis of demand and supply on the open market, but on the important role it plays in sustaining livelihoods, particularly of the urban resource-poor. As mentioned before, the land most often available for

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urban agriculture is open spaces (under council or government) or land earmarked for future development. The duration of its availability is therefore not secure. In many cities, like Accra, Setif and Divo lease for agricultural use of the land is only given for one year. This means that the urban farmer cannot plan for a longer period. It also limits the extent to which services and other resources like finances can be provided.

Initiatives to improve the availability of land for urban agriculture need support and facilitation of the municipality. This is usually hampered by the lack of awareness and adequate information. A good starting point is to make an inventory of available vacant open land in the city (using participatory methods and GIS) and an analysis of its suitability for agricultural use, as is illustrated in the Latin American cases (and several articles published in no.4 of the *UA-Magazine*).

ACCESS

So, there is land available in the city for agricultural use, but this is often not recognised as such, or that access to this land is a problem. The cases in this issue describe many different formal and informal ways to gain access to land. The not-so poor hold land under various forms of title: private ownership, municipal or state land, and institutional land belonging to churches, police, army, etc. Traditional forms of ownership as under customary law also exist (see the cases on Accra, Kano and Divo). Formal and informal access to land by the urban resource-poor includes share cropping, squatting, renting, leasing, inheriting or outright purchase.
The mentioned cases show that despite formal ownership rights becoming dominant over customary mechanisms, informal means of access to land persist. Land ownership, tenure, land transfer, and access and user rights to land are complex and dynamic. There is a mix of both the traditional and the modern systems (see the Ghana case). Claiming formal access appears to be very difficult because of unclear or long procedures, or the reluctance of municipalities to issue long-term leases. The Ghana case points out the complex nature of land transfers, resulting in people opting for other arrangements that are less secure. The role of informal ties, kinship and other social relations are important for such systems of access to work. Among the informal strategies used by farmers to get land for urban cultivation are investment in social relations (marriage), lobbying in groups with caretakers to lease the land, occupying vacant land, etc.

Newcomers (migrants) to the cities often lack the social relations to gain and secure access to land and water. Dominant groups often have a favoured position in regards to land access and prevent migrants from access. In Divo, Ivory Coast, most migrants have been reduced to renting under very insecure tenure arrangements that favour exploitation by the landowners, who use the migrants to clear land for them during the first season and then take over.

Land grabbing and corruption, increasing land rent and increasing contamination of irrigation water and soils are other problems encountered. Such problems often lead to conflicts. The case from Zambia highlights some of the critical problems that may arise in the utilisation of a piece of land between the bona-fide owners and other users. Techniques of conflict resolution are therefore important. These techniques involve bringing the different parties to the

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In this issue

negotiating table and discussing their problems.

There are also differences between men and women in the access to the land. Although it is women who mostly manage the land, it is mainly men who hold the land titles. Women are therefore dependent on the men for arrangements and access to other inputs for agriculture, and if not through their husband or brother, they may find other ways to lease the land. The case of Kampala shows how, as a result, women farm the less suitable areas, sometimes highly contaminated, which could jeopardize the health of family members and customers who consume these products.

USABILITY

Many factors determine the suitability, or usability of land for urban agriculture, such as the size of the plots or soil quality, availability of water, security of tenure, etc. The history or the plots and the proposed urban farming systems may also influence the suitability. The case from Rosario gives an overview of variables selected to define the suitability of the land: environmental quality; potential agronomic use; actual use (and previous use, if the area is currently used as a dump or other hazardous activity); current regulations for land use; planned urban and city projects; water supply; ownership; and population groups interested in agriculture.

The availability and usability of water has been highlighted in the cases of Accra and Hyderabad. Urban farmers very often turn to contaminated water for the irrigation of their crops. In turn, the nutrients contained in the wastewater may replace expensive fertilisers (see also UA Magazine no. 8).

LEGISLATIVE FRAMEWORK

The *legal status* of the land may vary: a significant percentage of the real estate of the city is subject to litigation, while other parcels are public land, or have been sold, leased or assigned to institutions or persons. Duly *regulated* ordinances that foster, promote and formalise the assignment of land for alternative productive enterprises – such as urban agriculture – hardly exist in most cities. Urban agricultural land use is usually seen as an illegal activity that is economically unviable and environmentally disastrous. Until such time that legal frameworks are amended to recognise agriculture in the city, it will be very difficult to legitimise it and attract resources to develop it. The Tanzania case adds to this argument by saying that national polices and laws need to be linked to the municipal by-laws and ordinances.

Recognition and legitimisation of urban agriculture do not remove the reality of competition for resources with other land-uses and activities, but it does level the playing field and provide a framework for officially responding to the resource requirements in an equitable manner. In some countries legislation has emphasised ownership rather than land use (in Kampala for example) to the detriment of agriculture. Most of the by-laws on urban agriculture have tended to control the activity rather than facilitate its development. By-laws and regulations need to be facilitatory rather than being controlling in a negative manner.

IMPROVING ACCESS TO LAND FOR URBAN AGRICULTURE

The general picture may look like a vicious cycle: land is unavailable or access is denied, and if not so, the land is often not usable. This limits the flexibility of the farmer in planning and further impairs his or her ability to mobilise resources, and because it cannot realise its full potential, urban agriculture most often does not compete favourably against other urban land uses. Positive action is needed to break this cycle.

Once the main stakeholders are convinced of the positive impact of urban agriculture, having been informed sufficiently and accurately, a participatory multi- stakeholder process of diagnosis, joint research, planning decision-making and implementation is necessary.

This issue describes various arrangements for improving access to land and other resources. These range from temporary arrangements, for instance in eThekweni in South Africa where community gardens are allowed, to the carefully considered optimisation of the use of open space, in Rosario and Cienfuegos. Another strategy is the creation of (allotment) gardens on privately-owned land leased by associations of the urban poor. Sometimes not all of the land is fully used, but seen as multi-functional and important to all its users (see the London case). The creation of allotment gardens, like in the Philippines underlines the need to have active involvement of the municipality, but also to have good insight into the local social relations.

Most of the cases presented in this issue provide suggestions that could be useful in drawing up successful programmes in urban agriculture. They emphasise the importance of innovative approaches and techniques that facilitate integration of urban agriculture into the city landscape as a permanent feature, thereby ensuring adequate access to land and other resources for the urban poor. Land banks, multi-stake holder participatory urban planning and long-term leasing arrangements are examples of innovative approaches that are already being tried out with success.

Electronic Conference

Optimising Agricultural Land Use in the City Area: Access to land and water, adequate norms and regulations, integration in land use planning

An increasing number of cities and countries are interested in including urban agriculture in their strategies and programmes to reduce urban poverty and enhance urban food security. In order to facilitate that process, from 3 – 26 of November 2003, the Urban Management Programme (UNDP / UN-Habitat), and ETC-RUAF organised an electronic conference on the optimisation of access of the urban poor to land for agricultural activities.

The E-mail discussion originally was supposed to be implemented three weeks, but due to the many enthusiastic contributions it was decided to continue for another week.

SHARING OF EXPERIENCES

In total, 400 participants from 82 countries registered and many more followed the discussions by visiting the RUAF website on the Internet. 36% of the participant was female and 64% male. About 33% of the participants had a background in research institutes and universities, 13% in municipalities and governmental organisations, 26% in NGOs or CBOs, 10,5% were students and 17,5% had another background. The participation from policy-makers and practitioners was higher in this conference than in the earlier E-conferences organised by RUAF. There were more than 450 relevant contributions received for the discussions and some 30 papers were added to the "Background papers" section of the conference website. These are encouraging numbers, indicating a strong interest to share experiences on this topic of relevance for local policy development, urban planning and future projects on urban agriculture.

ACCESS TO LAND BY THE URBAN POOR

The experiences presented in the E-conference illustrated the many ways through which urban poor seek to secure access to land (and water): investments in social relations, development of strategic partnerships between households or by linking up with people with access to land, individual lobbying with caretakers of land or joint lobbying for access to land with private institutional land owners or the local government as well as the occupation of 'vacant' land and the interruption of wastewater disposal lines. The experiences indicate the importance of developing a thorough understanding in the ways people create and secure access to land and how customary and statutory land rights are interacting, before developing any land use regulations and planning.

CONSTRAINTS ENCOUNTERED BY URBAN FARMERS

A number of factors that limit access to urban land for agriculture were discussed. For *actual farmers* in periurban areas a legal position is lacking and under the quest for land by urban estate developers, or migrants and urban poor the social cohesion diminishes. Formal ownership rights become dominant over customary mechanisms. Land grabbing and corruption, increasing land rent and increasing contamination of irrigation water and soils are other problems encountered. The *poor rural and urban newcomers* lack social relations through which access to land and water can be gained and secured. This group further encounters high land prices and lack of resources to lease or buy, while there often is only low quality "vacant" land available. Uncooperative owners of idle land or eviction by local authorities or other threats to this group.

PROVISION OF ACCESS TO PUBLIC LAND

The E-conference showed that various Municipalities, NGO's and other local stakeholders already have a number of promising strategies to enhance access of urban poor to land and water for agriculture. One of the approaches regularly applied, is the provision of vacant public and semi-public land to urban poor for temporal agricultural use. A city is a living mechanism that continuously creates new spatial structures while others are in decay. In most cities there is often a lot of (temporarily) vacant open space that could be used for urban agriculture. A good starting point is to make an *inventory of available vacant open land in the city* (using participatory methods and GIS) and *analysis of its suitability for use for agriculture*. A Municipal Agricultural Land Bank can bring owners in need of temporal or permanent users in contact with those in need of agricultural land. In addition, the *formulation of a City Ordinance* that regulates the (temporal) use of vacant land in the city, is of importance. The *provision of temporal occupancy licenses* to land users farming on land with acceptable suitability is very important since it provides some legality and security to the temporal users. Another lesson learned is *the important*

The objectives of the Electronic Conference were:
1. to share and discuss local experiences on alternative strategies to enhance and secure access of the urban poor to land within the City boundaries for food production;
2. to share and discuss local experiences with the development and application of Municipal bylaws, norms and regulations regarding (access to land for) urban agriculture.

Two main situations or target groups were distinguished:
a. Poor *urban families that already have taken up urban agriculture* as part of their survival strategy.
b. Poor *urban inhabitants without access to land* in need of alternative sources of subsistence and income.

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role institutional landowners and parastatals can play in leasing out temporarily idle land to urban poor and disadvantaged. Also *the importance of an independent organisation (e.g. NGO) playing a mediating role* to create acceptable win-win situations for both parties. Farmer training on adequate management practices, acceptable for the institutional owner, is crucial.
However, provision of land is not enough: *access to water of acceptable quality* is crucial. Since poor urban farmers in dry regions often rely on urban wastewater, adequate norms and guidelines regarding the safe use of wastewater have to be developed (see an example of such norms and guidelines in UA Magazine no 8, November 2002).

ALLOTMENT GARDENING

Another strategy is the creation of (allotment) gardens on *privately* owned land leased by associations of urban poor. The experiences presented in the E-conference indicate that first of all it is important that there is a *good understanding of the local social relations* before participants are selected and groups are formed. Active involvement of the Municipality is important as well as the availability of an *entity (Municipal department or NGO or project) that plays a facilitating and coordinating role*. It is necessary to define *clear land management conditions* (e.g. crop choice, no building and waste management) and to assist the allotment gardeners in learning and application of the required practices. The increase of Municipal tax on idle urban land or reduction of taxes for landowners could facilitate this.

ZONING FOR URBAN AGRICULTURE

The acceptance of urban agriculture as a permanent land use and its integration in City land use planning was a third strategy discussed. General *restrictive policies regarding Urban and periurban agriculture do not work*: urban agriculture persists under all policy environments. Under restrictive policies, problems associated with urban agriculture stay unattended while its potentials are not fully utilized. So l*egalisation of urban agriculture and demarcation of special zones for urban agriculture* is strongly advocated by many practitioners. Legal protection of urban agriculture – in certain parts of the city- will make it more sustainable and secure maintenance of green zones in the City. However, zoning in itself will not be sufficient: the maintenance strongly depends on the *political will of the local authorities* and the *practical technical and financial capacity of the Municipality*. Another condition is that adequate services are provided to urban farmers preferably through *development of multi-stakeholder support programmes*.

The *integration of urban agriculture into City Land Use Plans* requires an (inter-)active process involving various types of stakeholders with varying interests and perspectives and roles. To enable such process the conformation of a *multi-stakeholder Platform on Urban Agriculture, Food Security and Environment*, including Municipal Departments, NGO's, Farmer Organisations, Universities and other local stakeholders is an important instrument. The *establishment of one central coordinating Municipal Office* has been of great value in various cases as well as the involvement and collaboration of various municipal departments. In addition, the participants in the E-conference have observed the importance of assisting urban and periurban gardeners and farmers to get organised and to voice their interests and to dialogue with other stakeholders. It is crucial to provide more insight to municipal planners on the risks and benefits of each type of urban agriculture as a basis for and the development, with active farmer participation, of *effective guidelines on the management practices to be adopted by* ***each type*** *of urban agriculture and the conditions under which such types of agriculture are acceptable in certain locations.*

GENDER DIFFERENTIATION OF ACCESS TO LAND AND WATER

The topic of gender and access to land aroused quite some discussion and interesting observations. Gender differentiation of access to productive resources and gender division of labour in agriculture have *to be analysed in each city and for each urban farming system*, specifying constraints and opportunities for men, women and children. One has to be careful with transferring knowledge about gender in rural agriculture to urban agriculture, since the urban context and conditions may lead to important changes in the cultural definition of roles, in the division of labour and in access to productive resources. Participants recommended that *urban agriculture projects should specifically target women* in order to overcome present gender differentiation regarding access to land, especially female-headed households. Special attention has to be given to the selling and processing of products and more research has to be taken up on gender differentiation of access to productive resources in urban agriculture.

RUAF E-CONFERENCES
The RUAF electronic conferences are designed to facilitate the exchange of experiences and debate on urban agriculture between a wide group of stakeholders and persons interested in the issue. At www.ruaf.org you can find information on this and the three previously organised electronic conferences:
2003: Agricultural use of Untreated Urban Wastewater in Low Income Countries (with IWMI)
2002: Appropriate Methodologies for Urban Agriculture (with CGIAR-Urban Harvest Programme)
2001: Health, Land-Use Planning and Food Security (with FAO)

PROBLEMS ENCOUNTERED BY THE MUNICIPALITIES

Several problems were mentioned that are encountered by municipalities in the optimisation of agricultural use of urban space. Mentioned above is the lack of *awareness and adequate information* to local policy makers. This is especially true regarding the realistic assessment of the health and environmental risks associated with urban agriculture and available strategies to reduce such risks. The contribution of urban agriculture at *aggregate level* for the realisation of the municipal policy priorities is often not clear.

The development of adequate municipal policies, bylaws, norms and regulations regarding urban agriculture is hampered by the *lack of good examples*. Municipalities sometimes have a *limited capacity* to formulate policies on urban agriculture - and related support programmes- and/or to control and enforce the adopted bylaws and regulations. The integration of urban agriculture in the city development and land use plans is often restricted by the *lack of knowledge* of the existence *of practical methodologies*. Finally, many local governments underestimate the importance of preservation of open green zones in the city.
Several participants also pointed out *the need for adaptations in national laws* in order to enable new developments at local level.
Other themes discussed were the reuse of waste water, the use of compost for urban agriculture, the 'hot' issue of livestock in the city, the innovative urban and periurban systems for land confined conditions, the minimal plot size and the use of GIS for urban agriculture matters.
For a more extensive overview of the discussion, please visit www.ruaf.org/E-conferences.

Cai Gaojian

The houses of migrants will be improved if they stay long enough on the land

Migrants' Access to Land in Periurban Beijing

Farmland in periurban Beijing is owned by local rural collective units (village committees) but is primarily cultivated by migrants without local *hukou* (household registration). This is different from the typical agricultural production in China where farmland is both owned and cultivated by the local rural population. Two case studies (see figure 1) were conducted in Haidian district of the Beijing suburbs to explore how migrants in Beijing gain access to land.

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CONVERSION AND UTILISATION OF FARMLAND

Availability of agriculture land within the borders of Beijing has been declining due to rapid urbanisation and population growth, particularly after 1996. From 1985 to 2002, the area of cultivated land shrank from 421 thousand to 249 thousand hectares, while the total population increased from 9.8 million to 14.23 million. The biggest loss of farmland occurred in the periurban area due to the urban spatial growth pattern, prevalent in Beijing. As a consequence, the majority of land converted from agriculture to other uses in Beijing is concentrated within the near suburbs.

Efforts have been taken by the government to reserve a certain amount of already cultivated land for continued agricultural use in periurban Beijing, in order to maintain a sustainable urban ecological environment and to provide vegetables and food locally. According to the Beijing Master Plan (1993-2010), further urban development should shift to the outer suburbs and remote counties. And according to the "Ordinance for the protection of primary agricultural land in Beijing", which was issued by the Beijing Municipal People's Congress in 1994, "*The requisition and occupation of primary agricultural land should be strictly controlled*" (Article 15); "*All units and individuals are strictly forbidden to leave cultivated land unused or let it lie waste*" (Article 18).

Farmland in Beijing, as in other parts of China, is owned predominantly by the rural collective units, or village committees. According to the "Land Administration Law of PRC" (PRC stands for People's Republic of China), land in rural and suburban areas shall be owned by peasant collectives, except the portions that belong to the State, while urban land shall be owned by the State (Article 8). The total population in Beijing can be divided into 3 categories based on *hukou* status: non-agricultural residents, agricultural residents and migrants without local *hukou*. Of these, only the agricultural residents in village committees can share land use rights on the land they own, while non-agricultural residents and migrants cannot.

The total area of cultivated land in Beijing in 2002 was 249 thousands hectares, accounting for 15% of its total area of land. Out of its total population of 14.23 million, 3.29 million or 23% were agricultural residents; 8.07 million or 57% non-agricultural residents; and 2.87 million or 20% migrants. There are 4,005 village committees in Beijing. The average area of cultivated land occupied by each village committee and each agricultural resident is 62 and 0.076 hectares, respectively. In the two case-study villages, Tujing village and Qinghe village, there are 131 and

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67 hectares of cultivated land, and 753 and 1,343 agricultural residents, respectively, in 2002. The average area of cultivated land per agricultural resident is 0.179 and 0.050 hectares respectively.

However, the majority of agricultural residents in periurban Beijing are reluctant to farm. Instead they are engaged in non-agricultural activities, which pay better and provide higher social welfare benefits (as the most dynamic growth area adjacent to the urban core, the periurban region in Beijing provides good job opportunities and social welfare for the local residents). In 2002, total rural employment in Haidian district was 49,726, but only 25% (or 12,627) was engaged in agriculture, forestry, (animal) husbandry or fishing. In our case-study villages, less than 1% of the rural labourers were involved in agricultural production, more than 80% were employed elsewhere, while the other 19% were unemployed. The latter make their living by renting spare rooms to migrants and by social welfare allocated to them by the village committee. In Qinghe village, which is closer to the urban core, the village committee allocates about 30,000 *yuan* (1 US Dollar = 8.3 Chinese Yuan) annually to each of its residents as social benefits. This amount of money is nearly 5 and 12 times of the average annual per capita income of rural households in Beijing (5880 *yuan*) and China (2476 *yuan*) in 2002, respectively. The income of Qinghe village is primarily derived from leasing land and the development of township and village enterprises (TVE). In Tujing village, there are about 5-6 thousands migrants who rent housing. By charging an average annual rent of 1,200 *yuan* per person, local rural households can generate a total revenue of 6 million *yuan* annually or 8,000 *yuan* per person.

The Location of the two Study cases in Beijing

With the increasing costs of local rural labour in periurban Beijing, labour has to be brought in to bridge the labour deficit for agriculture so that the cultivated land is not left unused or wasted (as required by the local laws mentioned earlier).

FEATURES OF MIGRANTS

There were 3.87 million migrants who resided in Beijing for more than one day in November 2002 (according to the National "dynamic monitoring investigation"), while 2.87 million of them resided in Beijing for more than six months. Statistically, they can be regarded as a part of the total population in Beijing. 58 % (or 2.24 million) of these migrants reside in periurban Beijing, 12% in the urban districts and 30 % in the outer suburbs and counties. These migrants are predominantly young and male (80 % in the ages of 15-39 and 62% is male). They are generally better educated than rural residents, but less educated than urban residents in Beijing. Migrants are primarily employed in the "low-end" services and labour-intensive industries: 55% of them are employed in services, such as restaurants, shops, recycling businesses, etc., 35% in manufacturing and construction, 6% as professionals, 2% in agriculture and the rest in other occupations. Although the share in agriculture is quite small, the total number of persons engaged in agriculture is fairly large, up to 62 thousand, which is larger than the total amount of local rural labourers in the near suburbs (55 thousand in 2002).

MIGRANTS' ACCESS TO LAND

The only way for migrants to engage in urban agriculture in Beijing is to rent the land from local village committees or local farmers. Two methods of renting were identified in the two case-study villages. With a higher economic profile, a larger population and lesser farmland, the Qinghe village committee has established a special office for developing most of its cultivated land under greenhouses. Subsequently, these greenhouses are leased under contract to local farmers and migrants to grow popular vegetables, such as tomato, chilli, eggplant, cucumber, etc. These vegetables are sold along the roadsides close to the greenhouse or at large free wholesale markets. The annual rent for such a greenhouse is between 6,000-8,000 *yuan* per *mu*, depending on its quality and available facilities (about 15 *mu* in a hectare). The annual rent for local farmers and migrants is the same, but the former can get back their share of the

The majority of agricultural residents in periurban Beijing are reluctant to farm

Two men who look after the greenhouse harvest cucumbers for sale

Cai Gaojian

Cai Gaojian

Vegetables are sold by the migrants themselves or by road-side vendors

land leasing revenue gained by the village committee annually. In Qinghe village, migrants rent the majority of greenhouses. The basic contract period is one year only, due to the uncertainty about the lease, but can be renewed

Leasing cultivated land to migrants brings many benefits

yearly. Most of these migrants are young couples from the rural areas of Henan province. In order to minimise costs, they usually leave their children in the home village with their grandparents, and build temporary dwellings beside the greenhouses. They can earn an annual net income of 8,000 - 9,000 *yuan* per person, which is 5 times higher than the average income in their home villages. According to the migrants, there are very few violations of contracts in Qinghe village.

