



# POLICY REVIEW FOR URBAN AND PERI-URBAN AGRICULTURE DEVELOPMENT IN NAMIBIA

Marielle Dubbeling

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PO Box 357, 3830 AK, Leusden, The Netherlands

T +31334343003

E [info@ruaf.org](mailto:info@ruaf.org)

I [www.ruaf.org](http://www.ruaf.org)

### Author:

Marielle Dubbeling

E [m.dubbeling@ruaf.org](mailto:m.dubbeling@ruaf.org)

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## Summary

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Increasing urban growth, coupled to rising urban poverty and unemployment, and drought and flood incidences affecting rural agriculture production and urban migration, have increased Namibian National and Local government attention and commitment to address the urban dimension of food insecurity and nutrition.

Adequate tackling of urban food insecurity requires new involvement of Local Authority Councils. It was for this reason that the cities of Windhoek and Walvis Bay engaged in an exchange to Belo Horizonte, Brazil to learn from its successful urban programmes on the Right to Food. Following the exchange visit, a workshop was organised in 2014 in Windhoek, involving national and local authority representatives and international experts. The resulting Windhoek Declaration on Food and Nutrition Security was signed by 51 Local Authority Representatives and overseen by the Deputy Prime Minister. The Declaration proposes three main strategies for enhancing urban food security and nutrition, including (i) the establishment of food banks<sup>1</sup>; (ii) the promotion and regulation of urban and peri-urban agriculture; and (iii) the prevention, reduction and re-use of food loss and waste.

The workshop also recommended that review and amendment of national and local legislation would be needed to accommodate the promotion and regulation of these activities. In response to such request, RUAF Foundation, with support of the World Future Council Foundation, implemented this policy review study, with a specific focus on urban and peri-urban agriculture. Urban and peri-urban agriculture is considered to encompass different production systems (including horticulture, crop production and livestock) as well as different components of the local food chain (input supply, storage, packaging, processing and marketing of locally produced food).

The study reviewed different Acts and ordinances bearing on urban and peri-urban agriculture at the level of local authorities (the Local Authorities Act, Town Planning Ordinance, Townships and Division of Land Ordinance, Public Health and Environment Act, Water Resources Management Act, Model Sewerage and Drainage Regulations) as well as Local authority council regulations, town planning schemes, structure and zoning plans, local economic development and upgrading strategies, with a focus on Windhoek. It also analysed National policies and programmes such as National Food and Nutrition Security Policies and Action Plans; the Agriculture Policy and Horticulture Development initiative, Green Scheme, Policy on waste water use, Namibia's Vision 2030 and the Flexible Land Tenure Scheme.

A draft report was presented and discussed in an urban and peri-urban agriculture workshop organised 7-8 December in Windhoek. This resulting and final report describes policy gaps and constraints as well as policy opportunities for the promotion of urban and peri-urban agriculture specific to each of the above mentioned documents. It can be concluded that the general policy framework does not preclude (restrict, prohibit) the development of urban and peri-urban agriculture for home consumption or for the market, however neither is the practice specifically promoted nor supported. Most notably is the lack of mention of agriculture and urban food security as a local government duty, power and function in the Local Authority (or Government) Act No 23 of 1992 and its amendments, as well as in city development schemes and structure plans. National food security and nutrition and agricultural policies neither address the specific needs of and support for urban and peri-urban agriculture and producers except for those benefitting from the

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<sup>1</sup> The City of Windhoek meanwhile donated municipal land for the establishment of a food bank.

National Urban and Peri-Urban Horticulture Initiative. This lack of legal backing reduces the opportunities to create a more facilitating support framework for development of the practice. At the same time, national and local legislation provide various and clear policy opportunities for the further inclusion of the promotion and regulation of urban and peri-urban agriculture. Agricultural land is for example mentioned as being subject to Town Planning Schemes, providing local authorities a principle mandate to protect, preserve and regulate those areas. The Water Resource Management Act and National Water Policies encourage the use of alternative water sources for crop production, offering specific opportunities in urban areas.

A major policy gap exists with regard to further promotion of integrated water management for urban and peri-urban agriculture, including increased use of rainwater, treated wastewater (including on-site waste water purification), use of improved irrigation and selection of more drought-resistant crops. Especially in a context of prolonged poor rainfall and water crisis, such improved management will be crucial to the development of a sustainable urban and peri-urban agriculture sector.

In addition, storage, packaging, processing and local marketing of urban and peri-urban agriculture products is currently hardly dealt with in the reviewed policies and plans. Approaching urban and peri-urban agriculture from a value chain perspective would create new opportunities for job and income creation, and is also crucial for generating access to fresh and nutritious food to a wider urban population (beyond production for home consumption).

At present, specific opportunities exist for amending and reviewing the legal framework and strategies. The Local Government Act is currently being reviewed by the Parliament, with a specific request to introduce urban food security, nutrition and urban and peri-urban agriculture. Annex 1 of this report suggests detailed proposals for such amendments. Urban and peri-urban agriculture could also be included in the revised draft of the National agricultural policy. Suggestions to do so are provided in this report.

In addition, several Plans and Strategies for the period 2016-2020 are being/will be drawn up. These include for example the Windhoek Local Economic Development Strategy, new National and Regional Food Security and Nutrition Action Plans and a new 5-year Scaling Up Nutrition Initiative. Suggestions made in this report, as well as any other complementary proposals made by involved stakeholders, could be taken into account in these new policy/strategy formulating processes.

Addressing policy gaps and policy opportunities will require discussions with politicians and policy-makers at all political levels and across different sectors (involving amongst others the Ministries and Departments of Agriculture; Health, Poverty Eradication and Social Welfare; Industry; Town Planning, Urbanisation and the Environment; Education, Regional and Local Government and Housing, Economic Development and Community Services; Infrastructure, Water and Waste Management; Legal Department and others). In addition, such efforts should involve other stakeholders such as the Committee on Legal and Regulatory Framework; the National Planning Commission; The Namibia Alliance for Improved Nutrition and also specifically facilitate participation of local authority councils and their representative bodies. This discussion will thus also need to address institutional mandates and responsibilities in order to provide the appropriate regulation of and support for urban and peri-urban agriculture. With regards to peri-urban agriculture collaboration between with Local Authority Councils and Regional Councils seems necessary.

In assuming more responsibilities in development of urban and peri-urban agriculture, local authorities can make use of their rights to develop own bye-laws and strategy documents on issues that impact on the management of local authority areas. Next to reviewing and further developing

local Town Planning Schemes and Structure Plans, Local Economic Development and Upgrading strategies, a specific Urban Agriculture Act could be developed. This was for example recently done in Nairobi City, Kenya (2015), which also succeeded in bringing Agriculture and other sectors such as Public Health, Town Planning, Environment, Legal, Trade and City Inspectorate on board.

The study recommends prioritising further policy formulation and implementation. This could include (i) Amending the Local Government Act; (ii) Including urban and peri-urban agriculture in the draft revised National Agriculture Policy; (iii) Introducing urban and peri-urban agriculture in local authority town and structure, (local economic) development and upgrading plans and (iv) elaboration of a specific Urban Agriculture Act. This would require further strengthening local institutional and government capacities.

Parallel to policy revision, local authorities decided, in the 7-8 December 2015 workshop, already to make a start with project and programme implementation. Cities can start supporting and developing a wide variety of activities, building on a wide number of on-going initiatives, and with concrete action further inform (longer-term) policy revision. The city of Windhoek has assigned a technical committee on Urban and peri-urban agriculture and Food Security and nominated two councillors (amongst which a deputy Mayor) to facilitate this process.

For urban and peri-urban agriculture development to succeed, local community consultation, and multi-stakeholder participation and support will be necessary. It was also decided in the December 2015 workshop that a Windhoek Food Council would be established, bringing various stakeholders together, including national and local government, NGOs, Universities, international organisations, urban and peri-urban agriculture practitioners and beneficiaries, private sector, etc. The Food Council should meet on a regular basis to foster multi-stakeholder partnerships and evaluate and monitor the implementation process. This would also require further awareness raising, information and training. Such government and community capacity strengthening could include topics like forms and (production and organisational) models of urban and peri-urban agriculture, integrated water management, SME development in the local food chain, integration into planning, design and upgrading, financing and multi-stakeholder strategy and policy formulation. RUA Foundation, World Future Council Foundation and UNDP agreed to join forces to support such further planning, action, capacity building and policy change.

# 1. Introduction

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## 1.1 National and local political interest and commitment to the promotion of urban food security and urban and peri-urban agriculture

The National Government of Namibia, as well as many Local Authority Councils, are recognising the Right to Food and food security and urban and peri-urban agriculture (including horticulture) as an opportunity to increase the sustainability and quality-of-life of their communities and as a critical lever for achieving many other civic goals and objectives.

Given increasing urban food insecurity caused by continuous and increasing urbanisation experienced in Namibia, further enhanced by the drought and flood impacts in the recent years, food insecurity is being taken from rural to urban areas and the national and local authorities are confronted with new related challenges (World Future Council, 2014).

In 2001, the Ministry of Agriculture, Water and Forestry, Directorate of Extension and Engineering Services launched a project entitled "Integrated Initiative in Support of Urban and Peri-Urban Horticulture Development" in Namibia funded by the Ministry of Agriculture Water & Forestry, FAO and the Kingdom of Belgium. The project aims to (1) Contribute to food security by improving access to high quality fresh horticulture produce at household level all year round and (2) Promote employment and income for the less endowed population in the urban and peri-urban environment. It calls for securing access to and efficient use of natural resources (land and water), institutional and policy support and promotion of micro-gardening and safe production practices and specifically targets urban slum dwellers, landless, marginal farmers and disadvantaged groups; resource poor families and the unemployed and underemployed.

Early 2014, the cities of Windhoek and Walvis Bay engaged in a city-to-city exchange to Belo Horizonte, Brazil to learn more about the development of a sustainable city food system and urban agriculture programmes. In June 2014, a Food and Nutrition Security workshop was organised in Windhoek by World Future Council, the FAO and Namibian national and local authorities. The resulting Windhoek Declaration on Food and Nutrition Security (signed by 51 local authorities) "*Recognizes the urgent need to act now at local and national levels to address the challenges in food and nutrition security our country is facing today and ensure food and nutrition security for future generations*". Signatory local authority councils committed to implement various recommendations, amongst others the establishment of Food Banks, the promotion of urban and peri-urban agriculture and of city region linkages (World Future Council, 2014). Involved local authorities consider urban and peri-urban agriculture to have five major benefits (adapted from FAO, 2012):

1. **Improved food and nutrition security.** By boosting the physical supply of fresh produce, urban and peri-urban agriculture improves the availability of nutritious food to urban households.
2. **Sustainable livelihoods.** Urban and peri-urban agriculture contribute to income and employment opportunities and cash savings on food, increasing resilience of livelihoods to economic downturns, and contributing to cities' local economic development. Being labour intensive, market gardening helps create employment directly in production as well as in input supply, marketing and value-addition.
3. **A safe, clean environment.** Urban and peri-urban agriculture allows for recycling urban organic waste and treated wastewater as a productive resource. Urban and peri-urban agriculture may



contribute to creating and maintaining green belts and green urban spaces, which protect fragile areas such as areas along riverbeds, contain urban sprawl and build resilience to climate change; by reducing the need to transport produce from rural areas, it generates fuel -savings and less air pollution; it can even lower city temperatures.

4. **Good governance.** Developing a sustainable urban and peri-urban agriculture sector calls for innovative approaches to urban development and for multi-stakeholder collaboration between public/private and civil society sectors. Forms of community gardening may help increase social and community relations. Use and management of productive open spaces enhances community control and ownership of public areas.
5. **Healthy communities.** Urban and peri-urban gardens and enterprises may provide low-income groups with food, income and a focus for shared enterprise, which helps to build healthier, more stable communities. They may specifically offer opportunities for unemployed, youth and women groups and migrant farmers.

In October 2015, the city of Windhoek signed the Milan Urban Food Policy Pact committing itself – next to 115 other cities – to the creation of a more sustainable and resilient urban food system (see: [www.foodpolicymilano.org](http://www.foodpolicymilano.org)).

The absence of more enabling local and national policy framework on urban and peri-urban agriculture is however seen as a constraint towards its further promotion and development in Namibia. The evolvement of institutional and political support to urban and peri-urban agriculture requires involvement of national and local stakeholders, including the Ministry of Agriculture, Water and Forestry, the Ministries of Environment and Tourism, Regional and Local Government and Housing, the Ministry of Education, the Ministry of Urban and Rural Development and the Ministry of Poverty Eradication, Local authority councils, residents in the urban areas as well as the dwellers in informal settlements.

## 1.2 Need for policy review and assessment

The 2014 Windhoek workshop on Food and Nutrition Security concluded that the promotion of current and up-scaling and adoption of new urban and peri-urban agriculture practices requires an assessment of the current context, institutional and policy environment. Such assessment will inform the design of new and enabling peri-urban agriculture programmes and governing policies by establishing appropriate national policy and legislative frameworks (WFC, 2014), especially with regards to:

- *Land access and tenure:* Availing land for agricultural purposes especially horticulture (vegetable and possibly orchards plantations); including urban and peri-urban agriculture in town planning schemes, building regulations, structure and zoning plans.
- *Providing technical support to urban and peri-urban farmers:* in particular training and agricultural extension support to guide the agricultural activities; this requires attention for urban and peri-urban agriculture in national agriculture policies and local support programmes.
- *Supporting local small and medium enterprises* in food storage, packaging processing and distribution, requiring specific support as part of local economic development strategies.
- *Enhancing and securing market access:* for small-scale urban and peri-urban producers to ensure sustainability of projects and income.
- *Promoting productive and safe reuse of urban waste and wastewater* in urban and peri-urban agriculture, through the promotion of more integrated water management strategies.
- *Integrating urban and peri-urban agriculture in different sectoral policies and programmes*, such as the Local Government Act, Town Planning Ordinance, Public Health and Environmental Act, Water Act, Agricultural and Horticultural policies, Nutrition initiatives, Poverty reduction

strategies, Procurement, Climate change adaptation and drought risk reduction plans amongst others.

In response to this expressed need for policy review and assessment, the World Future Council Foundation contracted the RUAF Foundation ([www.ruaf.org](http://www.ruaf.org)) to implement such study in the period of November-December 2015.

The specific objectives of this study were to:

- Implement a review of existing national and local policies, bylaws, ordinances, regulations and plans that impact on (peri-)urban agriculture in both Windhoek and Walvis Bay (as well other local authority councils)
- Provide draft recommendations on addressing policy gaps and opportunities.
- Present and discuss the review and recommendations in a national workshop in Namibia, 7-8 December 2015 (see World Future Council internal workshop report, 2016)
- Finalise the policy review/recommendation based on workshop discussions.

## 1.3 Methodology applied

The study was implemented through the following tasks:

1. Internet search and approaching the Cities of Windhoek and Walvis Bay and relevant National Ministries to obtain copies of policies, bylaws, ordinances and regulations impacting on urban and peri-urban agricultural activities
2. Desk study to analyse and synthesize the documents and give recommendations.
3. Reviewing and finalising study results based on exchange and participatory consultation of Namibian national and local authorities and other relevant stakeholders.

The following type of local and national policies, acts, plans and programmes have been reviewed:

- a. Acts and ordinances bearing on urban and peri-urban agriculture at the level of local authorities (like the Local Authorities Act, Town Planning Ordinance, Townships and Division of Land Ordinance, Public Health and Environment Act, Water Resource Management Act, Model Sewerage and Drainage Regulations)
- b. Local authority council regulations, town planning schemes, structure and zoning plans, local economic development and upgrading strategies.
- c. National policies and programmes bearing on urban and peri-urban agriculture (including National Food and Nutrition Security Policies and Action Plans; the National Agriculture Policy; National Horticulture Development initiative, Green Scheme, Policy on waste water use in horticulture production, Namibia's Vision 2030 and the Flexible Land Tenure Scheme.