New migrants usually build shabby living quarters beside their rented land

Cai Gaojian

The majority of the farmland (about 77%) in Tujing village has been allocated to its local residents, under contract, at the quota of 2 *mu* per person for free use. The rest of the land, equivalent to 450 *mu*, is collectively leased to migrants by the village committee. Those local households who are reluctant to do farming themselves can in turn lease their allocated land to migrants for agriculture use, either collectively through the village committee, or individually. The latter form is less popular and is usually refused by migrants for fear of contractual validity. The price for renting land is generally 800 *yuan* per *mu* per year, much lower than in Qinghe village, where the land is rented with the greenhouses intact. The basic contract period in Tujing is usually 5 years, much longer than that in Qinghe village. This is because most of the tenants (migrants) have to build the greenhouses themselves to enhance productivity of the land. Another reason is that the conversion of land for other uses is less eminent here. Like in Qinghe village, most of the migrants in Tujing village are also young couples from rural areas of Henan province, who leave their children behind and build temporary living quarters on the land they lease. They can also earn an annual income of 8000 - 9000 *yuan* per person. However, there are more cases of contract violations in Tujing village and migrants who rent land here face higher risks.

OBSERVATIONS AND RECOMMENDATIONS

Leasing cultivated land in Beijing to migrants by contract is an arrangement that brings many benefits to the local rural residents, the migrants and the society at large. For local rural residents, it not only generates additional revenue, but also more importantly, relieves their obligation for not letting the farmland stay unused or wasted. It also helps them to move on to higher paid jobs. For migrants, this practice provides a good opportunity to earn more money by using their skills. From society's point of view, the valuable farmland in the periurban area becomes more productive. Furthermore, the improvement of cultivated land slows down the process of urban encroachment in this area.

However, the methods of land leasing and the situation of the migrants should be improved. Generally, migrants feel safer in signing contracts with the local village committees rather than with individual farmers because village committees are the legal owners of land and the basic administrative unit. Further measures should be taken to guarantee the land tenure rights of migrants during the contractual period. The production and living conditions of migrants in agriculture also need to be improved.

Kano is a city with a population of between 2.5 and 3 million, which makes it the largest city in Northern Nigeria. Several studies have shown the significance of urban and periurban agriculture in the area and its contributions to improved nutrition, household food security, employment, etc. of city dwellers.

IWMI-Ghana

Vegetables are grown for the urban market

Optimising Agricultural Land Use in Kano

Urban agriculture is not a new phenomenon in Kano (Olofin et al., 1997). It began long before the 1960s in some parts of the city, and became widespread after the general economic downturn in the late 1980s, when the urban poor struggled to improve their livelihoods. However, despite the obvious gains of this practice, it has not been officially recognised. Rather, it is merely tolerated as a response to the socio-economic conditions faced by many poor individuals (Binns et al., op cit.). Yet, as Lynch et al. (2001) suggest, the promotion of an 'enabling environment' in which agriculture in the city is encouraged and supported remains crucial. Of primary concern in this context is a land tenure arrangement that would encourage full participation of the urban resource poor.

Three sub-systems of field production have always been present in the urban and periurban fringes of Kano: dry season production of market gardening crops, wet season production of staple food crops and permanent fruit orchards. Of these, the permanent orchards usually belong to well-to-do individuals. Also, animal rearing (poultry, fish, cattle etc.) is undertaken by the middle and upper classes of the society who have larger compounds. Thus, dry season horticultural crop production and wet season production of staples, actively pursued by the urban resource poor, are discussed in this article.

This contribution summarises the findings of a sequence of research studies in which the authors have been involved. In particular, the findings consist of the 1996 collaborative research by Natural Resources Institute, Chatham, England, and the Department of Geography, Bayero University, Kano, Nigeria that was commissioned by the DFID (Olofin 1996, and Olofin et al., 1997); the report of three scientists on a re-visit to one site in 2001 (Lynch et al, 2001); the report of three other scientists to more sites in 2002 (Binns et al., 2003) and the author's current (2003) field observations in four sites.

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CROP PRODUCTION

A study by Olofin (1996) established that especially men, between 30 to 70 years of age, undertake urban crop production during both the dry and wet seasons. These men live in simple traditional houses and most have received Islamic instructions. Nearly 98% of the 109 men interviewed during this study were urban resource-poor. Less than 5% are migrants from other parts of Nigeria. The agricultural inputs are rudimentary – hoes, machetes and sickles as implements, and seed from their own stocks or bought on the open market. A few had access to improved seeds, fertilizers and pesticides. Many relied on household refuse, animal droppings and ash for manure.

Vegetable production by irrigation during the dry season is undertaken on flood plains, floodable low terraces and depressed, seasonally flooded upland areas, subject to the availability of water either on the surface or in dug up ditches. Highly polluted urban waste streams are used for irrigation throughout the year in several sites, supplemented by a few tube wells. Flooded low terraces and upland depressions are irrigated with available water usually at the beginning of the dry season. Depending on water availability they may be irrigated towards the end of the dry season, after which the crops are left to mature with the onset of the rains. Otherwise, the plots are left fallow after the first crop for the cultivation of staples during the wet season.

Plot sizes are very small, averaging 0.2 ha per plot in the intra-urban areas and 0.5 ha in suburban areas. However, about half of the respondents had more than one plot. Some of these urban sites are vacant lands belonging to Government. It was clear in 1996 that in five of the seven vegetable production sites investigated the access to land was insecure, and the report

expressed the fear that: "indeed, urban sprawl may soon catch up with the other sites ... if appropriate steps are not taken" (Olofin 1996: 2).

A study of one of the risky sites in 2001 (Lynch, et al., 2001) confirmed that about a quarter to a third of the land that was available for cultivation in 1996 was no longer available for that purpose in 2001. Current observation at that site has shown that more than half of the 1996 space is no longer available for urban cultivation. Indeed, the two most extensive sites at the edge of the urban area where tenure appeared to be private and safe in 1996 are now under great threat. About half of the area at these sites has now gone.

ACCESS TO LAND AND TENURE ARRANGEMENTS

A variety of land tenure arrangements for urban agriculture are common in Kano. These range from individual or family ownership (where tenure is secure) to permitted and illegal squatting (where

More than half of the 1996 space is no longer available for urban cultivation

tenure is insecure). In some locations, farmers utilise open spaces adjacent to government undertakings such as railway lines and offices. Most of the farmers feel that they 'own' their plots in the sense of having user rights over them. This view, one believes, is borrowed from the pre-colonial (and pre-Islamic) times when land tenure in Northern Nigeria was purely communal, and individual community members had the right of use to any land. Thus, once an individual used a particular piece of land, he had the right of occupancy that excluded any other member of the community. The land would revert to the community only when the individual ceased to use it. This is why Ega (1987) argues that the rights to use land at that time was at two levels. The community had rights over all unclaimed land, and the individual had complete control over his holdings. It is also a fact that in this period entitlement to land was exclusively through kinship and membership of the community. This Northern Nigerian land tenure arrangement is what the Land Use Decree (No. 6) of 1978 (enacted into law in 1979), more or less, extended to the whole of Nigeria. By the provisions of this Act, access to land, particularly in the urban area, is vested with the State Governor and the decree makes no provisions for the use of urban land for crop production. Agriculture is associated only with rural land use, and urban land development means the construction of urban structures.

This policy (as presented in the Act) has encouraged governors to deprive urban cultivators of access to land through compulsory acquisition of land and ejection, without compensation (except for mature crops), of urban cultivators from acquired/occupied sites. Indeed, some of these governors have no regard for the many functions of green belts within the urban environment because they allocate them for urban construction.

Unfortunately, the permission given for cultivation of vacant parcels of land that are unsuitable for urban construction (such as in areas of aviation installations, aprons of railway tracks, etc.) is not formal. It has not been written in any legal document, or authorised by any government gazette. But, it was part of a speech that ushered in "Operation Feed the Nation" in 1976 and re-echoed during the launching of the "Green Revolution" in 1980, encouraging Nigerians to cultivate all available land in the cities and in their backyards. Thus, the cultivators of such public vacant lands are mere squatters whose tenure is very insecure. Yet mutual benefits have been established by such use. The cultivators improve their livelihood and the relevant government establishments agree that they have saved money by not having to do periodic clearing. The anxiety that such unused places could become suitable hideouts for criminals and other undesirable elements has also been removed.

ACCESS TO WATER

Both cultural and Islamic beliefs state that water belongs to God. Thus, a man has access to any source of water on the land he cultivates. The problem here is that many sites in Kano depend on urban waste streams for irrigation. The urban resource poor cannot afford to construct tube wells or wash bores to obtain better-quality water. They operate on an individual basis, and the insecure nature of their tenure precludes the formation of cooperative groups that could assist them in obtaining agricultural loans and other inputs from governmental sources.

BETTER ACCESS TO LAND AND SECURED TENURE

The issue of access to and security of cultivated land in an urban environment is controversial. Urban developers would not be pleased to leave large urban spaces vacant while millions of urban dwellers crave for decent shelter. However, it would be useful to identify urban areas that are not suitable for urban construction and reserve such areas for urban cultivation. Flood plains and floodable depressions come first to mind because urban constructions that block natural channels and artificial drains have resulted in devastating floods within urban areas in recent years, particularly in the site re-visited by Lynch et al. (2001).

In view of the mutual benefits cultivators and relevant government establishments have derived from the informal agreement allowing the cultivation of urban public vacant lands, this should be made formal and the occupants assured of their tenure for a reasonable period of time. It is certain that with assured tenure the farmers would be encouraged to form cooperative groups that would qualify them to obtain government assistance, which in turn would give them financial strength to construct tube wells and buy water pumps to source groundwater for their production. They would also use their plots in a more sustainable way.

As things stand in Kano, the urban poor farmer would only become poorer in the near future unless policies and strategies, such as the ones suggested, are put in place to secure better access to land and to assure security of tenure.

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Agriculture in Kampala is practised mainly in valley slums where the poor live in informal settlements. Although urban agriculture offers easy access to services and markets, gaining access to land to grow food and rear animals is a challenge for the urban poor.

RUAF Video

Many poor people lack land ownership

Access to Land for Urban Agriculture in Kampala

Urban farming is becoming an ever-present, complex and dynamic feature of the urban landscape and socio-economic reality in Uganda and the rest of Africa. Whereas urban agriculture in some African cities is a matter of a thriving livelihood culture, in Kampala it is an initiative to lessen the growing poverty. However, it is also an activity that puts pressure on resources and the cohabitation of town-dwellers, vegetable growers and livestock farmers can lead to conflict.

THE EMERGENCE OF URBAN FARMING

In Uganda, urban farming started in the early 1970s. Since then the urban population has grown considerably and an increasing number of vulnerable households have turned to urban cultivation as an alternative source of food, as a means of saving on food expenditure, and as a way of generating cash income. Initially urban agriculture was mainly a survival strategy of the poorest of the urban poor, but increasingly farming activities have gained importance among the urban poor, and among a significant proportion of low- and medium-income earners.

Kampala city has a population of about 1.5 million inhabitants, nearly 14% of the total Ugandan population. Of the Kampala inhabitants, 40% consume either a crop or animal product produced in the city, while 70% of all poultry products consumed are produced within the city (Ssebaana 2002). Women and children are primarily involved in urban agriculture in Kampala, which includes farm chores like weeding, planting and harvesting. In contrast, men prefer quick income generating projects. A small proportion of urban agricultural produce is intended for sale, while the majority of it is for home consumption.

Urban migrants often settle in informal, low-income areas with limited opportunities for income generation. Their major cash crop is the cocoyam. Other crops grown include Amaranthus (pigweed), finger millet, cowpea, green pepper, and sugarcane. The urban poor cannot afford fertilisers and resort to other means such as bio-fertilisers (Tithonia diversifolia or Mexican sunflower). In the urban areas, high-value crops such as vegetables are in demand. Selling the surplus vegetables may lead to substantial income savings and subsequently the ability to purchase or rent land.
Often, the poor people form income-generating groups or projects to meet their basic needs and to offer assistance to the community. These groups comprise mainly of women and have cultural names like "*Tweyambe*" meaning "self-help".
Urban farming is a survival strategy for many of the urban poor, yet their farming systems are poorly understood and supported by extension services.

ACCESS TO LAND BY THE URBAN POOR

Land in Kampala is held and administered in a complex web of management regimes, which constrains access and ownership. The British administrators introduced a system of land tenure in 1900, under which land was divided into mailo (from the English word mile) as private land belonging to the Ganda King and chiefs and public (crown) land owned by the Queen of England. Most urban poor settlements and activities are on Mailo, a form of freehold where individuals control access, irrespective of their capacity to develop the land. The majority of the poor, gain their access to land as customary tenants on privately owned land in periurban areas, a form of land tenure unique to Buganda known as *bibanja* (plots) on mailoland.

Annual crops are commonly grown by many poor people as they lack land ownership rights and gain access to land in poor areas like wetlands, road and railway reservations or waste disposal sites. Others utilise their backyards or encroach on undeveloped land left to fallow by landowners. Despite being squatters, the poor have usufruct on the plots they farm. Landlords and city authorities do not allow squatters to grow perennial crops, yet the poor squatters stand to be evicted at any time if the occupied land is going to be "developed". Security personnel, i.e. policemen, claim that crops such as bananas and maize grow tall and create hideouts for thieves. Therefore, Kampala City Council personnel often slash such crops grown by poor people. This means that the poor lose their livelihood, their continued income and food security for their families. Other government authorities such as the Electricity Board often slash crops that are found growing in places where the electricity lines run.

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ACCESS TO LAND FOR URBAN AGRICULTURE

Land for urban agriculture is accessed in many different ways (Nuwagaba et al, 2003): squatting (46%), borrowing (34%), inheriting (11%), renting (5%), co-owning with spouses (4%). Currently in Uganda, the spouse co-ownership of land is a contentious issue particularly among gender activists who contend that women have for long been left out from the benefits of family resources. The majority of urban farmers in Kampala (60%) indicate that they are actively searching for land, and mention to have plans to borrow from government or relatives, or seek funds to buy.

Land in Kampala is administered in a complex web of management regimes

The existing institutional procedures for accessing land in Kampala city are highly bureaucratic, time-consuming and complex. They intimidate urban farmers, who generally lack the knowledge, information and contacts to file an application for acquiring land. Urban farmers in their quest for farming land have often violated and contravened regulatory measures for allocation, utilisation and plot layouts. All this has been attributed to lack of policy responsiveness to the need for planning with urban farming in context.

URBAN POLICIES AND REGULATIONS

Urban farming has been found to function nowadays as a 'double-edged sword' with both nutritional and health as well as economic benefits. Despite this significant contribution, there is no substantive provision in the law that aims at streamlining informal sector activities such as farming in urban areas. Underlying the practice of urban agriculture in Kampala is the fact that it is technically illegal. The by-laws banning the practice are enforced erratically, and have little impact on urban farming.

Urban farming is also prohibited in 'high-density areas'. 'High density' is unrealistically defined as an area with more than two households per acre of land, whereas in most Kampala neighbourhoods there can be as many as 40 households on an acre of land. The 1964 Town Planning Act mandates the Local Urban authorities to enforce regulations for 'development control' in their areas of jurisdiction. In earlier years this Act provided the basis for Kampala City enforcement officials to harass those who carried out urban farming in the city, since the Act views farming as an activity at odds with the urban standards. In Uganda, the Plan for Modernisation of Agriculture (PMA) focuses solely on rural agriculture. However, the government lacks resources to provide enough extension services for this programme.

Although urban agriculture has no legal status in Uganda, city planners and national policy makers have recently recognised the central role of urban agriculture in the wider urban economy. In 1994, a section known as the Urban Agriculture Unit was established within Kampala City Council's (KCC) Production and Marketing Department. Formerly, before decentralisation of Kampala District, it was directly under the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). The broad objective of this Unit is to support and guide the communities in urban agriculture and to ensure household nutrition and food security. A number of achievements have been made, like training of farmers in various crop and animal husbandry skills, and in domestic garbage management and re-use in urban agriculture. Financial support to this Unit by KCC is still relatively small.

Since November 2000, Kampala city authorities, researchers and donors have been working together to address the challenges of urban agriculture under the Urban Harvest programme, led by the International Institute for Tropical Agriculture (IITA), which investigates urban agriculture in the livelihood strategies of the urban poor. A related Health Impact Assessment of urban agriculture in Kampala has been undertaken by a Health Coordinating Committee (HCC), established in June 2002, with active involvement of Kampala City Council (KCC). There is an active link between research and policy making. KCC has accordingly legislated urban agriculture in Kampala City (Urban Agriculture Ordinance 2001). The ordinance provides for the licensing, control and regulation of crop farming and animal rearing in the city.

SUPPORTING URBAN FARMING

The present legal framework regarding urban farming is still far from supportive. The city authorities have made attempts to recognise urban farming but do not provide for the planning or zoning of such activities. Neither the former "harassment" approach nor the current "permissive" approach functions well. Up to date, the City Council needs to issue a permit for people to engage in urban agriculture. The urban poor are not aware of this, while the City prefers to provide licenses to agro-business entrepreneurs (e.g. large poultry farms). This simply means that urban agriculture is carried out without any regulation or authorisation. However, a specific and clear framework is needed to make urban agriculture sustainable and productive.

RUAF Video

Urban agriculture has no legal status in Uganda

A more pragmatic, multi-sectoral and integrated approach would include building partnerships with farmer organisations and other civil society organisations, capacity building, and the identification of zones where urban farming is permitted. Also linkages with programmes that focus on poverty reduction through urban agriculture including planners, agriculture specialists, environmentalists, and community development specialists are necessary. This approach would transform urban farming from an illicit practice to a much-appreciated and highly beneficial activity.

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African cities experience uncontrolled development and Bamako, the capital of Mali, is no exception. Its rapid growth catches town planners unawares and exceeds national budgets for support to urbanisation. Urban agriculture is one way to help to meet the increasing demand for food in the city.

IWMI-Ghana

The Land Issue and Urban Agriculture in Bamako

Insecure access to land is one of the threats to farming in the city, mainly due to the conflict between land for construction and land for farming. The former almost always gets the upper hand despite the fact that agriculture and market gardening are included in town planning.

In Mali, land without a (determined) owner belongs to the State, and the State determines land regulations, sharing out, and re-allocation of spaces (even agricultural ones). More than 75% of farmers in Bamako do not own the land they cultivate.

Nowadays, it is very hard to find vacant lands in Bamako. Landowners find it more profitable to transform their farms for construction purposes, and rent the buildings, which is more profitable and less risky than agriculture. However, producers may have access to land through (mostly temporary) loans, renting (which is expensive), or customary estates.

Access to land is further constrained by the attitude of local authorities, governors and officials of the city, who give little care to the development of urban agriculture in the city or even fear it at times. The authorities generally attach greater importance to agriculture in rural areas, and activities relating to the promotion of agriculture in proximity to cities are insignificant and even non-existent.

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URBAN AGRICULTURE IN BAMAKO

Urban agriculture involves market gardening, cereal growing and cattle breeding. These activities take place in the periurban and inter-urban spaces of Bamako, and they expand because of growing urban demand for foodstuff.

In this paper the focus is on land ownership in the district of Bamako, in relation to intra-urban agriculture. The constraints and specific assets of the periurban areas are different from intra-urban agriculture, and need to be analysed separately, to prevent erroneous analysis of the situation, but more importantly, to develop appropriate supportive action.

In the intra-urban area, competition for land is strong. The acreage under agricultural activities is reducing, and production modes with high added value are being intensified. In the periurban area, houses are built far from one another and are separated by non-built areas that are not allotted to?. In Bamako large agricultural areas are hemmed-in in the city, along the river Niger and along the railways. They are surrounded and bound by a dense urban fabric.

Urban agricultural spaces, especially market gardens cover an area of about 600 hectares, which is equivalent to 1.6% of the surface of the District of Bamako. They are unequally distributed over the six communities of the District. Market gardens are decreasing and only represent about 1/5 of their surface in 1960 (see map).

LAND OWNERSHIP

There are two ways of appropriating land in Mali: customary law and Malian common law. Customary law is a legal system based on rights of user and culture. Under this system land belongs collectively to a community. Land management is insured by legitimate and organised customary institutions that apply rules and decisions. Today, customary law is weakened by the social disintegration and the intermixing of populations. Furthermore, social prohibitions and the status of customary chiefs are threatened by the existence of new local authorities.

The rules of customary law are respected by Malian common law. In some cases, the new local authorities first appeal to the customary authorities for support or approval before taking decisions. However, modern management of land ownership has difficulty in departing from customary law. The land and Domain code – CDF (National and Land Code) makes property a basic principle; which is mentioned in other laws and regulations. In fact, the national estate involves areas of the public estate: private ownership issued on behalf of the State; private people or territorial communities; and the State's private estate. The shift of concession right into propriety right is made through the leasing of land ownership on behalf of the State, and through the transfer of the title deed on behalf of the purchaser in return for the payment of a price fixed in accordance with the price list issued by decree.

URBAN STAKEHOLDERS

Decisions are taken at three levels in the District of Bamako: the High Commission of the District of Bamako, town councils and influential persons. Each level represents an essential decision-making power. They do not act separately, each level is important, and all levels are inter-connected. The High Commission is the nerve centre for issues related to land management. The governor delegates a

part of his powers to communities for estate management. The mayor is responsible for defining and applying the district policy when it comes to managing the estate property of his district.

Despite the city authorities' efforts in the field of estate management, influential people still have an important role in the allotment of space. Not only do they decide (even unofficially), but they also contribute, with local authorities, to a prompt hearing of estate cases through landowners.

LAND AND OCCUPANCY STATUS

Market gardens are located primarily on lands under the system of customary law. These are lands granted for customary management by colonial authorities to founder families and influential people in the city, particularly the Niarés and the Tourés. Secondly, market gardens in Bamako are found on State or individual properties. These are the State land reserves (which are not serviced), and the State's public and private estates located in districts, particularly in industrial and residential areas. A third category is spontaneous occupation, which concerns registered or not registered lands that are not presently exploited, such as fringes, areas liable to flooding or on which no building can be erected, mainly located along the valley of the River Niger. Such occupation of lands is not legal.

Land for agriculture can be rented or lent. To "legal owners", the farmer is a mere tenant of the land, bringing capital and labour to the farming lease. Thus, the farmer takes entire advantage of the produce of his land. But this way of access to land goes with land royalties paid to the owner as renting fees. The amount of the royalties, fixed after a general agreement, varies according to the land value of the site and the area of the plot. Parcel lending is the second most popular way of getting access to land. Generally, the reasons for the market gardeners to leave their lands are construction, new employment, and seizing of parcels due to unpaid rent.

PLAN OF ACTION TO PROMOTE URBAN AGRICULTURE

The situation as described for Bamako and other cities is considered to be a major challenge for West African cities. The African Urban Management Institute (IAGU) started a series of consultations and research activities in seven capitals in West Africa (Dakar, Abidjan, Ouagadougou, Niamey, Nouakchott, Cotonou, and Bamako). The programme is aimed at enhancing sustained development of urban agriculture and enabling national committees to carry out a series of activities.

In Mali, one such activity is research on land ownership in urban agriculture, which aims to organise a local consultation in Bamako on the links between the land issue and the development of urban agriculture, and to assist in the development of a municipal plan of action (with different components, one being the organisation of community fora). One of the meetings gathered different stakeholders from the departments of health, environment, estate, and town Planning and decentralisation; market gardeners, exporters of fruits and vegetable; researchers, and NGO executives. This meeting led to setting up of a Malian network for the development of urban agriculture and the Inter-sectoral monitoring committee (CIS) for the sustainable development of urban agriculture in Bamako.

The plan of action highlights management, institutions and regulations, means of production, and socio-economic and environmental aspects, and will enable the Malian political authorities to further enhance the development of urban agriculture.

CONCLUSION

Administrative and municipal decision-makers must develop, with the active involvement of market gardeners, a realistic policy for the management of the unregistered land (under customary law) along the banks of the Niger River. The fluvial area in Bamako is no one's property. The surrounding districts could also expand their agricultural surface. Every district could then carry out its own land management policy, above all in this context of decentralisation.

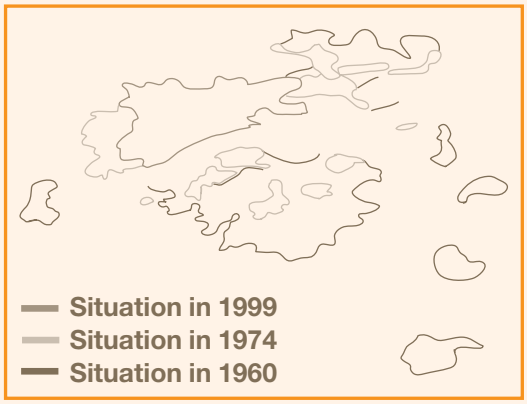

Figure 1
Decreasing market gardens in Bamako

Municipalities (as owner of the lands) should put at the petitioners' disposal parcels of land strictly for market gardening purposes along the river. Access to this area should be subject to royalties. A municipal tax on land could be deducted.

The local authorities are responsible for the preliminary technical planning of the site, like the demarcation of the land, the boring of watering places if need be, and the settling up of water supply utilities.

The government should pass a law restricting the area for cultivation within the valley, or include a policy for zoning. This law can then be used to prohibit the construction of buildings of any kind at a distance of 25 five metres from the upper limit of the waters. The same law must clearly indicate the use of the land.

These areas where market gardening is promoted must be located in or on the fringes of the city, reducing transport costs and assuring fresh vegetables at affordable prices.

The projects and programmes that aim to create and conserve a market gardening belt around the city cannot overlook the problematic subject of land. Both the use of the land as well as the acquisition of land titles must be encouraged, with assistance from the administrative authorities.

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IWMI-Ghana

Access to low-cost water is a key factor affecting farmers

Access to Land and Water for Urban Vegetable Farming in Accra

There are two major categories of urban crop farming in Accra: *household gardening*, which takes place in and around homes, and *open-space farming*, which takes place on lands some distance away from human dwellings, along drains, stream banks, road sides, abandoned waste dumps, around public buildings, wetlands etc.

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Tenure arrangements on urban open spaces vary. In general, no open-space farmer owns the land cultivated, and hardly any of them pays a fee. Most of these lands are owned by the National government, Municipal authorities, or individuals. The situation is different in periurban areas where farmers might own their land or are engaged in 'abusa' and 'abunu' tenancy arrangements (share cropping). In the latter case, farmers give a third and half respectively of the total farm produce to the landowner as payment for the use of the land (Obosu-Mensah, 1999; Asomani-Boateng, 2002).

In urban Accra, farming on open spaces takes place without formal authorisation. Zakaria *et al.* (1998) described the situation as follows: "As the land is not put to any other use, the owners do not bother when farming activities are carried out on such lands until the land is needed to serve some other purpose. Farmers may or may not be given notice to quit the land to make room for any development." Under such insecure tenure conditions, farmers do not invest in farm infrastructure (such as wells or cement ponds), soil conservation or long-term fertility improvement.

ACCESS TO LAND FOR FARMING

There are two main ways by which farmers can gain access to land for farming in both urban and periurban areas of Accra. These are the ***formal*** and ***informal*** access. Though Accra has a formal land delivery system, in the urban areas, this is more or less closed to agricultural uses. In the periurban areas where it is expected to be open to agricultural uses, the procedure is complex, inordinately long, not appropriately efficient or cost effective (Flynn-Dapaah, 2002). In addition, most traditional chiefs in charge of their "stool lands" prefer to sell plots for good prices than to allocate lands for their farming community. For these reasons, farmers in and close to Accra prefer the use of informal arrangements to access land for farming.

A number of informal land arrangements are prominent in Accra. With one arrangement, the land being cultivated is owned or controlled by a government agency that voluntarily gives it out, sometimes through the mediation of a third party, to farmers for temporary use (Obuobie, 2003). In terms of land access from the perspective of property regimes, lands cultivated under such a tenancy arrangement could be called "public, open-space property" (Flynn-Dapaah, 2002) and include undeveloped spaces around public institutions, along drains, banks of streams and rivers, wetlands, etc. Farmers may or may not be given any notice to quit the land to make room for other development.

The benefit to landowners is that continuous cultivation keeps the land clean of weeds and prevents encroachment as well as urban sprawl as the cultivators provide

Several informal land arrangements are prominent in Accra

the "on-site enforcement against unofficial settlement"(Obuobie, 2003; Flynn-Dapaah, 2002). This is mostly practised by open-space farmers in the low-density areas of the city. These farmers are either engaged in seasonal farming (growing crops such as maize, tomatoes, pepper, okra, groundnut etc), relying entirely on rainfall or are engaged in irrigated vegetable farming (growing crops such as lettuce, cabbage, cucumber, spring

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Wastewater can be used for irrigation of the crops

onion, cauliflower, green pepper) when there is a water source nearby.

There exists another similar informal arrangement, only in this case an individual or a private organisation owns the land. Access to land is either through direct negotiation involving the prospective farmer and the landowner or caretaker, or through the mediation of a third party. This arrangement is used both by urban and periurban farmers. Household farmers are normally tenants of the houses and cultivate the land around it and therefore do not pay for such cultivation. Some open-space farmers pay a token depending on the individual landowner. But more often than not individual landowners, like government agencies, view farming on their land as a way of preventing encroachment. Periurban farmers engage in share cropping arrangements with individual landowners as a means of payment for cultivating the land.

Access to land could also be obtained through customary land rights. Contrary to other sub-Saharan African countries, this form of land tenure is legally recognised in Ghana according to the National Land Policy and the Land Title Registration Law (PNDCL 152). Customary land right is mostly found in the Eastern part of Accra, between Labadi, the Ghana International Trade Fair Centre, Burma Camp and Teshie. The owner of the land is the *La stool*, which is one of the customary Ga chieftaincies in Accra (Zakariah *et al.,* 1998). The farmers on the La stool make a customary claim to their holdings which were acquired through inheritance following a construction of social/political history based upon the rights of first occupation or proving kinship to the first occupier (Flynn-Dapaah, 2002).

For sometime now, there have been a series of land conflicts surrounding the ownership and right of access to some of the La stool lands. Although Ga farmers continue to farm on inherited La stool lands behind the trade fair centre and adjacent to the Burma camp military base, much of the lands they claim as their own has been officially earmarked for the military, which has recently revoked its interest in the land (Flynn-Dapaah, 2002). Flynn-Dapaah (2002) reported a representative of the Department of Town and Country Planning indicating that most of the land will be re-zoned for housing, which endangers the farmers' livelihood. The Ga farmers are determined to contest any compulsory claim to the land, since they have never been compensated according to the legal requirements for compulsory acquisition of land. But city officials claim the same land has already been zoned as a green belt (Flynn-Dapaah, 2002; Obuobie, 2003). In fact, parts of the area have a very high groundwater table and are unsuitable for building purposes.

With the exception of farmers cultivating on lands under high-tension electrical cables at Dzorwulu (an open-space farming site), and household farmers who have rented the houses and land on which they cultivate, none of the urban farmers in Accra are known to possess any document supporting arrangements on cultivation of the land. The Accra Metropolitan Assembly (AMA), the city authority, and its municipal Food and Agriculture Directorate, which is part of the decentralised Ministry of Food and Agriculture (MoFA-AMA), are currently developing legislation to create green zones specifically for urban and periurban farming. Building permits can be refused in designated green-belt areas to give existing farmers the land security they need. The success of this initiative will depend largely on the value of the land.

ACCESS TO WATER FOR FARMING

Apart from land, availability and access to low-cost water for farming in the urban and periurban areas of Accra is another key factor affecting farmers. Water access allows vegetable production in and for the lean season and is crucial for profit generation. Household farmers use mainly pipe borne water and *greywater* (water from bathrooms and kitchens); open-space farmers use drain water, streams/rivers, pipe borne water and hand-dug wells, in decreasing order; periurban farmers rely mainly on rainfall and streams/rivers.

There are no formal procedures that farmers follow to get water for farming. Pipe-borne water is perceived to have the best quality,

but is expensive and therefore unaffordable to many. For household farmers, the houses in which they live are usually connected to the city water supply system. Though pipe-borne water supply is meant for drinking, cooking and other domestic or industrial uses, household farmers may extend it to watering of perishable crops and pay for it. Maize and other staples are not irrigated. However, due to the difficulty in meeting the increasing domestic and industrial demand, the Ghana Water Company Limited (GWCL), has cautioned the public to put a stop to the use of treated water for irrigation purposes. The alternative can be *greywater.*

Open-space farmers frequently irrigate their crops with polluted surface water. They locate their farms along major drains and streams to access water for irrigation. Each farmer controls, more or less, the portion of the drain or stream that is within the span of his farm and regularly maintains water drawing points within the drain or stream for fetching water effectively with watering cans. But there could be also two or more farmers drawing water from a given point along the drain. In the wet season when there is enough water in streams/rivers or drains, every farmer is free to fetch water from any point along the drain or stream but there are restrictions in the dry season, which sometimes lead to conflicts. Stream/river and major drains have continuous flow and farmers pay no fee for using the water. Farmers hardly use protective clothing, although some of the drains contain pure and untreated wastewater during the dry season. Due to tenure insecurity farmers show little interest in infrastructure to increase consumers' safety (e.g. via on-farm wastewater treatment ponds).

It is envisaged that as soon as tenure security is achieved, farmers would invest in wells or on-farm wastewater treatment, where through sedimentation or filtration the level of faecal contamination of the water could be reduced (Drechsel et al., 2002).

Concerned with consumer safety and the health of the city dwellers, the city authority, AMA, enacted a by-law: "No crops shall be watered or irrigated by the effluent from a drain from any premises or any surface water from a drain which is fed by water from street drainage" (Local Government Bulletin, 1995). This concerns especially those vegetables and other crops likely to be eaten raw. Compelled largely by lack of affordable and good quality water for irrigation, and sometimes by the nutrient value of wastewater, the farmers continue to grow vegetables with wastewater and the by-laws are not enforced for reasons including lack of sufficient personnel and finance.

Open-space farmers using piped water are in groups and share the bill according to the number of beds each farmer manages. A farmer wanting to join a group has to discuss with the group leader and agree to the approved agreement for sharing water bills. Again, due to increased domestic and industrial demand, the GWCL is in the process of disconnecting farms connected to the pipe-borne water supply system. A personal visit to some urban farming sites (between August and September, 2003) revealed that a number of farmers could cultivate only part of their field mainly due to the lack of sufficient water. In view of the problem of water availability and accessibility for farming, the MoFA-AMA directorate as well as the Council for Scientific and Industrial Research (CSIR) in Ghana suggested exploring the option of ground water use in urban farming.

THE DIMENSION OF GENDER

There are some gender differences in irrigated vegetable farming. It is an established fact that in Accra, and other cities in Ghana, nearly all the farmers are men (Obosu-Mensah, 1999). Women dominate the marketing of the produce with a few men playing the role of wholesalers and very few found as retailers in markets. A focus group discussion and interviews with some key informants (male and female farmers) revealed a number of reasons for this gender division. They include (1) the arduousness of farm work, especially land clearing, land preparation, carrying watering cans for watering and spraying; (2) general lack of interest in farming and (3) cultural definition of gender roles-men do the farming and women do the selling. The study further revealed that, unlike in rural areas, there is no gender bias in term of access to land and water for urban farming.

RECOMMENDATIONS

The majority of urban and periurban farmers in Accra do not own the land on which they cultivate. Access to land is mostly through an informal arrangement.

Open-space farmers often irrigate their crops with polluted surface water

Almost all household and open-space farmers do not pay any fee for cultivating the land but most periurban farmers do, usually through a traditional arrangement. Equally important for cash generation is water access. However, availability and access to low-cost, good quality water for irrigation purposes raises colossal difficulties.

In the light of this difficult and insecure situation it is reasonable to suggest that the agency responsible for agriculture in the Accra Metropolis teams up with farmer groups to seriously address problems of land tenure. Urban authorities could provide protected user rights to cultivators, especially those who guard the city against urban sprawl and encroachment. One major issue would be to agree on a minimum period (in years) a farmer is allowed to cultivate on a piece of land belonging to the municipal government or a public institution. This could be done through dialogue on a multi-stakeholder platform.

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Easy access to land means access to food, while limited access often leads to food insecurity, and to a strong sense of anxiety for the future. This article focuses on the differences between locals and migrants in the town of Divo, Côte d'Ivoire, and points out the consequences that access to land has on their lives

People often have small home gardens or have some land just outside the town

The Problem of Access to Land in Divo

The study was carried out in the urban area of Divo, situated in the southern part of Ivory Coast. Divo has a population of about 100,000 and the typical climate of tropical rain forests, with an average annual rainfall of 1950 mm. The vegetation surrounding Divo consists mainly of forest remnants, the shrubs, and coffee, cocoa and palm plantations.

THE URBAN AREA OF DIVO

According to the 1998 general population census of the Ivory Coast (RGPH, 2001), the population is divided into 8 different religious groups and more than 60 indigenous ethnic groups. The predominant ethnic group in Divo and its province is Dida. By origin the Dida are hunters and depositories of land rights. At present there is a variety of other ethnic groups in Divo who have migrated from different parts of Ivory Coast or from bordering countries since 1950.

Although Divo was named "poste administratif" (administrative centre) at the beginning of the 20th century, it began its development only after 1955, when it became the regional capital and an important strategic commercial centre of the entire south of the Ivory Coast. The population density increased from less than 8 inhabitants per square km. in 1955 to 65.9 in 1998. In these years, the town of Divo has witnessed a great transformation. The fast urbanisation of Divo has led to a town, in which the central neighbourhoods are very densely populated, with an increase of green space towards the periphery.

An important reason for the growth of the town is migration. People from different ethnic groups came from Burkina Faso, Mali, Guinea, and from the north-west and centre of the country during the coffee and cocoa plantation boom, and continued even after due to Divo's strategic commercial position, its rich land and Dida hospitality.(Dureau, 1987). The result is a very cosmopolitan town, where the original inhabitants, the Didas, are no more than 15% of the population, a minority in their own land. Although there is no longer a clear-cut division of the town into ethnic groups, a predominance of some ethnic groups in certain neighbourhoods is observed.

Divo has grown substantially and since the 1960s, the municipality has been confiscating land from the villages bordering the town, dividing it into modular parcels of land, and subsequently selling the plots as building blocks..

Most of the people in Divo have at least one urban farmer in their family. Peripheral neighbourhoods have a low population density and land is often utilised by people to grow food crops. In central neighbourhoods people often have small home gardens or have some land just outside the town. Commonly produced crops are starches, such as yams, cassava, taro, rice, maize, plantains; and vegetables such as aubergines, tomatoes, chilli peppers, okra. Fruit trees such as mango and papaya grow spontaneously.

ACCESS TO LAND

Access to land is the main discriminating factor between migrants and locals, with high implications for the life of individual town dwellers. Didas are landowners and depositories of land rights, and migrants are not: they predominantly rent the land. Besides the chief of the village, there is a "chef de terre" (chief of the land), responsible for all land issues, who divides and distributes the land among the villagers. When the migrants arrived in Divo in the 1950s, they asked the "chef de terre" for some land, and obtained it very easily, because plenty of land was available. At present, land is scarce and the Didas are less welcoming. Now migrants mainly rent parcels of land from the local landowners and have to agree to their conditions. Those migrants who have arrived in the last five years have the most difficulty. They are obliged by the landowners to change their plot every 3, 4, 6 or 12 months, depending on the crop.

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In fact, landowners normally rent the land for only one harvest. Many migrants complain about the sudden termination of renting agreements immediately after the cleaning of virgin land. It is more and more common that owners do not rent the land at all because of the increasing land scarcity, and a "fear of the outsider". This situation has led to much instability in the lives of migrants.

Migrants do not have any decision-making power regarding cultivation of the rented land. They are not allowed to grow crops that are considered land-degrading and too nutrient-demanding and therefore food traditions cannot be followed. One informant stated: "I eat rice every day. I look at it only as something that fills my stomach, but nothing else".

The space surrounding the house is used differently by migrants and locals. The land-owning locals tend to fill the space around their house with flowers and ornamental banana trees. Migrants grow food crops instead so that they do not have to spend energy or money in getting to the field, and because they can choose to grow whatever they like without asking for permission from the landlords.

A detailed analysis was carried out to get a deeper understanding of how limited access to land affects the lives of the people of Divo. The analysis looked at the local policies regarding urban agriculture, the actors involved and motivating factors in the choice of crops.

LOCAL POLICIES

No clear planning or policy guidelines exist in relation to urban agriculture, and none of the officials interviewed seemed to be aware of the concept. They knew what a home garden and a small food crop field were (probably some even had access to this type of land, but none of them had a perception on the role of such gardens. Urban agriculture in Divo is neither discouraged nor promoted; it is not considered a formal activity.

The lack of a facilitative policy on urban agriculture is illustrated by the following facts. Firstly, urban plots are exclusively destined for house building. If nothing has been built on a plot within a period of three months the municipality can take it back. This means that there are many incomplete houses, or just foundations, plots, which are often used to grow crops. It is very common to see maize plants growing inside the shell of incomplete houses. Secondly, urban land (the plots where cultivation is not allowed) is much more expensive than rural land. Thirdly, the border between rural and urban land is where the customary and the official land rights meet. The "not well-defined" rights of the farmers in this "no man's land" often leads to conflicts, where the migrant (especially if not Ivorian) is very often penalised.

An attempt to draw up an inventory of land tenure rights was made in 1998. The new law, adopted on 23 December 1998, defines rural land (Stamm, 2000), but does not mention the boundaries of rural and urban land. The clarification regarding this border should probably be the first step towards recognising the role of Urban Agriculture in the general economy of the town.

ACTORS INVOLVED

Local urban farmers are mostly women. According to established gender roles, women are responsible for feeding the family. They grow their staple crops and vegetables, and buy fish and meat on the market. Their husbands very often are landowners, so most women use some of their husbands' land. **Migrant** urban farmers are both women and men. They practise urban agriculture as a means to survive. Urban agriculture is very often the second most important activity, as the salary from their main activity is not sufficient to cover all expenses. Many municipal workers, as well as shopkeepers, artisans (tailors, hairdressers, etc.) have a small plot and cultivate a staple crop, such as maize (which doesn't need daily work). Urban agriculture can be the migrants' main activity when they have not found a "formal" job. In this case, migrants grow crops such as rice, which requires more work, but has a higher market demand, while the type of land used is usually very cheap.

Access to land is the main discriminating factor between migrants and locals

Most urban farmers grow crops for family consumption. A very common answer to the question "Do you eat or sell the crop you grow?" was "I grow these crops to eat, but if it is a good harvest I sell a part to the market". This also means that people tend to grow what they need for their traditional meal, which differs per region.

Motivating factors for the choice of crops

While the local farmers may cultivate the crops needed for their traditional meal, the migrants' choice is often a consequence of practical reasons, related neither to their taste nor their eating habits. As landowners (or landowners' wives) the locals have the power of

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Access to land is a constraining factor for migrants

Paola Iaccarino Idelson

It is very common to see maize plants growing inside the shell of incomplete houses

choosing what they prefer according to their taste and traditions. All the informants grew plantains and cassava, essential for their traditional daily meal, the "foutou". Migrants' choices, instead, are influenced by the landowners and it is very rare that these landowners allow their tenants to grow what they need for their traditional meal (peanuts for the people from the north; yam for people from the centre), as the owners consider these crops land-degrading.

urban farmers are mostly women

The crop choice criteria of the migrants are:

- crops that are easy and fast to grow;
- crops that have a big market demand;
- crops that can be easily stored and preserved, and thus used to feed the whole family for a long period;
- crops that can grow well on the land in question.