Name of policy/act/programme	Responsible authority
Local Authorities Act No 23 of 1992	National Assembly Government of Republic Namibia
Local Authorities Amendment Act, 2002 (Act No. 17 of 2002)	Parliament of the Government of the Republic Namibia
Town Planning Ordinance No 18 of 1954 The Town Planning Amendment Act, 1993, No. 27 of 1993	Parliament of the Government of the Republic Namibia
The Town Planning Amendment Act, No 15, 2000	

Name of policy/act/programme	Responsible authority
Townships and Division of Land Ordinance, 1963 (Ordinance 11 of 1963) amended by Act 28 of 1992 and Act 21 of 1998	Parliament of the Government of the Republic Namibia
Promulgation of the Environmental Management Act of 2007, Act No 7 of 2007/Regulations for Strategic Environmental Assessment and Environmental Impact Assessment, 2008	Office of the Prime Minister of Government of the Republic Namibia
Public and Environmental Health Act, No 1 of 2015	Office of the Prime Minister of Government of the Republic Namibia
Water Resource management Act, No 11 of 2013	Parliament of the Government of the Republic Namibia
Model Sewerage and Drainage Regulations, 1996	Ministry of Regional and Local Government, Housing
No 16-2011 Waste management regulations: Local authorities Act 1992	City of Windhoek
Windhoek Town Planning Scheme/Clauses and Tables (current; no date) Original Scheme approved by virtue of Proclamation No 16 of 1 July 1976. With amendments up to December 2007 including Amendment Schemes 1 to 69, & 71 to 79.	City of Windhoek
Windhoek Structure Plan, 1996  Info 27-Zoning and land uses in Windhoek peri-urban areas (1995 amended 2005)	City of Windhoek
Walvis Bay Zoning Plan	Municipality of Walvis Bay
The City of Windhoek Local Economic Development Strategy, 2010-2015	City of Windhoek
City of Windhoek Development and Upgrading Strategy, 1999	City of Windhoek Department of Planning, Urbanisation and Environment
National food and nutrition policy, 1995 National Strategic Plan for Nutrition, 2010 National and Regional Food Security and Nutrition Action Plans 2006-2015	Government of the Republic of Namibia Ministry of Health and Social Services
National Agricultural Policy, 1995	Government of the Republic of Namibia Ministry of Agriculture, Water and Rural Development
The Poverty Reduction Strategy, 1998 National Poverty Reduction Action Programme 2001-2005	Government of the Republic of Namibia National Planning Commission

Name of policy/act/programme	Responsible authority
National Horticulture Development Initiative, 2002	Government of the Republic of Namibia Ministry of Agriculture, Water and Forestry
Integrated Initiative in support of urban and peri-urban horticulture development, 2011	Government of the Republic of Namibia Ministry of Agriculture, Water and Forestry
Green Scheme Policy of 2004 and its revised version of 2008	Government of the Republic of Namibia Ministry of Agriculture, Water and Forestry
Policy on water quality for horticulture production	Government of the Republic of Namibia
Code of Practice: wastewater reuse	Government of the Republic of Namibia
Namibia's Vision 2030	Government of the Republic of Namibia
Flexible Land Tenure Scheme	Government of the Republic of Namibia

A short description of each of these documents as well as an indication of main policy gaps/constraints and opportunities with regards to the promotion of urban and peri-urban agriculture are provided below. Detailed recommendations are, where relevant, made in respective annexes.

## 2. Legislation affecting urban and peri-urban agriculture at the level of local authority councils

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### 2.1 Local Authority Act (also referred to as Local Government Act)

Namibia has a three-tier system of governance: central government, regional councils and local authorities. The Local Authority Act of 1992 distinguishes between municipalities, towns and villages, with municipalities being the highest and most autonomous type of local authority. Municipality and town councils are expected to be financially autonomous, operating on a full cost recovery basis for all services they deliver, although some – mainly sector specific and area based – cross-subsidisation occurs. Councils generate most of their funds from user fees except for the more established authorities which levy property taxes and sell land (erven). Local authorities receive limited funding from central government for specific investment projects and for recurrent cost support on an ad hoc basis.

The Local Government Act No. 23 of 1992 provides for the establishment of local authority councils (including municipal, town or village councils) and defines their powers, duties and functions. The Act is periodically revised and amended. Amendments to original Local Government Act 1992 can include amendments of specific sections of the Act, such as substitution of (sub)sections; deleting or repealing specific subsections or definitions; insertion of new provisions as done in Local Authorities Amendment Act 2002.

**Policy gap:** Under the current Act 1992 – and the 2002 Amendment – the mandate for Namibian municipalities is restricted to supply of water, sewerage and drainage, streets and public spaces, electricity and gas, public transport, housing and other public services. There is no provision in the current Act on urban food and nutrition security; food safety; urban and peri-urban agriculture and/or prevention, reduction and re-distribution of food loss and waste. In order to facilitate such new local authority powers, duties and functions, increased delegation of such powers and functions to local authority councils (decentralisation) will be necessary. The latter will also specifically require local authority participation in the current and future review of the Local Authority Act.

**Policy opportunities:** There are opportunities to:

1. Include urban food and nutrition security, and more specifically urban and peri-urban agriculture as a specific and additional local authority power, duty and function in a new Amendment of the Local Government Act No. 23 of 1992. Such additional functions should not be limited to household and market-oriented urban and peri-urban agriculture production only, but also deal with related promotion of harvesting and safe re-use of rainwater, treatment and use of urban wastewater and organic waste in agricultural production; the promotion of multifunctional productive use of open spaces and buildings; and local storage, packaging, processing and marketing (retail and farmer markets) of local food production.
2. Include mention of and support to urban and peri-urban agriculture in other specific amended sections of the Local Government Act 1992, understanding that urban and peri-urban agriculture bears on many different sectoral competences and vice versa. This specifically includes sections related to Supply of Water; Sewerage and drainage; Streets and public spaces; Housing schemes;

Immovable property of local authority councils; Rates on rateable properties and General provisions.

3. Increase devolution of specific related powers, duties and functions to local authority councils (decentralisation). In addition to the above, this may include increased local procurement of local food production; reduction in food waste losses and redistribution to social and charity institutions and the establishment of local multi-stakeholder food councils. Local authorities can then also further incentivise other organisations to buy produce of local urban farmers, for example through labels showing that products are sourced locally, and award them as “honorary partners”.

Specific proposals for amendment of the Namibian Local Government Act No 23 of 1992 are outlined in Annex 1. Such amendments have to be coordinated with the Committee on Legal and Regulatory Framework of the National Task Force, and discussed and implemented with active participation by local authorities (the Namibian Association of Local Authority Officials (NALAO), NNMFS Namibian National Mayors Forum, etc.).

A bill on the amendments of the Local Authority Act was presented before Parliament in October 2015 (no copy of this Bill was obtained for this review). It has however been referred back to the Ministry for further input. Requests made to include provision for Urban Agriculture and issues such as exempting venerable residents and qualifying pensioners from paying rates and taxes were registered with the Minister at the Mayors Forum and various platforms. It is recommended that the city of Windhoek and the 51 municipalities that signed the Windhoek declaration, as well as the Union of Mayors, will continue to lobby for further decentralisation and a clear role of local authorities in the development of urban and peri-urban agriculture in addressing food security and economic development.

Amendment of the Local Government Act will require alignment with and amendment of other Acts, such as the Town Planning Ordinance No 18 of 1954, the Township and Division of Land Ordinance No 11 of 1963, the Public Health and Environmental Act No 1 of 2015, the Water Act No 54 of 1956 and the 1996 Model Sewerage and Drainage Regulations.

At the same time, local authorities can already start to develop further programmes, projects and policies (local bye-laws) on urban and peri-urban agriculture, in parallel with a further revision of specific national Acts and policies. Such concrete action will also help inform further policy change needed. Key issues to be tackled in such projects include water and waste management for urban and peri-urban agriculture, school gardens and food banks, access to land and agricultural services (Workshop report on urban and peri-urban agriculture, Windhoek, 7-8 December 2015).

## 2.2 Town Planning Ordinance No 18 of 1954

The Town Planning Ordinance No 18 of 1954 and its amendments (by the Town Planning Amendment Act, 1993, No. 27 of 1993 and the Town Planning Amendment Act, No 15, 2000) regulate, restrict or prohibit the development of a local government area. The Ordinance is exercised by the Minister of Regional and Local Government and Housing and the Namibia Planning Advisory Board. It obliges every local authority to develop a town planning scheme for all the land situated within the local authority area, and with the consent of the Minister, specified land outside the boundaries of such local authority.

Promotion of urban and peri-urban agriculture needs secure access to land and land protection from housing, industry and infrastructure. Urban planners and managers should zone land for agriculture and horticulture.

**Policy gap/constraints:** Although agricultural land use is mentioned as a matter to be dealt with in town planning schemes and protection of farmland from buildings is mentioned as a local authority power and subject to penalties, the planning and regulation of different types of agricultural areas in and around local authority areas could be more strongly included in the Town Planning Ordinance to indicate its importance and ensure protection and preservation of such areas in view of local and national interests to enhance urban food security and promote sustainable and resilient urban development.

**Policy opportunities:** There are various opportunities to include urban and peri-urban agriculture land use in specific clauses of the Ordinance:

1. Recognise urban and peri-urban agriculture as a legitimate use of local authority land; including it in urban land use/zoning categories.
2. Amend current town planning zoning regulations to make more explicit mention of agriculture areas as subject to zoning and regulation in a town planning scheme and as matters to be dealt with in surveys and schemes. Such provision would be in harmony with the existing clause on “Second schedule-matters to be dealt with by schemes” no 14: “*Land to be employed solely for agricultural and similar purposes and the application thereto of differential rating*”. This would also require planning departments to map the land that is used for agriculture, and research its ownership status and production potential. Suitable areas could be zoned for horticulture (or combined with compatible uses, such as green belts or public parks) and protected from construction. Zoning should take into account the regulation of specific forms of agriculture, e.g. limiting cattle and poultry production to certain peri-urban areas only. Land-use titles – whether temporary permits or long-term leases, in the names of individual growers or their associations – should be registered in the city cadastre.
3. Provision is already made for protection of areas of national interest or beauty. Agricultural production and achieving a higher degree of food self-sufficiency at household and national level could be considered such area of national interest.
4. Specific forms of urban agriculture may also be promoted within building provisions subject to the town planning scheme, such as (mandatory) rooftop agriculture (and rain water harvesting) on all new public and larger private (industrial, housing) buildings, as is done in other cities in the world (for example Bangalore, India or several cities in Canada). It may also include specific provisions regarding use of walls, windowsills, plot fences and plot space as proposed in Kampala for a new social housing scheme (see box below). This will be facilitated by the fact that currently no legal restrictions exist to develop small vegetable gardens on private residential property. Such strategies can also be easily integrated into Local Authority Development and Upgrading Strategies (see discussion for Windhoek below).
5. Support a “zero loss of agricultural land policy”, similar to such policy as being promoted by the National Planning Committee of India, where building, industrial and housing companies should compensate the loss of agricultural land resulting from new buildings or building extension, with the protection and development of equal areas of agricultural land elsewhere in or around the city. Such new clause would be in harmony with the current clause on Offences and penalties which already gives room for protection of farm and agricultural land from forming new nuclei of townships.

**Box 1: Proposal for lease conditions and plot/building use for a new “edible landscape” and social housing programme in Kyanja, Kampala (2007)**

The beneficiaries (of the social housing scheme) shall therefore comply with the following conditions:

- Housing forms must be semi-detached and situated not less than 1.5m from road frontage;
  - i. to maximize plot space for agriculture purposes
  - ii. for easy access to road
- The completed housing forms should not exceed 50% footprint on the plot. This will provide for adequate space for agriculture.
- Exterior house walls must be utilized for agricultural and/or energy saving activities.
- All windows must have a shelf, window box, or similar space to accommodate containers gardens.
- All roofs must have at least a 1.5m over hang to;
  - i. Protect exterior walls from rainfall
  - ii. Provide shade to keep the house cool
  - iii. To support climbing/creeping plants
- Every rooftop must be designed and constructed for water-harvesting technologies for crop irrigation and household consumption.
- Any patio areas should have a terrace shelter which accommodates growing.
- The splash guard must either be constructed like a planter box using approved materials to provide permanent space for growing or used to support planted containers.
- Peripheral fencing may be of any height provided it does not become a nuisance to neighbour or hinder road side safety. All fencing must be support growing.
- All plots must maximize space for agricultural purposes through:
  - i. Semi-detached housing and animal shelters
  - ii. Vertical spaces – walls, fences, double storied poultry units, shelved seedlings units, food towers, or any other innovative technology
  - iii. Typically unused spaces – road frontages, compounds, or any other space
  - iv. Intercropping technologies – maximizes garden space by growing two or more types of crops that benefit one another

**Agricultural land use**

Agriculture is one of the most important elements and will help lower household expenditure on food; the real challenge for the beneficiaries will be balancing housing construction with agricultural management. Most of the beneficiaries will most likely engage in agricultural activities before housing construction so they can generate sufficient resources, it is for reason that the beneficiaries must be sensitized on Urban Agriculture ordinances and Kyanja Conditions for ease of incremental implementation of Urban Agriculture technologies as the neighbourhood develops. Along with the Kampala Urban Agriculture Ordinances and Kyanja urban agriculture principles the beneficiaries should abide by the following;

1. Each beneficiary must practice at least two forms of agriculture for income security purposes and intercrop dependence.
2. Each beneficiary must practice agriculture year round.
3. All agricultural practices must be implemented ecologically and comply with the Urban Agriculture Ordinances.



4. Each beneficiary shall pay a permit and license fee in compliance to the Urban Agriculture Ordinance. Unless permitted by the Local Authority, two or more people may not share a permit or license. In the event of two or more people merging land together or a cooperative farming group is formed, a new cost for a permit and license may be appropriately determined by the Council Authorities.
5. Multi-purpose tree (esp. Fruit trees) that can generate an income must be planted along the roadsides or used for property boundaries.
6. Any beneficiary practicing livestock must;
  - i. Adhere to the recommended animal husbandry practices (esp. vaccinations)
  - ii. Provide adequate shelter for their animal and not allow their animal to graze or roam the neighbourhood
  - iii. Properly dispose of animal waste or animal by-product
7. All the beneficiaries must compost all food wastes and organic products for fertilizing purposes.

Source: Internal project document, The Edible Landscape Programme, McGill University and RUAF Foundation (2007)

Mozambique already created “green zones” for horticulture in Maputo and other major cities in the 1980s. Although Maputo has grown exponentially since then, most of its green zones remain intact, protected by the Maputo City Council. Examples of other cities that have zoned large areas of land for horticulture include Kigali, Rwanda that has reserved 15,000 ha for agriculture and wetlands considering that market gardens create green belts that protect fragile areas, contain urban sprawl and build resilience to climate change. Inspiration could also be taken from a new law in Brazzaville, Congo that safeguards peri-urban horticulture, while the city of Ndola, in Zambia, recognizes crop and livestock production as legitimate land uses in its strategic plan. Antananarivo’s (Madagascar) master plan protects lower-lying flood zones as production (rice and vegetable growing) areas, while Bobo Dioulasso protect intra-urban greenways for agroforestry production to reduce climate change impacts and support community food growing. Cape Town, South Africa, has denominated specific horticulture areas in its land use plans (although these areas are very much contested and threatened by (social) housing development. In Mali, the government has reserved 100 ha of land 20 km southwest of the capital, Bamako, for market gardens, while in the Democratic Republic of Congo 5000 small-scale market gardeners are farming on 1000 ha in Kinshasa and 100 ha in Lubumbashi. Near Algiers, Algeria, an important centre of irrigated fruit production, has inventoried prime farming land and set procedures to prevent its being taken for housing (FAO, 2009, see also <http://www.ruaf.org/projects/cities-farming-future-programme-cff> and <http://www.ruaf.org/projects/integrating-urban-agriculture-and-forestry-climate-change-adaptation-and-mitigation>).