Maize is an example of the easy and fast growing crops. It is grown by many different types of people. In fact, maize does not require much work, and has a short harvest cycle of three to four months. Rice is considered as a source of money, because it can easily be sold at a relatively high price. It also represents a source of "food security", because it can be easily stored and eaten every day. It is often grown by low-income migrants, because of the low price of the "wet land" (bas-fond) used to cultivate this crop. Wet land, in fact, is not suitable for building purposes and is very often dangerous to walk on. Therefore, it is usually given away for free, or for a very low price. Moreover, hard work is necessary to cultivate rice, therefore migrants often cannot do parallel activities in order to improve their economic conditions.

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Dida woman cultivating taro and yam for her "foutu"

DISCUSSION

This study shows how access to land is a constraining factor for migrants in Divo, and how it influences their lives. To the question, "What is the main constraint to your urban agriculture activities?", the majority of urban farmers replied, "The difficulty of finding land to rent", "The short renting agreements", or "Problems with the landowner". The implications of considerable importance are food insecurity, economic instability, impossibility to plan the future, and the need to change food habits.

Access to land can be a constraining factor for migrants and the development of social connections is essential for an easier access to land (Scott, 1993). The situation in Divo and the rest of Côte d'Ivoire could become even worse, as the growing sense of "ivoirité" (a sense of national belonging), that the new regime has been instilling for several years, is making things more and more difficult for migrants (Chauveau, 2000).

Yet, Divo's urban agriculture has remarkable potential. The large amount of land that is still free from buildings (especially in the peripheral neighbourhoods) and the high fertility of the land make the town of Divo an important source of food. All the people interviewed considered it advantageous to be able to grow food crops, even though often without proper management, and in a spontaneous and sometimes very precarious way. The less fortunate (for example recent migrants) manage to feed their family, despite not having enough money for fertilisers or pesticides and not being able to rent the plots for any length of time. The more fortunate, on the other hand, can even sell part of the produce, and, in this way, contribute to the well-being of their families.

In order to improve the potential of urban agriculture, formal recognition of the practice on the part of local policy is not only necessary, but essential. The policy framework should take the conditions of migrants into account and consider the possibility of differentiating the prices of land within the urban area. These two basic steps can make the already existent practice of urban agriculture more profitable for all categories of people in the town of Divo and for the town itself.

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Urban and Periurban Agriculture in Setif

In Algeria, periurban agriculture as such is not recognised. For a long time State policy considered only one form of agriculture, strictly controlled, regionally specialised and operating at the level of the national market. Thus small-scale agriculture around a city like Setif has not been differentiated from the larger-scale cultivation of cereal in the rural regions of its wilaya (governorate). With the liberalisation of economic policy since 1987, farmers have greater freedom in the orientation of their agricultural operations.

Abdelmalek Boudjenouia

Periurban agriculture delivers a growing portion of the city's supply of perishable goods

Setif is the main town of the wilaya, located within the central zone, and has a population of around 260,000 (DPAT, 2002). Urbanisation is nearly always at the expense of agricultural space. This article seeks to answer two questions: How does farming adapt to liberalisation and urban development? To what extent can periurban agriculture in Setif be considered *urban agriculture*?

Various transformations in Setif's agriculture are indicative of a passage from an agriculture that is planned at the national scale to one that has a local focus and is more responsive to the market. Periurban farmers are reorganising their operations to take advantage of the urban proximity.

SETIF'S AGRICULTURE: A LAND TENURE CRISIS

In the zones of Setif designated to agriculture, 92.6% is actually used for the purpose (9098 ha). Farming is highly diverse, both in its legal categories and in the combination of activities. Land tenure is the principal criterion for designating land for agricultural purposes.

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The State owns three quarters of agricultural land as a result of the confiscation of properties after the country's colonisation. Starting in 1987, the State land was restructured, either as individual agricultural operations (IAO), or as collective agricultural operations (CAO). The IAOs have an average area of 13.4 ha., while the CAOs average 201 ha. (about 31 ha. per individual farmer). Private property makes up the remaining 23.4% of the agricultural land around Setif. While farming activities on private lands are small (averaging 6.8 ha), they represent 87.7% of the legal operations and 57.7% of the farmers. Their number appears to have increased by one fifth according to the latest census, through the subdivision of existing operations; similarly, the number of CAOs have risen as a result of informal splitting of units among farmers with usufruct (According to the Agricultural Census of 2001).

The status of land held as IAO or CAO poses a serious political problem. While farmers would like to appropriate these properties the State wishes to maintain title to the lands (under the 1987 and 1992 reorganisation of the agricultural sector, Law 87-19, they fall under private rights and can be transferred). The main challenge for these farmers is to have full land ownership rights, just like private farmers, to freely sell the land or leave it to their heirs.

In terms of production, cereal production is dominant with its share of total crops increasing from 75.6 % in 1985 to 93.2 % in 2001. A significant growth in market gardening crops (particularly potatoes) has also been observed, particularly between 1993 and 1998, when it rose from 2.3 % to 8.0 %. The share of fodder has plummeted from 22 % to 5.4 %, while leguminous grains have disappeared altogether. Meanwhile, nurseries have started to appear in intra-urban communally- held vacant spaces. Animal husbandry occupies itself mainly with cattle, sheep and goats and poultry.

EMERGENCE OF A CITY-ORIENTED AGRICULTURE IN SETIF

Many families not included in the government's agricultural classification have traditionally maintained their gardens at the urban periphery for domestic production of vegetables or livestock (poultry, small herds grazing around the neighbourhood). While most of the products are consumed by the household, a portion is often sold nearby, on the roadside, or at the market. Income from agriculture is only part of the household income, as some family members also work in other sectors (trade, administration, education, etc.). Yet, agricultural operations play an essential economic role within families.

Periurban, and to a certain extent intra-urban, agriculture delivers a growing portion of the city's supply of perishable goods. This is the result of expanded, small-scale private agriculture: household gardening and animal husbandry, small-scale market gardening close to water sources (like oued (valley) Boussellam, and

the waste treatment plant), as well as dairy production (cattle and sheep). Apiculture, aviculture ornamental horticulture and nurseries are also spreading in response to increasing demand from urban residents for eggs, white meat, honey, plants for landscaping and house interiors, flowers, etc.

The waste treatment plant, put into operation in 1996, is interested to supply urban agriculture with its by-products, both treated water and the composted sludge (about 27 000 m^3/year). The water is still discharged into a oued, from which it is pumped to neighbouring farms. A distribution system is under construction, which would allow the irrigation of 800 ha of land for market gardening and fodder cultivation (and ultimately orchards). This would consist of 13 CAOs on 707 ha, one IAO on 43 ha, and 14 private farmers on 50 ha (ENPHE, 1995).

Although some farmers, notably market gardeners in the vicinity and tobacco growers further away, are starting to use the sludge for soil fertility management (averaging 40 users), this activity is still rather disorganised and barely promoted. Research is expected to clarify the specific risks (in transportation, spreading) of sludge and the proper conditions for its use.

Livestock waste is used for soil replenishment in cereal production. Other wastes such as by-products of poultry slaughterhouses crushed into meal by the Regional Avicultural Office of the East, or mouldy bread, gathered by children door-to-door and resold at the weekly markets, is used as feed for animals.

Urban agriculture delivers a growing portion of the city's supply of perishable goods

Essentially, the traditional agricultural systems in Setif remain and become integrated into the regional, or even national, economy. The private home gardens and micro-herds belong to the more customary forms of urban agriculture, and make use of smaller vacant spaces. Yet new production systems that build on new opportunities such as waste reuse, growing local markets for fresh produce, and the designation of greenbelts for agriculture (Fleury, Donadieu, 1997) are coming up.

The Setif master plan of 1997 classifies certain green wedges as agricultural spaces (oued Boussellam, and an area south of the city). This already points to a change of mind regarding agriculture in the city.

POLICIES TO ENHANCE THE DEVELOPMENT OF URBAN AGRICULTURE

The built-up area in Setif grew from 313 hectares in 1966, to 646 in 1974, 1780 in 1987, and will grow further by 1600 ha in the following 25 years, of which at least 60

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Traditional agricultural systems become integrated into the regional economy

% will be at the expense of agricultural space (DUC, 1995). The location chosen for this growth are those locations where the State is weaker in defending its domain. Although Algeria is encountering serious food supply difficulties, the fertility of the lands is not a criteria for urbanisation or not.

Urban expansion takes place through the creation of residential clusters and zones of non-agricultural economic activities on the urban periphery. Whether urban planning exists is questionable given the overbearing control exercised by State and elected officials in land-related decisions. Financial compensation for land as fixed by the State is considered inadequate by the landowners, which leads to legal conflicts and delays. The change in land classification from agriculture to urban is not well defined and control over property is weak, which makes it easy to divert lands to other uses. For example, the forests of Zenadia and Boussellam are used and recognised by local residents as green spaces. Even the recent designation of these areas as agricultural zones may not be sustained, as these spaces are still officially land reserved for development.

Agricultural use is further hindered by theft of crops, vandalism and trampling of fields.

ACCESS TO LAND

Despite the strong demographic growth in Setif, the food situation does not require spontaneous appropriation of lands for the establishment of household gardens. However, it is striking to observe new houses standing in the middle of empty fields in peripheral municipal areas, illustrating the need by many households to grow food.
After the restructuring of the agricultural sector in 1987, access to land has become difficult, particularly on government-owned lands. Instead, new forms of land tenure are emerging: ceding of inherited land to relatives; leasing of land, even among IAOs and CAOs; and annual partnerships between landowners and investors in crops such as potatoes.

CONCLUSION

Although periurban agriculture in Setif plays a modest, but growing, role in the city, it officially exists principally at the regional or national scales. Poverty as encountered in many African cities, which urges for subsistence urban agriculture to emerge, does not prevail in Setif. However, it would be interesting to further investigate the potential for a public policy that promotes household gardens in periurban popular housing areas, to meet food as well as recreational functions, spatial control and environmental functions. However, the proper integration of agriculture in urban planning requires recognition, specification of, among others, the role of agricultural spaces and activities in the urban system of Setif, and institutional strengthening. Such policies cannot emerge unless the current instability of real estate due to inappropriate laws, lethargy of the State, and superposition of local power is tackled.

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UMP-LAC

Urban farmer drawing her plot diagrams in Governador Valadares

Optimisation of the Use of Vacant Land in Rosario

The project "Optimisation of use of vacant land in the Municipality of Rosario" forms part of the Municipal Urban Agriculture Programme, started in September 2002. Currently, 10,000 families are involved in this programme, and occupy more than 60 ha of private, institutional and municipal land.

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The project is implemented by the Secretariat for Social Promotion of the Municipality of Rosario, the National University of Rosario [1] and community-based institutions and NGOs [2]. The project has led to the formulation and institutionalisation of an enabling regulatory and legal framework, facilitating access to land for urban agriculture.

CONTEXT

The city of Rosario with 17,869 ha lies in the heart of Argentina's metropolitan area. According to the National Population Census of 2001, the city has a population of 1,164,800 inhabitants. During the last 30 years, the systematic enforcement of neo-liberal policies and the opening up of markets has led to the economic failure of most of the industries located in the area, as well as to the disappearance of a large number of small and medium enterprises, which have been historically important sources of employment. Over time, the area around Rosario has grown to accommodate irregular settlements, mostly inhabited by groups of poor families, as a result of the unemployment in the region and a high rural and urban migration from provinces in the north of the country.

Unemployment and the lack of social welfare coverage for growing groups of the population has driven NGOs to progressively assume a greater role in social development programmes, with urban agriculture as a significant part of their work. On its part, the municipality has gradually transformed its development activities into social programmes and policies aimed at tackling the situation of those groups excluded from the formal labour market. A major strength the city has in terms of the development of urban productive activities is the existence of numerous public and private vacant lots that can be converted into production areas for groups of poor families. Within this framework, facilitating land access and tenure of these productive spaces to low-income groups is a key to achieving their social inclusion in society.

This case and the one on Cienfuegos, Cuba (on page 26), are two experiences under the project "*Optimisation of Use of Vacant Land for Urban Agriculture*" promoted by the Urban Management Program for Latin America and the Caribbean (UMP- LAC). The project is simultaneously being carried out in these two cities and also in Governador Valadares in Brazil (see box). The project is part of the United Nations Program for Human Settlements UN-HABITAT and the United Nations Development Program (UNDP), the International Development Research Center (IDRC) of Canada and IPES – Promotion of Sustainable Development (Peru).

VACANT LAND AND ITS PRODUCTIVE USE

The city has a large amount of vacant or partially vacant land (in total 35% of the municipal area), much of which has potential for use in urban agriculture given its proximity to marginal settlements and existing housing projects. In fact, a high percentage of urban gardens –voluntary initiatives or fostered by the municipal Urban Agriculture Programme – are located in these areas and are managed by the people living in irregular settlements or shantytowns.

Most of the parcels currently used for

agriculture were "taken" without force by the people, or obtained from public entities or the municipality under an ordinance that promotes the temporary assignment of public and private land for community and productive use (3). The ordinance allows for establishment of community gardens on public and privately owned land. For public land, temporary user permits may be obtained from the relevant authorities. The owners of private land are invited to give their lands free of charge to the Municipality of Rosario for temporary use for a period of two years. During this period the private owner is exempted from paying property taxes for the land.

However, many of these vacant lots may not be suitable for agriculture, being degraded due to numerous urban activities, or being located in a place that makes productive use of the land not feasible–at least in the short term. It is therefore important to analyse the situation of vacant urban and periurban land and determine its potential for agricultural use.

In order for new and vacant areas to become urban productive spaces, reliable and up-to-date information is necessary. Such information facilitates consensual decision-making on the type of land to be used, and how and for how long it can be designated to urban agriculture within the

Mario Gonzalez Novo

Organoponics can be used on land unsuitable for open cultivation

framework of the present urban policy model. Participatory baseline studies makes it possible to determine the situation of urban agriculture in the city, and to study the potential of using non-built up land to sustain such activities.

DIAGNOSIS AND PLANNING OF LAND USE

During the first phase of the project, participatory baseline studies produced information on which an action plan was developed, outlining strategies for the optimisation of agricultural land use. The theoretical and methodological concepts "Suitability" and "Accessibility" were discussed and agreed upon during workshops with gardeners and municipal officials.

The following variables were selected to define "suitability" of the land: environmental quality; potential agronomic use; actual use (and previous use, if the area is used as a dump or for other hazardous activities); current regulations for land use; urban and city projects planned; water supply; and ownership.

The variables considered for the definition of "accessibility" of the land for urban agriculture were: legal status; current regulations of access and tenure; fiscal debt; public policies; and value of land.

The *legal status* of the parcels may vary: a significant percentage of the real estate of the city is under litigation (bankruptcy, unknown owner, etc.); other parcels are part of public land (donations, expropriations), or have been sold, leased or assigned to other institutions or persons. The existence and scope of duly *regulated* ordinances that foster, promote and formalise the assignment of land for alternative productive enterprises– such as urban agriculture - is another significant factor for the determination of accessibility.

Within the framework of *public policies*, it is important to determine the validity of or changes in projects included in the Master Plan, in the Public Housing Service, in Public Works, etc.; whether there are building spaces and areas designated for projected green areas or other specific uses. With respect to land policies, it is important to look at the location and status of land to be protected from illegal occupation.

The *value of land*, besides being an indicator of how attractive the vacant land is on the real estate market, has to be identified to enable all the planning areas to propose possible expropriations of land potentially useful for setting up strategic socio-productive enterprises, such as those related to urban agriculture.

IDENTIFICATION AND CHARACTERISATION OF MUNICIPAL NON-BUILT UP LAND

Non-built up land in Rosario has been classified on the basis of the typology of ownership and vacant

Vacant areas with a potential for urban agricultural were classified using the following typology:

Private spaces	1. Private vacant 2. Private with fiscal debts
Green areas	1. Squares 2. Urban / recreational parks
Institutional spaces	Hospitals, Schools, Jails, Public buildings
Public spaces	Municipal, Provincial and National Public
Areas not suitable for construction	1. railway tracks 2. river/stream banks 3. sidewalks/ roads/ quarries 4. corridors along highways /Beltway 5. Flood prone areas
Ecological reserves/protected areas	1. Ecological Reserves 2. Parks and forests
Treatment areas	1. Sanitary landfills

spaces, each requiring a different policy intervention:

The types of ownership used in the analysis were: Private, Municipal Public, Provincial Public, National Public, Railway company, Road company and others.

The identified lots have 5,000 m? or more in peripheral areas, and 2,500 m? or more in intra-urban areas. The 5,000 m? area is determined by the following calculation: *collectively cultivated area that provides possibilities for commercial agricultural production*. The 2,500 m? area is the total of basic units in intra-urban areas for community gardens (10 families).

The identification of "non-built up" lots was made on the interpretation of *digitised mosaics*. In this way a geo-referenced base map (in a Geographical Information System – GIS) was developed, which is used in the planning and monitoring of urban agriculture in the Municipality of Rosario.

PARTICIPATORY CONSULTATIONS

The diagnostic process combined different participatory approaches related to the search and organisation of basic information. Maps of non-built up land were prepared and the types of more accessible land identified. The main sources of information were:

- Basic information on urban and city planning;
- The Urban Agriculture Programme of Rosario;
- Participatory workshops held with representatives of 70 community gardens located on the flood plains of the Ludueña and Saladillo streams;
- Interviews with technicians, municipal officials and urban producers;
- Meetings with other municipal, institutional and community agencies;
- Consultations with programmes such as Prohuerta (at national level) and Crecer (at municipal level).

Several participatory workshops were held in the process. The first participatory workshop, "Presentation of the optimisation of land use project", was aimed at introducing the contents and purposes of the project, and sharing information on study areas. Maps were prepared to show general information on land use regulations, ownership and use. These maps were also used by the participants to locate their urban gardens and potential vacant land areas for agriculture. The second workshop, "Status of existing gardens", aimed at making an in-depth characterisation of the gardens in operation, the social groups that participate, and the management and working processes developed. It also collected supplementary information to determine the suitability and level of accessibility of identified empty lots. A third participatory workshop, "Development of proposals" went deeper in understanding the problems experienced in gaining secure access to land; defined related conditions and requirements for farmers, and identified commitments to be gained from the municipality.

The proposals made by the community were disseminated among several municipal departments and were analysed during two workshops with their representatives.

The community workshops also led to the identification of the need to improve the suitability of the land for agriculture. Therefore a specific study was undertaken which resulted in a manual of techniques for the management and recovery of several soil types with specific agronomic restrictions.

ACTION PLAN

The Action Plan prepared in Rosario incorporates activities aimed at the design of vacant spaces for productive use, the improvement of the quality of soils to facilitate their agricultural use, and the formulation and institutionalisation of public policies.

In June 2003, *"Comprehensive Design Workshops"* were organised to define programme guidelines for the design of spaces for urban agriculture. These workshops provided a space for debate and for the development of proposals. The workshops resulted in proposed land use maps to serve as useful tools in the planning of land; *design of garden parks in public spaces or along banks of urban streams*; and the design of gardens according to land and soil characteristics.

Several proposals were developed for the gradual inclusion of urban agriculture into Municipal policies. One proposal was the *inclusion of urban agriculture as a strategy into the Master Plan*, which works on two issues. On the one hand, it interprets the processes of change in the physical and spatial aspects of the city, and on the other hand it defines – based on this interpretation – land strategies, spatial and functional policies and programmes, and urban development projects to transform the city.

10,000 families have secured access to land and benefit from improved food security

The exploratory nature of the activities developed by the Master Plan allows for insertion of the urban agriculture programme into the overall urban design, acknowledging the need to include agriculture in urban policies and the public agenda, and the need to generate a regulatory framework and guidelines.

The final objective is to use GIS and community mapping to identify vacant land suitable for urban agriculture and include it permanently in the **Municipal Land Bank of the City of Rosario.**

The management and administration of vacant lots for agricultural use has now been centralised at the Secretariat for Social Promotion (which manages the Municipal Urban Agriculture Programme). The Secretariat co-ordinates its activities with the Cadastre, the Planning Office and the Office for Parks and Promenades. Requests for the (temporary) use of vacant lots will be selected and prioritised by using several criteria defined in the participatory workshops, such as community commitment, the history of the group of gardeners, their management capability, etc.

Presently 10,000 families have secured access to the land through this exercise, and benefit from improved food security, social recognition and income generation.

NOTES

1 Notably the Centre for Agro-ecological Production Studies (CEPAR) and the Centre for Human Environment Studies (CEAH) of the School of Architecture, Planning and Design.
2 The NGO *Nacimiento* has actively participated in the development of the participatory baseline study and consultations, and has also joined this initiative.
3 ORDINANCE N° 4713, Municipal Community Garden Programme (managed by the Secretariat for Social Promotion).

From Empty Lots to Productive Spaces in Cienfuegos

Mario Gonzalez Novo

Irrigation of vegetables on organoponics

Cienfuegos was the last of the main towns founded in the colonial era, but its subsequent development and aesthetic beauty places it among today's finest Cuban cities, and has earned it the name "Pearl of the South."

Governador Valadares, Brazil

Contribution to the Electronic Conference by Ivana Lovo

The multi-stakeholder policy and action planning process in the city of Valadares focuses on the integration of urban agriculture into municipal land use planning. Several municipal offices (planning, environment, agriculture, building) as well as various civil society organisations participate in this process. Studies during the first phase of the project in Valadares indicated that a substantial amount of land (37% of the total city area) with good agricultural potential is available in the City. This includes vacant public land, backyards; public and private institutional compounds, reservation zones of railroad and highways, banks of rivers and creeks; parks and other green areas; lakes/ponds and a natural reservation area. Nearly one third of the urban households are involved in urban agriculture in an informal net of relations (mainly fruits, vegetables and herbs are grown). The total value of intra-, peripheral and rural-urban agriculture equals 3.17% of the city's GDP (gross domestic product), of which 1,17% is generated by households in the informal sector. As a result of this process, a system of tax reduction has been introduced to stimulate the access of interested urban poor to the many vacant private plots. Private land owners can sign an agreement with the municipality or an association of community gardeners giving them temporary user rights to their land. The gardeners have to fulfill certain responsibilities and take good care of the land. The private owners receive a reduction in property tax. Apart from the fiscal incentive, the use of the plot provides the owner a guarantee against illegal squatting. A system of differentiated water tariffs is being developed to promote storage and use of rainwater and grey-water in urban agriculture.

The city is the capital of the province and is located in the south-central part of the island. It has 161,500 inhabitants, who occupy a coastal ecosystem which encompasses a rich variety of flora and fauna, as well as an unique landscape dominated by the green and blue of the sea and sky.

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The "Optimisation of Land Use for Urban Agriculture" project (see also the article on Rosario) aims at building local capacity for the inclusion of urban agriculture as a physical planning tool in optimising the use of land and providing food security. It is linked to the Urban Agriculture Programme in the city of Cienfuegos that aims to initialise and improve the use of vacant parcels of land and thereby to strengthen the options for local production of food in the city and its periphery.

THASES OF THE PROJECT

After an initial analysis of available information, the **first phase** started with a participatory diagnosis in Cienfuegos, using interviews, surveys, a workshop, and capacity-building of the main actors. The data generated during this diagnosis was the basis for developing and subsequent approval of the urban agriculture land use map.

A local team, made up of specialists from different institutions, designed and implemented a Geographical Information System (GIS) which facilitated communication and to give feedback during the fieldwork. The appropriate participatory GIS set-up at the municipal level was studied and further developed throughout the process and adapted to the needs of each phase.

On the basis of this diagnosis, the project areas of the city were selected with the active participation of inhabitants in different neighbourhoods. The work began in four People's Councils (sub-municipal governmental units): Reina, Pueblo Grifo, La Barrera and Tulipán. Maps for current and potential land use were developed in each of these units, and were presented during an extended workshop to the project team and other local stakeholders.

Efficiency indicators were defined for urban land use, based on suitability and accessibility, and further elaborated into an action plan. A last stage in this first phase of the project included a systematisation workshop, to evaluate the experience, to refine the lessons learned and to make recommendations. This information was used in the proposal for the second phase: the optimisation of the use of vacant land for urban agriculture, which would be part of the municipality's strategy against poverty and social exclusion.

The **second phase** of the project - implementation of the Action Plan – included the remaining People Councils with space that could be used: San Lázaro, Buena Vista – La Esperanza, Junco Sur, Pastorita – Obourke. The corresponding land use maps were completed to broaden the knowledge. In addition, this phase included a series of initiatives to communicate the experience gained at local and regional level, like the presentation of the land use maps by the People's Councils, the creation of multimedia materials, a critical reflection on land regulation, use, and conservation written up in the National Urban Agriculture Programme.

FROM EMPTY LOTS TO PRODUCTIVE SPACES

The optimisation of land use is undertaken

as a "process of participatory intervention in which the use of vacant land in a certain territory is planned and defined, based on the level of urbanisation, land tenure, property rights, preconceived uses, socio-economic and cultural aspects, and the physical capacity for the practice of sustainable agriculture". Here, optimisation refers to spatial and temporal use.

This way of "achieving optimal use of vacant land" presupposes improving the quality of life of the population. However, the opportunities differ in most cities of the region, and are the result of a process of differentiated urbanisation and physical planning, which is often incompatible with the fundamental criteria of sustainability.

Another important aspect is that the optimisation of land use is not a passive process of applying geographical and statistical tools, but a very active process. It requires almost an anthropological intervention, which considers a holistic view, characterised by social, economic, environmental, institutional, and political relations. Furthermore, one should be mindful that optimisation could mean that the area in question is not appropriate for agricultural use.

optimisation of land use is not a passive process

Additionally, urban agriculture should be considered under the General Plan of Territory and Urban Regulation (methodologically under physical planning municipality), as a way to achieve food security, a productive opportunity, and an important activity within the urban ecosystem.

FROM MAPS TO ACTION PLANS

The process of reaching consensus (on the land use maps) was undertaken at three levels: 1) Technical compatibility with the Department of Lands of the Ministry of Agriculture; 2) Compliance with the Directive Plan of the Department of Physical Planning, and 3) Alignment of interests with the People's Council. The consensus making process resulted in the prospective use of land for urban and periurban agriculture at the level of each Council and its integration into a city-wide strategy. The GIS maps showed vacant spaces of more than 1,000 m^2. The typology of existing and potential urban spaces is very diverse, and reflects the need for their consideration in planning, as well as tenancy and suitability.

In drawing up the Action Plan, it was necessary to take into account that the National Urban Agriculture Programme has a "sub-programme for the control, use, and conservation of land", which includes elements of agronomy and a multi-dimensional approach to the use of land.

Although an organised and consolidated planning effort exists, and includes urban agriculture, this can be improved. Especially the local governance and the participatory process need strengthening.

The dynamics of local economics and production generate new areas of need for physical planning and regulation. An illustration is the need to convert plots of land that were formed by the restructuring of the sugar industry in the city. There is a legal and policy framework, as well as a structured procedure for land use management, including different organisational forms of agricultural production with respect to different types of tenancy. However, there is no document that could serve as a guide for the use of spaces, with criteria of efficiency and ecological, economic, social, political and institutional sustainability.

The Action Plan developed for the next phase second phase of the intervention project includes scaling up the experience to all People's Councils of the municipality and subsequently to other municipalities in the Province. Integration of the (participatory planning) activity at the different levels of administration is one of the challenges of this process.

One of the priority actions is the approval of a policy document for the use of vacant lands in the municipality, which integrates the land use maps elaborated by the People's Councils. This document should serve as an annexure to the Directive Plan of the Municipality.

Other important activities of the Action Plan include capacity building, dissemination of maps, which at the same time is a validation, launching of agricultural activities on vacant lots by the People's Councils, establishing of municipal facilities to initiate land use projects for each solicited and granted lot, strengthening of the GIS infrastructure in the Provincial Department of Physical and People-Based Planning and strengthening of technical assistance available for the practice of urban agriculture.

Implementation of the Action Plan is now in an advanced phase, as the land use maps have been completed by the People Councils. Potential plots for urban agriculture have been identified within the city and its periphery. In addition, advances have been made in expanding the existing conceptual and methodological framework for the construction of the maps. The GIS is considered as a support tool in the process of land use management and map making: as a basis and a means for communication in the elaboration of the (current and potential) land use maps, and as a tool for constructing the plans needed to conduct the field work.

CONCLUSIONS

As far as territorial administration or management is concerned, the optimisation of land use should depart from the conceptual and methodological assumption of land use according to the land's "vocation," or ideal/best use. Similarly, the Regulatory Land Use Plan should recognise the need to conserve "non-urbanisable" spaces (which are spaces on which cannot be built on) for uses such as urban agriculture. This is fundamental for the inclusion of urban, periurban and rural municipal agriculture in the physical planning process.

This experience has demonstrated the importance of consensus building in land use, not only from the technical point of view or in terms of the use of productive inputs, but also from the ecological, economic, socio-cultural and institutional dimensions. Urban agriculture is an activity, which is guided by the characteristics of a certain agro-ecosystem, but is subject to the complex relationships of urban ecosystems, which can pose problems on its sustainability.

The optimisation of urban land use as a process of participation and multi-sectoral integration provides an opportunity for consensus building and the strengthening of governance.

Community Gardens in eThekweni Municipality in South Africa

The western parts of eThekweni Municipality[1] consists of large tracts of public land, which were zoned for various purposes, but could not be used or developed due to limited finances. In early 1998, the Inner West Council of eThekweni Municipality decided to make urban agriculture a function of the Parks and Recreation Department of the Municipality.

This Municipality is situated within the coastal belt on the south coast of South Africa, and is characterised by high rainfall and an undulating relief. Under the existing health by-laws of the municipality, public lands need to be cut and cleaned of rank grass and undergrowth on a regular basis. Most of

The set-up is believed to be a win-win situation

such land is occupied by previously disadvantaged citizens (of South Africa). Traditionally, these people have been farmers, who now grow food for home consumption, and have been clearing these vacant sites and burning the vegetation found on these properties.

However, since most of these properties were located in the natural drainage lines of this area, it was necessary to ensure that trees and vegetation within the flood line were not removed. Legislation does not permit the removal of vegetation within the flood line. Unfortunately, due to lack of proper guidance or control, valuable trees, vegetation, and subsequently topsoil due to erosion has been lost. This situation called for re-establishing control and training on terracing and working on contours so as to retain the rainfall and prevent soil erosion.

After 1998, the Council permitted the use of the mentioned properties for

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Fencing is essential

community gardens, on the condition that the gardeners formed a proper organisation with a chairperson, and complied with the common gardening rules applicable to all gardens in the region. According to this arrangement the Council was required to give timely notice (six months) to the garden organisations and assistance to move to another place, if and when the given property was required for development.

The Council provided funding for the initial development of these gardens in the form of earthworks, fencing, water connection and a secure storage facility, and also undertook to provide compost once a year to each garden until they were self-sufficient in compost. The garden organisations also had to raise funds from their members to meet expenses. For instance, once the municipal water meter was installed the group had to control and pay for their own water use. Lockable taps and lockable tap covers were provided to control the consumption. There was also some financial support provided for fencing, initially, but due to the phenomenal growth of these gardens there wasn't sufficient to go around all the groups, and still there isn't sufficient funding for this activity. Fencing is essential as most of these gardens are situated close to the rural areas where cattle and goats as well as chickens are found grazing around. There is also the usual problem of theft that has to be prevented.

Training in the form of compost making, mulching, and trenching is provided on each garden site, as each site has unique characteristics. This training is provided free of charge and combines current and traditional horticultural principles. A basic barter system is put in place and members swap surplus items amongst each other, to make up a balanced diet. It is also expected that the gardeners will in the future be able to make regular donations of foodstuffs to the local Aids shelters and hospices.

Such a set-up is believed to be a win-win situation for both the community and the Council. The Council provides better services with the money they otherwise would spend on clearing the vacant sites. They save money by having the grass cut on the pavements of the residential areas and delivered to the gardens for local compost making instead of having to truck this to far out refuse sites. The gardeners are able to work in close proximity to their homes, receive training and generate an income. A negative aspect affecting the growth of the gardens is the political interference of certain councillors who attempt to manipulate the people and the situation to meet their own needs.

At the time of writing, plans are being made to set up a community kitchen in each community hall within the different areas. It is proposed that items such as bottled spices and condiments and even jams will be made for sale. Also in the pipeline is the production of dried herbs that can be used for cooking food and for medicinal use by the local people. The plans for the preparation of traditional meals to be frozen and made available for sale to those who return home late from work are well advanced. Additional vacant areas have been identified for community gardens, like undeveloped sports grounds of schools. Applications have been made to the Education authorities to use these areas until such time they come up for development.

NOTE
1 This is the new name for Metropolitan Durban in South Africa

Allotment Gardens for Philippine Cities

Community gardens are defined as gardens where people share the basic resources of land, water, and sunlight. This definition includes both allotment and common gardens. Since March 2002, a project is being implemented in Cagayan de Oro, Southern Philippines, to establish four pilot allotment gardens in different parts of the city with financial assistance from EuropeAid's AsiaUrbs Programme.

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Robert Holmer

Inside the vegetable nursery with some of the gardeners

Allotment gardens are characterised by a concentration in one place of several small land parcels of about 200 to 400 m² that are assigned to individuals or families, usually organised in an association. In allotment gardens the parcels are cultivated individually, while in common gardens the entire area is tended collectively by a group of people (Macnair, 2002). An allotment garden is made legally available by the city authorities to the association to be used exclusively for growing of vegetables, fruits and cut flowers, but not for residential purposes.

HISTORICAL BACKGROUND

The idea of allotment gardening reached its first peak in 1864 when the first Allotment Gardeners' Association was founded in Germany. During the period of industrialisation in Europe, large numbers of workers and their families migrated from rural areas to the cities in search of employment in the factories. Very often, these families lived under extremely poor conditions – a socio-economic situation somewhat similar to the booming development of Philippine cities today. To improve their overall situation, so-called "gardens for the poor" (later termed "allotment gardens") were established; cities, factories and monasteries provided plots for the urban poor, allowing them to grow food for their families and to keep pigs, chicken, and other small domestic animals (Kasch, 2001).

The aspect of food security became even more important in the first half of the 20th century, during World War I and II, when the socio-economic situation was appalling, particularly in terms of people's nutritional status. Many cities were isolated from the hinterlands, and agricultural products from the rural surroundings did not reach the city markets anymore or were sold at very high prices on the black markets. Consequently, food production within the city, especially fruit and vegetable production in homegardens and allotment gardens, became essential for survival. In 1919, one year after the end of World War I, the first legislation for allotment gardening in Germany was

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passed. The so-called "Small Garden and Small-Rent Land Law", provided security in land tenure and fixed leasing fees. In 1983, this law was amended by the "Republic Act for Allotment Gardens" (Gröning & Wolschke-Bulmahn, 1995). The importance of allotment gardening in Germany has shifted over the years. While in times of crisis and widespread poverty (from 1850 to 1950), the main function of allotment gardening was to enhance food security and improve food supply, its present function is in providing recreational areas and locations for social gatherings. What was previously a part-time job is nowadays considered a beloved hobby for millions of practitioners. Frequently, allotment gardens are conceived as part of the public green belt area (Crouch, 2000, Drescher, 2001).

OBJECTIVES AND METHODOLOGY

The main objective of the pilot projects is to serve as a model and learning centre to enable a future extension of allotment gardening in Cagayan de Oro and other Philippine cities.

The pilot areas are in four barangays (the smallest local government unit in the Philippines). The areas in Bugo, Gusa and Lapasan were selected based on the experiences gathered by the city government in a previous project on waste segregation. The allotment gardens here were linked with the biodegradable fraction of the segregated waste by using it as compost in the allotment garden, thus serving as an outlet for this kind of waste. The fourth pilot allotment garden in barangay Canitoan is located close to the city's controlled landfill site, and was selected to be used by the Cagayan de Oro garbage pickers, one of the most socially disadvantaged groups of the city.

The allotment gardens are essential for the success of solid *waste management

The College of Agriculture of Xavier University recommended linking the solid waste management component with the production of vegetables in allotment gardens using compost made from the biodegradable wastes of the surrounding community. Expertise on composting and production of vegetables in an urban setting had been gained through an earlier EU-funded research project (GUANZON & HOLMER, 2003). The German partners Schelklingen and APT of the University of Freiburg agreed to contribute their expertise on the administrative aspects of allotment gardening, particularly on legal aspects and community organisation. The project also has a community-based geographic information system component (GIS) as a tool for integrating allotment gardening into urban planning. This is coordinated by the Belgian partners Dinant City and the Geography Department of the FUNDP University, Namur City.

AREA SELECTION

Suitable areas were identified on the basis of a) accessibility to water and transportation, b) no rent or a reasonable rental cost and c) availability of a contiguous area of at least 3200 m^2 to accommodate eight family units of 400 m^2 each.

Most of the open spaces in Cagayan de Oro are privately owned. Hence it was necessary to advocate and promote the project goals and objectives not only to the respective barangay but also to private landowners. The areas in Bugo and Gusa were identified with assistance of the Allotment Garden Technical Working Group (AGTWG) of the project, the barangay council and the beneficiaries. In both cases the land is owned privately. In Bugo, the landowner did not ask for rental payments but offered her land to be used for community purposes, while in Gusa, the allotment garden area is composed of two adjacent lots, owned by different proprietors. In both cases, the owners agreed to the provisions set out by the project. Land rentals are paid according to the current rates for agricultural land in Cagayan de Oro and the surrounding provinces. The area in Lapasan was identified by use of GIS at the city hall. The AGTWG then made a site inspection and gave its approval. Thereafter, the barangay chairman approached the owner for a leasing agreement without rental payments. In the case of Canitoan, the land is owned by Xavier University who made the land available to the beneficiaries without rental payments. In all cases, memoranda of agreements were issued to all stakeholders, clearly stating the provisions of the project. The memorandum of agreement provides legal security for all parties: for the urban poor the access to land solely for agricultural purposes, and for the landowner the assurance that his property will not be squatted on. As regards the period of tenure, both parties agreed to start with a short-term pilot phase and to evaluate the benefits of the project before going for a long-term agreement. Hence, the memoranda of agreement stipulate a "win-win" situation as a prerequisite for successful implementation of the project activities.

Robert Holmer

Allotment gardens in Germany in 1950

PARTICIPANT SELECTION

The pilot allotment gardeners of the AsiaUrbs project can be categorised into two main groups:

- Those who have already taken up urban agriculture as part of their survival strategy. However, due lack of space, these activities are confined to production of vegetables in containers (such as used cans or plastic bottles) or in tiny patches along the roadside.
- Those who are in need of alternative sources of subsistence and income but have not taken up farming due to lack of access to land (such as the garbage pickers at the landfill site).

Beneficiaries were recruited, based on their income; their willingness to do the

a) The Information & Education Campaign Group (IEC) with assistance of the Allotment Garden Technical Working Group (AGTWG) and a barangay organiser promote the goals and objectives of allotment gardening to all households of the pilot area
b) Interested households submit their application through the project assistant to the AGTWG
c) The AGTWG pre-screens applicants and forwards a list of final candidates to the barangay council for approval. The AGTWG ensures that all major groupings of the community are represented.
d) The barangay council approves/disapproves membership
e) An acceptance ceremony is conducted with a pledge of commitment by the beneficiaries.

actual garden work, to participate and share experiences; their residency near the project site and being residents of the pilot barangay. A Memorandum of agreement was signed with the barangay to support the project activities.
Initially, the identification of allotment garden beneficiaries based on the above-mentioned criteria was left to the communities. This resulted, however, in certain constraints and inequalities that led to the following optimised standard procedure for membership application as agreed upon by the project steering committee:

ALLOTMENT GARDEN SET-UP

The size of each family unit is 20 m x 20 m (400 m^2) consisting of eight beds planted to vegetables of different botanical families (cucurbits, solanaceous crops, legumes, leafy vegetables, etc.). The design of a pilot barangay allotment garden consists of eight individual family units having a net total area of 3,200 m^2 and a gross total area of 4,000 m^2. The area is fenced, and has an entrance, a tool shed, a nursery, and water supply (for which the additional 800 m^2 is used. One important aspect of the allotment garden is the compost heap for the biodegradable household wastes. The compost heap thus links the allotment garden with the integrated solid waste management component of the pilot area. More than 50 % of the household waste in Cagayan de Oro is biodegradable, and its conversion into compost and safe application in the allotment garden significantly reduces the residual waste to be dumped at the controlled city landfill.

As regards the cost of establishing one pilot allotment garden, the project spent approximately 337,640.00 PhP (6,400.00 US $). This includes human resources, capital outlay, consumables, training and overhead costs.

DISCUSSION OF RESULTS

The pilot allotment gardens enabled the urban poor of Cagayan de Oro to have legal access to vacant land in the city for agricultural purposes.
The private landowners who participated in the project are so convinced that they have offered other areas in Cagayan de Oro to be used for allotment gardening. The total area so offered is five hectares of open land. The landowners were particularly convinced that their land will no longer be idle but productive, and that their property is protected from illegal squatting, which is perceived as a constant threat for open spaces.
The allotment garden is essential for the success of the solid waste management programme in the area. The residual waste of the 300 pilot households to be brought to the landfill area could be reduced to 33 %. 55 % of the household waste is biodegradable and went to the compost heap in the allotment garden, while a further 10 % is recyclable and marketed by a garbage pickers' organisation.
The project gets full support of the local government units. A city ordinance on the use of vacant lots in the city is in preparation and will further promote allotment gardening (i.e. tax incentives for landowners that make land available for urban agriculture; requirement to allocate space for allotment gardening in residential areas such as sub-divisions).
Yet, not everything has been smooth. Different perceptions of the community and the of the project itself had to be settled (what technologies to use, how will the project money be spent, misconceptions regarding roles and responsibilities). A good preparation with, and mutual understanding of the project objectives by, all stakeholders is thus a necessity for success.
Also, certain fears and objections within the community had to be overcome. Residents were particularly worried that the compost heap in the allotment garden may be odorous. However, the compost heaps established so far are properly maintained and thus not offensive to the neighbouring community.
The entire project is funded through a grant that is channelled through the barangay. The only direct contribution expected from the beneficiaries is labour to maintain the allotment garden. They are however obliged to contribute towards setting up a fund for the association, which could be used for replacing damaged tools and other equipment, and for obtaining resources (like what?) for new members. And thereby the project is made sustainable.

The importance of allotment gardening in Germany has shifted over the years

RECOMMENDATIONS

Based on the experiences of setting up the first four allotment gardens in Cagayan de Oro, the following is recommended:

- Further advocate and promote project objectives among private landowners, local government officials and the general public in order to extend allotment gardening to other areas of the city
- Include norms and values in training programmes to strengthen the allotment gardeners association
- Consult the city council on strategies to ensure long-term tenure of the allotment gardens (i.e. proposal to purchase land from private landowners)
- Conduct more research, particularly on integrated pest management strategies to reduce dependence on chemical pesticides

Robert Holmer

Allotment gardens Germany in 1920

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Urban Agriculture in the London Borough of Bexley

Municipal officials face challenges in making decisions about the future use of urban agriculture. Whereas the financial costs and benefits for alternative land use are clear, they are not so clear for agricultural use. Essentially, technical decisions on the use of land are made with an eye on local politics and pressures from competing constituencies.

Beacon Mbiba

Some members of the Woodlands Farm trust at work

URBAN AGRICULTURE IN LONDON AND THE UNITED KINGDOM

Allotment gardens are probably the most visible and oldest form of urban agriculture in the United Kingdom. They are associated with food growing campaigns during the World Wars (I and II), but their prominence as sources of food has declined since the 1950s. More recently, city farms have emerged as another form of urban agriculture. However, most activities on these farms are not about food production but about social, community and environmental regeneration. There are other spaces like backyard gardens and verandas that are often included in discussions of urban agriculture.