As illustrated by these examples, inclusion of urban and peri-urban agriculture in city land use and zoning planning schemes should go hand in hand with revision of the Town Planning Ordinance. For this purpose, the Windhoek Town Planning Scheme and Walvis Bay zoning plan are reviewed below as to assess the potential for inclusion of urban and peri-urban agriculture in an actual town plan. Specific proposals for amendment of the Town Planning Ordinance and the Windhoek Town Planning Scheme are outlined in Annex 2 and 3.

## 2.3 Townships and Division of Land Ordinance, 1963 (Ordinance 11 of 1963)

The Townships and Division of Land Ordinance 1963 (Ordinance 11 of 1963), amended by Act 28 of 1992 and Act 21 of 1998, aims to “consolidate and amend the laws relating to the establishment of townships and to provide for the regulation and control of the development and subdivision of land and for matters incidental thereto”.

**Policy gaps/constraints:** The Ordinance outlines criteria for permission or refusal (by the Township Board and Minister of Local Government and Housing) to establish a township. No provision is currently made for refusing a township application on the basis of the protection and preservation of (urban and peri-urban) agricultural land.

### **Policy opportunities:**

1. A new clause can be added that defines that: **“Townships are not to be established on high quality agricultural land which is considered important to guarantee local food production”. The Minister shall not grant an application for permission to establish a township on high quality agricultural land, save in specific circumstances. If permission is granted the Applicant should compensate the loss of agricultural land by means of the protection and development of equal areas of agricultural land elsewhere in or around the same local government areas”.**
2. When referring to Subdivision of erven (clause 19) a new clause could be added calling for a minimum area of the new township not to be subdivided and built upon and safeguarded for urban agriculture production.: **“The Minister shall, if it grants its permission, have the right to impose conditions regarding the subdivision of land and preservation/establishment of a minimum area of land that cannot be built upon and shall be put to urban agricultural use”.**
3. Such zoning of agricultural land within a township could also be ensured in the clause referring to Cancellation or amendment of general plan of township (clause 26): **“Notwithstanding anything contained in any other law, where an agricultural area is shown on a general plan of an approved township, such agricultural area shall not in any way be altered in its character as an agricultural area, unless the Minister shall have approved such alteration”.**

## 2.4 Promulgation of the Environmental Management Act of 2007, Act No 7 of 2007/Regulations for Strategic Environmental Assessment and Environmental Impact Assessment, 2008

The promulgation of the Environmental Management Act, No 7 of 2007 seeks to promote the sustainable management of the environment and the use of natural resources. It sets principles for environmental management and calls for implementing environmental assessment and plans. Among its strategies that are relevant for urban and peri-urban agriculture, the Act specifically promotes the reduction, re-use and recycling of waste and the protection of biodiversity. The Act however fails to provide operational proposals and strategies on how this is to be done, as it further focuses on describing functions and duties of different commissioners and bodies involved, as well as on describing environmental assessment and planning procedures (which are further outlined in the Regulations of Environment Assessment document).

The question can be raised to what extent development of urban and peri-urban agriculture projects should be subject to environmental impact assessment. Recycling and productive use of wastes and wastewater; choice of production technologies (especially with regards to water and pesticide/fertiliser use) and soil management should be dealt with in any urban and peri-urban agriculture project design to ensure environmental sustainability and sustainable use of natural resources (see also further below).

## 2.5 Public and Environmental Health Act, No1 of 2015

The Public and Environmental Health Act, No 1 of 2015 sets the policy framework to promote public health and wellbeing, prevent injuries, diseases and disabilities, protect individuals and communities from public health risks, create and healthy environment and provide for early detection of public health and environmental risks. The Act has bearing on urban and peri-urban agriculture where it refers to prevention of water pollution for human consumption, transfer of zoonotic diseases (such as Avian Flu, SARS, Swine Flu) and use of agrochemicals that may be jeopardous to human and environmental health; food safety and hygiene requirement during storage, packaging, processing and marketing of locally produced food and (organic) waste disposal and management.

### **Policy gaps/constraints:**

1. The Act does not provide specific food safety and hygiene regulations for (local) food storage, packaging, processing and marketing, although Food and Food Articles are subject to inspection and although the Minister has the power to *“provide sewerage, water, washing, sanitary facilities, illumination and ventilation at such premises (connected with the handling, processing, manufacturing or packaging of food)”*. Further specific guidelines could be drawn up, with regards to clothing, availability of clean water, sanitation, cold storage, food handling and disposal etcetera.
2. The Act stipulates disposal of food not fit for human consumption, but does not discuss (nor prioritises) re-use of food waste suitable for human consumption (although it provides the Minister the right to intervene in these areas), nor does it provide clear and differential standards for food labelling that clearly indicate and differentiate between *Use by, Best before, Sell by* dates on food products.
3. With regards to nuisances prohibited (clause 59), specific mention is made of ash pits, manure heaps and polluted water streams Also premises not free from offensive smells arising from drains or closet are included. This may hamper future and increased household and public waste and water management systems (compost production and use and wastewater treatment and irrigation), in so far these are not well designed, managed and regulated. Specific guidelines and training on their use will need to be developed and ensured.
4. Mention is also made of stables, kraals, cowsheds or other animal housing units constructed, situated, used or kept as to be offensive or injurious or dangerous to health. Such agriculture production practices may need to be zoned in specific areas or at outskirts of local authority areas (see also Town Planning Regulations and Schemes). Crop cultivation is not specifically mentioned, although such production should also be regulated, especially with regards to use of agro-chemicals in production.

### **Policy opportunities:**

1. Part 7 Water and Food Safety, obliges local authorities to inspect water quality for irrigation purposes. This is important when further promoting use of treated wastewater for urban and peri-urban agriculture.
2. Urban and peri-urban horticulture is not considered a nuisance under this Act. It is recommended however to regulate (or prohibit) use of agro-chemicals in urban and peri-urban

agriculture production and promulgate the adoption of agro-ecological production practices. This would be in line with Ministerial power's to prevent water pollution and ensure environmental and human health.

3. The Act could further stress also the positive health impacts of urban and peri-urban agriculture, including its potential contribution on nutrition and the production of medicinal plants.

## 2.6 Water Resource Management Act No 11 of 2013

The Water Resource Management Act stipulates laws regarding the management, protection, use and conservation of water resources (for domestic, agricultural, urban and industrial purposes) and for the regulation and monitoring of water services.

**Policy gaps/constraints:** Management of Urban Water Supply is not directly addressed in the Act, although clause 69 refers to the responsibility of local authorities to manage wastewater. The role of Local Authority Councils is however crucial in all aspects of water resource management, especially given the high demand on and competition for water sources in urban areas.

### **Policy opportunities:**

1. "Domestic use" of water, includes watering a household garden and watering of animals as per the preliminary provisions and definitions is regulated. In principle this also applies to urban and peri-urban households.
2. Wastewater use and quality and rainwater harvesting is regulated under this Act and integrated water resource management is promoted. Standards for wastewater treatment and effluent discharge are to be established by the Minister. Use of treated wastewater and harvested rainwater should be prioritised for use in urban and peri-urban agriculture, over the use of surface, ground or potable drinking water. These strategies would be consistent with the National Water White Paper (2000) that encourages the reuse of suitably treated effluent. Such strategies could also be promoted as part of Namibia Drought Relief Response Plans, and – at household level – as part of City Development and Upgrading Strategies (see discussion for Windhoek below).
3. Separation of household from industrial wastewater sources is needed to help reduce potential crop contamination from irrigation with treated wastewater, especially with regards to heavy metals and hospital contaminants.
4. Commercial farmers or market gardeners should pay for the use of treated water, requiring special waste-water tariffs. Such costs could be borne by the local authority council to exempt specific vulnerable and poor groups of farmers.
5. Small-scale and on-site grey water treatment systems at household or neighbourhood level could be promoted next to industrial wastewater treatment. Experiences from other countries indicate that costs of such systems are relatively low (200 USD).
6. Prevention of pollution of water should specifically mention the regulation, control or prohibited use of agrochemicals in urban and peri-urban agriculture to avoid contamination of surface and ground water. Awareness, training and extension in application of agro-ecological production methods are required.

## 2.7 Model Sewerage and Drainage Regulations, 1996

In 1996 the Model Sewerage and Drainage Regulations were published in the Government Gazette by the then Ministry of Regional and Local Government and Housing to guide local authorities, especially newly to be established ones, in sewerage and drainage management and regulation.

**Policy gaps/constraints:** Regulation 51 sets out conditions under which domestic waste water could be used for the irrigation of gardens. Although not spelt out specifically, it must be assumed that such gardens excluded food gardens and referred to ornamental gardens (lawns, flowers etc.). The use of waste water for the irrigation of gardens was subject to permission being granted by a local council and only such water as emanated from showers, baths and the rinsing of laundry was allowed to be diverted for such purpose. These Model Regulations only applied in the event that local councils explicitly adopted these (CuveWaters, 2011).

**Policy opportunities:** Local authorities are entitled by law to regulate matters relating to the use of waste and purified water through specific municipal bye-laws. Local authorities thus can promote and regulate use of treated wastewater for agricultural purposes (see discussions on the other Acts above for further references to use of alternative water sources in urban and peri-urban agriculture).

### 3. Local authority council regulations, structure and zoning plans and strategies bearing on urban and peri-urban agriculture

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#### 3.1 No 16-2011 Waste management regulations: Local authorities Act 1992

The Municipality of Windhoek has, in accordance with the Local Government Act 1992 and with the approval of the Minister of Local and Regional Government, Housing and Rural Development, made specific waste management regulations. These regulations specify Powers and responsibilities, Waste management and information systems; Provision related to storage, collection, treatment and disposal of waste, to council sites and waste disposal sites; Littering and dumping; Licensing provisions and Enforcement.

##### **Policy gaps/constraints:**

1. Food waste is not identified yet as a specific category of waste (although mentioned elsewhere in the document). With increasing amounts of food being wasted, food loss and waste reduction and re-use deserves specific attention.
2. Households are not specifically targeted for recycling of organic garden and kitchen waste, although *“Despite sub regulations 22 (7), (8) and (9) the owner or occupier of premises on which garden waste is generated, may compost such garden waste on the premises provided such composting does not create a nuisance, public health or environmental damage”*. Note that this clause does not include mention of kitchen and food waste that elsewhere are subject to the following clause 15 (5) *“Kitchen and food waste and any other similar waste likely to decompose and cause a nuisance or unhygienic condition must be sealed in a lock proof container or bag before being deposited in such refuse container or bag”*. Nonetheless specific (garden and food waste) composting bins could be made available for proper composting of organic garden and kitchen waste and simple training provided on their proper use.
3. Household or municipal recycling of organic (garden and food) waste in urban and peri-urban agriculture is not mentioned.

##### **Policy opportunities:**

1. Composting of garden and other organic waste is specifically mentioned, as is the promotion of integrated waste management” looking at the recovering, recycling and re-use of waste. This allows for directly linking such provisions and strategies to the further development of urban and peri-urban agriculture. This could be promoted at the level of households, offices and food stores/markets, townships or the local authority area. Community composting for use in community gardens is common in many cities. Compost (and biogas) production is likewise promoted at municipal waste disposal or landfill sites in various cities around the world. Specific youth or urban farmer groups may be licenced to collect and recycle garden, organic and food waste for urban agriculture production (crop and livestock) as is done in Nairobi, Kenya for example.
2. The waste management hierarchy allows for introducing a specific waste management hierarchy for garden and organic waste as well as food waste. The first action would be to reduce food waste and then to optimise the recycling of city food and organic wastes in the following order of priority: **(1) (Re)Use for human food (fresh or processed); (2) (Re)Use as animal feed; (3) Recycle as raw materials for industry, (4) Recovering resources through transforming into**

**fertiliser (compositing) and (5) Provision of energy.** Food stores, supermarkets and restaurants may specifically be targeted and obliged to donate left over food suitable for human consumption to social and charity organisations.

3. The integrated waste management plan may specifically address household users/waste generators to **“Recycle garden and organic (kitchen and food waste) in household/office composting units, complying with environmental and public health regulations”**. To this purpose, the Council may **provide specific organic waste containers and/or composting bins**. The latter is compatible with regulations on storage, collection, treatment and disposal of garden (bulky and hazardous) waste, where clause 22 (5) allows the *“Council to, at its own initiative or at the request from any person, provide a refuse container to any premises for the purposes and collection of garden waste”*.

## 3.2 Windhoek Town Planning Scheme/Clauses and Tables (current; no date)

The Windhoek Town Planning scheme describes land use reservations and zones, special land uses, coverage and development areas amongst others.

**Policy gaps/constraints:** In the Windhoek Town Planning Scheme no reservation is made for urban and peri-urban agricultural land use, neither is agricultural land use considered as a land use zone. This notwithstanding that agricultural land is defined in the Town Planning Scheme clauses as *“arable, meadow or pasture land, market gardens, poultry farms, pig farms, land used for beekeeping, nursery gardens, plantations and orchards, or similar uses”*. Inclusion of (urban and peri-urban) agricultural land use is paramount to protection, preservation, promotion and regulation of urban and peri-urban agriculture land use.

### **Policy opportunities:**

1. Include agriculture land use as a legitimate and recognised land use and zone. As agricultural land is already defined in the Town Planning Scheme clauses (see also above), such inclusion seems very feasible.
2. Promote multifunctional and productive use of a variety of land use zones. This could include specifically the promotion of rooftop gardening and agricultural use of residential, business, garage, industrial, municipal and office areas; the multifunctional and productive use of streets and open public spaces and the integration of conservation and agro-ecological agriculture (market gardening next to the already mentioned pasture lands) in specific conservation zones. Such multifunctional and productive use of open spaces is promoted for example by the cities of Bobo Dioulasso in Burkina Faso and Rosario, Argentina (denominated “greenways: in the first and “garden parks” in the latter city). In both cities, temporary and flexible lease systems have been developed (see <http://www.ruaf.org/projects/integrating-urban-agriculture-and-forestry-climate-change-adaptation-and-mitigation> and <http://www.ruaf.org/projects/monitoring-impacts-urban-agriculture-climate-change-adaptation-and-mitigation-cities>).

Town planners could specifically look to create space for urban and peri-urban agriculture on:

- Current institutional or local authority properties and lots of lands, e.g. pieces of land belonging to churches, schools, (public) offices or prisons. This would also correspond to the letter send on 01 June 2015 by the Namibian Ministry of Education, Arts and Culture, directing all schools, primary and secondary and hostels, to create and maintain school and vegetable gardens and support the National School Feeding programme.
- Possibilities for promoting low space agriculture urban and peri-urban agriculture by the use of sacs, old tires, rooftop gardening etc. when the safety of the construction allows for it.



- Open spaces unfit for new construction can be re-purposed to urban and peri-urban agriculture, e.g. so-called infiltration areas (meaning the area lying within a 1 in 50 year flood area or within a strip of land measured 5 metres outwards on both sides from the outer edges of the seasonally active bed (gravel bed) or the visually identifiable banks of a watercourse which is further than 500 metre from its bounding watershed)
- Privately owned land through tax arrangements with land owners: e.g. tax reductions when their land is made temporarily accessible to low income households and community groups for urban and peri-urban agriculture (RUAF Foundation, 2015; World Future Council, 2014; see also: <http://www.ruaf.org/sites/default/files/Guideline%203%20Urban%20agriculture%20-%20Land%20Management%20and%20Physical%20Planning.pdf>).

### 3.3 Windhoek Structure Plan (1996)

The Windhoek Structure Plan, 1996, aims at “*promoting the continued co-ordinated and harmonious development of Windhoek in such a way as will most effectively tend to promote health, safety, order, amenity, convenience and general welfare, as well as efficiency and cost effectiveness in the process of development, the attraction of new investment and the improvement of communications*”. It establishes principle guidelines for urban development.

**Policy gaps/constraints:** Urban food and nutrition security, as well as urban and peri-urban agriculture are not mentioned in the 1996 Structure Plan. The section on Housing (clause 20) even envisions reduction of garden space as: “*With its limited water resources and limited flat land, smaller gardens and more built-up areas are the more practical and sustainable housing options for Windhoek*”. It also states that “*An early indication of density change will be the decline in garden space as it becomes used for new dwellings. A benefit will be the reduction in water usage for gardens*”. However by promoting agricultural use of housing plots (minimum plot size) as well as greening/agricultural use of housing units/blocks (see also observations made under the Town Planning Ordinance), alternative options for sustainable housing can be sought after. These should specifically include promotion of specific low-space, no-space production technologies that optimally use rooftop, wall and vertical space; as well as the promotion of household rainwater harvesting and waste(water) treatment<sup>2</sup>. Inspiration can be found from project implemented in Kibera, Nairobi, as well as several projects in Asia, Latin America and Europe.

#### **Policy opportunities:**

1. With the new understanding that urban food security is central to promoting health and general welfare (quality of life) and that protection and promotion of urban and peri-urban agriculture land is crucial to local food production, offers new employment opportunities and helps building a more resilient and liveable city, the Structure Plan does offer the basis for inclusion of these themes in future amendments of the plan, specifically its vision, objectives and strategies. Specific suggestions are made in Annex 3.
2. Current sections on “water supply/drainage, common trends, linear development model, the choice” allow for inclusion of urban and peri-urban agriculture by calling respectively for (i) the promotion of alternative sources of water (rainwater and treated wastewater in green and agriculture areas); (ii) increasing the liveability of commercial areas by promoting mixed commercial/residential and agricultural use of such areas; (iii) by promoting (linear) multifunctional green corridors that combine urban and peri-urban agriculture land use with

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<sup>2</sup> The Dept. of Water of Windhoek Municipality confirms that rainwater harvesting and grey water re-use is allowed, but citizens indicate that policies are not always clear and that there are various regulations. For example the need to get a permit for such infrastructure is seen as restrictive or at least proposed to be made more flexible. This will require involvement of the Ministry of Works.



recreation, education, organic waste treatment and other social services (sports and meeting areas). The creation of such green corridors/mosaics is promoted by UN Habitat (in its strategy “Working with Nature” as well as in the new Habitat III agenda on promoting urban-rural linkages) and by landscape architects also denominated as “Continuous Productive Urban Landscapes-CPULS, see: <http://arts.brighton.ac.uk/research/sustainability-network/cpul>). The Municipality of Bobo Dioulasso (Burkina Faso) has effectively identified such urban green ways in its Structure Plan and promotes multifunctional agroforestry and urban horticulture use of such areas. The City of Copenhagen (Denmark) promotes an urban growth model, whereby “fingers of urban areas/corridors” leave space for agriculture/green areas that can be accessed by the largest number of citizens (see images below).

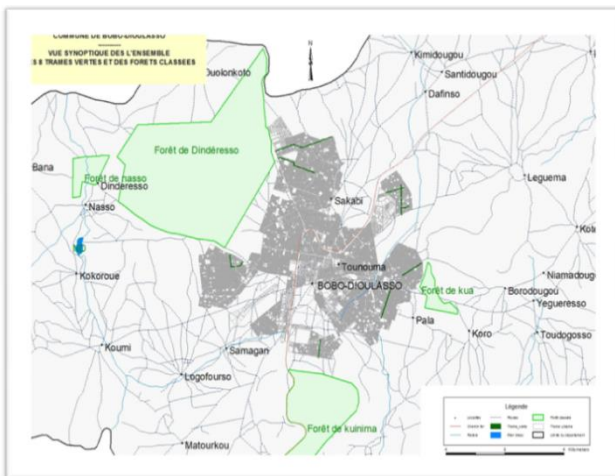


Image left: The green lines/corridors indicate the location of (protected) urban greenways in the city of Bobo Dioulasso (Burkina Faso). Image right: Multi-functional design of urban greenways in Bobo Dioulasso (Source: RUAF Foundation, 2014 and 2015).



Promoting urban development according to a “finger model” in the City of Copenhagen (Denmark) to preserve agricultural areas and increase access of all citizens to open, green and agricultural spaces. Source: RUAF

3. Business development could promote specific locations and opportunities for local food storage, packaging, processing, retail and (farmer) markets, in order to enhance market-oriented urban and peri-urban agriculture production and create new job opportunities in this sector. Following the example of Belo Horizonte, Brazil, but also of Paris in France, local food shops and markets could be specifically promoted close to major transport hubs, to enhance access of (poorer) workers to fresh and nutritious agriculture (horticulture) produce.
4. The section on Drainage works (clause 19) already mentions waste water treatment facilities. The location of such facilities close to agricultural production sites should be considered to allow for safe wastewater use in irrigation. The City of Bulawayo, Zimbabwe, for example already provides treated wastewater to peri-urban vegetable growers.
5. The section on sustainable development (clause 21) offers specific opportunities for the inclusion of urban and peri-urban agriculture as a strategy for building more resilient cities (*landscaping and beautification of construction projects* is already mentioned as a possible strategy), while the promotion of multifunctional productive streets and public spaces offer opportunities for combining recreation and environmental management (clause 22) with food production (and education). (Agro-ecological forms of) urban and peri-urban agriculture could further be considered a suitable land use for sensitive environments such as narrow valleys and other open spaces. Such land use could be further mentioned when stating that *“Open spaces, urban and peri-urban agriculture areas, water courses and mountains provide a natural structure that helps integrate the urban area which can add significantly to the quality of life”*.
6. The Plan already identifies urban growth into peri-urban areas as one of the issues that need to be addressed. The proposal for regional extension along the *Windhoek-Okahandja Urban Corridor* as well as the *Development Potential of the Northern Peri-urban Areas of Windhoek (Brakwater)* offers opportunity for protection and preservation of peri-urban agriculture land areas (see further Zoning and land uses in Windhoek peri-urban areas below).
7. Finally, the given sustainability criteria in the Plan allow for easy inclusion of urban and peri-urban agriculture.

### 3.4 Info 27-Zoning and land uses in Windhoek peri-urban areas (1995 amended 2005)

The northern peri-urban farm area of Windhoek was included in 1996 in the Windhoek Town Planning Scheme. The peri-urban policy plan aims to assist the City of Windhoek in applying zoning and land use regulations, including maximum residential densities.

**Policy gaps/constraints:** The area was classified as “residential”, although *“all subdivisions of 5 hectares or larger may be used for agricultural purposes and agricultural buildings may be erected”*. No specific peri-urban agriculture (protection) zone has been established.

**Policy opportunities:**

1. Amendments to the current zoning plan for this peri-urban area or for future inclusion and zoning of new peri-urban areas within the Town Planning Scheme allow the City to declare such areas as *“Agricultural”* or allow for specific uses compatible with agricultural land use and sorting and packaging of agricultural produce. Agricultural land use could be allowed on smaller areas than the current established 5 hectares to promote small-scale individual and community agricultural land use (with minimum land areas to be defined for subsistence and market gardening). Such (re)zoning has to be coordinated with the Minister of Regional and Local Government and Housing and the Namibia Planning Advisory Board.

2. Areas affected by 1-50 years flood are already protected from building. Agricultural land use complying with flood and Public health risk (by regulating agro-ecological production methods) reduction strategies could be specifically promoted in the land areas (like river beds and river bordering areas) (see also examples from other cities in RUAF Foundation, 2015).

### 3.5 Walvis Bay Zoning Plan

**Policy gaps/constraints:** As for the Windhoek Town Planning Scheme Land Use Reservations, the Walvis Bay zoning plan does not include (urban and peri-urban) agricultural land as a land use category in its zoning plan and legend. Inclusion of such new land use category is paramount to protection, preservation, promotion and regulation of urban and peri-urban agriculture land use.

**Policy opportunities:** Inclusion of agriculture land use as a legitimate and recognised land use and zone in an amended zoning plan.

### 3.6 The City of Windhoek Local Economic Development Strategy, 2010-2015

The City of Windhoek Local Economic Development Strategy, 2010-2015, aims to guide local economic development in the City, in alignment with the Namibia Vision 2030. It identifies manufacturing, wholesale and retail trade, real estate and business services, the government sector and tourism as the key sectors contributing to Windhoek's economy. The manufacturing sector is concentrated in the food and beverage, furniture and metal product industry. The 2010-2015 strategy aims to contribute to further economic growth, creation of employment opportunities, reduction of poverty and promotion of economic empowerment.

**Policy gaps/constraints:** Urban and peri-urban agriculture and related local food storage, packaging, processing and marketing are not identified as an economic sector of potential importance. This notwithstanding the fact that according to various studies (FAO, 2009; RUAF Foundation, 2011 and 2015) market gardeners in cities like Brazzaville (Congo), Dakar (Senegal) and Nairobi (Kenya) can earn up to 5 times the national per capita income; while income from gardeners in Maputo equals 4 times the national poverty line. Additional jobs are created in production (hiring of labourers), input supply, processing and marketing. A 2015 RUAF practitioner brief highlights the important roles that Small and Medium Enterprises (SMEs) can play in urban food and nutrition security by exploring business opportunities in short food supply chains, multifunctional land use and agriculture and resource recycling in urban and peri-urban areas. Development of various types of commercial to social enterprises offers new opportunities for job and revenue creation for different actors in the food chain (RUAF Foundation, 2015). To stimulate such local economic development sector, urban and peri-urban farmers and others actors in the local food chain require public policy support in getting access to: land and water, credit, higher-yielding crop varieties, farm inputs, agricultural and business extension and training, food and storage processing infrastructure and markets. This is in line with the outlined roles of the City of Windhoek in stimulating SME development, including: (i) creating an enabling environment; (ii) providing land and infrastructure; (iii) facilitating access to finance and markets, (iv) building local capacity and (v) providing information and incubator support.

**Policy opportunities:**

1. As the current local economic development strategy runs till 2015, elaboration of a new 5-year strategy will allow for inclusion of new economic development sectors, including urban and peri-urban agriculture and local food chain development.
2. SME development and assisting entrepreneurial start-ups is identified as one of the strategies for local economic development in the current plan. Again, SME development in urban and peri-urban agriculture production, storage, packaging, processing and marketing could be included as part of this strategy. Analysis from other cities show that promoting a wide diversity of SMEs (varying from social enterprises, family business, cooperatives to other companies) allows for scale effect to take place at the level of the entire city. The creation of an SME-network can be considered whereby “waste products” from one industry are used by another industry (such as for example the growing of Oyster mushrooms on coffee remains; and the subsequent use of the coffee/mushroom remains as animal fodder or for growing earthworms and as compost). Experience from other cities also highlight potential strategies for financing market-oriented urban and peri-urban agriculture and local food chain development, varying from credit, municipal guarantee funds to participatory budgeting and local procurement. Jointly with all relevant key players, one or more related projects could be included in the new City of Windhoek Local Economic Development Strategy 2016-2020, also taking into account lessons learned from implementation of the current strategy. The development of local food hubs, processing industry and (farmers) markets could be subject to one of these projects and be inspired by similar projects developed by the RUAF Foundation in its From Seed to Table programme (see: <http://www.ruaf.org/projects/seed-table-programme-fstt>). The number of new urban and peri-urban agriculture and local food related SMEs created, number of jobs created and income generated could be relevant indicators to be included.

### 3.7 The City of Windhoek Development and Upgrading Strategy, 1999

The City of Windhoek Development and Upgrading Strategy aims to manage urban and population growth, while providing basic services and maintaining infrastructure. It specifically targets ultra-low and low income populations and townships.

**Policy gaps/constraints:** The opportunities for integrating urban agriculture with sanitation development and upgrading of low income areas is currently not explored.

**Policy opportunities:**

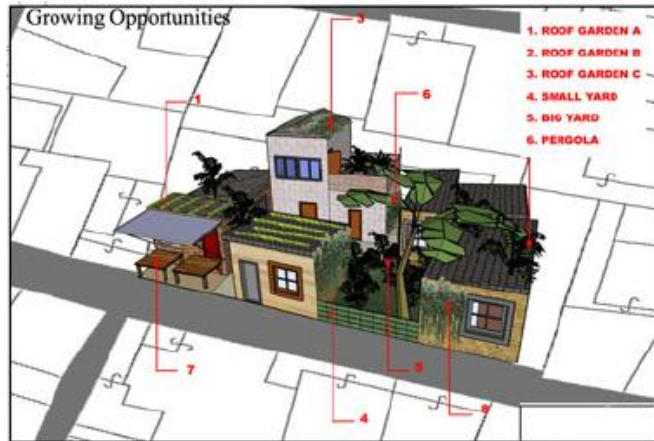
1. The strategy foresees in installing dry sanitation and on- (and off) site sanitation systems that could be instrumental in enhancing localised wastewater and organic waste treatment and facilitating its re-use in urban agriculture. Similar experiences in Kampala (Uganda) and Nairobi (Kenya) could serve as reference.
2. The recommended in-situ upgrading could also allow for including urban agriculture in upgrading programmes, as has been done earlier in Kampala, Colombo (Sri Lanka) and Rosario (Argentina) with the promotion of “productive streets and plazas”, rehabilitation of derelict infrastructure and community participation in re-design of public spaces (see images below). This could be linked to complementary initiatives like the promotion of WASH in Schools supported by the Namibian Society for Family Health that could introduce a productive re use component as done in many other schools in the world (and in this way also link to the Namibian School Feeding programme).



3. Community participation in such upgrading schemes can be facilitated by applying participatory design principles. The greening and growing of the environment also addresses direct interest such as food production and improved living environment and may specifically address women and (unemployed) youth.



Left: Integrating green and edible trees and shrubs in lane upgrading in a slum settlement in Sri Lanka. Right: Rehabilitation of derelict infrastructure for small food packaging and processing (land area required of only 37m<sup>2</sup>, following all food hygiene related standards). Source: RUAF



Promoting optimum use of space for growing on individual "erven". Source: RUAF



Left: Promoting urban gardening – next to other multiple functions – on built-up spaces such as urban parks. Right: Involving the community in redesign of public spaces. Source: RUAF

## 4. National policies, programmes and plans bearing on urban and peri-urban agriculture

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At national level a comprehensive framework (including national and regional food and nutrition policies and action plans) to address (rural) food security and nutrition exists. The Ministry of Agriculture, Water and Forestry, together with the Namibian Agronomic Board, actively promotes local food production, which seeks to minimise the country's dependence on food imports by encouraging local food production, through the National Horticulture Initiative and the Horticulture Infrastructure Development and the draft revised National Agricultural policy (2015). Urban and peri-urban agriculture and food production and urban (household) food security is however only addressed to a limited extent, although in 2001 a specific Urban and peri-urban horticulture Initiative was launched by the Ministry.

A review of specific national policies and programmes bearing on urban and peri-urban agriculture is made below. This review builds on earlier analysis done in the CuveWaters report published in 2011.