The legal and institutional regimes for land allocation and use are well elaborated and publicised (Garnett, 1996; Crouch et al. 2000; Howe, 2001). In contrast to the developing countries (especially cities in Africa), cultivation in London takes place in designated and planned zones (city farms, allotment gardens). However, despite this 'serene' view, land problems also exist in this context, although they are of a slightly different dimension. The greatest problem is that of unused and under-utilised allotment garden land. Using the case of the London Borough of Bexley this paper seeks to illustrate the difficulties faced by planners and councillors in dealing with land for urban agriculture in a western city since 1999.

ALLOTMENT LAND IN THE LONDON BOROUGH OF BEXLEY

The London Borough of Bexley is an outer London local authority in the South East of the city. It is one of the greenest areas of the city if one considers availability of both passive and active open green spaces. Open lands and allotments are managed in accordance with Agenda 21 principles. Currently, there are close to 36 allotment sites, where each site has plots of various sizes. 'Self-managed tenant committees' under Delegated Management Licences manage about eight of these sites. The rest of the sites are managed by the council and together add up to about 1577 plots. The Bexley Council conducts regular reviews of the status of allotments, and the 2001/2002 review revealed that demand for these plots is declining despite the popularisation of urban farming, food markets, organic food and Agenda 21. Table 1 shows this declining trend in plot occupancy.

This table shows that about 63% of the land is occupied. The level of utilisation has not always been this low. For example, in 1975, Bexley had about the same number of allotment plots (1600) on approximately 99 acres (40 hectares) of land. All were allocated and fully utilised. The demand was high in 1975 as indicated by a waiting list of 740 compared to just 9 at 2002, clearly showing the decline in demand. (Bexley London Borough, 1975: 21-22).

However, the figures in Table 1 hide variations of occupancy by site. Some sites are fully occupied while others are partially occupied. Figure 1 gives a distribution of the sites and levels of occupancy showing that in 2002, six of the sites were fully occupied (i.e. 0% unused land).

Where plots are under-utilised, there is a cost to the council for maintenance. To clear and rotovate a single plot may cost up to £500. The council provides each site with a gravel access road, water, fencing, marking of plots and storage facilities. The estimate for maintenance of all sites in 2002 was given as £240,000. The council is always anxious to reduce these costs and one way to do so is to sell unused sites. Sites that remain under-utilised or unused for years are considered for possible alternative use – usually disposal for building construction.

THE COUNCIL'S INTEREST IN LAND DISPOSAL

Disposal of land offers the council substantial financial benefits through income from land sales and property tax on subsequent developments on the land.

TABLE 1:ALLOTMENT DEMAND IN THE BEXLEY BOROUGH: 1996 – 2002

Year	1996	1997	1998	1999	2000	2001	2002
Total Number of Plots	1710	1728	1360	1339	1341	1370	1384
Total Vacant Plots (Un-occupied)	562	601	337	312	296	331	389
% Vacant Plots	33	35	25	23	22	24	28

Bexley Council, 2002

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Generation of additional income is a priority for the council given the need to provide and fund efficient services in the borough. Funds are needed for education, health and other capital-intensive developments.

Of the several sites not fully utilised, a few have already been sold to real-estate developers, including the Thistlefield Allotment Gardens site sometime between 1997 and 1999 to Croudace Ltd., a housing development company. Following the regular property reviews and consultations with key stakeholders (Bexley Federation of Allotment and Leisure Gardeners) the 2.5 acre site was sold by tender for a capital sum of £1.5 million. Croudace Ltd. Built 30 houses that were sold in 2002 at prices ranging from £190,000 to 250,000 and the company was 'eyeing other sites in the borough'. A property tax of about £110 per month is levied on each of these properties.

According to the councillors who participated in the decision making process, funds earned from the sale were used to improve schools in the borough and for debt redemption. "Anybody wanting allotments in the borough can get them...there is no shortage of land for those wanting to do gardening" (Councillors - Tandy, Campbell and Downing, 21/09/2002).

PEOPLE'S RESPONSES TO THE DISPOSAL

The classification of under-utilised land as surplus land to be disposed has often made headlines in the local press. The Bexley Express (5th March 2003:6) reported that gardeners and the area's 'green fingered community' were alarmed and angry at the idea of further land disposals. The press reports reveal the following about the users and the use of the allotments:

- Largely elderly members of the community who devote time and energy to cultivate the plots
- Some cultivators virtually live on the allotment produce
- Allotments also offer recreational environments and biodiversity in the city.

Discussions of allotment gardening have been outlined elsewhere though, all in all, quantification of these benefits is not as explicit as that for land disposals. This puts pressure on the local authority to dispose of under-utilised land.

However, the concept of under-utilisation can be challenged by saying that what may appear as a surplus today will be in short supply a few years in the future. There could be other factors that lead to reduced demand, that if addressed would lead to a shortage of allotment land. There are alternative ways of using the land that may mean changing the existing or introducing something new. A good challenge to the notion of under-utilisation was given by farmer John Johnson who retorted:

> ... The council says that the open space is underutilised, but 63% of it is used. Only 30% of the people turned up for local elections but councillors don't see themselves as underutilised!. (Bexley Express, 5th March, 2003: 6).

GOOD PRACTICE AND THE FUTURE OF ALLOTMENTS IN BEXLEY

Bexley Council (planners, councillors, executives) has to balance a range of concerns, and respond to the needs of diverse stakeholders. Although final decisions may not be in everybody's favour, the processes and procedures leading to these decisions need to be clear, transparent and inclusive. Crucially, the local authority should not be seen as violating its own rules and regulations. In the case of Bexley, reviews of the land needs are done regularly as part of the council's asset management strategy.

- Consultations are widely done with representatives of user groups. In this case, the council is reviewing its allotment strategy and consulting with the Allotment Federation and the public. A report that was to come out in summer 2003 is now expected in early 2004 (1).
- Gardeners and members of the public can lobby their councillors and members of parliament to ensure that their views are included in the decision-making process.
- Where a site is to be disposed for real-estate development, as was the case at Thistlefield, comprehensive social, archaeological, environmental, design and traffic assessments are conducted. Reasonable and valid concerns are incorporated in the development plan and often set as conditions to be dealt with by the developer.

At the Thistlefield Allotment site, the

gardeners and the area's 'green fingered community' were alarmed and angry

public consultation process generated heated submissions with one group of 48 residents signing a single petition. However, few of these submissions were about keeping the land for urban agriculture. Instead, there were concerns about what housing development would do to the neighbourhood with regards to extra demand for places in schools, extra traffic burdens and pollution, loss of greenery, noise from construction works, parking problems and increased demand for medical services. Traffic objections appeared to be the most dominant. The most valid objection was the one relating to the nearby Audiology Clinic, which requires a tranquil environment for its activities, and was now going to be adversely affected by the introduction of a residential complex in close proximity.

All these concerns were included in the design and orientation of the scheme. A last crucial point in terms of community participation, in general, and urban farming in particular, is that all these activities are publicised with the outcomes documented.It is possible to track back and identify where things went wrong and where they could be done better – this is a good practice. The processes of consultation and documentation can be long-drawn-out and confusing – planners are often accused of delaying development – planners never win!

NOTE

1) The urban allotments strategy currently in preparation will be of interest to many readers and ways to make the final report available for discussion under the RUAF framework will be explored.

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Facilitating Land Access for the Copperbelt's Periurban Farmers[1]

Lack of secure access to land is a significant constraint for periurban residents in Zambia's Copperbelt Province to realise the potential of urban agriculture as a livelihood strategy. This paper explores the role of the Copperbelt Urban Livelihoods Project (CULP)[2] in facilitating the resolution of land disputes affecting poor periurban residents using an "interest-based negotiations" approach.

IWMI-Ghana

Participation of women in the negotiation of land should be ensured

By helping farmers to organise into associations with a legitimate, credible voice, CULP made a real negotiation process possible. As a third party, the project then facilitated negotiations, based on identifying common interests and potential for mutual gain.

BACKGROUND

Zambia is one of the most urbanised countries in sub-Saharan Africa. As a result of the formerly vibrant mining sector, the Copperbelt is Zambia's most urbanised province. However, since the late 1980s, employment in the mining sector has declined dramatically. Repeated rounds of "retrenchment" have left more Copperbelt households reliant on the informal sector for their income and food production with each passing year.

CULP was started in 1997 to help alleviate the growing poverty in these periurban areas. The strategic aim of CULP's activities is to promote the empowerment of individuals and organisations by assisting them in enhancing their capacity to secure their livelihood and to improve their environment. To achieve these ends, the project implements a set of inter-linked community- and household-based strategies.

CULP's baseline study, conducted in January 1997, found that agricultural production made a significant contribution to household economies, both in terms of generating cash income, and in providing subsistence food. The poorest households reported spending as much as 90% of their income on food. This suggests that household food production was and is a very important strategy for improving food security.

Figure 1: Zambia's Copperbelt Area where CULP has been active

Periurban farmers in the Copperbelt are men and women with low incomes, who grow food largely for consumption, on small plots, which they do not own, with little if any support or protection. Attempts by poor urban residents to gain access to land are often fraught with conflict. Some Copperbelt farmers have secured access to land through informal agreements with local chiefs or private landowners. In other cases, they have "squatted" on land belonging to state or parastatal agencies over many years. However, these arrangements are highly vulnerable to changing circumstances.

The Land Tenure (1998) and the Agricultural baseline (April/May 1999) surveys commissioned by Oxfam Zambia in selected settlements in three urban centres on the Copperbelt highlighted that many urban and periurban dwellers in the area see small-scale farming as a means of survival, and with more and more people being retrenched from formal employment, the problem of land access is getting worse. The surveys also pointed to two aspects of the problem: land tenure insecurity for those who have

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land, and the lack of access to land for those who want it. Many people do not have a clear idea of the land acquisition or de- gazetting process. The number of periurban residents who have actually secured a title to their land is less than 5% in most settlements – (Hansungule et al. 1998).

ENTRENCHED POSITIONS: LAND-OWNERS VERSUS PERIURBAN "FARMERS"

One of the priorities identified during participatory needs assessment exercises was to gain more secure access to land, through lease-hold or other agreements, or through actual issuance of a title. Although most of the farmers with whom CULP was working were farming land that was outside the direct control of municipal authorities, CULP's approach to facilitating more secure land access included involving municipal, parastatal and other actors in an open negotiation process.

The parties involved had strong positions. The farmers claimed their basic human right to have access to adequate food. Historically, the mining sector in the Copperbelt had attracted them to give up life in the rural areas for life in the (periphery of the) city. Now that the mines could no longer support them, and the ties with the rural areas were broken, they were doing what they needed to survive. It was difficult for them to negotiate, since the cost of losing all access to the land was so high.
The landowners' position was equally strong, and was founded more on economic rights. In their view, the other side had no rights. Patterns of fear and mistrust had evolved over the years, and little effort had been made to negotiate with the other side.
Shortly before CULP became involved, incidents that verged on violence had occurred at the Farm College, and MEF had hired armed guards to protect their land. CULP helped the farmers in Chibote to establish Farmers' Associations - with a legal status, leadership and organisational credibility, and thereby a legitimate voice - with which MEF could negotiate.

FACILITATING INTEREST-BASED NEGOTIATIONS

Following the approach described by Fisher and Ury (*Getting to Yes* (1991)), described as "principled negotiation", the Mindolo case is analysed following the suggested key steps. This analysis is useful both to replicate and strengthen the approach, and to train CBOs and other partners in its use.

Separate the People from the Problem
As a neutral third party, CARE was able to bring the sides together ensuring that each side learned more about the other's needs, and developed a shared ownership of the problem. The MEF management was initially not inclined to take the needs of the farmers seriously. However, it became increasingly difficult for them to maintain their position once they knew the families who would be affected. The idea of land that could be used to grow food and provide an income for the farmers and their families lying idle became a problem for them.
Separating the people from the problem is crucial, but another important role of NG0s in land disputes may be - as in this case – using a third party to bring the *right* people together. Emotions were high and were blocking the process in Chibote. If CARE had not taken steps to involve MEF and the Kalulushi Municipal Council in open negotiations, and had merely worked with the community members and facilitators, it could have been perceived as taking sides and lost its ability to facilitate the negotiations. However, by facilitating open discussions, CARE was able to help the people involved deal with the *problem*, rather than with the people.

Focus on Interests, Not Positions
CULP helped the different sides understand **why** the other seemed to be so adamant about its position. Making the different **interests** explicit is a crucial part of the process. Although the Mindolo management knew that many people had been farming the land for years, it did not understand the importance of this activity for meeting the basic needs of very poor and vulnerable households. Once this was understood, the interests of the farmers became part of the problem that needed to be resolved.

By talking about interests, and by presenting the fact that farmers were now organised and had a leadership that was representative and accountable, the negotiation process began **looking at new possibilities**. Previously, Mindolo's position had been reinforced by their bad past experiences (uncontrolled use of land); and by perceptions (farmers never do what they say they will do; if we grant access to some, what next?). CARE helped the parties to begin looking ahead at what could be accomplished with mutual interests in mind, and by assessing alternatives. The alternative of negotiating with an organised group that claimed they could and would adhere to certain

KEY STEPS OF PRINCIPLED NEGOTIATION
-Separate the people from the problem.
-Focus on interests, not positions.
-Invent options for mutual gain.
-Insist on using objective criteria.

MINDOLO FARM COLLEGE
In the settlement of Chibote, agriculture is a particularly important livelihood strategy. Most of those who were practising agriculture at the time of the CULP baseline survey in 1997 were doing so on land belonging to the Ministry of Agriculture, Food and Fisheries (MAFF), at the Mindolo Farm College. This land had been expropriated in 1981 from the Mindolo Ecumenical Foundation (MEF). After nationalisation, much of this land was under utilised by the Farm College. Throughout the period of nationalisation, Chibote residents farmed on the Mindolo farmland with no opposition as the government was not utilising all the land (4000 hectares).

In 1997, after sixteen years of legal disputes, MEF once more took over ownership of the Farm College. The MEF farm manager held a meeting with the Chibote community and advised them to stop farming on the land belonging to MEF. The community did not resist but tried to persuade the farm management to give them some time. After a protracted debate with the community, the institution proposed to get armed security guards to stop the people from trespassing on the farm. Continued meetings with the farm management revealed that they intended to intensify production and land use on the farm ("to become the bread basket of the Copperbelt"). This intensification plan left no room for further encroachments by the farmers. At this point the community vowed never to leave the farmland, but to try to co-exist with MEF.
CARE started to facilitate discussions between the two parties, proposing some kind of partnership for co-existence. The proposal was to allow farmers a small portion of land in exchange for labour, given that the management had no intentions of mechanising the operations. Unfortunately, the proposal was turned down and security was tightened instead.

Organised and accountable farmers associations can negotiate successfully

conditions was clearly preferable to the status quo.

Invent Options for Mutual Gain
Mutual gain follows from an understanding of each others' interests, and by looking forward at possible new solutions. Any agreement that would allow the farmers secure land access for a definite period was preferable to the prevailing situation. The farmers' associations could in return offer protection of the land from encroachment, and care for the land.
Convincing the landowners that mutual gain was possible was one of the key steps in this process. It looked they were having the power, being the owners of the land. Once the farmers were part of an organised association with credible leadership, they had a new and valuable asset: their ability to offer controlled land use and thereby reduce the costs and risks to the landowners. As a third party, CULP worked with the two sides to bring this opportunity for mutual gain to their attention and to convince them that an agreement was a preferred alternative to no agreement. Although it took time, the open negotiation process facilitated by CULP allowed the search for "options for mutual gain" to continue. In 2003, Mindolo entered into discussions with Kalulushi Municipal Council to release 1,300 Ha of land, some of which will benefit the Chibote Cooperative Society Limited (formerly the Farmers' Association). It appears that during more than three years of continued dialogue, the members of the Cooperative Association have been able to convince MEF that controlled, responsible use is preferable to land lying unused or to uncontrolled squatting, which is otherwise bound to happen.

Insist on Using Objective Criteria
In order to ensure that the different interests of the parties are met, it is essential to agree on how to evaluate the agreements. In another case, for instance, in which CULP facilitated agreements between the George Farmers' Association and ZAFFICO (Zambia Forestry and Forest Industries Association), the two parties agreed on clear indicators to assess whether, and to what extent, farmers were living up to their agreement to protect trees on ZAFFICO property that they were farming. According to the agreement, farmers could only grow specified crops (legumes, green manure, maize) and were not supposed to damage trees by using defective tools.

CONCLUSION

Organised and accountable farmers associations can negotiate successfully to secure land access, which is a key constraint to the viability of periurban agriculture as a livelihood strategy.

CULP has demonstrated that NG0s can play an important role in improving security of land tenure for periurban farmers, by facilitating interest-based negotiations between landowners and aspiring farmers.
At least three components were crucial to the success of this process: Organisation of farmers into groups; willingness and ability of the farmers to adopt appropriate land-use practices; and credibility of the NGO or other third-party facilitator.
At the same time, other related aspects should be addressed explicitly, to ensure that the process is successful and replicable. Firstly, *full participation of women* - in the farmers' associations, in the negotiation of land access, and in securing access to land titles – should be ensured. Typically, women are even less able than men to negotiate the legal hurdles associated with gaining secure land access or titles. Secondly, CB0s and other interested parties should develop the *capacity for interest-based negotiation skills* themselves. There is not always a third party able or willing to facilitate the process when CB0s lobby for their interests and rights. Developing this capacity is crucial to ensuring the ability to maintain ongoing negotiations and dialogue.
Thirdly, Municipal Councils in both Ndola and Kalulushi have seen the potential benefits of organised urban agriculture, and have started to identify and allocate plots to Farmers' Associations. However, this is being done without an *official policy or plan*. CULP and others NGOs or urban policy institutes could play an important role in *further legitimising* urban agriculture in Zambia by assisting Councils to develop such plans and policies. Finally, one should take greater advantage of "backyard gardening" opportunities. While land access is a key constraint to extensive agricultural production, most periurban settlements in the Copperbelt do provide adequate space for rainfed backyard gardening. Most residents grow small patches of maize and vegetables in close proximity to their homes. A change in council policies to permit growing of maize and technical training would further increase the existing production.


CARE Zambia
Farmers could only grow specified crops


CARE Zambia
Mutual gain was possible

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NOTES
1) Paper, slightly edited by RUAF, October 2003 for the Electronic Conference. Original paper presented at the Urban Poverty Conference of CARE International / Urban Insaka, February 2001.

2) CULP is funded by the Royal Netherlands Embassy, Lusaka, and implemented by CARE Zambia and its community and Municipal Council partners.

This article is based on a research project commissioned by IWMI-India, Hyderabad, regarding legal and institutional issues with regard to industrial wastewater management in Hyderabad Urban Area.

WMI-India

A farmer covered by freshly cut para grass

The right to Suitable Water for Agriculture; *an Interpretation of the Constitution of India*

It is not unusual for urban and periurban farmers to use wastewater for agriculture. In some cases, they do not have any alternative: clean water is just not available. In other cases, they want to benefit from the sometimes high content of valuable nutrients in the wastewater

According to Indian law it could be argued that wastewater farmers are entitled to such water, while the government has the obligation to ensure the suitability of the water. In order to make the government comply with this obligation, farmers can turn to the court. As often, there is a huge gap between the theory and practice of the law. There seems to be little awareness among wastewater users, grassroots-level NGOs, and the local authorities on the legal possibilities and constraints. This article aims at making a small step in creating legal awareness by offering a constitutional view on the right of access to water suitable for agriculture.

THE FUNDAMENTAL RIGHT TO LIFE

Like in the constitutions of other democratic countries, the Constitution of India contains a catalogue of fundamental rights. These rights together form the boundaries of India's legal framework: all other laws and regulations as well as all activities of the government at any level have to be in accordance with this framework.

Article 21 of the Constitution guarantees the *right to life*: "No person shall be deprived of his life or personal liberty except according to procedure established by law". Although this article does not seem to have anything to do with water, the Supreme Court of India, the highest judicial authority of the country, has given a series of decisions in which it interpreted Article 21 to encompass the right to a healthy environment:

"Enjoyment of life (...) including [the right to live] with human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation, without which life cannot be enjoyed. Any contra acts or actions would cause environmental pollution. Environmental, ecological, air, water pollution, etc. should be regarded as amounting to violation of Article 21. Therefore, hygienic environment is an integral facet of right to a healthy life and it would be impossible to live with human dignity without a human and healthy environment" [(1)].

This excerpt is regarded as an example of how the Supreme Court extended the scope of the right to life also to the environment: a healthy environment is required not only to enjoy the constitutional right to life; it is also an essential prerequisite to be able to live with human dignity. Furthermore, this decision made clear that a "healthy environment" includes the absence of water pollution.

Translating this passage to the context of wastewater agriculture, it could be argued that people who are largely dependent on wastewater, and who, as a consequence, are often prone to wastewater-borne diseases caused by both biological pathogens (mainly originating from domestic wastewater) and/or chemical

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CD-ROM VIDEO
Making a Living along the Musi River: Wastewater Users in and around Hyderabad City, India
Directed by: Stephanie Buechler, Gayathri Devi and Rama Devi

The city of Hyderabad, with its surrounding nine municipalities is one of the fastest growing Indian cities. The Musi river, which runs through Hyderabad, is dry upstream of the city (except during the monsoons), but domestic, hospital and industrial wastewater released from the twin cities of Hyderabad and Secunderabad converts it into a perennial river. In the urban and periurban areas, drainage water from both domestic and industrial sources, is channelled to several contiguous plots of land. Wastewater agriculture all along the Musi river provides livelihoods to a diverse group of women, men and children from different caste groups and represents a broad spectrum of social classes. This highly interesting documentary is produced by IWMI, supported by RUAF and DFID. Copies could be requested through ETC – RUAF.

substances (mainly from industrial wastewater), are being deprived of their right to live (and work) with human dignity in a healthy environment.

According to the Supreme Court, the right to life of Article 21 also includes the *right not to be deprived of one's livelihood*, except according to a just and fair procedure established by law. The case that led to this decision was about pavement dwellers in Mumbai who had been deported from the slums and pavements on which they depended for their livelihood[2]. The Supreme Court ruled that depriving a person of his livelihood, deprives him of his life. Since the deportation of the pavement dwellers from their slums and pavement dwellings would deprive them of their livelihood, deportation would amount to depriving them of their life. Although this case did not have anything to do with water or environmental issues, the general wording in which the relevant observations were made suggests that the deprivation of livelihood as a consequence of environmental degradation may also be considered as a violation of the right to life of Article 21.

In the context of wastewater agriculture, this interpretation of the right to life leads to the following conclusion. If due to, for example, rapid urbanisation and/or industrialisation the water of the streams that have been used for generations by farming communities has become unsuitable for agriculture – either because of its impact on human health, its strong negative effects on crop yields and/or the health and yields of livestock – these farmers will find themselves deprived of their livelihood.

DIRECTIVE PRINCIPLES OF STATE POLICY

To protect and improve the environment
The Constitution of India also contains a set of so-called *directive principles of state policy*. According to Article 48A, the government "shall endeavour to protect and improve the environment". This principle is fundamental in the governance of the country; it has to be applied in making laws and policies. Improvement of the environment includes the improvement of water quality, and one way to improve the quality of surface water, or at least to prevent deterioration, is to treat wastewater before discharging it into surface water. To this end, the government – local authorities in particular – need to have adequate treatment plants and make sure that no discharge of untreated wastewater takes place. Taken together, the Articles 21 and 48A entitle farmers to be protected from the negative impacts of wastewater use; at the same time they obligate the local authorities to safeguard the water quality.

Treatment or Nutrients
A fully-fledged treatment plant will, most likely, not only remove any elements that are harmful to human beings and the environment, but also the beneficial nutrients the wastewater contained before entering the plant. Thus, the outflow of such a treatment plant, although relatively clean and in accordance with the right to unpolluted water, would perhaps lead to a lower crop yield than if the water would still have contained the nutrients. To a certain extent, the farmers would be deprived of a part of their livelihood. It is unlikely, however, that such a partial deprivation would entitle the farmers to legal action, demanding for water that is free of harmful pollutants, but still containing useful nutrients. The wording of the pavement dwellers' judgement suggests that only full deprivation of one's livelihood amounts to a violation of the right to life. Yet, this does not mean that the farmers would have to accept a situation in which they do not benefit anymore from the nutritional value of wastewater.

The organisation of agriculture
Article 48 of the Constitution obliges the government "to endeavour to organise agriculture and animal husbandry on modern and scientific lines (...)". Scientific research in various parts of the world,

The government has the obligation to consider the position of the farmers

including India, has shed light on both the negative and positive aspects of the use of wastewater in agriculture. As a consequence of Article 48, it could be argued that the authorities involved in wastewater management are under obligation to consider the outcome of this research seriously, more so in light of the impact untreated wastewater has on a considerable part of agricultural production[3]. It goes beyond the scope of this article to explore the technical (im)possibilities of treating wastewater in such a way, that the negative elements are eliminated while preserving the beneficial ones.


IWMI-India
A farmer with freshly cut para grass

LEGAL ACTION

Wastewater farmers have, like all other citizens of India, a constitutional right to clean water. The government has the obligation to provide clean water. But, if pollution would render the water (almost) useless for agriculture, the wastewater farmers are being deprived of their livelihood. The violation of both the right to clean water and the right not to be deprived of their livelihood entitles the farmers to legal action. With regard to wastewater management, the government authorities have the obligation to take the position of the farmers into consideration. On the basis of scientific evidence that shows the benefits of wastewater use, they should ideally design wastewater management in such a way that the negative side-effects are reduced whilst the beneficial effects are preserved, to the extent technically possible.

Violation of a fundamental right entitles the victim to legal action. According to the Constitution, both the Supreme Court in Delhi and the High Court of the state in which the violation is taking place[4] can be approached. In the first place, courts entertain cases filed by individuals. However, within the Indian legal system various kinds of group or class action have been developed. One of them is the so-called *public interest litigation* (PIL), which contemplates legal proceedings for the "enforcement of fundamental rights of a group of persons or community which are not able to enforce their fundamental rights on account of their incapacity, poverty or ignorance of law"[5] by any member of the public who concerns himself with the situation of the victims. In cases regarding environmental issues PILs have been filed both by individuals and by NGOs.

The PILs have led to a rich library of decisions of both the Supreme Court and the High Courts, including on issues regarding water quality[6]. However, the overall picture of the effectiveness of PILs is mixed. On one hand, they allow a court to step in where the government is failing, ordering almost immediate measures and/or thorough investigation of the alleged violation. Because the courts have the power to summon all stakeholders – such as the authorities and the polluting industries – involved in the case, they are in a position to come to a comprehensive, "holistic" solution; in some cases, quite successfully. On the other hand, such proceedings tend to take a lot of time[7]. Moreover, in some cases, it has proven to be difficult for the victims to have a favourable decision properly implemented. And last, but not least, PIL cases require the assistance of an advocate who is willing to do a lot of work for only a small fee.

IWMI-India

Vegetable plots along the Musi River

MORE AWARENESS FOR ALL STAKEHOLDERS

One of the findings of the research on legal and institutional issues with regard to industrial wastewater management in Hyderabad Urban Area has been that government officials are not always sufficiently knowledgeable about the prevailing legal framework. And also according to environmentalists and social activists, there is very little legal awareness among the people concerned – the wastewater farmers and their representatives such as grassroots-level NGOs.

Nevertheless, India is a democratic society in which the rule of law prevails, and where government policies have to be in accordance with the legal framework, including the provisions of the Constitution. This requires that the authorities are fully aware of the implications of the constitution on their policies. Furthermore, the rule of law requires that people have at least a basic awareness of their legal position. The fact that the Constitution of India, the fundamental law of the country, is supporting their position should strengthen people in their struggle to improve their situation.

This legal analysis does not only offer arguments for taking the position of wastewater farmers into consideration in the policy-making process, it also attempts to stimulate people to continue their struggle for the improvement of their situation, knowing that the law is on their side. Of course, there is a still long way to go before the relevant laws and regulations are fully implemented and enforced. In order to make the law work as it is supposed to, it will be necessary (a) to create basic legal awareness among

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wastewater farmers and NGOs working at field level, (b) to discuss the policy implications of the constitutional rights and obligations with local authorities involved in wastewater management, and (c) to do further research on legal issues in order to develop a better understanding of the legal framework regarding the right to clean and/or suitable water.

HYDERABAD

The Hyderabad Metropolitan Water Supply & Sewerage Board (HMWSSB), responsible for both drinking water supply and sewage treatment, is aware of the fact that wastewater is being used for agriculture. As part of the National River Conservation Plan, HMWSSB is at present implementing a plan to increase the sewage treatment facilities. However, HMWSSB does not seem to pay special attention to farmers that use wastewater.

With help from the "Forum for a Better Hyderabad", a local NGO, people from a downstream village filed a PIL against a project for the inter-basin transfer of industrial effluents to – ultimately – the Musi River. The people get their water from this river and were concerned that this project would increase the pollutant load of the river. The Andhra Pradesh High Court ordered a special committee to monitor the implementation of this project. It remains to be seen what the impact of the transfer of effluents will be.

NOTES

1 Excerpt from the 1995 Supreme Court case *Virender Gaur v State of Haryana*. Similar considerations are found in other cases.
2 The 1986 Supreme Court case *Olga Tellis v Bombay Municipal Corporation*.
3 It is estimated that east of Hyderabad, India, some 40,000 hectares of land are under irrigation with water of the Musi River (S. Buechler and G. Devi, 2002). Almost all domestic and industrial wastewater generated in Hyderabad is being discharged into the Musi without proper treatment.
4 India is a federal union, consisting of a number of states with a high level of independence. Every state has its own High Court.
5 The 1991 Supreme Court in the case *Subash Kumar v State of Bihar*.
6 But, as far as the author is aware, not specifically on wastewater quality.
7 A PIL about industrial environmental pollution in Patancheru, Andhra Pradesh, was filed in 1990. Thirteen years and large number of interim decision later, the case is still pending and the pollution problem stays unsolved.

Legal and Policy Aspects of Urban Agriculture in Tanzania

Urban agriculture in Tanzania is practised in a generally favourable political and legal context. During the 1970s and 1980s, the national government, faced with a poor economy, issued policies encouraging people to undertake urban agriculture.

RUAF-Video

The Ministry encourages and supports urban agriculture

These policies were issued to support urban dwellers to attain food self-sufficiency and to grow food to combat fast increasing inflation. Government and political leaders repeatedly urged urban dwellers to raise livestock and produce food in their backyards and other open spaces.

Under these policies, the Ministry of Agriculture and Food Security (MAFS) encourages and supports urban agriculture through its agricultural extension officers who offer non-formal agricultural education to urban dwellers. The government also set up an urban agriculture extension service in the 1970s under the Ministry in a bid to encourage urban dwellers to produce their own food. Currently, MAFS uses its urban-based Agriculture/Livestock Extension Agents (ALEAs) to promote the raising of livestock and growing of crops. ALEAs visit urban dwellers and impart modern skills and knowledge (non-formal education) about agriculture so that they can increase their crop/animal production.

MUNICIPAL BY-LAWS

In the 1980s, at the municipal levels it was found that these national policies of encouraging urban agriculture, especially livestock keeping, also had some negative effect on the physical urban environment and on the operations of most urban councils.
It was time to review the existing municipal by-laws regarding farming in the town.

The first urban by-laws regulating the growing of crops and raising of livestock in urban centres were enacted already by the British colonial authorities in 1928 under Rule 16 CAP. 101 (Bylaws for

The National Policies in Tanzania that supported urban agriculture included:
- *Siasa in Kilimo* (Politics is Agriculture) of 1972
- *Kilimo cha Umwagiliaji* (Irrigated Agriculture) of 1974,
- *Kilimo cha Kufa na Kupona* (Agriculture for Life and Dealth) of 1974/75
- *Mvua za Kwanza ni Zakupandia* (First Rains are for Planting) of 1974/75.
- The National Economic Survival Programme (NESP) of 1981/82
- The National Food Strategy of 1982
- The National Livestock Policy (NLP) of 1983
- The National Agricultural Policy (NAP) of 1983
- The National Economic Recovery Programme (ERP) of 1986-1990.

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THE NATIONAL HUMAN SETTLEMENTS DEVELOPMENT POLICY OF 2000

Urban agriculture exists in most urban areas in both the developed and developing countries. As an economic activity, it provides income and employment opportunities to the urban populations, and a reliable supplementary source of food to urban dwellers at affordable prices. As a form of land use, well-planned urban agriculture creates a pleasant green scene.

Although urban agriculture is considered an important component in sustainable development, improperly practiced urban agriculture conflicts with other urban land uses and leads to land degradation, water pollution, and is a threat to health and safety.

THE GOVERNMENT SHALL

- ➢ Designate special areas within city planning where people will be granted legal rights to engage in agricultural activities;
- ➢ continue to regulate and research urban agriculture and will ensure that it does not disrupt planned urban development;
- ➢ review existing laws to facilitate planned urban agriculture; and
- ➢ facilitate construction of appropriate infrastructure to mitigate/prevent land degradation, water pollution, and health and safety hazards in areas where urban agriculture is permitted (United Republic of Tanzania, 2000).

Regulation of Cultivation and Keeping of Animals in Urban Areas).

These by-laws had three main objectives:
• to prohibit people of African descent from growing crops and raising livestock in urban areas;
• to prevent urban agricultural activities in urban areas, because it was thought to increase the presence of malaria-causing mosquitoes, especially crops taller than one metre; and
• to maintain a cleaner urban environment and sustain urban aesthetics by preventing people of African descent from growing crops in most of the towns' open spaces.

The essence of these by-laws is that growing crops or raising animals is allowed, if it is under certain conditions. After independence in 1961, most of these by-laws became moribund, but it was in the 1980s, that most towns and municipal councils found it necessary to revive these by-laws in order to regulate the growth of urban agriculture.

In Tanzanian towns, by-laws on crop cultivation distinguish between areas where the growing of crops is completely prohibited and areas where it is permitted. Growing crops is not permitted within a distance of 14 metres from road banks. As for river valleys, crop cultivation is not allowed within a distance of 15 metres from the riverbanks. The cultivation of annual crops is not restricted in these areas. For permanent crops, however, written permission from the Municipal Director is needed. Other by-laws regulate the ways in which crops have to be cultivated, including for instance the use of machinery, planting time, use of inputs, weeding, use of certified seeds, planting on slopes, and how to act in case of plant pests or diseases. Yet other by-laws stipulate the penalties for not adhering to these regulations, including fines, imprisonment and destruction of crops.

Although these by-laws exist and clearly stipulate the penalties for defaulters, they are rarely implemented. For instance, it is common to see crops of all varieties planted in all municipal administrative wards, road reserves, riverbanks, public open spaces including children's playgrounds, and surveyed plots, rendering the by-laws 'toothless.'

In towns, by-laws on livestock keeping define "animals" as cattle, donkeys, goats, horses, mules, pigs and sheep. In other words, small livestock like chicken (local and improved varieties), ducks, rabbits and turkeys, very common in urban areas, are left out. Most town Council by-laws stipulate that they have to earmark certain areas as "specified areas" within the urban limits for the purpose of keeping animals or for grazing.The Councils issue special permits in respect of animals that are authorised within the given urban areas.

Yet, the by-laws do not specify the numbers and types of animals that urban dwellers are allowed to raise according to the density of the areas. By-laws forbid keeping animals outside "a building, structure or enclosure"; hence, holding animals in free range conditions is prohibited. Moreover, the by-laws do not allow animals to be kept "in a building or part of such building that is used for human habitation". Yet, people keep chicken, goats, and sheep in their houses. They could argue that chicken is not defined as an animal in the by-laws. Animals can only be moved with special permission from the Council. Most urban dwellers keep animals without a permit. By-laws which require urban dwellers to remove manure (solid and liquid) and other animal waste are never enforced. The fact that there are many senior government and ruling party officials among the livestock keepers who break the by-laws with impunity, is probably the best assurance for most other livestock keepers that they will not be punished for breaking the law.

The legal context of urban farming is confusing for the urban farmers

CONCLUSION

The legal context of urban farming is somewhat confusing for the urban farmers. The national government pursued a generally favourable policy and even tried to encourage people to do urban farming during periods of severe economic recession. Yet, by-laws at the local level pose many restrictions to the practice. Many urban farmers appear not to know what is allowed and what is not. On the other hand, despite these regulations, enforcement is sparingly done and discriminatory in nature (the elite is less affected), councils lack funds and personnel to reach sprawling and sometimes unplanned urban areas.

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Integration of Urban Agriculture into City Planning in Turkey

In Turkey, urban agriculture does not appear in the "land use and possession classification codes" used in urban planning. This classification was developed 25 years ago and is not clear about certain uses, which leaves these to dispute. This classification needs to be updated.

A modern city draws much of its population from the rural areas. As such, the city should be able to integrate this population and the experiences they have, and provide them with sufficient land. The value of the land, defined by its rent, increases under urbanisation, and agricultural fields and public land are predominantly used for industry and housing. It is necessary to re-value the agricultural sector and the agricultural use of land in the city. There is a need to integrate agriculture into the existing functions of the city, and link it to issues such as poverty, famine, food security and social identity. However, the laws governing the city are a result of sudden decisions and pressures in the past, and do not allow for inclusion agriculture.

It is necessary to search for a new way of land classification that is designed for today's requirements and the possibilities of modern cities. A new "Land Usage and Possession Classification" is therefore suggested. This new classification is based upon the classification of the Ministry of Public Works which is widely known and used in development plans in Turkey. Local administrations like municipalities (including metropolitan municipalities), ward managements and central authorities (including provincial and city administrations) seem to be open to the suggested attention to urban agriculture. However, participation of different stakeholders in decision making and training will be required to actually operationalise this change.

URBAN AND PERIURBAN AGRICULTURE UNDER REVISED ARTICLE 8

81. Livestock and Related Services
811. Fold and Crib Livestock Raising and Related Services
812. Apiculture and Related Services
813. Commercial Raising of Rabbits and Related Services
82. Forestry and Related Services
83. Fishery and Related Services
84. Areas Used to Supply Resources for Urban and Periurban Agriculture
841. Solid and Liquid Home Waste Collecting and Recycling Areas
842. Marketing Areas

ADAPTED ARTICLE 9

9. Non-used areas and water sources (Ýplenmeyen arazi ve Su alanlarý)
9.1 Areas which are not used and processed (Ýplenmeyen ve Kullanýlmayan arazi)

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MUNICIPAL INSTITUTIONS AND URBAN AGRICULTURE

Turkey has a modern urban planning approach but, like many developing countries, has suffered from problems in this process. The institutions and persons involved have several and obscure roles. The public administration has developed into a hierarchical structure with an abundance of actors, of local and central public institutions. Local institutions, whose importance is emphasised by the activities of "Agenda 21", should clearly determine their complementary functions. Since their functioning depends on central governance, coordination can only be achieved by the formation of a web among all local and central administrative units.

The central governing body and its local (provincial) actors have an important role in the formation and functioning of cities. Potential agricultural areas in the cities are increasingly being designated for construction based on the urgent priority of settlement, tourism and industry. The existing laws and regulations prompt urban areas to enlarge without any consideration for ecological conditions. The importance of environmental protection and arrangements for agriculture in the cities, which so far only remain in discourse, can only be taken up when the ways to achieve these goals are clear. To start with, agriculture as the main distinguishing criterion between rural and urban areas should be taken out of the laws, after which integration in urban planning can start.

Henk de Zeeuw

It is necessary to re-value agricultural use of land in the city

INTEGRATING URBAN AGRICULTURE INTO CITY PLANNING

In Turkey, the integration of urban agriculture into development plans and its applicability depends on its inclusion into the process of public certification within the context of the Basic Land Usage and Possession Classification. The classification codes used by Ministry of Public Works, which is an important player in the process of planning, appear to be flexible enough. It is also known that Provincial Banks use the same classification outside of central commercial areas.

The proposed adaptation of the codes of the Ministry of Public Works to include urban and periurban agricultural areas, refers to articles 8 and 9. Article 9 refers to non-used areas, from which the issue of forestry should be removed and incorporated into article 8, which details productive purposes. Article 8 needs only a minor adaptation: it is suggested that that the "mining sector" be excluded and given a separate article under its former name "Source Produce and Mining (kaynak üretim ve çýkarýmý)".

The integration of urban and periurban agriculture into the existing urban planning system of Turkey is a relatively easy task; what is required is a reform of the system. This reform will depend on improved integration and interaction between central and local administrative units, notably the coordination between the Ministry of Public Works, the Provincial Director of Public Works, Provincial Administration and Provincial Bank should become more productive.

Books

SEEDS THAT GIVE: PARTICIPATORY PLANT BREEDING

2003. Ronnie Vernooy. IDRC ISBN 1-55250-014-4. paperback 100 pp. Also available in Spanish and French. IDRC, Ottawa, Canada. Tel: (613) 236-6163. Fax: (613) 563-2476. Web: http://www.idrc.ca/seeds

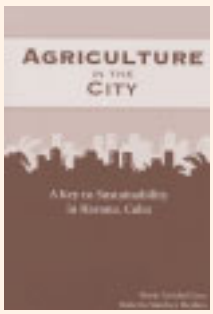
This book, published by IDRC, contributes to the discussion on farmers' experimentation and the important contribution it makes to sustainable development. Local plant breeding is the answer to genetic erosion, and counteracts the increase in vulnerability of crops, for instance, to diseases and climate changes. Today, less than three percent of the 250,000 plant varieties available to agriculture are in use. A mere 12 species provide three-quarters of the world's plant-based food. For many of the small-scale farmers on marginal lands the cost of these high-yielding seeds, the necessary fertiliser, and other inputs is prohibitive. Instead they continue to experiment with local seed varieties, selecting and sharing those that will continue to produce even under adverse conditions, also in urban areas. Seeds that give is part of IDRC's "In Focus" book series. It reviews 10 years of IDRC support for participatory plant breeding research around the world.

Complementing the book are six case studies from the developing world and a thematic web site: www.idrc.ca/seeds.

USE OF WASTEWATER IN IRRIGATED AGRICULTURE.

Country Studies from Bolivia, Ghana and Tunisia. 2003. Wageningen University. The Netherlands.
Bolivia: ISBN 90-6754-705-0; Ghana: ISBN 90-6754-704-2; Tunisia: ISBN 90-6754-703-4.
The research described in these three documents, is part of the Water for Food and Ecosystems Programme, funded by the Netherlands Government. The documents can be downloaded as pdf files from www.dow.wau.nl/iwe; More information: Frans Huibers: frans.huibers@wur.nl

AGRICULTURE IN THE CITY, A KEY TO SUSTAINABILITY IN HAVANA, CUBA.



2003. María Caridad Cruz and Roberto Sánchez Medina. IDRC. Published in 2001 in Spanish and printed in English by Ian Randle Publishers and IDRC.
This book presents the results of a three-year research project on the history and state of urban agriculture in Havana, Cuba, and the long-term potential for urban agriculture in the local economy of two areas in Havana, as part of municipal environmental management. The book will be of interest to a wide audience, including municipal authorities and local action groups.

ACCESS TO LAND BY THE URBAN POOR

2002. Angel, S. et al (seven experts). 48 pages, paperback, US$ 15.00, ISBN 1-55844-152-2. Available at www.lincolninst.edu
Cities in developing nations worldwide face the problems of progress and poverty because of constraints in access to land. Latin American cities offer clear evidence that pervasive and persistent informality in land markets is both an effect of and a major contributing factor to urban poverty. The cost of being informal is often much higher than the cost of being formal, particularly when considering access to serviced land and urban amenities. Seven researchers and consultants experienced with developing and implementing land and housing policies in the third world contributed to this discussion.