### 4.1 National food and nutrition policy, 1995/National Strategic Plan for Nutrition, 2010/National and Regional Food Security and Nutrition Action Plans 2006-2015

In 1995, the Namibian Government formulated a national food and nutrition policy. To achieve its aims, farmers were encouraged to produce more food and agricultural crops, and local food markets were to be developed to ensure a stable supply of food at reasonable prices. The Government, in partnership with NGOs and private sector institutions, identified (farm) household production/consumption and local marketing as two key strategies to achieve their aims. Access to productive resources, knowledge, appropriate services (including safe water, credit and market infrastructures), nutrition research and planning were identified as key strategies.

In a later stage, 2006-2015 National and Regional Food Security and Nutrition Action Plans were developed and addressed specific actions with regards to food systems, health, human resources development, institutional issues and frameworks, production and technology.

In 2010, a National Strategic Plan for Nutrition was launched. In addition there are a variety of nutrition sensitive policies and strategies including: Infant and young Child Feeding; Micronutrient Deficiency Control; Acute Malnutrition Management; Nutrition Management for people living with HIV/AIDS and Non communicable diet related diseases. In 2011, Namibia joined the Scaling Up Nutrition Initiative. It also established the Namibian Alliance for Improved Nutrition (NAFIN), a multi-sector, multi-stakeholder platform convened under the Office of the Prime Minister. It includes 10 ministries, development partners, civil society organisations, the private sector and academia.

**Policy gaps/constraints:** Urban food security and nutrition are not specifically mentioned nor dealt with in the Food and Nutrition Policy, Strategic and Action Plans, nor is urban and peri-urban agriculture considered as one of the possible strategies to achieve this. Statistics for (mal)nutrition are not differentiated for urban and rural areas (or for specific groups within urban areas) and monitoring sites exclude urban areas like Windhoek. Neither are food and nutrition security

responsibilities and functions delegated to local authority councils (see also Local Government Act; nor are local authorities included in the list of Food and Nutrition Monitoring System partners). Also recommended strategies to achieve an improvement in household food security are based solely on productivity increases in existing – rural – agricultural practices. New or alternative ways to produce food, for example by encouraging small home (backyard or rooftop), community or market gardens in urban and peri-urban areas are not (yet) considered, nor is the promotion of urban food storage/processing and (farmers) markets dealt with as a strategy to enhance the access of the urban population to fresh and nutritious food.

**Policy opportunities:**

1. The Malnutrition Taskforce is already tackling the review of the 1995 Food and Nutrition Policy. This offers opportunities for better inclusion of urban food security and nutrition strategies, targets and indicators.
2. Urban agriculture in form of school gardens is already mentioned as one of the actions of the Namibian School Feeding programme and is receiving specific attention from the Ministry of Education (letter dated 01 June 2015). This programme should develop a specific strategy to target urban schools and learn from similar initiatives in Antananarivo (Madagascar) for example.
3. The Scaling Up Nutrition strategy for Namibia is already recommended to extend for 5 more years (2016-2020), again offering opportunities for inclusion of urban food security and nutrition and related strategies such as development of urban and peri-urban agriculture.
4. Urban food security/nutrition, urban and peri-urban agriculture production, processing and marketing can be included in future Regional Food Security and Nutrition Action Plans, assuming such plans will be amended for the period 2016 and beyond. As Regional councils are to be responsible for implementation of their action plans, this will imply the need for close collaboration between Local Authority Councils and Regional Councils in further promotion and development of peri-urban agriculture.

## 4.2 National Agricultural Policy, 1995; 2015 draft revised National Agricultural Policy

The 2015 draft revised National Agricultural Policy (Ministry of Agriculture, Water and Forestry) seeks to promote projects and programmes aimed at expanding land under irrigation; improving rain fed crop production and productivity; improving livestock productivity; developing potential for agro-processing and value addition and strengthen extension services and drought mitigation measures. The revised policy is in line with the 5-year Sectoral Execution Plans, Namibia's Vision 2030 (see 4.9) and the fourth National Development Plan that identified agriculture as one of the priority development sectors for the country, within the overall goal of achieving higher levels of food security at household and national levels. It also takes into account policy developments in the South African region.

Further development of the agriculture sector should aim to contribute to Namibia's self-reliance in terms of production, processing and marketing of fruits and vegetables, next to becoming internationally more competitive. It also should aim at developing a domestic market for local produce by promoting a certain share (39%) of local product sourcing before imports are allowed.

As part of its strategies, the policy addresses crop and livestock production, processing and marketing, strengthening agricultural research, training and extension, information systems and financing. The document outlines the role of different stakeholders and describes resource mobilisation, implementation and evaluation.

**Policy gaps/constraints:** As for the food and nutrition policies and action plans, the original and the draft revised National Agriculture Policy do not make mention of Urban and peri-urban agriculture (although the Ministry does have an Urban Horticulture Initiative – see 4.5 below), nor is it clear if urban and peri urban producers are considered to benefit from training, assistance and other support schemes.

**Policy opportunities:** Urban and peri-urban agriculture could still be included in the revised National Agriculture Policy and specific development strategies can be proposed that are in line with the National Food and Nutrition Policy and the Poverty Reduction Strategy. Rainwater harvesting and the reuse of purified sewerage water for urban agriculture could be specifically promoted and encouraged, in addition to promoting drip irrigation, as these practices reduce demand on urban water supplies.

**Agricultural research, training and extension should be developed to respond to specific constraints and needs of urban and peri-urban farmers** including:

- Information and knowledge on low space/land intensive production techniques
- Promoting good and agro-ecological production practices (e.g. mulching, inter-cropping and appropriate crop rotations, use of new varieties, on-site treatment and safe re-use of wastewater).
- Improved processing and marketing capacity, especially for commercial peri-urban farmers including identification of and shifts towards more profitable production systems in response to market demand and/or adding value to primary produce, also the provision of entrepreneurial training to build reliable and sustainable markets to facilitate the sale of local products needs to be considered.
- Artificial insemination services, balanced feeding advice and guidelines and requirements for hygiene and safety for livestock farmers and improving production technologies (for example improved livestock management, animal breeds or the use of silage for animal feed).
- Quality control methods such as in feed formulation and integrated crop management practices to reduce or eliminate use of agrochemicals.
- Regular and effective inspection and control of the use of agrochemicals and veterinary drugs.
- Use of treated wastewater, together with information for producers and consumers on how to manage potential health risks related to use of untreated wastewater (e.g. adapting crop choice and/or irrigation practices; washing and cooking of produce before eating, etcetera).

Such training and extension is already promoted through the National Horticulture Initiative on Urban and Peri-urban Horticulture that promotes training of Agricultural Extension Technicians at Agricultural Development Centres. These (as well as new) technicians could be further trained in urban production techniques and urban producer training modalities. Several international organisations like FAO's Save and Grow Campaign and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) promote for example inexpensive low-pressure drip irrigation system that distribute water evenly over a 500 sq. m garden and produce high yield increases. A low-tech alternative is a traditional African system consisting of clay pots filled with water and buried neck-deep next to crops, consuming 10 times less water than normally delivered through watering cans. Options for safe re-use of wastewater include small stabilisation ponds, which use algae, bacteria and sunlight to eliminate pathogens while retaining nutrients. Another technology with huge potential is the use of bio-pesticides, which is generally less toxic and less likely to provoke pest resistance than synthetic products (FAO, 2009). The use of urban farmer field schools, where small groups of producers meet regularly with extensionists to analyse problems and test sustainable solutions, has been a good model for training of urban and peri-urban agriculture producers as demonstrated by FAO and RUAF's From Seed to Table Programme.



In addition, **financial investment support and access to credit by urban and peri-urban farmer(groups)** is needed for:

- urban wastewater treatment plants and re-use
- rainwater harvesting
- urban organic waste recycling facilities (composting)
- good quality seeds
- fencing to reduce theft
- production infrastructure (tunnels, storage)
- local processing and marketing (transport).

CuveWaters (2011) reference a study on a comprehensive analysis of the costs involved in establishing different rainwater harvesting technologies and different types of gardens. The study indicates that substantial amounts of money will be required by individual households to establish similar catchments. It must be assumed that many interested households will need credit to finance such developments, unless the local authority or the state provides subsidies.

Gender equity issues, including access of women and urban poor, who generally have no collateral, to such services should receive specific attention. Examples exist in other countries, like India, where after a review of a Provincial Agriculture Policy, urban and peri-urban producers are now recognised as farmers, equal to their rural counterparts, and have become eligible for Government Agriculture Support Schemes.

Of equal importance is the **strengthening of (peri-)urban producer organisations**, as a low degree of organisation hampers producers' efforts to obtain a stronger market position, undertake processing and engage in direct marketing and limits their capacity to represent the political interests of their groups. Formation of women and youth farmers groups may be given priority.

Finally **local food chain development and direct producer-consumer marketing could be promoted.**

Several supermarkets and hypermarkets in the cities of Accra, Ghana and Nairobi, Kenya have started to link up with urban vegetable producers to source supply for their customers. As this relationship expands, employment will be created and income levels of producers will rise. Other forms of direct producer-consumer relations can be established by introducing:

- Vegetable box schemes to schools, international organisations and offices, as is done for example in Cape Town, South Africa and Freetown, Sierra Leone
- Producer kiosks, fairs and markets as in Accra
- Sales to restaurants, traders and supermarkets, including use of marketing strategies that emphasise that the produce is local (or local varieties/breeds) and that make use of logos that stress product qualities, as in Bulawayo, Zimbabwe; Bobo Dioulasso, Burkina Faso and Beijing, China, Amman, Jordan and Sana'a, Yemen (an example is the "Responsible Production Protocol" used in Amman and Sana'a, which provides guarantees on production location, ecological quality and ethical production standards).

Inspiration can be found in the mentioned examples, but also in national ministries' policies for agricultural development, such as by the Democratic Republic of the Congo, Gabon and Mozambique, where urban market gardening has been officially encouraged for decades. An example of tailored policy and planning is the Ghana FASDEP II, which targets different categories of farmers according to their needs. Thus, risk-prone, largely subsistence farmers will be targeted with interventions to reduce their vulnerability and help them improve productivity (by enhancing their access to irrigation water and agricultural land; improve extension and training on good production practices and stimulate the formation of farmer groups). Smallholder commercial and semi-

commercial farmers also receive support to improve productivity, but also are helped to have better access to and become more competitive in different markets. Urban and peri-urban farmers are identified as specific target groups and urban agriculture extension capacity has been strengthened. Kenya's Ministry of Agriculture has drafted a policy for the full integration of crop production and livestock keeping in urban areas, while all urban counties are now required to offer urban agriculture extension services (FAO, 2009).

### 4.3 The Poverty Reduction Strategy, 1998/National Poverty Reduction Action Programme 2001-2005

The 1998 Poverty Reduction Strategy consists of an integrated strategy for poverty reduction. It focused on three areas that were considered essential to reduce poverty, including (i) the fostering of more equitable and efficient delivery of public services for poverty reduction countrywide; (ii) the acceleration of equitable agricultural expansion, including consideration of food security and other crop development options; and (iii) promoting options for non-agricultural economic empowerment, including an emphasis on the informal sector and self-employment options. The Poverty Reduction Strategy emphasised the need for public-private partnerships in developing income generation and safety net initiatives. In this context, it mentions the need to improve livelihoods in the agricultural sector, including development of the livestock sector, crop productivity (by combining low cost irrigation systems with high value crops) and improved agricultural research, extension and market linkages (with a specific focus on northern and north-eastern regions). The Strategy proposed to develop a peri-urban vegetable project on 30-50 hectares of land in the Oshakati/Ondangwa area.

After the Cabinet approved the Poverty Reduction Strategy in 1998, it gave instructions for a National Poverty Reduction Action Programme to be developed. The National Poverty Reduction Action programme 2001-2005, Action 22 stated that Ministry of Agriculture, Water and Forestry should initiate the development of peri-urban vegetable production, and once the feasibility of this approach was proven, roll out the initiative to other areas. This was presumably done under the 2001 Integrated Initiative on Urban and Peri-Urban Horticulture that will be discussed below. The Plan identified surface (stream) water as the main source of irrigation. Alternative sources of water (rainwater, treated wastewater) were not anticipated.

**Policy opportunities:** Further (urban and) peri-urban agriculture development fits within the National Poverty Reduction Strategy, although it could benefit from more explicit mentioning and support.

### 4.4 National Horticulture Initiative

In 2001, the then Ministry of Agriculture, Water and Rural Development formulated the National Horticulture Initiative with a view of enhancing the quality of horticulture produce to the consumer and simultaneously furthering employment creation, stimulating the economy and industrial development as well as addressing food security and self-sufficiency among national communities. One of the key constraints identified to further development of the horticulture sector was considered to be the lack of marketing infrastructure and possibilities, especially given the competition from large South African wholesalers.

In 2004 the Namibian Horticulture Market Share Promotion Scheme was introduced to encourage and facilitate improved market access of local horticultural producers. By means of an import control permit mechanism the Scheme forces local wholesalers of fruit and vegetables to procure a minimum percentage of produce locally before being issued with an import permit for horticultural food items. This percentage is increased gradually in accordance with Namibia's ability to produce more locally. This measure is aimed at promoting the local production of food and vegetables through import substitution.

**Policy gaps/constraints:** There is no official policy framework to guide urban horticulture generally and the below mentioned Urban and Peri-urban Horticulture Initiative in particular (see lack of mention of urban and peri-urban agriculture in the National Agriculture Policy). This may limit its up-scaling and access to further resources and staff.

**Policy opportunities:** Support to (urban and) peri-urban agriculture (horticulture) development fits within this strategy of promoting local production, although – again – it could benefit from more explicit mentioning and support. This underlines the need to also consider urban food storage, packaging, processing and marketing as discussed under the review of the National Agricultural Policy.

## 4.5 Integrated initiative in support of urban and peri-urban horticulture development

This initiative of the Ministry of Agriculture Water and Forestry (MAWF) is aimed at supporting individual households in their efforts to improve household food security. At the same time it is potentially preparing people for participation in the Green Scheme (see further below) by introducing them to irrigated horticultural production. The project mission is stated as

- (i) contributing to food security by improving access to high quality fresh horticulture produce at household level all year round; and
- (ii) promoting employment and income for the less endowed population in the urban and peri-urban environment.

The project targets 'urban slum dwellers', landless, marginal farmers and disadvantaged groups (including soup kitchens, orphans and HIV/AIDS patients), resource poor families and unemployed and underemployed people and provides training and starter kits to groups of interested people. Participation in the programme prioritised private land owners (backyard gardens) to reduce land and harvest conflicts.

The programme was piloted in two cities (Windhoek and Rundu) and received increasing new requests for support, but was not followed up and replicated.

### **Policy gaps/constraints:**

1. The Ministry of Agriculture, Water and Forestry is constrained in its financing and lack of (qualified) horticulture staff to up-scale the Initiative to a larger scale.
2. The focus on backyard gardening and household food security, coupled to a subsidy support scheme, may contribute to high participant drop-out rates. A focus on market-gardening and more entrepreneurial forms of urban and peri-urban agriculture might (partially) respond to this constraint.
3. The lack of clear promotion of use alternative water sources and more integrated water management for irrigation will put more pressure on potable drinking water use if urban and peri-urban agriculture is to be further up-scaled.

**Policy opportunities:**

1. Introduce in the Initiative a stronger focus on market oriented urban and peri-urban horticulture; as well as on use of alternative water sources. Experiences from other cities show potential for keeping cost reasonable and exploring new forms of financing.

## 4.6 Green Scheme Policy of 2004 and its revised version of 2008

The 2004 and the 2008 revised Green Scheme Policy reiterate the importance of public-private partnerships in increasing food production for domestic and export markets and support irrigation development in non-freehold or communal areas. Irrigation farmers wanting to cultivate between 20 and 30 hectares will be assisted through the provision of seeds, fertilisers, pesticides and marketing as per the Green Scheme Incentive Brochure. The Green Scheme will not assist farmers intending to irrigate less than 20 hectares. These would be assisted by the National Horticultural Programme (see above) or other support programmes of the Ministry of Agriculture. The focus of the Green Scheme is on the commercial production of high value crops and not on household food security of small-scale farmers.

**Policy gaps/constraints:** The emphasis of this programme is on introducing irrigation on large production projects. The minimum area criteria used will exclude most of the urban and peri-urban agriculture producers and units. These should – as indicated above – be supported by the National Urban and Peri-urban Horticulture Initiative.

## 4.7 Policy on water quality for horticultural production

The Theme Report: Water Use and Conservation which was commissioned by the Namibia Water Resources Management Review in 2000 calls for the reuse and recycling of water as an increasingly attractive alternative source of water. Uses of reclaimed water include the irrigation of food crops, fodder, fibre and seed crops and nurseries. Based on this and other Theme Reports, the National Water White Paper (2000) proposes to promote the development of new and alternative uses of water through the provision of financial support. The focus will be on the reuse of waste water, rain water harvesting and water recycling. In this context, it will be necessary to develop in parallel regulations to protect public health and promote safety (see also Code of Practice below).

**Policy opportunities:** The increased attention for use of alternative water sources, offers specific opportunities for urban and peri-urban agriculture, as large amounts of wastewater are generated in urban areas.

## 4.8 Code of Practice: wastewater reuse

In order to address potential health and environmental risks related to wastewater use, the Department of Water Affairs and Forestry promulgated a Code of Practice related to the reuse of waste water for industrial, agricultural and aquacultural purposes in 2010. The Code of Conduct discusses different stages of water treatment in order to recommend the degree of treatment required for specific purposes. With regard to vegetables and crops consumed raw by humans, water must have received tertiary treatment to special standards. Vegetables that are not consumed raw by humans can be produced using water that received primary, secondary and tertiary

treatment to general standards. Grazing for milk and meat producing animals can only be produced with water purified to general standards. Fruits, cut flowers, crops used for grazing as dry fodder, crops cultivated for seed purposes only, tree plantation and nurseries (cut flowers excluded) can be grown using water drawn from oxidation ponds with a 40 day maturation pond. Some restrictions on the type of irrigation used are proposed. Where an effluent is treated and reused it shall either adhere to the General or Special Standard, depending on its final application, as per the Water Resources Management Act (Act No. 11 of 2013). The Code also lays down conditions for the irrigation system used. Flood and drip irrigation, for example, will only be permitted if produce is not directly exposed to spray. In addition, effective draining and drying before harvesting is required.

**Policy opportunities:** As per the above, the increased attention for use of alternative water sources, offers specific opportunities for urban and peri-urban agriculture, as large amounts of wastewater are generated in urban areas. Such use would however require awareness raising, training, financial assistance and control.

## 4.9 Namibia's Vision 2030

This document guides Namibia's development until the year 2030. The long-term vision presented in the Vision 2030 is broken down into 5-year planning periods referred to as National Development Plans. The objectives of the Vision 2030 include that the population of Namibia is food secure by 2030 and enjoys a high standard of living. One strategy identified to reach this goal is to create *"access to abundant, hygienic and healthy food, based on a policy of food security"*.<sup>1</sup> This is basically to be done by diversifying and improving rural agricultural production (with a specific mention of staple crops). This also includes the promotion of alternative crops such as *"domestic fresh produce/ horticulture component (which) focuses on the production of fruits and vegetables that are sold in the local market"*.

The development of the Fresh Produce Business Hubs is rooted in the Vision 2030, National Development Plans of the Ministry of Agriculture, Water and Forestry. These facilities seek to present a platform for farmers to market their produce as well as provide a common place where local retailers can source their produce for distribution in the domestic and international markets. Furthermore, they will also potentially contribute to skills development and transfer to Namibians that will be employed in the processing and value addition facilities.

**Policy gaps/constraints:** Urban and peri-urban food production, processing, value addition and marketing are not given specific attention. Some of the Fresh Produce and Logistic Hubs could specifically be dedicated to urban and peri-urban agriculture marketing.

**Policy opportunities:** There is no reference in the current National Development Plan on what scale the production of fruits and vegetables is envisaged to happen. However, the importance attached to production and marketing of fresh produce seems to allow for the establishment of gardening units (also in urban and peri-urban areas).

## 4.10 Flexible Land Tenure System (FLTS)

The Ministry of Lands and Resettlement is piloting the Flexible Land Tenure System (FLTS) that will survey and register land rights in the country to make land available to low-income groups. The programme seeks to ease access to affordable and security of tenure of land, credit investment and

development for low-income groups particularly in the informal settlements across the country and speed up implementation of the Flexible Land Tenure Act.

**Policy gaps/constraints:** Access to and tenure of land is principally seen with regards to housing. International debates on Right to the City increasingly call also for access to land and tenure for (urban) agriculture and food production.

## 5. Conclusions

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1. Growing urban food insecurity in Namibia confronts local authorities with new challenges and the need to raise awareness and increase capacities to develop responsive local strategies and interventions. Promotion and implementation of urban food and nutrition security strategies, including urban and peri-urban agriculture, requires, amongst others, the creation of a more facilitating and enabling national and local policy framework, next to implementation of concrete activities. Although in 2001, the Government of Namibia already launched the Initiative for Urban and Peri-Urban Horticulture as a strategy to increase urban household food production and security, this programme has had a relatively limited outreach, amongst others due to the lack of qualified horticulture specialists and financial resources and lack of involvement of local authority councils. The latter is also evident in the still limited delegation and decentralisation of Ministerial powers to Local Authority Councils with regards to agriculture and management of water resources for example.
2. Local authority interest and commitment to take responsibility of urban food security and nutrition and to develop related strategies is currently underlined by their engagement in international exchange visits, workshops and initial activities on the topic. The 2014 Windhoek Declaration on Food and Nutrition Security was signed by 51 Local Authority Representatives and proposed three main strategies for enhancing urban food security and nutrition, including (i) the establishment of food banks; (ii) the promotion and regulation of urban and peri-urban agriculture; and (iii) the prevention, reduction and re-use of food loss and waste. It also recommended a policy review and analysis of the national and local legislative framework and strategies to accommodate further development and regulation of such strategies. This resulting policy review report specifically deals with urban and peri-urban agriculture, including production, processing and marketing of locally produced food.
3. The implemented policy review shows that the overall policy framework generally does not preclude, prohibit nor restrict the development of urban and peri-urban agriculture both for home consumption and the market, although specific production activities, e.g. livestock production are restricted and regulated in urban areas. However and although legislation does not preclude urban and peri –urban agriculture, it neither specifically mentions nor encourages the practice. Most notably is the lack of mention of agriculture and urban food security as a local government duty, power and function in the Local Government Act No 23 of 1992 and its amendments, as well as in city development schemes and structure plans. The revised National Agricultural Policy, and current national food security and nutrition neither address the specific needs of and support for urban and peri-urban agriculture and producers except for those benefitting from the National Urban and Peri-Urban Horticulture Initiative. As stated in the CuveWaters report (2011): *“Despite the political rhetoric about improved household food security, the current political framework does not specifically target small-scale food producers at the local (note: urban) level. The current review bears out Mwinga’s (2010) argument “that currently urban agriculture has no legal backing which can be used as guideline for both urban farmers and relevant institutions although some pieces of legislation might have an indirect impact on urban agriculture” (Röhrig and Werner, 2011).* This lack of legal backing reduces the opportunities to create a more facilitating support framework for development of the practice.
4. At the same time, national and local legislation do not only illustrate policy gaps, but also various and clear opportunities for the promotion and regulation of urban and peri-urban agriculture practices. The Town Planning Ordinance No 18 of 1954 (and its 1197 and 200 amendments) for

example already specifically mention agricultural land as subject to town planning schemes and allow for the protection of farm land from development of new townships. The Water Resource Management Act, as well as National water policies, encourage the use of alternative water sources – and specifically the reuse of purified water – for crop production, offering specific opportunities in urban areas. Regulations exist that indicate the level of purification required for different crops.

5. Nonetheless, a major policy gap exists with regards to the promotion of integrated water management for urban and peri-urban agriculture. The water situation in Windhoek and Namibia is critical due to recurrent poor rainfall and periods of drought. More awareness, information and management regulations are required. This could include the promotion of rainwater harvesting, (on-site) wastewater treatment, use of improved irrigation and increasing the water-holding capacity of the soil, and use of more drought-resistant crops. Schools may offer an excellent opportunity to start testing specific innovations.
6. Another policy gap exists with regard to storage, packaging, processing and local marketing of urban and peri-urban agriculture products. Approaching urban and peri-urban agriculture from a value chain perspective would create new opportunities for job and income creation, and is also crucial for increasing access to fresh and nutritious food for a wider urban population (beyond production for home consumption).
7. Specific opportunities presently exist for amending and reviewing the legal framework and strategies. The Local Government Act is currently being reviewed by the Parliament, with a specific request to introduce urban food security, nutrition and urban and peri-urban agriculture. Annex 1 of this report suggests detailed proposals for such amendments. Another opportunity involves the inclusion of urban and peri-urban agriculture in the new draft of the National Agricultural Policy.
8. At the same time, several Plans and Strategies for the period 2016-2020 are being/will be drawn up. These include for example the Windhoek Local Economic Development Strategy, new National and Regional Food Security and Nutrition Action Plans and a new 5-year Scaling Up Nutrition Initiative. Suggestions made in this report, as well as any other complementary proposals made by involved stakeholders, could be taken into account in these new policy/strategy formulating processes.



## 6. Recommendations

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1. Regulations are scattered in different Ministries and Departments e.g. Agriculture, Water and Forestry; Health and Social Welfare; Trade and Industry; Town Planning, Urbanisation and the Environment; Regional and Local Government and Housing, Economic Development and Community Services; Infrastructure, Water and Waste Management; Property Management; Legal Department and others – making it difficult to coordinate a coherent policy revision for urban and peri-urban agriculture. Addressing policy gaps and policy opportunities will thus require discussions with politicians and policy-makers at all political levels and across different sectors. In addition, such efforts should involve other stakeholders such as the Committee on Legal and Regulatory Framework; the National Planning Commission; The Namibia Alliance for Improved Nutrition and also specifically facilitate participation of local authority councils and their representative bodies. This discussion will thus also need to address institutional mandates and (decentralisation of) responsibilities in order to provide the appropriate regulation of and support for urban and peri-urban agriculture. With regards to peri-urban agriculture collaboration between with Local Authority Councils and Regional Councils seems necessary.
2. In assuming more responsibilities in development of urban and peri-urban agriculture, local authorities can make use of their rights to develop own bye-laws and strategy documents on issues that impact on the management of local authority areas. Next to reviewing and further developing local Town Planning Schemes and Structure Plans, Local Economic Development and Upgrading strategies, a specific Urban Agriculture Act could be developed. This was for example recently done in Nairobi City, Kenya (2015), which also succeeded in bringing Agriculture and other sectors such as Public Health, Town Planning, Environment, Legal, Trade and City Inspectorate on board.
3. In designing next steps, it is recommended to prioritise further policy formulation and implementation. The 7-8 December 2015 workshop participants suggested to focus on (i) Amending the Local Government Act and (ii) Introducing urban and peri-urban agriculture in the National Agricultural Policy that is being revised.
4. It is recommended that the city of Windhoek and other local authorities that signed the Windhoek Declaration as well as the National Union of Mayors, together with the Ministry of Agriculture, will lead such process of further policy change, that will also require further strengthening local institutional and government capacities (also in a context of decentralisation of responsibilities to local authorities). Such government capacity strengthening could include SME development in the local food chain, integration into planning, design and upgrading, financing and multi-stakeholder strategy and policy formulation.
5. Parallel to such further policy revision process, local authorities can already make a start with the design and development of urban and peri-urban agriculture projects and programmes. In doing so, local authorities can build on a wide number of past and on-going initiatives in Namibia and elsewhere, and with concrete action further inform (longer-term) policy revision. Inspiration could be taken from multi-stakeholder consultation processes on the “Promotion of urban agriculture and food security” as implemented amongst others in Accra, Ghana, supported by the RUAF Foundation. This process led its Department of Agriculture being mandated to support farming in the metropolitan area. A similar process in Bulawayo, Zimbabwe helped persuade the local government to improve urban vegetable growers’ access to extension, inputs and good quality water (see more examples on <http://www.ruaf.org/projects/cities-farming-future->

programme-cff). Kampala City Council adopted in 2005 ordinances authorizing horticulture, livestock keeping and aquaculture, and now provides food producers with extension services (FAO, 2009).

6. Ideas for the design and implementation of specific projects could also be taken from earlier national and local Namibian projects supporting local people with the establishment of fruit and vegetable gardens as implemented by the Directorate of Extension and Engineering Services (DEES) under the Ministry of Agriculture, Water and Forestry (MAWF) and the 'Integrated Initiatives in Support of Urban and Peri-Urban Horticulture Initiatives in Namibia'', supported by UN-FAO and the Kingdom of Belgium. Enhancing access to land, intensification, diversification and marketing for horticulture produce, strengthening of producer organisations, application of different growing media and drip irrigation, training and extension were key elements of these projects. Other urban horticulture projects to be reviewed are for example the project supported by the French Embassy under the Social Fund for Development (in Windhoek, Rehoboth and Okahandja, 2011) that promoted urban and peri-urban horticulture in tunnels and bags, trained farmers in horticulture techniques, use of soluble fertilisers and pesticides, project management and entrepreneurship.
7. For urban and peri-urban agriculture development to succeed, local community consultation, and multi-stakeholder participation and support will be necessary. In December 2015, the city of Windhoek assigned a technical committee on Urban and peri-urban agriculture and Food Security and nominated two councillors (amongst which a deputy Mayor) to facilitate follow up to the above recommendations. It was also decided in the December 2015 workshop that a Windhoek Food Council would be established, bringing various stakeholders together, including national and local government, NGOs, Universities, international organisations, urban and peri-urban agriculture practitioners and beneficiaries, private sector, etc. The Food Council should meet on a regular basis to foster multi-stakeholder partnerships and evaluate and monitor the implementation process. This would also require further awareness raising, information and training. Such government and community capacity strengthening could include topics like forms and (production and organisational) models of urban and peri-urban agriculture, integrated water management, multi-stakeholder collaboration and action planning, project design and monitoring. Based on its long-term experience of supporting similar processes in over 40 cities around the world, RUAF Foundation can well support such capacity strengthening and guide further policy change and implementation, in collaboration with local and national stakeholders involved.

## 7. Literature and references

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# Annex 1. Proposed amendments to Local Government Act No 23 of 1992

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Note: Suggestions made are based on local government actions implemented in a wide variety of cities around the world. Suggestions (**highlighted in bold**) will have to be accepted, amended or rejected according to the local specific context for Namibia.

## Overall aim:

1. Consider and include urban food and nutrition security (and more specifically urban and peri-urban agriculture) as a new and additional local authority power, duty and function
2. Include mention of and support to urban and peri-urban agriculture (UPA) in different specific amended sections of the Local Government Act 1992, understanding that UPA bears on many different sectoral competences and vice versa.
3. Increase devolution of specific related powers, duties and functions to local authority councils (decentralisation).

## Proposals:

1. **Proposal to insert in the introductory section (page 4-6): a new PART XX (Urban) food and nutrition security**

As per the local government interest and the 2014 Windhoek Declaration on Food and Nutrition Security signed by 51 local authority representatives (World Future Council, 2014) this could specifically include:

1. Establishment of food banks
2. Promotion and regulation of urban and peri-urban agriculture
3. Prevention, reduction and re-distribution of food loss and waste.