LEASING PUBLIC LAND

2003. Bourassa, Steven and Yu-Hung Hong (editors). 2003, 320 pages, paperback, US$ 20.00, ISBN 1-55844-155-7. Available at www.lincolninst.edu
Leasing public land has been advocated as a viable land tenure option for former socialist countries and other transitional economies. However, the debate about land tenure has been influenced more by ideology and preconceptions than by lessons drawn from careful study of existing leasehold systems. This new publication offers a thorough examination of existing public leasehold systems from around the world and presents insightful recommendations for the future role of such systems. Various issues and concepts of public leasehold are introduced and discussed, followed by two groups of case studies of international leasehold systems, organised into a framework for understanding the policy-making implications.

VACANT LAND IN LATIN AMERICAN CITIES

Clichevsky, N. et al (eight experts). 2002, in Spanish, 144 pages, paperback, US$ 15.00 ISBN 1-55844-149-2
Available at www.lincolninst.edu
Vacant urban land is the product of many combined factors, including the functioning of land markets, the actions of private agents and the policies of public agents; and it poses an important challenge for the government and policy makers of Latin America. Vacant lots located on the urban fringes and in central and interstitial areas have been a determining factor in the growth patterns of cities in the region. This book, written in Spanish, identifies the many problems related to vacant urban land in five key cities: Rio de Janeiro, Buenos Aires, Lima, Quito and San Salvador.

FAO OFFERS FREE OR LOW-COST ACCESS TO SCIENTIFIC LITERATURE ONLINE

The Food and Agriculture Organization of the United Nations (FAO) has launched Access to Global Online Research in Agriculture, (AGORA), an online clearinghouse of approximately 400 journals in the fields of agriculture, biology, and related environmental and social sciences. With this website, FAO plans to increase the quality and effectiveness of agricultural education and research by providing wider access to published information. For more information, visit http://www.fao.org/english/newsroom/news/2003/23019-en.html

www.developmentgateway.org
Enter "urban" in the search engine on this site for a wide range of materials on urban agriculture. Every entry is supported by an abstract which summarises the contents and significance of the document or web site presented. Visitors can sign up for updates on new content, access a database containing thousands of projects, peruse a directory of food security practitioners and post resources of your own. The site is run by the not-for-profit Development Gateway Foundation in collaboration with a variety of cooperating organisations, including RUAF.

www.gdnet.org/online_services/toolkits/proposal_writing/
The Global Development Network has developed a toolkit that offers practical tips and suggestions, based on interviews with experienced research fund-raisers from around the world. The reader is offered a checklist of things to consider when writing a proposal, such as style, structure and clarity, putting together a budget to justify the funds, donors to approach and how best to approach them.

www.plos.org/index.html
The Public Library of Science (PLoS) is a non-profit organisation of scientists and physicians committed to making the world's scientific and medical literature a freely-available public resource. PLoS is working with scientists, their societies, funding agencies, and other publishers to pursue the broader goal of ensuring an open-access home for every published article and to develop tools to make the literature useful to scientists and the public.

www.cbnrm.net/
People working on Community-Based Natural Resource Management (CBNRM) throughout the world - as practitioners, managers and researchers - are talking about an urgent need for capabilities that enable direct communication between them. Such CBNRM networking capabilities would make it possible for people to exchange experiences, manage relevant knowledge, and support learning across countries, sectors, cultures, and languages, and in this way achieve better results. *CBNRM Net* is a response to this call. *CBNRM Net*'s web site provides a powerful set of broad, robust and useful networking tools aimed at linking stakeholders.

attra.ncat.org/
ATTRA (Appropriate Technology Transfer for Rural Areas), funded by the US Department of Agriculture, is a national sustainable agriculture information service managed by the National Center for Appropriate Technology. It provides information and technical assistance to farmers, ranchers, extension agents, educators, and others involved in sustainable agriculture in the United States. ATTRA services are also available to farmers, market gardeners, extension agents, researchers, educators, farm organisations, and others, especially those who are economically disadvantaged or belong to traditionally deprived communities.

www.xaia.ca/cityfarmer/
A forum for dynamic discussion on urban agriculture and related issues. Take a look at the urban agriculture forum put on-line a few months ago. Fifty members have already signed up. RUAF members are welcome to set up a discussion area for topics that interest them.

www.aginternetwork.org/en/about.php
Access to Global Online Research in Agriculture (AGORA) is an initiative to provide free or low-cost access to major scientific journals in agriculture and related biological, environmental and social sciences to public institutions in developing countries. Launched in October 2003, AGORA will provide access to over 400 journals from the world's leading academic publishers. Led by the Food and Agriculture Organization of the United Nations, the goal of AGORA is to increase the quality and effectiveness of agricultural research, education and training in low-income countries, and in turn, to improve food security.

www.new-agri.co.uk/03-5/focuson.html
This month's issue of the "New Agriculturalist on-line - reporting agriculture for the 21st century" has a series of articles on urban agriculture from around the world. The full articles can be read on-line.

www.sygw.org/
Seattle Youth Garden Works in the USA empowers underserved youth through garden-based education and employment. It is a market gardening programme for homeless and low-income youth ages 14-22 in the University District and South Park neighbourhoods. Our goals are to connect youth to housing, health care, education, jobs and community. Seattle Youth Garden Works is a programme of the Church Council of Greater Seattle.

www.foodaidmanagement.org/agriculture.htm
Food Aid Management (FAM) was created in 1989 by five U.S. private voluntary organisations (PVOs) to "promote the efficient and effective use of food aid resources to help alleviate hunger and contribute to food security". Under headings such as agriculture, environment, gender and HIV/Aids, the visitor is guided to links that lead to journals, articles, on-line libraries, information networks, etc. The site has a training calendar and events section. Under the heading agriculture, there are sections on nutrition, biotechnology, monitoring and urban Agriculture. Also in Spanish and French.

www.state.fl.us/fdi/fscc/news/state/9902/rt-tm.htm
"Green industry" is the most profitable and least-subsidised sector of US agriculture and is a key to overall community sustainability. The Florida Chapter of the International Society of Arboriculture and the Florida Nurserymen and Growers Association have formally asked the Florida Department of Community Affairs how their groups can work more closely with the Florida Sustainable Communities Network programme as part of their effort to advise public officials on how the "green industry" can help them achieve true sustainability.

A phytoremediation consulting company, Phytotech, has studied soil lead removal using Indian mustard (Brassica juncea) plants, which are even better at accumulating it than others in the Brassica family. They found that cropping with successive plantings (which were harvested and thrown away) lowered soil lead, with decreasing effectiveness as the lead levels in the soil decreased. This and other work can be found at these sites:
www.epa.gov/region01/leadsafe/
www.bumc.bu.edu/Departments
www.jurban.oupjournals.org/cgi/content/abstract/78/1/199

FIRST GLOBAL WATER, SANITATION AND HYGIENE (WASH) FORUM (DAKAR, SENEGAL)

November / December 2004

The Water Supply and Sanitation Collaborative Council (WSSCC) is organising this event to draw lessons on how successful water, sanitation and hygiene programmes, sector reforms and development partnerships are leading to the eradication of poverty. It also aims at strengthening regional and national partnership initiatives pursuing the goals of the World Summit on Sustainable Development. Web address: http://www.wsscc.org/load.cfm?edit_id=332 Or contact: the forum Manager, at wsscc@who.int

ROLE OF MULTI-PURPOSE AGRICULTURE IN SUSTAINING THE GLOBAL ENVIRONMENT AGRO ENVIRON 2004 (UDINE, ITALY)

October 20-24, 2004

The first Agro-Environ symposium was organised in Faisalabad, Pakistan in 1998. This is the fourth in a series of workshops that aims to be a platform for idea sharing and networking between organisations involved in agro-environmental issues. The theme of the forthcoming Agro Environ is "Sustainable Global Environment and Multi-purpose Agriculture", a theme in which urban agriculture definitely has its place. More information: www.dpvta.uniud.it/~agroenv

UNLOCKING HUMAN POTENTIAL, LINKING THE INFORMAL AND FORMAL SECTORS (HELSINKI, FINLAND)

September 17-18, 2004

The World Institute for Development Economics Research, WIDER, in Helsinki is a research and training centre of the United Nations University. The Expert Group on Development Issues, EGDI, is a policy advisory body linked to the Swedish Ministry for Foreign Affairs. The EGDI-WIDER conference on

Unlocking Human Potential welcomes submissions of papers or abstracts (of 2-3 pages) on the interaction between government legislation and policies with the "informal" efforts and livelihoods of people. The submission deadline is Feb. 1, 2004. For more: www.wider.unu.edu or www.egdi.gov.se, To submit of for further information: unlocking@wider.unu.edu.

WORLD URBAN FORUM 2004 (BARCELONA, SPAIN)

13-17 September 2004

Barcelona is preparing to receive some 2,000 delegates representing governments, local authorities, non-governmental organisations and other experts on urban issues from around the world for the second gathering of UN-HABITAT's World Urban Forum. This forum is held every two years and is a key global event to address and keep abreast of the main challenge of the new Millennium – our planet's transition to an urban world. The issue of urban agriculture, notably the financing of urban agriculture, will be presented here. For more information: http://www.unhabitat.org/wuf/2004/default.asp

UNLOCKING HUMAN POTENTIAL, LINKING THE INFORMAL AND FORMAL SECTORS (HELSINKI, FINLAND)

September 17-18, 2004

The EGDI-WIDER conference on Unlocking Human Potential welcomes submissions of papers or abstracts (of 2-3 pages) on the interaction between government legislation and policies with the "informal" efforts and livelihoods of people. Main issues are: conceptualizations of the formal and the informal; lessons and experiences of success as well as failure; implications for policy makers; in the context of experiences at different times and in different regions of the world, and across a range of topics such as land titling, common property management, employment, small and medium enterprises, gender relations and women's legal rights. The submission deadline is Feb. 1, 2004. The World Institute for Development Economics Research, WIDER, in Helsinki is a research and training centre of the United Nations University. The Expert Group on Development Issues, EGDI, is a policy advisory body linked to the Swedish Ministry for Foreign Affairs. See for more: www.wider.unu.edu or www.egdi.gov.se, To submit of for further information: unlocking@wider.unu.edu.

CONGRESS ON AGROFORESTRY (ORLANDO, USA)

27 June – 2 July 2004

Agroforestry professionals world-wide, from academic institutions and government organisations, the private sector and voluntary groups, will gather for this 1st World Congress of Agroforestry in Orlando, Florida, USA. The main objective is to share knowledge and develop strategies for research, education and training in agroforestry. Visit the congress web site for further details: http://conference.ifas.ufl.edu/wca

INTERNATIONAL CONFERENCE ON URBAN AGRICULTURE, *URBANAG 2004* (BRISBANE, AUSTRALIA)

Mid-2004

Urbanag 2004 will focus on the city of Brisbane, and its role as global leader in urban agricultural practices, as well as emerging urban agricultural tends in the Western Pacific region. More information: Geoff Wilson. Phone +61 7 3349 1422; fax 61 7 3343 8287; e-mail: fawmpl@powerup.com.au. www.urbanag.info

URBAN WOODS FOR PEOPLE AND THE 7TH IUFRO European Forum on Urban Forestry (Stockholm, Sweden)

May 23 – 27, 2004,

This is the concluding conference for the Life Environment Project "Urban Woods for People", as an integrated part of the annual meetings organised by the International Union of Forest Research Organisations (IUFRO) since 1998, to act as meeting places for urban forestry policymakers, practitioners and scientists. The six previous meetings have provided urban foresters with the opportunity to exchange ideas and experiences on actual topics such as funding, education and partnerships. This 7th meeting is being convened under the title "Working with Woods – developing tools for sound urban forestry". Updated information can also be found at: www.svo.se/urbanwoods and www.efuf.org

COMMUNITY-DRIVEN DEVELOPMENT: THE ASSET-BASED APPROACH (ANTIGONISH, NOVA SCOTIA, CANADA)

May 17-June 4, 2004

The Coady International Institute is organising this 3-week certificate programme that offers senior development workers and policy makers exposure to several practical asset-based tools designed to help community leaders build (or rebuild) a community-driven development process. The course also explores the appropriate role for intermediary organisations in promoting and supporting community development from the inside out. For detailed information, go to the Coady International Institute's website www.stfx.ca/institutes/coady

TRAINING COURSE FOR ANGLOPHONE AFRICA ON URBAN AGRICULTURE (NAIROBI, KENYA)

8 - 26 March, 2004

The Cities Feeding People programme of IDRC, the Urban Management Programme of UN-Habitat, the Municipal Development Partnership (MDP) of Zimbabwe, the Ministry of Planning of the Government of Kenya, the Resource Centre on Urban Agriculture and Food Security (RUAF), the International Water Management Institute (IWMI), and the CGIAR Urban Harvest Programme will hold this three-week regional training course. The course is based on a participatory learning model pioneered in Francophone Africa in 1998 and in Latin America in 2001. Seven training modules on different aspects of urban agriculture will address the contents of proposals developed by teams from different cities or towns in the region. The team members have already been selected, and consist of three members - a researcher, a municipal officer concerned with a locally important aspect of urban agriculture, and an implementer of projects. More information on this course will be published at www.ruaf.org or the partner sites.

CITIES AND LOCAL GOVERNMENTS: THE FUTURE FOR DEVELOPMENT (PARIS, FRANCE)

May 2-5, 2004

This Founding Congress of United Cities and Local Government is an opportunity to bring together city and local government leaders from across the globe with key stakeholders from the international community. It will explore the role of local government in development, exchange experiences and develop strategies for the future. The congress will focus on the following sub-themes: local sustainable development in a globalising world; decentralisation and local democracy; cooperation, partnership and solidarity between local governments for peace and development. Over 2,500 participants are expected to attend the congress. More information can be found through the website of IULA:
http://www.iula-int.org/iula/web/template.asp?L=EN&ID=13

ASSURING FOOD AND NUTRITION SECURITY IN AFRICA BY 2020 (KAMPALA, UGANDA)

1-3 April 2004

Food and nutrition security remain Africa's most fundamental challenge. However, Africa has climbed back on the agenda. There are new political initiatives gaining momentum both inside and outside the continent. This all-Africa conference will bring together the traditional and new actors and stakeholders to deliberate on how to bring about change and action to assure food and nutrition security. The International Food Policy Research Institute, under the auspices of its 2020 Vision Initiative, will facilitate an international conference in Kampala, Uganda, in partnership with the Government of Uganda. For more info:
http://www.ifpri.org/2020AfricaConference/sponsors.asp

INTERNATIONAL WORKSHOP ON SUSTAINABLE PRODUCTION TECHNOLOGIES FOR MEDICINAL PLANTS AND ALTERNATIVE MEDICINE (PINAR DEL RÍO, CUBA)

February, 11 – 13, 2004

This workshop aims to facilitate the exchange of new insights on different aspects on the subject of medicinal plants. The workshop language is Spanish, but contributions in English and Portuguese are accepted. More information can be obtained from Juan Francisco Valdés: valdes@af.upr.edu.cu or valdesjfco@yahoo.es

APPLICATION DEADLINE FOR THE AGROPOLIS INTERNATIONAL GRADUATE RESEARCH AWARDS IN URBAN AGRICULTURE.

January 31, 2004

Information and application forms can be obtained from the Cities Feeding
People website in English:
http://network.idrc.ca/en.php?id=4714, French:
http://network.idrc.ca/fr.php?id=4714 and
Spanish: http://network.idrc.ca/es.php?id=4714

URBAN RESEARCH SYMPOSIUM (WASHINGTON, USA)

15-17 December 2003

In December 2002, individual researchers, representatives of public and private organisations and members of research networks from around the world joined World Bank specialists to review recent and ongoing research on urban poverty. This conference marked the Bank's renewed interest in urban research. The Bank wanted this Symposium to become an annual forum. The second Urban Research Symposium took place at the World Bank Headquarters in Washington, DC and is titled "Urban Development for Economic Growth and Poverty Reduction". Contact: urbansymposium@worldbank.org; telephone: 202-473-0539; fax: 202-522-3232.
http://www.worldbank.org/urban/symposium2003/

AGUILA NETWORK CONVENTION (MEXICO CITY, MEXICO)

November 20 - 22, 2003

The Mexican "Aguila" Network on Urban Agriculture - a sub-division of the
Latin American "Aguila" Network on Urban Agriculture – held its Second National Convention. The central theme was "Urban Agriculture as an Organizational Strategy for Food Security, Family/Community Survival, and Environmental Sustainability". More information: gabaher@prodigy.net.mx or bcanabal@cueyatl.com.mx

ICLEI WORLD CONGRESS 2003, ATHENS, GREECE

November 3-7, 2003

Local governments from around the world gathered for this ICLEI World
Congress, which focused on Local Action 2: Local Governments Implementing Sustainable Development. Over 500 representatives from local governments, international agencies, national governments, and donor agencies came together to exchange ideas and identify opportunities to strengthen and advance the achievements of local governments in the area of sustainable development. Information is available at: www.iclei.org/worldcongress

RECTIFICATION

Our readers have notified us of two wrong e-mail addresses that appeared in UA Magazine no. 10 (July 2003). The first is of Cesar Marulanda, the author of the article on Hydroponics on page 8, given wrongly as: delfin@lamolina.edu.pe; the correct address is cesarmarulanda51@hotmail.com.
The second contact e-mail wrongly published is of Preeti Patil (article on India on page 19). It should be preeti_sunil@hotmail.com, and not sunhil@hotmail.com.

LIVESTOCK IN MYSORE

During the recent electronic conference, Er.V.Jagannatha, coordinator of the People's Science Forum (PSF) in Mysore India, called the attention of the participants to a voluntary initiative of the PSF - a survey of urban livestock to facilitate promotion of the Ecocity concept. This mapping is being undertaken under a state Government Programme for the local authority called "Nirmala Nagara" which runs in 31 towns and cities of Karnataka State, in South India. More info at http://www.psf.4t.com, or contact: "Sahana" 437 A & B Block, Double Road, Kuvempu Nagar, Mysore 570 023 India, Mobile: 9448050595, Fax: +91-821-2544918(pp); e-mail: jags_environs57@yahoo.com

MINISTERS' CONFERENCE ON URBAN AND PERIURBAN AGRICULTURE:

Under the title, "Prospects for Food Security and Growth in Eastern and Southern Africa", a Ministers' Conference was held from 28 and 29 August 2003, in Harare, Zimbabwe. A total of 55 delegates from five countries, namely Kenya, Malawi, Tanzania, Swaziland and Zimbabwe, attended. Among them were the Ministers of Local Government from Swaziland and Zimbabwe and the Deputy Ministers of Local Government from Malawi and Tanzania. The Conference was co-organised by RUAF-MDP and the Municipal Development Partnership for Eastern and Southern Africa, in partnership with The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), and supported by FAO, UNICEF, UNDP and IDRC. The principal objective of the conference was to enable ministers responsible for urban development in eastern and southern Africa to share ideas and experiences on the emerging important sector of urban and periurban agriculture, and to develop a policy agenda for action. The Conference recognised the significant contribution of urban and periurban agriculture to food security of urban households, generation of jobs and income, self-esteem and environmental improvement. The Harare Declaration on Urban Agriculture was a key outcome of this conference. In this declaration, governments of the participating countries commit themselves to integrate urban agriculture into their urban economies and to provide an enabling environment for the sector to grow.
The declaration, a full report of the conference, and the list of participants can be found on the website of RUAF.

URBAN HARVEST

As many of you may already be aware, the Steering Committee of the CGIAR Strategic Initiative on Urban and Periurban Agriculture (SIUPA) recently took a decision to change the name of this system-wide initiative to "Urban Harvest". RUAF in turn has taken the necessary steps to incorporate the change of name into its information material (flyers, brochures, website, and email). Although you can still reach our website through www.cipotato.org/siupa the email contact address has now changed:
urbanharvest@cgiar.org An Urban Harvest-Listserv is being developed.

Cities Feeding People has posted a series of nine urban agriculture policy briefs on both their web site as well as that of RUAF. The policy briefs have been validated by mayors and urban planners from approximately 20 cities for content and use. The briefs have been translated into Spanish and French (with a Portuguese version soon to be complete) and tackle issues related to urban agriculture, including land-use planning, wastewater use and gender equity. The policy briefs are available on http://www.idrc.ca/cfp. You may also wish to refer to our partner in Latin America, the Urban Management Programme (http://www.pgualc.org/), for more information.

CITY FARMER 25 YEARS

Our partners in Canada celebrate 25 years of City Farmer, the largest information and education centre for urban agriculture in Canada. Twenty-five years ago, City Farmer executive director Michael Levenston and fellow environmentalist Bob Woodworth were asked by the then Ministry of Energy and Mining to study ways for city dwellers to conserve energy. Now City Farmer is internationally appreciated for its great website; is the largest information and education centre for urban agriculture in Canada; offers workshops and maintains a demonstration garden, showing urban gardeners how to grow vegetables and fruit organically on a small city lot; and even has a street renamed after it in Vancouver. See www.cityfarmer.org

WWW.WASTE.NL

The APUGEDU project in Bamako, Mali has just been finalised. The International cooperation from the European Union asked WASTE together with other partners to analyse the potentials of development of urban and periurban agriculture with the usage of recycled urban waste. This coincided with a programme issued by the World Bank to develop a waste management plan for the city Bamako. WASTE started with compiling a literature review focussing on experiences in southern countries. At the same time, WASTE analysed the solid waste management system in view of recycling in Bamako. Stakeholders, vegetable gardeners and cereal crop owners were identified. With all this acquired information WASTE prepared a workshop on the composting techniques based on the existing waste streams and assisted in the decision-making process to select the compost techniques to be executed in Bamako. During the implementation period WASTE was active as back stopper. The project has allowed to promote composting activity, compost application and management of natural resources. As a result composting is being developed as a waste treatment activity at transfer sites in several collection zones in Bamako. The scenario that APUGEDU has developed will contribute to the overall World Bank plan for waste management in Bamako.