We will specifically focus on promotion and regulation of urban and peri-urban agriculture in the remaining of this chapter. Proposed amendments or additional clauses are indicated in bold.

2. **Proposal for amendment of local authority powers, duties and functions in order to integrate promotion and regulation of urban and peri-urban agriculture in related sectors**

In the introductory section (page 4-5)

### Part VI Supply of water

34. Construction of waterworks, **including rainwater harvesting for use in urban and peri-urban agriculture**

### Part VII Sewerage and drainage

38. Sewerage and drainage, **including household and public organic waste and (on-site) waste water treatment facilities for respectively composting and irrigation of urban and peri-urban agriculture**

### Part IX Streets and public spaces

48. Construction of streets and public spaces, including **construction and maintenance of public food storage and (farmer) markets**

**Add 52: Promotion of multi-functional use of public spaces, including urban and peri-urban agriculture**

### Part XII Housing schemes

**Add 63: Plot regulations and use, including agricultural land use**

### Part XIII Immovable property of local authority councils

**Add 66: Integration of urban and peri-urban agriculture and rainwater harvesting in immovable properties of local authority councils** (schools/hostels, hospitals, libraries, places of worship, local, regional and national

council and authority buildings) -e.g. inclusion of open and rooftop space and (mandatory) water harvesting for growing

#### **PART XV Rates on rateable property**

75. Exemption from rates levied on rateable property, **including urban and peri urban agriculture plots.**

#### **3. Amendment of "introductory provisions" (page 8-13)**

"public place" means any square, **recreational or community** garden, park, recreation ground, show ground, rest camp or other open or enclosed space intended for the use, enjoyment or benefit of residents in a local authority area;

"townlands" means the land within a local authority area situated outside the boundaries of any approved township which has been set aside for the mutual benefit of the residents in its area, and for purposes of **peri-urban agriculture and market gardening**, pasturage, water supply, aerodromes, explosive magazines, sanitary and refuse deposits or other public purposes or the extension of such township or the establishment of other approved townships;

**Add: "Urban and peri-urban agriculture" means the production of fruits and vegetables, herbs, staple crops, livestock and fish, aquaculture and other food products such as mushrooms and medicinal plants in areas within local authority boundaries or adjacent areas (e.g. peri-urban areas). Urban and peri-urban agriculture may be implemented for purposes of home-consumption (also denominated as home-gardening), complimentary sale of exceeds or for market purposes (the latter denominated as market gardening). Urban and peri-urban agriculture may take place on private residential (backyard and rooftop gardening) or agricultural properties, immovable local author properties (school, hospital and institutional gardens, rooftop gardens), government agricultural land, and open spaces in local authority areas.**

#### **4. Amendment of PART V POWERS, DUTIES, FUNCTIONS, RIGHTS AND OBLIGATIONS OF LOCAL AUTHORITY COUNCILS (page 55 and 56)**

30. (1) Subject to the provisions of subsections (2) and (3), a local authority council shall have the power – (a) subject to the provisions of Part VI, to supply water to the residents in its area for household, business, **agricultural** or industrial purposes;

(c) to provide, maintain and carry-on services to such residents for the removal, destruction or disposal **and – where feasible – safe and productive re-use** of night soil, rubbish, slop water, garden and stable litter, derelict vehicles, carcasses of dead animals and all other kinds of refuse or otherwise offensive or unhealthy matter;

(e) subject to the provisions of Part IX, to construct and maintain streets and public places; **promoting multi-functional and productive use of public spaces integrating urban and peri-urban agriculture**

(j) to establish, carry-on and maintain markets **(including local markets for urban and peri-urban producers)** and, for that purpose, to construct and let market houses, auction or sale rooms, stalls, warehouses and other buildings for the, sale or storage of goods **(including produce from urban and peri urban agriculture)** at such market;

(k) to establish, carry on and maintain -

.....

(viii) pounds **and water storage facilities for irrigation of urban and peri-urban agriculture;**

(ix) nurseries, **including for urban and peri-urban agriculture;**

**(x) wastewater treatment facilities for productive use of its effluents**

(l) to construct and maintain buildings or depots for the reception or storage **and processing** of perishable goods **including produce from urban and peri-urban agriculture;**

(o) to establish and maintain any building or structure for any community requirement; **and promote productive use of buildings through rooftop gardening**

#### PART VI SUPPLY OF WATER (page 61-65)

Page 63: (3) (a) A local authority council may, if it has reason to believe that on any immovable property occupied by any resident within its area there is no water or insufficient water suitable for household, business, **agricultural** or industrial purposes available on a permanent basis, ....

**Add:** 3 (c). To the extent the above applies to use of piped water for urban agriculture, the following conditions are put in place:

- 1. Use of rain water or treated grey household water is to be prioritised before use of piped water for agricultural purposes. This will be done by promotion of rainwater harvesting tanks and simple household waste water treatment systems on immovable private properties.**

Supply of water to other persons than residents:

35. A local authority council may, on such terms and conditions as may be determined by mutual agreement, supply water to any person other than a resident in its area, or cause water to be so supplied.

**Add a new clause: Rainwater harvesting will be made mandatory for all new public immovable properties (schools; hospitals; offices) for sanitary and agricultural uses.**

**Add a new clause: Reduced tariffs will be applied for treated waste water use in urban and peri –urban agriculture.**

#### PART VII SEWERAGE AND DRAINAGE (page 65-70)

**Expand definitions** in the entire section from any sewer, storm water drain to also include **household and public waste and wastewater treatment systems**

38. (1) For purposes of the provisions of section 30(1)(b), a local authority council may -  
(a) acquire or construct, and maintain and carry-on, a system of sewerage and drainage, including sewage works, public sewers and storm-water drains **as well as public waste and wastewater treatment systems, taking into account public health and environmental requirements**, whether within or outside its area;

**Add: Local authority councils will promote simple household organic waste collection/recycling for compost production in urban agriculture as well as wastewater treatment systems for irrigation of urban agriculture.**

This may include:

**Add to Clause 38/3** (page 66) -if it has reason to believe that piped water is used in large amounts for agricultural irrigation, **local authority councils may require property owners to install household waste water treatment systems**

**Add to Clause 41** (page 68) on Granting of assistance by local authority councils to residents to provide sewerage to their immovable property.-**local authority councils may grant assistance to owners of immovable properties to construct household waste and wastewater treatment systems for irrigation**

**Add to Clause 44** (page 69): add **specific regulations regarding management of such household waste and wastewater treatment systems to comply with Public Health and Environment Regulations** (e.g. rodent and breeding control, separation of grey and black wastewater etc.).

#### PART IX STREETS AND PUBLIC PLACES (page 72-77)

48. (1) For purposes of the provisions of section 30(1)(e), a local authority council may –  
**Amend (h)** adorn any public place by any architectural or other scheme of ornamentation, including statues, monuments, fountains or any other structures; **and promote multifunctional use of public spaces (parks,**



streets) including urban agriculture as long as this does not hinder or increase safety risks of other public functions of those spaces

PART XII HOUSING SCHEMES (page 80-84)

**Add an additional clause:** Determination of plot use

Local authority councils may:

**Establish plot regulation schemes; determining plot land use, including minimum areas for urban agriculture.**

**Additional clause:** Promotion of rooftop gardening

**Local authority councils may promote rooftop gardening on all suitable houses and may provide specific loans and funds for such purpose.**

PART XIII IMMOVABLE PROPERTY OF LOCAL AUTHORITY COUNCILS (page 84-86)

**Add additional clause:**

**Local authority councils shall promote agricultural use of open and rooftop areas belonging to immovable property of local authority council including the promotion of school, church, hospital and office gardens.**

**New Part XX on (URBAN) FOOD AND NUTRITION SECURITY**

Local authority council duties, functions may focus on:

1. Establishment of food banks
2. Promotion and regulation of urban and peri-urban agriculture
3. Prevention, reduction and re-distribution of food loss and waste.

With regards to the promotion and regulation of urban and peri-urban agriculture, specific provisions are required for:

**-In accordance to required amendments in the Town Planning Ordinance, urban and peri-urban agriculture is accepted as a legitimate use and category of urban and peri-urban land.**

**-Urban and peri-urban agriculture will be integrated in town planning and zoning plans, by mapping of current and potentially productive urban and peri-urban agriculture areas, as well as active protection and preservation of current agricultural zones.**

**-Local authority councils are allowed to lease, transfer or allocate land for temporary use (including for urban and peri-urban agriculture). They can make local authority council land available to groups of urban poor households and youth through medium-term lease arrangements or providing occupancy licenses.**

**-Multifunctional and productive use of streets and public spaces will be promoted by integrating production of fruit and food trees, shrubs and crops in the design and use of these spaces, in so far these not impede other public functions of those areas and comply with public health, environmental and safety regulations.**

**-Local authority councils will protect and stimulate sustainable urban and peri-urban agriculture in flood zones and wetlands and on steep slopes in order to prevent construction in such areas and to reduce run-off.**

**-Productive use of residential areas and immovable properties, especially those belonging to local authority councils, will be promoted by:**

- Establishing plot guidelines for land use, requiring a minimum area to be used for agriculture production
- Promoting rooftop gardening and rainwater harvesting for irrigation on privately owned houses and buildings
- Making rooftop gardening and rainwater harvesting for irrigation mandatory on all new and to be refurbished immovable properties belonging to local authority councils

**-Establishing fiscal and tax incentives for land owners who use or lease out vacant private land to urban poor producers and youth.**

**- Local authority councils will provide access to infrastructure for production, processing, storage and markets (local or farmers markets, produce hubs) for urban and peri-urban agriculture producers.**

Section 155 allows for *“the planting of any specified crop by person for the support of themselves and their families in areas which in the opinions of the (...) council are suffering from or likely to suffer from shortages of foodstuffs”*.

**In accordance with the (to be amended) Water Resources Management Act No. 11 of 2013,**

**- Local authority councils will enhance access to safe and non-potable irrigation water by separating household, and industrial wastewater streams, establishing decentralised waste treatment plants (at household and local authority level), providing treated wastewater and promoting systems for rainwater collection and storage. Special tariffs will be set for wastewater use for irrigation.**

**In accordance with the (to be amended) Solid Waste Management Regulations,**

**- Local authority councils will enhance access to organic fertilisers by promoting waste separation at the source (households, markets, restaurants), organic waste management treatment at households and landfill sites and recycling for use in urban and peri-urban agriculture (compost production).**

**In accordance with the (to be amended) Public and Environmental Health Act,**

**- Local authority councils will control (industrial) pollution of urban land, water and air (which threatens the safety of urban food production and consumption).**

**- Local authority councils will prohibit and control use of chemical pesticides in urban and peri-urban agriculture production.**

**-Local authority councils will monitor residues of agrochemicals in crops and groundwater and test heavy metal contamination of soils and irrigation water periodically, especially downstream of polluting industries (air and water sources).**

**-Local authority councils will monitor impacts of urban and peri-urban agriculture on improving nutrition and health.**

**In accordance with the procurement policy,**

**-Local authorities will procure a minimum of (10-50%) of food products to be served in schools, hospitals and offices from urban and peri-urban agriculture.**

**-Local authorities will regulate and control the donation to and use of rejected or non-sold food items fit for human consumption by food banks and other charity organisations.**

Finally,

**-Local authority councils will coordinate actions across sectoral departments and with other local as well as national authority stakeholders. They may do so by creating a multi/actor and cross/sectoral food policy council, food security and nutrition or urban and peri-urban agriculture unit or programme.**

#### PART XV RATES ON RATEABLE PROPERTY (page 93-99)

Page 96 **Clause 75.** (1) A local authority council may, upon an application made to it in respect of any financial year in such form as may be determined by the Minister, exempt in respect of such financial year from any rates levied under section 73 -

(a) any land or building or any part of such land or building used exclusively for purposes of the principal activities of –

**add (iv)**

**-any part of land (minimum 25% of plot size) used for urban and peri-urban agriculture**

**Add (2) The provisions of subsection (1) shall only apply for the first 2-5 years in relation to any land or building used by an urban or peri-urban producer organisation on which any trade is carried on for gain under a licence under any law.**

PART XVIII GENERAL PROVISIONS (page 105-121)

Page 109-110 94. (1) A local authority council may, after consultation with the Minister, make regulations by notice in the *Gazette* in relation to -

(i) subject to the provisions of the Water Act, 1956 (Act 54 of 1956), the prohibition, restriction, regulation and control of the sinking, maintenance or use of boreholes or wells **and wastewater treatment plants;**

(ii) the quantity of water to be supplied to immovable property **and urban and peri-urban agriculture areas** within or outside such area;

**add xi: the safe use of treated wastewater for irrigation purposes in urban and peri-urban agriculture**

page 111: (b) the regulation, protection and use of a system of sewerage and drainage, including –

**add iii) household and public waste and waste water treatment systems**

(c) the provision, regulation and control for the removal or disposal and – **where feasible productive re use in urban and peri-urban agriculture** – of night soil, refuse, slop water, garden and stable litter and otherwise offensive or unhealthy matter;

(d) subject to the provisions of the Road Traffic Ordinance, 1967 (Ordinance 30 of 1967), and the Roads Ordinance, 1972 (Ordinance 17 of 1972), the regulation and control of –

**add: multifunctional and productive use of streets and public spaces**

page 113: (o) the regulation, control, maintenance and use of **(urban farmers)** markets and sales to the public at such markets;

Page 114: (r) the regulation, control and use of -

(i....(viii) ponds **and water storage facilities for irrigation of urban and peri-urban agriculture;**

(ix) nurseries, **including for urban and peri-urban agriculture;**

**(x) wastewater treatment facilities for productive use of its effluents**

**(xi) waste treatment plants for recycling of organic waste and its productive use (composting)**

(t) the regulation of the erection and construction in local authority areas of depots or cold storage works for purposes of the storage of meat, milk and food **as well as products from urban and peri-urban agriculture** intended for public sale, and the regulation, control and use of such depots or cold storage works;

page 115

(ad): the restriction, regulation, control and use of common pasture and townlands; **including the use of urban and peri-urban agriculture areas**

(ah) subject to the provisions of the said Public Health Act, 1919, and the Food, Drugs and Disinfectants Ordinance, 1952 (Ordinance 36 of 1952), the prohibition, restriction, regulation and control of .....; **as well as**

**of food safety and quality of urban and peri-urban agriculture produce at production, processing and marketing sites**

page 116 (ak) subject to the provisions of the Locust Suppression Proclamation, 1923 (Proclamation 34 of 1923), and the Agricultural Pests Ordinance, 1927 (Ordinance 11 of 1927), the prevention and destruction of locusts and other noxious insects and agricultural pests; **and the prohibition and control of use of chemical pesticides in urban and peri-urban agriculture production**

(al) the prohibition, restriction, regulation and control of the erection and construction, and the regulation and use, of cowsheds, milking places and dairies and other livestock; **as well as storage and processing facilities for urban and peri-urban agriculture**

**add (as): public procurement of urban and peri-urban agriculture produce for use in school, hospital and office meals, or specific charity purposes**

**add (ap): the regulation and control of rejected and non-sold food items fit for human consumption and their donation to and use by food banks or other or charity purposes**

**add (aq): the establishment and regulation of specific food security and nutrition or urban and peri-urban agriculture units, programmes or structures (e.g. food policy councils). These programmes and structures will seek to enhance horizontal and vertical governance and coordination among different sectoral departments and ministries and among various local stakeholders (public, private, civil society).**

## Annex 2. Proposed amendments to Town Planning Ordinance No 18 of 1954

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Note: Suggestions made are based on local government actions implemented in a wide variety of cities around the world. Suggestions (**highlighted in bold**) will have to be accepted, amended or rejected corresponding to the local specific context for Namibia.

### Overall aim:

1. Recognise urban and peri-urban agriculture as a legitimate use of local authority land and include agricultural areas (and more specifically urban and peri-urban agriculture) as subject to regulation in a town planning scheme, as well as in matters to be dealt with in surveys and schemes
2. Include protection and preservation of agricultural areas as specific areas “for protection of areas of national interest or beauty” and as areas excluded for compensation
3. Promote agricultural use of building rooftops and plots within the town planning scheme.

### Proposals:

#### Functions, powers and duties of the Board

12 (b) to formulate in general terms a town planning policy for Namibia with special reference to various types of development in their relation to roads, railways, residential, commercial and industrial areas, educational and other public institutions, townlands **and agricultural areas**, places of recreation, open spaces, water supply, sanitation, soil suitability and the like, including also the administrative and financial implications which certain types of development would have in respect of local government control;

#### Decision to prepare a scheme

16 (b) in the case of land which is neither already built upon nor in course of development, not likely to be developed, that the land is so situated in relation to land which is already built upon, or in course of development, or on which development is likely to take place, as to make its inclusion in a scheme expedient, or that it comprises objects or places of natural interest or beauty. **These will include protection and preservation of current and potential agriculture production areas and of important environmental resources (water sources). Local authority councils will protect and stimulate sustainable urban and peri-urban agriculture in flood zones and wetlands and on steep slopes in order to prevent construction in such areas and to reduce run-off. To this end, local authorities will map current and potentially productive urban and peri-urban agriculture areas when preparing or modifying their town planning schemes.**

#### Provisions in schemes in regard to buildings and building operations

19(1) The provisions to be inserted in a scheme with respect to buildings and building operations may include provisions -

**Add (f): prescribing productive use of building rooftop spaces or building plot space.** Such descriptions could be detailed following the example given for Kampala in the main text of this report. These may include:

- mandatory use of rooftop space of new or to be refurbished buildings and immovable properties (of specific minimum size) for agriculture and rainwater harvesting**
- productive use of walls, windowsills and fences**
- agricultural use of a minimum area of the building plot (20-50%)**

#### Exclusion and limitation of compensation in certain cases

33(1) Except as is hereinafter otherwise provided, compensation shall not be payable in respect of the injurious affection of property by the coming into operation of any provision of a scheme which -

(j) prohibits or restricts building operations permanently on the ground that, by reason of the situation or nature of the land, the erection of buildings thereon would be likely to involve danger to life or danger or injury to health, or excessive expenditure of public money in the provision of roads, sewers, water supply or other public services **or would involve urbanisation of agricultural production areas important for safeguarding urban food security;**

**Add a new clause: Restriction upon establishment of new building areas on current agricultural land in town planning scheme areas**

After a resolution to prepare a scheme has taken effect no application to establish new building areas upon agricultural land situated in the local authority area to which the scheme is to apply shall be considered except after consultation with the local authority or, as the case may be, the joint committee, or, after the scheme has been approved, the responsible authority.

The local authority will promote “zero loss of agricultural land”. Building/housing/industrial companies will only be granted the right to convert agricultural land into building areas, if loss of such land is compensated by preserving and/or developing the same area of agricultural land elsewhere in the local authority area.

Such new clause would be in harmony with the current clause on Offenses and penalties which already gives room for protection of farm and agricultural land:

Offenses and penalties

48 A (1). If the Minister after consultation with the board is of the opinion that steps taken or intended to be taken in connection with the erection of a building or buildings on any land, other than for bona fide farming operations, form or are likely to form the nucleus of a township, it may, notwithstanding the provisions of any other law prohibit the erection of any such building or buildings on such land by causing a suitable notice to owners of such land to be published in two consecutive editions of the Gazette and once a week for two consecutive weeks in an Afrikaans and in an English newspaper circulating in the district in which the land is situated, and where the address of an owner of such land is known, by causing a suitable written notice to be sent to his address by certified mail.

FIRST SCHEDULE- MATTERS TO BE DEALT WITH IN SURVEYS

(1) A brief history of the growth of the local authority area with special reference to population, traffic, built-up areas, **agricultural**, commercial and industrial areas, etc.

(3) Land utilization, with maps illustrating usages and different activities of the area, i.e. residential, commerce, industry, public buildings, **agriculture**, open spaces, parks, recreation grounds, etc., and areas and percentages or usages to be calculated.

(6) Height of buildings and plot ratio, calculation of floor **and rooftop** space, site areas and ground coverage, in commercial areas, and calculation of the ratio between floor space and site areas.

(12) Commerce and industry: Growth of commercial and industrial areas, nature of shops, nature of industries whether heavy or light, employment figures, transport to and from industries. This includes **infrastructure for production, processing, storage and markets (local or farmers markets, produce hubs) for urban and peri-urban agriculture producers.**

SECOND SCHEDULE – MATTERS TO BE DEALT WITH BY SCHEMES

(1d) the cultivation of trees and the like and the provision of ornamental works intended to improve the appearance of streets; **as well as the provision of fruit trees intended to improve productive use of streets.**

(7) The prohibition, regulation or control of the deposit or disposal of waste materials and refuse. **This will include the management and recycling of organic waste for productive use and of food waste for human/animal consumption or productive agricultural use, in accordance with public health and safety regulations.**

(9) The reservation of land for Administration and local authority purposes of a public nature. **This includes the promotion of multifunctional and productive use of spaces by integrating production of fruit and food trees, shrubs and crops in the design and use of these spaces, in so far these not impede other public functions of those areas and comply with public health, environmental and safety regulations.**

## Annex 3. Proposed amendments to Windhoek Town Planning Scheme/Clauses and Tables (current/no date)

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### Overall aims:

1. Include (urban and peri-urban) agriculture as a recognised and legitimate use and zone of local authority land
2. Zone and protect urban and peri-urban agricultural lands
3. Promote multifunctional and productive use of other land use areas and zones

### Proposals Clauses:

#### **Add a new clause on the zoning, protection and promotion of urban and peri-urban agricultural land use.**

Similarly to proposed amendments in the Local Government Act No 23 of 1992 the following specific clauses could be considered:

**-Urban and peri-urban agriculture is accepted as a legitimate use and category of urban and peri-urban land. Zoning as well as active protection and preservation of current and future agricultural zones is promoted** (indicating specific areas or zones where this will be done; establishing specific zones for different forms of urban and peri-urban agriculture such as horticulture or livestock farming).

**- Local authority council land** (*indicating specific areas or zones where this will be done*) **will be made available for temporary use** (*define time periods*) **to groups of urban poor households and youth** (*define specific groups*) **through medium-term lease arrangements or providing occupancy licenses.**

**-Multifunctional and productive use of streets and public spaces will be promoted** (*in the following areas.....*) **by integrating production of fruit and food trees, shrubs and crops in the design and use of these spaces, in so far these not impede other public functions of those areas and comply with public health, environmental and safety regulations.**

**-Sustainable and agro-ecological urban and peri-urban agriculture (horticulture) will be supported in infiltration areas in order to prevent construction in such areas and reduce flood risks.**

**-Productive use of residential areas and immovable properties will be promoted by:**

- Establishing plot guidelines for land use, requiring a minimum area to be used for agriculture production
- Promoting rooftop gardening and rainwater harvesting for irrigation on privately owned houses and buildings
- Making rooftop gardening and rainwater harvesting for irrigation mandatory on all new and to be refurbished immovable properties belong to local authority councils
- Establishing fiscal and tax incentives for land owners who use or lease out vacant private land to urban poor producers and youth.

**- Areas for infrastructure for production, processing, storage and markets (local or farmers markets, produce hubs) for urban and peri-urban agriculture producers will be made available** (*indicate locations*).

### III BUILDING RESTRICTIONS: BUILDING LINES, HEIGHT & SIDE SPACES

**Include provisions for productive use of walls, windowsills, patios and fences** (see examples from Kampala provided earlier in this report)



IV BUILDING RESTRICTIONS: DENSITY, BULK, COVERAGE, PARKING & LOADING

**Include provisions for (mandatory) rooftop gardening and rainwater harvesting, productive use of walls (bulk factor), and plot coverage limiting building coverage to a maximum percentage of the plot and promoting agricultural use of the remaining plot area (coverage).**

29 Conservation of Natural Resources/35. Drainage and stormwater

**Include provision for rainwater harvesting, safe and sanitary household wastewater treatment and organic waste recycling.**

**Proposals Tables:**

Table A: Land use reservations. Uses for which land is reserved.

**Add: (Urban and peri-urban) agriculture land**

Table B: Land use zones

**Add: (Urban and peri-urban) agriculture land**

I Residential. II General residential. IV Business and V Restricted business. VII Garage. VIII Industrial. IX Institutional. X Municipal. XII. Office. XIII Private open space. Consent uses.

**Add: Productive use of buildings (rooftops, walls, windowsills, fences) and plots**

III Conservation (ground water protection). Consent uses.

**Add: Conservation and agro-ecological agricultural land use and gardening.**

X Municipal. Consent use

**Add: Multifunctional and productive use of municipal open spaces, such as streets and parks.**

Table C1: Specific uses

**Identify specific erven for urban and peri-urban agriculture land use as well as storage, packaging, processing and marketing of local agricultural products.**

Table C2: Building restriction areas

**Identify specific areas for urban and peri-urban agriculture land use.**

Table E: Density zones/Table G: Coverage

**Identify plot regulations for specific density zones, limiting built-up use of space to a certain percentage of the entire plot area.**

## **Annex 3.1 Proposed amendments to the Windhoek Structure Plan, 1996**

**Overall aims:**

1. Include urban food security and nutrition as a specific aim and vision for the City of Windhoek and its inhabitants
2. Recognise the importance of urban and peri-urban agriculture as a strategy for local food production and building of a more resilient city in the Pan's objectives and strategies.

**Proposals for amendments:**

2.Council's vision

The City of Windhoek is committed to the following goals.

**Add 2.4 Ensuring urban food security and nutrition for its inhabitants by promoting the local production, processing and marketing of agricultural food products**

**Add 2.5 Maintaining a green and sustainable/resilient city, while promoting water conservation and use of alternative water sources (rainwater and treated wastewater) for irrigation of green and agriculture areas**

3.Objectives

The following additional objectives could be added into the document:

- 3.15 Areas for urban and peri-urban agriculture should be available to all, especially the urban poor, women and youth, unemployed and underemployed**
- 3.16 Opportunities for local food storage, packaging, processing and marketing should be designed into the developing structure of the City**
- 3.17 Open green and (multifunctional) productive areas as well as conservation areas (infiltration areas and steeper slopes) located in the City and in future growth areas should be protected and preserved for local (and agro-ecological) food production, taking into account environmental sustainability and potentials for climate change adaptation (e.g. green productive areas allow for mitigating urban heat island effect and may support protection of flood areas).**
- 3.18 Greening and productive use of residential and industrial areas and immovable properties should be promoted to enhance the quality of the environment in the City and maintain its image as a Green City.**

6.Water supply

Add a specific mention of increasing competition for water for industrial and household consumption uses versus irrigation of green and agriculture areas. **Use of alternative water sources (rainwater and treated wastewater) will be promoted to this end.**

12.Common trend

To enhance liveability of the City Centre not only mixed commercial/residential use could be promoted (as suggested in the Structure Plan), but also **agricultural use of (commercial) building by converting the rooftops into gardening areas.**

13.Benefits of the linear model

**Add the design of green and productive corridors** (also denominated green mosaics or greenways) in addition to development and transport corridors as to allow more equal access by different groups of the population to agricultural areas through the City. By promoting multifunctional green corridors, urban and peri-urban agriculture land use can be combined with recreation, education, organic waste treatment and other social services (sports and meeting areas).

14.The choice

New linear models should include the zoning of multifunctional green and agricultural areas (see above): The linear model in which changes of zone within and on the fringe of the existing central commercial areas are restrained and new decentralised commercial areas, **as well as multifunctional green and agricultural areas** are created along the linear corridor.

15. Business enterprise location/17. Guidelines for suburban business development

Refer to the promotion of urban agriculture on business and institutional grounds (school, hospital, prison and office gardens) and the specific development of local food storage, packaging, processing and marketing enterprises (possibly located close to mayor transport hubs):

- Local food storage, packaging, processing and marketing (retail and farmers markets) will be included in new business development zones.**
- (Suburban) business development must be accompanied by development of urban agriculture.**

19.2 Drainage

Refer to **wastewater treatment systems located closely to agricultural production sites** in order to allow for irrigation with alternative (non-potable) water sources.

20. Housing

Promote alternative options to sustainable housing that not necessarily envisage reduction of garden space. **Integration of mixed plot functions (including agriculture; note these can be differentiated for different density zones) and promoting agricultural/green use of buildings will be explored and promoted as**

**alternative options for sustainable housing. These will include promotion of specific low-space no space production technologies. Household rainwater and wastewater treatment as well as organic waste treatment will be promoted in connection with productive re-use.**

#### 21. Sustainable development

Refer to **urban and peri-urban agriculture as a strategy for building more sustainable cities**. Next to its potential food security and employment benefits, urban and peri-urban agriculture can be specifically promoted with regards to:

- more circular approaches to water and waste management, by treating and re-using wastewater and organic waste in agricultural production**
- mitigation the Urban heat Island and contributing to reduction in energy use of buildings (by productive greening of building rooftop and walls)**

#### 22. Recreation and the environment

Refer to the: **creation of productive and multifunctional streets and parks that integrate edible trees, shrubs and plants.**

##### 22.2.1 Narrow valleys

Where the Municipality is the land owner future land use should be for low intensive activities such as for a cemetery, for recreational use, tourist chalets, horse riding clubs, **urban or peri-urban agriculture** or similar uses.

##### 22.2.3 Major water courses and dams

Council has already established guidelines for privately initiated community centres on open spaces which can extend to private parks. This opportunity for community groups, **including urban agriculture community and youth farmer groups**, can be advanced by further publicity.

#### 23.2 Open Space and Undetermined

Open space type recreational use is considered the most appropriate use for the mountainous areas. However other activities such as youth camps and dairy farming, **or other peri-urban agriculture activities**, are also acceptable, **provided they comply with environmental and public health regulations.**

#### APPENDIX 1 SIMPLE SUSTAINABILITY CRITERIA

Add criteria:

- Encourage and protect local food production in urban and peri-urban agriculture**
- Increase recycling and productive re-use of urban treated wastewater and organic waste.**
- Stimulate rainwater harvesting for irrigation.**

## **Annex 3.2 Proposed amendments to Info-27 Zoning and land use in Windhoek peri-urban areas (1995 amended in 2005)**

#### **Overall aims:**

1. (Re)zone (new) peri-urban areas in the Windhoek Town Planning Scheme as Agriculture areas next to Residential areas.
2. Consent uses of smaller areas than 5 hectares to be used for peri-urban agricultural land use and sorting/packaging of agricultural produce.

#### **Proposals:**

1. **Zoning of new peri-urban areas to be included in the Windhoek Town Planning Scheme as “Agriculture areas”**
2. **Consent all subdivisions of 1 hectare or larger to carry out activities compatible with agricultural land.**
3. Include in “Factors that influence decision on rezoning (specifically from agricultural to residential land):

**3. The impact on loss of agricultural land.**

4. In areas affected by 1-50 years floods no buildings or structures of any nature may be erected. **Agro-ecological and flood risk reduction agricultural land use will be promoted in such areas.**

Zoning areas and maximum densities

**1. Consent all subdivisions of 1 hectare or larger to carry out activities compatible with agricultural land.**

**2. Promote minimum use of 200 m<sup>3</sup> per household for subsistence gardening and of 500m<sup>2</sup> per households for peri-urban market gardening.** Note that determination of land areas should be subject to average horticultural yields per area and be dependent on household food consumption needs versus possible sale of exceeds or production for the market.